

July 23, 2020

Mr. James Fitzgerald, P.E., LEED AP
Environmental Partners Group
1900 Crown Colony Drive, Suite 402
Quincy, MA 02169

**RE: 500 Harvard Street, Brookline, MA
Response to Parking Peer Review**

Dear Mr. Fitzgerald,

In response to the comments provided by Walker Consultants in their letter titled "PARKING PEER REVIEW – 500 HARVARD STREET" and dated June 17, 2020, CUBE 3 (C3) has the following responses:

WC Comment 7: *"The Applicant is showing a vertical semi-automated mechanical "puzzle" parking system. Walker takes no exception with the puzzle parking layout.*

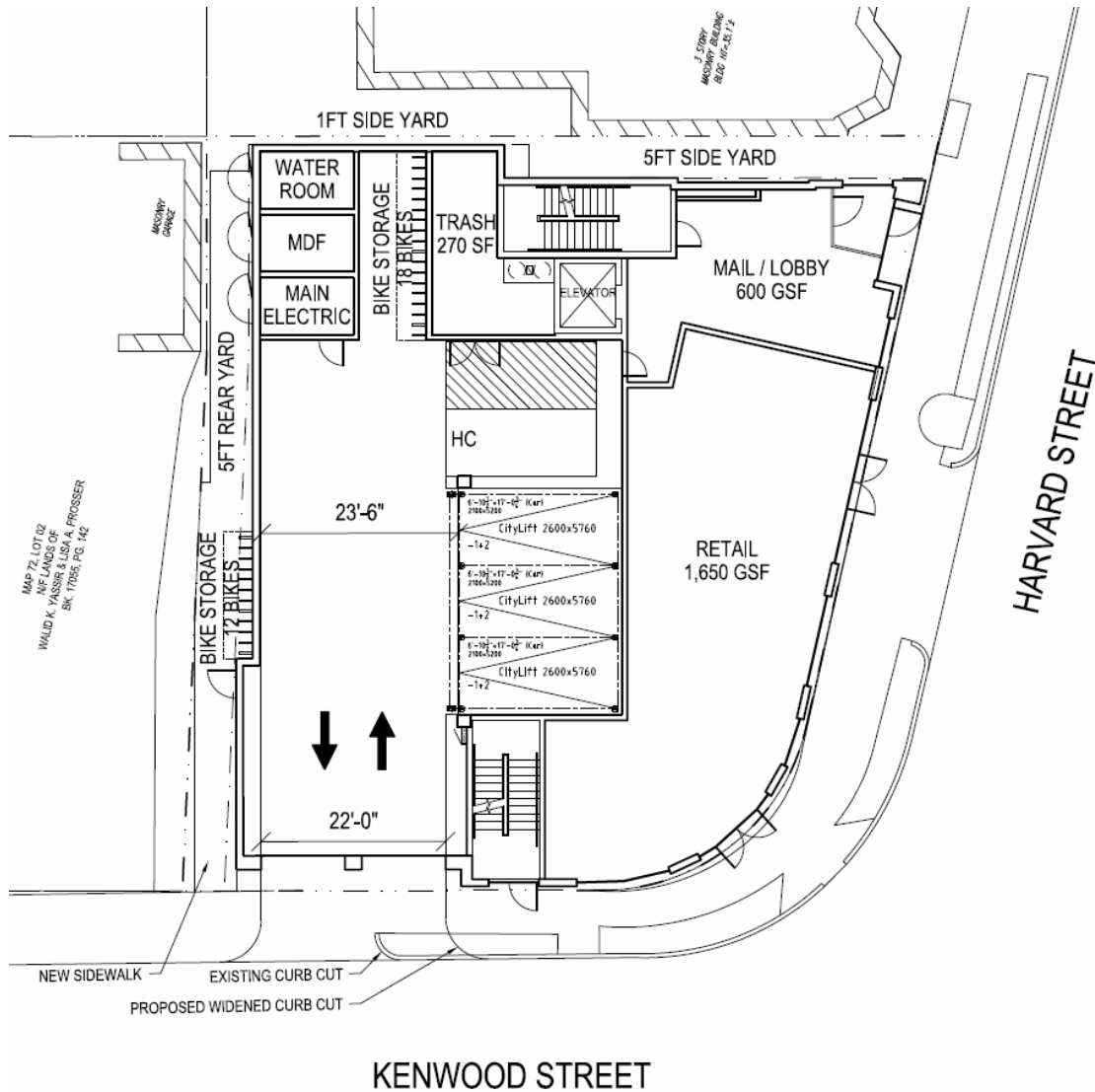
- (a) The drawings indicate a 22-ft drive aisle adjacent to the puzzle parking system; this meets zoning requirements. Some larger vehicles may have difficulty maneuvering into and out of the puzzle parking system without a multi-point turn due to this clearance.*
- (b) With the puzzle system, when a parking maneuver is taking place, no other movements can be happening at the same time inside the garage. When considering the peak hour volume condition provided in Vanasse & Associates, Inc. (VAI) report, this is generally acceptable for most residential parking who are used to urban-like conditions.*
- (c) It should be noted that a puzzle parking system has unique characteristics such as limited pedestrian headroom, footing that is affected by the pallet system, and requirements to place the vehicle into the system which reduce parcel management time. These systems work and are effective for densifying parking, but some users will find them less convenient / accessible than others and there are some operational characteristic that will need to be managed."*

C3 Response: We agree that CityLift's Puzzle system is appropriate for this project in an effort to densify parking while meeting zoning and operations needs.

WC Comment 8: *"The parking spaces and drive aisle appear to comply with Zoning but should be confirmed.*

- (a) The spaces appear to be 9-ft (based on scaling) and the drive aisle is 22-ft wide, but it is unclear if the actual parking spaces is less than that if the puzzle parking system encroaches on that dimension.*
- (b) If the spaces are reduced to 8.5-ft wide, Zoning requires the drive aisle to be 23-ft wide and this layout would not comply.*
- (c) Note that Zoning does not explicitly address mechanical parking; these requirements are based on typical self-park conditions."*

C3 Response: The Development Team has engaged with CityLift, the manufacturer of the Puzzle system to confirm exact dimensions of the system anticipated in this project. The below plan shows the updates based on the system. The parking spaces in the Puzzle system are 8'-6" wide and when the gate is up so that the vehicle can maneuver, the drive aisle will be approximately 23'-6" wide. The driveway outside of this area is anticipated to be 22' wide. We believe this layout to be compliant with the Zoning.



- WC Comment 9:** *“The entry/exit off to the garage does not show parking access control equipment.*
- (a) *The plans appear to indicate an opening for two overhead doors; one for entering and one for exiting.*
 - (b) *(Response by VAI)*
 - (c) *While not critical at this time, future phases of design should define the parking access control requirements and impacts to the access doors.”*

C3 Response: There are two doors anticipated, one for ingress and one for egress. The access control to the garage will be handled through a proximity reader in the vehicle that will open the ingress door and a pressure loop in the floor of the garage to open the egress door. This is consistent with other developments of similar scope and size in the area.

WC Comment 10: *“There is one van accessible space shown on the plans. Confirm 8’-2” headroom clearance at the van accessible space and for the movements to / from the space. The Applicant should confirm the accessible layouts and locations comply with ADAAG.”*

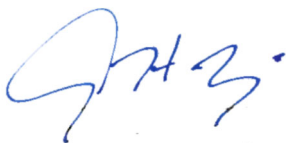
C3 Response: The van-accessible handicapped parking space will have 8’-2” clear headroom from the garage doors to the parking space, inclusive of maneuvering areas. This layout complies with the requirements of ADAAG and MAAB.

WC Comment 11: *“The parking facility is enclosed and will require a ventilation system.
(a) We suggest that a general description be provided of how the ventilation system is arranged. This would include where intake and exhaust air are provided and how the air is moved.
(b) Show or describe how ventilation does not adversely affect neighbors.
(c) Confirm ventilation equipment will not reduce headroom in the parking areas below code minimums.”*

C3 Response: The mechanical ventilation system will consist of intake louvers and exhaust louvers located at different ends of the garage. The exhaust louvers will have exhaust fans attached that are tied to a carbon monoxide (CO) monitoring system and will run at two speeds, including a low flow continuous exhaust and a high flow intermittent exhaust when higher levels of CO are detected. These louvers will be located above the garage doors and will exhaust towards the street well above the sidewalk level to not create any adverse conditions for pedestrians walking on the sidewalk. The intake louvers will be located adjacent to the neighbors and will not create any adverse effects on those neighbors as they draw air into the building, not exhaust out. With a 15’ floor-to-floor at the ground level, there will be sufficient available headroom to locate all ventilation equipment above the code minimum headroom at parking areas and drive aisles.

Should you have any questions, please feel free to contact me directly.

Regards,



John H. Harding V, AIA, LEED AP
Senior Associate Principal
CUBE 3 Studio, LLC