

AMORY ENGINEERS, P.C.

WATER WORKS • WATER RESOURCES • CIVIL WORKS

25 DEPOT STREET, P.O. BOX 1768
DUXBURY, MASSACHUSETTS 02331-1768

TEL.: 781-934-0178 • FAX: 781-934-6499
WWW.AMORYENGINEERS.COM

March 8, 2016

Mr. Joseph M. Fisher, Chairman
Hingham Zoning Board of Appeals
210 Central Street
Hingham, MA 02043

Subject: **Avalon Hingham Shipyard II – Comprehensive Permit**

Dear Mr. Fisher:

This is to advise that we have reviewed the following documents related to the subject Comprehensive Permit Application:

- Comprehensive Permit Application¹, dated February 12, 2016, prepared by AvalonBay Communities
- Comprehensive Permit Application, Supplemental Information Submission¹, dated February 25, 2016, prepared by AvalonBay Communities
- Stormwater Management Report, dated February 25, 2016, prepared by Howard Stein Hudson
- Avalon Hingham Shipyard II plan set (17 sheets), revised February 25, 2016, prepared by Howard Stein Hudson, A-Plus Construction Services Corp. and Cube 3 Studio

The purpose of our review has been to evaluate conformance with the Hingham Zoning Bylaw (ZBL), Massachusetts Department of Housing and Community Development Comprehensive Permit Regulations (760 CMR 56.00), Hingham Board of Appeals Rules and Regulations, Section II, E, Comprehensive Permit Submittal Requirements and good engineering practice. We understand that traffic and sewer service matters are being reviewed by other consultants for the Board.

Background

The 3.8-acre site, located at 319 Lincoln Street, is currently occupied by a three story commercial building with associated paved driveways and parking areas. The existing building formerly operated as a retail store, warehouse and corporate offices for the Building #19 company. We understand that some of the office space is still in use. Present access to the site is via curb cuts off Lincoln Street (State Route 3A) and USS Amesbury Drive along with an access drive from Shipyard Drive East.

The proposal calls for demolition of the existing building and construction of a six story, 250 unit residential apartment building. Resident parking (340 spaces) would be provided at ground

¹ Together referred to as the “Application.”

level under the new building and visitor parking (52 spaces) would be provided in a parking lot south of the building near the intersection of Lincoln Street and USS Amesbury Drive. Access to the visitor parking lot would be via the existing curb cut off USS Amesbury Drive. Access to the resident parking would be from a main entrance curb cut off USS Amesbury Drive along with nine access aisles off the access road from Shipyard Drive East, which is proposed to connect through to USS Amesbury Drive. The access drive from Shipyard Drive East to USS Amesbury Drive is proposed to be 22-feet wide and run in an east-west direction, parallel and adjacent to the northern property line of subject site.

Water for both domestic and fire service would be provided by connection to an existing 8-inch ductile iron watermain in the southeast portion of the site. Sewer service would be provided by connection to the municipal system via an existing sewer manhole, also located in the southeast portion of the site. Electric service would be provided underground by connection to the existing electric utility system in USS Amesbury Drive. The stormwater management system would consist of four connections to the existing drain lines in USS Amesbury Drive. Two of the connections would be directly from treatment unit type catch basins in the visitor parking area to new manholes cut into the existing drain lines. One would be from an area drain, located in a landscaped area near the southeast corner of the proposed building, connecting into an existing drain manhole. The fourth would be a manhole cut into an existing drain line near the proposed intersection of USS Amesbury Drive and the proposed access drive to Shipyard Drive East. Tributary to the fourth connection would be drain lines which convey runoff collected in catch basins in the proposed access drive and roof drains from the proposed building. Stormwater collected from the access drive would be treated by deep-sump, hooded catch basins and a hydrodynamic-type water quality unit.

Comments

General comments

1. We believe the Application complies with the Massachusetts Department of Housing and Community Development Comprehensive Permit Regulations, 760 CMR 56.05 (2) – Elements of Submission and Hingham Board of Appeals Rules and Regulations, Section II, E, Comprehensive Permit Submittal Requirements.
2. The number of units and bedrooms needs to be clarified. The Application and Sheet C0.00 (cover sheet) of the plan set both list 250 units, yet the number of one and two bedroom units differ. There are a total of 246 units shown on the Architectural Floor Plans (Sheets A-101.0, A-102.0 and A-104-0). Also, the average size of the units shown on the Architectural Floor Plans, especially the three bedroom units, differs from the Application and Sheet C0.00. See Table 1, attached, for more information.
3. We question the area of open space listed in the Application (10,243 s.f.). The Post-Construction Hydrology calculations included in the Stormwater Management Report indicates 9,021 s.f., which is approximately what we scaled off the plans (8,950 s.f.). However, approximately 640 s.f. is located in the western portion of the visitor parking

area, which is within an easement on adjacent property and not on the subject property. This should not be counted toward the open space. We understand that the applicant is seeking waivers from ZBL Sections IV-E.1.d and IV-E.1.f. Section IV-E.1.d requires 2,000 s.f. of open space per unit which is not within a fifty-foot landscaped buffer from property lines. Section IV-E.1.f. establishes the fifty-foot buffer and if the Board does not grant the waiver from this section, total open space actually on site would be about 265 s.f., or about 1 s.f. per unit.

4. There are proposed retaining walls shown on the plans. We note the following:
 - a. The proposed wall at the southwest corner of the resident parking area will be greater than four feet in height. Walls over four feet in height require a building permit and design by a registered structural engineer.
 - b. Based on proposed grading the wall in the northwest portion of the site, along the north property line should be extended east approximately 460 feet toward USS Amesbury Drive.
 - c. Details of retaining wall design should be shown on the plans.
5. There is a bike storage area shown in the northwest portion of the site. It appears that this may be a structure. Architectural drawings/details should be included in the plans.
6. There appears to be adequate pedestrian access/circulation along the south side of the building adjacent to the visitor's parking area and the east side of the building along USS Amesbury Drive. However, defined pedestrian access on the north side of the building along the access drive is limited to the western quarter of the building. From that portion of the building there is a defined pedestrian route to a sidewalk along the access drive to Shipyard Drive East. However, there is no defined pedestrian route along the remainder of the north side of the building/access drive to provide pedestrian access/circulation from USS Amesbury Drive to Shipyard Drive East. We note that the Massachusetts Housing Partnership (MHP) eligibility letter recommended "additional pedestrian improvements in the rear."
7. The MHP eligibility letter also recommended a playground if additional property is acquired, or if additional property is not acquired, "a play area or program element identified for children should be provided." We have not seen a play area or program element identified for children.
8. There will be a reduction in impervious area under proposed conditions. Therefore, there will be less stormwater runoff generated from the site. The calculations included in the Stormwater Management Report show that post-development rate and volume of runoff will not exceed existing rate and volume of runoff. Also, the proposed stormwater system includes best management practices that will enhance the quality of stormwater under post-development conditions. However, we note the following:

- a. The Stormwater Management Report indicates that an Operation and Maintenance Plan for the stormwater system will be provided. This plan should be submitted for review.
 - b. In order to adequately convey the design storm without surcharge, a double grate should be provided on catch basin CB 3.
 - c. Although the calculations indicate that the rate of runoff will not be increased under post-development conditions, the proposed stormwater system will more effectively collect runoff and likely discharge it into the existing drainage system at higher rates than existing conditions. The adequacy of the existing drainage system to handle the flow from the development should be assessed.
9. We note that a four inch domestic water service is shown. We question if this will be sufficient to adequately serve the development and trust that the required size of this service will be confirmed during final building design.
 10. There are no proposed fire hydrants shown on the plans. Hydrants should be shown and the Applicant should coordinate proposed locations with the Fire Department.
 11. ZBL Sections IV-E.2.e requires a plan showing the “exterior lighting pattern to include description and location of lighting fixtures.” A photometric plan and light fixture detail should be submitted.
 12. ZBL Section V-A.5.k requires that parking areas be laid out to “provide sufficient space for the storage of plowed snow unless removal by other means is assured.” Snow storage areas should be shown on the plans or the Applicant should document how snow will be removed.

We have reviewed the Listing of Requested Exceptions / Waivers. The requested waivers mainly impact the building size (area and height) and density of the development and we believe that the majority of them are necessary to construct the proposed building. Aside from the comments we have raised we do not believe the requested waivers have a major impact on the site with respect to good engineering practice. However, we suggest the Board consider the following:

1. Based on our comments above the ratios of open space per unit, and other per unit requirements may need to be revised.
2. The Applicant is seeking a waiver from ZBL Section IV-A which is the setback requirements. They are asking for zero rear setback. However, with frontage on Lincoln Street² the rear setback from the north property line would be about 23.5 feet from the main building. The proposal requires relief from the rear setback requirement but it is not for a setback of zero. The Applicant is also asking for zero setback from side property

² We understand that the Town does not recognize USS Amesbury Drive as a public or private street which would provide frontage.

lines. We suspect this is for the setback from the south line bordering the 315 Lincoln Street property because aside from that line, the smallest side setback would be about 4.5 feet between the west property line and the bike storage structure. The Applicant should clarify this request.

3. The Applicant is seeking a waiver from ZBL Section V-A.2 which requires 2 parking spaces per residential unit (500 spaces). The list of waivers proposes 1.56 spaces per unit. However, this ratio includes both the 340 resident and 52 visitor parking spaces. The Application states that the adjacent Avalon residential development currently utilizes approximately 1.5 parking spaces per residential unit, which includes visitor parking. The Applicant should provide information on the ratio of resident vs. visitor parking spaces at the existing Avalon development to confirm that the proposal will provide sufficient parking for residents, visitors and employees. We suspect that less visitor and more resident parking spaces may be needed.
4. The Applicant is seeking a waiver from ZBL Section V-A.3 with regard to aisle width where 24-feet is required for ninety degree parking. However, all aisles are shown to be 24-feet on the plans. We do not believe this waiver is necessary.

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.

Table 1
Avalon Hingham Shipyard II - Unit and Bedroom Count

The following is listed in the "Tabulation of Proposed Buildings" in the Application:

Unit Type	Unit Area (s.f.)	Total Units
1 bed / 1 bath	800	75
2 bed / 2 bath	1,134	147
3 bed / 3 bath	1,459	28
Residential Total:		250

Based on this listing the total bedroom count would be:

1 bedroom:	75
2 bedroom:	294
3 bedroom:	84
Total bedrooms:	453

The following is listed on Sheet C0.00:

Type	Average Size	Market Rate Units	Affordable Units
1 bed / 1 bath	800 s.f.	55	19
2 bed / 2 bath	1,134 s.f.	111	37
3 bed / 3 bath	1,459 s.f.	21	7
Total Units:		187	63

Based on this table the counts would be:

Total Units	Total Bedrooms
74	74
148	296
28	84
250	454

The following is our tabulation of units shown on the Architectural Floor Plans

Unit Designation	Unit Area (s.f.)	A-101.0 (2nd floor)	A-102-0 (3rd & 4th)	A-104.0 (5th & 6th)	Total by Unit Type
AM1	711	4	5	5	24
AM2	850	3			3
AM3-D	875	4	4	4	20
AM4	824	8	8	2	28
BM1	1,103	5	8	8	37
BM2	1,124	17	17	15	81
BM3	1,088	2	2	2	10
BM4	1,300	2	2	2	10
BM5	1,300	1	1	1	5
CM1	1,281	1	1	1	5
CM2	1,340	3	3	3	15
CBM2.2	1,650			2	4
CBM2.3	1,950			2	4
Units per floor:		50	51	47	
Total Units:		50	102	94	246

Assuming the AM designation is one bedroom, BM is two and CM is three then we have:

	Average Size	Total Units	Total Bedrooms
1 Bedroom: AM1, AM2, AM3-D & AM4:	815	75	75
2 Bedroom: BM1, BM2, BM3, BM4 & BM5	1,183	143	286
3 Bedroom: CM1, CM2, CBM2.2 & CBM2.3:	1,555	28	84
		246	445