



PROJECT # 16-2892.00

DATE: July 7, 2019
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PROJECT NUMBER: 16-2892.00

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Walker Consultants (Walker) has been retained by the Town of Brookline through Environmental Partners Group to review parking for the 1299 Beacon Street 40B application. Walker has reviewed the application materials presented by the proponent that are generally available on the Town’s website for this project. This memo provides an update to our original review memo dated June 28, 2018 and second and third review memos dated August 1, 2018, March 28, 2019 and May 30, 2019. The updates specifically address changes that are represented in drawings and presentation materials dated June 25, 2019 by CBT Architects (CBT) and July 1, 2019 report by Simon Design Engineering (Simon). Original peer comments remain and updates are made as indicated below.

7.08.19 Update: Updated plans indicate 1299 Beacon Street is currently designed for 65 residential apartments (23 one-bedroom and 36 two-bedroom units) for people ages 55+. Beneath the residential are two levels of commercial space (approximately 6,600sf) that will exclude all food use. There are now 57 self-park parking spaces contained in 2 levels below-grade to accommodate residential and retail employee. All 1st level below-grade vehicle stackers have been removed (as with the previous design). The parking and loading is accessed via Sewell Street to the rear of the property. There is a two-way ramp for vehicular circulation between grade and the parking levels.

We have reviewed the materials and offer the following comments:

1. (6-28-18) This site is in the G-1.75(CC) zoning district and requires 2.0 spaces per residential unit and 1/300sf of retail, totaling 189 spaces (148 residential; 41 retail). Waiver item J in the application indicates the project is reducing the number of required spaces by 1.22 spaces/unit, leaving 0.78 spaces/unit provided. There is no justification or methodology for how the provided ratio is determined. The waiver item goes on further to explain that 45 spaces will serve the retail and 54 will serve the residential. The ratio for dedicated residential parking is 0.73 spaces/unit (54/74). With only 41 spaces required for the retail component, the 58 remaining for the residential creates a ratio of 0.78 spaces/unit (58/74). The proponent should be more definitive in defending a large reduction in required parking. In our research, if these spaces are market rate for the area with near-by transit service, we suggest an appropriate parking supply be between 0.7 to 0.9 spaces per unit, or 52-67 spaces. While on the low end, this development does fall within that range. We believe the upper end of the range would be more appropriate. The pricing and parking allocation for residents affects parking demand and is not addressed in the application materials.
 - a. 8.1.18 Update: The new total number of parking spaces required by zoning is 162 for residential and 35 spaces for retail. The waiver items have not been updated, but assuming the zoning requirement will be maintained for the retail use with the remaining 113 spaces for residential.



- This renders a parking space to unit ratio of 1.40 per unit which is higher than the range noted above.
- b. 3.28.19 Update: The new total number of parking spaces required by zoning is 148 residential spaces, and 40 spaces for restaurant or 14 spaces for retail, depending on actual use. The waiver has not been updated to reflect the updated programming. We continue to recommend that the parking supply for the residential component be between 0.7 and 0.9 spaces/unit plus a ratio of 0.1 for tradespeople/visitors. The current design has 74 units planned (32 one-bed, 42 two-bed) and a parking supply of 87 spaces. Because of the bed mix, we recommend the higher end of the range. The fact that this is a 55+ community tends to suppress that down, so 0.8 spaces/unit plus 0.1 for tradespeople/visitors (see paragraph 2 below) or 0.9 total is appropriate. This gives a recommended residential related total of 67 spaces (0.9 X 74).
 - c. 3.28.19 Update: Simon's 2-26-19 updated report does not indicate a residential parking demand but rather indicates how many would be available after subtracting commercial/restaurant requirements from the 87 provided. The Simon report indicates 67 spaces are needed for casual fine dining restaurant on peak weekend (59 weekday) or 12 spaces are required for retail on weekend (11 weekday). This would leave 75 spaces for residents (1.0/unit) if retail is used for the commercial space and 20 spaces for residents (0.27/unit) if fine casual dining is used for the commercial space. The report offers that using the zoning required 40 spaces for restaurant will leave 47 spaces for residents (0.64/unit). In Walker's opinion, the report does a good job of bracketing what the parking requirements may be given the possible uses of the commercial space. Again, we offer that providing spaces to meet the residential only demand of 67 spaces (see paragraph b above) is appropriate. The supply of 87 spaces will therefore not adequately serve some high parking demand uses for the commercial space.
 - d. 3.28.19 Update: The Engler letter indicates multiple points to provide comment to. The conclusions do not state what the intended allocation of the 87 provided spaces would be, but supposes that if the zoning required 40 spaces were imposed, then 47 spaces would remain for the residents which represents a ratio of 0.63 spaces/unit. While not stated, this would imply visitors and service providers would also use the 40 restaurant spaces.
 - I. The Engler letter refers to three other recent 40B projects (420 Harvard Street, 455 Harvard Street, and 40 Centre Street) and partially references requirements for residential and commercial. Walker has no comment on 420 Harvard other than the commercial space had limitations on use of the commercial space which the proponent is against for this project. Walker was involved as reviewer in the 455 Harvard Street and at the time of review indicated that 13 spaces (number at time of review) would only partially accommodate residential and employee parking and would not accommodate guests and patrons of the retail. Walker was also involved as reviewer for the 40 Centre Street and recommended slightly more residential parking at 27 spaces with the need for more visitor parking that was not provided. In all cases, it is important to understand among other things, the mix of units for residential, and the nature/restrictions of use for commercial in making comparisons to any other project. The same considerations and basis for recommendations (as reviewer of all) have been made for this project as the two reviewed.
 - II. The Engler letter refers to a long list of existing and approved Coolidge Corner restaurants. I would defer comments as to the dedicated parking for patrons and employees to Brookline Staff. It should be noted that the listed restaurants vary from take-out to casual fine dining. Two of these casual fine dining establishments have valet parking. Parking



- for Coolidge Corner is partially provided by Lot 11 on Centre Street as well as on-street parking. Again, since the proponent is seeking flexibility in the use of the commercial space, parking demand could be as high as that stated in the Simon Report as needing 67 spaces for peak weekend fine casual dining. 5.29.19 Update
- e. 5.30.19 Update: Simon's 5-24-19 updated report does not indicate a residential parking demand but rather indicates how many would be available after subtracting commercial requirements from the 52 provided. The Simon report based on ULI data indicates 15/weekday-17/weekend spaces are needed for retail which is bracketing the zoning mandated 16 spaces. This would leave 35-37 spaces for residents (0.56-0.60/unit). These ratios are lower than our recommendations. Alternatively, the report indicates the proponent's plan to provide a residential parking ratio of 0.64 spaces per unit, or 42 spaces with the remaining 10 spaces for retail and residential visitors. This residential ratio is also lower than our recommendation of 0.7 and 0.9 spaces/unit (46-59 spaces) plus a ratio of 0.1 (7 spaces) for tradespeople/visitors.
 - f. 7.8.19 Update: The proponent intends to provide parking for residents and retail employees.
 - i. Of the 57 spaces, 10% are allotted for trades people and visitors which removes 6 spaces from the residential supply. Of the remaining 51 spaces, 4 are tandem and it is explained in the proponent's materials that they will be used for retail employees. This leaves 47 spaces for 65 units, or a ratio of 0.7 spaces/unit. This ratio is low, but within our recommended range of supply ratios.
 - ii. The proponent is not providing spaces for the retail customers, but Zoning requires 16 spaces for such ground and upper level retail. The supply of parking in the area is limited; the addition of retail will have a parking demand for customers that will have to be accommodated by public lots or on-street parking. A decision will have to be made by the Town whether to forgo parking on site, but Walker believes the Town's requirements for retail park are reasonable.
 - iii. If 16 spaces are allocated to retail, 41 spaces remain for residents (37 residents and 4 trades people). This creates a reduced residential ratio of 0.57 spaces/unit which is lower than our recommended range.
2. (6-28-18) This zoning district requires 10% of the residential spaces (in a mixed use design) to be designated for use by visitors or tradespeople. In this case, home health aides or similar assistance may be required for this community. On the surface, this seems straightforward for valet operations to park these vehicles the same as any other retail visitor. A more nuanced interpretation also includes the need to provide this number of spaces that is not addressed when providing 0.78 spaces/unit. 74 residential apartments will generate visitor/tradespeople parking which will be additive to the retail and residential values listed above. Depending on time of day/week, this demand may be as high as 10 vehicles.
- a. 8.1.18 Update: This concept has not been specifically addressed as part of the plan resubmission. Adding 46 parking spaces is an improvement to accommodate visitor parking.
 - b. 3.28.2019 Update: The previous version of the Simon report indicated 8 spaces to be used for guest or tradespeople which is 10% of the total parking supply and complies with zoning. The revised 2-26-19 updated report is silent on visitors and tradespeople. While not stated, guest or tradespeople may use the spaces designated for commercial space on off-peak times. Without knowing the specific retail or dining use, this may be valid and acceptable. If low demand retail is used for the commercial space, the number of remaining spaces will likely accommodate visitors and tradespeople.
 - c. 5.30.19 Update: As noted in Item 1e above, the proponent is allocating 10 spaces to retail and residential visitors which is 19.2% of the total parking supply, but the 10 remaining spaces also



- assume a lower than recommended residential parking ratio. If the ratios are adjusted to the low end of our recommendations, 0.7 spaces/unit (46 spaces), then 7 spaces are required per zoning for tradespeople and visitors. At 53 spaces, it is one more space than the supply and requires that the 7 visitor/tradespeople parking spaces accommodate all retail. To simplify, our recommendations remain with 0.8 for residents-52 spaces plus 7 for visitor/tradespeople plus 16 for retail which totals 75 spaces. Some sharing of spaces may occur, but also there will likely be restrictions such as resident-only spaces and compact spaces which will reduce the ability for shared-use.
- d. 7.8.19 Update: As the proponent notes all parking being supplied will be for residents, including space for trades people and visitors. As noted above the ratios (without a retail supply) are within the range and the Zoning provision can be accommodated. A 55+ community may see an increase in visitors and tradespeople as a need for visiting nurses and other residential services may be required by this user group. Parking over and above the 10% (6 spaces) may have to be accommodated in public lots and on-street parking.
3. (6-28-18) We take no exception to the Peak Hour Volume (PHV) information in the traffic report as it relates to residential use. The traffic report indicates a relative PHV of 19% exiting during the morning and 5% entering for residential; a total of 14 trips. The traffic report indicates a relative PHV of 22% entering and 12% exiting during the evening for residential; a total of 20 trips. We do not have enough information as to the retail use to comment on the retail component of the PHV. The report indicates a relative PHV for the retail of 14%-17% both entering and exiting during the evening week day peak and the Saturday mid-day peak. These values are low unless justified by a specific retail use. Retail PHVs could fluctuate from what is in the traffic report. The public transit trips, leaving in the morning and entering in the evening are both 65% of the total trips in each direction.
 - a. 8.1.18 Update: The parking count has increased slightly, but we do not see a change in opinion to the comment above.
 - b. 3.28.19 Update: The programming has returned to the original numbers in June 2018 and we continue to take no exception to the traffic report.
 - c. 5.30.19 Update: The traffic information has not been updated for 65 units. The most current traffic information indicates 79 units.
 - d. 7.8.19 Update: The traffic information has not been updated for 65 units. The most current traffic information indicates 79 units.
 4. (6-28-18) The retail tenants have not been determined in the application and it is difficult to estimate what the PHV will be. PHVs for retail/restaurant can vary between 30%-60% for both in-bound and out-bound movements. If the tenant happens to be a restaurant or specialty grocer, for example, the PHV could be as much as 50% or 22 vehicles within the hour, both in and out. Of course, the real traffic will be more random and a Peak Hour Factor (PHF) which addresses a peak during the peak hour will increase the intensity. Add concurrent residential and visitor traffic and the valet operation could become overwhelmed without adequate queuing space at grade. Typically, a single valet runner can handle 12 cars in an hour. The proponent has not provided information about vehicular elevators and the throughput capacity of the equipment and approach could slow operations. The primary concern is that there is not enough staging or parking area to accommodate the PHV during a combined peak retail and residential timeframe. Based on our experience, the design of the ground level access and staging area is likely only adequate for residential operation and likely to be inadequate and problematic for retail operations. We strongly recommend that the proponent provide a detailed operational study of the ground level parking/staging area to show adequacy. Further, parking spaces shown are a very poor level-of-service as indicated below and further complicate the operations.



- a. 8.1.18 Update: The vehicular elevators have been replaced with a two-way ramp down from grade and another ramp down to the lower parking level. This will help operations. There are no dimensions on the ramp to check maneuverability and the slopes cannot be confirmed. Ramp blends are noted, but 15% and 16% slopes are steep and a poor level of service. The drop-off and pick-up area is presumed to be at the P1 level but there is no definitive indication of this. There is some space to perform drop-off and pick-up operations on P1 but it is not conclusive that this area is adequate for all the operations. The drawings and corresponding notes indicate there may be queuing on the P1 level and the ramp. Asking patrons to queue on a 16% ramp slope is not recommended. The east half of the P1 level will be difficult to access but can be managed by valet operators. There could be congestion on P1 at the bottom of the ramp where this is effectively an intersection and standing cars could disrupt operations. Valet operations must take extra care (especially during the high PHVs) to manage the cars once a patron has dropped off their vehicle and it is waiting to be taken to park. Alternatively, there is little space for a car to be queuing without disrupting operations if the patron has called for their car, but is late in arriving at the drop off area to pick up their car. Again we recommend that the proponent perform a detailed operations study to confirm the valet operations can operate safely and effectively as shown.
 - b. 3.28.19 Update: The parking facility is a self-park design, so comments related to valet operations and queueing do not apply. The two-way ramp is 23' wide with chamfered inside corners and slopes ranging from 7.5% to 12%. Slopes are in a reasonable range and should be confirmed in final design.
 - c. 5.30.2019 Update: The 3.28.19 Update comment still applies.
 - d. 7.8.2019 Update: The 3.28.19 Update comment still applies.
5. (6-28-18) Further to the above point, it is unclear where the vehicular drop-off and pick-up areas are for this operation and how the retail patrons access the public space at the rear of the building that includes an accessible route. A passenger loading zone is required to be compliant with 521 CMR 23.7. By the size of curb-cuts and drive lanes, we interpret the need to have a one-way circulation. We assume this one-way enters at the loading lane and exits at the parking spaces. If this is the sequence, the vehicular turn from the porte-cochere drop off/loading zone into the vehicle elevator will not work. It's too tight and will require a multi-point turn to align. If the circulation is meant to be a two-way design in front of the vehicle elevators, the curb cut is only 19' and too narrow for two-way traffic. The surface spaces have a drive aisle that is only 19' wide which does not meet zoning and will be very difficult to maneuver into and out of the spaces. There isn't enough maneuvering space for cars to exit the vehicular elevator while other cars are queuing.
- a. 8.1.18 Update: The turn from the porte-cochere drop off area to the ramp will be tight for some cars. A 3-point turn or a wide turn into up-bound ramp traffic may be necessary, slowing operations.
 - b. 3.28.19 Update: The turning maneuver into the porte-cochere drop off area was modeled on February 27, 2019 and we take no exception to the maneuver.
 - c. 5.30.2019 Update: The 3.28.19 Update comment still applies.
 - d. 7.8.2019 Update: The 3.28.19 Update comment still applies. It is noted the Simon report indicates the garage will be controlled with a "key card" system. This will require equipment outside the garage door to open the door on entry and inside the garage door for the existing traffic. The plans do not reflect this system and such equipment may require different turning maneuvers than previously indicated. Access for tradespeople and visitors will need to also be accommodated but can be managed.

6. (6-28-18) 521 CMR 23.8 remarks that van spaces are not required in a valet garage. Standard accessible spaces have not been given a reprieve and appear to be required. A 99-space garage is required to have four accessible spaces. There appears to be one standard accessible space at grade, but there are no others. The regulations do not dictate where the spaces must be. Walker recommends there be at least one on grade in case someone drives a specially designed car that cannot be driven by a valet attendant. These comments do not reflect the additional requirements to meet Federal ADAAG regulations pertaining to accessible spaces. These regulations are even more restrictive and should be carefully reviewed.
 - a. 8.1.18 Update: A 148-space garage is required to have five accessible spaces. There are no accessible spaces shown on the plans.
 - b. 3.28.19 Update: Four accessible spaces are required for this garage and they have been provided on the first level of parking. One space is indicated as van accessible. These spaces appear to reflect 521 CMR 23.8, but may not reflect the additional requirements to meet Federal ADAAG regulations pertaining to accessible spaces. These regulations are even more restrictive and should be carefully reviewed.
 - c. 5.30.19 Update: Three accessible spaces are required for this garage and four have been provided on the first level of parking. One space is indicated as van accessible. These spaces appear to meet 521 CMR 23.8, but may not reflect the additional requirements to meet Federal ADAAG regulations pertaining to accessible spaces. These regulations are even more restrictive and should be carefully reviewed in final design.
 - d. 7.7.2019 Update: Three accessible spaces have been provided in the garage and appear to meet 521 CMR 23.8, but may not reflect the additional requirements to meet Federal ADAAG regulations pertaining to accessible spaces. These regulations are even more restrictive and should be carefully reviewed in final design.
7. (6-28-18) We agree with the traffic report that the proponent should include electric vehicle charging station(s) in the garage.
 - a. 8.1.18 Update: There are no electric vehicle charging stations shown.
 - b. 3.28.19 Update: There are four electric vehicle charging stations on the plans, or 5.4% of the supply.
 - c. 5.30.19 Update: There are 2 electric vehicle charging stations on the plans, or 3.8% of the supply.
 - d. 7.8.19 Update: There are 6 electric vehicle charging stations on the plans, or 10% of the supply.
8. (6-28-18) The proponent is proposing the use of mechanical vehicle lifts (vehicle stackers). The use of stackers is fairly common in dense urban parking and typically requires valet parking. As the system also uses vehicle elevators for access from grade, this further requires valet operation as proposed by the proponent. Operation of both the vehicle elevators and vehicle stackers requires training and a license for individual operators by the Elevator Board per 524 CMR 26.00. Any minimal stacker system noise (hydraulic equipment) will be contained within the below grade level. With proper maintenance, the stackers can be dependable and reliable. Periodic and annual maintenance of the system hydraulics are required to be performed by qualified personnel, typically the manufacturer. Stackers can be on standby power, but would also practically require at least one vehicle elevator to also be on stand-by power. Installation and other requirements are covered by 524 CMR 26.00. Typically, vehicles that are only used occasionally are stored in the upper positions of the stackers. The valet operators will be required to coordinate placement and movement of vehicles to optimize system efficiency. The layout of the stacker system is reasonable and should not present any significant issues with vehicle



movements. Proper valet staffing is required to operate the system in a timely manner. We recommend a detailed operational study as outlined in item 4 above.

- a. 8.1.18 Update: This comment is still applicable to the updated layout except for the vehicle elevator which has been replaced.
 - b. 3.28.19 Update: This stacker related review item no longer applies. Stackers have been removed from the project.
 - c. 5.30.19 Update: This stacker related review item no longer applies. Stackers have been removed from the project.
 - d. 7.8.19 Update: This stacker related review item no longer applies. Stackers have been removed from the project.
9. (6-28-18) The proponent is requesting a waiver (item K) for the off-street parking design and dimension requirements. It should be noted that the below-grade spaces are being used by valet drivers who will be used to the tight dimensions. The tight dimensions will generally slow operations which affect other concerns noted above. There are no specific parking geometrics cited for this waiver, but the following parking components do not meet the zoning requirements.
- a. As noted above, the surface spaces do not meet zoning and are a Level of Service (LOS) F maneuverability. This is the most critical of all the waiver requests.
 - b. The spaces in the basement are stackers and many are compact. Zoning allows for 25% to be compact and the proponent is proposing 30 compact spaces or 30%. There is a provision about increasing the number of compact spaces up to 50%, but it requires special permitting and an increase in the number of spaces.
 - i. From the Zoning By-law: *If authorized by special permit, the percent of compact spaces may be increased up to 50% provided that one additional parking space (either full size or compact), not to be included in the total number of spaces required pursuant to §6.02, paragraph 1., is provided for every eight compact spaces proposed beyond the 25% allowed by right, but at least one additional space shall be provided in any case where a special permit is granted pursuant to this section.*
- While compact spaces are allowed in the garage, we do not recommend using them, especially in a layout with vehicular stackers. Smaller stackers are more restrictive in size than compact surface space where valet runners can take more liberties with parking layouts.
- i. 8.1.18 Update: Compact space are not noted on the plans but it is likely the project dimensions have not changed.
 - ii. 3.28.19 Update: There are 21 compact spaces shown on the plans. This is 28.4% of the parking supply and appears to require a special permit. We continue to recommend against using them. They are restrictive and people often mis-park over the paint stripe into the next space. The 20' drive aisle complies with zoning, but is narrow for proper maneuvering.
 - iii. 5.30.19 Update: There are 8 compact spaces shown on the plans. This is 15.4% of the parking supply and falls within the zoning allowance. Walker does not recommend using compact spaces. They are restrictive and people often mis-park over the paint stripe into the next space. The 20' drive aisle complies with zoning, but is narrow for proper maneuvering.
 - iv. 7.8.2019 Update: The 5.30.2019 comment still applies.



- c. The dead end to the left of the parking plan is only 57' clear. It technically meets zoning with 16' long compact spaces along one wall, 18' long standard spaces along the other, and a 23' drive aisle. See note (b) above regarding compact spaces.
 - i. 8.1.18 Update: Dimensions are not shown so this comment cannot be updated.
 - ii. 3.28.19 Update: The drive aisles appear to be 23' wide at standard spaces and comply with zoning.
 - iii. 5.30.19 Update: The drive aisles still appear to be 23' wide at standard spaces and comply with zoning.
 - iv. 7.8.2019 Update: the 5.30.2019 comment still applies.
- d. The spaces opposite the drive aisle from Stair 2 and spaces surrounding the center core do not meet zoning. The drive aisle is only 18'-6" wide. It does not meet the drive aisle zoning dimension for 8'-6" 90-degree spaces and it is a LOS F for maneuverability.
 - i. 8.1.18 Update: Dimensions are not shown so this comment cannot be updated.
 - ii. 3.28.19 Update: The drive aisles appear to be 23' wide at standard spaces and comply with zoning.
 - iii. 5.30.19 Update: The drive aisles appear to be 23' wide at standard spaces and comply with zoning.
 - iv. 7.8.2019 Update: The 5.30.2019 comment still applies.
- e. 3.26.19. The parallel space closest to stair 3/elevator will be difficult to park in since you can't pull forward and perform the proper maneuvers into the parallel space.
 - i. 7.8.19 Update: The 3.26.19 comment still applies.
- f. 3.28.19. The dead end to the left of the plans doesn't allow for room for drivers to turn around. We recommend that these spaces be assigned so searching for an available space isn't required.
 - i. 7.8.19 Update: The 3.26.19 comment still applies.
- g. 7.8.2019 Update: The addition of 4 pairs of tandem spaces is now on this iteration. It is noted they will be used for retail employees and managed accordingly. The proponent will also offer special resident rates for these spaces after retail hours. Consideration will be to be given to how this will be managed on the weekends if/when the retail space is open for business.

We remain available to answer further questions and attend the Town's ZBA meeting as required.