# GREEN BUILDING PROFESSIONAL CREDENTIAL

GBCI

November 4, 2020

Dear David Manfredi,

The Green Business Certification Institute's records indicate that you passed the LEED® Professional Exam™. Please see the details for your exam achievement, below:

| Exam Track | Exam Date | Status |
|---|---|---|
| LEED AP Legacy | September 29, 2008 | Active – No Expiration |

In passing the LEED AP exam, you became recognized as a LEED AP by GBCI. For your reference, your GBCI # is 0010235886.

Thank you for your participation in the LEED® Professional Credentialing program. We wish you all the best in your work to create and sustain a thriving built environment.

Sincerely,

Green Business Certification Inc. (GBCI)

GREEN BUSINESS CERTIFICATION INC. 2101 L Street, NW Suite 500 Washington, DC 20037 T: 800.795.1746 F: 202.828.5110 gbci.org

# GREEN BUILDING RATING SYSTEM NARRATIVE + SCORECARD

In working with the City of Cambridge to shape the zoning requirements, Healthpeak established a minimum commitment to benchmark buildings according to Article 22 requirements. The district is being designed to incorporate sustainability principles of energy efficiency, environmental consciousness, and health for the occupants, visitors, and community.

Commercial lab buildings will pursue Leadership in Energy and Environmental Design (LEED) Gold certifications, at a minimum. Residential projects will pursue compliance with Article 22 under the Passive House pathway, in line with the MA Stretch Code requirements or under the LEED pathway for BD+C Midrise Multifamily.

The Alewife Master Plan will likely pursue building-by-building certification due to the staggered phasing of the buildings on-site. However, the project will consider registering an overall LEED Master Site, that will take advantage of combined site, landscape, and transportation strategies. It will be confirmed pending the final development timeline.

The buildings will be registered with the USGBC and target several credits which span the nine LEED version 5 categories (Integrative Process, Location & Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation in Design Process and the additional Regional Priority Credits) to enable the project to meet the zoning requirements. The project is committed to earn the buildings at least 60 credit points under the LEED v5 system, for LEED Gold ratings. Residential buildings might explore the LEED BD+C for Multifamily Midrise pathway rather than the BD+C New Construction pathway at the time of design. Note that this pathway only has version 4 available at this time. Alternatively, residential buildings might explore the MA Code Compliance PHIUS certification.

All LEED Minimum Program Requirements and Prerequisites will be met.

In addition to achieving the LEED project goals, measures will be taken to meet the guidelines outlined in the zoning requirements for Sustainability for the Development.

In addition, the site area will explore opportunities to align with credits in the Sustainable Sites Initiative program while the commercial buildings will explore components of WELL or Fitwel for Core + Shell projects.

## LEED CREDIT SUMMARY - BUILDING DESIGN AND CONSTRUCTION CREDITS

The following LEED projections are made to achieve a LEED Gold rating for each building on the Alewife site. Depending on the program of the building, the project team will pursue either v5 Core and Shell (labs) or v5 New Construction or v4 Multifamily Midrise (residential) certification (where applicable, versus Passive House certification pathway).

The credits listed below are feasible based on understanding of the sustainability ambitions at the Master Plan level and aligned with Healthpeak's sustainability design guidelines:

**Integrative Process**

Credit 1: Integrative Design Process

- The design team will conduct a design charrette early in design and will develop project-specific LEED goals that will be documented in the buildings' OPR & BOD.

Credit 2: Green Leases (For Core and Shell – Labs)

- The team will develop a standard green lease establishing tenant fit-out standards that incorporate the requirements of the relevant LEED pre-requisites and credits, communicating the principles pursued by the project for sustainability.

**Location & Transportation**
Credit 1: Sensitive Land Protection

- The development parcels are located on a previously developed urban site in Cambridge.

Credit 2: Equitable Development

- The team will conduct a site assessment to evaluate whether brownfield remediation is needed.
- The team will evaluate the feasibility of workforce development pathways.

Credit 3: Compacted and Connected Development

- The site's surrounding community is replete with housing, restaurants, shops, grocery stores, educational and religious institutions, performance venues and other community amenities. In addition, the project itself will add residential, office, lab, retail and services to the community. The walkable location portion of this credit is achievable.
- The Alewife site is easily accessible from the Alewife Square MBTA. Also, local bus routes connect the location to other areas of the community and Boston. The access to transit portion of the credit is achievable.

Credit 4: Transportation Demand Management

- The project will conduct a transportation demand assessment in alignment with the credit requirements.
- The Alewife site is directly connected to a vast bicycle network. The project will target the provision of sufficient short-term and long-term bike parking in addition to a bicycle repair station in the long-term bike parking storage area.

Credit 5: Electric Vehicles

- The project will provide EVSE for 20% of on-site parking spaces as required under the Specialized Stretch Code.

**Sustainable Sites**
Credit 1: Biodiverse Habitat

- The project will target the restoration of at least 20% of the previously disturbed area and explore the installation of bird-friendly glass.

Credit 2: Accessible Outdoor Space

- The project will target the provision of sufficient outdoor and vegetated spaces for occupant's communal and recreational use.

Credit 3: Rainwater Management

- The project will target retaining runoff on-site for at least the 85th percentile.

Credit 4: Enhanced Resilient Site Design

- The project will conduct a Climate Resilience Assessment to identify the highest priority hazards and design the corresponding mitigation strategies.

Credit 5: Heat Island Reduction

- The project will pursue this credit through a combination of strategies, including high-reflectance roofing, planting, and paving materials, to help mitigate the urban heat island effect, consistent with the City of Cambridge Zoning 22.90 Green Factor Standard.

Credit 6: Light Pollution Reduction

- The project will target meeting the uplight, light trespass, and exterior signage luminance requirements.

**Water Efficiency**

Prerequisite 1 and Credit 1: Water Metering, Reporting, and Leak Detection

- The project will install water meters to measure and evaluate water consumption for each building. Beyond the whole building and site water metering, the project will study installing permanent water meters for the applicable subsystems and determine WE Credit 1 achievability.

Prerequisite 2 and Credit 2: Enhanced Water Efficiency

- The project will install efficient flow and flush fixtures not exceeding the LEED maximums rates, as well as compliant equipment to reduce building potable water consumption.
- The project will select native and adaptive plantings and install efficient irrigation systems if needed to minimize outdoor water use.

**Energy and Atmosphere**

The building systems shall be designed to optimize energy performance and will not use refrigerants that are harmful to the environment. Commissioning agents will be engaged to confirm the building systems are installed and function as intended and designed.

Credit 1: Electrification

- The project will pursue all electric service water heating and cooking and process loads. The district will be all electric except for backup power.

Credit 2: Reduce Peak Thermal Loads

- The project will target the design of ventilation energy recovery and compliance with thermal bridging requirements of ASHRAE 90.1-2022. The team will evaluate the feasibility of the other compliance paths in the credit as well.

Prerequisite 2 and Credit 3: Minimum/Enhanced Energy Efficiency

- Each building will establish energy performance target and be designed based on the stretch codes which would likely be more stringent than the LEED Baseline. The team will also explore additional energy efficiency measures through energy simulation to further reduce the energy consumption of the project. For Core and Shell, additional credit points will be achievable through tenant guidelines that outline lighting and equipment efficiencies for core and shell.

Credit 4: Renewable Energy Production (To be explored)

- Rooftop solar panels have the potential to generate electricity to be used by each building. The credit point will be eligible by percentages of the equivalent cost of usable energy produced by renewable energy to the total building energy cost. Team to explore during each building's design process.

Prerequisite 3 and Credit 5: Fundamental Commissioning / Enhanced and Ongoing Commissioning

- Buildings will engage a commissioning agent and develop and perform fundamental commissioning (if pursuing LEED BD+C for NC or C+S). EnergyStar compliant commissioning will be implemented under the LEED BD+C Multifamily Midrise system if applicable.
- Projects will pursue Enhanced Commissioning points as required under Article 22. Monitor-based commissioning to be encouraged, and teams will consider opportunities for envelope commissioning.

Credit 7: Enhanced Refrigerant Management

- The design team will select HVAC equipment with low global warming potential (GWP) refrigerants to minimize the emission of compounds that contribute to ozone depletion and climate change.

**Materials and Resources**

Healthy building objectives encourage each building design and construction to examine materials and avoid the use of hazardous chemicals. This will be aligned with credit requirements in the LEED Materials and Resources category.

Credit 2: Reduce Embodied Carbon

- The building design teams will conduct life-cycle assessments of the project building's structure and enclosure compared to the LEED baseline to optimize the environmental performance of products and materials, if applicable under the Emissions Accounting Ordinance.

Credit 3: Low-Emitting Materials

- The project will target specifying low VOC products for at least three LEED categories including but not limited to: paints and coatings, flooring, insulation, and ceilings.

Credit 4: Building Product Selection and Procurement

- The project will target specifying compliant products for at least the following material categories: ceilings, flooring, composite wood, insulation, and paints and coatings.

Credit 5: Construction & Demolition Waste Management

- The construction team will reduce waste disposed of in landfills by recovering, reusing, and recycling materials, targeting 75% diversion from landfill with 4 material streams, 25% of which to be source separated.

**Indoor Environmental Quality**

Prerequisite 2 and Credit 1: Fundamental/Enhanced Air Quality

- Each building will be designed following ASHRAE 62 requirements to supply enough ventilation air. In addition, indoor air should be maintained in high quality with proper filtration and monitoring strategies. The project will also pursue increased outdoor air ventilation rates to further enhance air quality.

Credit 2: Occupant Experience

- Each building will be designed to prioritize daylight availability, glare mitigation, and access to quality views. Credit feasibility to be explored by each building during the design phases.

Credit 3: Accessibility and Inclusion

- The team will target the inclusion of at least 10 accessibility and inclusion strategies across the projects.

## NEXT STEPS

The above LEED credits will be reviewed during the individual building design process along with other LEED credits not currently listed as being pursued. Each building will achieve threshold for LEED Gold, 60 points at a minimum, but a range of 65-75 points is likely depending on the building type.

# LEED SCORECARD – CORE AND SHELL (LABS)

## LEED v5 Core and Shell

**Healthpeak Alewife - Lab Buildings**

**Last Updated: September 17, 2025**

| ACHIEVABILITY | | | |
|---|---|---|---|
| HIGH | MED | LOW | NP |
| 66 | 17 | 19 | 8 |

Certified 40-49 points | Silver 50-59 points | Gold 60-79 points | Platinum 80+points
Achievability Rating: High = 90% |Med = 60% | Low = 10% | NP = Not Possible.

**70 PROJECTED POINTS**

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|---|---|---|---|---|---|---|---|
| **3** | | **4** | | **Integrative Process** | | | **Requirements Summary** |
| Y | | | | IP Prereq 1 | v5 | **Climate Resilience Assessment** | **Identify two priority hazards,** at minimum, to address through proposed design strategies. For each priority hazard, the project team must assess and specify (1) IPCC emissions scenario used, specifying the Shared Socioeconomic Pathways (2) Projected service life of the LEED project (e.g., FY2050 or 100 years) (3) Hazard level (4) Hazard risk rating (5) Exposure, sensitivity, adaptive capacity, vulnerability, and overall risk levels (5)Potential impact on the project site and building function (6) Potential impact on the project site during construction |
| Y | | | | IP Prereq 2 | v5 | **Human Impact Assessment** | **Complete a human impact assessment that includes information from the following categories:**<br>• Demographics.<br>• Local Infrastructure and Land Use.<br>• Human Use and Health Impacts.<br>• Occupant Experience.<br>• Other (Specify) |
| Y | | | | IP Prereq 3 | v5 | **Carbon Assessment** | **Develop a 25-year projected carbon assessment for the project with data from the following prerequisites:**<br>-EA Prerequisite: Operational Carbon Projection and Decarbonization Plan<br>-EA Prerequisite: Fundamental Refrigerant Management<br>-MR Prerequisite: Assess and Quantify Embodied Carbon<br>-Optional: LT Credit: Transportation Demand Management |
| 1 | | | | IP Credit 1 | v5 | **Integrative Design Process** | Beginning in pre-design and continuing throughout early occupancy, identify and apply opportunities to achieve synergies across disciplines and building systems through the following initiatives:<br><br>-Integrated Team: Assemble and convene an interdisciplinary project team with diverse perspectives. Ensure the process is an equitable, team effort through organized facilitation.<br>-Design Charette: During pre-design or early in design, conduct a charette with the owner or owner's representative and participants representing at least four key perspectives (e.g. architect, contractor, energy modeler, community engagement representatives).<br>-LEED Goal Setting: Work as a team to define a set of specific and measurable project goals that address the LEED v5 impact areas of decarbonization, quality of life, and ecosystem conservation and restoration. Incorporate these goals into the owner's project requirements<br>(OPR). |
| 2 | | 4 | | IP Credit 2 | v5 | **Green Leases** | **Option 1: Develop Standard Green Lease (1-6pts) and/or**<br>Develop a standard green lease that establishes tenant fitout standards and incorporates requirements for IPp1Climate Resilient Assessment, IPp2 Human Impact Assessment, IPp3 Carbon Assessment, WEp2 Minimum Water Efficiency, EAp2 Minimum Energy Efficiency, EAp3 Fundamental Commissioning, EAp4 Energy Metering and Reporting, MRp1Planning for Zero Waste Operations, and EQp2 Fundamental Air Quality.<br>**Option 2: Executed Standard Green Lease (1pt) and/or**<br>An optional point is awarded to sharing the executed green lease or tenant letter of atestation meeting the criteria of Option 1.<br>**Option 3: Green Lease Leaders Recognition (1-6 pts).**<br>Earn recognition at the silver level (1pt), gold level (3 points), and Platinum level (6 pts). |
| **11** | **2** | **1** | **1** | **Location & Transportation** | | | **Requirements Summary** |
| 1 | | | | LT Credit 1 | v5 | **Sensitive Land Protection** | Locate the development footprint on land that has been previously developed OR Preserve and protect from all development and construction activity 40% of the greenfield area on the site and locate the development footprint on land that does not meet the following criteria for sensitive land |
| 1 | 1 | | | LT Credit 2 | v5 | **Equitable Development** | Meet any combination of the options below for a maximum of 2 points.<br>**Option 1: Priority Sites (1–2 pts)**<br>Path 1: Brownfield Remediation (2 points) -OR- Path 2: Historic Location (1point)<br><br>**Option 2: Housing and Jobs Proximity (1-2 pts)**<br>Support Local Economy (1pt) - Employ individuals that live within the administrative district of the project site for 15% of the construction jobs created by the LEED project.<br><br>**Option 3: Equitable Construction (2pts)**<br>Provide access to workforce development training for construction workers through<br>1. Job-related skills training - 15% or more of total project construction hours were performed by participants enrolled in Department of Labor registered apprenticeship programs. - OR -<br>2. Life skills training - programs for construction workers, conducted by an organization or government entity on the construction site, covering topics such as financial literacy, debt management, first-time home buying, or entrepreneurship training, demonstrating scheduling of one course per month for the duration of construction. |
| 5 | | 1 | | LT Credit 3 | v5 | **Compact and Connected Development** | Meet any combination of the options below for a maximum of 6 points.<br>**Option 1. Surrounding Density (1-2 pts) -** Project is located on a site where the surrounding existing density within 0.25 miles (400 meters) offset of the project boundary meets a combined density of 22,000 sf/acre of buildable land (1pt) ; 35,000 sf/acre (2pts).<br><br>**Option 2. Access to Transit (1-4 pts )-** Under Pilot ACP, Transit Score of 30-39 (1pt), 40-49 (2pts), 50-59 (3pts), 60+(4pts)<br><br>**Option 3. Walkable Location (1-3 pts) -** Walk Score of 60-69 (1pt), 70-79 (2pts), 80+(3pts) |

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| 2 | 1 | | 1 | LT Credit 4 | v5 | **Transportation Demand Management** | **Transportation Demand Assessment -** Assess the number of vehicle miles traveled and carbon emissions associated with the regular building occupant commuting trips to and from the project building. Projects located within a transit priority area, or within a walking distance of 0.5 miles (800 meters) to an existing or planned major transit stop, are exempt from this requirement.<br>**AND**<br>Implement one or more of the following strategies for one point each up to a total of 4 points.<br>**Option 1. Parking (1-3 pts)**<br>Path 1. Reduce Parking - Provide a reduction in parking capacity from base ratio; 30% (1pt), 60% (2pts), 100% (3pts)<br>Path 2. Parking Fee - implement a l parking fee at a cost equal to or greater than the local market rate for public or private parking (2pts)<br><br>**Option 2. Active Travel Facilities (1-3pts)**<br>Path 1. Bicycle Network and Storage - provide short term bike parking, long term bike parking, and access to a bicycle network. (1pt)<br>Path 2. Shower and Changing Facilities - provide showers with changing facilities for 1% of all regular building occupants. Off-site showers are acceptable if within a 0.25 mile walking distance. (1pt)<br>Path 3. Bicycle Maintenance - provide a bicycle repair station (tools and air pump) in the long-term bike parking storage area. (1pt) |
| 2 | | | | LT Credit 5 | v5 | **Electric Vehicles** | **Option 1. Electric Vehicle Supply Equipment (1-2pts)**<br>Install electric vehicle supply equipment (EVSE) for whichever is greater, 5% of commercial spaces or 2 spaces (1pt); 10% of commercial spaces or 4 spaces (2pts)<br><br>**Option 2. Electric Vehicle Readiness (1pt)**<br>Provide at least 10% or at least 10 spaces, whichever is greater, EV-ready parking spaces. |
| **9** | **2** | | | **Sustainable Sites** | | | **Requirements Summary** |
| Y | | | | SS Prereq 1 | v5 | **Minimize Site Disturbance** | **ESC Plan** - Align with 2022 EPA CGP or local equivalent, plus some additional reqs for construction exclusion zones, site inspections, etc.<br>AND<br>**Site Assessment -** collect info in a pre-construction survey.<br>- Special-status Vegetation: Conserve 100% of special status vegetation on site<br>- Healthy Habitat: Identify healthy plant communities and implement strategies to minimize damage during construction onward<br>- Invasive Vegetation: Indicate existing invasive vegetation species and address removal/control; and include native and adapted vegetation that is not invasive |
| 1 | 1 | | | SS Credit 1 | v5 | **Biodiverse Habitat** | **Option 1: Preserve and Restore Habitat (1–2 pts)**<br>Preserve 40% of the greenfield area on site (if such area exist) AND<br>Restore previously disturbed area, 20% (1pt); 40% (2pts) through soil and vegetation restoration.<br><br>AND/OR<br>**Option 2. Bird-friendly Glass (1pt)**<br>Glass used below specified heights on the exterior of the building and site must have a maximum threat factor of 30 (glass at grade up to 50ft, up to 20ft from green roof, any distance from grade or roof for glass in guardrails and windshields) |
| 1 | | | | SS Credit 2 | v5 | **Accessible Outdoor Space** | **Sufficient Outdoor Space Area**<br>Provide barrier-free and physically accessible outdoor space for people with limited mobility for at least 30% of the total site area (including building footprint). At least 25% of the required outdoor space must be vegetate.<br><br>**AND**<br>**Include one of the following Urban Outdoor Spaces** - Biophilic Space, Garden, and/or Recreational area<br><br>**AND**<br>**Include one of the following Community Outdoor Elements**<br>- Publicly accessible to the community during daylight hours<br>- Provide at least two art installations or sculptures by local artist<br>- Provide acoustical elements to provide a positive soundscape if near significant noise sources (i.e. subway) |
| 2 | 1 | | | SS Credit 3 | v5 | **Rainwater Management** | Manage runoff for the 80th percentile (1pt) or 85th percentile (2pts) or 90th percentile (3pts) using low-impact development (LID) and green infrastructure. |
| 2 | | | | SS Credit 4 | v5 | **Enhanced Resilient Site Design** | Design and construct the site and site structures using at least 2 strategies for 2 of the highest priority hazards identified in the Prereq Climate Resilience Assessment. Credit notes drought, extreme heat, flooding, hail, hurricane/high wind, sea level rise, tsunami, wildfire, and winter storms, and accompanying best practice design criteria for each.<br><br>Each hazard has potential strategies (e.g Flooding - locate critical utilities above design flood elevation (DFE), ensure all major materials used below the DFE are flood resistant, etc.) |
| 2 | | | | SS Credit 5 | v5 | **Heat Island Reduction** | **Option 1: Nonroof and Roof Measures (1pt)**<br>Meet high albedo requirements for roof and site<br><br>**Option 2: Parking Under Cover (1pt)**<br>Place 100% of parking spaces under cover. This includes any existing off-street parking that is used by the project.<br><br>**Option 3: Tree Equity (1pt)**<br>Evaluate the American Forests Tree Equity score for the site location. For "High" or "Highest Priority" areas, use the results to inform an increase in on-site canopy cover from the existing condition. If no exterior work is included in the project, project is exempt. |
| 1 | | | | SS Credit 6 | v5 | **Light Pollution Reduction** | Meet uplight and light trespass requirements, and do not exceed exterior signage luminance requirements. |
| **5** | **1** | **2** | | **Water Efficiency** | | | **Requirements Summary** |
| Y | | | | WE Prereq 1 | v5 | **Prerequisite: Water Metering and Reporting** | Install permanent water meters to monitor, record and report the total water consumption for each water source for the building and associated grounds. Meter alternative water sources separately from municipally supplied potable water. |
| Y | | | | WE Prereq 2 | v5 | **Prerequisite: Minimum Water Efficiency** | **Option 1. Minimum Fixture and Fittings Efficiency**<br>Maximum Flush and Flow Rates; For all new and existing fixtures and fittings within the project boundary, do not exceed the maximum flush and flow rates provided by LEED.<br><br>**AND**<br>**Option 2. Minimum Equipment Water Efficiency**<br>Newly installed appliances, equipment, and processes within the project boundary must meet the requirements listed for dishwashers, pre-rinse spray valves, clothes washers, ice machines, food steamers, and combination ovens.<br><br>**AND**<br>**Option 3. Minimum Outdoor Water Use Efficiency**<br>Option 1: No Irrigation<br>Option 2: Efficient Irrigation - 30% potable water reduction compared to the baseline theoretical irrigation requirement (TIR) |

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| 1 | | | | WE Credit 1 | v5 | **Water Metering and Leak Detection** | **Option 1. Submeters (1 point)**<br>Install permanent water meters for each applicable subsystem - indoor plumbing fixtures/fittings (80%), irrigation, each makeup water system (DHW, CHW, process water), commercial kitchen, laundry.<br><br>**OR Option 2. Leak Detection (1 point)**<br>Install permanent water flow meter or sensors for each applicable subsystem - irrigation, flush fixtures (50%), each makeup water system. |
| 4 | 1 | 2 | | WE Credit 2 | v5 | **Enhanced Water Efficiency** | Can attempt Whole Project Water Use Reduction or any combination of the options 2-6 below for a maximum of 8 points.<br>**Option 1. Whole Project Water Use (1-8pts):**<br>Develop a water use baseline and create a proposed use model for the whole project: 30% (1pt), 35% (2pts), 40% (3pts), 45% (4pts), 50% (5pts), 55% (6pts), 60% (7pts), 65% (8pts)<br><br>**OR**<br>**Option 2. Fixture and Fittings – Calculated reduction (1-3pts)**<br>Reduce fixture and fitting water use from the calculated baseline in WEp2: 30% (1pt), 35% (2pts), 40% (3pts)<br>**Option 3. Appliance and Process Water (1-2 pts) -** Refer to LEED tables for requirements<br>**Option 4. Outdoor Water Use (1-2pts).** Path 1: No irrigation (2 points), Path 2: Reduced Irrigation (1-2 points)<br>**Option 5. Process Water Reuse (1-2pts** ): Use alternate water source for 20% (1pt), 30% (2pt) of process water<br>**Option 5. Water Reuse (1-2pts)** : Install a water reuse system (1pt) that meets demand for at least one end use (2pts) |
| **16** | **4** | **5** | **2** | **Energy & Atmosphere** | | | **Requirements Summary** |
| Y | | | | EA Prereq 1 | v5 | **Operational Carbon Projection and Decarbonization Plan** | To enable building stakeholders to visualize how their current design decisions will impact their project's long-term operational carbon emissions and to ensure that stakeholders are planning for low carbon outcomes from the project's inception.<br><br>Develop a plan detailing how decarbonization could be achieved through a 25-year period. |
| Y | | | | EA Prereq 2 | v5 | **Minimum Energy Efficiency** | Comply with ASHRAE 90.1 2019, ASHRAE 90.1 2022, or an approved equivalent standard. |
| Y | | | | EA Prereq 3 | v5 | **Fundamental Commissioning** | To improve energy performance and limit GHG emissions by verifying that systems are operating as per their design intent.<br>Comply with ASHRAE 90.1 2019 or ASHRAE 90.1 2022 commissioning requirements.<br><br>Projects meeting Enhanced Commissioning Option 1 automatically comply with this Prerequisite. |
| Y | | | | EA Prereq 4 | v5 | **Energy Metering and Reporting** | Install (or utilize existing) measurement devices to monitor, record, and report whole-building and tenant energy use for each type of energy supplied to the building, for each electrical end-use, and for equipment per ASHRAE 90.1 2019 or later.<br>Commit to sharing metering data with USGBC for 5 years. |
| Y | | | | EA Prereq 5 | v5 | **Fundamental Refrigerant Management** | **Option 1: Do not use refrigerants in the project**<br><br>**OR Option 2: Comply with the following:**<br>**1. Refrigerant inventory:** Complete an inventory of the refrigerant-containing equipment installed within the project scope of work and any existing equipment owned by the building owner<br>**2. No HCFCs for new equipment**<br>**3. GWP of refrigerants:** Evaluate available alternatives during the design process for any refrigerants with GWP > 700<br>**4. Leak check and Repair:** Prior to substantial completion, check both new and existing refrigerant-containing equipment for refrigerant leaks and repair all identified leaks. |
| 4 | | | | EA Credit 1 | v5 | **Electrification**<br>*Platinum Requires No Onsite Combustion* | **Option 1: No Onsite Combustion ( 5pts)**<br>- Design and operate the project from start-up with no on-site combustion except for emergency support systems. Platinum Project are not allowed to have on-site combustion.<br>- No on-site combustion may be used in the district energy facility to generate heating, cooling, or electricity supplied to the project.<br>- Combined weighted average equipment efficiency for space heating and service water heating (SWH) must be at least 1.8 coefficient of performance (COP).<br><br>**Option 2: No On-site Combustion Except at Low Temperatures (1-4pts)**<br>Path 1: Space Heating (2pts) - Design g to be capable of operating without on-site combustion except in low temperature<br>Path 2: Service Water Heating (1pt) - Design to be capable of operating without on-site combustion except at low temperature<br>Path 3: Cooking and Other Process Loads (1pt) - Design cooking, laundry, process equipment, and on-site power generation except emergency support systems to be capable of operating without on-site combustion (projects that do not have these systems automatically earn this point). |
| 2 | 1 | 2 | | EA Credit 2 | v5 | **Reduce Peak Thermal Loads** | Meet any combination of Options 1-4 for a maximum of 5pts.<br>**Option 1: Infiltration and Balanced Ventilation (2pts) -** Design the ventilation and exhaust airflows within 10% of each other and include a test, adjusting, and balance (TAB) - AND - use an air leakage test to demonstrate a measured air leakage of envelope is less than 0.13cfm/sf at pressure difference of 50 Pascals / 0.18cfm/sf at pressure difference of 75 Pascals.<br>**Option 2. Ventilation Energy Recovery (1pt)** - Each fan system supplying outdoor air must have an energy or heat recovery system with a minimum 70% enthalpy recovery ratio or a minimum of 75% sensible heat recovery ratio.<br>**Option 3. Thermal Bridging (1pt)** - Comply with the prescriptive thermal bridging requirements of ASHRAE 90.1-2022, Section 5.5.5(a)<br>**Option 4. Peak Thermal Load Reductions (1-3pts) -** Measure air leakage / ventilation rates in Option 1 in addition to one of the following pathways<br>Path 1: Peak Load Intensity - Limit the sum of peak heating load and peak cooling load per unit of treated floor area (1-3pts) - OR -<br>Path 2: ASHRAE 90.1 Trade off Methods - meet envelope and/or HVAC improvements as noted in LEED guide(1-3pts) |
| 6 | | 1 | | EA Credit 3 | v5 | **Enhanced Energy Efficiency**<br>*Platinum Requires 8pts* | Either a Prescriptive Pathway or Energy Simulation can be done for (1-10pts). Platinum Projects are required to get 8pts.<br>**Option 1. Prescriptive Pathway (1-7pts) :** for Regulated Loads (1-6pts) and Plug and Process Loads (1-3pts)<br><br>**Option 2: Energy Simulation (1-7pts)**<br>Demonstrate an improvement in future source energy calculated per ASHRAE Standard 90.1 2019 / 2022 Appendix G, Performance Rating Method: 2% (1pt), 5% (2pts), 8% (3pts), 11% (4pts), 14% (5pts), 17% (6pts), 20% (7pts). |
| | 2 | 2 | | EA Credit 4 | v5 | **Renewable Energy**<br>*Platinum Requires 100% Renewable from any Tier(s)* | Supply or procure renewable energy meeting Tier 1, Tier 2, and/or Tier 3 requirements for up to 5pts. A 10 year contract / commitment is required. Platinum Projects require 5pts.<br><br>Percent of Site Energy Thresholds:<br>Tier 1 (On-Site): 5% (1pt), 10% (2pts), 15% (3pts), 20% (4pts), 100% (5pts)<br>Tier 2 (New Off-Site): 20% (1pt), 40% (2pts), 60% (3pts), 80% (4pts), 100% (5pts)<br>Tier 3 (Green-e-Certified Off-Site): 50% (1pt), 100% (2pts) |
| 3 | | | | EA Credit 5 | v5 | **Enhanced and Ongoing Commissioning** | Meet any combination for a total of 4pts.<br>**Option 1: Enhanced Commissioning (1-3pts)**<br>Path 1: Enhanced Commissioning for MEP systems (2pts)<br>Path 2: Enhanced Commissioning for Building Enclosure (1pt)<br><br>**Option 2: Monitor Based Commissioning (MBCx) (1-2pts)**<br>Path 1: Commit to MBCx for at least 3yrs and provide a Energy Information System (EIS) for smart analytics and visually present all metered data. (1pt)<br>Path 2: Meet Path 1 requirements and incorporate Fault Detection and Diagnostics system and additional functionalities for the EIS such as normalization of energy consumption and green house gas emissions. (2pts) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2 | EA Credit 6 | v5 | **Grid Interactive** | Meet any combination of the following Options for a maximum of 2pts.<br>**Option 1: Energy Storage (1-2pts)** - Provide on-site electric storage with a capacity of 0.2kWh/kW (1pt) ; 0.4kWh/kW (2pts) and/or thermal storage with a capacity of 10 kWh/kW (1pt); 2.0 kWh/kW (2pts)<br>**Option 2: Demand Response Program (1pt)** - Enroll in a minimum one-year demand response (DR) contract with a qualified DR program provider, with the intention of multiyear renewal.<br>**Option 3: Automated Demand-side Management (1pt)** - Provide automated demand response controls for two system - OR - Develop a plan for shedding at least 10% of the project's peak electricity demand for a minimum of one hour<br>**Option 4. Power Resilience (1pt)** - Design critical systems to operate independently from the grid for at least 3 days using renewables or energy storage. |
| 1 | 1 | | | EA Credit 7 | v5 | **Enhanced Refrigerant Management** | Meet any combination of the following Options for a maximum of 2pts.<br>**Option 1: No Refrigerants or Low GWP (1-2pts)** - Do not use refrigerant-containing equipment in the project (1pt) - OR - The maximum total weighted average refrigerant GWP in all new refrigerant-containing equipment is less than or equal to 80% (1pt) or 50% (2pts) of the total weighted average GWP.<br>**Option 2. Limit Refrigerant Leakage (1pt)** - Meet design, instillation, and operational criteria such as including specifying an automatic leak detection system and implementing a refrigerant maintenance plan. |
| **9** | **4** | **3** | **5** | **Materials & Resources** | | | **Requirements Summary** |
| Y | | | | MR Prereq 1 | v5 | **Planning for Zero Waste Operations** | **Storage and Collection of Recyclables:** Provide dedicated areas for recyclables (organics, paper, cardboard, glass, plastics, metals). Include space for organics even if service isn't available. Ensure safe collection and disposal of batteries, mercury-containing lamps, and electronic waste.<br><br>**Zero Waste Operations Planning:** Include design details, maintenance manuals, or resources to help occupants meet high-performance waste goals post-occupancy. |
| Y | | | | MR Prereq 2 | v5 | **Quantify and Assess Embodied Carbon** | **Embodied Carbon:** Quantify the embodied carbon impacts (GWP) of structure, enclosure, and hardscape materials. Minimum materials: asphalt, concrete, masonry, structural steel, insulation, aluminum extrusions, structural wood and composites, cladding, and glass.<br><br>**High-Priority Embodied Carbon Sources:** Identify the top three sources of embodied carbon and describe strategies to reduce their impact. |
| | | | 5 | MR Credit 1 | v5 | **Building and Materials Reuse** | **Option 1: Building Reuse (1–3pts)** Maintain and reuse existing structure, floor decking, roof decking, and enclosure. Points awarded based on reuse percentage.<br><br>**Option 2: Materials Reuse (1–2pts)** Reuse materials either from the site or salvaged from off-site sources. Conduct a salvage assessment if demolition is involved. Points awarded based on reuse percentage per material type; 15% (1pt), 30% (2pts). |
| 4 | 2 | 2 | | MR Credit 2 | v5 | **Reduce Embodied Carbon**<br>*Platinum Requires 20% Embodied Carbon Reduction* | Meet any combination of the following Options for a maximum of 6pts<br>**Option 1: Whole-Building Life-Cycle Assessment (1–6pts)** Conduct cradle-to-grave LCA of structure, enclosure, and hardscape. Points awarded for achieving GWP reductions; Meet Industry Avg (2pt), 10% (3pt), 20% (4pts), 30% (5pts), 40% (6pts)<br>**Option 2: Environmental Product Declaration (EPD) Analysis (1–3pts)**<br>Show whole project embodied carbon reduction based on EPD data for procured materials value; 1pt (meets baseline), 2pts (20%), 3pts (40%) - OR - Demonstrate lower embodied carbon for targeted materials; 3 materials (1pt), 5 materials (2pts).<br>**Option 3: Track Carbon Emissions from Construction Activities (1–2 points)**<br>Track all contractor fuel/utility usage (A5) (1pt); include subcontractor utility and fuel usage (2pts). |
| 1 | | | | MR Credit 3 | v5 | **Low-Emitting Materials** | **Reduce air contaminants and protect human health** by using low-emitting paints, coatings, adhesives, sealants, flooring, walls, ceilings, insulation, furniture, and composite wood products. Points are awarded based on compliance with low-emitting material thresholds:<br><br>Path 1- Meet 90% threshold for paints, coatings, flooring, and ceilings (1pt).<br>Path 2 - Meet Path 1+80% for two additional categories: adhesives, walls, insulation, or composite wood (2pts).<br>Path 3 - Meet Path 1+80% of furniture category (2pts). |
| 2 | 2 | 1 | | MR Credit 4 | v5 | **Building Product Selection and Procurement** | Select nonstructural building products that demonstrate achievement in one or more of five criteria areas: climate health, human health, ecosystem health, social health and equity, and circular economy (1-5pts).<br><br>Measure product optimization contribution by evaluating single- or multi-attribute documentation across the 5 impact areas. Earn up to 5 points for selecting optimized products in multiple product categories (aligned with the Low-Emitting Materials product categories). Any single product category that includes more than 100% of optimized products earns 1pt. |
| 2 | | | | MR Credit 5 | v5 | **Construction and Demolition Waste Diversion** | Develop and implement a CDWM plan.<br><br>Divert at least 50% of the total construction and demolition material and at least 10% of diverted materials must be salvaged or source-separated and sent to single-materials recycler(s) (1pt) - OR - divert 75% of the construction and demolition material and at least 25% of the materials must be salvaged or source-separated (2pts) |
| **5** | **2** | **4** | | **Indoor Environmental Quality** | | | **Requirements Summary** |
| Y | | | | IEQ Prereq 1 | v5 | **Construction Management Plan (Prerequisite)** | Develop and implement a construction management plan for the construction and preoccupancy phases of the building. |
| Y | | | | IEQ Prereq 2 | v5 | **Fundamental Air Quality (Prerequisite)** | Meet all of the following requirements:<br>1. Document investigation of outdoor air quality using the ASHRAE 62.1-2022 Informative Appendix I1.<br>2. Meet the requirements of ASHRAE Standard 62.1-2022.<br>3. Install permanent entryway systems at regularly used exterior entrances<br>4. Develop Construction IAQ Plan |
| Y | | | | IEQ Prereq 3 | v5 | **No Smoking or Vehicle Idling (Prerequisite)** | Prohibit smoking inside the building and within 25 feet of the building openings. Install signage.<br>AND Prohibit vehicle idling on site. Provide signage. |
| 1 | | | | IEQ Credit 1 | v5 | **Enhanced Air Quality (credit 1 point)** | **Option 1: Increased Ventilation (1pt) -** increase breathing zone outdoor air ventilation rates by at least 15% above the minimum rates (1pt)<br>OR<br>**Option 2 :Enhanced Indoor Air Quality Design (1pt)** - design and verify enhanced IAQ limits for PM 2.5 (10ug/m3); Ozone (10pbb); and Formaldehyde( 20ug/m3) |
| 3 | 1 | 3 | | IEQ Credit 2 | v5 | **Occupant Experience (1- 7 points)** | Meet any combination of the following strategies for a maximum of 7pts<br>**Option 1. Biophilic Environment (1-4pts)**<br>Path 1. Indoor Biophilic Design - Integrate biophilic design strategies into the design (1pt)<br>Path 2. Quality Views - Provie quality views for 75% (2pts) / 90% (3pts) of all regularly occupied floor area<br>**Option 2. Adaptable Environment (1pt) -** Provide variability and/or optionality for thermal, sound, and lighting environments, include at least 1quiet space, and one additional strategy (furniture control, height variety, etc.)<br>**Option 3. Thermal Environment (1pt) -** Design indoor occupied spaces to meet the requirements of ASHRAE 55-2023<br>**Option 4. Sound Environment (1-2pts)**<br>Path 1: Mapping Acoustical Expectations for Indoor and Outdoor Spaces (1pt)<br>AND/OR Path 2. Acoustic Criteria for Indoor and Outdoor Spaces (1pt)<br>**Option 5. Lighting Environment (1-6pts)**<br>Path 1. Solar Glare (1pt) - provide glare control devices in all regularly occupied spaces<br>Path 2. Quality Electric Lighting (1pt) - Meet glare control and color rendering requirements<br>Path 3. Proximity to Windows for Daylight Access (1pt)- provide at least 30% of the regularly occupied area to be within a 20-foot (6 meters) horizontal distance of envelope glazing<br>Path 4. Daylight Simulation (1-4pts) - perform daylight analysis to meet sDA thresholds for regularly occupies spaces; 40% (1pt), 55% (2pts), 65% (3ps), 75% (4pts) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | | | | IEQ Credit 3 | v5 | **Accessibility and Inclusion** | Include at least 10 accessibility and inclusion strategies most relevant to the project:<br>**Accessibility for Physical Diversity:** Wave-to-open or vertical hand/foot press door operators \| Meeting spaces for 10% of occupants with mobility devices \| Accessible and inclusive equipment and activities in fitness facilities \| Alternate accessible route where stairs exist \| Adult changing station or table in accessible or family restroom.<br>**Accessibility for Safety and Aging:** Non-slip flooring \| Fixed area rugs with transition strips \| Visual indication or railing at full-height glazing (except private residences) \| Audible and visual emergency alerts \| Closed risers in all stairs \| Visual contrast between walls, floors, doors, and casework \| Visual, tactile, contrasting, or photoluminescent warnings at floor level changes.<br>**Accessibility for Social Health:** Lactation rooms or pods \| At least one accessible all-gender single-use restroom OR multi-use all-gender restroom on each floor \| Adult changing station or table in accessible or family restroom \| Signage in languages spoken by over 5% of the local population \| At least 1 point under EQc: Occupant Experience, Option 1 Biophilic Environments.<br>**Accessibility for Navigation:** Wayfinding signage indicating exits, entrances, and major functions \| Non-text diagrams and symbols on signage \| Braille, visual, and auditory cues on travel paths \| Pattern and color blocking to identify key access spaces. |
| | 1 | 1 | | IEQ Credit 4 | v5 | **Resilient Spaces** | Meet any combination of the following strategies for a maximum of 2pts<br>**Option 1. (1 pt) Design systems with the capability to operate an episodic outdoor event management mode**, should address varying outdoor conditions or events that could negatively influence indoor air quality such as wildfire smoke.<br>**Option 2. (1 pt) Design occupied spaces with the capability to operate an Infection Risk Management mode -** provides the minimum equivalent clean airflow rates outlined in ASHRAE 241-202<br>**Option 3. (1-2 pts) Design the project with the capability to maintain habitable temperatures during a power outage.**<br>Path 1. Consider Extreme Heat (1pt)<br>Path 2. Consider Extreme Cold (1pt)<br>**Option 4. Operable Windows (1 pt)**<br>Design 75% of the regularly occupied spaces to have operable windows |
| **8** | **2** | | | **Project Priorities & Innovation** | | | **Requirements Summary** |
| 1 | | | | IN Credit 1.1 | v5 | **TBD** | **Achieve any combination of the following for a maximum of 9 points:**<br><br>**Regional Priority:** Achieve a regional priority credit from USGBC's Project Priority Library.<br>**Project-Type Credits:** Achieve a project-type credit from USGBC's Project Priority Library.<br>**Exemplary Performance:** Achieve an exemplary performance credit from USGBC's Project Priority Library.<br>**Pilot Credits:** Achieve a pilot credit from USGBC's Project Priority Library.<br>**Innovative Strategies** Achieve significant, measurable, environmental performance using a strategy not addressed in the LEED v5 green building rating system. |
| 1 | | | | IN Credit 1.2 | v5 | **TBD** | |
| 1 | | | | IN Credit 1.3 | v5 | **TBD** | |
| 1 | | | | IN Credit 1.4 | v5 | **TBD** | |
| 1 | | | | IN Credit 1.5 | v5 | **TBD** | |
| 1 | | | | IN Credit 1.6 | v5 | **TBD** | |
| 1 | | | | IN Credit 1.7 | v5 | **TBD** | |
| | 1 | | | IN Credit 1.8 | v5 | **TBD** | |
| | 1 | | | IN Credit 1.9 | v5 | **TBD** | |
| 1 | | | | IN Credit 2 | v5 | **LEED™ Accredited Professional** | LEED Accredited Professional with BD+C Specialty on design team. |

# NET ZERO NARRATIVE

## PROJECT PROFILE

The information included in this Special Permit Net Zero narrative submission is based on Master Plan level analysis of the Alewife development project. Likewise, information included in the Project Summary Table below in this draft submitted to the City sustainability group will be aligned with Alewife's Special Permit submission. Performance values and systems included in this documentation are subject to change through the individual design process; however, energy reduction targets against Stretch Code will be maintained. Updated Net Zero narrative tables will be included in each building's Design Review submission, more closely representing the projected building performance.

### Development Characteristics

| | |
|---|---|
| Lot Area (sq.ft.) of Development Parcel: | 1,796,403 sq.ft. |
| Existing Land Use(s) and Gross Floor Area (sq.ft.), by Use: | Commercial: 750,455 sq.ft (includes Industrial/ Warehouse, Office, Medical Office Building, Retail Use)<br>Residential: 2,916 sq.ft |
| Proposed Land Use(s) and Gross Floor Area (sq.ft.), by Use: | Mixed-use<br>▪ Technical Office/Office Use: approx. 2,541,000] sq.ft.<br>▪ Residential Use: approx. 1,765,000 sq.ft.<br>▪ Retail/Neighborhood Uses: approx. 71,000 sq.ft. |
| Proposed Building Height(s) (ft. and stories): Approximate heights | Residential : 155 feet, 13 stories<br>Commercial : 140 feet, 9 stories |
| Proposed Dwelling Units: | 2,076 units |
| Proposed Open Space (acres): | 19.7 acres |
| Proposed Parking Spaces: | 4,413 spaces |
| Proposed Bicycle Parking Spaces (Long-Term and Short-Term): | 3,262 spaces |

### Green Building Rating System

Choose the Rating System selected for this project:

| LEED-Leadership in Energy & Environmental Design (U.S. Green Building Council) | | | |
|---|---|---|---|
| Rating System & Version: | LEED BD+C NC v5, LEED Core and Shell v5 | Seeking Certification?* | Yes |
| Rating Level: | Gold | # of Points: | Likely 65-70 |

| Enterprise Green Communities | | | |
|---|---|---|---|
| Rating System & Version: | | Seeking Certification?* | No |
| Rating Level: | | # of Points: | |

| Passive House Institute US (PHIUS) or Passivhaus Institute (PHI) | | | |
|---|---|---|---|
| Rating System & Version: | PHIUS (Residential only) | Seeking Certification?* | Yes |

## PROPOSED PROJECT DESIGN CHARACTERISTICS

### Building Envelope

The following assumptions have been used in the Master Planning phase to determine energy drivers, opportunities for district energy, and efficiency opportunities on the building scale.

**Assembly Descriptions:**

Commercial:

| | |
|---|---|
| Roof: | Code Baseline: Insulation entirely above roof deck with minimum R-30 c.i.<br>Details TBD w/ Bldg Design |
| Foundation: | Code Baseline: Slab-on-grade floor with minimum insulation of R-10 for 24" below.<br>Details TBD w/ Bldg Design |
| Exterior Walls: | R-20 walls<br>Details TBD w/ Bldg Design |
| Windows: | Triple-pane glazing unit, Aluminum framing with thermal break<br>SHGC 0.25 or lower for South, East and West facade<br>Details TBD w/ Bldg Design |
| Window-to-Wall Ratio: | Targeting 30-60% |
| Other Components: | - |

Residential:

| | |
|---|---|
| Roof: | Code Baseline: Insulation entirely above roof deck with minimum R-50 c.i.<br>Details TBD w/ Bldg Design |
| Foundation: | Code Baseline: Slab-on-grade floor with minimum insulation of R-10 for 24" below.<br>Details TBD w/ Bldg Design |
| Exterior Walls: | R-40<br>Exterior walls could include masonry.<br>Details TBD w/ Bldg Design |
| Windows: | High-performance triple-pane glazing unit, Aluminum framing with thermal break<br>SHGC 0.25 or lower for South, East and West facade<br>Details TBD w/ Bldg Design |
| Window-to-Wall Ratio: | Targeting 30-40% |
| Other Components: | - |

**Envelope Performance:**

All values below are estimates. Building envelope performance to be confirmed in design review.

Commercial:

| | Proposed | | Baseline | |
|---|---|---|---|---|
| | Area (sf) | U-value | Area (sf) | U-value |
| Window | TBD w/ Bldg Design | 0.20~0.25 | TBD w/ Bldg Design | 0.38 |
| Wall (Spandrel) | TBD w/ Bldg Design | 0.10~0.15 | TBD w/ Bldg Design | 0.064 |
| Roof | TBD w/ Bldg Design | 0.032 | TBD w/ Bldg Design | 0.032 |

Residential:

| | Proposed | | Baseline | |
|---|---|---|---|---|
| | Area (sf) | U-value | Area (sf) | U-value |
| Window | TBD w/ Bldg Design | 0.15~0.20 | TBD w/ Bldg Design | 0.38 |
| Wall (Metal-framed) | TBD w/ Bldg Design | 0.025 | TBD w/ Bldg Design | 0.064 |
| Roof | TBD w/ Bldg Design | 0.02 | TBD w/ Bldg Design | 0.032 |

**Envelope Commissioning Process:**

HEALTHPEAK will pursue envelope commissioning in line with LEED v5 Enhanced Commissioning Requirements, potentially including Envelope Commissioning. To be determined at the time of each building's design.

Residential commissioning pathway to be determined, as required by PHIUS and/or LEED BD+C Multifamily Midrise.

**Building Mechanical Systems**

The following assumptions have been used in the Master Planning phase to determine energy drivers, opportunities for district energy, and efficiency opportunities on the building scale.

Note that further exploration of district energy systems such as a thermal energy network to be studied in collaboration with the City and their partners, including Eversource. Healthpeak will provide relevant development information to inform the city's study. Currently, a district energy system within Healthpeak holdings is not feasible based on upfront costs and ownership structure challenges.

**Commercial Systems Descriptions:**

| | |
|---|---|
| Space Heating: | Space heating will be provided as all electric incorporating heat pumps. The projects will be utilizing a combination of air source heat pumps, exhaust source heat pumps, with electric boilers for peaking and back-up.<br>The system will be designed to maximum energy recovery to reduce the heat load.<br>Ground source heat pumps and district systems are being evaluated. |
| Space Cooling: | Space cooling will be provided by high efficient electric centrifugal chillers. This includes chilled water to AHUs and fan coil units. The system will be designed to include heat recovery chillers to provide heating and cooling needs. |
| Heat Rejection: | Rooftop cooling towers will supply condenser water to the chiller plant. |

| | |
|---|---|
| Pumps & Auxiliary: | All pumps will be variable speed pumps. |
| Ventilation: | The system will include dedicated outdoor air systems (DOAS) with energy recovery. For labs, high-performance runaround heat recovery coils will be incorporated to recover heat from the exhaust air stream and preheat incoming outside air. |
| Domestic Hot Water: | Heat pump water heaters will serve domestic hot water. Electric boilers will be provided for supplemental heating. |
| Interior Lighting: | In general, all lighting fixtures will be LED with advanced lighting control systems. |
| Exterior Lighting: | In general, all lighting fixtures will be LED. Exterior lighting will be scheduled and controlled to minimize light pollution, while not compromising safety. |
| Other Equipment: | - |

**Residential Systems Descriptions:**

| | |
|---|---|
| Space Heating: | The residential buildings will have high efficiency all-electric heat pumps for heating and cooling |
| Space Cooling: | The residential buildings will have high efficiency all-electric heat pumps for heating and cooling |
| Heat Rejection: | N/A |
| Pumps & Auxiliary: | All pumps will be variable speed pumps. |
| Ventilation: | Integrated with the heat pump systems |
| Domestic Hot Water: | Heat pump water heaters with storage will serve the domestic hot water loads. |
| Interior Lighting: | In general, all lighting fixtures will be LED with advanced lighting control systems in base building areas. |
| Exterior Lighting: | In general, all lighting fixtures will be LED. Exterior lighting will be scheduled and controlled to minimize light pollution, while not compromising safety. |
| Other Equipment: | - |

**Systems Commissioning Process:**

Enhanced commissioning pathways to be explored in line with Article 22 requirements, pending the relevant benchmarking system.

Healthpeak will conduct commissioning in line with LEED v5 Enhanced Commissioning Requirements for C+S lab buildings.

Residential commissioning pathway to be determined, as required by PHIUS and/or LEED BD+C Multifamily Midrise.

## BUILDING ENERGY PERFORMANCE MEASURES

**Overview**

| | |
|---|---|
| Land Uses: | Commercial and residential district. Mixed-use development promoting walking and bicycling, including proximity and connectivity to the MBTA station, efficient arrangement of uses within a site. |
| Building Orientation and Massing: | See narrative. Building footprints defined by street grid, which has been designed to allow connectivity through a previous super-block site. From there, setbacks have been designed to maximize daylight to the street level, while park areas have been located to take advantage of the best solar exposures and daylight. |

| | |
|---|---|
| Envelope Systems: | Envelopes have not yet been designed, but systems will be designed to incorporate external shading, insulated areas, and natural ventilation where feasible while optimizing for energy performance, daylight, views, visual comfort, and thermal comfort for occupants near perimeter areas. |
| Mechanical Systems: | See energy efficiency narrative. Focus in masterplanning stage has been understanding loads of commercial and residential building programs to identify opportunities for load-sharing, and ultimately, concept design of systems that shift both residential and commercial buildings towards electrification. |
| Renewable Energy Systems: | The team has conducted Master Plan-level renewable energy studies, identifying the greatest potential for on-site energy generation and/or heating/cooling strategies with geothermal systems. The most viable on-site energy generation strategy is rooftop mounted PV. GSHPs will continue to be evaluated. See narrative. |
| District-Wide Energy Systems: | See narrative. District strategies will continue to be explored through design phases. |
| Other Systems: | Electric vehicle charging stations will be provided for at least 20% of parking spaces to meet the Specialized Stretch code requirement. |

**Integrative Design Process**

Sustainability has been an integral part of the master planning process. Healthpeak specifically selected team members accustomed to working across disciplines to brainstorm strategies and collaborate on analysis to ensure the environmental performance goals of the project would be met. PMA, Atelier Ten, Elkus Manfredi, VHB, Haley & Alderich and BR+A engaged in robust conversations on sustainability, challenging concepts of what makes a development sustainable now and in the future. Design elements and concepts were continually evaluated through the lens of sustainability. Beyond the biweekly team discussions incorporating sustainability concepts, the design process included numerous workshops centered on sustainability.

- Healthpeak Sustainability kickoff workshop
- Energy Strategy introduction meeting
- Green Building Requirements in Cambridge + MA Educational Workshop
- Healthpeak LEED + Corporate Sustainability Overview
- Energy Strategy Development
- Energy Strategy Update to Hines + Team
- Green Building Reporting + Content Planning

*Healthpeak will continue to employ an integrative team process through each building design to maintain focus on sustainability and building performance.*

## Green Building Incentive Program Assistance

The project team will continue to consider financial support opportunities available through Mass Save and at the federal level, as the incentive landscape continues to evolve. Applicable programs for the Master Plan include Residential High-Rise New Construction and Commercial New Construction and Major Renovations.

Residential Buildings are eligible for incentives and rebates for energy efficiency measures installed in-unit as well as common areas. Incentives are awarded based on annual site energy savings in comparison to a program-provided energy model baseline. Many of the energy efficiency measures that were evaluated aggregately at a Master Plan level for the residential buildings would be eligible for funding including lighting, HVAC, domestic hot water, building enclosure, and infiltration testing. Strategies and incentive funding will continue to be explored in the building design phases.

The Office and Lab Buildings are eligible for incentives under the Commercial New Construction and Major Renovations program which offers multiple pathways for achieving financial support. Path 2: Whole Buildings Energy Use Intensity (EUI) Reduction has been identified as the most applicable pathway for this project. The program provides financial incentives based on percent EUI reductions beyond the Mass Save Baseline and provides cost share for technical assistance (up to 75%) as well as financial incentives to help projects achieve the EUI goal. Projects begin earning incentives for a 10% EUI reduction relative to the Mass Save Baseline. In addition, an optional Verification Incentive will be explored in the building design phase which would provide financial support to assist projects in ensuring the EUI target set during design is achieved post occupancy.

Please note by participating in a Mass Save downstream program pathway, the project is not eligible to accept any upstream incentives for the project including: HVAC, domestic hot water, food service, or lighting. The project team will coordinate with a Mass Save Account Manager during Concept Phase to further explore these incentive opportunities and to ensure the project is eligible for the maximum cost savings possible.

The project team will also explore financial assistance for the installation of electric vehicle charging stations. Both Eversource and National Grid offer financial support for the electrical infrastructure required to support EV charging stations.

The team will continue to evaluate the applicable incentive programs for each project as the building design progresses and project construction timelines and phasing are determined.

## NET ZERO SCENARIO TRANSITION

*Describe the technical framework by which the project can be transitioned to net zero greenhouse gas emissions in the future, acknowledging that such a transition might not be economically feasible at first. This description should explain the future condition and the process of transitioning from the proposed design to the future condition.*

| | Net Zero Condition: | Transition Process: |
|---|---|---|
| Building Envelope: | Current Design/No Change | The current all electric design meets net zero requirements at the building level. The only anticipated emissions would be grid based. |
| HVAC Systems: | Residential: Current Design/No Change – All Electric<br><br>Commercial: Current Design/No Change – All Electric | |
| Domestic Hot Water: | Hot water will be generated by electricity. | |
| Lighting: | Lighting will be All-LED, thus minimal additional energy savings anticipated from future upgrades. | |
| Renewable Energy Systems: | PV Installed on feasible rooftops: Current Design/No Change | |
| Other Strategies: | n/a | |

For additional assessment of the pathway to a net-zero emissions future, see Energy + Emissions section of our Green Building Report.

## SOLAR-READY ROOF ASSESSMENT

| | |
|---|---|
| Total Roof Area (sq. ft.): | Lab: Approx. 388,100 sq. ft.<br>Residential: Approx. 272,700 sq. ft. |
| Unshaded Roof Area (sq. ft.): | There is little to no overshadowing on all building rooftops on-site, therefore all roof area will have the highest solar exposure for PV generation. |
| Structural Support: | Structural systems will be designed at the building level. Current discussions include identifying future rooftop needs (additional mechanical equipment for electrified futures, etc) so that structural systems can be designed to accommodate these loads in the coming building design process. |
| Electrical Infrastructure: | Capacity of electrical panel to accommodate potential solar array capacity, pathway from solar-ready roof area to electrical panel, and location reserved for future inverters and other electrical equipment to be considered by individual building design process. |
| Other Roof Appurtenances: | Preliminary estimates include ~75% of lab rooftop area ~50% of residential rooftop area reserved for mechanical equipment or headhouses. In designing for all-electric buildings, rooftop space would be reserved for installation of air source heat pumps or other necessary technologies for the tenants. Likewise, there is benefit to installing green roof systems to help manage stormwater runoff and occupied terrace spaces for occupant and community benefit. |
| Solar-Ready Roof Area (sq. ft.): | Based on preliminary assumptions, the team estimates ~92,500 sq. ft. of lab rooftop area and ~89,500 sq. ft. of residential rooftop area could be considered for PVs across the development (excluding mechanical areas from the roof area total). |
| Capacity of Solar Array: | If the entire non-mechanical rooftop was utilized for PV, the district installed capacity would be ~ 1,850 kW for labs and ~1,790 for residential buildings (XX% of baseline development consumption). |
| Financial Incentives: | Given the timeline of development, Healthpeak will investigate financial opportunities available at the time of each building coming online to support PV installations. |
| Cost Feasibility: | Healthpeak has conducted preliminary pricing exercises to determine feasibility of solar renewables. Team will continue to evaluate solar renewables market as building designs progress. |

Further study will be conducted to assess optimization of roof area for competing sustainability strategies with demands for roof space – either mechanical systems, PV for energy generation OR green roofs for stormwater management and reduction in urban heat island effects.

## RESULTS

Briefly summarize the results of the analysis and how it has informed the design of the project. Also include figures for the "Non-Carbon-Fuel Scenario" in the concluding Summary Table at the end of the Net Zero Narrative. Attachments can be provided with more specific figures and metrics regarding installation, maintenance, and upkeep costs (exclusive of operating fuel expenses), but a full report is not necessary.

<table>
<tr><td></td><td colspan="2">Proposed Design</td><td colspan="2">Non-Carbon Fuel Scenario</td></tr>
<tr><td></td><td>Installation Cost</td><td>Maintenance Cost</td><td>Installation Cost</td><td>Maintenance Cost</td></tr>
<tr><td>Space heating</td><td colspan="2" rowspan="7">Will be provided at building level Special Permit, not at the PUD stage.</td><td colspan="2" rowspan="7">N/A</td></tr>
<tr><td>Space cooling</td></tr>
<tr><td>Heat rejection</td></tr>
<tr><td>Pumps & Aux</td></tr>
<tr><td>Ventilation</td></tr>
<tr><td>Domestic Hot Water</td></tr>
<tr><td>Financial Incentives</td></tr>
<tr><td>Total Building Energy System Cost</td><td>TBD</td><td>TBD</td><td colspan="2">N/A</td></tr>
</table>

## ANTICIPATED ENERGY LOADS AND GREENHOUSE GAS EMISSIONS

### Assumptions

Energy modeling through the masterplanning process has included modeling loads of commercial and residential buildings to compare heating and cooling loads and identify opportunities for load sharing. Studies were also conducted to understand building performance drivers and sensitivities of energy conservation measures. Models reflected baseline code compliance versus a high or exemplary performance design. These models were used mainly to size potential district energy strategies for comparison study. Likewise, the energy profile of the development was helpful to contextualize operational energy and emissions versus possible embodied energy or renewable energy potential. Overall GHG emissions were calculated and provided; however, since buildings have not entered the design phases yet, specific energy end-use breakdowns are not included in this submission. Ventilation and potential for energy recovery along with equipment loads will drive the performance of commercial buildings for office or lab spaces while internal loads and domestic hot water loads drive residential energy performance.

### Annual Projected Energy Consumption and Greenhouse Gas (GHG) Emissions

*The preliminary energy modeling results should be shown in a table format similar to what is shown below. It should compare the "baseline building" (Massachusetts Stretch Energy Code) to the proposed design, as well as the future "net zero" scenario described later in this narrative.*

This Special Permit submission is for the Master Plan of the Healthpeak Alewife development. As each building design progresses and returns for Design Review, the following energy end-use breakdown will be provided accordingly.

Emissions and total energy use are estimated based on a preliminary split of lab and office program. Individual building designs will model performance and emissions based on current anticipated program ratios at the time of design. The below values are subject to change through the design process. A Future Scenario has not been provided, as all buildings will be electrified on Day-1.

The below table for reference estimates performance of a single commercial building for energy use reduction from the Stretch Code baseline and GHG emissions.

Commercial:

| | Baseline Building | | Proposed Design | | Future Scenario | |
|---|---|---|---|---|---|---|
| | $US, kBTU, kBTU/SF | | $US, kBTU, kBTU/SF | % Reduction from Baseline | $US, kBTU, kBTU/SF | % Reduction from Baseline |
| **Total Energy Cost** | | | | | | |
| **Total Energy Use** | | - | | | | |
| **Site EUI** | | 136 | 124 | 9% | | Same as Proposed |
| **Source EUI** | | 280 | 347 | -23% | | Same as Proposed |
| | Tons CO2 [/SF] | | Tons CO2 [/SF] | % Reduction from Baseline | Tons CO2 [/SF] | % Reduction from Baseline |
| **GHG Emissions** | | | | | | |
| **GHG Emissions per SF** | | 8.6 | 8.8 | -2% | | Same as Proposed |

The below table estimates performance of a single representative residential building for energy use reduction from the Stretch Code baseline and GHG emissions.

Residential:

| | Baseline Building | | Proposed Design | | Future Scenario | |
|---|---|---|---|---|---|---|
| | $US, kBTU, kBTU/SF | | $US, kBTU, kBTU/SF | % Reduction from Baseline | $US, kBTU, kBTU/SF | % Reduction from Baseline |
| **Total Energy Cost** | N/A (PHIUS/PHI requirements | | | | | |
| **Total Energy Use** | | | | | | |
| **Site EUI** | | | PHIUS/PHI Requirements | | | |
| **Source EUI** | | | | | | |
| | Tons CO2 [/SF] | | Tons CO2 [/SF] | % Reduction from Baseline | Tons CO2 [/SF] | % Reduction from Baseline |
| **GHG Emissions** | | - | | | | |
| **GHG Emissions per SF** | | - | TBD | | | |

Charts provided for projected energy performance in the narrative/Green Building Report.

# EMBODIED CARBON NARRATIVE

**CITY OF CAMBRIDGE ZONING ORDINANCE AMENDMENT TO SECTION 22.25.1(C) OF ARTICLE 22, ENTITLED SUSTAINABLE DESIGN AND DEVELOPMENT (ORDINANCE NO. 2022-20), SECTION 7. EMBODIED EMISSIONS:**

"A whole building lifecycle analysis of the estimated emissions generated by the construction of the Green Building Project. The Assistant City Manager for Community Development shall promulgate regulations for how these estimated emissions are to be reported. Such regulations shall include at minimum the required reporting of estimated lifecycle emissions generated by the use of major building materials, including but not limited to wood, concrete, steel, aluminum and glass, using embodied emissions modeling software and industry standards acceptable to CDD staff. This paragraph will become effective on the date of final promulgation of the regulations for Green Building Projects that have not yet completed the initial stage of administrative review by such date, and shall not impose a requirement on any building project that does not meet the standard threshold for project review special permit of 50,000 square feet or includes housing units."

Commercial lab/office buildings will comply with the Emissions Accounting Ordinance to provide whole building life cycle cost analysis at milestone submissions to the City. Residential buildings are exempt from this required as noted above given they provide housing units, and will explore pathways to reduce embodied carbon according to their scale and project specific opportunities.

**APPLICABILITY: FOR PROJECTS AFTER DATE OF FINAL PROMULGATION OF REGULATIONS (01/01/2024)**

| | |
|---|---|
| Is this project subject to Green Building Requirements (Section 22.20)? | ☒ Yes<br>☐No |
| Does this project meet the threshold for Project Review special permit (Section 19.23)? | ☒ Yes<br>☐No |
| Is the gross floor area of this project 50,000 square feet or more? | ☒ Yes<br>☐No |
| Does this project exclude dwelling units? | ☐ Yes<br>☒No |

*Complete this reporting template if the answer is "Yes" to ALL of the above.*

Note, while the project includes Residential dwelling units, and therefore is technically eligible for exclusion of applicability, the below narrative is provided in support of the Lab/Commercial buildings.

**EMBODIED CARBON REPORTING SUBMISSION PROCESS**

Submission 1 – Special Permit Stage:

1. Submit all of the Required Narratives noted below and any of the applicable Optional Narratives.
2. A life cycle analysis (LCA) is not required at this submission stage.

Submission 2 - Building Permit Stage:

1. Submit revised Required Narratives and any applicable Optional Narratives to reflect the updated building design.
2. Complete a life cycle analysis (LCA) and complete all LCA-related fields included in this reporting template including:
    - Life Cycle Analysis Inputs
    - Life Cycle Analysis Results

Submission 3 – Certificate of Occupancy Stage:

1. No additional submission is required at this stage.

**PROJECT INFORMATION INPUTS**

| | |
|---|---|
| Current Project Design Phase (% Complete SD/DD/CD/CA) | - Special Permit / GBR |
| # Stories Above Grade | - 9-13 |
| # Stories Below Grade | - 0 stories below grade for buildings<br>- 0-1 stories below grade for parking structures |
| Definitions:<br>- Story. 'That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above.'<br>- Story Above Grade. 'A Story whose highest point is more than 4 feet above the Grade.'<br>- Story Below Grade. 'Any Story that is lower than the Ground Story of a building.' | |

## NARRATIVES

**Required Narratives:**

□ Narrative description of the project structural system chosen, and any alternative systems studied related to embodied carbon:

**Superstructure:**

- Material Selection
    - Utilizing mass timber or light frame wood bearing walls (Residential buildings only)
    - Study the effect of LWC vs NWC (Lighter building benefits vs. higher embodied carbon content of LWC)
- Material Optimization
    - Encourage Performance-Based Specifications of concrete
    - Weigh the benefit of design live loading precision vs. future floor flexibility
    - Coordinate with owner on serviceability criteria to not be overly restrictive (ie. deflection requirements at façade, vibration criteria, etc.)
    - Consider wind tunnel testing to achieve lower design wind loads
    - Consider shored construction to reduce slab edge support and allow for increased composite slab spans
    - Study minimum topping slabs or gypcrete thickness on wood framing
    - Consider sloped columns rather than transfer beams
    - Consider braced frames in lieu of moment frame systems

- Detailing
    - Consider lighter façade systems to reduce perimeter structure requirements
    - Reduce slab edge detailing to reduce miscellaneous steel to support envelope
    - Consider larger façade soft joints to allow for less restrictive deflection requirements
    - Study sloping roof structure to reduce roof insulation quantity
- Concrete Mix Design
    - Encourage Performance-Based Specifications of concrete
    - Encourage the use of SCMs to reduce cement content in concrete
    - Explore bourgeoning cement technologies (ie. Sublime Cement)
- Structural Steel and Rebar
    - Consider high strength rebar (80 ksi) to reduce quantity
    - Consider high strength structural steel (65 ksi) to reduce quantity
    - Consider hot-rolled steel shapes in lieu of plate girders or HSS when feasible since they have lower GWP values
    - Consider specifying source of structural steel to a mill that uses Electric Arc Furnaces

<u>Substructure:</u>

- Foundation System Choice
    - Explore use of piles or caissons in lieu of spread footings and mat foundations to reduce concrete quantity
        - If spread footings are used, consider ground improvement to increase allowable bearing values and reduce footing sizes
    - Explore embodied carbon cost/benefit of exporting contaminated soil vs. encapsulating in place and coordinate with foundation system selection
    - Explore benefit of above-grade parking vs. below-grade
- Concrete Mix Design
    - See above
    - Consider 56-day mix designs
- Structural Steel and Rebar

See above

□ Narrative description of the project enclosure system and materials chosen and any alternative systems/materials studied related to embodied carbon:

<u>General Enclosure:</u> The enclosure can make up 20-30% of the total embodied carbon of a building, with about half of that coming from aluminum. The largest façade components by GWP are insulation and metals (in façade structural framing, shading and cladding). The below high level strategies will be considered during the design phase:

<u>Cladding & Curtainwall - Reduce supporting structure:</u> Designing for a lightweight assembly is often the most effective strategy to reduce embodied carbon in the façade. A lighter assembly can reduce the structural material necessary in the façade framing itself, as well has potential have beneficial reductions in connections back to superstructure and potentially the super structure itself.

<u>Optimize cladding material:</u> Façade cladding materials can have a range of performances, and materials with low embodied carbon should be considered during the design phase. For example: Ultra-high-performance concrete tends to have a lower GWP, with terracotta, having a relatively high GWP. Zinc panels are the most light-weight option available, by virtue of being extremely thin. Zinc is also an abundant metal

which is not as energy-intensive to extract and process as other metals such as steel and aluminum and thus makes for a low embodied carbon option.

Minimize virgin aluminum: Designers are recommended to specify aluminum from hydro-powered grid regions, with high recycled content and anodized finishes. Most of the carbon impact of aluminum stems from the production of primary aluminum ingot (billet). Secondary aluminum, made from recycled scraps, has 10x lesser impact than primary ingot. Therefore, the proportion of these components (recycled content) plays a major role in the GWP of the extrusion.

Maximize recycled content: In many, but not all cases, materials with high recycled content should have a lower GWP due to less extraction and process energy. For example, recycled aluminum uses about 5% of the energy required to produce virgin aluminum. Recycled content should be considered carefully with all material selections.

Gypsum & Sheathing: Gypsum can have a high embodied carbon due to the raw material extraction and process emissions associated with grinding and pressing. GWPs have a wide range from 0.06 CO2e / SF to 0.8 GWP/SF.

Waterproofing and vapor barrier membranes: Weather barriers are another primary embodied carbon driver for the building enclosure that can be reduced through selective procurement.

Exterior Wall & Roof Insulation: Insulation is often a significant driver of enclosure embodied carbon impact, and the impact of insulation can be drastically reduced through selective procurement. Minimize the use of HFC blower agents in XPS and spray foam insulation, blower agents have an extremely high use and end of life embodied carbon (Stages B1-C4).

Does the project include the adaptive reuse of an existing building (either all or a portion of a building)? Did the project include any reused or reclaimed materials? If yes to either, please describe:

The project does not include the adaptive reuse of any building.

The project has not yet identified any reused or reclaimed materials, but will include this in consideration during design phases.

Please describe your intended approach to performing an LCA for the second submission stage including the LCA tool to be used, materials and systems to be included, specific EPD's to be requested, etc.:

The LCA for the second submission stage will follow the LEED v4 or v5 LCA criteria as governed by the relevant Materials and Resources credits. Depending on the timing of LEED registration the relevant governing version might be LEED v5, anticipated to be the governing version by the end of 2025.

Credit 1: Building Life-Cycle Impact Reduction
The building design teams will conduct life-cycle assessments of the project building's structure and enclosure to optimize the environmental performance of products and materials per Path 1 at minimum.

Path 1: Conduct a life cycle assessment of the project's structure and enclosure (1 point)

The baseline and proposed buildings must be of comparable size, function, orientation, and operating energy performance as defined in EA Prerequisite Minimum Energy Performance. The service life of the baseline and proposed buildings must be the same and at least 60 years to fully account for maintenance and replacement. Baseline assumptions must be based on standard design and material selection for the project location and building type. Use the same life-cycle assessment software tools and data sets to

evaluate both the baseline building and the proposed building, and report all listed impact categories. Data sets must be compliant with ISO 14044.

The project team will select at least three of the following impact categories for reduction:

- global warming potential (greenhouse gases), in kg $CO_2e$;
  - depletion of the stratospheric ozone layer, in kg CFC-11e;
  - acidification of land and water sources, in moles H+ or kg $SO_2e$;
  - eutrophication, in kg nitrogen eq or kg phosphate eq;
  - formation of tropospheric ozone, in kg NOx, kg O3 eq, or kg ethene; and
  - depletion of nonrenewable energy resources, in MJ using CML / depletion of fossil fuels in TRACI.

The project team will solicit material EPDs per Credit 2: Building Product Disclosure & Optimization: Environmental Product Declarations

The credit requires use of at least 20 different products (10 for core and shell) with environmental product declarations.

- Life-cycle assessment and environmental product declarations.
  - Products with a publicly available, critically reviewed life-cycle assessment conforming to ISO 14044 that have at least a cradle to gate scope are valued as one whole product for the purposes of credit achievement calculation.
  - Product-specific Type III EPD -- Internally Reviewed. Products with an internally critically reviewed LCA in accordance with ISO 14071. Products with product-specific internal EPDs which conform to ISO 14025, and EN 15804 or ISO 21930 and have at least a cradle to gate scope are valued as one whole product for the purposes of credit achievement calculation.
  - Industry-wide Type III EPD -- Products with third-party certification (Type III), including external verification, in which the manufacturer is explicitly recognized as a participant by the program operator. Products with industry-wide EPDs, which conform to ISO 14025, and EN 15804 or ISO 21930 and have at least a cradle to gate scope are valued as one whole product for the purposes of credit achievement calculation.

EPDs requested may consist of the following materials, this list is not to be considered exhaustive and additional materials may be requested.

Foundation

- Concrete
- Rebar
- Waterproofing membranes

Superstructure

- Concrete
- Rebar
- Steel
- Mass Timber + CLT
- Connection detail materials and/or hardware

Enclosure

- Curtainwall assembly and IGUs
- Glazing
- Aluminum, steel, and other metals

**OPTIONAL NARRATIVES IF APPLICABLE:**

Include any graphics that illustrate the LCA results
Did the project set an embodied carbon reduction target? If so, please describe the benchmark data used and the reduction target set:

TBD – LCA is not required at GBR stage for Masterplan special permit.

Did the project perform a whole building life cycle assessment (WBLCA) early in the design process to identify the largest opportunities ("hot spots") for embodied emissions reductions? If yes, please describe the results and decision-making process for materials choices:

TBD – LCA is not required at GBR stage for Masterplan special permit.

Did the project include in its specifications requests for Environmental Product Declarations (EPD's) and for what materials? Did the specifications include specific product or materials embodied carbon (GWP) targets? If yes, please describe:

TBD – LCA is not required at GBR stage for Masterplan special permit.

# Green Factor Certification Form

This is for projects that are subject to the Green Factor Standard in Section 22.90 of the Cambridge Zoning Ordinance, which requires site and landscape design features that reduce urban heat.

*Review Section 22.90 of the Cambridge Zoning Ordinance and the Cambridge Cool Score Information and Guidelines before completing this form. When submitting a completed form, attach the supporting materials listed in the Green Factor Checklist.*

**Project Address/Location:** Multiple addresses within the Alewife Quadrangle neighborhood.

**Planning Board (PB) and/or Board of Zoning Appeal (BZA) case number (if applicable):** Not Currently Available.

**Developer Name and Contact Information**

Name: Healthpeak OP, LLC

Mailing Address: 1900 Main Street, Suite 500, Irvine, CA 92614

Email Address: rsquirrell@healthpeak.com

Telephone #: (949) 407-0700

**Applicability: Section 22.92 & Section 5.22.5**

| | |
|---|---|
| Is this project subject to Green Building Requirements (Section 22.20)? | ☑ Yes ☐ No |
| Does this project involve the construction of a new building? | ☑ Yes ☐ No |
| Does this project enlarge an existing building's footprint by at least 50%? | ☐ Yes ☑ No |
| Does this project involve the creation of new surface parking area? | ☑ Yes ☐ No |

*Answer the questions below if the answer is "Yes" to any of the above*

**Requirements**

*Cool Roof Requirement*

| | |
|---|---|
| Does this project involve the construction of a new building roof or replacement of more than 50% of an existing roof? | ☑ Yes ☐ No |
| Has this project received a Certificate of Appropriateness from the Cambridge Historical Commission or a Neighborhood Conservation District Commission, or a determination of adverse effect by the Executive Director of the Cambridge Historical Commission? [if "Yes," attach the document to your submission] | ☐ Yes ☐ No ☑ N/A |

Last Updated: March 2024

| | |
|---|---|
| How much of the new or replaced roof area (in sq. ft.) has a slope (rise:run) of less than 2:12? [Cool Roof Requirement is not applicable to roof area with a 2:12 or steeper slope] | Phase 1 = 360,500 SF<br>Phase 1+2 = 844,700 SF |
| What is the initial Solar Reflectance Index (SRI) of the proposed roof surface material for the area described above, excluding any solar energy systems or green roof area? [Minimum is 82] | 82 |

*Cool Score – Base information on the attached Cool Score Sheet and Site/Roof Plan*

| | |
|---|---|
| What is the Cool Score of the proposed site design? [Minimum is 1.0 except per below] | Phase 1 = 1.72<br>Phase 1+2 = 1.63 |
| What is the Cool Score of the existing site? [Only answer if the project does not involve a new building or enlargement of a building footprint. The proposed Cool Score must not be less than the Cool Score of the existing site] | na |

*Modifications to Requirements*

| | |
|---|---|
| Has the project received, or will the project seek, a special permit from the Planning Board to modify the Green Factor Standard for this proposal? | □ Received SP (date: _____)<br>□ Seeking SP<br>☑ No modification |

Signature of Applicant

2.25.24
Date

Last Updated: March 2024

## Green Factor Checklist

| Project Phase | Required Submissions |
|---|---|
| ☑ **Special Permit/Design Review (if applicable)** | ☑ Green Factor Certification Form<br>☑ Cool Score Sheet<br>☑ Site and Roof Plans |
| ☐ **Building Permit**<br>Not applicable this stage. | ☐ Green Factor Certification Form (updated from prior version)<br>☐ Cool Score Sheet (updated from prior version)<br>☐ Site and Roof Plans (updated from prior version)<br>☐ Catalog of plant species including height and canopy spread of trees and height and soil depth of high and low planting areas<br>☐ Specifications of roof surface material including initial Solar Reflectivity Index (SRI)<br>☐ Specifications of paving material including SRI (if applicable)<br>☐ Specifications of green roof installation with operations and maintenance plan (if applicable) |
| ☐ **Certificate of Occupancy**<br>Not applicable this stage. | ***All materials updated based on as-built conditions:***<br>☐ Green Factor Certification Form (updated from prior version)<br>☐ Cool Score Sheet (based on as-built conditions)<br>☐ Site and Roof Plans (based on as-built conditions)<br>☐ Catalog of plant species including height and canopy spread of trees and height and soil depth of high and low planting areas<br>☐ Specifications of roof surface material including initial Solar Reflectivity Index (SRI)<br>☐ Specifications of paving material including SRI (if applicable)<br>☐ Specifications of green roof installation with operations and maintenance plan (if applicable) |

Last Updated: March 2024

**City of Cambridge** **Cool Score Sheet** **2/26/2026 - Phase 1**

| Project Address | Special Permit Number | Total Lot Area (SF) |
|---|---|---|
| Healthpeak PUD Special Permit - multiple addresses within the Alewife Quadrangle | Not Yet Available | 680,266 |
| **Applicant Name** | **Phone Number** | **Open Space Requirement (%)** |
| Healthpeak OP, LLC | (949) 407-0700 | 20% |
| **Applicant Contact / Address** | **Email Address** | **Zoning District** |
| 1900 Main Street, Suite 500, Irvine, CA 92614 | rsquirrell@healthpeak.com | Alewife Overlay District - Quadra |
| **Project Description** | | **Result** |
| Healthpeak OP, LLC has proposed a Master Plan development in the Alewife Overlay District – Quadrangle (AOD-Q) zoning (hereafter, "the Project"), that will transform approximately 42 acres into a dynamic mixed-use district featuring Class A lab and office facilities, residential buildings, retail and neighborhood uses, and community amenities. Named "Healthpeak PUD Special Permit," the Project emphasizes open spaces | | **Pass** |

Enter minimum required open space ratio. If the ratio is less than 20%, enter 20 here.

When entering strategies that are within 20' of the street (including sidewalks), do not also enter

| | | Outside 20' of Street | Value Factor | | Within 20' of Street | Value Factor | Contributing Area |
|---|---|---|---|---|---|---|---|
| **Trees** | | | | | | | |
| Enter the number of trees in each category. Count each tree only once on this form. | **Preserved Existing Trees** | | | | | | |
| A1 | Understory tree currently <10' canopy spread | 0 | 0.80 | + | 0 | 1.60 | - |
| A2 | Understory tree currently >10' canopy spread | 0 | 1.00 | + | 0 | 2.00 | - |
| 3 | Canopy tree currently <15' canopy spread | 0 | 0.80 | + | 4 | 1.60 | 4,480 |
| 4 | Canopy tree currently between 15' and 25' canopy spread | 0 | 1.00 | + | 0 | 2.00 | - |
| 5 | Canopy tree currently >25' canopy spread | 4 | 1.20 | + | 2 | 2.40 | 6,720 |
| | **New or Transplanted Trees** | | | | | | |
| 6 | Understory tree | 124 | 0.60 | + | 22 | 1.20 | 15,120 |
| 7 | Canopy tree | 190 | 0.70 | + | 29 | 1.40 | 121,520 |
| **Planting Areas** | | | | | | | |
| Enter area in square feet of each component in the box provided | | | | | | | |
| B1 | Lawn Area | 52,145 | 0.30 | + | 2,777 | 0.60 | 17,310 |
| B2 | Low Planting Area | 64,031 | 0.40 | + | 7,808 | 0.80 | 31,859 |
| B3 | High Planting Area | 42,687 | 0.50 | + | 5,205 | 1.00 | 26,549 |
| **Green Roofs & Facades** | | | | | | | |
| For definitions, see reference document. | | | | | | | |
| C1 | Green Façade | 0 | 0.10 | + | 0 | 0.20 | - |
| C2 | Living Wall | 0 | 0.30 | + | 0 | 0.60 | - |
| C3 | Green Roof Area | 0 | 0.30 | + | 0 | 0.60 | - |
| C4 | Short Intensive Green Roof Area | 0 | 0.50 | + | 0 | 1.00 | - |
| C5 | Intensive Green Roof Area | 0 | 0.60 | + | 0 | 1.20 | - |
| **Paving & Structures** | | | | | | | |
| D1 | Low Slope Roof | 360,200 | N/A | | | | |
| D2 | High-SRI Paving | 106,340 | 0.1 | | | | 10,634 |
| D3 | Shaded Area | 2,419 | 0.2 | + | 0 | 0.40 | 484 |

High-SRI Paving areas within 20' of a Street do not count towards the Cool Score

**Project Summary**

| | |
|---|---|
| *Portion of lot area utilizing green strategies* | *33%* |
| *Portion of score from green strategies* | *95%* |
| *Portion of score from trees* | *63%* |
| *Portion of score contributing to public realm cooling* | *23%* |

| | |
|---|---|
| **Total Contributing Area** | **234,675** |
| **Total Area Goal** | **136,053** |
| **COOL FACTOR SCORE** | **1.72** |

If your project scores 1 or above, you have successfully met the requirements of the Cool

**City of Cambridge** **Cool Score Sheet** **2/26/2026 - Phase 2**

| Project Address | Special Permit Number | Total Lot Area (SF) |
|---|---|---|
| Healthpeak PUD Special Permit - multiple addresses within the Alewife Quadrangle | Not Yet Available | 1,528,823 |
| **Applicant Name** | **Phone Number** | **Open Space Requirement (%)** |
| Healthpeak OP, LLC | (949) 407-0700 | 20% |
| **Applicant Contact / Address** | **Email Address** | **Zoning District** |
| 1900 Main Street, Suite 500, Irvine, CA 92614 | rsquirrell@healthpeak.com | Alewife Overlay District - Quadra |
| **Project Description** | | **Result** |
| Healthpeak OP, LLC has proposed a Master Plan development in the Alewife Overlay District – Quadrangle (AOD-Q) Zoning (hereafter, "the Project"), that will transform approximately 42 acres into a dynamic mixed-use district featuring Class A lab and office facilities, residential buildings, retail and neighborhood uses, and community amenities. Named "Healthpeak PUD Special Permit," the Project emphasizes open spaces | | **Pass** |

Enter minimum required open space ratio. If the ratio is less than 20%, enter 20 here.

When entering strategies that are within 20' of the street (including sidewalks), do not also enter

| | | | Outside 20' of Street | Value Factor | | Within 20' of Street | Value Factor | Contributing Area |
|---|---|---|---|---|---|---|---|---|
| **Trees** | | **Preserved Existing Trees** | | | | | | |
| Enter the number of trees in each category. Count each tree only once on this form. | A1 | Understory tree currently <10' canopy spread | 1 | 0.80 | + | 0 | 1.60 | 120 |
| | A2 | Understory tree currently >10' canopy spread | 0 | 1.00 | + | 0 | 2.00 | - |
| | 3 | Canopy tree currently <15' canopy spread | 2 | 0.80 | + | 4 | 1.60 | 5,600 |
| | 4 | Canopy tree currently between 15' and 25' canopy spread | 4 | 1.00 | + | 0 | 2.00 | 2,800 |
| | 5 | Canopy tree currently >25' canopy spread | 8 | 1.20 | + | 10 | 2.40 | 23,520 |
| | | **New or Transplanted Trees** | | | | | | |
| | 6 | Understory tree | 330 | 0.60 | + | 58 | 1.20 | 40,140 |
| | 7 | Canopy tree | 384 | 0.70 | + | 71 | 1.40 | 257,740 |
| **Planting Areas** | B1 | Lawn Area | 145,433 | 0.30 | + | 8,066 | 0.60 | 48,470 |
| Enter area in square feet of each component in the box provided | B2 | Low Planting Area | 102,498 | 0.40 | + | 15,688 | 0.80 | 53,550 |
| | B3 | High Planting Area | 68,331 | 0.50 | + | 10,459 | 1.00 | 44,625 |
| **Green Roofs & Facades** | C1 | Green Façade | 0 | 0.10 | + | 0 | 0.20 | - |
| For definitions, see reference document. | C2 | Living Wall | 0 | 0.30 | + | 0 | 0.60 | - |
| | C3 | Green Roof Area | 0 | 0.30 | + | 0 | 0.60 | - |
| | C4 | Short Intensive Green Roof Area | 0 | 0.50 | + | 0 | 1.00 | - |
| | C5 | Intensive Green Roof Area | 0 | 0.60 | + | 0 | 1.20 | - |
| **Paving & Structures** | D1 | Low Slope Roof | 844,700 | N/A | | | | |
| | D2 | High-SRI Paving | 225,087 | 0.1 | | | | 22,509 |
| | D3 | Shaded Area | 4,163 | 0.2 | + | 0 | 0.40 | 833 |

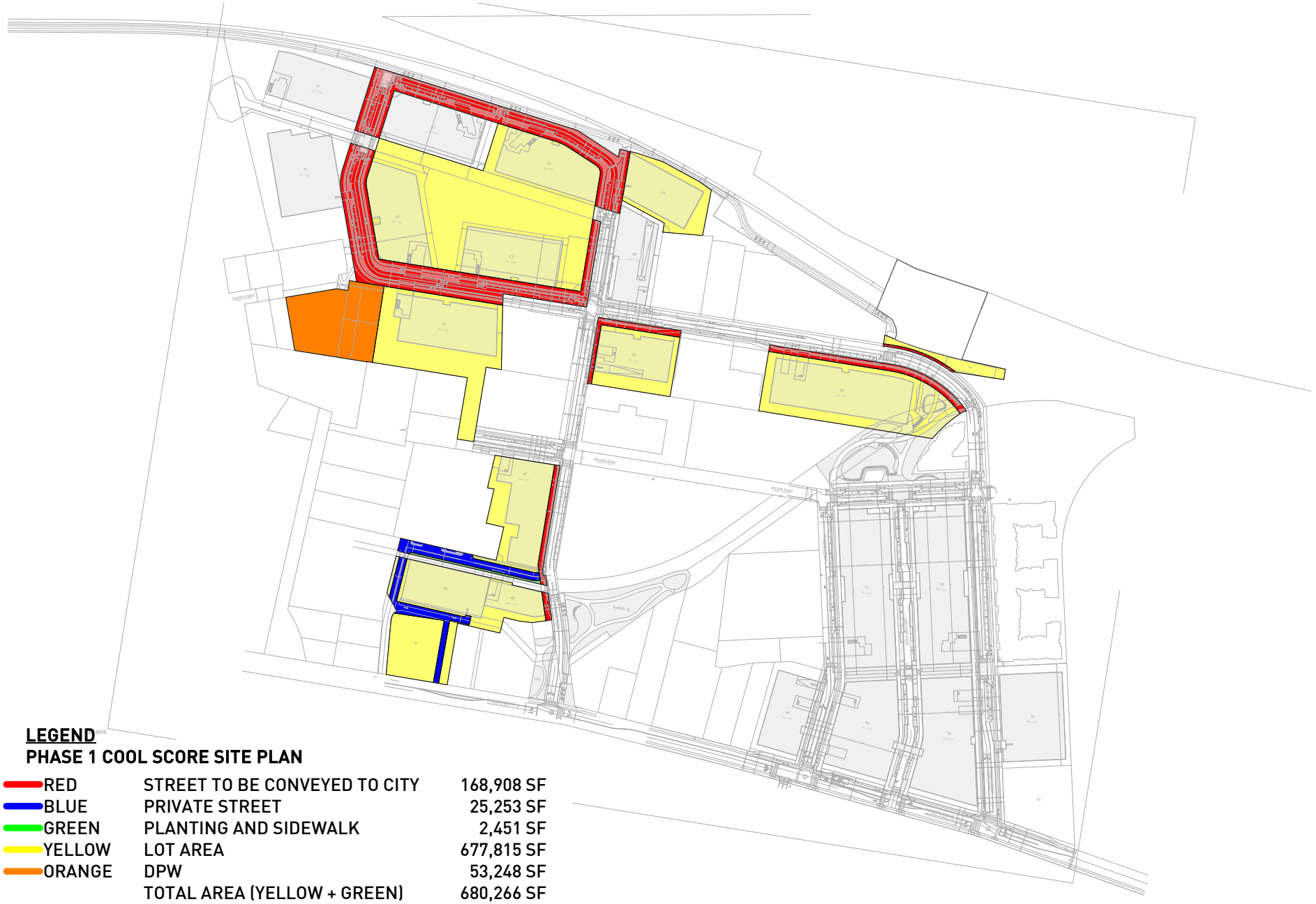
High-SRI Paving areas within 20' of a Street do not count towards the Cool Score

**Project Summary**

| | |
|---|---|
| *Portion of lot area utilizing green strategies* | *31%* |
| *Portion of score from green strategies* | *95%* |
| *Portion of score from trees* | *66%* |
| *Portion of score contributing to public realm cooling* | *26%* |

| | |
|---|---|
| **Total Contributing Area** | **499,905** |
| **Total Area Goal** | **305,765** |
| **COOL FACTOR SCORE** | **1.63** |

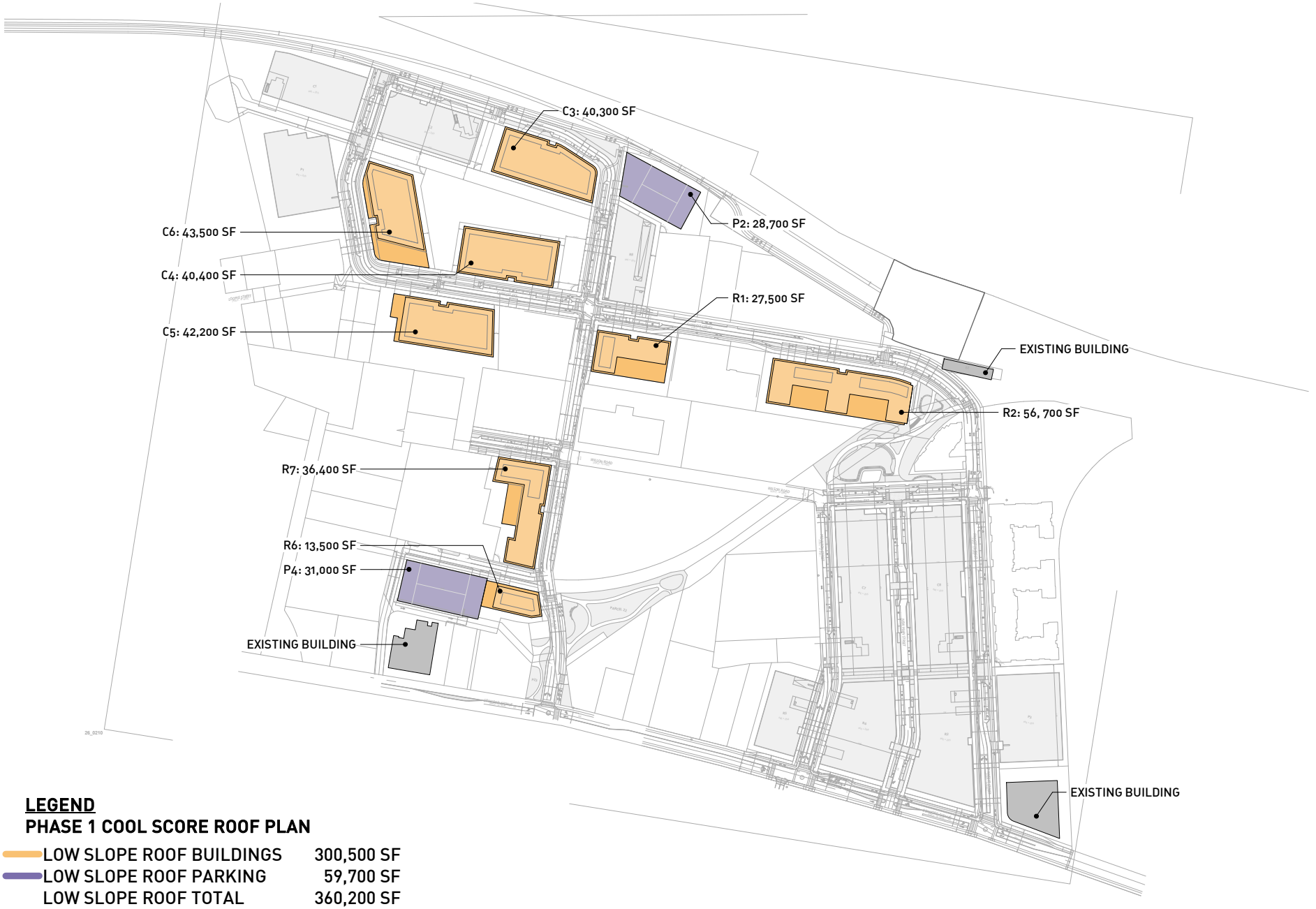
If your project scores 1 or above, you have successfully met the requirements of the Cool



**LEGEND**

**PHASE 1 COOL SCORE SITE PLAN**

| | | |
|---|---|---|
| RED | STREET TO BE CONVEYED TO CITY | 168,908 SF |
| BLUE | PRIVATE STREET | 25,253 SF |
| GREEN | PLANTING AND SIDEWALK | 2,451 SF |
| YELLOW | LOT AREA | 677,815 SF |
| ORANGE | DPW | 53,248 SF |
| | TOTAL AREA (YELLOW + GREEN) | 680,266 SF |




**LEGEND**

**PHASE 1 COOL SCORE ROOF PLAN**

| | |
|---|---|
| LOW SLOPE ROOF BUILDINGS | 300,500 SF |
| LOW SLOPE ROOF PARKING | 59,700 SF |
| LOW SLOPE ROOF TOTAL | 360,200 SF |


**LEGEND**

- Phase 1 Boundary
- Right Of Way
- Right Of Way 20' Offset

| Legend | | | |
|---|---|---|---|
| Type | Symbol | Size/Description | Qty (Area Outside 20' ROW) |
| **Preserved Existing Trees** | | | |
| A1 | | Understory tree <10' canopy spread | 0 |
| A2 | | Understory tree >10' canopy spread | 0 |
| A3 | | Canopy tree <15' canopy spread | 0 |
| A4 | | Canopy tree; 15' -25' canopy spread | 0 |
| A5 | | Canopy tree >25' canopy spread | 4 |
| **Proposed Trees** | | | |
| A6 | | Understory tree | 124 |
| A7 | | Canopy tree | 190 |
| **Planting Areas** | | | |
| B1 | | Lawn Area | 52145 sqf |
| B2 | | Low Planting Area (60%) | 64031 sqf |
| B3 | | High Planting Area (40%) | 42687 sqf |
| **Paving and Structures** | | | |
| D2 | | High SRI paving | 106340 sqf |
| D3 | | Shaded Area | 2419 sqf |

## Cool Calculations: Phase 1 - Outside 20' ROW Offset

Healthpeak PUD Master Plan | Cambridge, MA

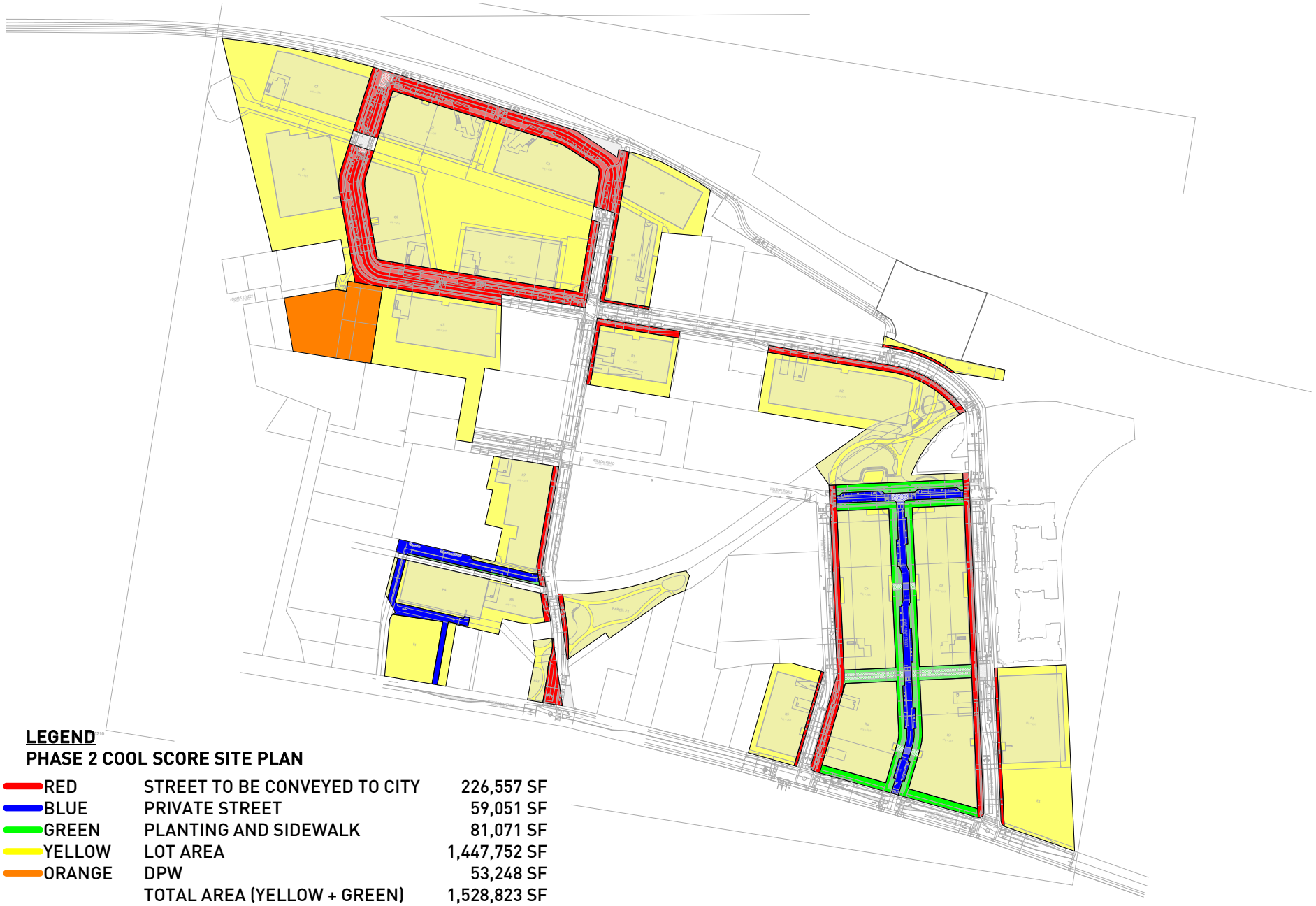

**LEGEND**

- Phase 1 Boundary
- Right Of Way
- Right Of Way 20' Offset

| Legend | | | |
|---|---|---|---|
| **Type** | **Symbol** | **Size/Description** | **Qty (Area Within 20' ROW)** |
| **Preserved Existing Trees** | | | |
| A1 | | Understory tree <10' canopy spread | 0 |
| A2 | | Understory tree >10' canopy spread | 0 |
| A3 | | Canopy tree <15' canopy spread | 4 |
| A4 | | Canopy tree; 15' -25' canopy spread | 0 |
| A5 | | Canopy tree >25' canopy spread | 2 |
| **Proposed Trees** | | | |
| A6 | | Understory tree | 22 |
| A7 | | Canopy tree | 29 |
| **Planting Areas** | | | |
| B1 | | Lawn Area | 2777 sqf |
| B2 | | Low Planting Area (60%) | 7808 sqf |
| B3 | | High Planting Area (40%) | 5205 sqf |
| **Paving and Structures** | | | |
| D2 | | High SRI paving | 24217 sqf |
| D3 | | Shaded Area | 0 sqf |

## Cool Calculations: Phase 1 - Within 20' ROW Offset

Healthpeak PUD Master Plan | Cambridge, MA



**LEGEND**

**PHASE 2 COOL SCORE SITE PLAN**

| | | |
|---|---|---|
| RED | STREET TO BE CONVEYED TO CITY | 226,557 SF |
| BLUE | PRIVATE STREET | 59,051 SF |
| GREEN | PLANTING AND SIDEWALK | 81,071 SF |
| YELLOW | LOT AREA | 1,447,752 SF |
| ORANGE | DPW | 53,248 SF |
| | TOTAL AREA (YELLOW + GREEN) | 1,528,823 SF |


**LEGEND**

**PHASE 2 COOL SCORE ROOF PLAN**

| | |
|---|---|
| LOW SLOPE ROOF BUILDINGS | 691,300 SF |
| LOW SLOPE ROOF PARKING | 153,400 SF |
| LOW SLOPE ROOF TOTAL | 844,700 SF |


**LEGEND**

- Phase 2 Boundary
- Right Of Way
- Right Of Way 20' Offset

| Legend | | | |
|---|---|---|---|
| **Type** | **Symbol** | **Size/Description** | **Qty (Area Outside 20' ROW)** |
| **Preserved Existing Trees** | | | |
| A1 | | Understory tree <10' canopy spread | 1 |
| A2 | | Understory tree >10' canopy spread | 0 |
| A3 | | Canopy tree <15' canopy spread | 2 |
| A4 | | Canopy tree; 15' -25' canopy spread | 4 |
| A5 | | Canopy tree >25' canopy spread | 8 |
| **Proposed Trees** | | | |
| A6 | | Understory tree | 330 |
| A7 | | Canopy tree | 384 |
| **Planting Areas** | | | |
| B1 | | Lawn Area | 145433 sqf |
| B2 | | Low Planting Area (60%) | 102498 sqf |
| B3 | | High Planting Area (40%) | 68331 sqf |
| **Paving and Structures** | | | |
| D2 | | High SRI paving | 225087 sqf |
| D3 | | Shaded Area | 4163 sqf |

## Cool Calculations: Phase 1 and 2 Combined - Outside 20' ROW Offset

Healthpeak PUD Master Plan | Cambridge, MA

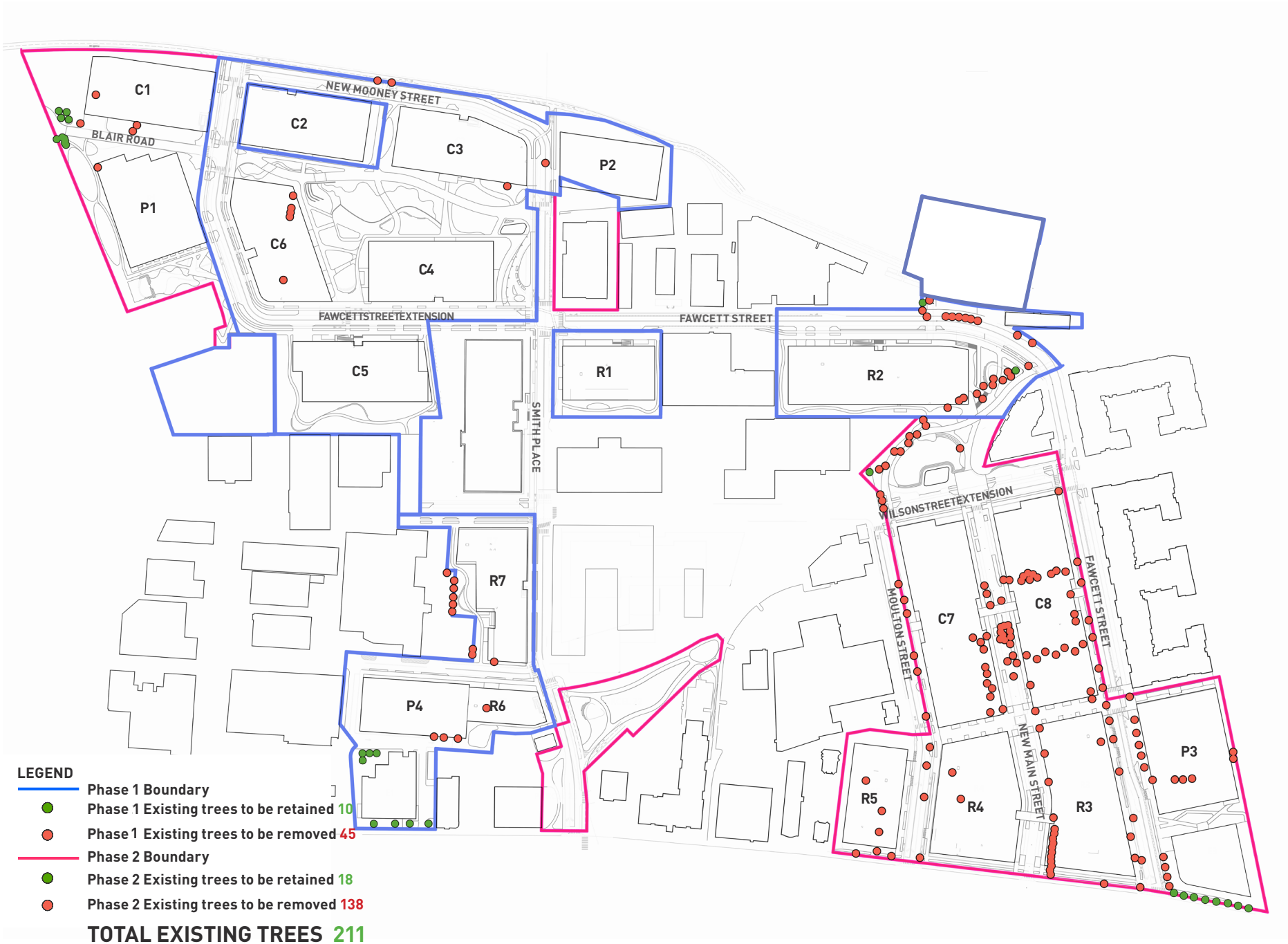

**LEGEND**

- Phase 2 Boundary
- Right Of Way
- Right Of Way 20' Offset

| Legend | | | |
|---|---|---|---|
| Type | Symbol | Size/Description | Qty (Area Within 20' ROW) |
| **Preserved Existing Trees** | | | |
| A1 | | Understory tree <10' canopy spread | 0 |
| A2 | | Understory tree >10' canopy spread | 0 |
| A3 | | Canopy tree <15' canopy spread | 4 |
| A4 | | Canopy tree; 15' -25' canopy spread | 0 |
| A5 | | Canopy tree >25' canopy spread | 10 |
| **Proposed Trees** | | | |
| A6 | | Understory tree | 58 |
| A7 | | Canopy tree | 71 |
| **Planting Areas** | | | |
| B1 | | Lawn Area | 8066 sqf |
| B2 | | Low Planting Area (60%) | 15688 sqf |
| B3 | | High Planting Area (40%) | 10459 sqf |
| **Paving and Structures** | | | |
| D2 | | High SRI paving | 60656 sqf |
| D3 | | Shaded Area | 648 sqf |

## Cool Calculations: Phase 1 and 2 Combined - Within 20' ROW Offset

Healthpeak PUD Master Plan | Cambridge, MA




## Existing Trees Plan

Healthpeak PUD Master Plan | Cambridge, MA


**LEGEND**

- Phase 1 Boundary
- Phase 2 Boundary
- Existing trees to be retained 28
- Proposed trees 843

**TOTAL TREES (Preserved and New) 871**

- Proposed street trees 256 (Not included in above Total Tree count)

## Preserved and New Tree Plan

Healthpeak PUD Master Plan | Cambridge, MA

## CDD Determination for Special Permit submission

The Community Development Department (CDD) received the final update of the Green Building Report (GBR) for the Special Permit stage of Healthpeak Planned Unit Development project pursuant to Section 22.25.1 of the Zoning Ordinance, on 10/6/2025. The Healthpeak PUD project, a mixed-use district, would consist of the following (approximately): 2,541,000 sf office/lab space; 1,765,000 sf of residential space (roughly 2,076 units); 71,000 sf of retail/neighborhood use space; four (4) parking garages; 202,300 sf of existing commercial/office space in three (3) buildings; 800,000 sf (approx. 18.36 acres) of open space; 1 proposed lot to for use by the Department of Public Works; and one pedestrian/bicycle bridge across the MBTA rail tracks to connect the Alewife Quadrangle to the Alewife Triangle. The overall master plan would consist of a total gross floor area (GFA) of approximately 4,377,000 square feet of new construction and 4,800 square feet of rehabilitation of an existing building on a 42-acre, non-contiguous site, plus the 18.36-acre open space and four (4) parking garages.

CDD staff have reviewed the Report and provide the following Determination and Summary of Compliance.

**CDD Determination:** The documentation provided by the Applicant is adequate and demonstrates compliance with the Green Building Requirements of Cambridge Zoning Ordinance 22.24 applicable to the Special Permit stage of review. Each building requires a separate Green Building Report, due at the design review stage.

**Summary of Compliance:**

- Due to the nature of the Special Permit, the information provided includes summary materials rather than the more detailed information often required for a Special Permit application.
- <u>Rating Systems</u>
    - The application states that buildings will be designed to be LEED Gold certifiable or to be certified as Passive House. Non-residential buildings will pursue LEED Gold certifiability and residential buildings will pursue either LEED Gold certifiability or Passive House certification.
    - Proposed Rating Systems:
        - Non-residential Buildings: LEED Gold (v5 BD+C, Core + Shell)
        - Residential Buildings: LEED Gold (v4 BD+C for Multifamily Midrise) OR Passive House
    - **Each building will be required to meet the most recent version of LEED or Passive House standards at the time of design review submission.**
- <u>Green Building Professional Affidavit Certification</u>
    - David P. Manfredi of Elkus Manfredi Architects has been identified as the Green Building Professional for the project. The affidavit states that this professional has reviewed all relevant documents for this project and confirms that those documents indicate that

the project is designed to achieve the requirements of Section 22.24 under Article 22.000 of the Cambridge Zoning Ordinance.

- A copy of the professional's credentials from the LEED Program has been provided.
- If specific buildings pursue a non-LEED rating system during the design review stage, additional documentation, including a Professional Affidavit for the relevant rating system, will be required at that time.

- <u>Additional documentation required at design review stage</u>
  - Additional documentation that further demonstrates how each building will be compliant with Green Building requirements are required at the design review stage for each building. This documentation includes all submissions required for the Development Review phase as listed in the Green Building Project Checklist.
  - **As stated above, each building will be required to meet the most recent version of LEED or Passive House standards at the time of design review submission.**

# Appendix C

Flood Resilience
Documentation

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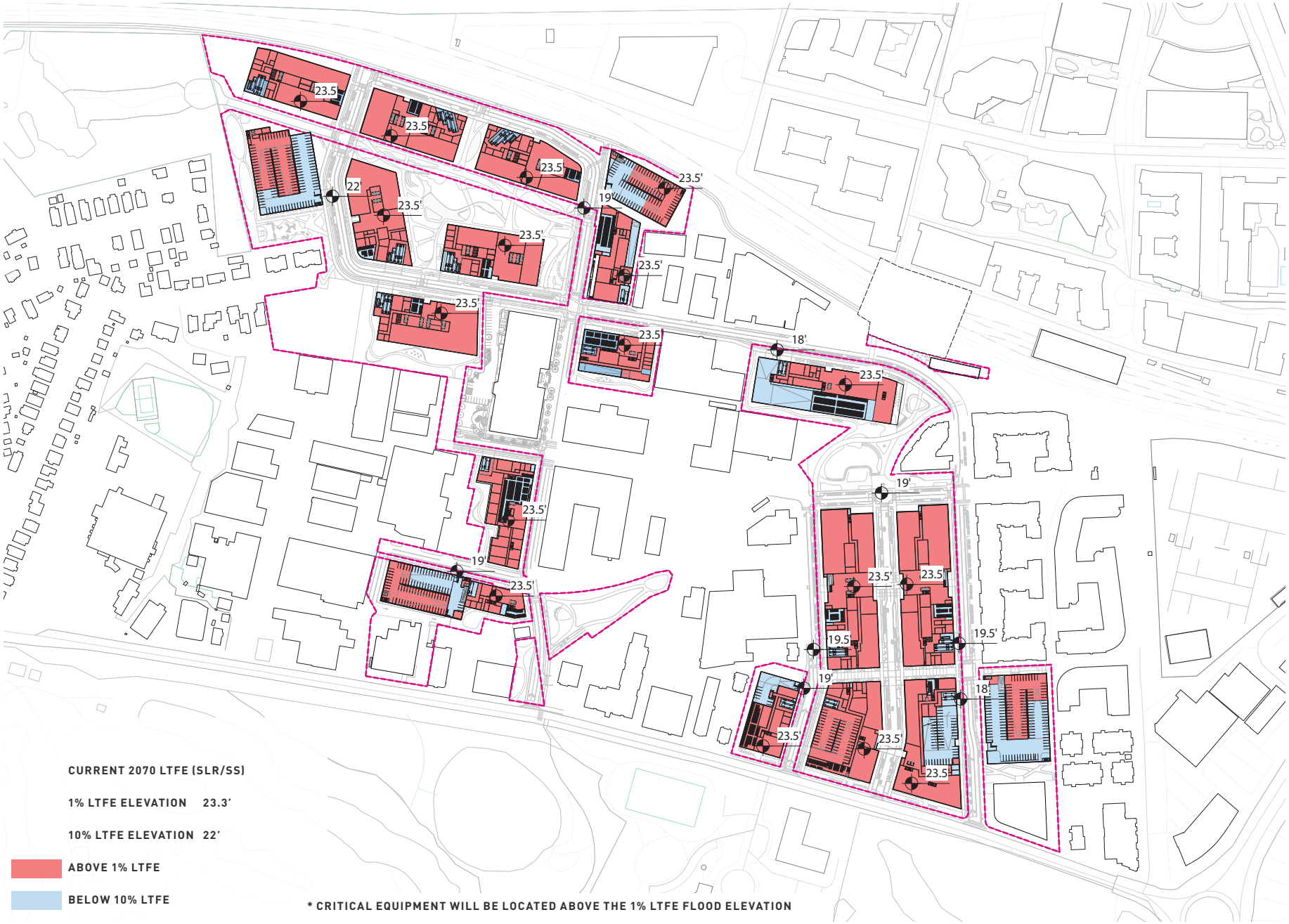
# Healthpeak PUD Special Permit: Parcel List

| | | | | | | | Title Reference | | | | | | Current | Proposed | Proposed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APN | PID | Address - Existing | City | State | Zip Code | Owner | Book | Page | Certificate No. | Recorded/Registered | Status | Acreage | Use | Use | Building ID |
| 267F-293 | 16403 | 625 Concord Ave | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 1.1 | Office | Residential | R3/R4 |
| 267F-274 | 16394 | 617 Concord Ave | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 1.2 | Land | Residential | R3 |
| 267F-391 | 16410 | 12 Moulton St | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 0.4 | Office | Residential | R3/R4 |
| 267F-279 | 16396 | 24 Moulton St | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 0.8 | Office | Residential | R4 |
| 267F-281 | 16397 | 36 Moulton St | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 4.0 | Office | Residential/Commercial | R3/C7/C8 |
| 267F-283 | 16398 | 77 Fawcett St | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 1.2 | Office | Commercial | C8 |
| 267F-291 | 16404 | 60 Moulton St | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 0.2 | Office | Commercial | C7 |
| 267F-295 | 16402 | 62 Moulton St | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 0.3 | Office | Commercial | C7 |
| 267E-17 | 16345 | 645 Concord Ave | Cambridge | MA | 02138 | LS Alewife I, LLC | 78662 | 275 | | Recorded | Owned | 0.3 | Land | Residential | R5 |
| 267F-301 | 16409 | 591 Concord Ave | Cambridge | MA | 02138 | LS Alewife II, LLC | 78845 | 506 | | Recorded | Owned | 2.5 | Office | Existing - Office/Parking | E3/P3 |
| 267F-296 | 16405 | 68 Moulton St | Cambridge | MA | 02138 | LS Alewife V, LLC | 79043 | 468 | | Recorded | Owned | 1.1 | Office | Residential/Open Space | R2/Open Space |
| 267.4-321 | 267.4-321 | 78R Cambridgepark Dr | Cambridge | MA | 02138 | LS Alewife V, LLC | 82964 | 548 | | Recorded | Owned | 0.4 | Land | Residential/Open Space | R2/Open Space |
| 267.4-209, 267.4-210 | 16149, 267.4-210 | 125 Fawcett St | Cambridge | MA | 02138 | LS Alewife VII, LLC | 79297 | 460 | | Recorded | Owned | 2.1 | Industrial | Residential | R2 |
| 267.4-247 | 16152 | 110 Fawcett St | Cambridge | MA | 02138 | LS Alewife VI, LLC | 79402 | 92 | | Recorded | Owned | 0.3 | Retail | Existing - Neighborhood Uses | E2 |
| 267.3-226 | 16131 | 13 Mooney St | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 63 | | Recorded | Owned | 2.2 | Industrial | Commercial | C2/C3 |
| 267.3-228 | 16132 | 127 Smith Pl | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 56 | | Recorded | Owned | 3.5 | Industrial | Commercial/Open Space | C4/C6/Open Space |
| 267.3-279 | 16143 | 45 Mooney St | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 47 | | Recorded | Owned | 1.1 | Industrial | Commercial/Open Space | C2/Open Space |
| 267.3-280 | 16145 | 50 Mooney St | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 47 | | Recorded | Owned | 0.8 | Industrial | Commercial/Open Space | C6/Open Space |
| 267.3-278 | 16142 | 67 Mooney St | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 47 | | Recorded | Owned | 1.1 | Industrial | Commercial | C1 |
| 267.3-268 | 16139 | 52 Mooney St | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 47 | | Recorded | Owned | 1.3 | Land | Commercial | P1 |
| 267.3-277 | 16141 | 54 Mooney St | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 47 | | Recorded | Owned | 1.1 | Land | Commercial | P1 |
| 267.3-276 | 16140 | 61 Mooney St | Cambridge | MA | 02138 | LS Alewife III, LLC | 79001 | 47 | | Recorded | Owned | 1.1 | Industrial | Commercial | C1 |
| 267C-95 | 16299 | 61-67 Smith Pl | Cambridge | MA | 02138 | LS Alewife VIII, LLC | 79499<br>80144 | 134<br>113 | | Recorded (Previously Deregistered) | Owned | 4.2 | Industrial | Future DPW/Commercial | Future DPW/C4/C5/C6 |
| 267C-91 | 267C-91 | 60 Loomis St | Cambridge | MA | 02138 | LS Alewife VIII, LLC | 81158 | 174 | | Recorded | Owned | 0.6 | Land | DPW | Future DPW |
| 267D-293 | 16325 | 59 Smith Pl | Cambridge | MA | 02138 | LS 725 Concord LLC | 1581<br>83369 | 71<br>428 | 277843 | Deregistered | Owned | 0.5 | Parking | Residential | R7 |
| 267D-325 | 16339 | 49 Smith Pl | Cambridge | MA | 02138 | LS 725 Concord LLC | 1581<br>83369 | 71<br>428 | 277843 | Deregistered | Owned | 0.5 | Parking | Residential | R7 |
| 267D-313 | 16335 | 35 Smith Pl | Cambridge | MA | 02138 | LS 725 Concord LLC | 1581<br>83369 | 71<br>428 | 277843 | Deregistered | Owned | 0.4 | Parking | Residential | R7 |
| 267D-285 | 16322 | 725 Concord Ave | Cambridge | MA | 02138 | LS 725 Concord LLC | 1581<br>83369 | 71<br>428 | 277843 | Deregistered | Owned | 2.5 | Medical | Existing - Medical Office/Parking/Residential | E1/P4/R6 |
| 267D-256 | 16302 | 25 Smith Pl | Cambridge | MA | 02138 | LS Alewife IX, LLC | 1598 | 5 | 281139 | Registered | Owned | 0.3 | Industrial | Residential | R6 |
| 267D-258 | 16304 | 11 Smith Pl | Cambridge | MA | 02138 | LS Alewife IX, LLC | 1598 | 6 | 281140 | Registered | Owned | 0.1 | Land | Open Space | Open Space |
| 267E-294 | 16349 | 26 Smith Pl | Cambridge | MA | 02138 | LS Alewife IX, LLC | 1598<br>81125 | 3<br>199 | 281138 | Partially Registered, Partially Recorded | Owned | 1.0 | Land | Open Space | Open Space |
| 267D-311 | 16333 | 689 Concord Ave | Cambridge | MA | 02138 | LS Alewife IX, LLC | 1598 | 6 | 281140 | Registered | Owned | 0.3 | Office | Open Space | Open Space |

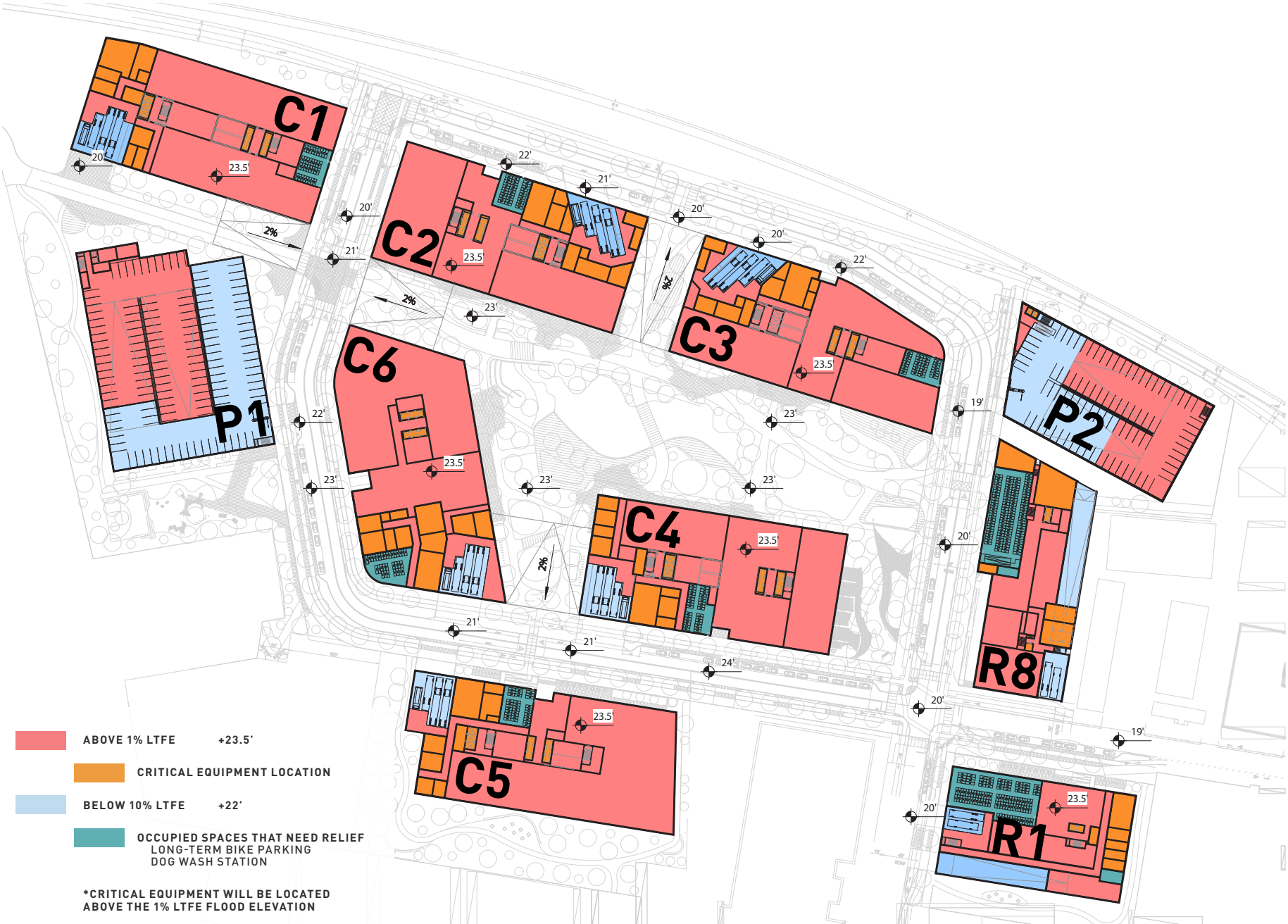
# Healthpeak PUD Special Permit: Parcel List

| | | | | | | | Title Reference | | | | | | Current | Proposed | Proposed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| APN | PID | Address - Existing | City | State | Zip Code | Owner | Book | Page | Certificate No. | Recorded/Registered | Status | Acreage | Use | Use | Building ID |
| 267.4-254 | 16153 | 100 Smith Pl | Cambridge | MA | 02138 | LS Alewife III, LLC | 83810 | 156 | | Recorded | Owned | 1.2 | Industrial | Residential | R1 |
| 267.4-295 | 16159 | 180A Fawcett St | Cambridge | MA | 02138 | LS Alewife III, LLC | 85182 | 18 | | Recorded | Owned | 1.3 | Land | Parking | P2 |
| 267E-242 | 16347 | 641 Concord Ave | Cambridge | MA | 02138 | Thomas P. Jackivicz, Jr. | 83853 | 117 | | Recorded | Negotiations | 0.7 | Single Family | Residential | R5 |
| 267.4-284 | 16155 | 160 Fawcett Street | Cambridge | MA | 02138 | Hines CP 180 Fawcett LLC | 85107 | 87 | | Recorded | Negotiations | 0.8 | Office/Retail | Residential | R8 |
| **Total** | | | | | | | | | | | | **42.3** | | | |



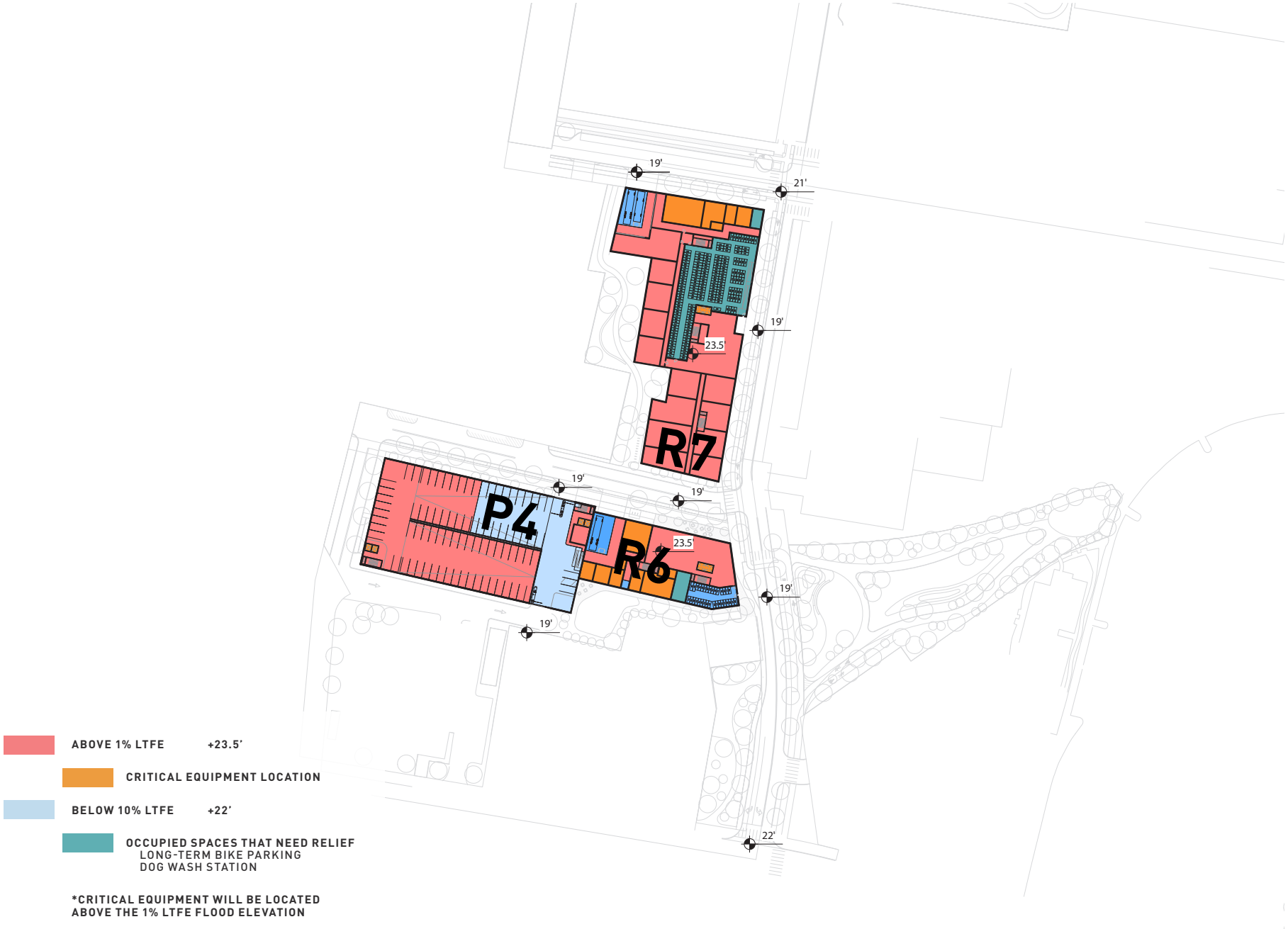

## Figure 1I.1: LTFE Cross - Section

Healthpeak PUD Master Plan | Cambridge, MA




## Figure 1I.2: LTFE Cross - Mooney Quad

Healthpeak PUD Master Plan | Cambridge, MA




## Figure 1I.3: LTFE Cross - Smith Pl

Healthpeak PUD Master Plan | Cambridge, MA

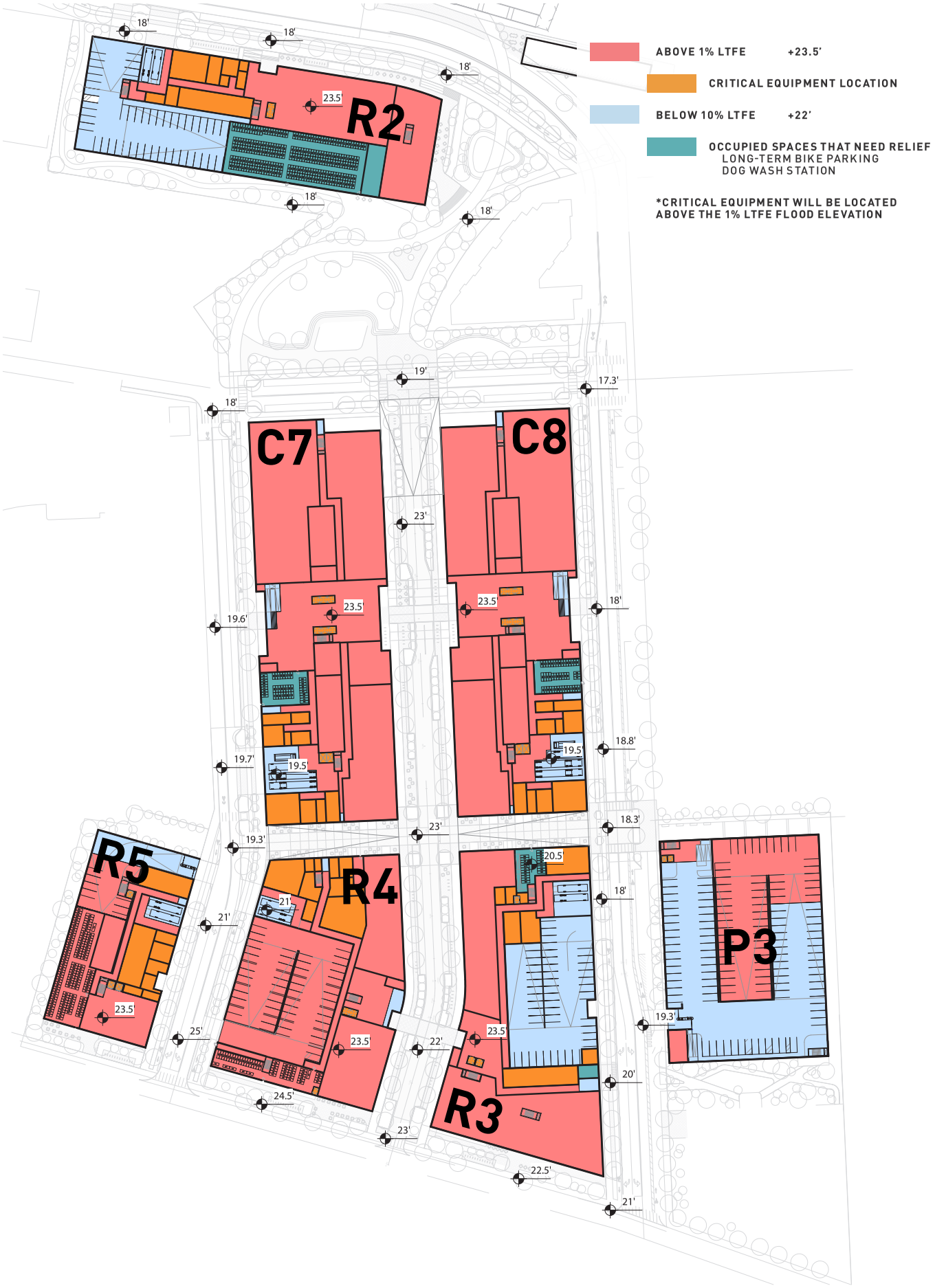
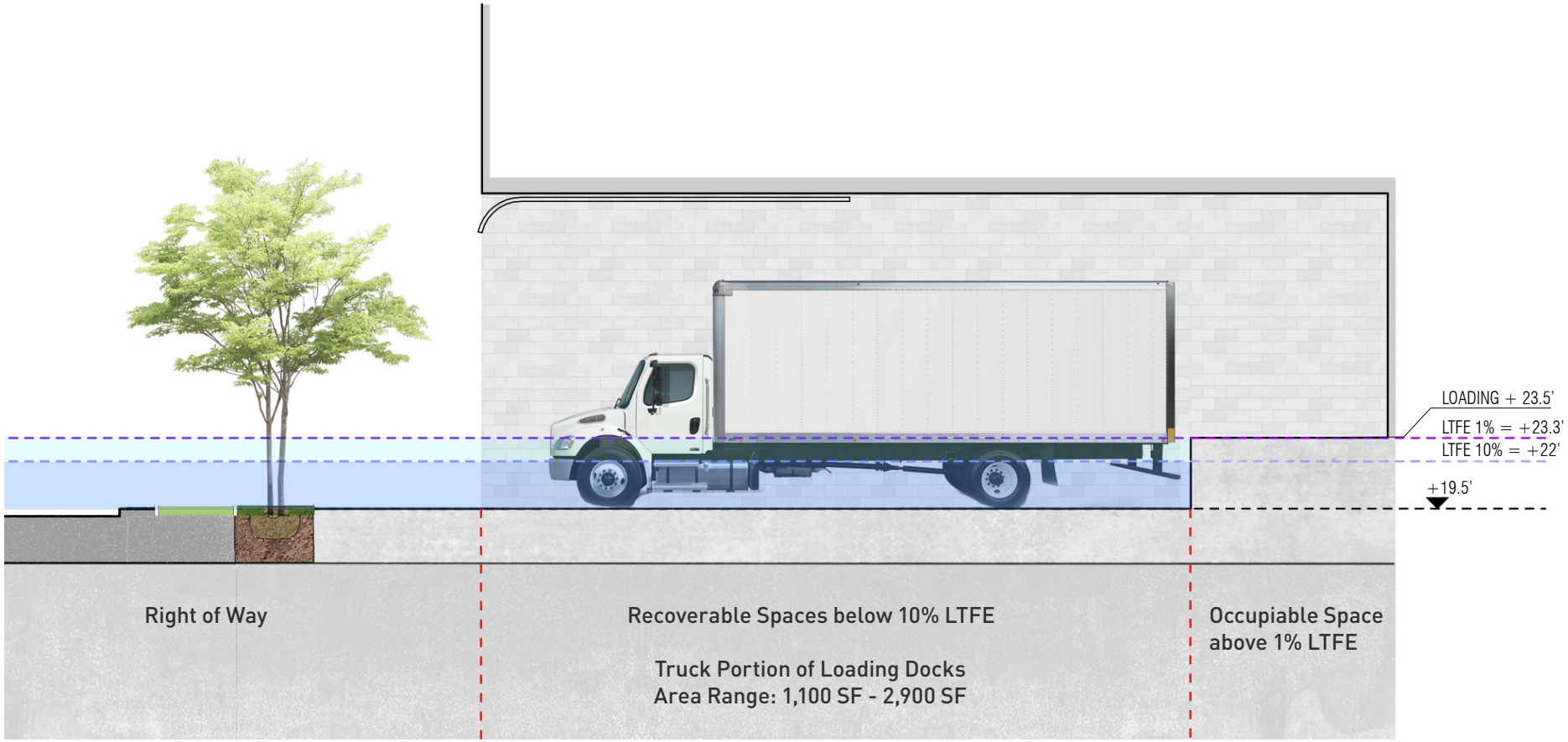
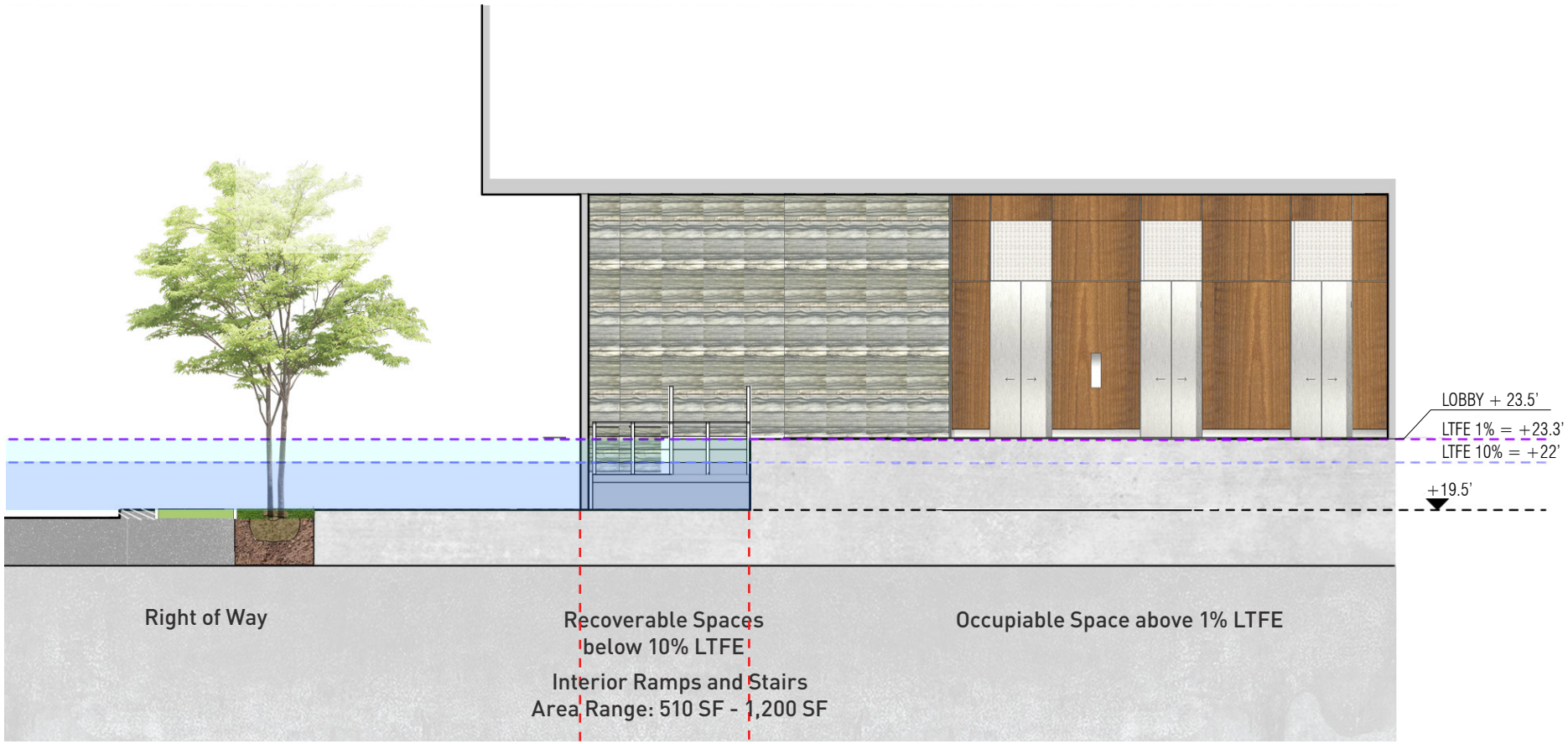



**Figure 11.4: LTFE Cross - Raytheon**

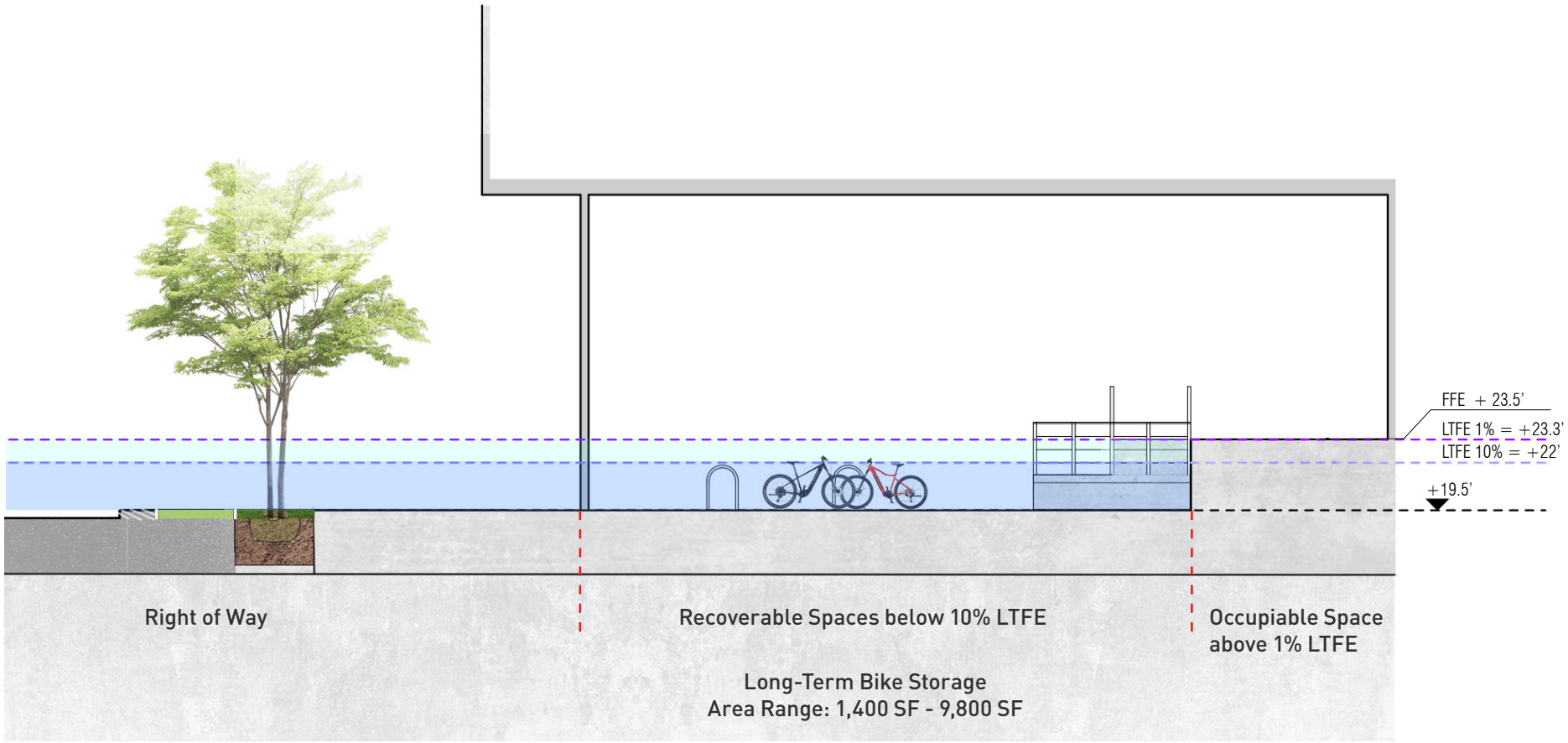
Healthpeak PUD Master Plan | Cambridge, MA



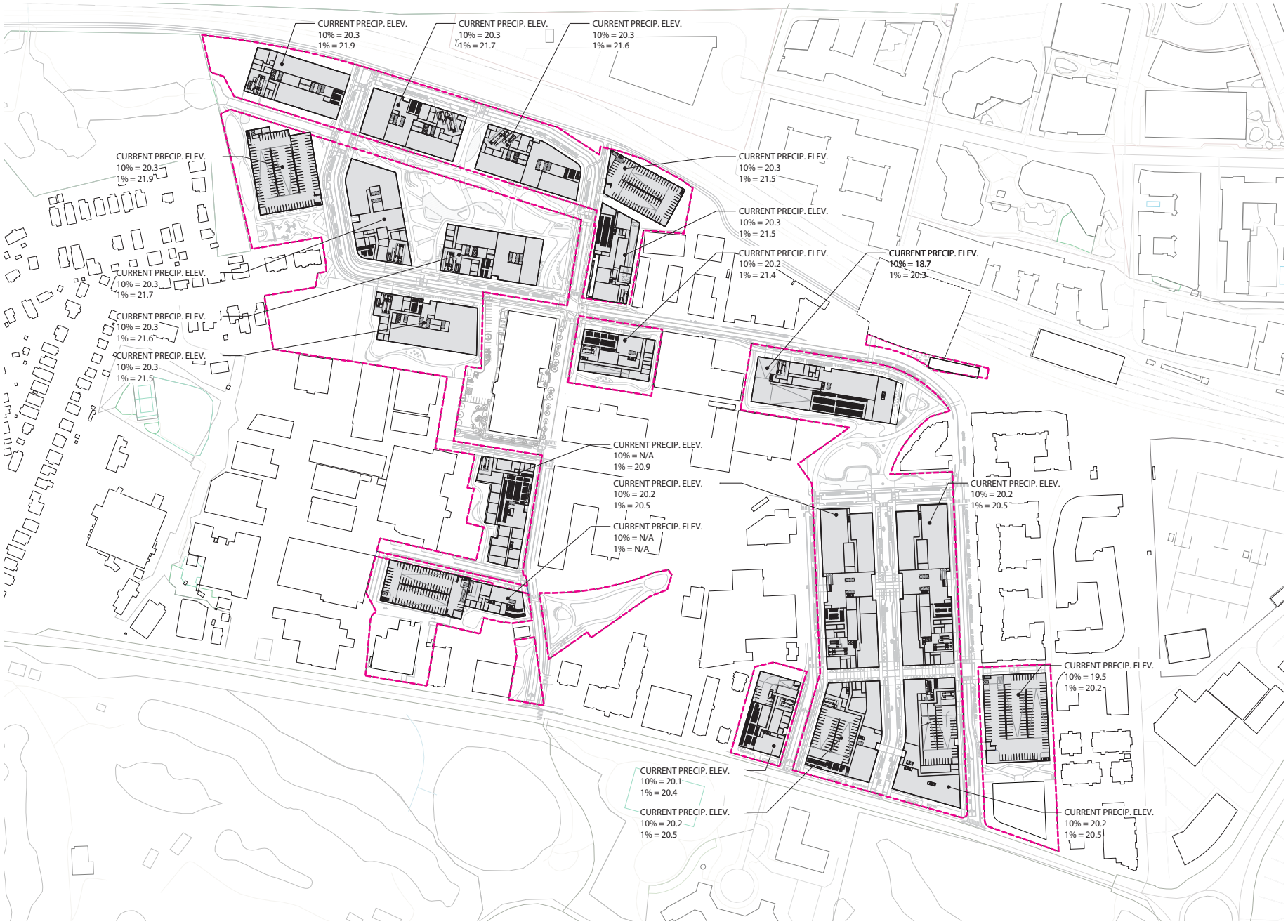

LTFE Cross - Typical Building Sections - Loading Dock




LTFE Cross - Typical Building Sections - Main Lobby




LTFE Cross - Typical Building Sections - Bike Storage




## Figure 1I.8: FloodViewer 2025 Precipitation Elevations

Healthpeak PUD Master Plan | Cambridge, MA