

November 14, 2022

via email

Town of Hingham
Planning Board
Mr. Michael Silveira
210 Central Street
Hingham, MA 02043

**Re: Proposed Residential Definitive Subdivision
261 Gardner Street
Hingham, MA
Peer Review Response to Comments**

Dear Planning Board:

On behalf of the applicant, Joseph Cincotta, Civil Design Group, LLC (CDG) is in receipt of the peer review letter issued by Amory Engineers, P.C., dated 10/11/2022. CDG's responses are provided in **bold** below the original comments and supporting plans and documentation are enclosed herein.

Compliance with the Planning Board Rules and Regulations

1. We note that no waivers have been requested from the Planning Board Rules and Regulations.

CDG Response: Based on feedback from the Planning Board at the 10/17/22 hearing, waivers have been requested and are noted on the Notes Sheet.

2. R&R §3.C.2(a) requires the vertical datum (NAVD 1988) and two permanent benchmarks to be shown on the plan. No benchmarks are shown on the plans and notes on Sheet 2 indicate that elevations are based on the datum reference used on the Existing Conditions plan. However, there is no datum referenced on the Existing Conditions plan (Sheet 3).

J2M Consulting Response: The existing conditions plan has been updated to as required.

3. R&R §3.C.2(l) requires that all existing street trees over one foot in diameter to be shown on the plans. Proposed size, type and species of proposed trees are also required to be shown on the plan. Proposed street trees and a ten foot wide street tree planting strip should be in accordance with R&R §5.B4.

CDG Response: The revised existing conditions plan depicts the existing trees over one foot and the site plan includes proposed trees.

4. R&R §4.B(2)(a) requires streets to provide access to all lots in the subdivision. Proposed Lot 1 would not be accessed by the proposed street.

CDG Response: Proposed Lot 1 includes an existing house that faces Gardner Street with an existing driveway connection to Gardner Street. A driveway connection to the new subdivision road is impractical and would require unnecessary expense to construct a new driveway and to incorporate garage modifications. A waiver from this requirement has been added to the revised plans.

5. R&R §4.B(3)(a) and Table 1 requires a twenty foot wide travel way and twelve inch Cape Cod berms on a Limited Residential Street. As noted above, the proposed travel way will be twenty-two feet wide with vertical granite curbing on each side.

CDG Response: Acknowledged. No response required.

6. Table 1 also requires that the binder course of pavement be 3-inches thick and the sub-base gravel be 24-inches thick. The Typical Bituminous Pavement Detail on Sheet 13 shows 2.5-inches of binder and 12-inches of gravel sub-base.

CDG Response: The pavement detail has been revised per the Town standards.

7. R&R §4.B(4)(b) requires sloped granite curbing around the inside island of a cul-de-sac turnaround. Vertical granite curbing is proposed.

CDG Response: The curbing along the inside of the cul-de-sac has been revised to reflect sloped granite curb.

8. R&R §4.C(1) prohibits “retention or direct subsurface discharge of storm water.” The proposed stormwater system is designed to retain and infiltrate all runoff from impervious surfaces on site. We believe this to be a benefit, however, an emergency overflow connection from Subsurface Infiltration System SIS-1 (the system associated with the roadway collection system) to the municipal stormwater system in Gardener Street should be considered. Should an overflow be provided, we recommend a manhole with either an internal weir structure or the invert out of the manhole set above the 100-year storm peak elevation of 146.32.

CDG Response: Based on feedback from the Department of Public Works Department, an emergency overflow drain pipe to the municipal system is not allowed, therefore, the same are not shown on the plans.

9. R&R §4.E requires that all stormwater management structures for detention and/or retention be open basins constructed of natural earth material with loam and seed surface. The proposed stormwater retention/infiltration structure is a subsurface structure. We note that via email sent to Ms. Wentworth on September 9, 2022, we suggested that the Applicant’s engineer consider a rain garden in the center of the cul-de-sac with an overflow connection to the Town’s drainage system. The Applicant’s engineer responded to our

email on September 14th advising that they would consider the suggestion but we did not receive any feedback as to why this option was ruled out.

CDG Response: According to the Massachusetts Department of Environmental Protection Stormwater Handbook, a rain garden or bioretention area is a best management practice (BMP) used for treatment only. These BMP's typically require less than 9 inches of ponding and are not suitable for peak flow mitigation. Therefore, the exclusion of the subsurface infiltration system would result in higher peak flow rates as compared to the pre-development condition, thereby not meeting DEP Standard 2. By comparison, the bioretention area is more akin to the proprietary separator proposed on the project (DMH-1).

10. The Water Service Approval letter from Weir River Water System indicates that there is adequate water supply for domestic use but R&R §4.L(6) also requires documentation that there will be a minimum of 1,000 gallons of water per minute at the proposed fire hydrant. Documentation should be provided to verify this. The Water Service Approval letter specifies that the hydrant is to be positioned off the outside of the cul-de-sac turnaround between Lots 3 and 4. The letter also requires that the connection to the existing water main in Gardner Street be a tee cut in with a three valve cluster.

CDG Response: Acknowledged. The plan revisions required by the water department are depicted on the revised plans.

11. R&R §4.L(7)a. requires a ten foot wide electric easement around all Hingham Municipal Lighting Plant (HMLP) infrastructure. The Applicant should coordinate with HMLP as necessary and the easements should be shown on the definitive plan.

CDG Response: The Applicant has coordinated with HMLP and the electrical and easement layout has been updated on the revised plans.

12. R&R §5.L1(4) requires HDPE drain pipe to have rubber gaskets. The Typical Drain & Sewer Trench Detail on Sheet 15 should specify rubber gaskets for the drain pipe.

CDG Response: The trench detail are intended to depict the trench specifications. The catch basin, drain manhole and sewer manhole details specify connection details.

13. R&R §5.L1(5); §5.R1(22) and §5.T3(6) require granite curb inlets at all catch basins. A detail of the curb inlets should be provided.

CDG Response: A granite curb inlet detail has been added to the revised plans.

14. R&R §5.R1(6) requires catch basins to be five feet in diameter and 8'-6" deep. The proposed catch basins are four foot diameter with a four foot sump, which is MassDOT and industry standard.

CDG Response: The catch basin detail has been revised accordingly.

15. R&R §5.Q1(1) requires drain manholes to have bricked inverts. This should be specified on the Typical Drain Manhole Detail on Sheet 14.

CDG Response: The drain manhole detail has been replaced with a drain manhole detail that includes bricked inverts.

16. R&R §5.X1(1) requires frames on catch basins and drain manholes to be set in a full bed of mortar with a maximum of four and minimum of two courses of bricks for adjustment to finish grade. The catch basin and manhole details on Sheet 14 should be modified to comply with this requirement.

CDG Response: The catch basin and manhole details have been replaced with new details that have been used on a previously approved subdivision project.

17. R&R §5.U3(3) requires the reveal of vertical granite curb to be 7-inches \pm $\frac{3}{4}$ inch. The Typical Vertical Granite Curb Detail on Sheet 13 should be revised to specify this.

CDG Response: The vertical granite curb detail has been revised accordingly.

18. There should be a loam and seed detail and/or the typical cross-sections and details on Sheet 13 should specify a minimum of six inches of loam in accordance with R&R §5.A4(3).

CDG Response: A loam and seed detail has been added.

19. The Board should determine whether street lighting should be included in the subdivision (R&R §5.X3).

CDG Response: In lieu of street lighting, the applicant proposes to add porch lighting at the front of each house.

20. R&R §5.C4(1) requires granite Hingham Highway bounds to be set at all street intersections and at all points of change in direction or curvature of streets. R&R §5.C4(3) also requires at least one sideline of each lot be marked with a bound. A bound/monument detail should be shown on the plans.

J2M Consulting Response: The revised definitive plan depicts granite bounds as required.

General, Utilities, Stormwater & Erosion Control

1. The post-development drainage/ HydroCAD calculations are based on runoff from the entire roofs of the dwellings proposed on Lots 2, 3 and 4 being directed into the

subsurface infiltration systems. This will require all downspouts to be piped into the subsurface systems. Should the Board approve the project, we recommend a condition requiring that all downspouts be connected to the subsurface infiltration systems.

CDG Response: Acknowledged. No response required.

2. We note that the overall site post-development analysis is based on proposed grading as shown on the plans, including lot development. There are low areas on the proposed lots that are modeled as retention/infiltration areas. These low areas will need to be maintained and proposed lot grading will need to be per plan to ensure that post development runoff is mitigated as proposed.

CDG Response: Acknowledged. No response required.

3. There are no test pits within Subsurface Infiltration System SIS-1, which is the large system located on the proposed drainage lot associated with roadway runoff. However, the eleven test pits excavated on site all show consistent sandy soil and seasonal high groundwater between elevation 139.5 and 142.1 and the design of SIS-1 is based on those parameters. However, the bottom of the system should be at El. 144.1 minimum (also SIS-2). Per the MassDEP Stormwater Standards, two test pits should be excavated within the footprint of the system. Based on the consistency of the soils and groundwater level we believe that the test pits can be done at the start of construction.

CDG Response: SIS-1 has been revised to show a bottom of system elevation of 144.10. SIS-2 has a higher bottom of system elevation that 144.10, therefore, no change has been proposed to the same. Confirmatory test pits will be performed within the SIS-1 footprint at time of construction.

4. Subsurface Infiltration System SIS-1 should have an inlet manifold to evenly distribute flow to each row of the system. Also, if an overflow is incorporated into the design as suggested above, there should be a manifold on the outlet end of the system.

CDG Response: An inlet manifold has been added to SIS-1.

5. To allow for easier inspection and maintenance, we recommend that the inspection ports on the subsurface infiltration systems be a minimum of six inches diameter and that an inspection port be installed on each end chamber in each row of the systems (two on each row).

CDG Response: 6" inspection ports have been added to each SIS as requested.

6. The invert elevations of catch basins CB-3 and CB-4 are specified to be 145.2 on the plans and 145.0 in the Hydraflow Storm Sewer Inventory Report (pipe sizing calculations).

CDG Response: The catch basin inverts in the storm sewers modelling have been revised to reflect an invert of 145.20.

7. The beehive grate detail included in the Typical Hydroworks HS4 Detail on Sheet 14 should be removed.

CDG Response: The beehive grate has been removed.

8. The Quarterly Stormwater Inspection Report attached to the Operation and Maintenance Plan (O&M) should include reporting information for the hydrodynamic separator.

CDG Response: The Quarterly Stormwater Inspection Report has been updated accordingly.

9. The O&M includes references to items typically associated with a commercial development site (dumpster enclosure, secondary containment for petroleum storage, designated snow storage areas, etc.). The O&M should be specific to this residential development.

CDG Response: The Operation and Maintenance Plan has been updated to remove references and site related items pertaining to non-residential developments.

10. The Definitive Plan, Sheet 10 of the plans set, is missing geometry for Lot 5 (drainage lot) and it does not differentiate between existing and proposed property lines. The plan should be updated to clearly show the lines of the proposed subdivision, including all easements.

J2M Consulting Response: The definitive plan has been updated as requested.

11. As noted in Mr. Silveira's October 2, 2022 email to the Applicant, the method that frontage has been measured for each lot should be shown on the plans.

CDG Response: The lot frontage lines for Lots 3 and 4 are shown as dashed lines measured at the front yard setback extended and the distance is reflected as the same in the zoning information table. The lot frontage for Lots 1 and 2 are the summation of the line segments along the existing and proposed right of way lines.

12. The proposed erosion control barrier should be moved to the proposed limit of work line around the drainage lot.

CDG Response: The erosion control and limit of work line has been revised accordingly.

13. General Note 2 on Sheet 2 indicates that the area of the subdivision is 4.31 acres, yet Sheet 3, the Existing Conditions plan, indicates that the area of the subdivision is 4.05 acres. Clarification is needed.

CDG Response: The area indicated on the Notes Sheet has been modified to reflect 4.05 acres.

14. Grading & Drainage Note 11 on Sheet 2 refers to downspouts daylighting. As noted above, all downspouts should be connected to the subsurface infiltration systems.

CDG Response: The above referenced note has been modified to indicate that roof drains shall be connected to their respective subsurface infiltration systems.

15. Utility Notes 8 and 10 on Sheet 2 refer to sewer pipes and a common septic system, respectively, yet no sewer nor common septic system are proposed.

CDG Response: References to sewer pipes and a common septic system has been removed.

16. Soil Erosion and Erosion Control Note 3 refers to construction "sequencing plans included herein," yet there is no construction sequencing specified on the plans.

CDG Response: The construction of the proposed subdivision road is a single phase project, therefore, the reference to sequencing has been removed from the note.

17. To avoid confusion we recommend that references to "wattles" be changed to "silt socks" as wattles are typically associated with straw or hay, which the Conservation Commission does not allow. See Soil Erosion and Erosion Control Note 7.

CDG Response: References to wattles have been revised as requested. Please note that the detail on Sheet 7 also includes a silt fence.

18. We note that there will be significant coordination required to maintain utility service to the dwelling at 265 Gardner Street. This is acknowledged by the Applicant's team as this is noted on Sheet 4, the Demolition & Erosion Control Plan. We want to make sure the residents at 265 Gardner Street are aware of this as well.

CDG Response: Acknowledged. The applicant shall coordinated as necessary with the Owners of 265 Gardner Street to maintain utility service and access.

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We trust the responses provided above and the enclosed plans sufficiently address the comments issued by the peer reviewer. Please feel free to contact our office if you have any questions or require further clarification.

Sincerely,

CIVIL DESIGN GROUP, LLC



Philip R. Henry, P.E.
Principal

cc. Mr. Joseph Cincotta

Enclosures