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April 27, 2021

Hingham Planning Board
210 Central Street
Hingham, MA 02043

Subject: **101 Gardner Street – Definitive Subdivision**

Dear Board Members:

This is to advise that we have reviewed the following documents prepared by Grady Consulting, L.L.C. related to the subject project:

- Definitive Subdivision Plan (12 sheets), revised April 22, 2021
- Stormwater Report, revised April 22, 2021
- Response to comments letter, dated April 22, 2021

The documents have been prepared to address comments contained in our April 13, 2021 letter to the Board. Below are our original comments in plain text, followed by the current status of each in **bold text**.

Comments

Compliance with the Planning Board Rules and Regulations

1. We note that no waivers have been requested from the Planning Board Rules and Regulations. **Informational, no response required.**

2. R&R §3.C.2(a) requires two permanent benchmarks to be shown on the plan. One, temporary benchmark (nail in driveway) is shown**. We understand that Grady will be submitting another revised set of plans after additional soil testing and field work is performed (scheduled for April 29, 2021) and the two permanent benchmarks will be shown on the revised plans.**

3. R&R §4.B(4)(b) requires sloped granite curbing around the inside island of a cul-de-sac turnaround. Cape Cod berms are proposed. **Addressed – sloped granite curbing is specified around the island as required.**

4. As noted above, no proposed natural gas service is shown on the plans. If proposed, it should be shown in accordance with R&R §4.L(1). **Natural gas is not proposed.**

5. In accordance with R&R §4.L(6) documentation should be provided to verify that there will be adequate water supply for domestic use and fire flow. **In the response Grady advises that they are in contact with Mr. Russell Tierney of the Weir River Water System to secure the water supply documentation.**

6. 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. **In the response Grady advises that they are coordinating with Mr. Stephen Girardi of HMLP and once the project is approved by the Planning Board, HMLP will complete the electric service design and prepare easement documents.**

7. R&R §5.L1(4) requires HDPE drain pipe to have rubber gaskets. A detail should be provided specifying rubber gaskets for the drain pipe as well as the bedding requirements of §5.I2. **Addressed – a Drainage Trench Excavation Detail specifying rubber gasket joints and bedding material has been added to Sheet 12.**

8. R&R §5.L1(5) and §5.T3(6) require granite curb inlets with transition curbs at all catch basins unless the Board approves the omission of the curb inlets. **Addressed – the plans now specify granite curb inlets at catch basins and a detail has been added to Sheet 8.**

9. R&R §5.L1(9) requires all drain outfalls to end in a concrete or masonry headwall. A flared end section is proposed. If the Board approves the use of the flared end section, for durability, we recommend a reinforced concrete flared end section rather than HDPE. **Addressed – a headwall is specified for the drain outfall and a Headwall and Wingwall Detail has been added to Sheet 10.**

10. 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. **Addressed – the Precast Gasoline Trap Catch Basin detail on Sheet 10 has been revised to specify five foot diameter catch basins with a minimum depth of 8'-6" as required.**

11. The Typical Water Trench Detail on Sheet 11 should specify the bedding and zone around the pipe to be sand in accordance with R&R §5.B3. **We note that the April 22nd plans included a note on the detail specifying sand but there were still references to crushed stone. We sent an email to Grady on April 26, 2021 (copy attached) with five minor comments. Grady sent draft revised plans[1] today which showed that the minor comments had been addressed, including removal of the crushed stone references.**

12. The Typical Roadway Sections on Sheet 11 should specify the gravel subbase material to meet the requirements of M1.03.1 in accordance with R&R §5.J3. The Sections should also show the grass strips to slope toward the roadway in accordance with R&R §5.A4(1). **Addressed – the typical sections have been revised to specify the required gravel subbase material.**

13. The Board should determine whether street lighting should be included in the subdivision (R&R §5.X3). **This is informational for the Board's benefit and discussion. No response required.**

[1] Grady advised that the plans will be formally issued after additional soil testing is performed on April 29, 2021.

14. The plans should show a ten foot wide street tree planting strip in accordance with R&R §5.B4. **Addressed – a ten foot wide street tree planting strip has been added to Sheet 9.**

15. A bound/monument detail should be shown on the plans. **Addressed – a Bound/ Monument Detail has been added to Sheet 12.**

16. Street name and stop signs should be shown on the plans in accordance with R&R §5.D4. **Street name and stop sign details have been added to Sheet 12 of the April 22, 2021 plans, however, they were not shown in Plan. This was another of the minor comments we emailed to Grady which has been addressed on the draft revised plans.**

General, Utilities, Stormwater & Erosion Control

1. The roofs of the proposed houses have been broken out of the overall site post-development drainage/ HydroCAD calculations and analyzed separately. These should be included in the overall post-development site analysis. We also request that a separate analysis be run to show what would happen if the proposed drywells for roof runoff were to fail. We believe that drywells for roof runoff are a beneficial best management practice but failure of these systems would not be surprising and we want to make sure that failure of these systems would not cause increased runoff to adjacent properties. **Addressed – the roof areas of the houses have been included in the post-development HydroCAD calculations as requested and the calculations indicate that in the event of drywell failure, post development runoff will be mitigated as 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 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. **In the response Grady indicates that "low areas shall be maintained and proposed grading for low areas shall be per plan or equivalent storage volume provided to mitigate post-development runoff." We suggest that easements be considered to protect the low areas from potential future filling.**

3. Additional soil testing on site is required. There are no test holes at the location of the proposed infiltration basin or the roof drywells. The groundwater elevation at the proposed infiltration basin is shown to be El. 125.9 on the Basin Detail (Sheet 10) and it is noted that the elevation is taken from test hole #1, however, test hole #1 was only excavated to El. 126.4 according to the test hole logs on Sheet 12. Additional test holes are also required for septic system design. **As noted above, additional soil testing is scheduled for April 29, 2021.**

4. The Dry Well for Roof Drains detail on Sheet 12 shows 2'-5" of stone surrounding the concrete chambers but only 2 feet of stone is modeled in the calculations. The detail also specifies filter fabric to be installed below the stone under the chambers, which is not required, nor recommended. **Addressed – the detail has been revised accordingly.**

5. We question the required recharge volume and water quality volume calculations in the Stormwater Report. The calculated recharge and water quality volumes are based on an impervious area of 19,189 square feet (s.f.) but the total post-development increase in impervious area taken from the HydroCAD calculations is 31,022 s.f. The proposed paved area from the HydroCAD calculations is 23,867 s.f. With these figures, the required recharge volume would be 1,193 cubic feet (c.f.) and the required water quality volume would be 1,989 c.f. We note that the infiltration basin has sufficient capacity to satisfy both of these volume requirements. **Addressed – the calculations have been revised as required.**

6. The long term Operation and Maintenance Plan for the stormwater system specifies quarterly inspections for the sediment forebay and infiltration basin but the inspection checklist notes yearly inspections. These should be consistent. **Addressed – the checklist has been revised to be consistent with the narrative.**

7. In order to limit infiltration through the sediment forebay we recommend that the bottom of the forebay have 8- to 12-inches of loam. **Addressed – a note has been added to the Basin Detail on Sheet 10 specifying 8- to 12-inches of loam for the bottom of the forebay.**

8. The fifth paragraph in the Phase I Construction Sequence on Sheet 12, which states "Grade temporary shoulder and install water line," should be moved and combined with the ninth paragraph related to utility installation. **Addressed – the construction sequence has been revised as recommended.**

9. Sheet 8 of the plan set should specify that silt sacks are to be installed in the catch basins. **Addressed – the Erosion & Sediment Control Plan notes on Sheet 8 has been revised to specify silt sacks in the catch basins.**

10. Septic Design calculations for a four bedroom and six bedroom dwelling are included on Sheet 12. Only Lot 2 has the required lot area to support the six bedroom dwelling. With a six bedroom dwelling on Lot 2 and four bedroom dwellings on Lots 1 and 3, the lot areas comply with Title 5 and the Hingham Board of Health Supplementary Rules and Regulations for the Disposal of Sanitary Sewage. **Informational, no response required.**

11. The proposed reserve leaching area for the dwelling on Lot 1 is shown to be located within the low area on the lot where stormwater is directed and infiltrated. This should be moved away from the low area. **Addressed – the reserve leaching area has been moved away from the low area on Lot 1**.

12. There is an existing well on the property with a note stating that it is disconnected. Because the site is within a Zone II of a public well, we recommend that the well be decommissioned (sealed) by a Massachusetts Certified Well Driller to insure that well is appropriately sealed. **Addressed – a note has been added to Sheet 5 specifying that the well is to be "decommissioned by a Massachusetts Certified Well Driller."**

13. There is an existing well shown on the property at 111 Gardner Street and the note on the plan indicates that it could be either an irrigation or potable well. If this is a potable well, the proposed septic system on Lot 3 would need to be moved outside the 250 foot radius from the well. **Addressed – the proposed septic system on Lot 3 has been moved outside of the 250 foot radius to the well at 111 Gardner Street.**

14. The radius label for the curve on the west side of the cul-de-sac turnaround is missing. **The label was missing from the April 22, 2021 plans but has been added to the draft revised plans. We will confirm that it is included on the**

15. A note should be added to water details on Sheet 11 specifying compliance with the standards and regulations of the Weir River Water System. **Addressed – the note specifying compliance with the standards and regulations of the Weir River Water System has been added to the detail on Sheet 11.**

16. Based on the sight distance triangle sketch on Sheet 12 it appears that some trees may need to be trimmed to provide the required sight distance. This should be specified on the plans. **In the response, Grady advises that trimming should not be required as there are no low limbs on the existing trees.**

Please give us a call should you have any question.

Very truly yours,

AMORY ENGINEERS, P.C.

By:

Patrick G. Brennan, P.E.

PGB
enc.

Pat Brennan <pbrennan@amoryengineers.com>

101 Gardner Street - Revisions

Pat Brennan <pbrennan@amoryengineers.com> Mon, Apr 26, 2021 at 3:15 PM
To: Paul Seaberg <Paul@gradyconsulting.com>

Paul,

I've gone through the revised documents and note a few minor edits that should be made:

- The 30' radius label is still missing from Sheet 3 - see attached.
- Street signs should be shown in Plan on Sheet 4.
- The section through the cul-de-sac shows Cape Cod berm (Sheet 11).
- The water trench detail still includes notes about crushed stone bedding (Sheet 11).
- The post-development O&M has "During Construction" in the Title.

All of these are circled or underlined in red on the attached.

Pat

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