

THE VALENTE BRANCH LIBRARY

MAKING CAMBRIDGE'S VISION FOR A SUSTAINABLE COMMUNITY A REALITY

Cambridge, MA, USA

"Cantabrigians are proud of the space, size, accessibility and welcoming nature...the new space is a great example of the City's commitment to enhancing the experience of Cambridge residents when visiting our libraries."

*Maria McCauley
Director of Libraries*





In 2015, the City committed to a 25-year Net Zero Action Plan to transform the City into a Net Zero community by 2040. The Valente Branch Library & Community Complex is the largest of the City's first projects built under this ambitious mandate. The project reflects the City's commitment to sustainable and resilient municipal buildings.

The library balances the sense of welcome and much needed open and community spaces to an underserved neighborhood while providing the City's youngest citizens a safe and inspiring learning environment.

The building's varied program makes it many things to many people – public library, a school, preschool, pools, school district administration, and community center. By investing in a project that serves so broad a range of the community's needs, the City demonstrates its commitment to equity, diversity, and inclusion. The branch library and pools are prominently placed to send a strong signal to all to engage in their community resource and claim it as their own.

DESIGN PRINCIPLES:

1. NET ZERO, SUSTAINABILITY, RESILIENCY
2. LIBRARY AS A PART OF A WHOLE-BLOCK CIVIC AMENITY
3. INSPIRING LEARNING ENVIRONMENT
4. INCLUSIVE RESPONSE TO THE NEEDS OF THE COMMUNITY

NET ZERO, SUSTAINABILITY, RESILIENCY

This 273,000 GSF project is located in the heart of the City. Designing a Net Zero building while increasing open space and fitting into the neighborhood were key program requirements. Given these limitations, a high efficiency building envelope and careful systems selection was necessary to reduce the energy needs. The project team worked with the multiple users to further reduce the energy load and optimize operations. By maximizing roof area and incorporating PV array into the facade, the result is a low EUI building (10) that produces 60% of its energy on site. The \$159 million school and community complex is currently the largest building to achieve both Net Zero Emissions and LEED v4 Platinum in Massachusetts.



2,190*
MWh
ENERGY USE

–

60%
ENERGY
GENERATED
ON SITE

–

40%
PROCURED
FROM
OFF-SITE
RENEWABLES

=

0
CARBON EMISSIONS
AND ENERGY

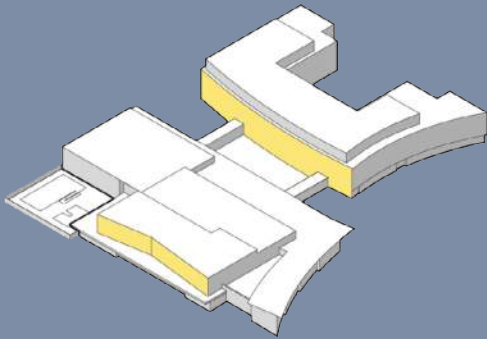
* Includes a 20% contingency

RESILIENCE: EXTREME WEATHER AND REDUCED RELIANCE ON THE GRID

The building was sited to keep it operational through 100 year storms using the City's 2070 flood maps. The ground floor is set above the flood plain, a series of rain gardens and storm detention systems around the perimeter mitigate flooding in storm events, and critical systems (i.e. the emergency generator) are placed above grade. The building provides heat relief for the community through the public library, pools, and splash pad in addition to 147 shade trees on site.

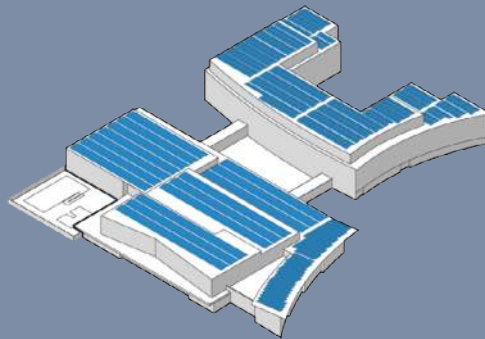
FACADE MOUNTED PV

- No fossil fuel combustion on site
- All building systems are electric



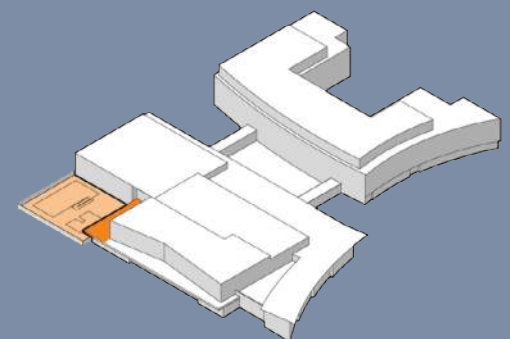
ROOF MOUNTED PV

- 1.319 MWh electricity generated on-site
- Net EUI of 10 kBTU/SF/YR



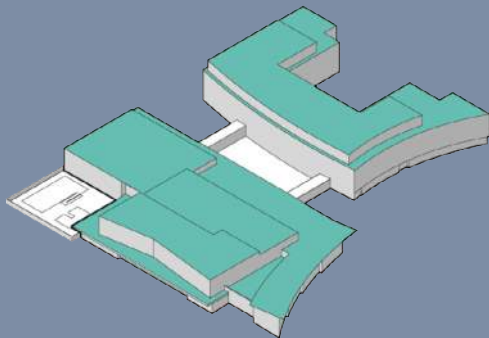
SOLAR THERMAL

- Provides hot water for the kitchen/servery, radiant heating and pools



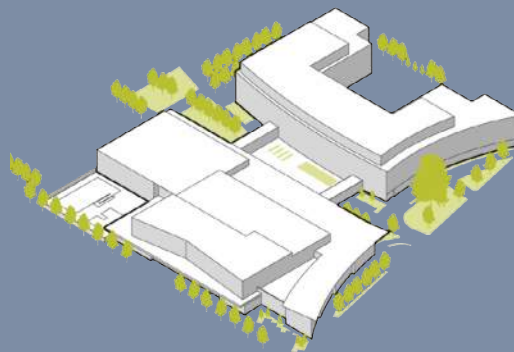
RAINWATER HARVESTING

- 100% of roof water retention
- 30,000 gallon tank collects rainwater from the roof for irrigation and toilet flushing



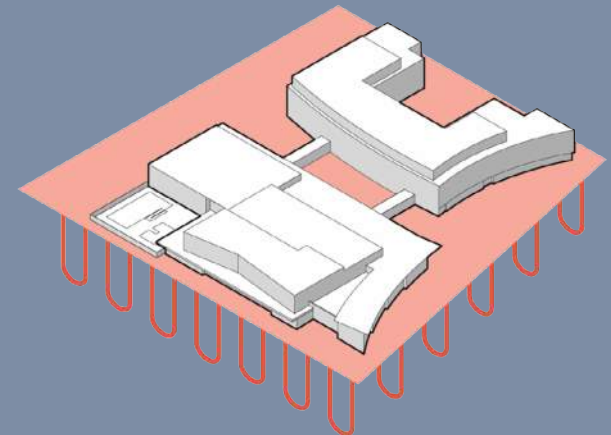
INCREASED GREEN SPACE

- Use of native, drought resistant plants
- System of rain gardens
- 2 acres of open space for urban neighborhood



GEO THERMAL HEATING & COOLING

- 190 geothermal wells at ~500 ft deep
- Surpasses Architecture 2030 goal with a 72% reduction



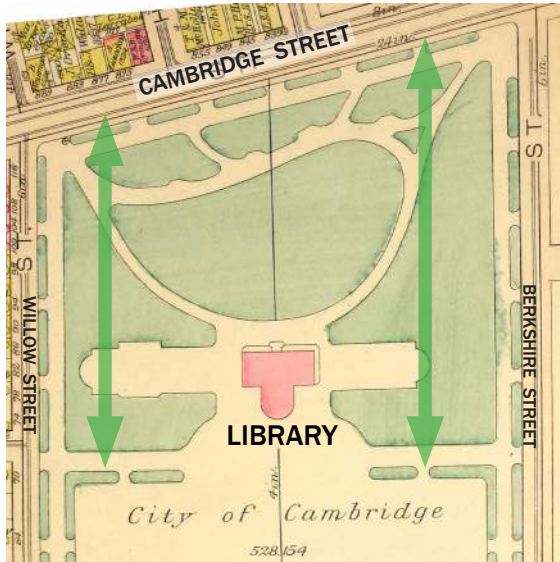


COMMUNITY COMPLEX

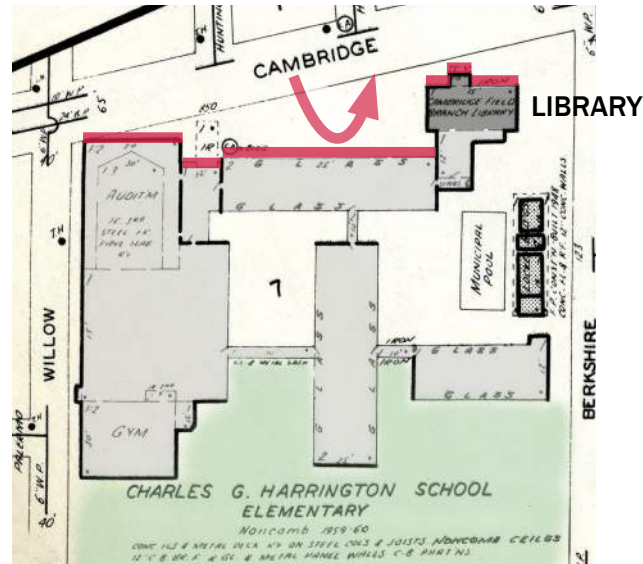




HISTORY OF SITE



1896 LIBRARY AND CIVIC CENTER



1961 LIBRARY AND SCHOOL



TODAY'S COMMUNITY COMPLEX

A CHERISHED NEIGHBORHOOD GREEN

This block has a long tradition of being a special gathering place for the neighborhood. The City, recognizing the importance of fresh air and open spaces for all, transformed the landscape and opened the park in 1896. The open space comprised both parkland and playing fields. In winter, the fields were flooded for skating. The Library served as an educational and community resource.

VISUALLY BLOCKED PARK

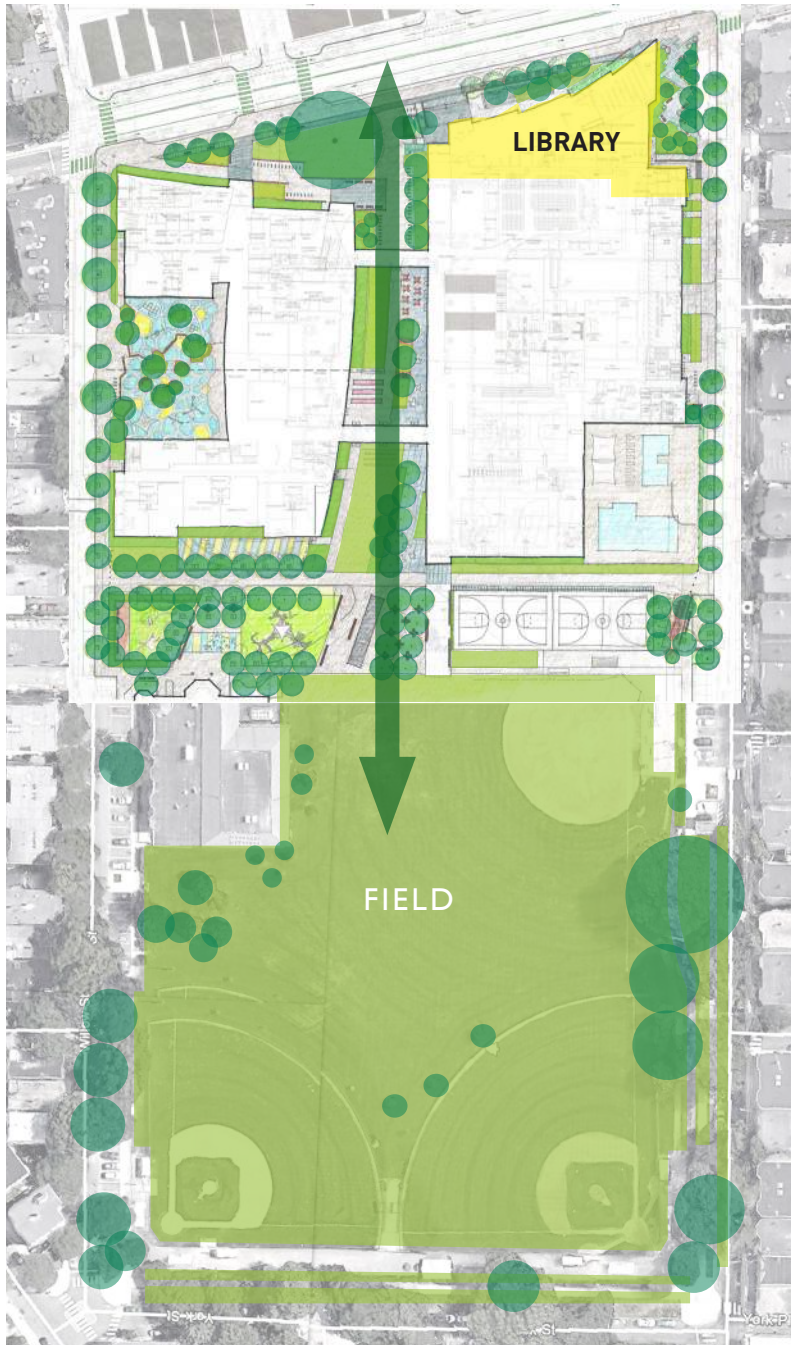
The Library enjoyed prominence at the center of the park for over 60 years. The 1961 School and Branch Library replaced the existing Cambridge Field Branch Library and essentially blocked access from Cambridge Street to the playing fields.

RECONNECTING THE CITY AND PARK

The 2019 Community Complex reconnects the City and the Park with a central green spine and surrounds the new complex with green and open spaces for all. The Library again serves as a community anchor and educational resource.

RECONNECTING A COMMUNITY TO ITS TREASURED GREEN SPACE

CREATING A GREEN SPINE



A NETWORK OF URBAN GREEN SPACES

In this dense urban setting, improving and increasing open space was a major goal for the project. Three design ideas turned vision into execution.

Civic Plaza: the building form provides a welcoming green space for residents. The plaza serves as school drop off/pick up, a place to gather and play bocce, and quiet seating to read or enjoy the library's Wi-Fi.

Maximizing Open Space: by locating the 105 space garage below grade, the City gained almost an acre of additional green space. A series of active, learning, and contemplative spaces surround the building and provide the neighborhood and schools a place for everyone.

Two Building Parti: an Academic and Community Wing flank the complex's green spine which visually and physically connects the City to its green and open spaces. Large doors at connectors are open for special community events, allowing for passage from street to park.



CIVIC PLAZA

"We are extremely happy with the new campus...The physical layout, natural lighting, net zero goal and easy access to the outdoors all enhance the learning experience... the campus has transformed the streetscape along Cambridge Street highlighting the exterior grounds as a place for passersby to stop and soak up the fresh air and enjoy the beautiful landscaping."

Jim Maloney, COO
Cambridge Public Schools



MAXIMIZING OPEN SPACE



TWO BUILDING PARTI

REDUCING ENERGY LOAD THROUGH BUILDING MASSING



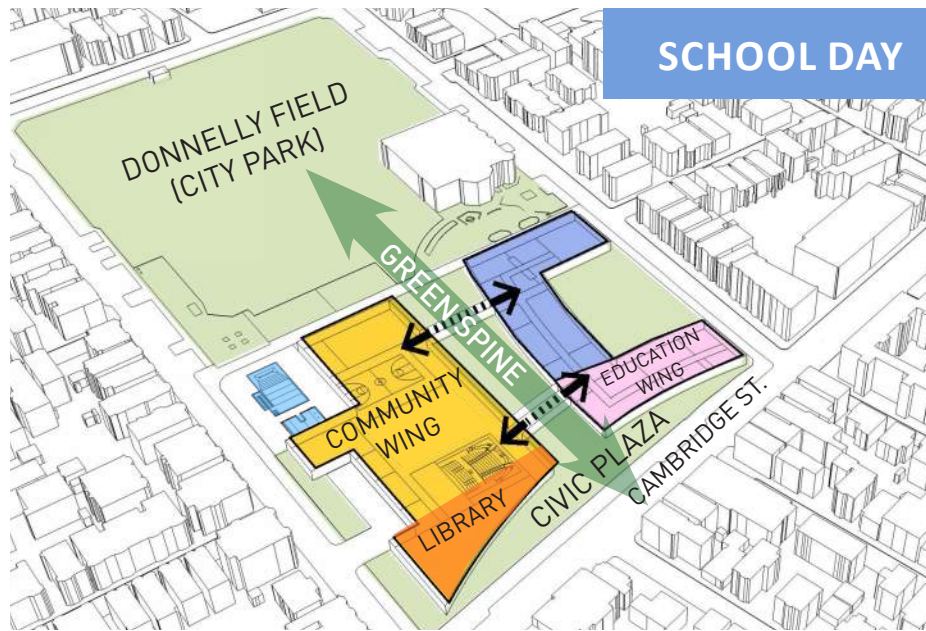
Library



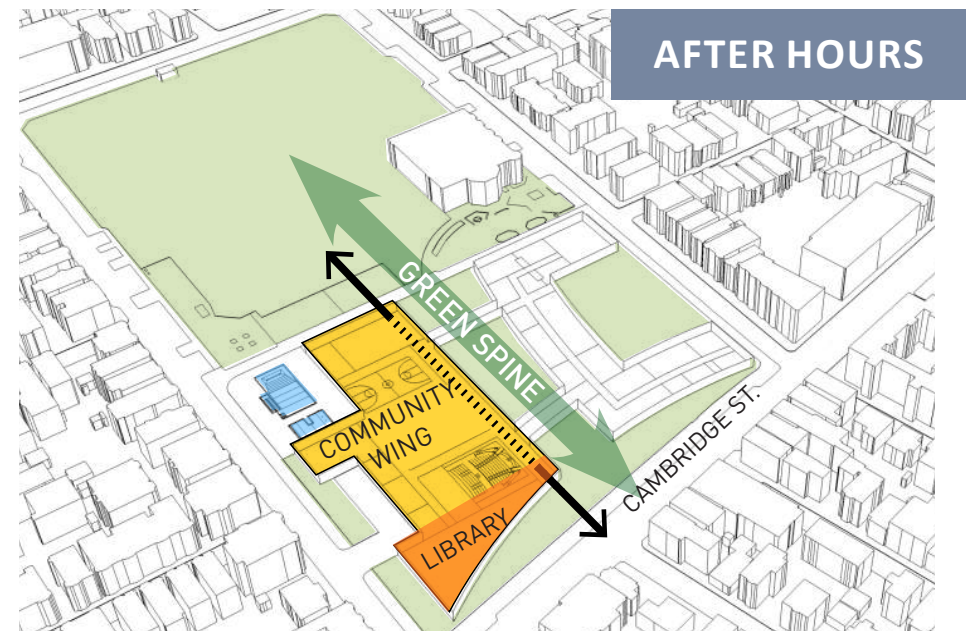
Entrances to Each Wing Flank Opening to Park



Academic Wing



School Day: This whole-block civic project is organized into two wings, a Community Wing and an Educational Wing, creating an open view between Cambridge Street and Donnelly Field.



After Hours: Community Wing containing the Library and portions of the school are open to public access (gymnasiums, cafeteria, auditorium) are grouped together.



COMMUNITY WING

The library anchors the two building parti. The Community Wing can remain open to the public while securing the school after hours. It provides a host of gathering and active spaces to serve the neighborhood's desire to be a community of active, engaged, and life long learners. The library shares the auditorium with the school and provides community programming.



AN INSPIRING LEARNING ENVIRONMENT



"It was important to us that the [complex] be open, bright, and viewed as an accessible partner to the wider community. The new [complex] will attract more people to the school and will also invigorate us to think more creatively and collaboratively with caregivers about how to make this [complex] a home away from home -- a community center where you will want to be."

*- Manuel Fernandez
Principal of Middle School*





RESPONDING TO THE NEEDS OF THIS UNIQUE COMMUNITY



Program and Visioning Meeting



Community Open House



*Design Review with Library Director and
Massachusetts Board of Library Commissioners*



Pre-School Visit to Valente

PATRON FOCUSED EXPERIENCE

This 21st century library is a place for gathering, sharing of ideas, creating and curating content with the resources of analog and digital media. The new Valente shifts the focus from book storage to a patron focused experience. Cambridge is a community where over 50+ languages are spoken. The Valente Branch Library celebrates this through cultural programs and proudly holds the city's Portuguese collection. Patron focused features include:

- Community Room for Programming
- Balanced Daylight
- Access to Views and Natural Light
- Warm Materials
- Comfortable and Varied Seating
- Places to Work, Research, Play
- Technology Rich: Wi-Fi Extending to the Library Garden and Civic Plaza
- All Shelving on Casters for Day to Day and Long Term Flexibility

INCLUSION AND EQUITY

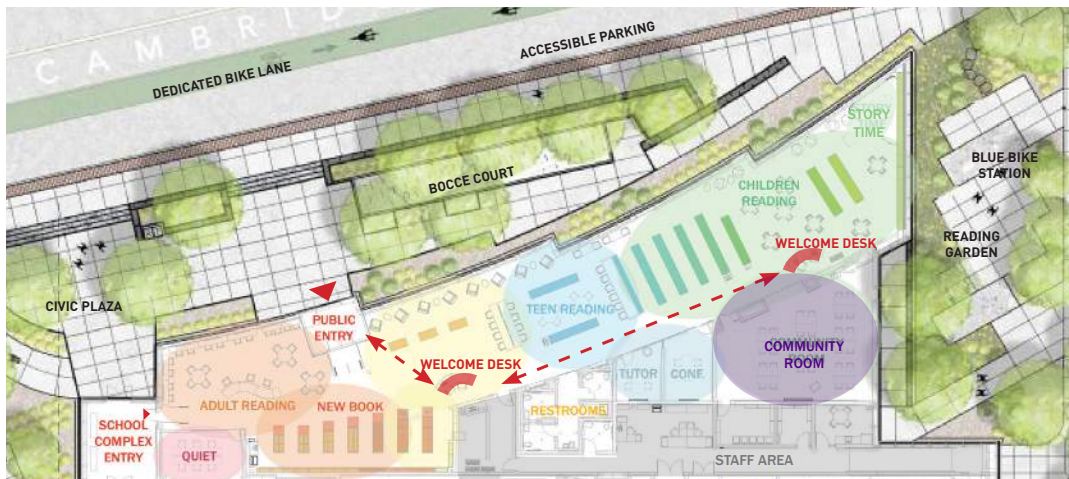
True to the Cambridge Public Library mission statement, Valente Branch Library serves as a doorway to opportunity, self-development and recreation for all its residents, and as a forum where they may share ideas, cultures and resources among themselves and with people around the globe.

- **Quality and Equitable Education** – the branch provides learning opportunities for everyone from birth to end of life. It makes special efforts to provide learning opportunities for vulnerable and at-risk communities. Staff teach free digital literacy skills to low-income and low literacy patrons.
- **Good Health and Well-Being** – the library partners with local nonprofits to help elders to learn and access aging-in-place and solo aging resources. During the pandemic staff handed out test kits and masks and partnered with the Health Department to host PCR testing on site
- **Decent Work and Economic Growth** – the library offers career and job-seeking workshops and partners with agencies and schools to offer learning internships and summer placements.
- **Industry, Innovation and Infrastructure** – Cambridge Public Library partners with the City STEAM initiative, non-profits, and STEM industry partners to create STEAM learning opportunities for youth and emerging adults. This includes teaching teens math, design, and presentation skills through out STEAM Academy and through experiential work in its state-of-the art makerspace and recording studio (the makerspace is at the CPL Main Library although STEAM learning takes place throughout the branch libraries including Valente).

- **Reduced Inequalities** – the library focuses on digital equity and providing materials and assistance to vulnerable and low-income populations including distributing technology to housing sites, elder homes, and partnering agencies and through our social work program that provides support across the library system and in the community. The library also provides immigrants with English classes and assistance with finding jobs, navigating a new place, and learning technology. The STEAM program focuses on creating career pathways for diverse youth.

- **Sustainable Cities and Communities** – the library embraces the triple-bottom line approach to sustainability by seeking practices that are Environmentally Sound, Economically Feasible, and Socially Equitable.

- **Peace, Justice and Strong Institutions** – The Valente Branch Library is committed to ongoing organizational development work including equity, inclusion and anti-racism work to create an inclusive, committed, just and effective workforce. It is committed to presenting programs on equity and justice and related issues.



The Valente Branch's varied program serves many functions to its users



“From an equity perspective, every[one] should be able to get what they need – and the building is designed to do just that...[it] allows us to truly live out our values and commitment to social justice – and our responsibility to our community and the environment.”

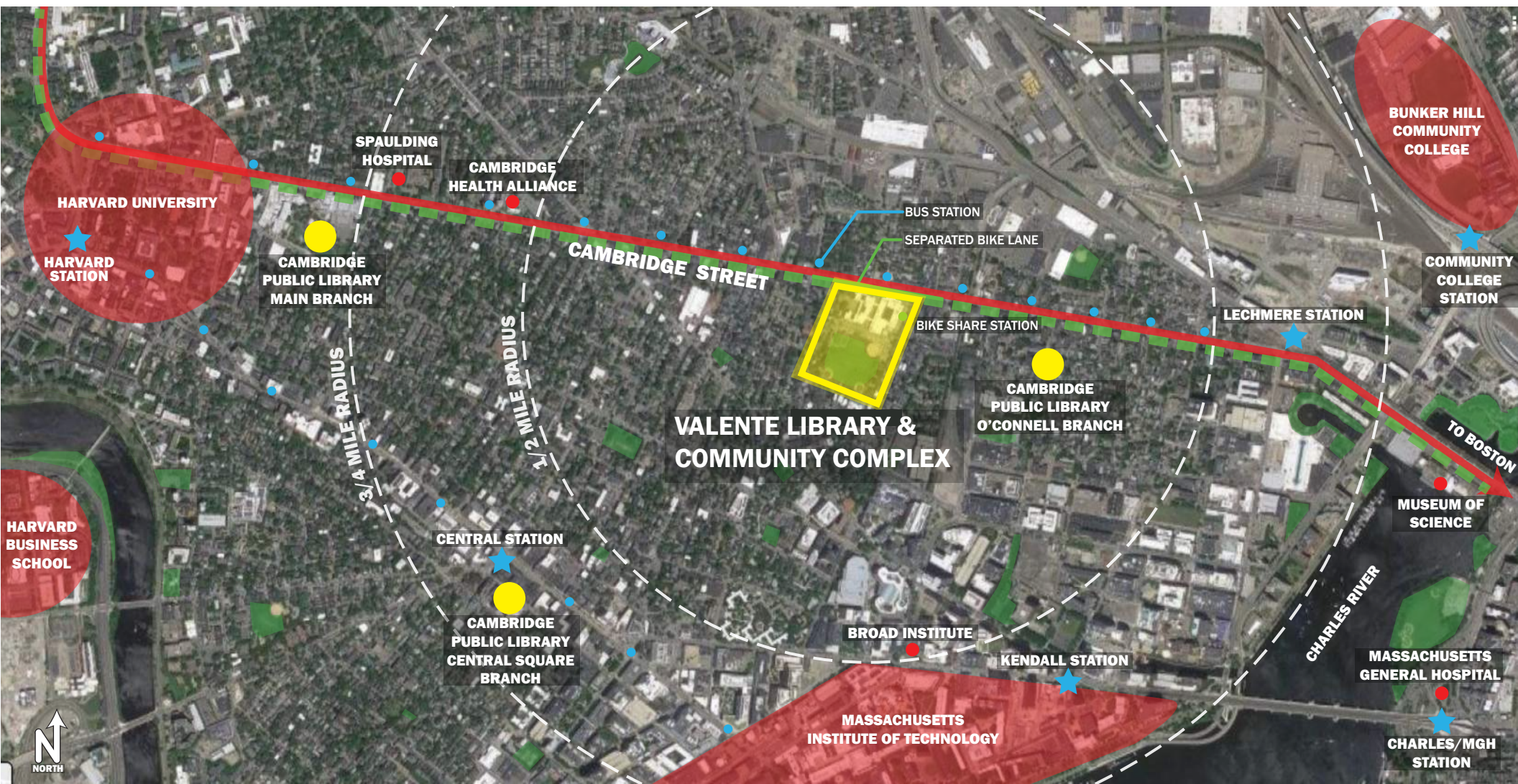
*Principal Darrell Williams
King Open School*



CONNECTIVITY: A NETWORK OF CITY RESOURCES

This centrally-located project strengthens multi-modal transit and connectivity of the site to city resources and improves safety and access to the site.

- Walk Score: 93, Transit Score: 71; Bike Friendly: 91
- City bus stops for 7 bus lines
- Bike Share station on site
- Separated bike lane on Cambridge Street Corridor
- Indoor / outdoor bike parking and fixing station
- Dedicated school bus and car drop off areas
- Raised crosswalks around the site
- Red and Green Line subway stations within 3/4 mile radius
- Underground staff parking on site- available for snow emergencies
- 15 food markets and 15 parks within 3/4 mile radius





GREEN LIBRARY SERVICES

The library's built environment exists to support the programs and practices that make meaningful impacts on people's lives. The Valente Branch Library works within the larger Cambridge Public Library network (annual budget \$16.1M) to bring resources and programming to the community. The library partners with the City's Department of Public Works on recycling and sustainability programs, bringing together opportunities for collaboration across City entities. In addition to participating in a community complex that is Net Zero and LEED v4 Platinum certified, the library uses its gathering spaces to host workshops around green programs ranging from sewing, fixing and reuse to energy reduction both within the building and in the community.

In the library offices, these practices and principles present themselves through small and large changes that help inspire individual action and agency. The library generally orders recycled paper products and provides dishware and metal utensils for staff as well as promoting a continual commitment to sustainable practices and community engagement.



"... an environment that was designed just for them. The students, families, and faculty ... deserve every opportunity to experience the excitement that comes with intellectual discovery and this new facility offers so many new avenues for that type of exploration."

*- Kenneth Salim
Former Superintendent of City Schools*