



GRADY CONSULTING, L.L.C.

Civil Engineers ♦ Land Surveyors ♦ Landscape Architects

October 22, 2020

Avon Planning Board
65 East Main Street
Avon, MA 02322

RE: Request Site Plan Review – 540 Bodwell Street Ext.
Assessors Map B8 Lot 1-8
Applicant – CJ Shaughnessy Realty Trust

Dear Board Members:

On behalf of the applicant we hereby submit revised plans and documents. The plans were revised in response to comments from Review Engineer, Gregory W. Driscoll, Jr., P.E. in a letter to Mr. Charles Comeau, Planning Board Chair, dated September 16, 2020. The revisions are as follows:

Comments from the review letter, dated September 16, 2020, are shown in *italic* font and response to comments are shown in **bold** font.

Zoning By-Law Review

1. *By-law section 255-8.9.G: Parking spaces shall not be located within the required front yard area except in residential districts. Please address.*

Currently, the existing site consists of a parking lot within the front yard area. The Site Plan proposes to retain and repave this existing parking area. The total number of spaces within the front yard area has been reduced to five spaces total and is no long subject to section 255-8.9.G.

2. *By-law section 255-8.9.K: Any entrance or exit driveway shall not exceed 24 feet in width at its intersection with the front lot line. Curb cuts shall not exceed 25 feet in width. Plans need to clearly define the driveway for Zoning compliance.*

The Site Pan has been revised to create a 24' wide entrance by proposing a landscaped island.

3. *By-law section 255-12.2.D(1) Please show the lighting information on Sheet 2.*

Existing lighting has been added to the Site Plan as requested.

4. *By-law section 255-12.2.D(3) Site Plan Specifications:*

(b) Please include the General Soil Types on the existing conditions plan.

Soil logs and test hole locations have been added to the existing conditions plan as requested.

(c) The adjacent properties plan was not included in the plan set received. A plan with either a GIS orthophoto or other aerial photo with the CAD line work overlaid should meet this requirement. The required plan could be included on the cover sheet if there is room.

A plan showing the adjacent properties within 300' has been added as a Cover Sheet as requested.

(d) Required information

[c] Please show the Location of any existing structures, access roads, driveways, driveway openings, parking spaces, hydrants and service and loading areas located on or within 100 feet of the development site.

This information has been added to sheet 3 of the Site Plan as requested.

[d] Please show the proposed vehicular circulation system, including pavement widths, location and dimensions of driveway entrances and exits, fire lanes, parking areas and signs.

Directional arrows have been added to the Site Plan to depict the proposed vehicle circulation. Pavement widths have been added to the Site Plan. The Site Plan proposes to maintain the majority of the existing pavement areas in the front and left side of the building. Currently there is an existing 20' wide paved access easement on the adjacent property in addition to the 25.9' wide pavement width on site. The Site Pan has been revised to create a 24' wide entrance by proposing a landscaped island. Pavement and parking areas surround the building on three sides for fire access. There are no proposed signs.

[g] Please show the Service access and facilities for all structures or uses, including garbage and trash disposal facilities.

A proposed dumpster and detail have been added to the Site Plan as requested. Proposed water and gas services have been added to the Site Plan.

[h] Please show the location of the proposed water supply.

The proposed water service has been added to the Site Plan as requested

[l] Please provide the location of light poles showing the direction of outside lighting.

Utility poles along Bodwell Street have lights directed towards the

street. The existing building has wall mounted lights directed downward. The proposed building with have wall mounted lights.

5. *By-law section 255-12.2(4) Site Plan Review*

- (a) *The design is creating a point discharge onto an abutting property from the bio-retention area. Please address.*

The drainage design has been revised to eliminate the point source discharge as requested.

- (b) *Need to clearly define the driveway to and from the site.*

The Site Pan has been revised to create a 24' wide entrance by proposing a landscaped island.

- (c) *Please provide the revised calculations based on the review comments.*

Revised calculations have been provided as requested.

- (h) *Please provide a Landscape Plan.*

A landscape plan has been provided as requested.

Plan Review Comments

6. *Sheet 1: Show the location of the off-street loading space.*

The off-street loading space has been added to the plan as requested.

7. *Sheet 1: Show ADA compliant parking space.*

An ADA compliant parking space has been added to the plan as requested.

8. *Sheet 1: Report states bio-retention not rain garden. Please be consistent and use bio-retention.*

The drainage design has been revised to eliminate the bio-retention basin.

9. *Sheet 2: Need to have a test pit in the location of the Bio-retention facility. Please provide soil borings data and show the test pits on the Grading Plan (Sheet 3)*

A test pit has been conducted in the area of the proposed subsurface drainage system as requested. The bio-retention system has been revised to a subsurface drainage system.

10. *Sheet 3: Need to show a Limit of Disturbance Line (including the sewer force main connection) and call out the area being disturbed.*

A Limit of Disturbance Line and area has been added to the plan as requested.

11. *Sheet 3: The bottom of the bio-retention facility is elevation 197.00 and there is no need to create two depressed areas to elevation 196. Please revise.*

The bio-retention system has been revised to a subsurface drainage system.

12. Sheet 3: Please show how the roof drainage is going to be directed into the bio-retention facility. Please include stone rip-rap pads at downspout outlet pipe discharge locations.

The roof of the proposed building is sloped to the northeasterly side of the building. downspout outlet pipe discharge locations and detail have been added as requested.

13. Sheet 3: Show proposed door locations. Differentiate between garage doors and pedestrian doors.

Door locations and type are shown on the Site Plan as requested.

14. Sheet 3: If the building will have garage doors without a loading dock, then a floor drain Industrial Wastewater Holding Tank (IWHT) will be required. If so, provide a design, sizing and location of the tank per 314 CMR 18.00.

Industrial Wastewater Holding Tanks and details have been added to the Site Plan as requested.

15. Sheet 3: Add dewatering and concrete washout areas to the plan and details on the detail sheet.

Dewatering and concrete washout areas and details have been added to the Site Plan as requested.

16. Sheet 3: Add soil stockpile locations on the plan with erosion control protection.

A soil stockpile location has been added to the Site Plan as requested.

17. Sheet 4: Pre-development Tributary Plan: label the study points, list the area and show the Time of Concentration flow path with supporting segment data.

Pre-development Tributary Plan: label the study points, list the area and show the Time of Concentration flow path with supporting segment data have been added as requested.

18. Sheet 5: Post-development Tributary Plan: label the study points, list the area and show the Time of Concentration flow path with supporting segment data.

Post-development Tributary Plan: label the study points, list the area and show the Time of Concentration flow path with supporting segment data have been added as requested.

19. Sheet 6: The detail, shown in the Report, showing the media (30" minimum) was not followed. Please revise the design detail, include the component layers with dimensions as well as the field determined groundwater elevation.

The bio-retention system has been revised to a subsurface drainage system.

20. Sheet 6: The 4' groundwater distance is measured from the bottom of the bio-retention facility, not the surface.

The bio-retention system has been revised to a subsurface drainage system.

21. *Sheet 7: Soil data is for an off-site location and does not represent the conditions at the bio-retention facility*

Additional soils testing has been conducted in the area of the proposed subsurface drainage structure as requested.

Stormwater Report

22. *Soil testing, by an approved MA soil evaluator, is required for the design of any drainage system. The estimated seasonal high groundwater elevation must be established in order to design an infiltration system with the proper separation to the ESHGW. Furthermore, if the soils mapping does not establish a soil texture or hydraulic soils group, this must be established through soil testing*

Additional soils testing has been conducted in the area of the proposed subsurface drainage structure as requested.

23. *Please provide a table of contents.*

A table of contents has been provided as requested.

24. *Mounding analysis was not provided.*

A mounding analysis has been provided as requested.

25. *Please number all report pages.*

The page numbers have been provided as requested.

26. *Summary of Stormwater Flows: Use the latest Northeast Regional Climate Center (NRCC) rainfall data for the Town of Avon, 2yr: 3.22" – 10yr: 4.86" – 25yr: 6.15" – 100yr: 8.80".*

The Stormwater Flows have been revised as requested.

27. *Summary of Stormwater Flows: The storage listed on the Bio-retention table does not represent the water quality volume being recharged through the bottom of the facility. The flows presented need to be based on the actual operation of the bioretention facility.*

The bio-retention system has been revised to a subsurface drainage system.

28. *Compliance with Massachusetts Stormwater Management Regulations. Please update:*

- a) *Standard 3: Recharge – Provide the soil analysis in the area of the bio-retention facility. Silt Loam (HSG C) used, however, need an analysis of the soils in the bio-retention area to confirm that the material under the facility is not Sandy Clay Loam, which would have a value of 0.17 inches per hour.*

Additional soils testing has been conducted in the area of the proposed subsurface drainage structure as requested.

b) *Standard 3: Use HydroCAD for the 72 hour drawdown calculations. Change the time span to 0-72 hours, then print (or PDF) the Hydrograph table for the infiltration system. Indicate on the table the time at which the basin is empty. This is a more accurate method of establishing the basin drawdown as the HydroCAD model is dynamically infiltrating the water in the basin (and out-letting through any other outlet devices) as it is filling up throughout the 24 hour storm event.*

The 72 drawdown calculation has been provided as requested.

c) *Standard 3: Mounding Analysis: Need to determine if the groundwater is within 4' of the bottom of the Bio-retention facility.*

A Mounding Analysis has been provided as requested.

29. *Standard 7: Redevelopment Project - Bio-retention is being used to attenuate flow. Supporting documentation needed.*

The bio-retention system has been revised to a subsurface drainage system.

30. *Overall Site Analysis: Provide the supporting calculations for the anticipated runoff to the system (1-yr (for LID), 2-yr, 10-yr, 25-yr, 50-yr (per by-law), and 100-yr events), routing through the bio-retention facility and the overflow weir, including the drawdown calculation.*

Additional information has been provided as requested.

31. *Overall Site Analysis: Time of Concentration (Tc) needs to be calculated and not assumed. Furthermore, the minimum Tc in the TR-20 model is 1/10th of an hour or 6 minutes. .*

The Time of Concentration has been calculated and is shown on the plan as requested. The minimum Tc of 6 minutes has been used for design as requested.

32. *Pond 7R: Stage Storage calculation should include the elevation of the overflow weir.*

The stage storage calculations of the subsurface drainage structure include the elevation of the overflow weir as requested.

33. *Pond 7R: The routing analysis for the bio-retention facility should include the infiltration component and the analysis used to show the time for the facility to empty.*

The routing analysis for the subsurface drainage structure includes the infiltration component and time for the facility to empty as requested.

34. *Pond 7R: The bottom of the bio-retention facility is elevation 197.00 and there is no need to create two depressed areas to elevation 196.*

The bio-retention system has been revised to a subsurface drainage system.

35. *A Construction Phase Operation & Maintenance Plan is provided. Please provide a Post-Construction Phase O&M Plan as well.*

A Post Construction Phase O&M Plan has been provided as requested.

36. *Provide a post construction O&M inspection form listing each BMP that needs to be inspected, what items to inspect, inspection frequency, etc.*

The additional information has been provided as requested.

37. *Soil Report – 603 Urban Land: No HSG referenced in the NRCS soil report for the 603 soils.*

Additional soils testing has been conducted in the area of the proposed subsurface drainage structure as requested.

38. *The web soil survey custom soil resource report does not provide much useful information. The most important information needed from the WSS is the Hydrologic Soil Group (HSG) rating. Please provide a color coded Web Soil Survey map of the project area by Hydrologic Soil Group. On the WSS site after selecting the Area of Interest, go to the Soil Data Explorer tab, then the Soil Properties and Qualities tab, then in the left side menu select Soil Qualities and Features, then select soil Hydrologic Soil Group, and View Rating. This will produce a color coded map per Hydrologic Soil Group which is easy for a review engineer to check.*

The additional information has been included in the Stormwater Report as requested.

39. *Structural BMPs – Volume 2 \ Chapter 2 page 24: The detail showing the media (30" minimum) was not followed on the design plan.*

The bio-retention system has been revised to a subsurface drainage system

40. *Structural BMPs – Volume 2 \ Chapter 2 page 26: Please note: Groundwater separation is measured to the bottom of the bio-retention cell.*

The bio-retention system has been revised to a subsurface drainage system

41. *Structural BMPs – Volume 2 \ Chapter 2 page 27: Please note: All exfiltrating bioretention areas must be designed to drain within 72 hours.*

Additional HydroCAD calculations have been provided as requested.

If you have any questions please do not hesitate to call.

Sincerely,

GRADY CONSULTING, L.L.C.



Paul Seaberg
Project Manager

cc.

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