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September 20, 2019

Gregory R. Schwartz, Chairman
Land Use Committee
Newton City Council
1000 Commonwealth Avenue
Newton, MA 02459

Re: Northland Newton Development- Docket #426-18

Dear Councilor Schwartz,

In anticipation of the continued public hearing on the Northland Newton Development on September 24th, Northland submits further thoughts on the project.

Planning Board

After the conclusion of the September 11 hearing the Planning Board closed its hearing on the re-zoning request and voted to support the re-zoning of the land to the BU-4 District. The Board also endorsed the project, expressing many of the comments which Councilors have raised as to traffic mitigation which we hope the Northland TDM plan has addressed. As you know, the Planning Board is granted statutory authority in the re-zoning process, and we are grateful to the Planning Board for its time and attention

Sustainability

Sustainability has been both at the core of the NND Development and the source of program adjustments over the past year. Northland is proud that its mixed use concept is a sustainability feature in itself and that the project design has been evolving to comprehensively address environmental concerns including, particularly energy efficiency.

Attached as Exhibit A is a September 13, 2019 revision of the Lambert Sustainability memorandum as to the Sustainability Strategic Plan for NND. This revision refines and expands on the original August 31, 2018 memorandum and brings into context:

- Project Sustainability Goals
- LEED goals

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- Sustainability Strategies including:
 - Site Design and Landscaping
 - Heat Island Effect Reduction
 - Open Space
 - Roof Open Space
 - Alternative Transportation
 - Community Livability
 - Health and Wellness
 - Climate Change Resiliency
- Building Design and Construction Sustainability including
 - Building Energy Efficiency
 - Passive House Standards
 - Building Water Efficiency
 - Durability of Building Materials
 - Waste Management
 - Public and Tenant Education Programs
- Comprehensive Sustainability Vision and Timeline

In the design of NND the sustainability is not an add-on. It is imbedded in the concept of the development, in the planning and in the execution of the programming. The program for this development is raising the bar for future developments in the City.

Design Guidelines

We need to clarify that the Design Guidelines are intended to supplement, but do not replace the detailed plans which have been filed with the petition in accordance with Zoning Ordinances Sections 7.4.4 A-H. The required plans have been filed in a 109 page set dated April 12, 2019 last amended September 3, 2019 (to show the splash park) in compliance with the Ordinance, with the larger scale plans filed with the City Clerk and Planning and online at <http://www.newtonma.gov/civica/x/filebank/documents/97059>, and smaller scale prints given to the Land Use Committee.

For example, if you review Sheets A-6.10 and A-6.11 in your plan set you will note the elevations of Buildings 6A and 6B. Rendered (colored) versions of those sheets are attached as Exhibit B-1.

The filing requirements for the elevations, which are the architectural drawings, have been supplemented with the 3D model submitted April 12, 2019 and online at <https://www.youtube.com/watch?v=1m7AgHSgAQ&feature=youtu.be> and with additional perspective views of buildings throughout the process. The modeling and perspectives conform to the architectural elevation drawings and reflect the actual details of all of the buildings. Samples of those perspectives for buildings 6A and 6B are attached as Exhibit B-2.

The differences between the NND review and prior projects are:

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1. The sheer volume of material. 4 sided elevations on 13 buildings designed by two architectural firms are shown on 16 sheets, plus site plans, and the perspectives and model have been submitted separately. The Committee has focused attention on public spaces including the Village Green, the Laneways, and the 6 other parks but your review of the building plans themselves has generally been more limited.
2. The Design Guidelines are in effect additional requirements, standards for Northland to meet for the determination of “consistency” under the usual practice. It is our hope that the plans are approved in the usual course and subject to customary conditions, but with the additional standard that the customary evolutions during design be subject to the Design Guidelines.

TDM

The Transportation Demand Management plan proposed by Northland is unprecedented in Newton for its scope, duration, resource commitment and its emphasis on achieving results. For the first time a Newton TDM plan will be based on results rather than inputs.

We ask that the Council recognize that the office portion of NND already exists at 156 Oak Street along with 60% of the amount of retail space that is proposed, and that the 800 dwelling units are simply statistically and analytically not the major generators of traffic on Needham Street. Councilors have also referred to the MAPC Interim Report on Needham Street from December 2013 stating that that up to 70% of the Needham Street traffic may be pass-through traffic to and from Needham which will not be controlled or reduced by NND. Newton’s land use decisions should not be based on accommodating pass-through traffic to Needham.

Prior to the September 11 hearing Northland agreed to modify its proposal by agreeing to the Planning Department’s recommended budget of \$1.5 Million annually and increases up to 30%. We heard members of the Council express the concern that meeting the goal might cost more than the allocated amount, and Northland has stated that it is confident that will not be the case.

Throughout the hearing process and the mitigation discussion Northland has consistently said that it will make changes to the project which cost money if the changes benefit the project or the immediate neighborhood. In that light Northland believes that with or without a Council requirement, reaching the goals of the TDM program is an enhancement to the project, and it is willing to modify its prior agreement by providing:

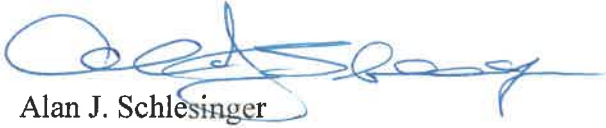
- (i) Elimination of the lower threshold for additional resources, i.e. no 5% “grace”; and
- (ii) The annual maximum contribution can be increased to 50%, beyond the 30% recommended by Planning staff.

This increase reflects a possible increase of \$750,000 per year (adjusted by CPI) which is a very substantial amount by any standard.

SCHLESINGER AND BUCHBINDER, LLP

Gregory R. Schwartz, Chairman
September 20, 2019

Very truly yours,



Alan J. Schlesinger

AJS/

cc: City Council

Mayor Ruthanne Fuller

Peter Doeringer, Chair, Planning and Development Board

Barney Heath, Director of Planning and Development

Jennifer Caira, Chief Planner



Sustainability Strategic Plan: Vision, Goals and Implementation Northland Newton Development, Newton, MA

Northland Investment Corporation

August 31, 2018; 1st Revision April 18, 2019; 2nd Revision September 13, 2019

Northland Investment Corporation is transforming 22 acres of underutilized and mostly vacant industrial and commercial property in the village of Newton Upper Falls into an exciting and thriving new mixed-use community development that will embrace sustainability and innovation. The project will enhance the neighborhood by providing office and retail space as well as 800 residential units in 14 new buildings and one renovated historic building.

Project Sustainability Goals

The Northland Newton Development will achieve success in all three areas that comprise the definition of sustainable development - development that benefits *people*, the *planet* and generates economic *prosperity*. The goals and strategies that benefit one of the categories in the three-legged stool of sustainable design also have beneficial outcomes for the other categories.



With its holistic approach and fully integrated design and development team, Northland Newton Development seeks to create a sustainable new neighborhood that will enhance the lives of people, protect the planet's resources, and generate long-term prosperity to ensure the enduring success of the project.

The Northland Newton Development is located within the N² Innovation District¹ which seeks to foster innovative companies and connect them with a talented local workforce. The project embraces this concept and inherently meets one of the tenets of smart growth development by creating jobs within walking or biking distance to residents within the same community. The Northland Newton Development will also embrace the mission of Green Newton, a local active non-profit working "to create sustainable solutions to environmental problems facing our city and our world."²

¹ www.n2innovationdistrict.com

² www.greennewton.org

The sustainability goals of the Northland Newton Development, integrated from the earliest phases, directly align with many of the goals set forth in the Needham Street Area Vision Plan 2018 which was adopted by the City of Newton in August 2018.³ This ambitious plan provides the desired vision for future developments in the Needham Street corridor in order to create a diverse, thriving mixed-use district. The following goals are all priorities directly outlined within the Vision Plan and have already been incorporated into the design of the Northland Newton Development, as detailed further in the sections that follow. Page numbers correspond with the Vision Plan document:

- Create a vibrant destination with a diversity of uses including homes, businesses, and gathering places for the community (p.29-33).
- Reflect the industrial history and heritage of the area (p.5; 30).
- Embrace climate resiliency through reduction of single-occupancy vehicles, maximizing energy efficiency of buildings, and reducing heat island effect (p.12).
- Utilize high-quality and high-performance design and construction of new buildings with a focus on energy efficiency (p.40).
- Support healthy lifestyles with the creation of diverse, multi-use, natural areas and public open spaces (p.11).
- Protect and restore the ecological health of natural resources through low impact design, stormwater management, and the creation of open space (p.11-14).
- Expand trails, walking loops and open space connections on a local and regional level (p.15).
- Create safe and convenient transportation connections as well as diverse options for transit, walking, biking and driving (p.19).
- Utilize design to encourage active lifestyles and promote community social connectedness, health and wellness (p.36).

The Northland Newton Development will engage the community and embrace these principles by creating a vibrant new Main Street, an extensive network of landscaped and active outdoor public spaces, connections to the Upper Falls Greenway and other pedestrian paths, introduction of a mobility hub for alternative transit options, as well as creating a new central village square for community gatherings and events. Additionally, the project will be providing a bike path connection from and to the Greenway along Charlemont, all the way to Christina Street (behind the former Stark property), with hopes to link to an eventual connection across the Charles River into Needham. The renovation of the historic Saco-Pettee mill building as well as the preservation of other historic industrial resources for reuse on the site will maintain and improve important community cultural assets. Design and construction of all new buildings on the site will meet high standards for sustainable design as outlined in detail in the sections below.

³ Needham Street Area Vision Plan 2018, Adopted by the City Council on August 13, 2018;
www.newtonma.gov/gov/planning/lrplan/comprehensive_plan.asp

Leadership in Energy and Environmental Design (LEED) Goals

The project aspires to several goals for attaining Certification with the US Green Building Council's (USGBC) LEED Green Building Rating Systems. The commitment to the rigorous internationally-recognized third-party LEED standards demonstrate a project-wide commitment to high performance design and construction with quantifiable environmental benefits such as energy and water use efficiencies.

"LEED provides a framework that gives project teams the ability to choose solutions that contribute to aggregate environmental progress."⁴ The United Nations Environment Programme's 2009 Building and Climate Change Report stated that buildings account for approximately 40% of our total energy use.⁵ In a 2011 study of the U.S. General Services Administration's LEED-certified buildings, the Department of Energy found LEED-certified buildings to have 25 percent lower energy use compared to the national average."⁶

More recently, the USGBC has found that LEED buildings, on average, save between 30-40% of the energy and water used in buildings of conventional construction. LEED buildings also lease up faster and have higher employee productivity in office spaces.⁷

The USGBC recently announced the 2018 Top 10 States for LEED projects, and Massachusetts ranked second in the nation for gross square footage of LEED-certified space per person. "The benefits of LEED extend well beyond measures like reduced water and energy usage, affecting the health and prosperity of entire communities. LEED-certified projects save money for families, businesses and taxpayers, in addition to reducing carbon and creating a healthier environment in which people can thrive."⁸

The entire 22-acre Northland Newton Development is registered and will pursue LEED for Neighborhood Development (ND) v3 Certification at the Silver level. The project team elected to pursue LEED-ND which is an ambitious rating system consisting of sustainable planning and design strategies implemented across entire new neighborhoods and developments. Credits are organized into the four categories of Smart Location and Linkage, Neighborhood Pattern and Design, Green Infrastructure and Buildings, and Innovations. LEED-ND Certification is a unique and significant goal as there are only three projects in Massachusetts that have achieved it to date.

In addition, the historic Saco-Pettee mill building at 156 Oak Street will be fully renovated into high quality office space with the goal of achieving LEED Core and Shell (CS) v3 Certification at the Silver level.

All new buildings within the Northland Newton Development will be designed to achieve a LEED Gold 'Certifiable' standard. In pursuit of this goal, every building will achieve energy and water use savings that exceed standard projects built in Massachusetts.

Summarized below are the sustainable planning, design and construction strategies that the Northland Newton Development will incorporate, some of which are included in LEED and other green building rating systems, and all of which are elements of good design that benefit people, the planet and also generate prosperity in order to achieve long-term viability.

⁴ www.usgbc.org/articles/leed-facts

⁵ europa.eu/capacity4dev/unep/document/buildings-and-climate-change-summary-decision-makers

⁶ www.usgbc.org/articles/leed-facts

⁷ www.usgbc.org/articles/download-our-free-leed-slide-deck-your-next-presentation

⁸ www.usgbc.org/articles/infographic-top-10-states-leed-2018

Sustainability Strategies

Site Design and Landscaping

The project will reduce its use of potable (drinking) water for landscape irrigation by installing highly efficient irrigation systems where necessary to maintain plantings and will also seek to reduce the need for irrigation by specifying drought-tolerant and indigenous plants where appropriate. The project will incorporate the capture and reuse of rainwater from the building roofs for irrigation needs, further reducing the demand for potable water resources.

Stream restoration and the partial daylighting of South Meadow Brook is an important aspect of the project in terms of both ecological restoration and community awareness about natural resources in the area. Invasive plant species will be removed to the extent possible on the stream banks in order to foster natural vegetation and support healthy stream ecology. Low Impact Design (LID) strategies will be employed in the design of stormwater management systems across the site to reduce stormwater runoff into the stream and to improve the stream water quality. Permeable paving will be used to allow for infiltration in some areas and reduce stormwater runoff. 'Daylighting' a portion of the stream, thereby bringing a section of it out of the underground culvert and into an above ground channel again, will allow the community to experience this natural feature and learn about the local stream ecology.

Heat Island Effect Reduction

Heat island effect occurs when a dense, metropolitan area is significantly warmer than the surrounding rural areas due to human activities. The main cause of urban heat island effect is the increasing change of natural surfaces into hard surfaces, like pavement and roof areas, which absorb and retain heat from the sun.

The Northland Newton Development, in line with the goal of the Vision Plan mentioned above, will reduce heat island effect on the site by utilizing the following strategies:

- Providing a network of green/landscaped open spaces and parks with shading and moist planting materials which provide cool surfaces as opposed to pavement and dark-colored materials.
- Shading of streets and sidewalks with street trees.
- The buildings will incorporate roof design options including white/reflective materials, vegetated green roofs and/or "solar-ready" design for future installation of photovoltaic panels (PV's).

Open Space

The Northland Newton Development dedicates a significant portion of the site- approximately 44% (approximately 10 acres)- to a rich and diverse network of new open spaces. Building at the density proposed will result in the ability to preserve more of the site area as open space for programmed parks, landscaped green spaces, a playground, bike and walking paths throughout.

- Through the extensive cleanup and ecological restoration of the brook and its banks, **South Meadow Brook Park** will become a natural green space with tree cover and rich vegetation. It will provide public access and enjoyment of this portion of the South Meadow Brook for the first time in decades. South Meadow Brook Park also includes a dedicated dog park area.
- **The Mobility Plaza** adjacent to the Mobility Center includes areas of seating with tables shaded by clusters of trees to provide an enjoyable outdoor spot while waiting for the transit shuttles or just enjoying coffee or lunch.
- The **Laneways** provide a pedestrian-oriented hardscaped east-west connection through the site between the Mobility Plaza and the new community open spaces and playground. Wide walkways

and protected courtyard spaces with seating and tree cover provide rich diversity to the types of open space on the site.

- **Mill Park** embraces the historic nature of the site by displaying repurposed cultural and architectural artifacts as newfound sculptures. It provides a safe pedestrian pathway connection from Needham Street to the new Village Green and through to Oak Street Park.
- **The Village Green** is the jewel of the project's open space network. 1.3 acres of open/green space at the center of the site will host a variety of uses such as frisbee and ball-playing, picnicking or just reading and lounging in the sun. The space will also be actively programmed to host community events such as a farmers' market, temporary ice skating rink and other community-oriented festivals and activities.
- **Oak Street Park** provides a tree-lined landscaped sidewalk edge and encourages pedestrian access from Oak Street up through the park to the Village Green.
- A new **Community Playground** adjacent to the Greenway provides several new spaces for the residents and surrounding community to play. Current research has found that intentionally designed natural playscapes promote early childhood development better than more traditional play structures⁹. The Community Playground will incorporate several different areas of creative natural playscape elements encouraging children to climb, explore and use their imaginations.

Roof Open Space

A preliminary roof mapping exercise was completed for the new buildings and the existing historic Saco-Pettee mill building. The purpose of the exercise is to study the roof areas that may be available after the placement of mechanical equipment and other required items on the roofs and to weigh the opportunities for planted green roof areas, solar ready roof areas and active rooftop terrace amenity areas. Preliminary roof mapping diagrams are still conceptual and subject to the requirements of final design.

Alternative Transportation

According to the U.S. Energy Information Administration (EIA), transportation emissions contributed 37% of the total greenhouse gas emissions in the U.S. in 2017.¹⁰ There are many transportation-related strategies that the Northland Newton Development is integrating in line with the goal of reducing single-occupancy vehicles and vehicular traffic on the site and in the surrounding neighborhoods. The benefits of providing alternatives include improved local air quality, reduced CO2 emissions for mitigating climate change, encouraging exercise and healthy living, and preserving open space by reducing the parking areas provided. The project is incorporating the following strategies:

- Creating pedestrian and bike connections to the Newton Upper Falls Greenway, Upper Falls village center, surrounding neighborhoods, and adjacent bus stops.
- A new Mobility Hub provides both resident and public access to a range of alternative transit options. The Hub will host shuttle service to T stops and commuter rail stops and serve as a welcoming gathering place for shuttle and MBTA riders.
- On-site electric car charging stations are provided for the public and residents.
- Vehicle and bike sharing programs will be incorporated on site.

⁹ Lisa P. Kuh, Iris Ponte, & Clement Chau. (2013). The Impact of a Natural Playscape Installation on Young Children's Play Behaviors. *Children, Youth and Environments*, 23(2), 49-77.

¹⁰ www.eia.gov/energyexplained/index.php?page=environment_where_ghg_come_from

Community Livability

The 'people' part of the sustainable development equation is an important driver for making the project an integrated part of the community fabric and for creating new places that will benefit all who interact with them. Existing residents of the surrounding neighborhoods, new residents of the development, employees of the new businesses, and customers of the new retail stores and restaurants will all appreciate and enjoy the care put into making the Northland Newton Development a livable and vibrant part of the community.

Careful consideration of and planning for intergenerational equity and the inclusion of all ages will be integrated throughout the development and aligns with the core tenets of sustainability. New affordable housing units will provide for economic access and increased community diversity. Of the proposed 800 new housing units, 140 (17.5%) are designated as affordable housing. All 80 units in Building 8 will be 'all age friendly housing' units and will be designed using Universal Design Standards which will make them accessible to all members of the community. This will be the first market rate apartment building in Massachusetts to be built completely incorporating these standards.

Health and Wellness

Sustainable design has seen a recent shift towards a greater focus on the importance of health and wellness for the people both building and occupying the spaces we create. The LEED for Neighborhood Development Rating System promotes this in many capacities which will be important components of the Northland Newton Development. Mixed-use, compact developments inherently promote physical activity through walkability, and in addition, this project will create retail, restaurants and office space within walking/biking distance of existing neighborhoods. Safe, well-lit outdoor spaces and paths will be provided as well as connections to existing regional bike trails, providing opportunities for outdoor recreation and exercise for all ages.

The buildings will also be designed to create healthy indoor spaces for living and working. Specifying low-VOC and non-toxic building materials, finishes and paints contribute to cleaner indoor air quality. Access to fresh air with the use of operable windows will be utilized when appropriate, and daylighting of the interior spaces will be part of the inherent project design criteria.

Climate Change Resiliency

Designing for resiliency to climate change has rapidly become a topic of importance in the real estate and development sector. It is clearly a topic of high priority to the City of Newton as made evident by the detailed section on the topic in the Needham Street Area Vision Plan. Some strategies to address and mitigate climate change on the urban design level have already been addressed in this chapter.

The project must comply with the Massachusetts Environmental Policy Act (MEPA) Greenhouse Gas Emissions Policy and Protocol¹¹. The Policy requires that projects quantify carbon dioxide (CO₂) emissions and identify measures to avoid, minimize, or mitigate such emissions. The analysis will quantify the direct and indirect CO₂ emissions associated with the project's energy use (stationary sources) and transportation-related emissions (mobile sources).

The Northland Newton Development is already incorporating many of the CO₂ mitigation measures suggested in the MEPA Greenhouse Gas Emissions Policy and Protocol. The following suggested measures are an abbreviated list of items already included in the project-

¹¹ www.mass.gov/orgs/massachusetts-environmental-policy-act-office

- Minimize building footprints
- Design project to support alternative transportation to site including transit, walking and bicycling
- Develop or support multi-use paths to and through the site
- Improve building envelopes
- Use high-albedo roofing materials to reduce heat absorption
- Design roofs to be solar-ready
- Construct green roofs to reduce heat load on roof, further insulate, and retain/filter rainwater
- Install high-efficiency HVAC systems and high-efficiency lighting
- Install Energy Star rated appliances
- Install efficient water fixtures that exceed building code requirements
- Collect and re-use rainwater for landscaping
- Design for waste reduction in building design
- Implement a construction waste management plan
- Incentivize use of public transportation
- Pursue opportunities to minimize parking supply

Reduced energy consumption across all of these measures results in reduced consumption of fossil fuels and thereby reduces the carbon footprint of both the project's construction and ongoing operations.

Building Design and Construction Sustainability

Building Energy Efficiency

As mentioned above, all of the new buildings in the project will meet strict standards for energy efficiency. The Needham Street Area Vision Plan states a goal for new projects to target net-zero energy use. Net zero is still a very challenging bar to meet for large-scale commercial buildings in an urban environment, but the Northland Newton Development is committed to pursuing energy efficient construction methods and systems in order to reduce energy and electricity use by the buildings. As the project enters the more focused and detailed design phases, additional energy efficiency strategies and standards will be explored for feasibility and viability, including net zero energy and Passive House building standards.

At a minimum, all new buildings on the site will be designed to be LEED Certifiable under LEED for Building Design and Construction (BD+C) v3. All buildings will be required to meet the Massachusetts Stretch Energy Code¹² as adopted by the City of Newton. The Stretch Code requires that buildings be 10% more energy efficient than the currently adopted International Energy Conservation Code (IECC) 2015, making it a more stringent energy standard than even LEED currently is. The design of the new buildings on the site will strive for a higher energy efficiency threshold than the Stretch Code.

Further investigation and research during schematic design will take place to weigh options for increasing energy use reductions. At a minimum, the buildings will include the following-

- High-efficiency heating, ventilation and air conditioning (HVAC) and domestic hot water systems
- High-efficiency LED smart lighting systems and fixtures
- EnergyStar appliances throughout
- Window and glazing/glass selection will reduce energy required by HVAC systems

¹² The Stretch Energy Code refers to the 9th Edition of the Massachusetts State Building Code 780 with the Stretch Energy Code Amendment 780 CMR 115 AA.

- Energy modeling of each building will be required to demonstrate performance and tangible energy use and cost savings
- High-performance building envelope systems/materials
- Building system commissioning will be performed to ensure all systems are operating as designed

Passive House Standards

The Passive House building standards focus their lens on one of the building sustainability categories included in the LEED Rating System, 'Energy Use Reduction.'

Energy Use of Buildings-

"The world is currently undergoing the largest wave of urban growth in human history. To accommodate the tremendous projected growth, we expect to add 2.48 trillion square feet of new floor area to the global building stock, doubling it by 2060. This is the equivalent of adding an entire New York City every month for 40 years. In addition to the unprecedented growth in the global building sector, nearly two-thirds of the building area that exists today will still exist in 2050. Therefore, any transition to a low-carbon/carbon neutral built environment must address both new construction and existing buildings. Buildings generate nearly 40% of annual global greenhouse (GHG) emissions." (*Architecture 2030*)¹³.

The Passive House building standards "yield aggressive but attainable climate- specific building energy performance targets that substantially cut carbon emissions and energy consumption in buildings to provide superb comfort, superior indoor air quality, and resilience" (PHIUS)¹⁴. The original Passive House standard from Passive House Institute (PHI)¹⁵ was created in Germany largely for single family homes and is widely used throughout Europe and the United States. In the last few years, we have seen further adaptation of the standard for use in the United States as well as modifications for use in multi-family and mixed-use projects. Passive House building standards are some of the very few green building standards that require onsite quality assurance and quality control (QA/QC) during construction for certification, resulting in higher quality, higher performing buildings.

The Northland Newton Development has made a commitment to design and build three new buildings, Buildings 3, 4 and 8, to be Certified under Passive House standards. The team continues to study the feasibility of adopting Passive House design and construction practices as the project progresses and are working with MassSave to incorporate the programs and incentives offered for Passive House projects.

Building Water Efficiency

The use of LEED as a framework will also require meeting water efficiency thresholds for water use inside the buildings, and all new buildings will target a minimum water use efficiency of 30% over the Energy Policy Act LEED v3 water use baseline.

Some of the water efficiency strategies will include the following-

- Low-flow plumbing fixtures that comply with, or exceed, the EPA WaterSense standards
- Water use calculations will be required to demonstrate performance and tangible water quantity savings.

¹³ architecture2030.org

¹⁴ www.phius.org

¹⁵ passivehouse.com

Durability of Building Materials

High quality and long-lasting building materials and finishes will be selected to ensure that the buildings are both beautiful and sustainable for the long-term. Durable materials require less maintenance and don't need to be replaced as often, which allows for a longer material life and inherent sustainability.

Waste Management

In an article by the National Trust for Historic Preservation in 2012, the author coined the phrase, "the greenest building is the one that's already built"¹⁶ and launched a movement to integrate historic preservation and sustainability. The preservation of the historic Saco-Pettee mill building provides many environmental benefits including the reduction of landfill waste from demolition as well as the avoidance of new materials and construction waste that would be generated by replacing it. During construction, the waste materials for all buildings will be sorted and recycled in order to divert as much of the construction waste as possible from landfills, with a minimum goal of 75% construction waste diversion. Once occupied, the buildings will have recycling programs in place for the residents and businesses consistent with, or better than the LEED requirements for collecting recyclables.

Public and Tenant Education Programs

The Northland Newton Development will embrace and demonstrate so many ideas and technologies under the umbrella of sustainable design that it can serve as a wonderful educational opportunity. Site signage will be used to provide education to the public on the environmental strategies including the stream restoration, rainwater management strategies, and LEED-ND signage explaining what LEED is and how the project meets certain credits. The preservation of a historic building and reuse of elements from the industrial history on the site will preserve those cultural assets and provide public education about the history and context of place. A residential tenant education program could be implemented to explain the operations of the building systems, the benefits of the green materials and resulting healthy indoor air quality, as well as tout the energy and water savings of the apartment units and buildings.

¹⁶ Elefante, C. (2012). The Greenest Building Is. One That Is Already Built. *Forum Journal* 27(1), 62-72. National Trust for Historic Preservation.

Comprehensive Sustainability Vision and Timeline

The sustainability goals and strategies of the Northland Newton Development, further illustrated in the Figure at the end of this chapter, mirror the overall vision as well as many of the short- and long-term goals set forth in the Needham Street Area Vision Plan 2018. The project will align with specific desired strategies in all of the Vision Plan categories including environmental health, transportation, land use, and design and will act as a demonstration of innovative and sustainable design aligned with the goals for future growth in the City of Newton and the community.

The Northland Newton Development team is comprised of the best and most innovative consultants focused on tackling the challenging issues of sustainability with cutting edge ideas and include Steven Winter Associates, AHA Consulting Engineers and Lambert Sustainability. In addition, the entire design team of architects, engineers, planners and others include numerous individuals who are LEED Accredited Professionals, Certified Passive House Consultants or hold other sustainability credentials.

Throughout the preliminary planning, design and special permit process, the team has developed and refined the strategies outlined above to produce a development emblematic of 21st century sustainable design. The timeline below highlights just a few of the milestones in the process to date:

October 2016- The Northland Newton Project was registered with the USGBC as a LEED for Neighborhood Development project and in addition the historic Saco-Petee mill building at 156 Oak Street was registered to pursue LEED for Core and Shell.

Spring 2018- The design team and developer kicked off the formal LEED for Neighborhood Development process for the entire site as well as the LEED for Core and Shell process for the Saco-Petee mill building by conducting the required LEED team charrettes.

Fall 2018- A comprehensive and holistic sustainability plan with specific design strategies were developed as part of the special permit application and design guidelines book submitted to the City of Newton.

Sept 25, 2018- The team presented the sustainability plan and strategies for the first time at the Newton Land Use Committee Public Hearing.

January 31, 2019- The entire design and development team took a tour of the Distillery North multifamily housing project in South Boston, the only Certified Passive House multifamily project to date in Massachusetts.

January- Fall 2019- The team and developer met in person and via conference call on several occasions starting in January 2019 with the members of Green Newton to discuss the project's compliance with their adopted green building principles. It was based on these discussions that Northland adopted Passive House as part of their comprehensive sustainability strategy and has committed to at least three buildings being designed to Passive House building standards.

April 2019- Brett Lambert of Stantec Architecture successfully completed the Passive House Institute United States (PHIUS) course and exam to become a Certified Passive House Consultant (CPHC).

April 26, 2019- The team met with the City of Newton and their peer reviewers for an in-depth review of the proposed sustainability and stormwater strategies.

May 14, 2019- The team presented the sustainability, building energy and stormwater management strategies for the second time at the Newton Land Use Committee Public Hearing.

May 2019- Northland brought Steven Winter Associates onto the team to undertake Passive House feasibility studies for several of the buildings and to provide ongoing Passive House and High Performance Envelope consulting services.

May 31, 2019- Michelle Lambert of Lambert Sustainability attended the Embodied Carbon in Buildings Conference at MIT which provided information related to discussions with Green Newton about electrifying the buildings and striving towards zero energy/zero carbon.

June 18, 2019- The team presented at the Newton Land Use Committee Public Hearing on the sustainability strategies for the third time, specifically on the topics of Passive House, transportation demand management and alternative transportation options.

August 2019- Michelle Lambert of Lambert Sustainability successfully completed the Passive House Institute United States (PHIUS) course and exam to become a Certified Passive House Consultant (CPHC).

August 6, 2019- The team met with Kristen Simmons of MassSave to review the new Passive House incentive programs launched by MassSave on July 1, 2019. The developer has applied for funding for eight Passive House feasibility studies to date.

August 13, 2019- Michelle Lambert of Lambert Sustainability and Michele Quinn of Cube3 Architects toured the Concord Highlands affordable housing Passive House development in Cambridge, MA with Passive House Massachusetts.

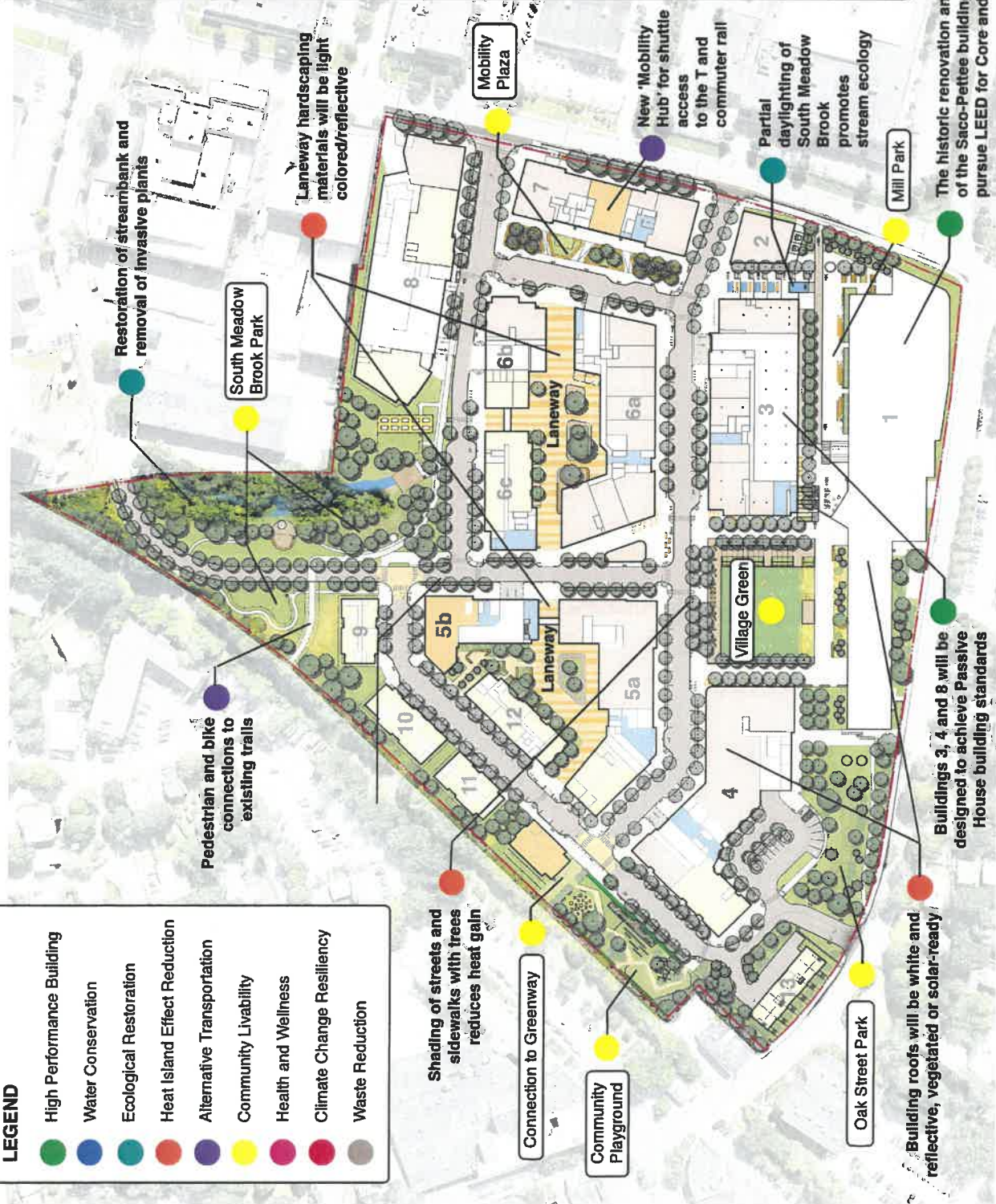
August 22, 2019- The design and development team met with Commodore Buildings, the general contractor for the two largest Passive House projects to date in Massachusetts, to discuss lessons learned and strategies for designing and building to Passive House standards.

Fall 2019- Amber Galko of Cube 3 Architects will complete the PHIUS Certified Passive House Consultant (CPHC) course.

LEGEND

- High Performance Building
- Water Conservation
- Ecological Restoration
- Heat Island Effect Reduction
- Alternative Transportation
- Community Livability
- Health and Wellness
- Climate Change Resiliency
- Waste Reduction

- Development-Wide Sustainable Strategies**
- The following strategies address sustainability at the site-wide scale or otherwise occur in many places across or entirely throughout the development:
- Entire site will pursue LEED for Neighborhood Development
 - All new buildings will be designed to achieve a LEED Gold 'Certifiable' standard
 - Use of drought tolerant and native plants reduces irrigation needs
 - Low Impact Design (LID) strategies will be employed in the design of stormwater management systems across the site to reduce runoff and improve stream water quality
 - Permeable paving will reduce stormwater runoff
 - "Live-work-play" mixed-use development creates a vibrant, desirable and sustainable community
 - New affordable housing units create economic access
 - New parks and open spaces create community gathering spaces
 - Neighborhood walkability promotes physical activity
 - Green/sustainable building materials create healthy indoor air quality
 - Energy efficient buildings reduce carbon footprint of the development
 - Material waste recycling during construction



BUILDING 06A SOUTH ELEVATION



BUILDING 06A NORTH ELEVATION



- (06A) Level 8
219'-0"
- (06A) Level 7
200'-0"
- (06A) Level 6
189'-0"
- (06A) Level 5
175'-0"
- (06A) Level 4
165'-0"
- (06A) Level 3
150'-0"
- (06A) Level 2
139'-0"
- (06A) Level 1
VARNIES
- (06A) Level P1
103'-8"

MAIN STREET VIEW FROM NEEDHAM STREET ENTRY Block 6 Design Update



VIEW FROM VILLAGE GREEN Block 6 Design Update



LANEWAY VIEW

Block 6 Design Update

