
March 7, 2024

Ms. Karen Sherman
Town Planner
Town of Holliston
703 Washington Street
Holliston, MA 01746

**Re: Definitive Open Space Residential Development (OSRD) Peer Review #1
“Jasper Hill Estates” Holliston, MA
CMG ID 2023-269**

Dear Karen,

CMG is providing this letter report detailing our engineering peer review of the “Jasper Hill Estates” Definitive Open Space Residential Development in Holliston, MA (the “Site”). The project Applicant, Jasper Hill Realty Trust, LLC is proposing to construct a four (4) lot open space residential development (OSRD) at 52 Jasper Hill Road on Assessor’s Parcel Map 8 Block 5 Lot 16.

The existing property currently consists of approximately 7.4 +/- Acres located within the Agricultural-Residential B (RES-B) Zoning District and Groundwater Protection District. The property is currently occupied by one (1) existing 2.5 Story residential home and associated driveway and barn. Access to the property is via the existing variable width “Jasper Hill Road” way which allows access across Town of Holliston owned land currently used as the Town Hall municipal parking lot. There is a separate existing 50’ wide utility easement across the property to allow for access to the Town’s water supply tower. CMG understands this project will require Definitive Subdivision Approval and a Special Permit for a Common Driveway.

CMG is in receipt of the following documents:

- “Application for Approval of a Definitive Subdivision Plan – Definitive Subdivision Plan Jasper Hill Estates, Holliston, MA” prepared by Peter R. Barbieri, Esq. Fletcher Tilton PC, date September 6, 2023.
- “Flood Impact Analysis and Stormwater Management – Jasper Hill Subdivision, Jasper Hill Road, Holliston, MA” prepared by Creative Land & Water Engineering, LLC, date October 2, 2023.
- “Jasper Hill Estates Definitive Subdivision Plan at Jasper Hill, Holliston, MA prepared for Jasper Hill Realty Trust, LLC” prepared by Applewood Survey Co., LLC and Creative Land & Water Engineering, LLC, date August 30, 2023, revised date January 16, 2024.
- “Open Space Residential Development peer review response letter” prepared by Creative Land & Water Engineering, LLC, date January 22, 2024.
- “Jasper Hill Estates” Letter prepared by Fletcher Tilton, date January 29, 2024.

CMG is providing this letter summarizing our engineering review comments for the above documents to evaluate the project's compliance with the following regulations for Planning Board consideration:

- Town of Holliston Zoning By-Laws date May 9, 2022, Amendments approved by the Attorney General's office on September 2, 2022.
- Town of Holliston Planning Board Rules and Regulations amended through May 20, 2021.
- MA-DEP Stormwater Management Standards and related Town of Holliston May 2021 Stormwater Management and Land Disturbance Permit regulations

CMG provides the following technical comments for the Board's consideration:

Holliston Zoning By-Law Comments:

1. Section IV-A.7 CMG recommends the Applicant provide the Planning Board with supporting information the proposed lots are not so distorted as to be detrimental to public health, safety, welfare, or convenience. The proposed shapes of OSRD Lots 2 and 3 are unconventional with the proposed septic system for Lot 3 located in front of the proposed house on Lot 2. In addition, three (3) lots are proposed which require shared driveway access with limited area for commercial delivery and/or emergency vehicles to turn around.
2. V-C.3.E Applicant is proposing 37 spaces for Town Hall parking which require vehicles to directly back onto the Jasper Hill Road right of way which also will serve as access to four (4) proposed residential homes. Zoning by-law requires parking areas having three or more spaces shall be so designated that no vehicle will be required to back on a public way in order to enter or exit from a parking space.
3. Section V-H 4.A.2 (Minimum Requirements: Density) Applicant is proposing a 30' wide Access, Egress, Utility and Drainage Easement through the existing Town Hall parking lot in lieu of modifying the existing non-conforming "Jasper Hill Road" right of way. CMG understands this easement was approved at Town Meeting last year to provide access to the proposed subdivision.
4. Section V-H 4.A – The total number of lots for building purposes within the tract shown on the plan shall not be more than allowed by conventional zoning. It is not clear the proposed Four (4) Lot Conventional Subdivision Plan provided as Sheet 5 of 15 is compliant with Town of Holliston Planning Board Rules and Regulations. The plan set provided does not scale correctly and proposed lot frontage dimensions are not shown along the right of way to verify compliance. Additionally, the proposed extension of the Jasper Hill Road dead end is greater than 500 ft. (See Comment 20.)
5. Section V-H 4.B – Minimum front, side, and rear setbacks are not clearly labelled on Sheet 2 of 15, 7 of 15, and 8 of 15 to identify the buildable area on each lot.
6. Section V-H 6.A 2) - Applicant should verify with the Fire Department what size vehicle will need to access the cul-de-sac. The proposed cul-de-sac turnaround proposes a large island in the middle with retaining walls and is not clearly dimensioned. CMG recommends a truck turn diagram with swept path analysis showing the entire vehicle path be provided for review and approval of the Holliston Fire Department to verify there is adequate pavement width for the required emergency design vehicle.
7. Section V-H 7.A 2) – Common open space shall be planned as large, contiguous units wherever possible. The narrow 10 ft. strip of open space is shown along the southern property boundary does not appear to be consistent with the intent of this section. CMG recommends Applicant provide additional supporting information relating to use of this narrow strip as a vegetated buffer as portions are shown to be used for proposed driveway grading.

8. Section V-H 8.A (Common Open Space Ownership and Management) The Application narrative states: "The proposal is to establish a Conservation Restriction over the Open Space dedicated to the Town of Holliston. A Homeowner's Association will own the Open Space Lot and will be responsible for the maintenance of the Open Space Parcel". CMG recommends the Planning Board make this a "condition of approval" and the Applicant provide the proper "conservation restriction" documentation in accordance with the Zoning By-Law for review and approval by the Planning Board.
9. Section V-H 8.B (Common Open Space Ownership and Management) Application should address how the open space shall be available for use by the general public. If Town Hall parking is to be utilized for public access to the proposed open space, a proposed public access pathway and appropriate signage should be clearly defined on the plans.

Holliston Planning Board Subdivision Rules and Regulations Comments:

10. Section 4.3.1 d – Existing Conditions plan (Sheet 6 of 15) is not provided at a suitable scale (1"=40'). Additionally, the plan provided is not plotted to the scale noted on the plan.
11. Section 4.3.1 e - Sheet 7 of 15 is combined with a Watershed Plan, and does not clearly show all of the information required (i.e. lot size, property line bearing and distances, existing limits of Jasper Hill Road right of way, easements etc.).
12. Section 4.3.1 h – CMG recommends the plan set be prepared at a scale of forty feet to one-inch (1"=40') to include multiple sheets with an overlap of 50 feet on each matching sheet. The current plan set provided does not scale properly and is inconsistent with accepted industry standards.
13. Section 4.3.1 q – Existing centerline profile and stationing of Jasper Hill Road for 100 ft. in each direction from where it intersects Washington Street is not provided.
14. Section 4.3.1 t – Proposed water supply system layout and details are not provided. Proposed municipal water system connection to the existing water main at end of Church Place or Washington Street should be accurately located and shown on the plan.
15. Section 4.3.1. w – A "Planting Plan" is provided as Sheet 10 of 15 and appears to show eight (8) street trees around the proposed cul-de-sac. The plan does not provide a planting schedule noting the types and/or size of trees to be planted or identify the tree symbol in the legend.
16. Sections 4.3.2.1~4.3.2.4 – Subsurface soil data for road construction across the Town of Holliston municipal parking lot for the proposed Jasper Hill Road improvements is not provided as specified in the Planning Board Subdivision Rules and Regulations.
17. Sections 4.3.2.5 – Roadway subdrains are not shown for the cut sections along the entire length of the proposed Jasper Hill Road improvements.
18. Section 4.3.4.1 – Typical Street cross-section does not appear consistent with the roadway pavement width and layout shown on the plan set.
19. Section 4.3.4.3 – List of waivers from strict compliance with the Rules and Regulations should be provided in narrative form and on the Definitive Subdivision Plan Title Sheet.
20. Section 5.2.4 a – The layout on the Conventional Subdivision Plan (Sheet 5 of 15) and Open Space Residential Development do not comply with regulations for dead-end streets. A dead-end street shall not extend for less than one hundred fifty feet (150') or more than five hundred feet (500'). Jasper Hill Road as shown appears to start at its intersection with Washington Street and no waiver is requested for a roadway extension beyond 500 feet.

21. Section 5.2.4 b – The outside diameter of the proposed pavement in the cul-de-sac is not clearly labeled and the plans do not scale properly. Plans shall conform to the minimum 100' outside diameter.
22. Section 5.2.4 b – Limits of proposed granite curbing for the proposed parking lot improvements and roadway extension should be labelled on the Plan & Profile for clarity. Proposed plans appear to utilize a mix of country drainage and gutter inlet drainage structures.
23. Sections 5.2.5.3 & 5.2.5.4 – Roadway-Cross Section Detail does not specify the required gravel base and bituminous pavement specifications in accordance with the Subdivision Rules and Regulations.
24. Section 5.2.5.5 – Curb radii at the intersection (between the proposed Jasper Hill Road extension and the existing Jasper Hill Road), the Town Hall parking lot, and cul-de-sac rounding should be labeled on the plan.
25. Section 5.3.5 – All drain pipes shall be 12" diameter minimum and made of reinforced concrete pipe. No waiver is requested.
26. Section 5.3.6 - CMG recommends Applicant specify granite curb inlets for all catch basins located along the side of the proposed roadway (See Comment 22.)
27. Section 5.4.3 – Street lighting is not provided and no waiver is requested
28. Section 5.4.4 – Proposed underground gas and or electric / cable / telephone utilities layout and/or construction details are not shown on the plan set.
29. Section 5.5.2 – Granite monuments are not shown to be set as required at all proposed right-of-way points including but not limited to both sidelines, intersection of sidelines, and change of direction of curvature. Additionally, all lot corners shall be delineated with iron pins.
30. Section 5.5.3 – Street sign & stop sign locations, proposed pavement markings, and construction details are not provided
31. Section 5.5.5 – Tree planting species, caliper, and planting details should be included on the plan set including the replacement trees.

Holliston Common Driveway Regulations

32. Section 8.3.2 – The paved travel way shall be no less than 18' wide. The proposed share driveway appears to be scaling less than 18' in width and is not clearly labelled.
33. Section 8.3.8 – The proposed shared driveway configuration appears to be problematic for larger commercial vehicles or emergency apparatus maneuverability. The Planning Board may require turnarounds sufficient for public safety vehicles (See Comment 6).

General Engineering Comments:

34. CMG recommends the project's engineering plans be provided at the required 1" = 40' scale and use a minimum standard text size of 0.10 inch consistent with Town of Holliston Subdivision Rules and Regulations. The current engineering design plans scale and small text size does not allow for details to be shown clearly and adequately for both peer review and construction purposes.
35. Applicant is proposing to tie both the proposed OSRD development and Jasper Hill Road drainage system into the existing 12" PVC drain pipe located adjacent to the Town Hall. CMG recommends

evaluation of the Town's existing drainage system in this area of both existing and proposed runoff conditions to determine if additional improvements or upgrades are necessary.

36. CMG recommends evaluation of the existing and proposed municipal parking layout to determine if the proposed improvements are adequate to address the needs of both Town Hall staff and visitors.
37. Retaining wall design including guardrail and fencing for all wall sections 4 ft. in height or greater must be prepared by a licensed State of Massachusetts structural engineer and submitted to the Planning Board for review / approval prior to construction. Proposed top and bottom of wall spot grades should be provided for all proposed retaining walls.
38. Additional information relating to the proposed retaining wall construction is needed to determine if there is adequate area to accommodate the sidewalk, guardrail, fencing, and wall footing along the East side of the Town Hall parking area. A typical retaining wall cross-section should be provided along with the proposed type of wall system to be used in this area.
39. Roof drain piping size, material, and layout should be shown if piped directly to the proposed drywell systems.

MassDEP Stormwater Standards:

Stormwater Standard 1: *No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth.*

40. Proposed stormwater design appears to utilize a mixture of country drainage and conventional conveyance structures. Project requires a minimum water quality volume (WQV) = 1" (See CMG comments associated with Standard 4).

Stormwater Standard 2: *Stormwater management systems shall be designed so that post development peak discharge rates do not exceed pre-development peak discharge rates.*

41. Only calculation summary tables and a routing diagram are included in the submitted "Flood Impact Analysis and Stormwater Management" Report. However, node detail summaries associated with the model are not included. CMG requests summaries for each node during each modelled storm event in order to adequately evaluate the proposed drainage system.
42. Table 1c. Land Use Table HSG A area values do not appear to match the calculated areas as shown in the hydrology model summary tables. In addition, existing and proposed drainage areas do not match when calculated via the hydrology model summary table.
43. Basin D1 does not provide 1' of freeboard in the 100-year storm event.
44. The curve numbers as shown on Page 14 do not appear to match the curve numbers called out on the "Proposed Conditions & Watershed Plan".
45. NOAA Atlas 14 source of precipitation data for each modelled storm event should be documented in the stormwater report.

Stormwater Standard 3: *Loss of annual recharge of groundwater shall be eliminated or minimized.*

46. The stormwater checklist notes infiltration structure sizing utilizes the Static Method and Simple Dynamic Method. The recharge volume calculations appear to be based primarily on the static method. The report also accounts for infiltration in the recharge volume calculations, but does not provide the correct simple dynamic calculations.

47. Additional soil tests are required to be conducted within the limits of all proposed infiltration basins and underground infiltration chambers to verify the minimum 2 FT of separation to estimated seasonal high groundwater is met.
48. Leaching catch basins are proposed in three (3) of the proposed infiltration basins. Applicant shall document and verify there is a minimum of 2 FT of separation from the bottom of the leaching catch basin to estimated seasonal high groundwater.

Stormwater Standard 4: *Stormwater management systems shall be designed to remove 80% of the average annual post construction load of Total Suspended Solids (TSS).*

49. Stormwater report should note the water quality volume (WQV) = 1 in. must be used as Site is located within an area with a rapid infiltration rate (greater than 2.4 in / hr).
50. The pretreatment requirements associated with the infiltration structures are not met. 25% TSS removal is required prior to infiltration. In particular, stormwater being conveyed to the proposed basins via the conveyance swales need to be treated prior to entering the infiltration basins.
51. In order to take the 50% TSS removal credit for the grass swale it must be designed in accordance with the MA-DEP Stormwater Management Standards and a construction detail provided.
52. Only two (2) TSS removal calculation worksheets are included in the Stormwater Report. The report shall include TSS removal calculations for each subcatchment.
53. In accordance with Section 11.10.1.8 of the Holliston Stormwater Management & Land Disturbance Regulations, Applicant shall provide calculations to prove 90 % total suspended solids (TSS) and 60% Total Phosphorous (TP) removal is achieved from the total post construction impervious area of the Site.

Stormwater Standard 5: *Land uses with higher potential pollutant loads (LUHPPL), source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable.*

Not applicable – Site is not a LUHPPL.

54. Standard 5 NPDES Multi-sector General Permit box is incorrectly checked on the Stormwater checklist page 6 of 9.

Stormwater Standard 6: *Stormwater discharges within a Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area.*

Not applicable – Site is not located in a Critical Area

Stormwater Standard 7: *Redevelopment Projects*

Not Applicable – Application is for a new development project.

Stormwater Standard 8: *Construction period erosion and sedimentation control*

55. Site is > 1 Acre therefore an EPA NPDES 2022 Construction General Permit (CGP) registration and SWPPP is required to be submitted prior to construction.
56. Stormwater Pollution Prevention Plan for Construction Activities provided within the "Flood Impact Analysis and Stormwater Report" does not meet the current EPA NPDES 2022 CGP requirements.

57. The inlet protection detail should be revised to include only a silt sack within the existing Jasper Hill Road paved right-of-way. Silt sack and straw wattle combination will cause traffic flow issues.

58. Size / diameter of the proposed straw wattles is not shown.

Stormwater Standard 9: Long term operation and maintenance plan

59. CMG recommends the O & M Plan include the following required information:

- Required Operation and Maintenance and schedule for the underground chambers, vegetated swales, leaching catch basins, and stormwater basins.
- The following statements shall be included in the O & M Plan:
 - The responsible party shall maintain a log of all operation and maintenance activities for the last three years including inspections, repair, replacement, and disposal (the log shall indicate the type of material and the disposal location).
 - The responsible party shall make this log available to the Planning Board and/or the Commonwealth of Massachusetts upon request.
 - The responsible party shall allow the Planning Board to inspect each BMP to determine whether the responsible party is implementing the Operation and Maintenance Plan.
- Snow removal operations should be included in O & M Plan and inspection log form.

60. Upon completion of construction if the Applicant intends to transfer stormwater operation and maintenance activities to a "homeowners association"; the Applicant must provide a copy of the legal instrument (deed, homeowner's association, or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs.

Stormwater Standard 10: Illicit discharges

61. The Long-Term O&M Plan includes an "illicit discharge statement" and is in compliance with Standard 10.

If you have any questions or need additional information, please contact us at (774) 241-0901.

Sincerely,
CMG



David T. Faist, PE
Principal Engineer



Robert Lussier, EIT
Project Manager