Eversource East Cambridge Substation
presented to

Kendall Square Association

September 2, 2020

A New Substation in East Cambridge

Why it's needed and how we got here

EVERSOURCE ENERGY

A strong electrical transmission grid is vital to the safety, security and economic prosperity of the region.

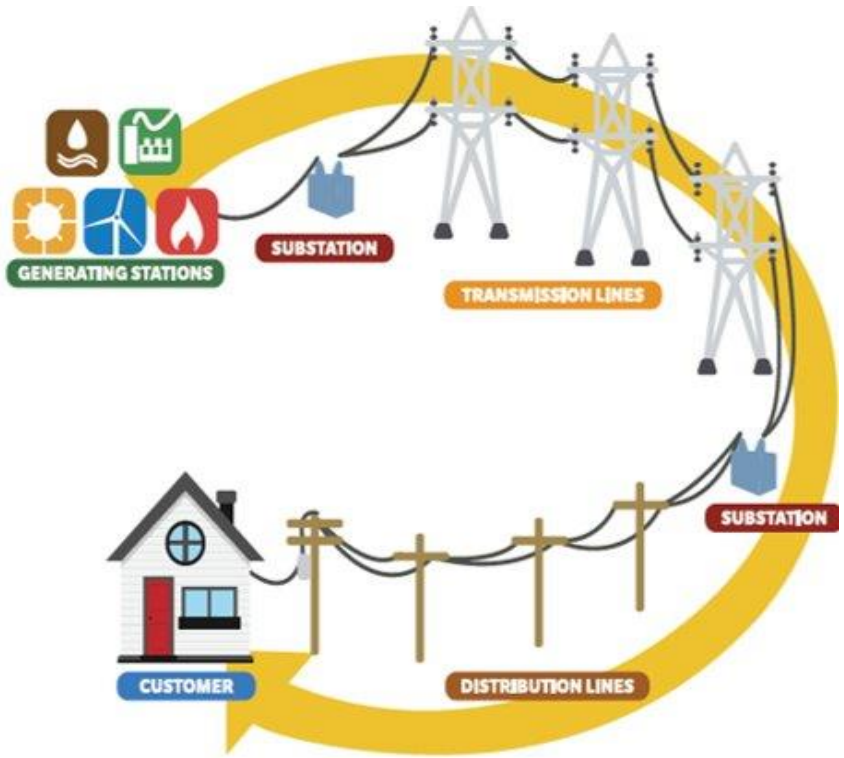
The transmission system serves a critical role to ensure that electricity flows with a high degree of reliability from wherever the power is generated to where power is needed.

The currently proposed site at the "Blue Garage" came about after discussing the need for a new substation to serve East Cambridge/Kendall Square following several Transportation & Public Utility Committee hearings and other City Council led discussions.

The original proposed location on Fulkerson Street was widely opposed by the City Council and neighborhood groups.

During the fall of 2019 and winter of 2020, Eversource assessed the viability and constructability of multiple alternative locations.

In the spring of 2020, Eversource and Boston Properties announced a redevelopment proposal for the Blue Garage site to provide space for a below grade substation alongside new commercial and residential development.



Growth in East Cambridge/MIT Kendall Square

A Robust, Vibrant Community

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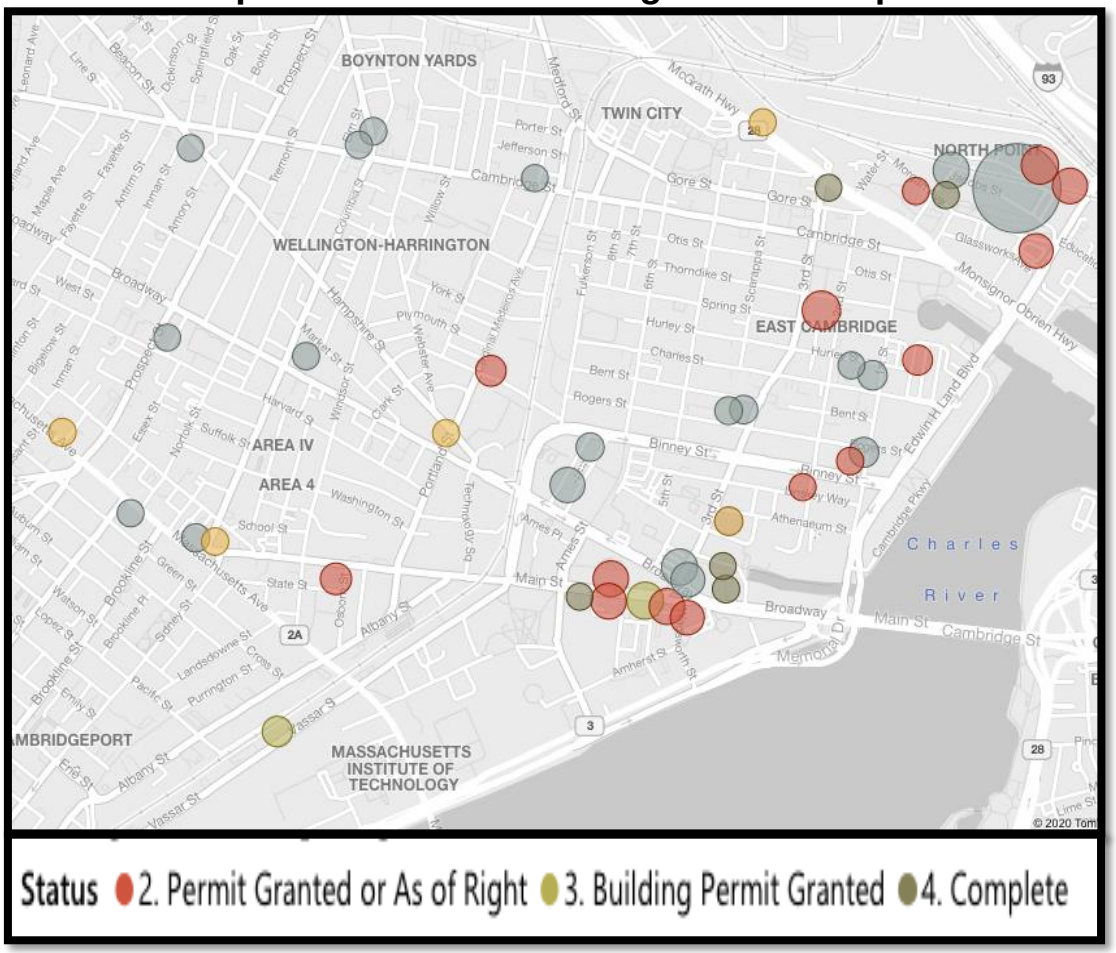
Projects Permitted, Under Construction or Recently Completed in East Cambridge/Kendall Square

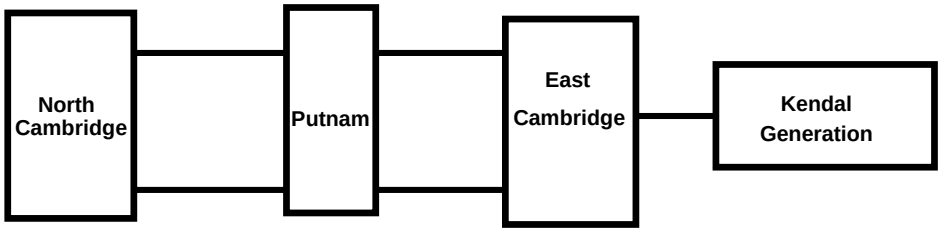


Source: Cambridge Community Development website.
Projects shown in East Cambridge.

- Eversource's obligation is to support this growth and provide reliable power and resiliency to the residential, retail, hotel and office projects that continue to strengthen the region's economy.
- New business and commercial growth is especially noticeable in East Cambridge and Kendall Square, which supports a daily employee population of over 50,000 within a one-mile radius of the neighborhood.
- The Cambridge Community Development Department currently lists projects 33 projects permitted or under construction in the East Cambridge/MIT area. 8.5M square feet of new residential and commercial space is planned or in development in these two neighborhoods alone.

Cambridge Electric Supply

Existing System Today and With Proposed Station

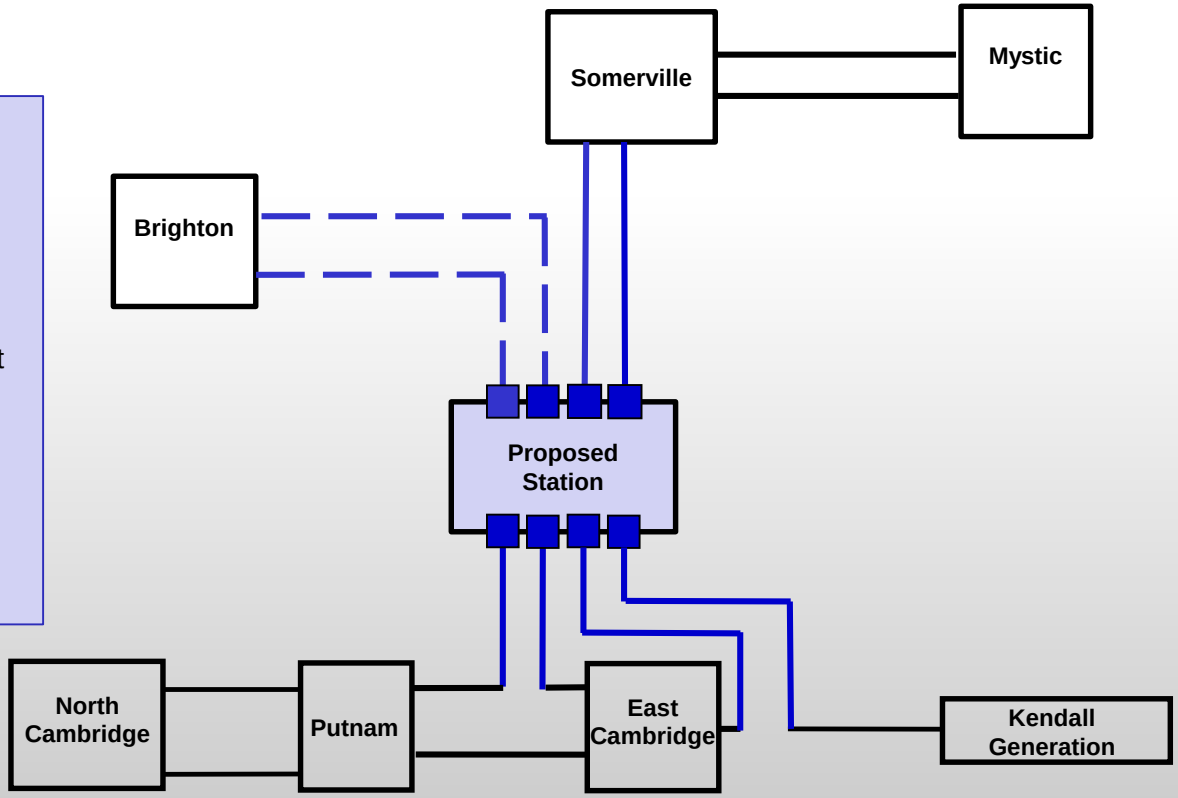


Existing System in Cambridge

- Linear system served by a pair of underground cables.
- Certain cable contingencies result in the loss of more than half of customer load in Cambridge
- Energy Efficiency and distributed resources are not sufficient to maintain service.
- Current substations serving Cambridge at or near capacity.

A New 115 / 14kV Substation:

- Addresses the immediate need to accommodate load growth present in E. Cambridge.
- Enhances the entire grid serving all of Cambridge by providing robust system redundancy.
- Reduces risk of overloaded equipment at distribution substations throughout the grid, improving system operational efficiencies.
- Facilitates delivery of clean generation resources by upgrading the transmission and distribution networks throughout Cambridge.



Proposed Underground Substation Site

Ground level open space, substation fully below grade

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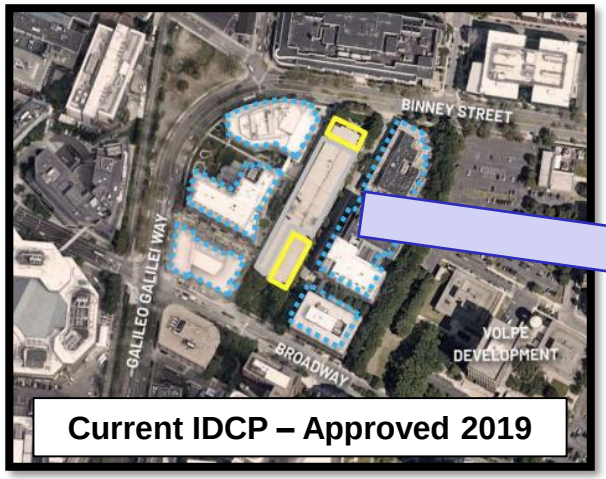
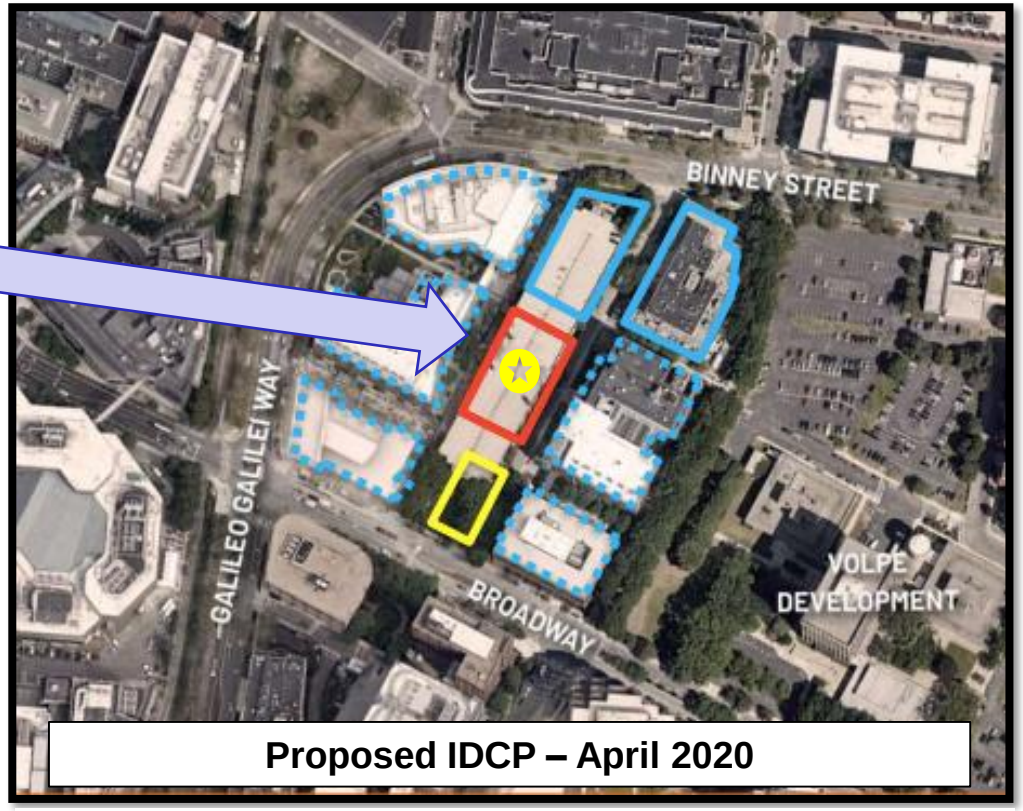


Boston Properties' approved Infill Development Concept Plan (IDCP) for this site (above) requires an amendment to provide the necessary space for the substation and additional commercial and residential space (right).



The added commercial/residential space are an important incentive to facilitate the cost of site preparation, which requires burying existing parking below grade.

OPEN SPACE BENEFIT

- Intent is to provide usable open space above an underground station
- Substation would be concealed to casual observer, blending in with the cityscape
- Provides a tangible community benefit
- Configuration continues to advance

BELOW GRADE SOLUTION

- Multi-level substation will be fully below grade
- Placement in center of parcel allows room for underground cables connected to the electric system to sweep (or “bend”) from the streets into the substation
- Will require entry points for maintenance and operations
- Design continues to advance

Proposed Underground Substation Concept*

Multi-level below grade substation

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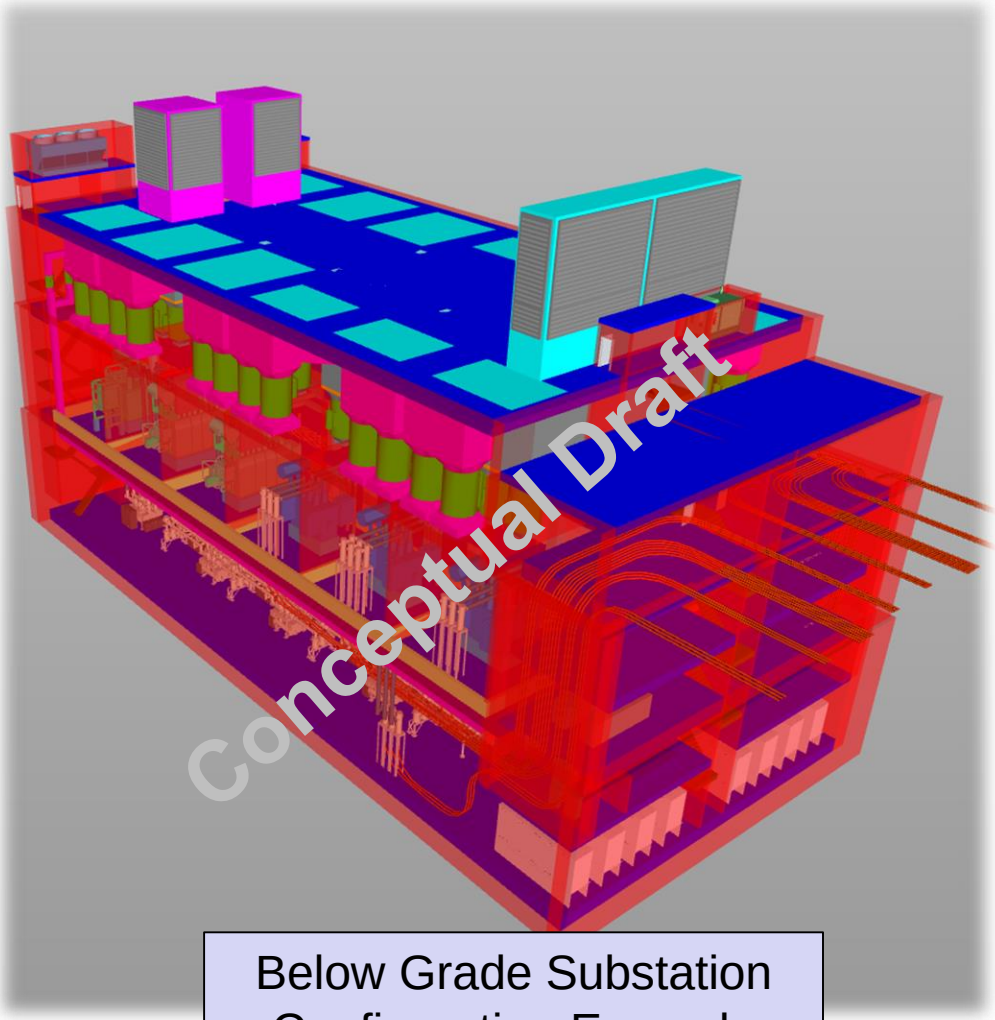
EQUIPPED TO MEET AREA POWER NEEDS

- Lower level(s) would house transformer vaults, cable routing, circuit breakers, switchgear, maintenance equipment, etc.
- Mid-level(s) would hold capacitor banks, relays, equipment protection systems
- Upper level(s) would house ventilation equipment, fire protection systems, communications equipment
- Space provided for maintenance and equipment change out
- Above ground ventilation stacks and equipment head house strategically designed so that they are unnoticeable to the casual observer
- Footprint 250 feet x 140 feet x 120 feet approx.



Below Grade Substation Configuration Example

** Conceptual draft. Subject to change as site development progresses.*

Below Grade Urban Substation Examples

Cathedral Square, Roosevelt Park, West End

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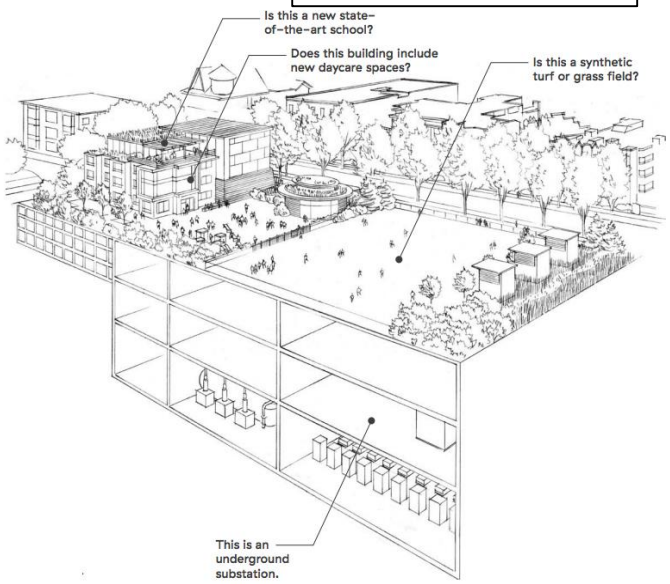

Other Below Grade Substation Examples

BC Hydro – Proposed West End Station

https://www.bchydro.com/energy-in-bc/projects/west-end-substation.html

Powering Greater Cambridge

Challenges Connecting the New Substation to the Electric Grid

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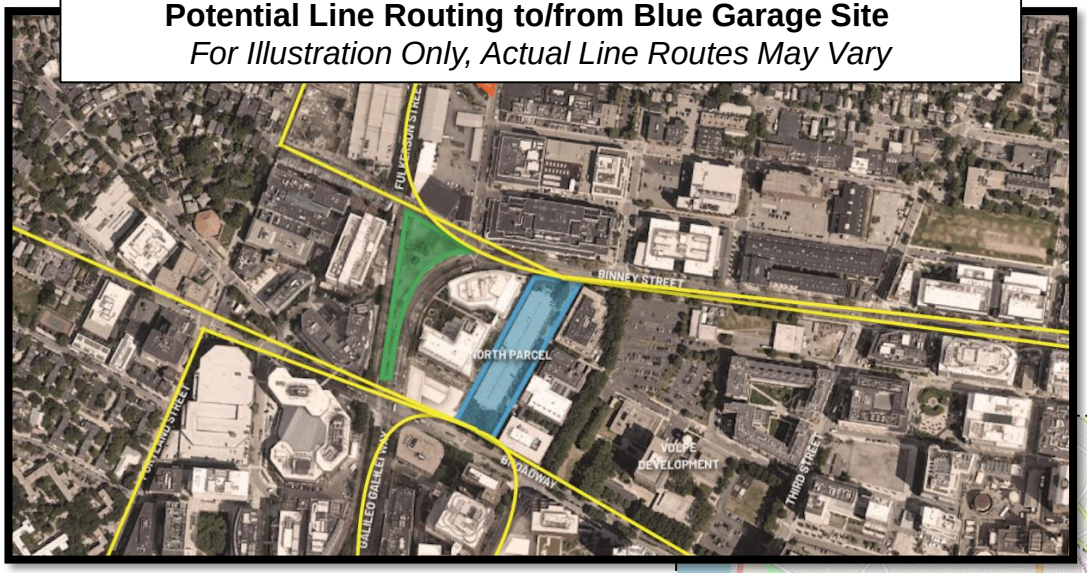
Potential Line Routing to/from Blue Garage Site

For Illustration Only, Actual Line Routes May Vary

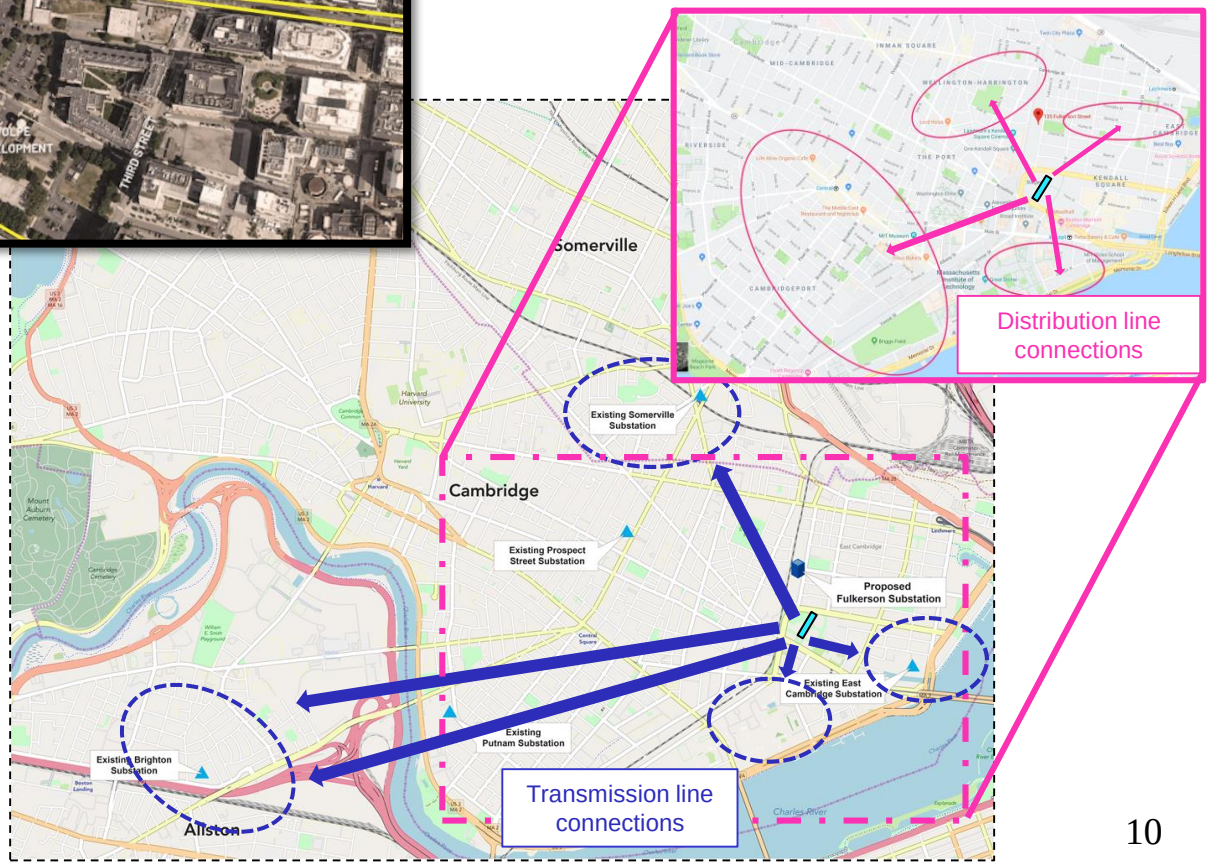


LINES IN AND OUT OF THE STATION

- Cable sweeps, working around existing infrastructure within public roadways (Binney Street, Broadway and Galileo Way) presents challenges
- Very limited ability to modify substation placement due to adjacent below grade infrastructure and building foundations

TRANSMISSION AND DISTRIBUTION LINE ROUTING

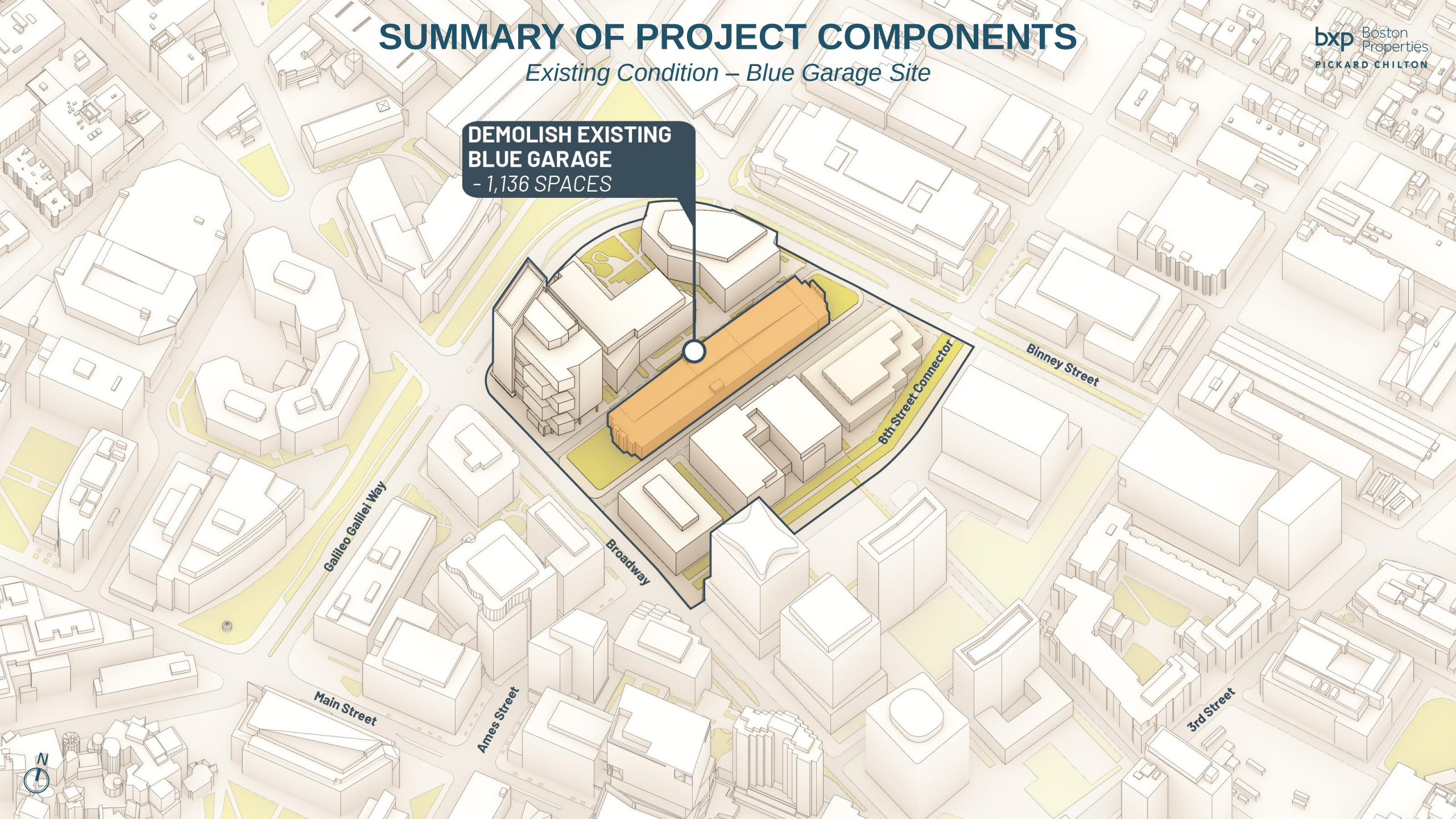
- Construction challenge to find room to place miles of transmission *and* distribution lines
- Interconnections span three cities and cross the Charles River



SUMMARY OF PROJECT COMPONENTS

Existing Condition – Blue Garage Site

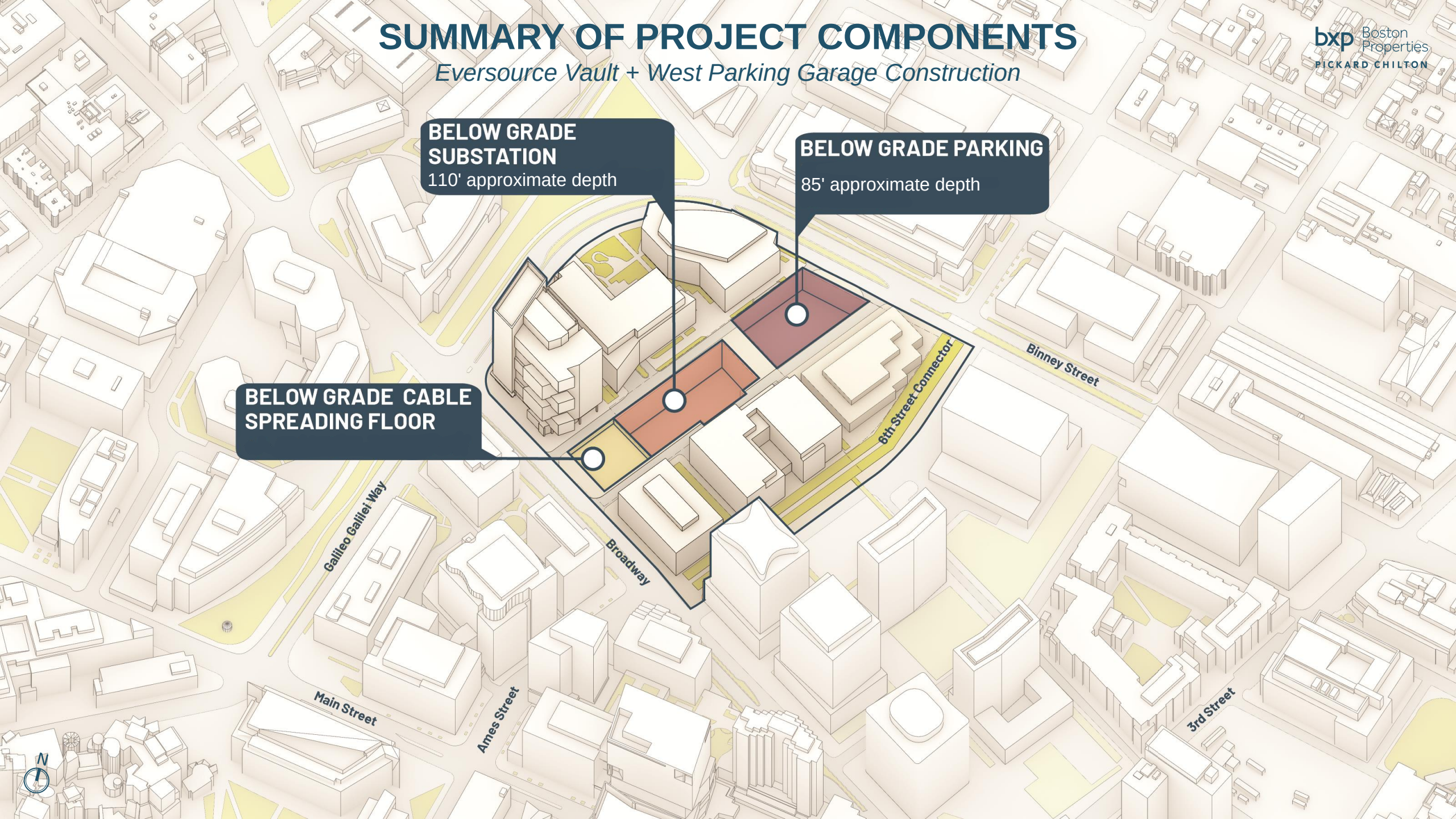
bxp Boston Properties
PICKARD CHILTON



SUMMARY OF PROJECT COMPONENTS

Eversource Vault + West Parking Garage Construction

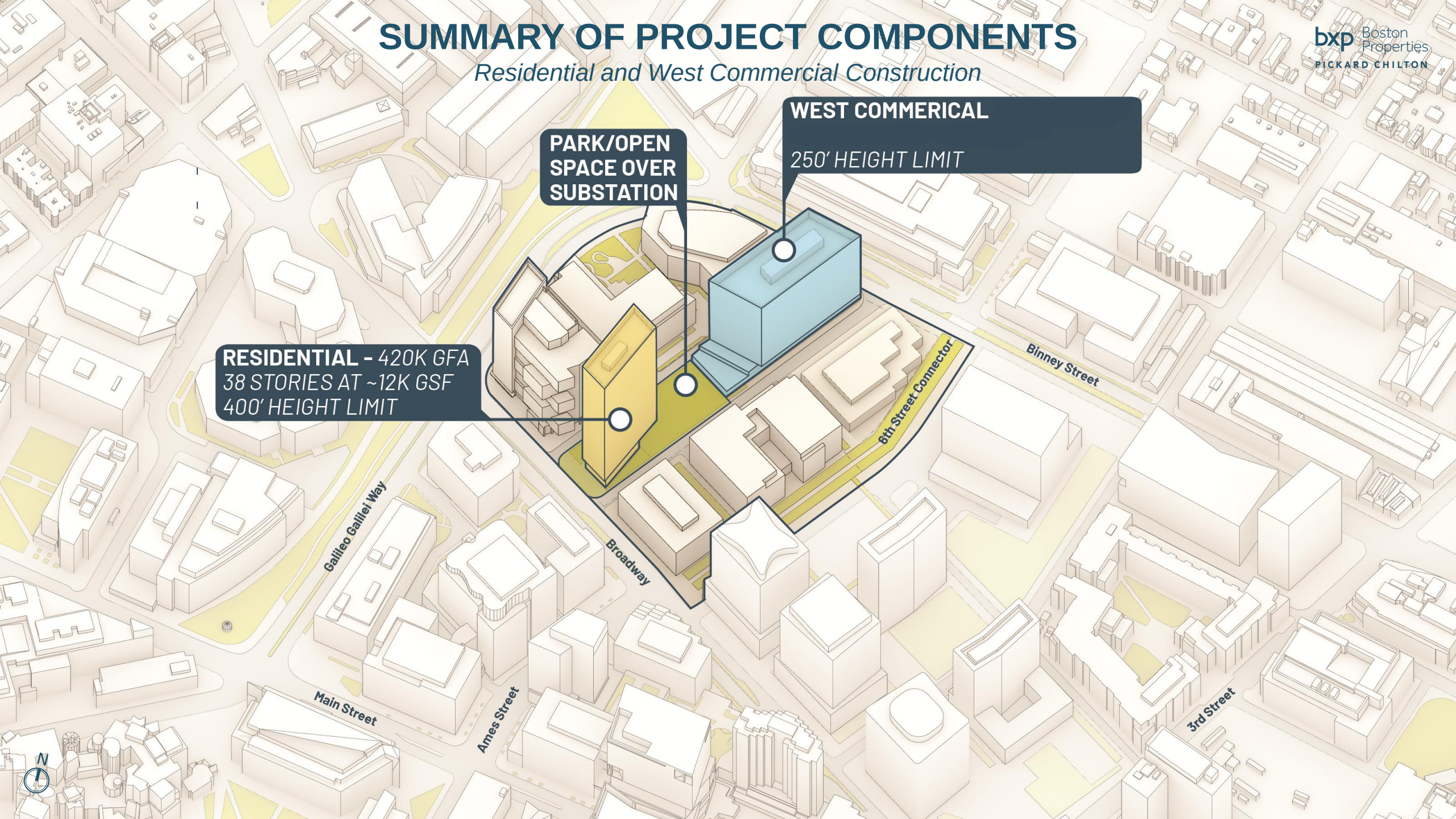
bxp Boston Properties
PICKARD CHILTON



SUMMARY OF PROJECT COMPONENTS

Residential and West Commercial Construction

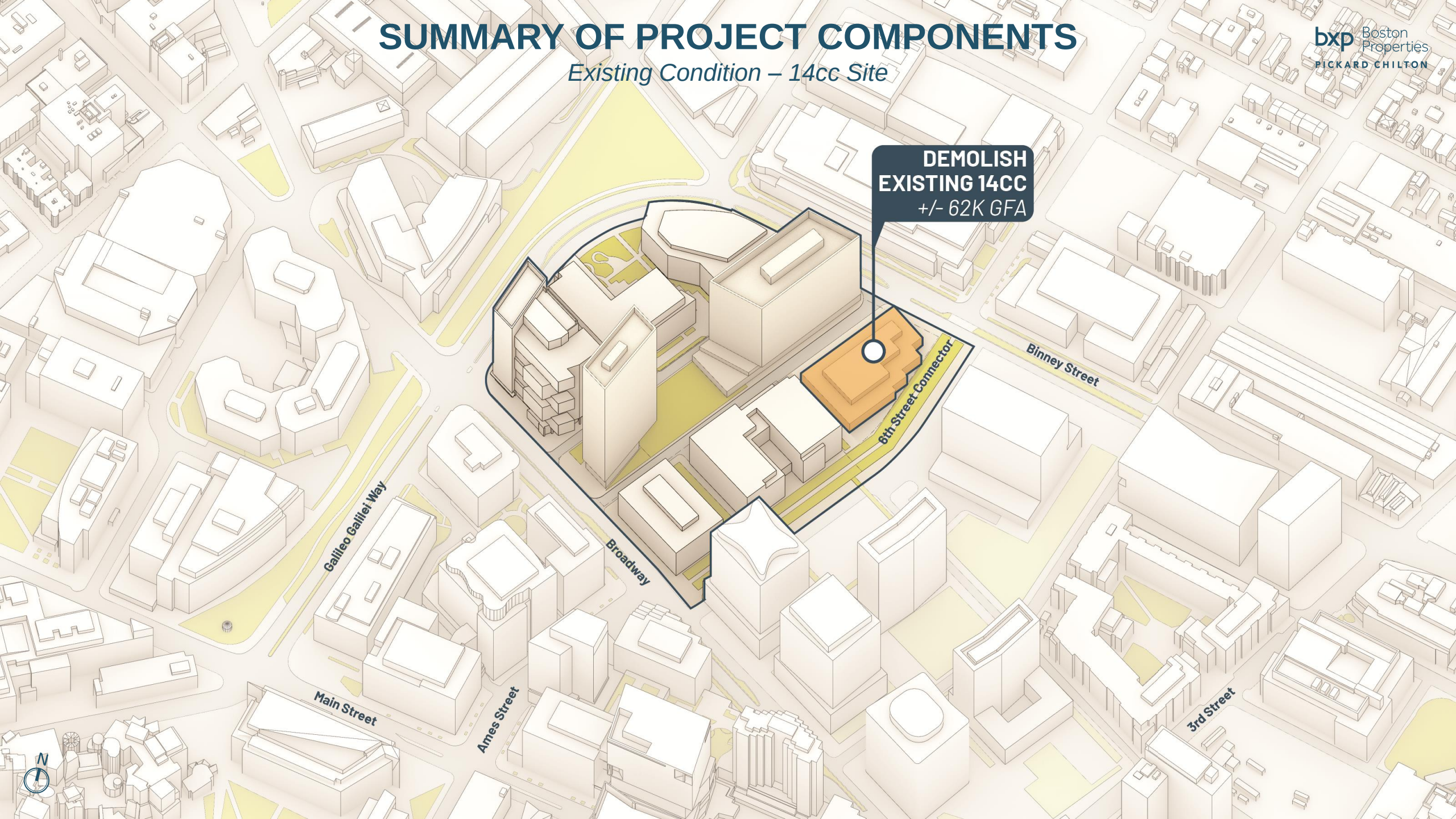
bxp Boston Properties
PICKARD CHILTON



SUMMARY OF PROJECT COMPONENTS

Existing Condition – 14cc Site

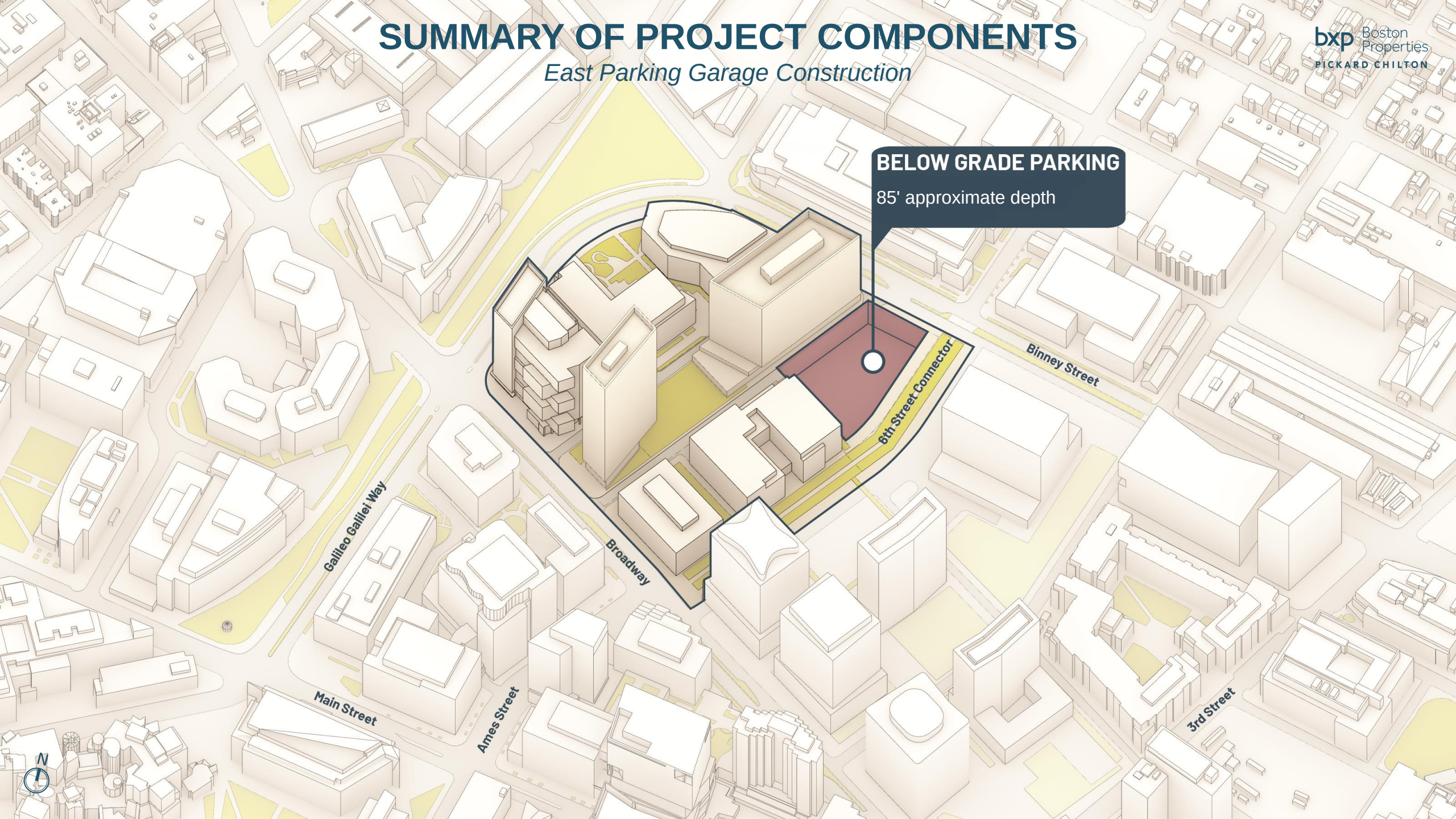
bxp Boston Properties
PICKARD CHILTON



SUMMARY OF PROJECT COMPONENTS

East Parking Garage Construction

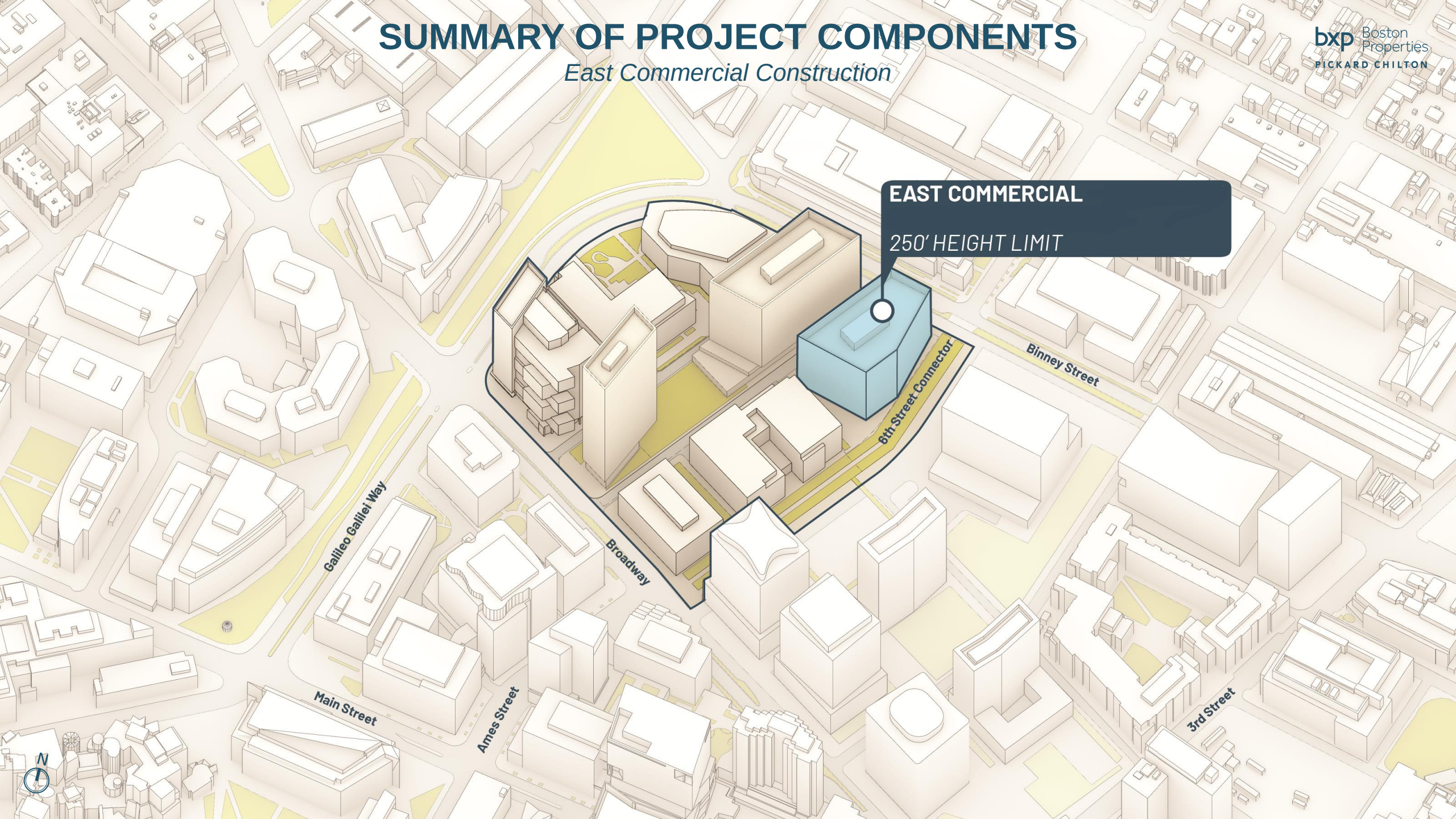
bxp Boston Properties
PICKARD CHILTON



SUMMARY OF PROJECT COMPONENTS

East Commercial Construction

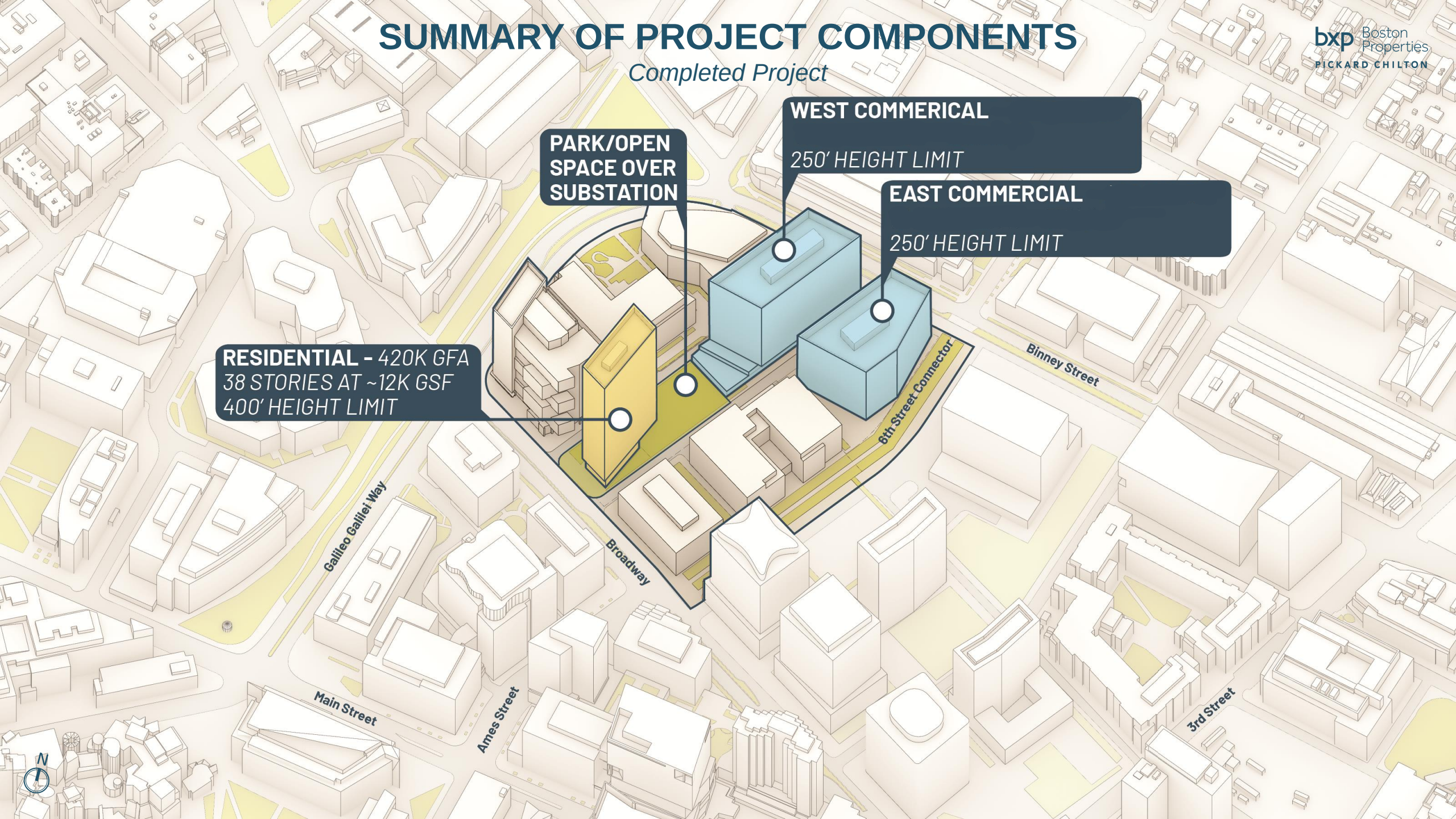
bxp Boston Properties
PICKARD CHILTON



SUMMARY OF PROJECT COMPONENTS

Completed Project

bxp Boston Properties
PICKARD CHILTON



Current Opportunities to Participate

Preliminary Site Discussions, Transmission Line Routes

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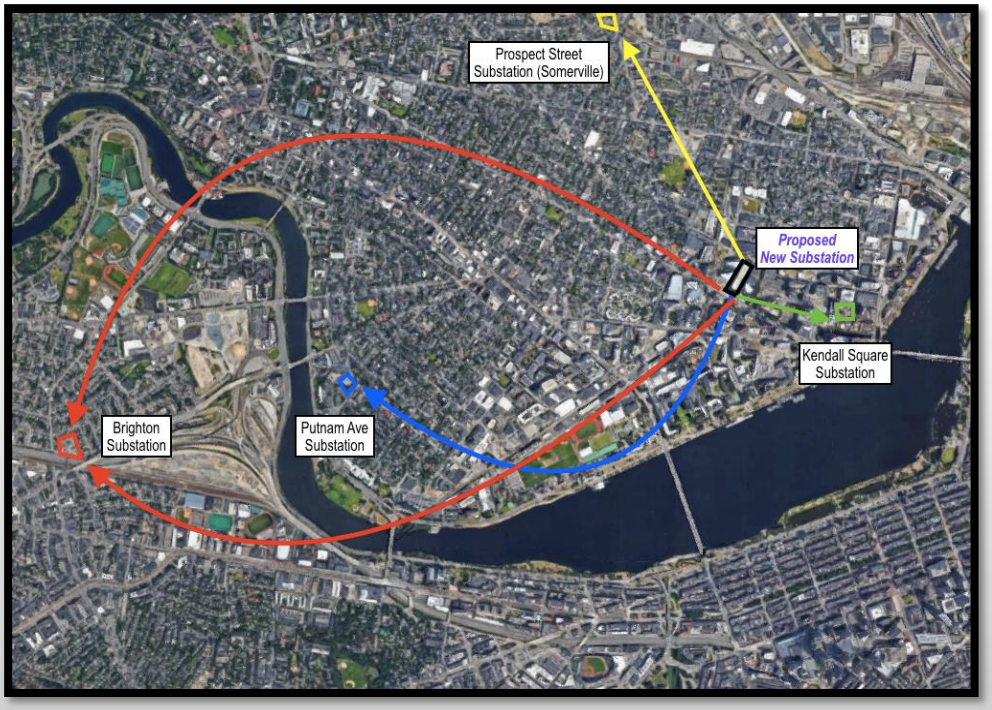
Preliminary site discussions and rezoning efforts

- Working with the community, CRA and City of Cambridge on overall goals for the project
- Socialization of early, broad design concepts
- Rezoning is a critical first step to solidifying new location at Blue Garage parcel



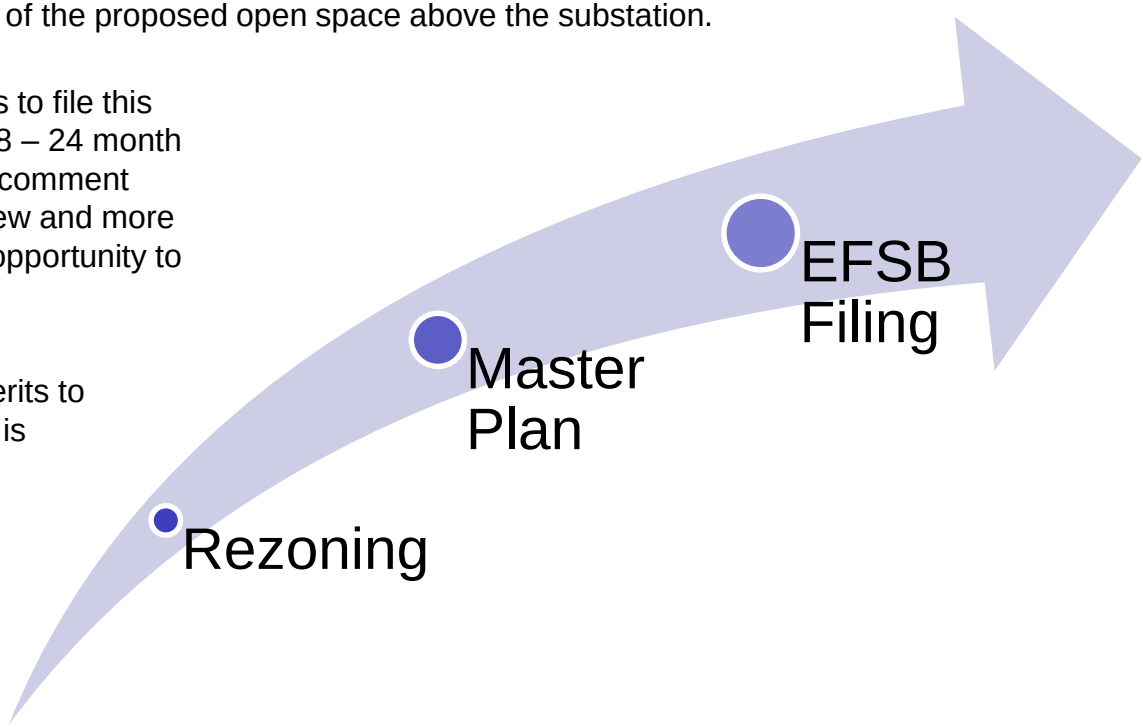
Developing optimal transmission line routes

- Since March, have been engaging stakeholders, municipal officials on optimal transmission line routes based on existing infrastructure, planned projects
- Narrowing universe of routes down to two alternatives for each of the five routes
- Later this fall, community engagement on possible routing options

Next Steps in the Process

Rezoning, Urban Planning, EFSB filing

- Eversource will continue to engage with the community throughout the rezoning and master planning processes and as we prepare to file with the Energy Facilities Siting Board (EFSB) in the Spring of 2021.
- In the coming weeks and months, the Cambridge Redevelopment Authority (CRA), Boston Properties and Eversource will be presenting important aspects of the project with local stakeholders.
- The first critical step will be the rezoning process, in which the CRA and Boston Properties are requesting a site zoning change in order to make space for the substation at the Blue Garage site and to facilitate the economics of the plan to remove and rebuild parking.
- As the rezoning process advances, the project will move into the master planning phase with opportunities to discuss the urban planning and design of the proposed open space above the substation.
- In the spring of 2021, Eversource plans to file this project with the EFSB and initiate an 18 – 24 month process consisting of additional public comment hearings, site design, engineering review and more where local stakeholders will have an opportunity to participate in this regulatory process.
- Project will be considered on the its merits to serve the public good. A final decision is anticipated in Q4 2022 or Q1 2023.

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