April 22, 2020

Ms. Brooke K. Lipsitt, Chairman
Zoning Board of Appeals
1000 Commonwealth Avenue
Newton, MA 02459-1449

Re: ZBA #01-20
Residences on the Charles
15 Riverdale Avenue
Newton, MA

Dear Chairman Lipsitt:

We are in receipt of the Planning Department's Public Hearing Memorandum dated March 26, 2020 and the Horsley Witten Group Peer Review dated March 25, 2020 issued for the proposed Residences on the Charles. We appreciate the time and effort of the Planning Department Staff and the Horsley Witten Group. Both documents contained a very detailed review of the project submissions and included numerous comments. On behalf of CPC Land Acquisition Company, LLC ("Applicant"), a wholly owned subsidiary of Criterion Development Partners, we have prepared this letter to respond to all comments and requests for additional information. The format of the following sections is as follows: comments excerpted directly from the review documents are included in italic font with comments from the Planning Staff prefaced by "P" and a numerical designation and comments from Horsley Witten Group prefaced by "HW" and a numerical designation. The Applicant's responses are provided in bold font and are prefaced by "R" and the applicable numerical designation.

Responses to Planning Department Comments:

***SITE DESIGN***

*P-1: "The Planning Department is unconcerned with the majority of these changes with the exception of the side setback for Building 2 which is decreasing from five feet to zero feet at the eastern property line. Planning staff has concerns regarding this reduction with regards to the neighboring property to the east and how construction would impact the property."*

**R-1: The side setback along the eastern property line of Building 2 will remain at 5 feet and the plans have been updated accordingly. This setback is adequate to accommodate construction of the Project with no impact to the abutting property.**

*P-2: "The Planning Department has questions on whether the porous paving on site included in the Open Space calculation. Porous paving does not count as open space per the*

*Newton Zoning Ordinance, and the open space percentage should be recalculated if necessary.*

***R-2:*** **Usable Open Space has been recalculated to reflect the exclusion of all porous pavement areas. As shown below, the resulting Usable Open Space of 29.5% reflects an almost 50% increase over existing conditions. It should be noted that there is no minimum requirement for Usable Open Space in a Manufacturing District.**

***Usable Open Space***

| Existing | Prior Proposal* | Current Proposal** |
|---|---|---|
| 20.5% | 32.2% | 29.5% |

*** Inclusive of porous pavement**
**** Exclusive of porous pavement**

*P-3: "The Planning Department suggests that the Application consult with the Newton Fire Department to learn whether they approve such access."*

**R-3: The Applicant will meet with the Newton Fire Department as soon as practicable to discuss emergency access and circulation.**

***BUILDING DESIGN***

*P-4: "A key focal point and unique design feature of the project is the bridge that connects the two wings of Building 1. The bridge has been revised to be enlarged and lit, however, Planning Staff thinks there is more that could be done to further enhance the bridge as a focal point and visual connection to the Charles River. Planning Staff has concerns regarding the bridge acting as a visual barrier to the courtyard due to the units that are located within the bridge, and that the bridge is four stories in height. Planning suggests the applicant consider removing the residential units located within the bridge, or removing the bridge at lower floors and only connect at a higher floor to achieve visual transparency."*

**R-4: We appreciate Planning Staff's comments and wish to explain how the bridge was originally designed and how that design has evolved to address concerns regarding aesthetics, massing and sight lines.**

**After an initial evaluation of the project site's context, the design team determined that the massing of Building 1 would be built around the creation of a new visual and physical connection between the neighborhood and the riverfront. A bridge element was used to connect the wings of Building 1 rather than create separate buildings as the latter would require redundant features such as lobbies, elevators and stairs be provided in both buildings. To reflect the historic context of the area, design cues for the proposed bridge were taken from the connecting elements of mill buildings located along the Charles River. As originally proposed, the bridge was a 4-story structure with a glass-sided pedestrian bridge connecting Buildings 1A and 1B on the second floor. The residential portion of the bridge on floors 3 through 5 consisted of an internal corridor flanked on either side by a one-bedroom unit. The original bridge elevation and floor plans are shown in Figures 1 and 2, respectively.**

*Figure 1 Original Bridge Elevation*

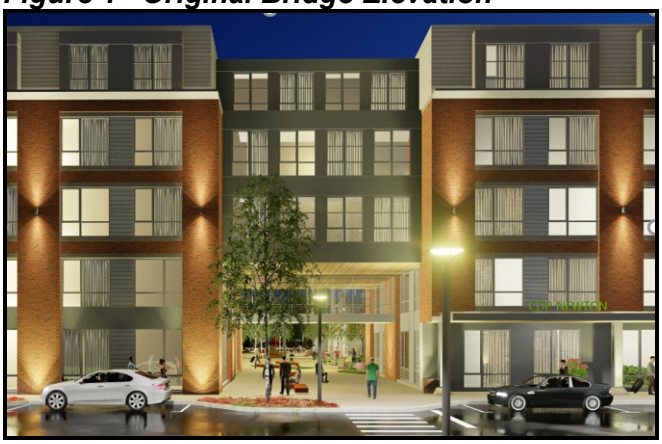
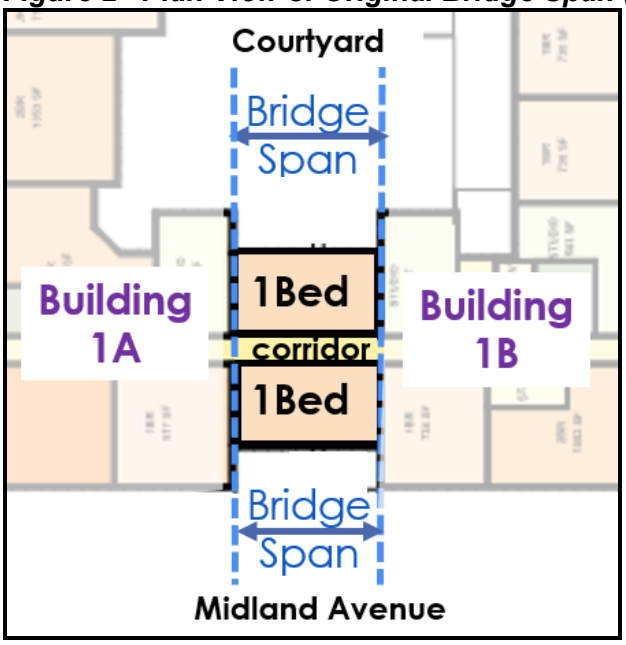


*Figure 2 Plan View of Original Bridge Span (Floors 3, 4 & 5)*

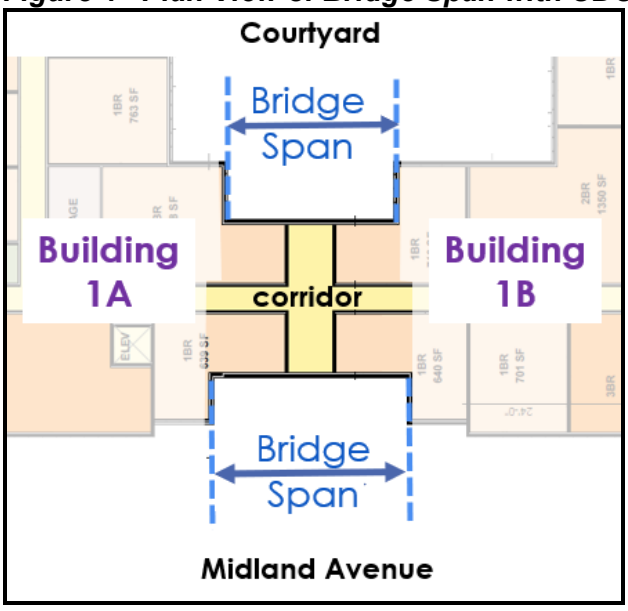



**Based on direction from the Urban Design Committee ("UDC") to expand the breadth of the sight lines from Los Angeles Street to the River, Building 1 was redesigned. First, the width of the north/south sight lines was expanded by pushing Buildings 1A and 1B to the west and east, respectively. This increased the distance between the building wings, the width of courtyard below, and the span of the bridge. Second, the floor plans were modified so that rather than have a single residential unit spanning the outside of the bridge structure on each floor, the residential areas along each level of the bridge were pushed to the west and east and a 10-foot break between the units was introduced. This break exposed the internal corridor to the windows lining the bridge and created areas of visual transparency through each upper floor of the bridge. These north/south sight lines can be enjoyed by pedestrians looking at the building from Los Angeles Street and Midland Avenue as well as residents walking along the bridge corridor. As an additional benefit, this design brings natural light into the corridor. The**

**revised bridge elevation and floor plans are shown in Figures 3 and 4, respectively. After incorporating these changes based on input from the UDC, we believe that the design of the bridge addresses the desire for visual transparency while maintaining unit count.**

***Figure 3 Bridge Elevation with UDC Input***

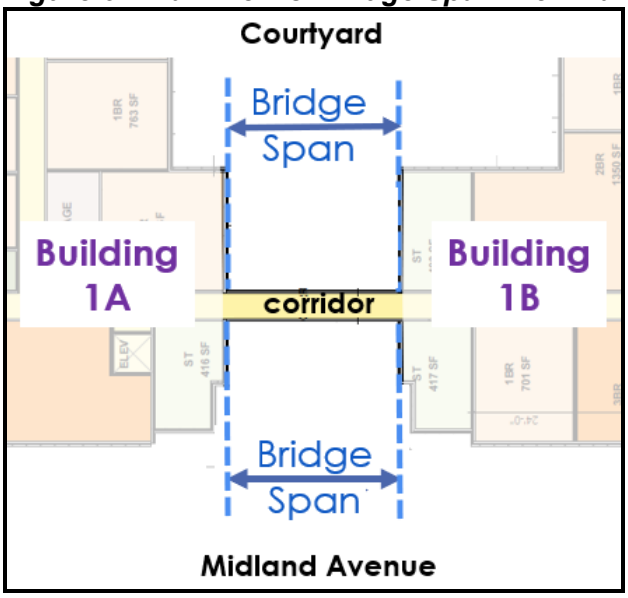

***Figure 4 Plan View of Bridge Span with UDC Input (Floors 3, 4 & 5)***




**To address Planning Staff's concern with the height of the bridge, we have now further revised the design of the bridge element by eliminating the unit areas within the 5th floor bridge and narrowing the depth of this span to just the internal corridor width. In conjunction, we have raised the cornice at the fourth floor of the bridge to hide the view of the narrowed 5th floor bridge span from the ground level. As shown below, these changes reduce the visible height of the bridge element from 4 to 3 stories. The revised bridge elevation and floor plans are shown in Figures 5 and 6, respectively.**

***Figure 5 Bridge Elevation with Planning Staff Input***

***Figure 6 Plan View of Bridge Span with Planning Staff Input (5th Floor)***




**With this last design change, the Applicant feels that the bridge design creates a dramatic focal point for Building 1, provides visual transparency through all visible stories of the bridge structure, reduces the visible massing of the bridge from 4 to 3 floors, accommodates the proposed unit count, and provides efficient interior circulation and access/egress needs.**

*P-5:* *"Another opportunity for an enhanced streetscape are the lobbies that border the courtyard of Building 1. The Planning Department supports the design feature at the corner of Building 2 as a prominent corner to draw the eye and invite the public towards the Courtyard. Staff suggests the petitioner to consider a similar element to Building 1."*

**R-5:** **In our most recent design modification, we have highlighted the corners of the sides of Building 1 at the courtyard in metal, similar to the treatment at the corner of Building 2. The recessed corners at Building 1A & 1B at the entrance on Midland Avenue, the varied building materials and colors, the canopies and storefront glazing turning the corners at the entrance all combine to create a very**

**inviting entry to the Courtyard. Additionally, the bridge element of Building 1 draws the eye and invites movement into the Courtyard. We are hopeful that all of these design enhancements satisfy Planning Staff's concern and we do not believe that additional changes are necessary.**

*P-6:* *"Building 2 also shows transparency at the ground level, the Planning Department would like confirmation that Building 2 will be mostly transparent at the ground level as plans indicate some screening."*

**R-6:** **The street-front elevations of Building 2 consist primarily of storefront glazing that provides transparency. The garage doors have been removed from Building 2 as well, providing open sight lines into the surface parking lot.**

*P-7:* *"The Planning Department also suggests the Applicant consider different methods of screening the ground floor parking at the north side of the Building 1, as it is visible from a public green space. If the garages need to be vented, Planning suggests a design feature or public art be incorporated to make the garage elevations more visually appealing."*

***R-7:*** **The parking garage will be enclosed, properly vented and will adhere to all applicable building codes. We have incorporated recesses in the façade along the northern elevation enclosing the parking garages that will provide opportunities for artwork and possibly stacked storage for recreational equipment as an additional amenity.**

***Figure 7 Southeasterly View of Building 1 Garage Screening***

***UNIT MIX***

*P-8: "The Applicant should confirm that the Planning Department has the most up to date breakdown of units."*

**R-8: The unit count per building provided in Table 1 of the Planning Staff memo was correct and includes:**

***Unit Count***

| | Current Proposal |
|---|---|
| **Building 1** | **166** |
| **Building 2** | **38** |
| **Total** | **204** |

*P-9: "From the plans provided, it appears that the mix of units have also changed."*

**R-9: The unit mix provided in Table 2 of the Planning Staff memo included the number of bedrooms for all but the Live/Work units. Since these are studio units, we suggest that the unit mix be summarized as follows:**

***Unit Mix***

| | Current Proposal |
|---|---|
| **Studio*** | **20** |
| **One-Bedroom** | **87** |
| **Two-Bedroom** | **74** |
| **Three Bedroom** | **23** |
| **Total** | **204** |

*** Includes 2 Live/Work Units**

*P-10: "The Planning Department would also like more information regarding the live-work units as they are shown as being two stories and what is intended at each level of those units."*

**R-10: The Live/Work Units are 2-story studio units with workspace on the ground level and loft living space on the second floor. The Applicant intends to make both Live/Work units market rate units per the recommendation of the Newton Affordable Housing Trust.**

*P-11: "At the time of the initial filing the Planning Department has been consistent in encouraging the applicant to consider deeper affordability and suggested making some of the units available to households who may not be able to afford the units at 80% Area Median Income levels."*

**R-11: The affordable units will include one 2-bedroom unit at 65% AMI and one 3-bedroom unit at 50% AMI (assuming no additional material changes are required).**

*P-12: "The applicant should also confirm whether the affordable unit mix is changing."*

**R-12: The mix of affordable units has changed to address the Fair Housing Committee's and other's desire for additional family-size units:**

***Affordable Unit Mix***

| | Affordable Units |
|---|---|
| **Studio** | **5** |
| **One-Bedroom** | **22** |
| **Two-Bedroom*** | **18** |
| **Three Bedroom**** | **6** |
| **Total** | **51** |

**All units at 80% AMI except as noted**
*** Includes one unit at 65% AMI**
**** Includes one unit at 50% AMI**

*P-13: "The Planning Department would like more information regarding the community space, what it will consist of, and how the space will be managed."*

**R-13: The Community Space of approximately 2,000 square feet will feature a kitchen area within a single open room. The kitchen will include a sink, warming drawer, dishwasher and undercounter refrigerator. Folding tables and chairs will be stored in a closet and other movable seating may be provided. The Community Space will serve primarily as meeting and/or event space and will be available at no charge to community organizations recognized by the City, and possibly for a nominal rental fee to tenants of the Project. When not reserved for these uses, the room may be used as programmable space for tenants. It will be managed by the Project's onsite property management staff and reservations will be required to prevent scheduling conflicts.**

*P-14: The Planning Department is working with Horsley Witten, staff, and the applicant on how best to attract neighbors to both the northern and southern edges of the building. The self-service bike room provides a great connection to the Charles River Greenway for bicyclists."*

**R-14: The proposed building design and signage will attract neighbors and users of Forte Park and the DCR Bike Path into the public courtyard and building spaces. The corners of Building 1 at the southerly entrance to the courtyard are set back into the courtyard to draw pedestrians into the space. Storefront glazing wraps the corners and create a sense of openness as well as views into the uses and activity within the building. Signage for the proposed Café at the southwest corner of the courtyard will draw the eye to that public use. The building corner at the southeast corner of the courtyard will also be set back and provide expanses of storefront glazing at ground level. As residential lobby space, this area is not a public space, but the design will add to the inviting entrance to the courtyard. At the northerly end of the courtyard storefront glazing wrapping the building corners will again provide an inviting feel and views of the recreational uses**

**within the public spaces at this end of the courtyard. Signage for the proposed bike shop and kayak and/or bike rental spaces at the northeast and northwest corners of the courtyard, respectively will highlight the presence of these uses. Directional signs at both ends of the courtyard will direct pedestrians to the public spaces at the opposite end of the courtyard.**

***LANDSCAPING***

*P-15: "The southern elevation of Building 1, that invites the public into the courtyard lacks landscaping. Planning Staff recommends that the Applicant incorporate landscaping such as in the form of street trees to enhance the front elevation of Building 1."*

**R-15: In response to Planning Staff's comment, we have revised the design of Midland Avenue in front of Building 1 and included a planting strip along the northerly side of the roadway to accommodate the suggested street trees. Details are provided in the revised landscaping plans.**

**Please note that the private ownership of Midland Avenue dictates what changes the Applicant can make within the right-of-way. Within the sections of Midland Avenue east and west of the project limits, the right-of-way must be free of obstructions that hinder the use of the right-of-way as a travel way by parties with rights therein. Such parties include abutters along Riverside Avenue, Midland Avenue and Los Angeles Street. Please also note that similar constraints exist within the Los Angeles Street and Riverside Avenue private rights-of-way.**

*P-16: "The Planning Department also recommends that the Applicant consider increasing the amount of landscaping between the proposed 12 garages that face Forte Park to lessen the visual impact of the 12 garage bays."*

**R-16: The existing trees on the Forte Park property provide dense screening of the westerly façade of Building 1A. However, the trees include invasive species and vines that are growing into an existing chain link fence. The Newton Parks and Recreation Department has conceptually agreed to allow the Applicant to remove some of the existing vegetation and install new shade, fruit and evergreen trees, shrubbery, and a vinyl fence. Figure 8 provides a rendering of the proposed landscaping. The existing trees to remain are shown as screened and the proposed trees are shown at maturity.**

***Figure 8 View of Building 1 from Forte Park with Proposed Landscape Buffer***

**Removal of the existing trees requires approval of the Newton Tree Warden and the Applicant will pursue such approval once the plans are approved.**

*P-17: "At the eastern property line of Building 1, the drive aisle is 24 feet wide and has additional parallel parking. The Planning Department suggest that applicant reduce the drive aisle to incorporate increased landscaping."*

**R-17 A 24-foot drive aisle is needed to provide adequate maneuvering area for vehicles to access the perpendicular parking stalls on the westerly side of the drive aisle and the parallel parking stalls on the easterly side of the drive aisle. The width also accommodates vehicles reversing direction at the end of the drive aisle. It should be noted that some vegetation may remain along the easterly side of the proposed parallel parking within the Riverdale Avenue right-of-way in this area of the site.**

*P-18: "The Planning Department suggests the applicant consider screening, wherever possible along the eastern property line to screen parking from 8 Midland Avenue."*

**R-18: The Site and Landscaping plans have been revised to include a fence along the property line between Building 2 and 8 Midland Avenue.**

***PARKING***

*P-19: "The Planning Department questions whether Building 2 needs two curb cuts, one curb cut would decrease potential for pedestrian conflict within the site."*

**R-19 The intent of the two driveways is to provide convenient and direct access for drivers accessing Building 2 from either Los Angeles Street or Riverdale Avenue by way of Midland Avenue. This access design minimizes the volume of traffic at the intersection of Los Angeles Street and Midland Avenue and reduces pedestrian/vehicle conflicts at this intersection as well as directly in front of the public courtyard.**

*P-20: "The Planning Department would also like information regarding any buffering, in the form of fencing or landscaping, between the parking stalls at the eastern property line of Building 2 and the neighboring property at 8 Midland Avenue."*

**R-20: Please refer to R-18.**

*P-21: "With the sports court being added to Building 2, more information should be provided as to how visitors will access the parking associated with Building 2."*

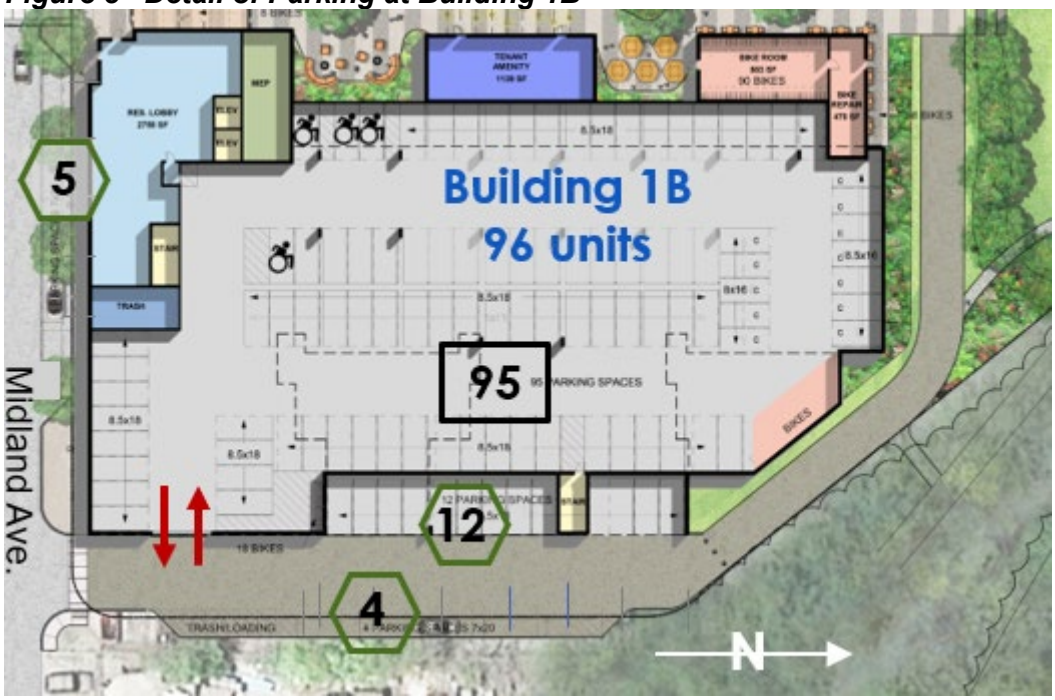
**R-21: Visitors will access the parking lot at Building 2 via driveways on either Los Angeles Street or Midland Avenue. An earlier version of the building elevations erroneously showed garage doors at these driveways and this has been corrected as the parking lot is meant to be open to visitors both visually and physically. Visitor parking spaces in the Building 2 parking lot will be delineated with signs and/or pavement markings.**

*P-22: "The east wing of Building 1 features 95 parking stalls, a combination of open air and covered parking with four covered accessible stalls. As requested above, the Planning Department requests a more detailed eastern elevation of the eastern wing of Building 1. There are 12 compact parking stalls, five measure 8 feet by 16 feet and seven measure 8.5 feet by 16 feet. Where Riverdale Avenue breaks from Midland Avenue and extends*

*along the eastern elevation of the east wing of Building 1, are an additional 12 stalls, eight of which are covered and four of which are open air, directly across from that are four parallel surface level stalls that measure nine feet by 21 feet.*

**R-22: The Applicant apologizes for any confusion regarding the location of the proposed parking stalls. Below is a graphic showing the parking configuration at the easterly side of easterly wing of Building 1. This wing is referred to as Building 1B. The parking includes: 95 parking spaces within the podium parking garage and accessed by a garage door; 12 perpendicular spaces exterior to the garage but covered by upper stories of Building 1B that are accessible from an exterior drive aisle; and 4 exterior parallel parking spaces that are accessible from the same exterior drive aisle. A more detailed parking discussion, including parking space dimensions, is included in the Appendix.**

***Figure 8 Detail of Parking at Building 1B***




*P-23: "The eastern wing of Building 1 also shows an area designated for bicycle parking but does not indicate any other information as to the number of bicycle parking spaces and what the bicycle parking will look like…..The Planning Department recommends the Applicant consider distributing the bicycle parking throughout the site so there are more points of access to better serve all residential units….Planning requests that the Applicant consider covered bicycle parking.*"

**R-23: In response to Planning Staff's comments the Applicant is proposing a mix of covered and open bike parking spaces distributed throughout the site as follows:**

- **90 spaces within the Bike Room (along with a bike repair area) near the riverfront**
- **8 exterior spaces adjacent to the Bike Room**
- **54 spaces within the parking garage at Building 1B**

- **8 exterior spaces under cover of the bridge at Building 1**
- **54 spaces within a bike storage room at Building 2**
- **5 exterior spaces along the westerly side of Building 2.**

**The locations of the proposed bike spaces are shown on the Ground Floor and Landscape plans as well as in the bike parking summary provided in the Appendix. We feel that the proposed 219 bike parking spaces are more than sufficient for the anticipated demand.**

*P-24: "The revised plans show ten tandem parking stalls to the west of the 18-foot garage opening for the western wing of Building 1. The Planning Department has concerns regarding the tandem parking stalls, as to how they will be assigned as well as maneuverability so close to the undersized entrance/egress of the garage. Planning recommends the applicant provide turning templates for the tandem parking stalls to be considered with regards to circulation within the garage."*

**R-24: The plan reviewed by Planning Staff showed 5 tandem spaces with each tandem space configured like a single, double-length perpendicular parking spot. The revised plans now show 4 tandem parking stalls. The tandem spaces will be leased to the occupant(s) of a single apartment to park two cars. To address the issue of maneuverability in this area of the garage, we are proposing that the first parking space be used for motorcycle and/or scooter parking.**

*P-25: "The Planning Department would like information as to how the parking will be allocated amongst the residents."*

**R-25: We are providing a maximum of 224 tenant parking spaces distributed among Buildings 1A, 1B & 2. When the Project first opens, the spaces will be allocated to tenants/units on a first-come, first-served basis. Subsequently, tenants will select from available spaces. Additional detail on the proposed parking plan is provided in the Appendix.**

*P-26: "The Planning Department would also like more detailed information about the garages in terms of design as the garages will face the neighboring Forte Park, as they now present as a long continuous wall with 12 separate garage doors. For an elevation that could be a focal point from Forte Park, the 12 garage doors detract from structure's architectural design."*

**R-26: As described in R-16, the view of the garages facing Forte Park will be heavily screened by landscaping and a solid vinyl fence along the Forte Park edge. The visible upper floors will serve as a focal point from the park as the upper floors will be lined with interesting decks for the apartments above the garages. Additionally, this western elevation is composed of projecting and recessed elements along its length adding significant visual interest and residential scale. Where visible, the garages are simply detailed as a base for the building.**

*P-27: "North of the garages are eight surface parking stalls, which are not reflected on the elevation for that wing of the building."*

**P-27: These parking spaces are reflected in the revised elevations (Sheet A-206).**

*P-28: "Planning would also like information on the lighting within the ground floor parking areas."*

**R-28: Lighting within the covered ground floor parking areas will be provided by commercial-grade LED lensed strips in 4' or 8' lengths. Lighting of exterior parking spaces adjacent to Building 1 and at Building 2 will be provided by building-mounted wall pack fixtures with appropriate cut-offs.**

***LIGHTING, UTILITIES, SNOW STORAGE***

*P-29: "The project still shows light fixtures in the courtyard at 14 feet high and the lighting levels have not changed between the initial filing and revised plans.*

**R-29: The light poles have been reduced to 12' and are reflected in the revised plans and photometrics.**

*P-30: "Additionally, the Applicant should state whether the open-air stalls on the western façade of Building 1 will be illuminated and to what level."*

**R-30: These spaces along the western façade of building 1 will be illuminated by a wall pack building-mounted lighting fixture with an appropriate cut-off. This fixture has been added to the lighting plan, and the photometrics have been updated.**

*P-31: "The petitioner should also clarify the lighting of the surface parking associated with Building 2 as the photometric plan was not included in the revised plans."*

**R-31: Refer to R-28 and the revised Lighting Plan.**

*P-32: "The Planning Department would like more information regarding the utilities to be underground."*

**R-32: Please see sheet C-106 Utilities Plan, and Sheet C-107 Site Electrical Plan for all proposed utility installations.**

*P-33: "Building 2 shows a transformer at the southeastern property line, Planning Staff would like more information on the transformer and potential impact on abutting properties."*

**R-33: The sizing of the transformer will be determined by and coordinated with the utility company. We are proposing screening along all property lines in the area of the transformer and do not anticipate any adverse impact to abutting properties.**

*P-34: "Planning Staff would like more information on the expected capacity of the proposed snow storage."*

**R-34: A detailed summary of proposed snow storage and removal measures is provided in the Appendix.**

*P-35: "The Planning Department is concerned with construction management within the floodplain, and environmental staff are looking for a detailed construction sequence plan showing laydown, sediment controls, access, etc. throughout the construction process."*

**R-35: Please see revised Sheet C-108 Erosion Control Plan for how construction within the floodplain will be addressed. This plan shows additional details to address Planning Staff's concerns including accommodations for material stockpiles, a concrete washout area and dewatering considerations. Notes have also been added to address access by heavy construction equipment over the porous pavement area and bioretention area during the construction phase. Material stockpile areas will be surrounded by tubular sediment barrier protection and catch basin filters will be installed. Tree protection methods are noted in Sheet L-000 Tree Protection/ Removal Plan.**

***SUSTAINABILITY***

*P-36: "In the March 13, 2020 revised filing, the Applicant outlines several sustainability measures. Two of the residential floors are to be constructed to incorporate Passive House design principles. The Planning Department would like specific details as to which floors and which building these will be in."*

**R-36: The Applicant will incorporate Passive House design for all three residential floors of Building 2 (floors 2 through 4). The team will complete a Passive House feasibility study and energy modeling to determine the design and construction approach required. The building envelope and mechanical systems will be designed and detailed to meet the requirements of Passive House, and the Applicant will seek certification barring any significant barriers.**

*P-37: "Electric vehicle charging is indicated; however, the applicant should provide information as to the number of electric vehicle parking stalls and the location of those stalls.*

**R-37: In accordance with the requirements of the Sustainable Design Zoning Amendment, electric vehicle (EV) charging spaces will be provided for 10% of the total parking spaces (24 spaces). Electrical infrastructure for an additional 10% of all spaces will be provided for future conversion to EV charging spaces. The final locations have not yet been determined and parking in EV spaces will not be restricted to EVs only.**

*P-38: "The Planning Department asks the petitioner confirm whether the residential units will have electric hot water, and requests more specificity regarding the passive house design principles."*

**R-38: The Applicant recognizes the City's desire to transition from natural gas infrastructure to an all-electric future and has committed to electrification of the heating and cooling systems for both Buildings 1 & 2. As for hot water, we hope to be able to commit to an electric system after we fully understand the short- and potential long-term costs and savings associated with design, installation and maintenance of available electric hot water technologies for a project of this size. We are in discussions with builders, contractors and other stake holders as part of our ongoing evaluation and will continue to make our best efforts to the extent it is feasible from a cost and construction standpoint.**

**The goal of Passive House design is to attain a quantifiable and rigorous level of energy efficiency. The design principles employed to achieve this level of**

**efficiency include:**

- **Continuous insulation throughout the entire building envelope with no thermal bridging;**
- **An airtight building envelope that prevents infiltration of outside air and loss of conditioned interior air;**
- **High-performance windows and doors that take advantage of the sun's energy to create solar gain for heating purposes during the heating season, and that minimize overheating during the cooling season;**
- **Balanced heat- and moisture-recovery ventilation; and,**
- **Minimal space conditioning systems.**

*P-39: "The project is subject to the Sustainable Development Design ordinance, adopted in December 2019, which requires projects of this size to be designed in accordance with a green rating system. The project would be required to meet any one of the following sustainability rating systems: LEED Gold certifiable, Passive House certified, or Enterprise Green Communities certifiable. The applicant has requested a waiver from this provision; however, the Planning Department recommends that Applicant consider enhancing the sustainability plan and provide an energy narrative describing how the project will further the City's goals from the Climate Action Plan of carbon neutrality.*

**R-39: As a 40B development, one of the fundamental goals of the project is to create affordable housing stock in the City of Newton. As a builder of sustainable projects, it has always been the Applicant's intent to incorporate a standard level of sustainable design elements into the Project. However, in many instances these standard levels do not meet the stringent requirements of the City's Sustainable Development Design Zoning Amendment and Climate Action Plan. In recognition of the City's environmental goals, the Applicant has committed additional capital and other resources to meet the intent of these goals without compromising our commitment to deliver high-quality affordable housing as well as high-quality market-rate housing. While our proposal does require a waiver from certain provisions of the Sustainable Development Design Zoning Amendment, we hope the City will find that we have diligently addressed many of the environmental priorities set forth by the City.**

**The Applicant's sustainability program includes:**

- **Building 1 will be designed to LEED v4 Residential Certifiability at the Silver level with an additional aspiration to meet the Gold level. Achieving Gold under version 4 will depend largely on the results of energy modeling iterations completed during schematic design, which will determine the thermal envelope and mechanical systems necessary to achieve higher energy savings. The Project as designed will meet many of the LEED credit requirements for: location; alternative transportation; site landscaping and stormwater management; efficient plumbing fixtures and lighting fixtures; healthy materials; superior ventilation; and, indoor air quality. The final determination between Silver and Gold will likely rely on the energy performance points. The Applicant's goal is to reduce energy demand to the maximum extent possible while meeting the goal of achieving significant affordability of the units. In addition to the LEED points ultimately achieved, reduction in energy use will also contribute to affordability for the residents in the way of lower utility bills.**

- **The three residential floors of Building 2 (floors two through four) will be designed to Passive House standards.**

- **Both Buildings 1 & 2 will employ electric heating and cooling systems and potentially electric domestic hot water systems. This commitment meets the City's goal of transitioning away from natural gas infrastructure to an all-electric future and is consistent with the goals of the Newton Climate Action Plan for carbon neutrality. Installing electric infrastructure in buildings now, despite the fact that the electric grid in New England is still predominantly produced by fossil fuels, is known as "strategic electrification," and sets the Project up for significantly reduced greenhouse gas emissions in the future as the grid transitions to 100% renewable energy.**

*P-40: "The ordinance also requires 10% of parking stalls include electric vehicle (EV) charging stations and an additional 10% of stalls be EV ready. The applicant should also meet this requirement and indicate on the plans."*

**R-40: Please refer to R-37.**

*P-41: "Given the proximity of the site to transit, the applicant should also provide a more detailed transportation demand management plan, including how they plan to provide incentives for transit."*

**R-41: The Project includes a robust Transportation Demand Management ("TDM") Plan that includes measures to both reduce vehicle use as well as encourage use of available public transit. Specific transit incentives include:**

- **<u>Charlie Card Subsidy</u>: at the signing of a new lease, each adult occupying a rental unit (up to 2 adults per unit) will be provided a monthly CharlieCard pass for a two-month period.**

- **<u>Guaranteed Ride Home</u>: As a benefit of the Applicant's membership in the Watertown Transportation Management Association ("TMA"), residents will have access to no-cost transportation in the event of an emergency, up to 6 times per year.**

- **<u>Shuttle Service</u>: The Applicant will provide funding to the Watertown TMA for the creation or maintenance of a shuttle service along Pleasant Street and/or California Street as well as provide a dedicated spot for pick-up/drop-off at the Project's main entrance on Midland Avenue. The proposed shuttle will provide convenient access to MBTA Express Buses at Bridge Street and at Watertown Square as well as a potential connection to the MBTA Red Line in Harvard Square.**

Responses to Horsely Witten Group's Comments:

*HW-1:* *"The Applicant has proposed to manage the runoff from the roof and parking lot of Building 2 as well as the parking area of Building 1, a portion of Midland Avenue and a portion of Riverdale Avenue through a closed drainage system that flows into a subsurface detention basin. The detention basin discharges the stormwater through proprietary separators which provide water quality treatment prior to flowing into the Charles River via the 18-inch clay pipe.*

**R-1:** **This stormwater treatment train also includes a Contech StormFilter®, to remove pollutants prior to discharging stormwater to the existing 18-inch clay pipe. The StormFilter® is an underground stormwater treatment device comprised of a concrete structure that houses rechargeable, media-filled cartridges that trap particulates and adsorb pollutants.**

*HW-2:* *"The Applicant has not noted if the existing discharge pipe is currently causing erosion at the discharge point. HW recommends that the Applicant confirm that the existing discharge pipe is not causing erosion and that the proposed velocity will in turn not cause erosion in wetlands of the Commonwealth.*

*R-2:* ***The outfall point of the pipe is currently submerged. Prior to reusing the existing 18-inch clay pipe, its condition will be assessed using a video camera and any necessary repairs will be made. This requirement is included in the revised plans.***

*HW-3:* *"The HydroCAD model indicates that CB1 discharges to the bioretention system, however the plans do not illustrate this. HW recommends that the Applicant review the drainage network in this area and revise the plans and/or calculations accordingly."*

**R-3:** **Subcatchment P7 and P8 are designed to flow to the porous pavement area #1 as shown in the HydroCAD model. Subcatchment P8 will be collected via trench drain system and flow to DMH7, which will have a 12" perforated pipe connection to feed the 13" stone storage reservoir course. This perforated pipe will be connected to CB1 for any potential required maintenance. Subcatchment P7 will be collected directly within the porous pavement area #1. CB1 has been shown as a secondary collection mechanism, and to provide a connection for the 12" perforated pipe underdrain. Both porous pavement areas #1 and #2 are designed to exfiltrate the 100-year storm event with no overflow. These areas were connected in the HydroCAD model to provide an accurate representation of the total contributing areas for the study points.**

*HW-4:* *"HW was not able to confirm the proposed impervious area listed by the Applicant as 52,357 sf. HW recommends that the Applicant clarify how the 52,357 sf value was determined and if necessary adjust the size of the proposed water quality device.*

**R-4:** **The impervious area was determined by including the impervious areas within subcatchment P1A, P1B, P1C, and P9A, and excluding the contributing flow from the offsite catch basins within P6. Within the revised design the contributing flow from P6 has been incorporated into the sizing of the detention system, hydrodynamic separator (WQU1), and StormFilter®. (WQU3). Also, P9A**

**has been removed and included within P4A. This is because this area will be a deck area at the second level and stormwater from this deck area will be routed through the roof drain system. Also, P4A has been expanded to include the deck area on the eastern side of the building as any stormwater from this deck will be routed through the roof drain system. The revised contributing impervious area included within subcatchment P1A, P1B, P1C, and P6 is now 57,034 SF, an increase from the 52,357 SF referenced by HW. The water quality unit and detention system sizing has been revised, and the stage storage for the detention system is included in the Appendix of the revised Drainage Report.**

*HW-5:* *"HW recommends that the Applicant provide the HydroCAD stage storage summary sheet to verify the value provided."*

**R-5:** **The water quality unit and detention system sizing has been revised, and the stage storage for the detention system has been included within the appendix of the revised Drainage Report.**

*HW-6:* *"It is unclear how CB1 connects to the permeable pavement to provide the treatment train as outlined. HW recommends that the Applicant clarify proposed Treatment Train #2."*

**R-6:** **Subcatchment P8 will be collected via trench drain system and flow to DMH7, which will have a 12" perforated pipe connection to feed the 13" stone storage reservoir course. This perforated pipe will be connected to CB1 for any potential required maintenance. Subcatchment P7 will be collected directly within the porous pavement area #1. CB1 has been shown for a secondary collection mechanism, and to provide a connection for the 12" perforated pipe underdrain. Both porous pavement areas #1 and #2, are designed to exfiltrate the 100 – year storm event with no overflow.**

*HW-7:* *"The Applicant has provided a Water Quality Flow Rate spreadsheet prepared by Contech solutions….HW recommends that the Applicant clarify the numbering system on the spreadsheet to correspond with the Grading and Drainage Plan (Sheet C-104)."*

**R-7:** **The referenced calculations have been revised to provide required information for hydrodynamic separators (WQU1 and WQU2), and StormFilter® Filter (WQU3).**

*HW-8:* *"HW recommends that the Applicant confirm it is meeting the MS4 TSS and TP reduction requirements for this development."*

**R-8:** **The revised water quality unit calculations show the proposed design will meet the Massachusetts Stormwater Management Standard that calls for removal of 80% of the average annual post-construction load of Total Suspended Solids ("TSS) and 50% of the average annual total phosphorus ("TP") generated from the impervious surface". The porous pavement area has been designed to comply with this requirement. Please see the water quality volume calculations provided within the Drainage Report Narrative. Also, the use of structured parking within the building program will provide a significant improvement to stormwater quality. This is achieved by greatly reducing the number of uncovered parking stalls, thus minimizing the site areas requiring treatment.**

*HW-9:* *"It appears that the Snow Storage Plan (Sheet C-109) indicates snow storage areas near the porous pavement areas. Snow melt that is packed full of sediment can eventually lead to clogging of the porous pavement. HW recommends that the Applicant consider adjusting the snow storage plans in light of the maintenance considerations for porous pavement areas."*

**R-9:** **Snow storage areas along the porous pavement within the BLSF have been removed from the plan and limited to more appropriate areas of the site. Details regarding the proposed snow storage and removal methods are provided in the Appendix as well as in the revised plans. The area shown adjacent to the porous pavement will be a reinforced turf surface and minimal sediment is anticipated to be generated here. Also, the porous pavement shall reduce the required salt needed for winter maintenance.**

*HW-10:* *"The O&M Plan does not appear to include training for staff or personnel or documentation that stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharge to or near critical areas…..deep sump catch basins shall be inspected and cleaned four times every year….The Applicant does not include maintenance procedures for the oil/water separator…..underound detention chamber to be inspected at least twice per year……include a Log Form for all operation and maintenance related activities for all stormwater management system components…..include information on how to maintain this proprietary device….HW recommends that the plan is signed prior to any commencement of work."*

**R-10:** **The O&M Plan has been revised to address all of HW's comments. The manufacturer's maintenance procedures included within the O&M Plan require the inspector to "Notify the local hazard control agency and Contech Engineered Solutions immediately", in the event of a spill. The Plan will be signed by the property owner prior to the start of construction.**

*HW-11:* *"Standard 10 requires an Illicit Discharge Compliance Statement be provided."*

**R-11:** **The referenced statement is now provided in the appendix of the Drainage Report.**

*HW-12:* *"The Checklist for Stormwater Report indicates that the project does not disturb a Wetland Resource Area, however part of the project site is within bordering land subject to flooding and Riverfront Area. HW recommends that the Applicant review the Checklist and adjust accordingly."*

**R-12:** **The MADEP Checklist for Stormwater Report has been revised.**

*HW-13:* *"HW was not able to find the Phosphorus Removal Calculations."*

**R-13:** **Calculations by Contech are included in the Appendix of the revised Drainage Report. These calculations demonstrate that the proposed StormFilter® will provide the required 65%TDML Phosphorus Removal.**

*HW-14:* *"It is unclear if drainage for the Buildings 1 and 2 garages all drain to the oil/water separators and not towards the exterior stormwater management system. In addition, subcatchment P1B shows exposed parking. HW recommends that the Applicant*

*review the proposed grading for the building garages and clarify that all drainage within the garage flows to the oil/water separator. Finally, the Site Plan (Sheet A-100a) shows this area in Building 1 as a courtyard instead of exposed parking, HW recommends that the Applicant clarify if this area is open or covered."*

**R-14:** **For Building 1, subcatchment P9A has been removed and included within P4A. This is because this area will be a deck area at the second level and stormwater from this deck area will be routed through the roof drain system. Also, P4A has been expanded to include the deck area on the eastern side of the building because any stormwater from this deck will be routed through the roof drain system. Area drains AD3, and AD5 have been removed and all drainage within the garage will be handled by the sewer system because these areas are not proposed to be open to the sky. The covered garage areas will flow through an oil water separator prior to entering the municipal sewer system.**

**For Building 2, the parking area exposed to the sky has been graded to drain to CB4. This stormwater will enter the closed drainage system to be treated prior to discharge. Parking areas beneath the building will be collected by AD5 and AD6 as shown on Sheet C-106 Utilities Plan. These area drains will flow through an oil water separator prior to entering the municipal sewer system. The grading of this area can be seen on sheet C-105B Spot Grading Plan.**

*HW-15:* *"HW recommends that the Applicant confirm that the stormwater design in the parking garage complies with the Massachusetts Uniform Plumbing Code."*

**R-15:** **All covered garage parking stalls will flow through an oil water separator prior to entering the municipal sewer system in conformance with the Uniform Plumbing Code.**

*HW-16:* *"HW recommends that the Applicant confirm that the Fire Department has reviewed the plans."*

**R-16:** **As soon as practicable, the Applicant will meet with the Fire Department to confirm the hydrant locations are acceptable.**

*HW-17:* *"The Site Electrical Plan (Sheet C-107) does not appear to show the lighting conduit or light fixtures as is indicated in the legend. HW recommends the Applicant update Sheet C-107 with this information as needed. Also, it does not appear to show the connection to the existing electrical lines. HW recommends that the Applicant note these connections."*

**R-17:** **The lighting fixtures have been shown on Sheet C-107, and electrical conduit between the fixtures has been shown. The connection to the existing electrical lines is proposed south of the Building 2 entrance from Los Angeles Street at the proposed utility pole installation.**

*HW-18:* *"The Utilities Plan (Sheet C-106) does not appear to include the tie-in to the existing gas line."*

**R-18:** **The connection to the existing gas line is proposed near DMH5 at the intersection of Los Angeles Street and Midland Ave. A note has been added to Sheet C-106 Utilities Plan at this location.**

*HW-19: "HW recommends that the Applicant document how it complies with the Wetlands Protection Act, 310 CMR 10.57. Furthermore, HW recommends that the Applicant provide the conversion for the topography listed as City of Newton base datum on the existing conditions plan to be consistent with the NAVD 1988 Datum listed on the FEMA flood map and profile.*

**R-19: Documentation of the Project's compliance with the Wetlands Protection Act was included in the Notice of Intent filing with the City. The Applicant will provide HW with a copy of this filing. The requested datum conversion has been added to the Existing Conditions Plan.**

*HW-20: HW is aware that the Newton Conservation Commission has stated that the compensatory flood storage has been provided and is satisfactorily. HW has not received these calculations to verify.*

**R-20: Calculations of compensatory flood storage were included in the Notice of Intent filing and will be provided to Horsley Witten Group.**

*HW-21: The Applicant has located the soil stockpile and the snow storage within the BLSF. HW recommends that these practices, which will reduce available flood storage within the BLSF, are relocated.*

**R-21: Snow storage areas, and the construction stockpile area has been relocated outside of the BLSF as shown in the revised plans.**

*HW-22: HW recommends that the Applicant show how the proposed bioretention area was sized for flood mitigation, so it does not overflow and cause damage to the adjacent pedestrian path and seating area.*

**R-22: The bioretention area has been designed to take minimal roof runoff via two 4" pipes from CO-1, and CO-2. Within the bioretention area two 4" perforated underdrains are proposed to assist the system in draining. These 4" underdrains have been connected between CO-5 and CO-6 to flush out these pipes if required. The contributing stormwater has been quantified as to not reach the overflow grates, and to not overtop the top of pond elevation 18.0. The contributing stormwater flow at significant storm events will primarily flow east through the larger pipes to the 18" outlet. The bioretention area is a low impact development technique to provide water to new native plantings within the riverfront buffer.**

***Open Space and Site Framework***

*HW-23: "Engaging uses" are envisioned for the courtyard, and activation of the rear open space including a food truck pad and active lawn is proposed. Additional information is needed to verify public access to the courtyard and open space will be accepted and encouraged. Will any limits to public access be proposed, either certain areas of the project or certain times of day? How will this access be managed?*

**R-23: Access to all public spaces will be encouraged through signage and the site and building design. Access to public outdoor spaces (courtyard, lawn area, etc.) will be unrestricted. Interior public spaces (bike shop, bike/kayak rental, etc) are located beyond locked doors and public access will be controlled by the on-site property management staff.**

*HW-24: "Additional information is needed to evaluate visitor arrival experience by vehicle, pedestrian, and bicycle for various uses (i.e. residential visitors, cafe visitors, visitors to the open space, etc.). Additional on-street parallel parking as well as strategically located bicycle parking, and clear wayfinding will improve this experience."*

**R-24: Bicycle parking for visitors is conveniently located along Los Angeles Street adjacent to Building 2 as well as at either end of the pedestrian concourse. Parking for visitors and pick-up/drop-off spaces are conveniently located for visitors approaching the Project from Los Angeles Street and Riverside Avenue. Wayfinding signs to direct visitors through the pedestrian concourse will be available as visitors approach the Project from both Midland Avenue and the DCR Bike Path.**

*HW-25: "HW recommends that the Applicant work with the City and abutters as possible to create sidewalk extensions and clarify bicycle access on Los Angeles Street and Riverdale Avenue to California Street to increase safe pedestrian and bicycle circulation throughout the neighborhood."*

**R-25: The Applicant is amenable to constructing such improvements within the private Los Angeles Street and Riverdale Avenue rights-of-way and will work with the abutters and others who may have rights in these streets to effectuate these improvements.**

*HW-26: "The "main" path connection to the DCR trail northwest of Building 1 should be confirmed to provide public access at all times, and additional information should be provided regarding detailed design and signage/wayfinding intent, especially given the possibility for pedestrian and bicycle travel both through the courtyard and also east or west of Building 1 through the parking lane and fire access path. The parking lanes do not include a separate dedicated sidewalk. HW concurs with this approach to design the lanes, as long as pedestrian and bicycle circulation through the site courtyard is clear."*

**R-26: Access to outdoor ground-level connections from Midland Avenue to the DCR Bike Path will be open at all times to pedestrians and bicyclists. These connections will be signed accordingly.**

*HW-27: "What is the intent for the proposed path connection to the DCR path northeast of Building 1? If it will be open and accessible to the public, it should be of adequate width to comfortably accommodate two-way pedestrian and bicycle traffic and conformance with ADA access requirements should be confirmed."*

**R-27: This path provides a second connection to the DCR Bike Path. In response to HW's comment we have increased its width to accommodate two-way bike and pedestrian traffic and it will be graded to conform to ADA requirements.**

*HW-28: "Street cross sections should be provided to evaluate street design for Los Angeles Street and Midland Avenue.*

**R-28: The requested cross-sections are provided in Sheet C-102C Street Cross Sections.**

*HW-29: It appears that the width of Los Angeles Street may accommodate on-street parallel parking in front of Building 2. Has this been considered?*

**R-29: On-street parking currently exists along the westerly side of Los Angeles Street in the vicinity of Building 2 and there is not enough room within the private 40-foot right-of-way to also provide parking and pedestrian and amenity zones along the easterly side of the roadway. As shown in the Landscape Plan, we are proposing a generous landscape and sidewalk areas adjacent to Building 2 to provide a safe and visually pleasing experience for pedestrians.**

*HW-30: "HW recommends that the entries/aprons at garage and parking access entries from Los Angeles Street and Midland Avenue be detailed as concrete aprons with 6-inch reveal near the curb, carrying the concrete sidewalk flush across the garage access rather than the proposed painted crosswalks dropped to street pavement level."*

**R-30: The garage entrance to Building 2 from Los Angeles Street has been converted to a concrete apron with raised crossing. At Building 1 we only have a 5-foot setback which is not sufficient to provide a flush crossing and grade to the proposed elevations.**

*HW-31 "Raising the pedestrian crosswalk from Los Angeles Street across Midland Avenue flush with the sidewalk elevation as a speed table, or potentially raising the entire intersection as an extension of the courtyard, would increase pedestrian safety and improve placemaking value."*

**R-31: Currently a low point is shown near this crossing to collect stormwater. If this crossing is raised stormwater will be focused towards the abutting property where the existing grades need to be met.**

*HW-32: "There are no plantings shown along Midland Avenue in front of the residential development. There is currently a concrete sidewalk, parallel parking, and stamped concrete. The Applicant should investigate addition of trees and other plantings to the streetscape to create a more welcoming curb-side experience."*

**R-32: As shown in the revised Landscape Plans, the Applicant has modified the proposed cross section of Midland Avenue in this area to accommodate trees.**

*HW-33: "There is a curb along Midland Avenue in front of the building and opening into the pedestrian concourse. The Applicant should consider also placing bollards along the curb edge to ensure no vehicles can drive into the concourse, especially if a "shared street" intersection condition is proposed."*

**R-33: We have added decorative bollards at the back of curb on Midland Avenue in front of the courtyard. We will review their placement with the Fire Department to ensure that they do not obstruct an intended emergency access route.**

*HW-34: "HW recommends that the Applicant clarify who will be responsible for maintenance of the open spaces, including the bioretention system, permeable pavment, and landscaping. HW recommends that the Applicant communicate with the future maintenance entity to ensure that the materials, furnishings, and landscaping choices fall under the umbrella of their capabilities and potential scope of work."*

**R-34: A Landscape Maintenance Manual has been compiled and is included in the design documents. The Applicant will ensure that that the maintenance entity is capable of fulfilling all future maintenance responsibilities.**

*HW-35: "There are discrepancies in the plans between where the cafe is shown on the Ground Floor and Parking Plan and the Landscape Plan. The Applicant should confirm the location and clarify the reasoning. A cafe looking out on the open space with view of natural vegetation and potentially the Charles River, would likely bring DCR path users as well as people from the adjacent neighborhood."*

**R-35: The Landscape Plan has been updated accordingly. Based on several meetings with the neighborhood, and public agencies it was decided that the public active recreational spaces would be located closer to the DCR Bike Path and the Café would be located closer to the neighborhood. On-site signage at the northerly end of the courtyard will lead recreational users of the bike path to the Café.**

*HW-36: "To create an open space where the public feels welcomed into the outdoor area as well as through the pedestrian concourse, public amenities as well as wayfinding are critical. The various materials show a cafe but other amenities are not clear. The Applicant should clarify the intended users and programs for the pedestrian concourse and lawn area (i.e. will there be bike and kayak rentals, play spaces and public bathrooms for use). The Applicant should also clarify if there will be wayfinding, such as signage, directing people to the amenities, either on the DCR path or on California Street."*

**R-36: The Ground Floor and Landscape plans identify the first floor public and tenant spaces. Way-finding signage will be provided on-site at both ends of the courtyard area.**

*HW-37: "The Applicant should clarify why the vista clearings are shown to be at the two corners of the site where the path connections are and if there are particular viewsheds they are trying to open up. Coordination with DCR on vegetation management for the development construction and for future viewshed management is critical for creating a maintenance plan."*

**R-37: The Applicant walked the area with DCR and identified areas where river views might be achieved without significant removal of vegetation. The specific location, extent and maintenance of the vista clearings will be determined in consultation with the DCR.**

*HW-38: "If there are kayaks available, as shown in the material reviewed, the Applicant should clarify where the closest kayak launch(es) is(are) and how far one can navigate along the river before hitting a dam."*

**R-38: The Applicant has talked to DCR about the possibility of creating a kayak launch in the vicinity of the Project. Existing dams are located approximately ½-mile east and west of this location. It is the Applicant's intent is to work with a third-party operator to provide the kayak rentals.**

*HW-39: "There is limited information on landscape materials on the plans. HW recommends that the Applicant submit data sheets for the various site amenities to demonstrate design intent."*

**R-39: The revised landscape plans provide supplemental detail about the proposed materials.**

*HW-40: "There are planting beds proposed on the north side of the building and within the pedestrian concourse that would typically use mulch as a groundcover. Massachusetts Comprehensive Fire Safety Code (527 CMR 1.00) requires that mulch not be newly applied within 18 inches of any combustible portion of any building."*

**R-40: The landscape beds immediately adjacent to building faces will contain non-combustible stone mulch.**

*HW-41: "HW recommends that the Applicant confirm that the Fire Department has reviewed the plans and is satisfied with the layout."*

**R-41: The Applicant will meet with the Fire Department as soon as practicable.**

*HW-42: "Proposed seating is called out for the areas between the pedestrian concourse and lawn area. This creates a barrier that appears to force pedestrians to turn right or left to access the lawn. The Applicant should clarify the intention of the seating and update as needed."*

**R-42: The intent is for movable bench-type seating in this area. Additional access points to the lawn have been added as shown in the project plans.**

*HW-43: "There are currently no bicycle racks shown on the landscape plans."*

**R-43: Twenty-one outdoor bike racks are now shown on the revised Landscape Plan.**

***Planting and Improvements along the Charles River***

*HW-44: "The Applicant should confirm that the soil and moisture conditions are suitable for the specific plants, especially in the bioretention area (sandy soils) that has a high seasonal water table."*

**R-44: The proposed plant list has been updated to provide greater detail relative to specific planting conditions.**

*HW-45: "The Applicant should ensure adequate soil volumes for the trees to grow to maturity, in particular in the pedestrian concourse and along the streets."*

**R-45: Soil volumes are noted on the revised Landscape Plans and are adequate to ensure the proposed trees grow to maturity.**

*HW-46: "Will the proposed trees shown in the center of the courtyard impede views and/or circulation through the space?"*

**R-46: The trees in this area will be limbed up so they do not impede views and this is noted in the revised Landscape Plan.**

*HW-47: "To ensure adequate soil volume for the pedestrian concourse and street trees, the Applicant should consider using structural soil and permeable pavers and/or other methods of maximizing and connecting the soil underneath the surface to meet the volume required for the particular tree species"*

**R-47: The revised Landscape Plans include minimum soil volume requirements and show areas where structural soil is required including areas where there is limited planting bed area.**

*HW-48: "The Applicant should confirm the intention of the chosen plantings and any applicable sources used in plant selection. The plant list on the landscape plan is relatively general and does not specify where the species will be planted around the site."*

**R-48: A revised plant list with details on planting conditions is included in the revised Landscape Plans.**

*HW-49: "Placement of evergreen trees compared to deciduous ones is not indicated on the landscape plan."*

**R-49: The revised Landscape Plans include tree types.**

*HW-50: "Applicant should specify the stormwater/flood management planting seeding species for review."*

**R-50: The revised planting plan includes a specific planting list for the stormwater management area.**

*HW-51: "HW recommends that the Applicant confirm the lawn species and specify areas that will be irrigated versus not."*

**R-51: The plant list has been revised to provide greater detail relative to specific planting conditions.**

*HW-52: "There is a large stand of invasive Japanese Knotweed on the development side of the DCR path. The Applicant should include an invasives management plan as part of the plan set and should coordinate with DCR and contractors on long-term management plans to ensure existing or new invasive species are controlled."*

**R-52: The Applicant is amenable to developing a plan in consultation with the DCR that addresses the management of invasive species in this area.**

*HW-53: "The plan for landscape maintenance should be coordinated prior to design completion to ensure ongoing maintenance capabilities will be suited to the intention of the landscape design."*

**R-53: The proposed planting list has been revised to provide additional detail relative to specific planting conditions. The Applicant's property management team will be responsible for ongoing maintenance of the landscaped areas.**

*HW-54: Sweet autumn clematis and catmint are not native and the clematis can spread and be weedy. HW recommends that the Applicant consider alternative plants that are native to the area.*

**R-54: A revised plant list has been provided.**

*HW-55: HW recommends that the Applicant consider geese management while the plants establish.*

**R-55: The Applicant will employ such a practice to protect the emerging vegetation.**

*HW-56: "The Applicant has provided improvements along the Charles River, including use of permeable pavement, landscaping, and a stormwater flood/management area. HW recommends that the Applicant review whether these site improvements need to be compliant with the American's with Disabilities Act (ADA) requirements for pathway surface and sizing specifically for the proposed stabilized soil path."*

**R-56: The porous pavement and stabilized path areas are designed to meet ADA regulations.**

***Lighting, Photometrics and Shadows***

*HW-57: It appears that based on the shadow study the pedestrian concourse space will be relatively dark throughout the year. HW recommends that the Applicant clarify how they are addressing this and potentially investigate ways to introduce more light or adapt to the limited light besides adding lighting such as: further stepping the buildings to allow more sunlight into the concourse, using moveable site furnishings so that users can adjust where they sit within the space.*

**R-57: In fact, the shadow studies show that the courtyard (pedestrian concourse) will have sunshine from mid-morning to mid-afternoon throughout the year. Most importantly, the open recreational area at the northern end of the courtyard will always be in sunshine. Those using the courtyard and open landscaped areas will be able to move around to be in the sun or shade as desired. Additionally, the reduction in height of the Live/Work building to two stories along with changes to the bridge design allow additional sunlight into the courtyard.**

*HW-58: "The photometrics plan shows no light on the exterior parking spaces to the northwest of the building."*

**R-58: The updated lighting and photometric plans show building-mounted wall pack lights illuminating these spaces.**

*HW-59: "The photometrics plan shows light straying into the front of the adjacent property on Los Angeles Street. The Applicant should ensure the street lighting does not stray into the adjacent residential property."*

**R-59: There is negligible light spill over in this location resulting from a pole-top light being used to adequately illuminate the pedestrian crossing at the driveway to Building 2.**

*HW-60: "The Applicant should clarify how any lights on the building or in the windows of the Innovation Building will affect the adjacent neighbor on Los Angeles Street and Riverdale Avenue."*

**R-60: Building 2, formerly the Innovation Building, is now a residential building with public and tenant spaces on the ground floor. Areas of the building facing Los Angeles Street and Riverdale Avenue will have typical residential lighting which should not affect neighbors. Any building lightingwill be at low levels to mitigate associated impacts.**

*HW-61: "The Applicant should specify any light fixtures on the building that would uplight the building and potentially impact the surrounding area. The pole fixtures are dark sky*

*compliant and the cable lighting is within the concourse. Ideally there would be very limited or no light pollution that would adversely affect the wildlife in this area."*

**R-61: The Applicant agrees that it is important to protect wildlife in this area and all fixtures will be dark sky compliant.**

***Connections and Improvements to Nearby Open Space Resources***

*HW-62: "The Applicant should confirm whether a vehicular and/or pedestrian and bicycle connection at the end of Midland Avenue to Gates Street and Forte Park on the other side of the fence has been discussed with the City. If there will not be a vehicular connection between Midland Avenue and Gates Street, the Applicant should consider pedestrian/bicycle path(s) to increase connectivity throughout the neighborhood."*

**R-62: Our revised plans indicate a proposed pedestrian and bike connection between Midland Avenue and Forte Park at the southwest corner of Building 1. Existing paths in Forte Park can then be use to connect to Gates Street. We do not feel that a vehicular connection from Midland Avenue to Forte Park. The Applicant is proposing improvements to street crossings along California Street that will enhance safety for pedestrians and bicyclists.**

*HW-63: "The existing fence west/Forte Park side of the property is an actual and aesthetic barrier between the development and the park. The Applicant should coordinate with the City to discuss the removal of the fence paired with tree removal and plantings."*

**R-63: The Applicant has presented a detailed plan for this area to the City that includes removal of existing trees and fencing and installation of a new fence and landscaping. A copy of the plan is provided in the Appendix**

*HW-64: "Two Norway Maple trees are called out to be protected (trees labeled S and T). The plans state that these trees are partially growing into the existing fence. These are invasive species and, unless they greatly enhance the aesthetics of the area, could be removed and replaced with native species that add diversity to the surrounding plantings."*

**R-64: While these trees are non-native, they provide significant biomass, shade and habitat benefits as a result of their size. As such, our intent is to prune and preserve them.**

*HW-65: "The section view of the tree protection detail calls out for fencing to be at the drip line of the tree but shows the fencing to be within the dripline. The Applicant should update the detail to clarify where the dripline is."*

**R-66: Tree protection will be reviewed and approved in field prior to construction. In some cases, the drip line may not be a viable location for protection fencing.**

*HW-67: "There are no trees shown between the development and the parcel to the east. Invasive and damaged trees will be removed there. A visual screen between the properties would be environmentally and aesthetically beneficial. The Applicant should consider how to fit tree plantings along that edge and potentially a new fence, depending on the adjacent use."*

**R-67: Riverdale Avenue, a 40'- wide private way, separates the Project site from the abutter at 30 Riverdale Avenue. There is native vegetation along the westerly**

**side of the right-of-way, some portion of which will be cleared to accommodate the proposed parallel parking. The Applicant will discuss with the abutter whether additional landscaping can be installed without impeding the abutter's use of this right-of-way to access his property.**

***Sustainability***

*HW-68: "The project appears to propose a reduction in impervious area, addition of trees and landscaped areas, and an improvement in water quality treatment on the currently highly impervious site. The site has limited existing tree cover and is currently within a "hot spot" with extreme temperatures as defined by the City Climate Action Plan. Significant opportunity exists to utilize green infrastructure and resilient building design to reduce heat island effect and extreme heat risks. More detailed drainage and landscape design information will be required as design development continues."*

**R-68: The existing project site is largely covered in impervious asphalt paving and dark colored building roofs which contribute to the increased heat island effect for the neighborhood. The proposed project increases the open space considerably and uses plantings, permeable paving materials and light-colored roofing to reduce heat island effect. Additionally, nearly all of the 238 proposed parking spaces are located either in the garage under Building 1 or under cover of Building 2, thereby greatly reducing the heat island effect of typical exposed pavement.**

**HW-69: "Design to meet the standards of an authorized green building rating system is required per Zoning Section 5.12. Additional information is required for review. A Sustainability Report has not been provided."**

**R-69: Refer to the response to P-39.**

*HW-70: "EV stations are required for 10% of the project parking spaces and provision of an additional 10% of parking spaces to be EV ready. Additional information is required for review."*

**R-70: Refer to the response to P-37.**

*HW-71: "Will buildings have green roofs and/or be solar or solar-ready? Additional information is required for review."*

**R-71: The building roofs will contain both green roof areas and solar PV panels, and the locations and areas will be determined based on roof space availability and orientation as the design progresses. Green roof areas are currently proposed in several locations and will be visible from the apartments above. Plantings in these areas will retain and filter some amount of stormwater and thereby reduce/slow site runoff.**

*HW-72: "Investigation of other opportunities to provide green infrastructure practices within streets consistent with the City's Complete Streets Policy is encouraged."*

**R-72: As explained in the response to P-15, Los Angeles Street and Riverdale Avenue are private ways, as is Midland Avenue beyond the Project boundaries. While the Applicant has limited rights to modify the existing conditions along these roadways, where improvements are being made, we will endeavor to implement measures outlined in this policy.**

*HW-73:* *"We encourage a commitment to conducting embodied carbon analyses as part of the design process, and encourage the selection of materials, products, and wall assemblies that minimize the overall embodied carbon and maximize high thermal performance throughout the project."*

**R-73:** **The topic of embodied carbon analysis is quickly gaining importance in the field of sustainability and just in the last year several tools have been developed for project teams to quantify and analyze the embodied carbon of some building materials, primarily the structure and enclosure components. The team will employ those tools as the design progresses to assess the embodied carbon of materials and study alternates with lower embodied carbon for feasibility of incorporating them.**

# APPENDIX

- **Vehicle Parking Summary**
- **Bike Parking Summary**
- **Snow Storage & Removal Program**

# Vehicle Parking Summary

# RESIDENCES ON THE CHARLES
# 15 RIVERDALE AVE, NEWTON
# PARKING SUMMARY

## Project Description

Residences on the Charles (the "Project") includes the following major components:

Residential

204 apartment units with associated support and amenity space, and 237 parking spaces. Parking spaces will be available for lease separate from the residential apartment lease to encourage residents to utilize other modes of transportation in lieu of vehicle ownership. The Project is specifically designed with a limited but adequate parking supply for both residents and visitors.

Tenant/Neighborhood Amenity Space

This space, totaling approximately 2,400 square feet ("sf"), is open to the public and designed to serve tenants of the apartments, residents in the neighborhood, and users of both the Charles River Bike Path and Forte Park. In addition to an approximately 600 square-foot sports court, other intended uses for the tenant/neighborhood amenity space include a 625 square-foot café, a 470 square-foot self-service bicycle repair room and a 710 square-foot bike and/or kayak rental area. We do not expect that the amenity space will have a typical retail market draw due to its small size and location.

Community Space

The 2,000-square foot community space will feature a kitchen area within a single open room with movable tables and chairs. It will be available at no charge to community organizations recognized by the City, and possibly for a nominal rental fee to tenants of the Project. When not reserved by these groups, it may be used as programmable space for tenants.

The Project is designed as a Transit-Oriented Development and is accessible to public transportation. The Project is located within 0.6-miles from the transit options available at Bridge Street to the west and Watertown Square to the east. It is also located across the street from a supermarket, pharmacy, fitness center and other small retail establishments. Proximity to these services will reduce residents' reliance on private vehicles. The Project includes bikes available for tenants for shopping, commuting and other trips. The Project is located along the Charles River Bike Path which makes biking and walking convenient modes of transportation for tenants and visitors. Additional measures to reduce reliance on single-occupancy vehicles and vehicle ownership are included in the Project's Transportation Demand Management program.

The Project includes two buildings – one on the north side of Midland Avenue (Building 1) and one on the south side of Midland Avenue (Building 2). Building 1 is comprised of two 5-story building wings separated by a landscaped courtyard and joined by an overhead pedestrian bridge. The westerly wing, Building 1A, provides 70 units on floors 2 through 5. Parking at Building 1A includes 75 spaces – 55



DALLAS 14160 NORTH DALLAS PARKWAY DALLAS, TEXAS 75254 (O) 214.393.4100 (F) 214.393.4110
BOSTON 1601 TRAPELO ROAD, SUITE 280, WALTHAM, MA 02451 (O) 781.890.5600 (F) 781.209.5553

spaces in a podium garage, 12 spaces in individual garages and 8 exterior spaces along the building. First floor uses in Building 1A include a residential lobby, a portion of two residential live/work units, and approximately 1,330 sf of tenant/neighborhood amenity space including a café. As described previously, this amenity space is open to the public and is intended to draw pedestrian and bike enthusiasts from/ the Charles River Bike Path. The easterly wing, Building 1B, provides 96 units on floors 2 through 5 and 111 parking spaces – 95 spaces in a podium garage, 12 exterior spaces along the building and 4 exterior spaces along a privately-owned section of Riverdale Avenue. First floor uses in Building 1B include a residential lobby, activated tenant space, a bike storage room and a 470 square-foot tenant/neighborhood amenity space. This amenity space will serve as a bike repair room for tenants and the public and will attract cyclists using the Charles River Bike Path.

Building 2, on the south side of Midland Avenue, includes 38 residential units on the top three floors. First floor space includes a residential lobby, a bike storage room, approximately 2,000 sf of community space and approximately 600 sf of tenant/neighborhood amenity space. The latter space will house a sports court. A 46-space surface parking lot is located at Building 2 with many of the spaces located under the canopy of the building's upper floors.

Five on-street parking spaces will be located along Midland Avenue in front of Building 1.

The Project will include 24 EV parking spaces (locations to be determined) and an additional 24 spaces will be pre-wired so that they can be converted to EV spaces in the future. To allow for maximum utilization of the parking spaces, the EV spaces will not be limited to parking for electric vehicles.

## Parking Management

The Project includes two main categories of parking:

- Garage parking – All parking in the podium-level of Buildings 1A & 1B will be controlled by a rolling garage door and residents will use a key fob, or other such device, to access these spaces. Each space will be numbered and assigned to a specific unit. The individual exterior garages on the west side of Building 1A will be similarly controlled and assigned.

- Exterior parking – All exterior parking spaces will be numbered and signed. Numbered spaces will be assigned to specific units and signs will indicate that these spaces are reserved for residents. Unnumbered parking spaces will have signs designating them for use by visitors and other non-residents of the Project.

## Parking Strategy

The Residences on the Charles is programmed at 1.1 spaces per unit (224 spaces) to accommodate residents who may have more than one car. Additionally, 13 spaces are provided for visitors and pick-up/drop-off. Visitors include both residential guests and users of both the public amenity and

community spaces. The 224 residential spaces will be assigned to each of the 204 rental units[1] on a for-rent basis. None of the 13 visitor spaces will be available for rent.

## Parking Designation

Building 1A (70 units & 75 parking spaces)

- 55 access-controlled spaces in the podium garage (2 HP, 1 for motorcycles and/or scooters)
  - 51 spaces assigned to units in Building 1A
  - 4 spaces assigned to units of Building 1A for a second car
- 12 access-controlled spaces in individual garages assigned to units in Building 1A
- 8 uncontrolled exterior spaces
  - 7 numbered spaces assigned to units in Building 1A
  - 1 space assigned to a unit in Building 1A for a second car (if not rented, this space will be available to visitors)

Building 1B (96 units & 111 parking spaces)

- 95 access-controlled spaces in the podium garage (4 HP)
  - 95 spaces assigned to units in Building 1B
- 16 uncontrolled exterior spaces
  - 1 numbered space assigned to a unit in Building 1B
  - 15 numbered spaces assigned to units in the Project for a second car (if not rented, spaces will be available to visitors)

Building 2 (38 units & 46 parking spaces)

- 46 uncontrolled exterior parking spaces (2 HP)
  - 38 numbered spaces assigned to units in Building 2
  - 8 spaces reserved (with signs and/or pavement markings) for visitors (including users of the public amenity space)

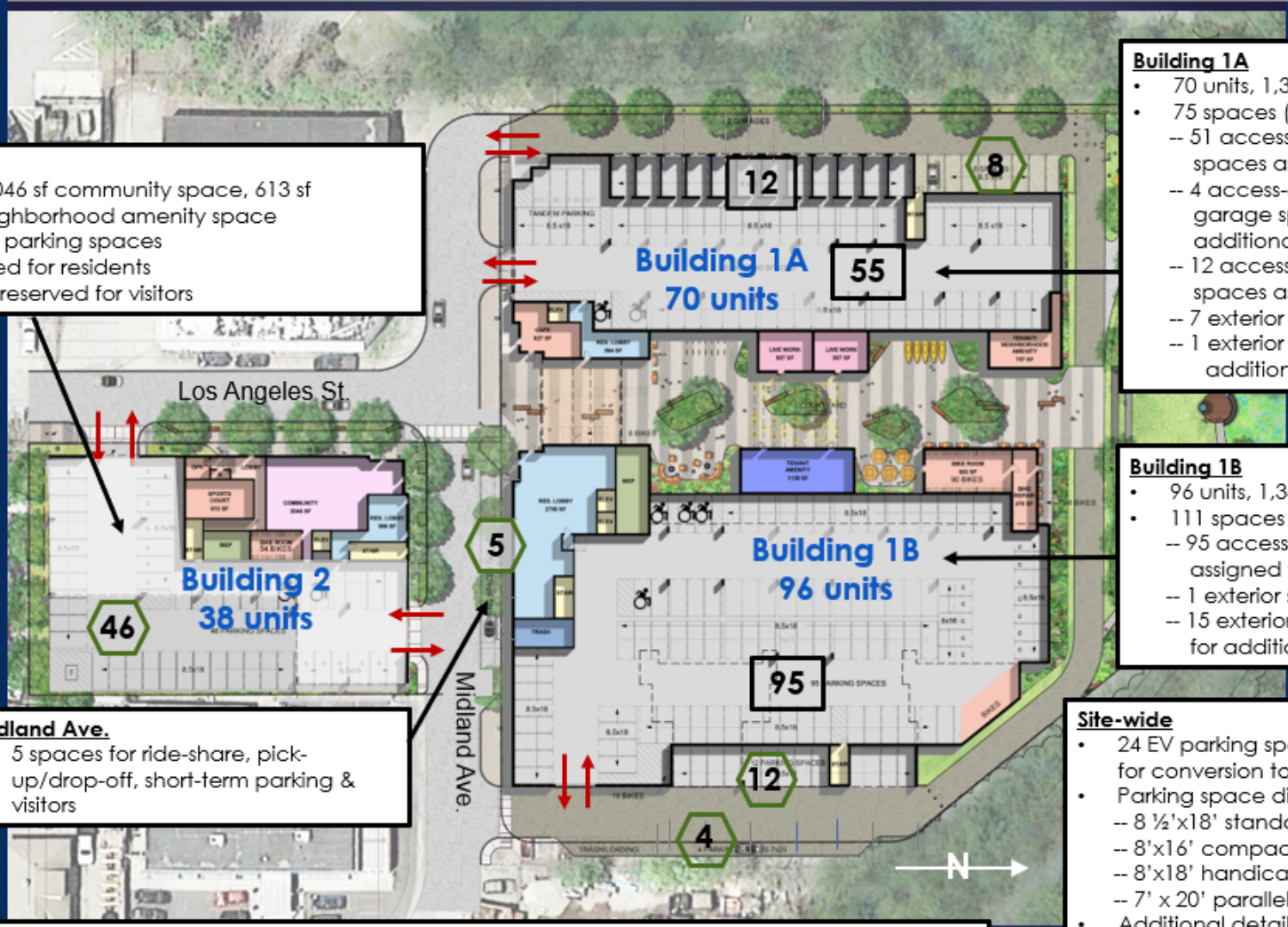
Midland Avenue (5 parking spaces)

- 5 uncontrolled exterior parking spaces
  - 1 space reserved for ride-share vehicles (shuttle van, Uber, etc.)
  - 1 space reserved for short-term parking (15 minutes)
  - 3 spaces reserved for visitors

## Parking Allocation

When the Project first opens, parking spaces in each building will generally be allocated to tenants on a first-come, first-served basis. Subsequently, tenants will be able to select from available spaces.

[1] Note that the development will generally be at 95% occupancy so approximately twelve (12) additional spaces (not yet assigned) will consistently be available for additional visitor parking.




**Building 2**
- 38 units, 2,046 sf community space, 613 sf tenant/neighborhood amenity space
- 46 exterior parking spaces
  -- 38 reserved for residents
  -- 8 spaces reserved for visitors

**Midland Ave.**
- 5 spaces for ride-share, pick-up/drop-off, short-term parking & visitors

**Building 1A**
- 70 units, 1,330 sf tenant/neighborhood amenity space
- 75 spaces (including 1 motorcycle/scooter space)
  -- 51 access-controlled, podium garage spaces assigned to residents
  -- 4 access-controlled, tandem podium garage spaces available to rent for additional car
  -- 12 access-controlled exterior garage spaces assigned to residents
  -- 7 exterior spaces assigned to residents
  -- 1 exterior space available to rent for additional car

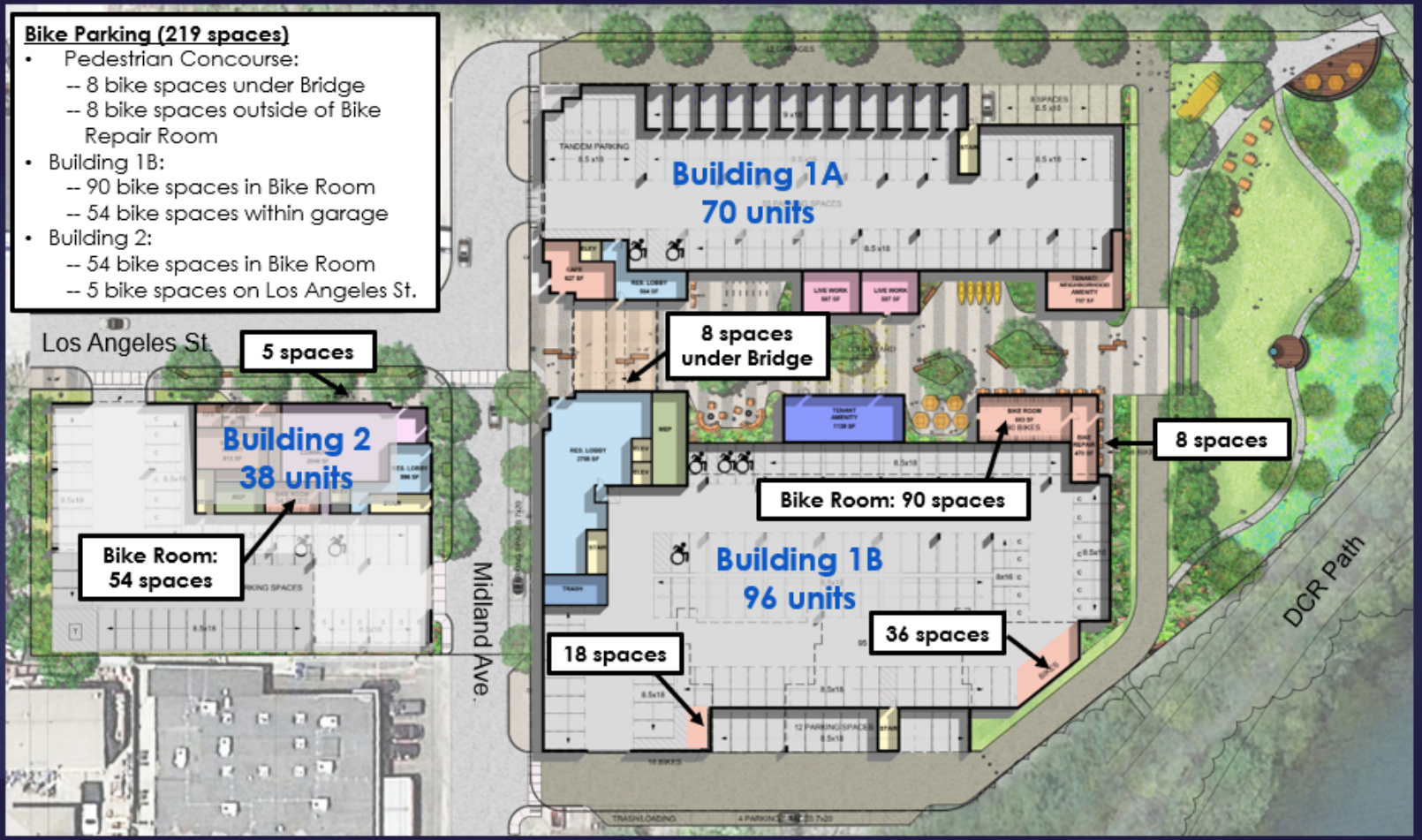
**Building 1B**
- 96 units, 1,350 sf tenant/neighborhood amenity space
- 111 spaces
  -- 95 access-controlled podium garage space assigned to residents
  -- 1 exterior space assigned to resident
  -- 15 exterior spaces available to rent for additional car

**Site-wide**
- 24 EV parking spaces (10%) plus another 24 spaces pre-wired for conversion to EV spaces
- Parking space dimensions (min.)
  -- 8 ½'x18' standard
  -- 8'x16' compact
  -- 8'x18' handicap
  -- 7' x 20' parallel
- Additional detail shown on Site Plan

**Project Parking Utilization (at 100% occupancy)**
- 204 assigned spaces (1.0 space/unit) for rent by tenants
- Up to 20 spaces (0.1 space/unit) available for rent by tenants as additional space
- A minimum of 13 spaces reserved for visitors

# RESIDENCES ON THE CHARLES
# PARKING SUMMARY
# APRIL 22, 2020

## Bike Parking Summary




# RESIDENCES ON THE CHARLES
# BIKE PARKING SUMMARY
# APRIL 22, 2020

# Snow Storage and Removal Program

ALLEN & MAJOR ASSOCIATES, INC.
100 Commerce Way
Woburn, MA 01801
Tel: (781) 935-6889
Fax: (781) 935-2896

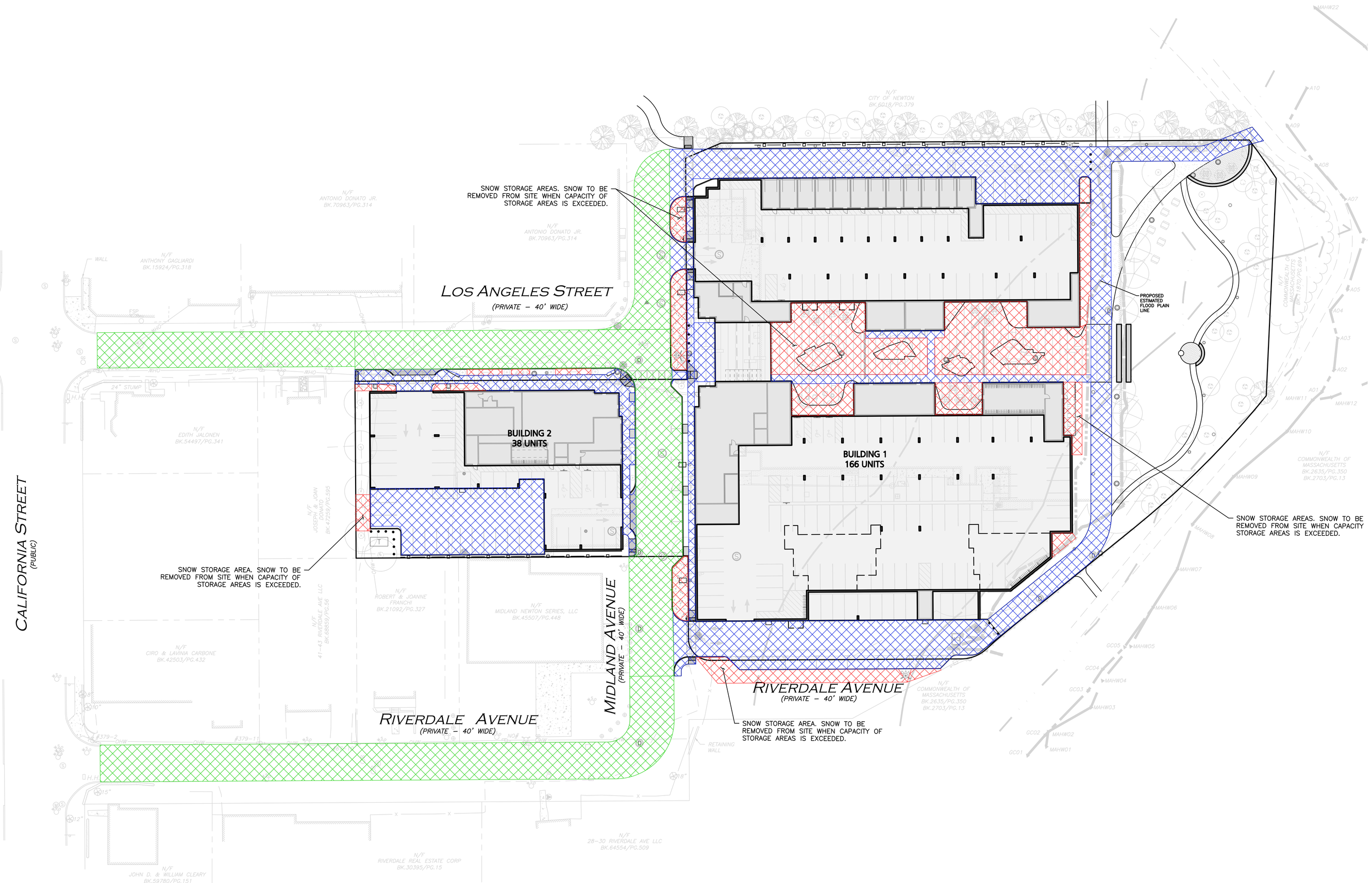
RE: A&M Project #1374-23
Residence on the Charles
15 Riverdale Avenue
**Newton, MA**
Snow Removal Narrative

## SNOW REMOVAL

Snow removal on all driveways, sidewalks and common areas within the property area will be managed in-house by the Residence on the Charles operations management team. As detailed on the Snow Storage Exhibit Area Plan, EXH-1, dated April 17, 2020, snow storage areas to be cleared and snow storage areas have been identified. Snow banks will be maintained so that they do not pose a danger to pedestrians, do not limit emergency access to the buildings, and do not adversely affect vehicle site lines in and out of property. The Emergency Fire Access will be kept free and clear of snow and/or any other obstacles at all times and will be a priority for snow removal after each storm.

Snow and/or ice will be removed to the snow storage areas within 24 hours of the end of the precipitation which caused the accumulation; when impracticable, the sidewalks will be treated with Magnesium Chloride. In the event that accumulated snowfall is so great that it cannot be handled on site, The Residence on the Charles will hire a subcontractor to haul snow to a DEP approved appropriate off-site location. To maintain clear and safe access to sidewalks and parking areas will be salted and/or cleared as soon as the snow or ice begins to accumulate, while plowing would not begin until there's been sufficient accumulation to pick up with a snowplow (generally two inches). The loading and trash areas will remain cleared of ice and snow.

Based on the calculations, The Residence on the Charles operation management team has roughly 31,500 square feet of snow to be removed from the grounds. Approximately 15,000 square feet of snow storage is available for storage. This storage area equates to each stockpile area being capable of storing a 1-foot snowfall event with each stockpile area having approximately 2'-2" of snow. During higher storm events the snow will need to be hauled off site to a snow disposal facility determined by the City of Newton to be in conformance with the Massachusetts Department of Environmental Protection, Bureau of Water Resources, Snow Disposal Guidelines.




## LEGEND

| | |
|---|---|
| SNOW STORAGE AREA | |
| AREA TO BE CLEARED | |
| AREA TO BE CLEARED BY DPW | |

## SUMMARY

| | |
|---|---|
| STORAGE = 15,000± SF | |
| CLEARED = 31,500± SF | |
| CLEARED BY DPW = 29,800± SF | |

NOTES:

1. SNOW SHALL BE STORED IN THE LOCATIONS SHOWN HEREON. ONCE IT IS NO LONGER POSSIBLE TO STORE SNOW ONSITE WITHOUT IMPEDING UPON THE NORMAL FACILITY OPERATIONS, THE OWNER/WINTER MAINTENANCE CONTRACTOR SHALL REMOVE THE SNOW FROM THE SITE AND DISPOSE OF IT IN ACCORDANCE WITH APPLICABLE REGULATIONS.
2. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

DIG SAFE

BEFORE YOU DIG CALL 811 OR 1-888-DIG-SAFE 1-888-344-7233

GRAPHIC SCALE

30 0 15 30 60 120

( IN FEET )
1 inch = 30 ft.

# THE RESIDENCES ON THE CHARLES

15 RIVERDALE AVENUE
NEWTON, MA

CPC LAND ACQUISITION COMPANY, LLC

ARCHITECT

E-ICON ARCHITECTURE
101 SUMMER ST BOSTON MA 02110

CONSULTANT

ALLEN & MAJOR ASSOCIATES, INC.
civil engineering • land surveying environmental consulting • landscape architecture
100 COMMERCE WAY
WOBURN, MA 01801
TEL. (781) 935-1890
FAX. (781) 935-2896
WOBURN, MA ■ EASTFIELD, MA ■ MANCHESTER, NH



STAMP

PROFESSIONAL ENGINEER FOR ALLEN & MAJOR ASSOCIATES, INC.

KEY PLAN

| MARK | DATE | DESCRIPTION |
|---|---|---|

**PROJECT NUMBER:** 1374-23
**DRAWN BY:** AM/ND
**CHECKED BY:** TJW

SHEET TITLE

SNOW STORAGE AREAS

EXH-1

N:\PROJECTS\1374-23\CIVIL\DRAWINGS\CURRENT\C-1374-23_SNOW STORAGE.DWG

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

# Massachusetts Department of Environmental Protection
# Bureau of Water Resources
# Snow Disposal Guidance

**Effective Date:** December 23, 2019

**Applicability:** Applies to all federal, state, regional and local agencies, as well as to private businesses.

**Supersedes:** Bureau of Resource Protection (BRP) Snow Disposal Guideline No. BRPG97-1 issued December 12, 1997 and BRPG01-01 issued March 8, 2001; Bureau of Water Resources (BWR) snow disposal guidance issued December 21, 2015 and December 12, 2018.

**Approved by:** Kathleen Baskin, Assistant Commissioner, Bureau of Water Resources

**PURPOSE**: To provide guidelines to all government agencies and private businesses regarding snow disposal site selection, site preparation and maintenance, and emergency snow disposal options that are protective of wetlands, drinking water, and water bodies, and are acceptable to the Massachusetts Department of Environmental Protection (MassDEP), Bureau of Water Resources.

**APPLICABILITY**: These Guidelines are issued by MassDEP's Bureau of Water Resources on behalf of all Bureau Programs (including Drinking Water Supply, Wetlands and Waterways, Wastewater Management, and Watershed Planning and Permitting). They apply to all federal agencies, state agencies, state authorities, municipal agencies and private businesses disposing of snow in the Commonwealth of Massachusetts.

## INTRODUCTION

Finding a place to dispose of collected snow poses a challenge to municipalities and businesses as they clear roads, parking lots, bridges, and sidewalks. While MassDEP is aware of the threats to public safety caused by snow, collected snow that is contaminated with road salt, sand, litter, and automotive pollutants such as oil also threatens public health and the environment.

As snow melts, road salt, sand, litter, and other pollutants are transported into surface water or through the soil where they may eventually reach the groundwater. Road salt and other pollutants can contaminate water supplies and are toxic to aquatic life at certain levels. Sand washed into

waterbodies can create sand bars or fill in wetlands and ponds, impacting aquatic life, causing flooding, and affecting our use of these resources.

There are several steps that communities can take to minimize the impacts of snow disposal on public health and the environment. These steps will help communities avoid the costs of a contaminated water supply, degraded waterbodies, and flooding. Everything that occurs on the land has the potential to impact the Commonwealth's water resources. Given the authority of local government over the use of the land, municipal officials and staff have a critically important role to play in protecting our water resources.

The purpose of these guidelines is to help federal agencies, state agencies, state authorities, municipalities and businesses select, prepare, and maintain appropriate snow disposal sites before the snow begins to accumulate through the winter. Following these guidelines and obtaining the necessary approvals may also help municipalities in cases when seeking reimbursement for snow disposal costs from the Federal Emergency Management Agency is possible.

## RECOMMENDED GUIDELINES

These snow disposal guidelines address: (1) site selection; (2) site preparation and maintenance; and (3) emergency snow disposal.

### 1. SITE SELECTION

The key to selecting effective snow disposal sites is to locate them adjacent to or on pervious surfaces in upland areas or upland locations on impervious surfaces away from water resources and drinking water wells. At these locations, the snow meltwater can filter into the soil, leaving behind sand and debris which can be removed in the spring. The following conditions should be followed:

- Within water supply Zone A and Zone II, avoid storage or disposal of snow and ice containing deicing chemicals that has been collected from streets located outside these zones. Municipalities may have a water supply protection land use control that prohibits the disposal of snow and ice containing deicing chemicals from outside the Zone A and Zone II, subject to the Massachusetts Drinking Water Regulations at 310 CMR 22.20C and 310 CMR 22.21(2).
- Avoid storage or disposal of snow or ice in Interim Wellhead Protection Areas (IWPA) of public water supply wells, and within 75 feet of a private well, where road salt may contaminate water supplies.
- Avoid dumping snow into any waterbody, including rivers, the ocean, reservoirs, ponds, or wetlands. In addition to water quality impacts and flooding, snow disposed of in open water can cause navigational hazards when it freezes into ice blocks.
- Avoid dumping snow on MassDEP-designated high and medium-yield aquifers where it may contaminate groundwater.
- Avoid dumping snow in sanitary landfills and gravel pits. Snow meltwater will create more contaminated leachate in landfills posing a greater risk to groundwater, and in gravel pits, there is little opportunity for pollutants to be filtered out of the meltwater because groundwater is close to the land surface.

- Avoid disposing of snow on top of storm drain catch basins or in stormwater drainage systems including detention basins, swales or ditches. Snow combined with sand and debris may block a stormwater drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.

*Recommended Site Selection Procedures*

It is important that the municipal Department of Public Works or Highway Department, Conservation Commission, and Board of Health work together to select appropriate snow disposal sites. The following steps should be taken:

- Estimate how much snow disposal capacity may be needed for the season so that an adequate number of disposal sites can be selected and prepared.
- Identify sites that could potentially be used for snow disposal, such as municipal open space (e.g., parking lots or parks).
- Select sites located in upland locations that are not likely to impact sensitive environmental resources first.
- If more storage space is still needed, prioritize the sites with the least environmental impact (using the site selection criteria, and local or MassGIS maps as a guide).

*Snow Disposal Mapping Assistance*

MassDEP has an online mapping tool to assist in identifying possible locations to potentially dispose of snow. MassDEP encourages municipalities to use this tool to identify possible snow disposal options. The tool identifies wetland resource areas, public drinking water supplies and other sensitive locations where snow should not be disposed. The tool may be accessed through the Internet at the following web address: **https://maps.env.state.ma.us/dep/arcgis/js/templates/PSF/**.

## 2. SITE PREPARATION AND MAINTENANCE

In addition to carefully selecting disposal sites before the winter begins, it is important to prepare and maintain these sites to maximize their effectiveness. The following maintenance measures should be undertaken for all snow disposal sites:

- A silt fence or equivalent barrier should be placed securely on the downgradient side of the snow disposal site.
- Wherever possible maintain a 50-foot vegetated buffer between the disposal site and adjacent waterbodies to filter pollutants from the meltwater.
- Clear debris from the site prior to using the site for snow disposal.
- Clear debris from the site and properly dispose of it at the end of the snow season, and no later than May 15.

## 3. SNOW DISPOSAL APPROVALS

Proper snow disposal may be undertaken through one of the following approval procedures:

- Routine snow disposal – Minimal, if any, administrative review is required in these cases when upland and pervious snow disposal locations or upland locations on impervious surfaces that have functioning and maintained stormwater management systems have been identified, mapped, and used for snow disposal following ordinary snowfalls. Use of upland and pervious snow disposal sites avoids wetland resource areas and allows snow meltwater to recharge groundwater and will help filter pollutants, sand, and other debris. This process will address the majority of snow removal efforts until an entity exhausts all available upland snow disposal sites. The location and mapping of snow disposal sites will help facilitate each entity's routine snow management efforts.
- Emergency Certifications – If an entity demonstrates that there is no remaining capacity at upland snow disposal locations, local conservation commissions may issue an Emergency Certification under the Massachusetts Wetlands Protection regulations to authorize snow disposal in buffer zones to wetlands, certain open water areas, and certain wetland resource areas (i.e. within flood plains). Emergency Certifications can only be issued at the request of a public agency or by order of a public agency for the protection of the health or safety of citizens, and are limited to those activities necessary to abate the emergency. See 310 CMR 10.06(1)-(4). Use the following guidelines in these emergency situations:
    - Dispose of snow in open water with adequate flow and mixing to prevent ice dams from forming.
    - Do not dispose of snow in salt marshes, vegetated wetlands, certified vernal pools, shellfish beds, mudflats, drinking water reservoirs and their tributaries, Zone IIs or IWPAs of public water supply wells, Outstanding Resource Waters, or Areas of Critical Environmental Concern.
    - Do not dispose of snow where trucks may cause shoreline damage or erosion.
    - Consult with the municipal Conservation Commission to ensure that snow disposal in open water complies with local ordinances and bylaws.

- Severe Weather Emergency Declarations – In the event of a large-scale severe weather event, MassDEP may issue a broader Emergency Declaration under the Wetlands Protection Act which allows federal agencies, state agencies, state authorities, municipalities, and businesses greater flexibility in snow disposal practices. Emergency Declarations typically authorize greater snow disposal options while protecting especially sensitive resources such as public drinking water supplies, vernal pools, land containing shellfish, FEMA designated floodways, coastal dunes, and salt marsh. In the event of severe winter storm emergencies, the snow disposal site maps created by municipalities will enable MassDEP and the Massachusetts Emergency Management Agency (MEMA) in helping communities identify appropriate snow disposal locations.

  If upland disposal sites have been exhausted, the Emergency Declaration issued by MassDEP allows for snow disposal near water bodies. In these situations, a buffer of at

least 50 feet, preferably vegetated, should still be maintained between the site and the waterbody. Furthermore, it is essential that the other guidelines for preparing and maintaining snow disposal sites be followed to minimize the threat to adjacent waterbodies.

Under extraordinary conditions, when all land-based snow disposal options are exhausted, the Emergency Declaration issued by MassDEP may allow disposal of snow in certain waterbodies under certain conditions. ***A federal agency, state agency, state authority, municipality or business seeking to dispose of snow in a waterbody should take the following steps***:

- Call the emergency contact phone number [(888) 304-1133)] and notify the MEMA of the municipality's intent.
- MEMA will ask for some information about where the requested disposal will take place.
- MEMA will confirm that the disposal is consistent with MassDEP's Severe Weather Emergency Declaration and these guidelines and is therefore approved.

During declared statewide snow emergency events, MassDEP's website will also highlight the emergency contact phone number [(888) 304-1133)] for authorizations and inquiries. For further non-emergency information about this Guidance you may contact your MassDEP Regional Office Service Center:

**Northeast Regional Office, Wilmington, 978-694-3246**
**Southeast Regional Office, Lakeville, 508-946-2714**
**Central Regional Office, Worcester, 508-792-7650**
**Western Regional Office, Springfield, 413-755-2114**