Site Selection Study Report

Brookline 9th Elementary School, Town of Brookline, Massachusetts

BROOKLINE

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Owner

Town of Brookline, Massachusetts

Client

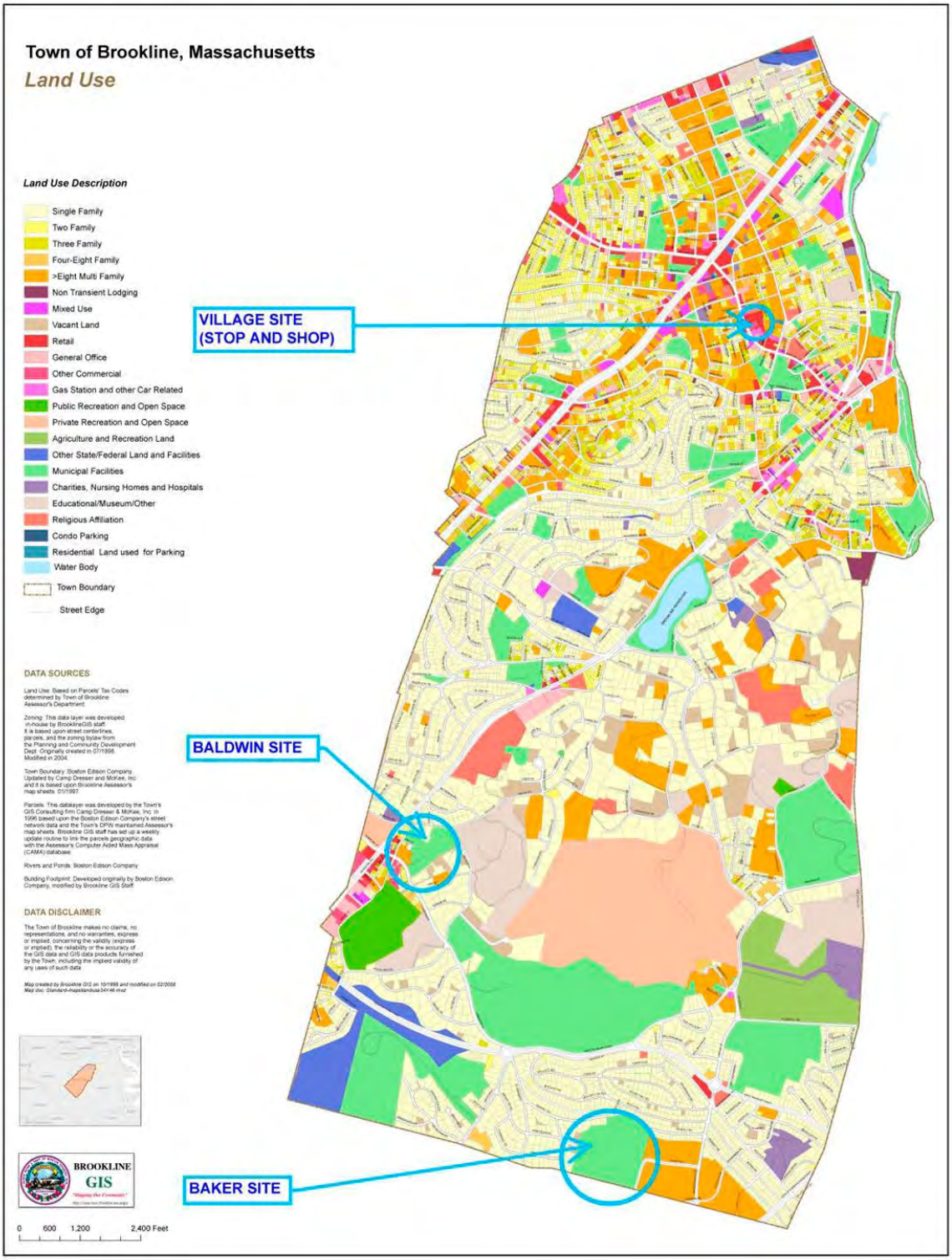
Town of Brookline, Massachusetts

Architect

Jonathan Levi Architects LLC

6 October 2016

Site Study Locations



1 Introduction and Goals

This study was initiated in June 2016 with the purpose of assisting the Town of Brookline, its constituents, School Committee, Board of Selectmen and staff in selecting a new site for the Town's ninth Kindergarten through 8th grade elementary school. The need for this school, including the underlying demography and educational program intent, is well described elsewhere in the School Department's and School Committee's various presentations and publications on the subject.

The charge to the design team was to work with the Town and its relevant departments to assess the relative feasibility of three sites: Baker, Baldwin, and Village. The sites were determined before the commencement of the study and arose from the recommendation of the School Committee and Board of Selectmen, following a previous study by Civic Moxie in 2015, which analyzed 26 potential sites.

2 Process

Meetings and Deliberations

The study process was organized with the structure of regular meetings with key Brookline Town and Schools staff to discuss the team's findings as well as facilitating information gathering and inputs from key stakeholders. More formal presentations were made to both the School Committee and Board of Selectmen in joint sessions. In addition there were also "Open House" presentations at the Baker and Pierce Schools for public input and commentary.

The collaborative effort across Brookline Departments and Commissions included meetings with:

- 9th School Staff Working Group & related subcommittees
- Building Department
- Conservation Commission
- Fire Department
- Parks and Recreation Commission
- Planning and Community Department
- Police Department
- Preservation Commission
- Transportation Division Department

Data Collection

Using publicly available information, site data was collected on the three sites for the purposes of conceptual configurations of buildings, structures and site amenities. A key component was an overview by the civil engineering consultant which provided initial assessment of necessary site construction assumptions. This included availability of site utilities, major subsurface obstructions, geo-hazardous and environmental concerns.

Traffic was a major consideration at all three sites. Therefore the services of the traffic engineering consultant were employed to evaluate on-site traffic proposals as well as in coming to a general understanding of neighborhood impacts. Observations and measurements, to the extent practical and relevant, were conducted at all three sites. The Baker site's existing school operations were measured to provide objective information about the compatibility of any new development with the existing traffic conditions. For additional detail, please refer to the traffic memo included in the appendix of this report.

Programmatic Assumptions

In order to address the long-term planning needs that have been determined to date, the team proceeded under the direction from the School Department that the new K-8 facility ought to accommodate

800 students. For the purposes of the conceptual outlines of any new school structures, School staff provided a prototype educational program was provided based on work that has been accomplished at the ongoing Devotion School project (See appendix for draft program and space summary). In order to translate this program into a quantity of floor area, the design team relied on the Massachusetts School Building Authority (MSBA) guidelines which establish a reasonable standard for relating a given school population to required floor area. This standard was then modified according to the expectation that each K-8 elementary school should have a dedicated auditorium. Approximately 7000 ft.^{2} was then added to the MSBA a standard program in order to achieve a test foot fit floor area.

In addition to the K-8 program, at the Baldwin site, the team was also asked to explore the capacity to accommodate a new satellite high school. Program area for the high school was derived directly from the MSBA standard for an 800 student, grade 9-12 school.

Regarding site design, the team prioritized the provision of adequate off-street parking and traffic accommodation at all three site locations. Based on understanding of school staffing, student walking, parent drop-off, and busing scenarios distinct to each site, the traffic engineer arrived at a working assumption of the amount of off street parking and bus and car queuing space required (see appendix).

After building footprint, site traffic and parking site areas were analyzed, the team then focused on assessing the available open play-space, which is an inherent part of the town's educational program especially as it relates to achieving relative parity between its various schools. To this end a chart was developed (see below) which quantified the various proposals open play-space per child and compared it to other scenarios throughout the district's schools.

Town Department Input

Traffic: A productive meeting was held early in the process between the town's Traffic Division and the team traffic engineering consultant. The purpose was to confirm the consultant's assumptions particularly pertaining to typical school staff parking requirements. At this meeting it was determined that for an 800 student school it could be reasonably assumed that 120 spaces would be required for staff and visitor parking. In addition there were general discussions about neighborhood traffic congestion as it pertains the three sites with the Traffic Division and in public meetings with the public boards and commissions, which provided opportunity for public comment.

Police and Fire: Police input was solicited regarding site security and student safety. Site surveillance and the relative potentials and pitfalls for student and community safety were of concern particularly at

the Village site. The fire department weighed in regarding its ability to service the different sites as well as general town requirements for equipment access. Response time from the available station locations was factored into the evaluation matrix.

Conservation: An initial discussion was conducted with the conservation agent given the known overlaps between proposed disturbances and resource area buffer zones at the Baker site. An early site plan version which showed incursion into a riverfront area was modified to eliminate any hardscape or buildings from the riverfront area. The architects then presented overall conceptual approaches for all 3 sites to the full Conservation Commission. It was concluded that the proposed Baker site disturbances would require careful coordination and engineering to safeguard against any impacts to adjacent wetlands and resource areas, and to be consistent with similar projects that have been approved in the past. It was also noted that the Baldwin site has a small area which has intermittent standing water, and this would merit some study should that site be chosen.

Zoning: The Town's Building Commissioner was consulted on two occasions. In the first meeting general dimensional and usage restrictions were discussed for all three sites. After conceptual proposals were developed, a second meeting was held to review the alternatives and identify potential concerns, particularly regarding possible exceptions to height restrictions.

Parks and Recreation: Initial discussions centered on the Baldwin site and the potential for improving the recreational facilities at the adjacent Soule playfields which could also be used by the school population. In addition a collaborative approach was discussed which would entail sharing of an enlarged and formalized parking at the northeast portion of the Soule parcel. Such shared parking would alleviate frequent overcrowding of parking areas for recreational access while at the same time providing off-street parking for teachers and staff. The architects presented preliminary alternatives for all 3 sites to the Parks and Recreation Commission on 9/13/16. At that meeting, it was confirmed that the development of shared teacher parking on the Soule site would have the support of the Commission. Limited potential for more intensive school use of the Soule property could be explored in the next phase of study if this site were to be selected.

Development Partnering

Given the required development scenario at the Village site, with staff assistance, the team reached out to the real estate office of the current grocery store to determine possible collaboration for future joint development which would combine both retail and school department use. The owner provided model floor plans of their desired prototype store layout. A reasonable minimum store size with workable vehicle

access and loading configurations was suggested as viable.

Committee Input

Elected committee input was received at 3 joint meetings of the School Committee and the Board of Selectmen. Chief among the concerns expressed the undesirability of any disruption to the Village site grocery operations, the accuracy and predictability of traffic impacts at all three sites and the viability of playspace at the Village and Baker sites. Committee commentary on the design team's preliminary draft of the evaluation matrix were received and reflected through annotation of the matrix.

Community Input

There have been 17 Public and Open meetings in regard to the project since October 2015 as follows:

- October 22, 2015
- November 3, 2015
- November 12, 2015
- December 3, 2015
- December 15, 2015
- January 21, 2016
- February 4, 2016
- February 23, 2016
- February 25, 2016
- March 15, 2016
- May 18, 2016
- June 7, 2016
- June 14, 2016
- July 26, 2016
- September 14, 2016
- September 22, 2016
- September 28, 2016

Community input was solicited and incorporated the mechanism of several open public forums - an initial meeting for pre-study commentary and concerns, two open houses where community members were invited to engage in one on one conversations with the study participants and finally, during a formal public hearing. As with the committee members, the community's concerns involved disturbance to the Village site retail operations, neighborhood traffic at all three sites, the placement of a new school so close to three existing school sites in North Brookline, the viability of play field space at the Village and Baker sites and, at the Baker site, the perceived educational impact of placing two comparatively large schools in close proximity to one another.

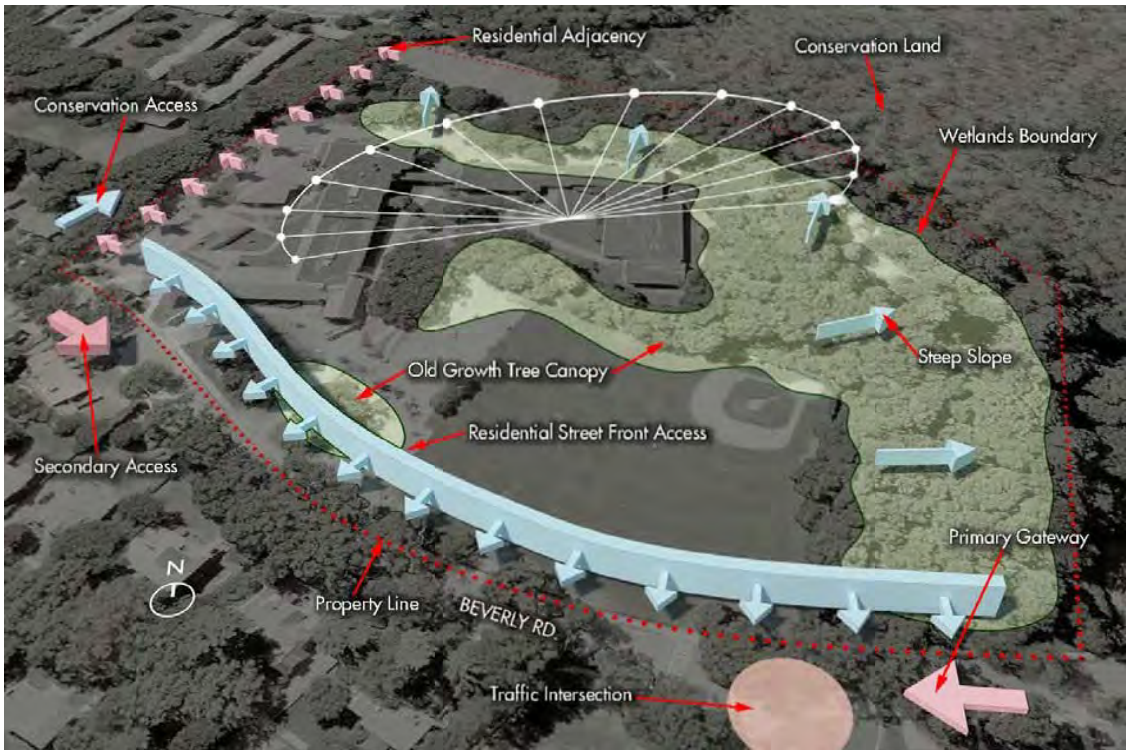
Decision Path

At an early point in the process the design team proposed the development of a comprehensive evaluation matrix to collect, correlate, summarize and compare the diverse evaluation criteria in one document. The evaluation matrix, having been drafted by the design team, was then thoughtfully updated a variety of relevant ideas and concerns came to light from multiple sources from Brookline officials and neighborhood stakeholders.

The following building test fit alternatives, the commentary which they have elicited from the wide range of stakeholders, and the summary tool of the evaluation matrix, are provided here.

Because a school at any of the sites should function flexibly for many years to come, the study did not seek to limit any alternative site to specific busing and redistricting parameters.

BAKER SITE AERIAL VIEW



BAKER SITE ANALYSIS

3 Baker School Parcel/Beverly Road

Site Analysis

At 11.4 acres, the Baker school site is by far the largest of the three sites being considered. It consists of the existing Baker school, limited existing driveways and parking, playfields and a large zone of undeveloped woodlands. The southeast corner of the site has 5 existing tennis courts within the riverfront area. The undeveloped portions of the site are heavily sloped and are therefore currently unsuitable for play field use. The site is adjacent to a nature sanctuary with wetlands and the riverfront area. In order to maximize level playfields, new building footprint and vehicle areas are conceptually shown along the site perimeter. In addition to its large acreage, the site also has the benefit of extensive street frontage which would allow multiple opportunities for vehicular ingress and egress as well as extended turnouts for buses. There is a potential for enhanced future pedestrian connection to the emerging residential developments to the south and east, which would likely be supplying a significant portion of the future school population.

Test Fit Alternatives A,B,C,D,E

Site Considerations - Vehicular
The existing Baker School currently has inadequate on-site queuing for parent drop-off and pick-up, and does not accommodate separate off-street school bus access. All five test fit proposals for the site include a complete response to the traffic engineer's suggested standards for on-site parent drop-off and bus queuing for both the existing school and the proposed school. If implemented, it is expected that the existing Beverly Road congestion will be significantly reduced. Please see traffic memo in the appendix of this report for additional information.

Building Envelope/Program Fit
With the exception of Scheme C, all alternatives illustrate that the new 800 student school on the Baker site could have an identity and school population entirely physically independent from the existing Baker School.
Three test fit alternatives were explored involving the partial demolition of the existing Baker school, in order to more fully accommodate its currently increased population with added gymnasium, core and adequate classroom size building areas. Scheme A demonstrates the potential for locating all the new parking to serve both the existing and the new schools at-grade, in order to optimize construction cost. Scheme B is similar but locates the parking underneath the new building areas in order to reduce earthwork construction and to maximize site area available for play field space. Scheme C demonstrates the implications of combining all new building areas into a single enclosure with further benefits for recreational space. All three schemes take advantage of the sloped topography to minimize the appearance of the building massing from the street, consistent with the existing school and the residential neighborhood.

Schemes D and E demonstrate the consequences of leaving the existing

BAKER SITE TEST FIT ALTERNATIVES

Baker Site: Scheme A

Baker Site: Scheme B

Baker Site: Scheme C

Baker Site: Scheme D

Baker Site: Scheme E

Baker School building in place. Scheme D does so with two incremental additions in order to 'right size' the existing program area to more appropriately serve the existing school population of 800 students. Scheme E leaves the building untouched in order to provide an 'apples to apples' comparison with the other sites whose costs would not include the improvement of an existing school building.

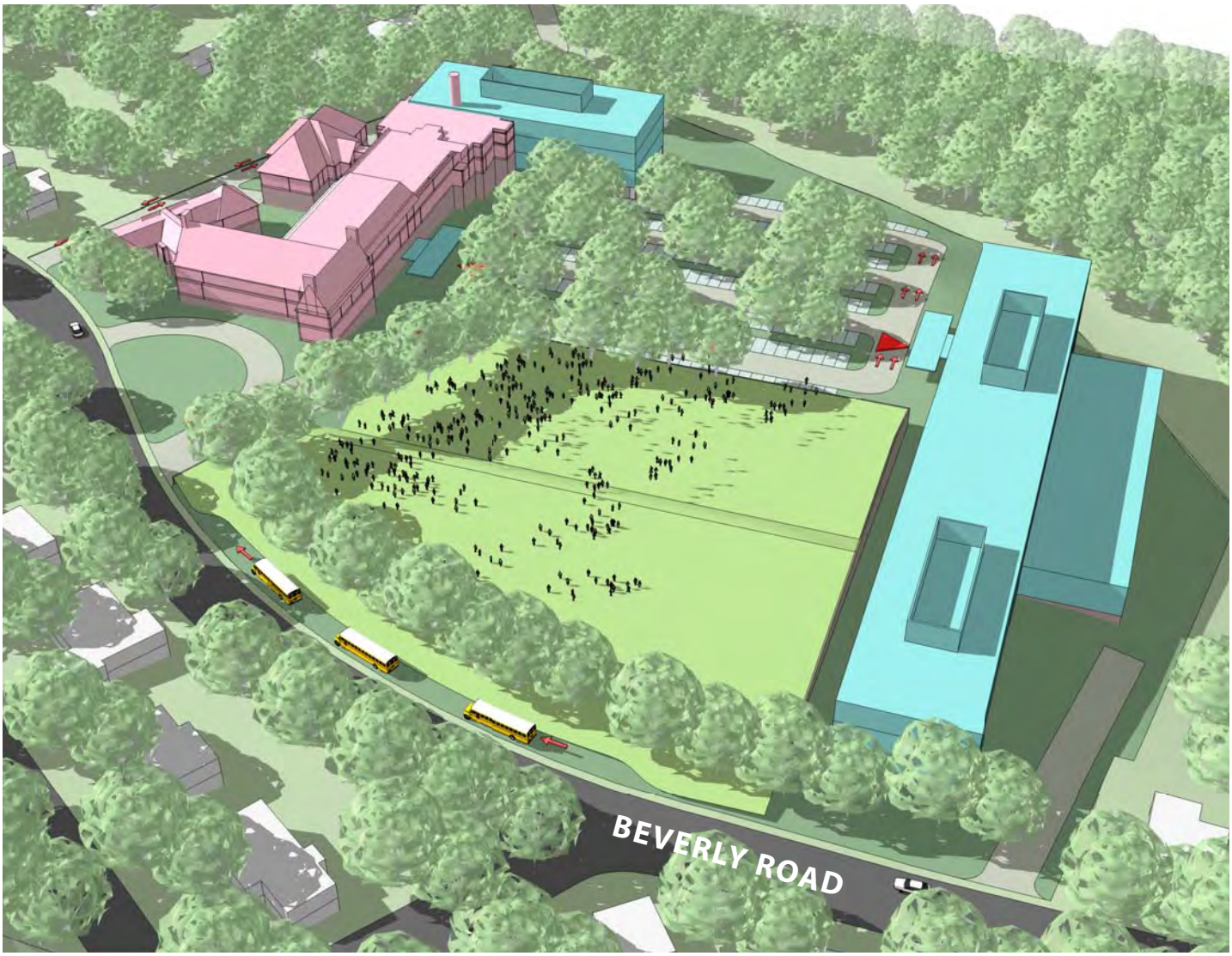
Sustainability
The large site area represents a wealth of opportunity for sustainable building practices including ample locations for geothermal well fields and unrestricted exposures for various types of solar harvesting. The necessary removal of existing woodlands would need to be offset by alternative low carbon footprint measures within the building and site design.

Site Considerations - Programmatic
The various proposals for building configuration on all three sites allow for a consistent internal accommodation of the assumed K-8 program as well as the provision for a potential subdivision of entry points with separated younger and older child cohorts. The differentiator in terms of program accommodation lies on the outside and the amount of field area available. In the case of the Baker site, playspace would need to be shared between two schools. A preliminary calculation of the available playspace expressed as square feet per child indicates that the least advantageous scheme would still yield an area consistent with the range of other Brookline district K-8 schools. Please see appendix 7.1 for additional information.

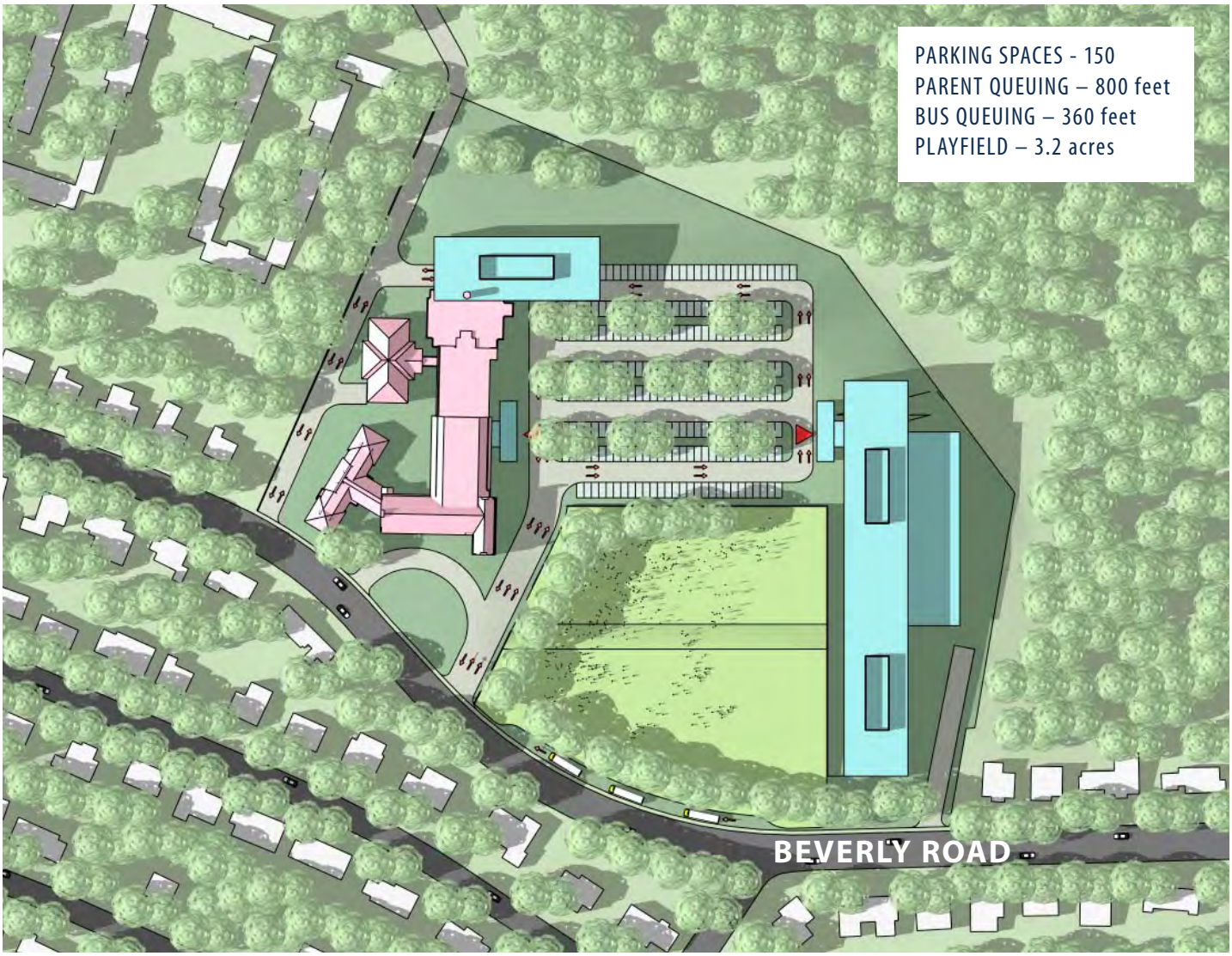
Cost
Site access is a cost efficiency advantage of the Baker site. Premiums for construction largely involve the need to manipulate site contours to create flat outdoor play areas, and the added complexity of excavating and building foundations over slope terrain which is assumed to have significant amounts of ledge. Other cost premiums involve mitigation efforts relating to the nearby wetlands and the added cost on some of the schemes of structured parking under the buildings.

Construction Impact
It is anticipated that the existing Baker School could remain in full operation during construction of the new facility. Given the large size of the site, distance separation will be of benefit in minimizing the impact of construction on normal school operations. Construction on the site would likely be rapid and barring major alterations to the existing buildings, unimpeded by complex phasing.

Approvals and Permitting
As the Town currently owns the full site and the School Department controls its use, approvals and permitting would be substantially minimized compared to the other sites. The site size reduces the impact of zoning setbacks and height restrictions. The primary permitting procedure will involve collaboration with the Town's Conservation Commission regarding construction within the wetlands buffer zone and riverfront area.

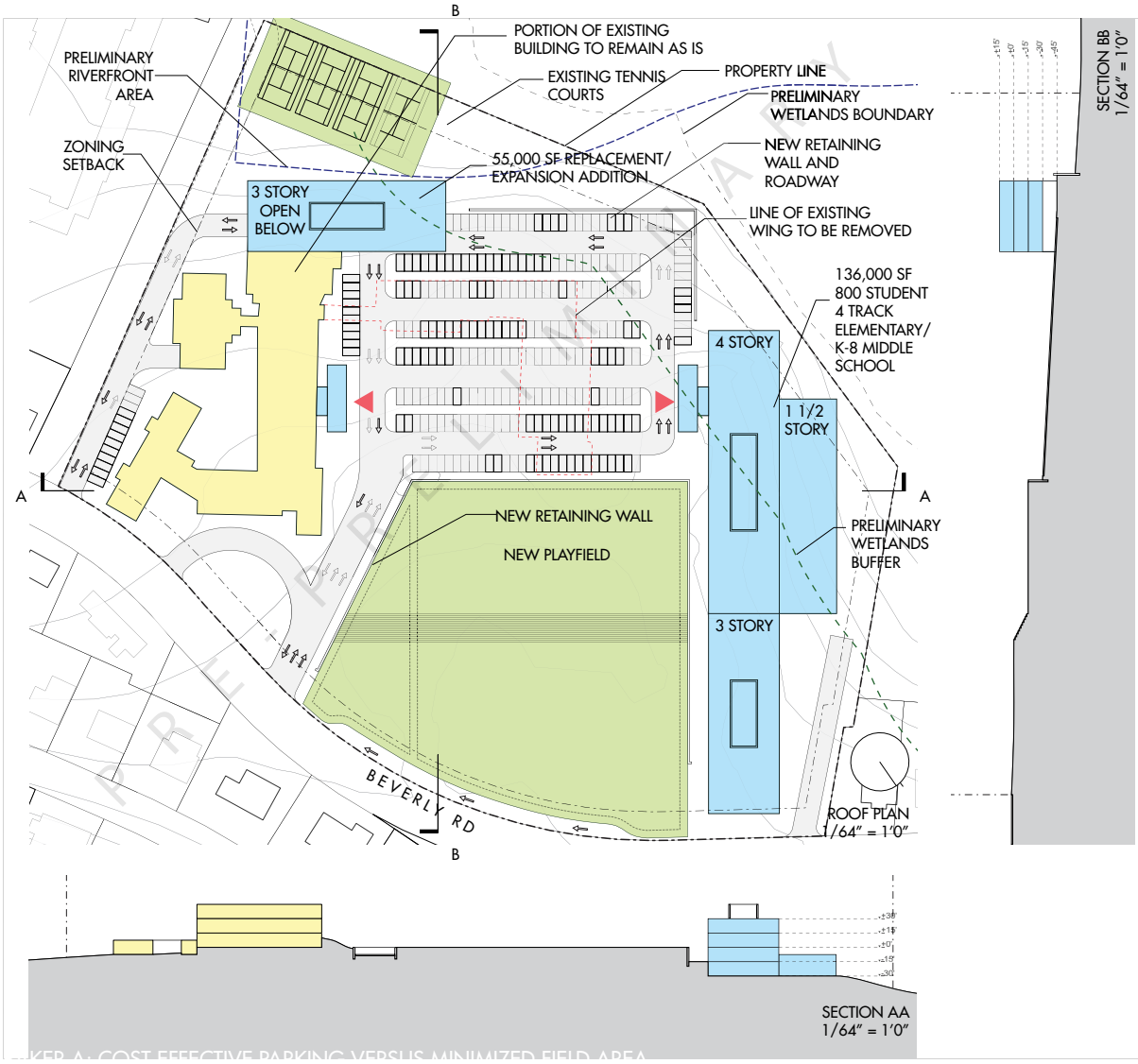


BAKER SITE SCHEME A



BAKER SITE SCHEME A
2 K-8 SCHOOLS WITH SHARED SURFACE PARKING

BAKER SITE: SCHEME A



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PRE-CONCEPT CONSTRUCTION PHASING SUMMARY:

1. ESTABLISH MODULAR CLASS-ROOMS ON FRONT OF SITE
2. EXISTING BAKER REMAINS IN OPERATION DURING CONSTRUC-TION
3. DEMOLISH WEST WING
4. GRADE NEW PARKING AREA FOR LAYDOWN USE, FRONT PLAY-FIELD REMAINS IN USE
4. CONSTRUCT NEW SCHOOL AND ADDITION TO EXISTING
5. COMPLETE SITE WORK

BROOKLINE
SITE SELECTION STUDY

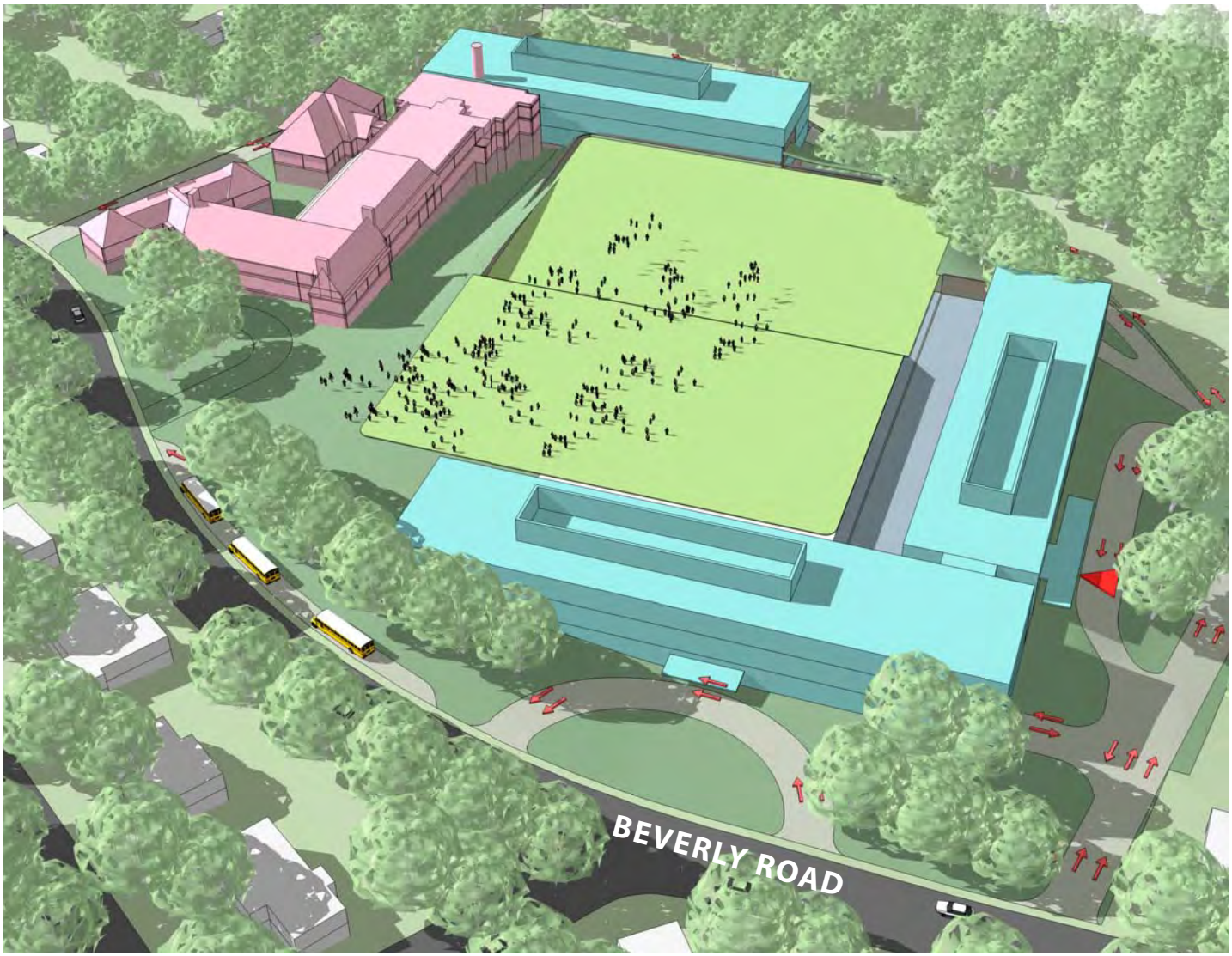
AUGUST 2, 2016

DRAWING NAME
BAKER A
1 OF 1

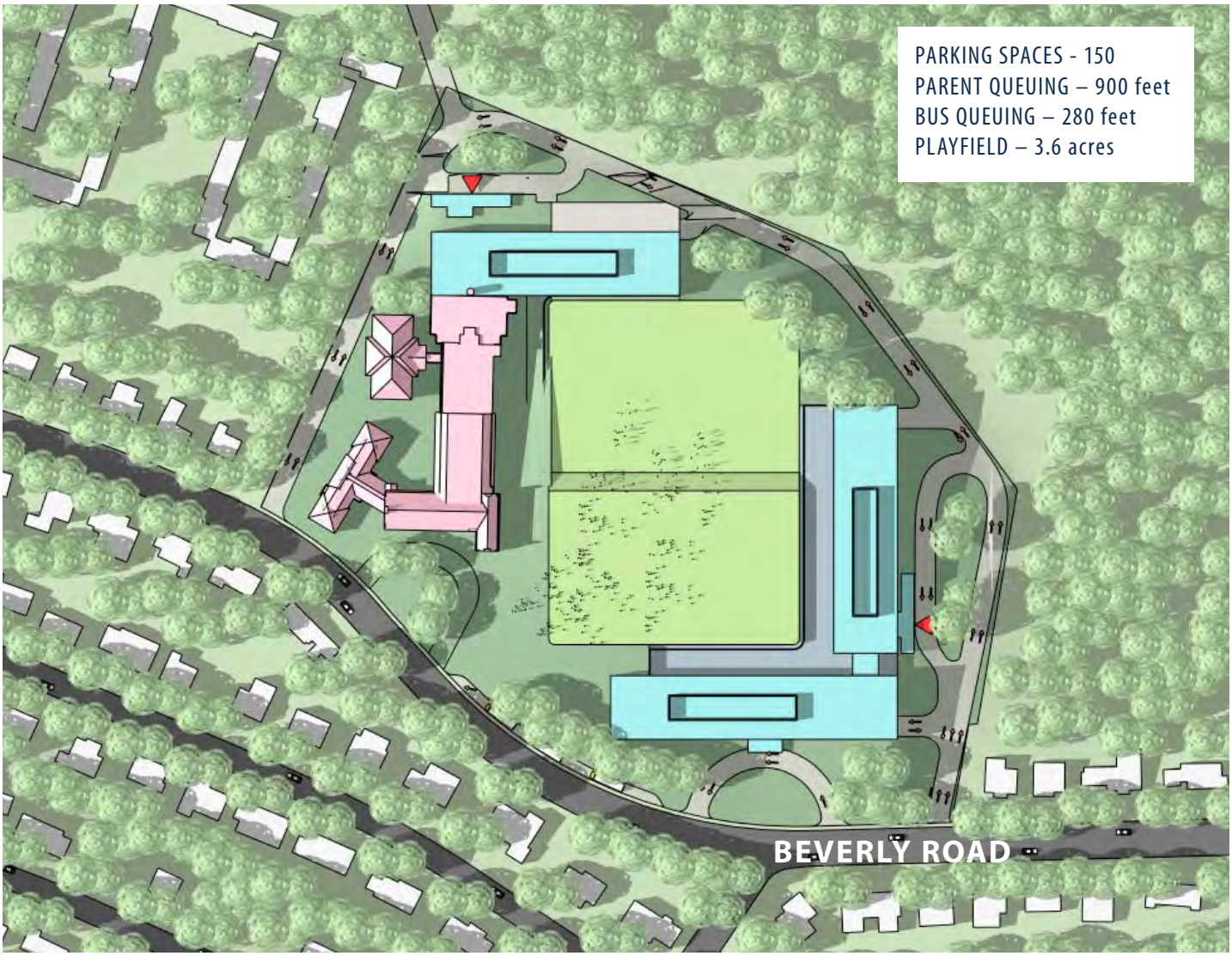
PROJECT NO.

DRAWING NO.

BAKER A: COST EFFECTIVE PARKING VERSUS MINIMIZED FIELD AREA

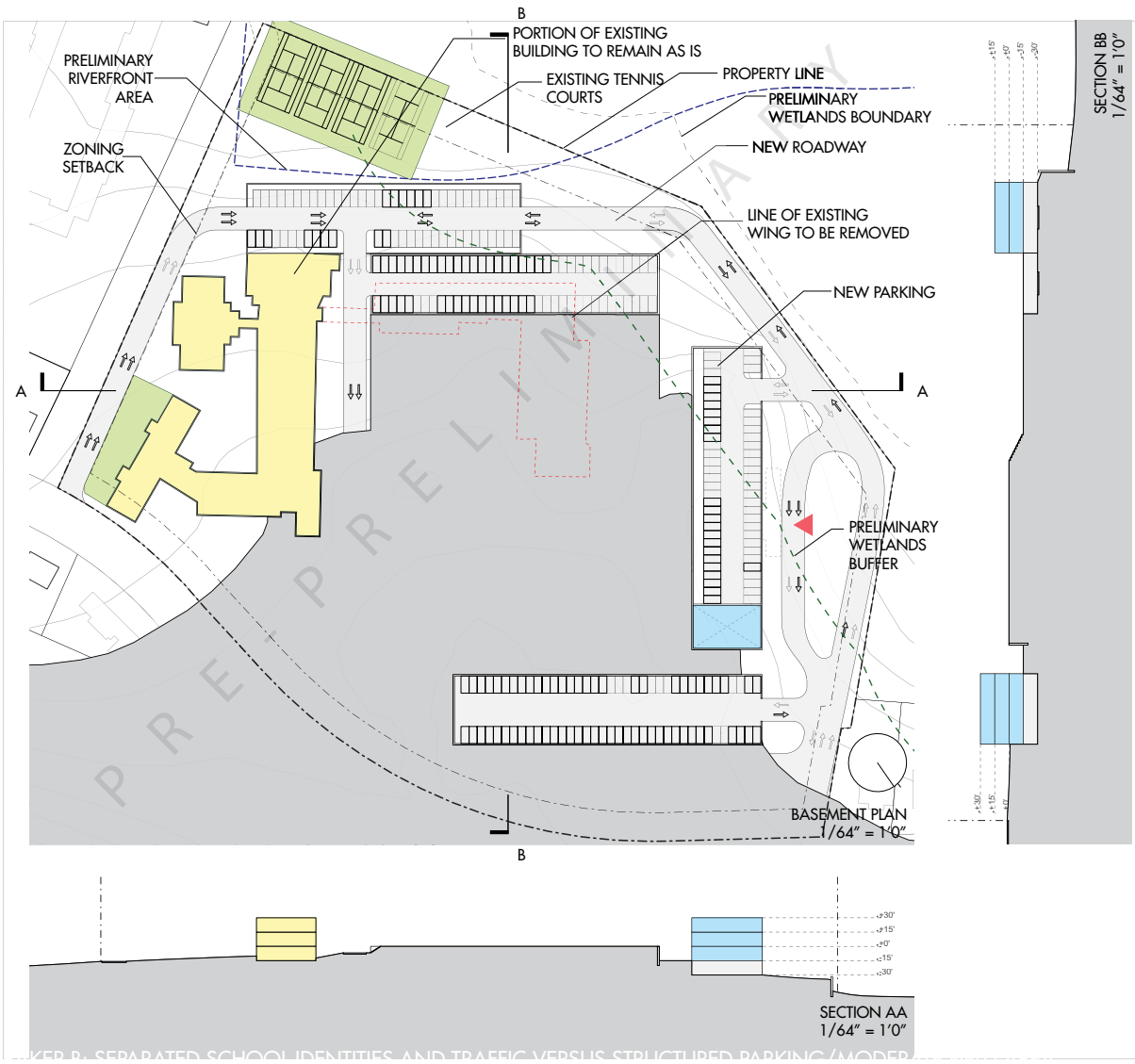


BAKER SITE SCHEME B



BAKER SITE SCHEME B
2 K-8 SCHOOLS WITH INDEPENDENT STRUCTURED PARKING

BAKER SITE: SCHEME B



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BROOKLINE
SITE SELECTION STUDY

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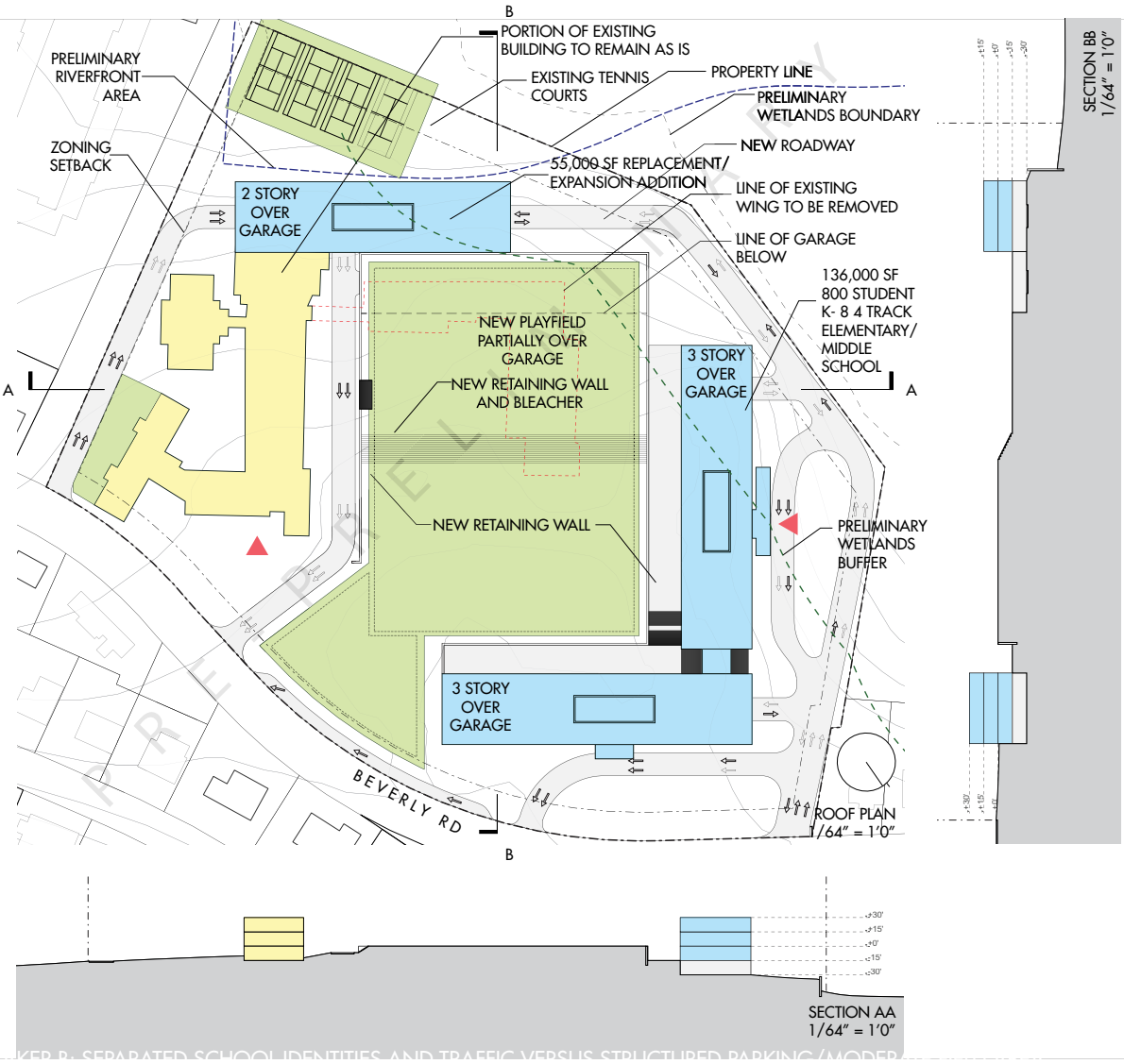

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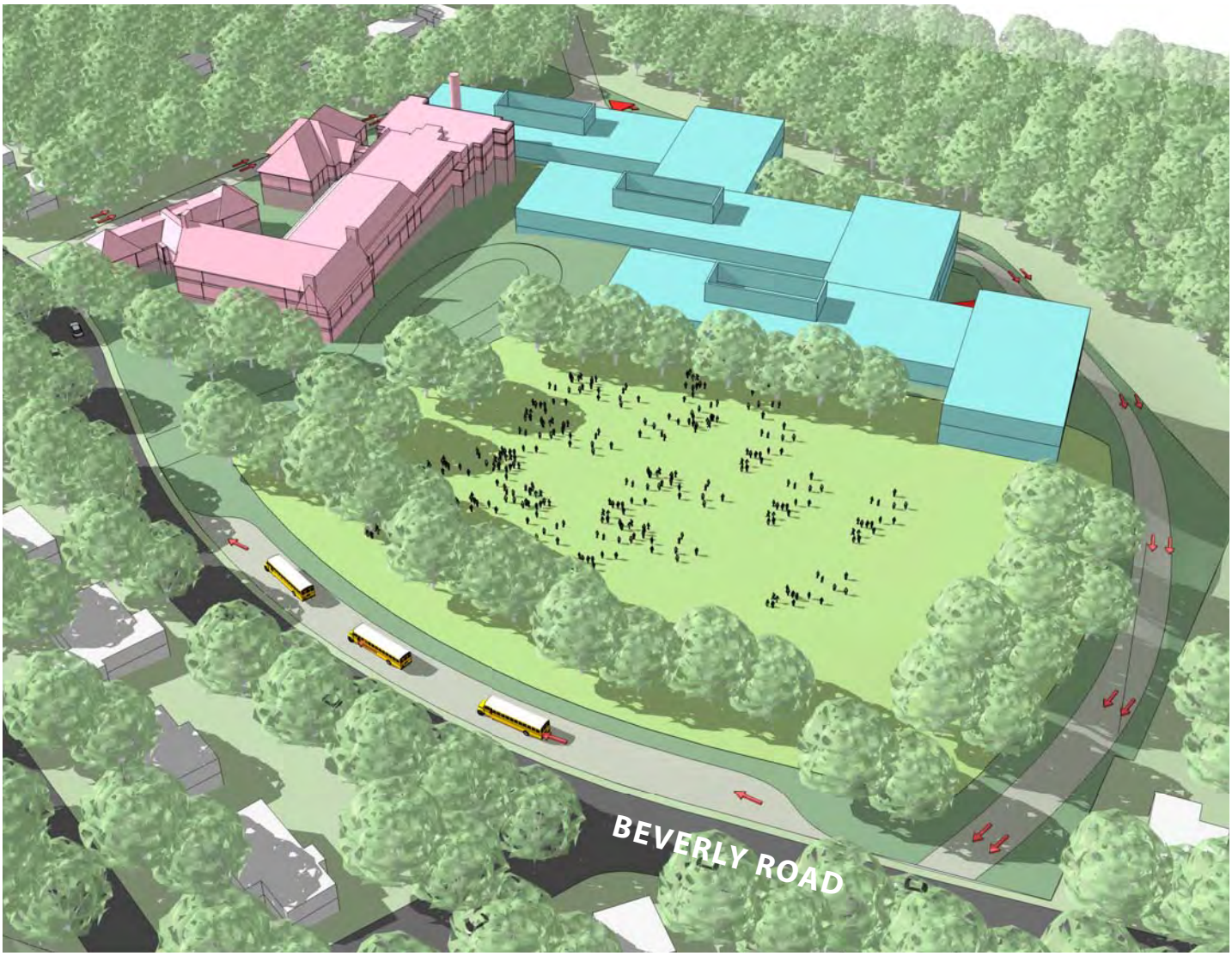
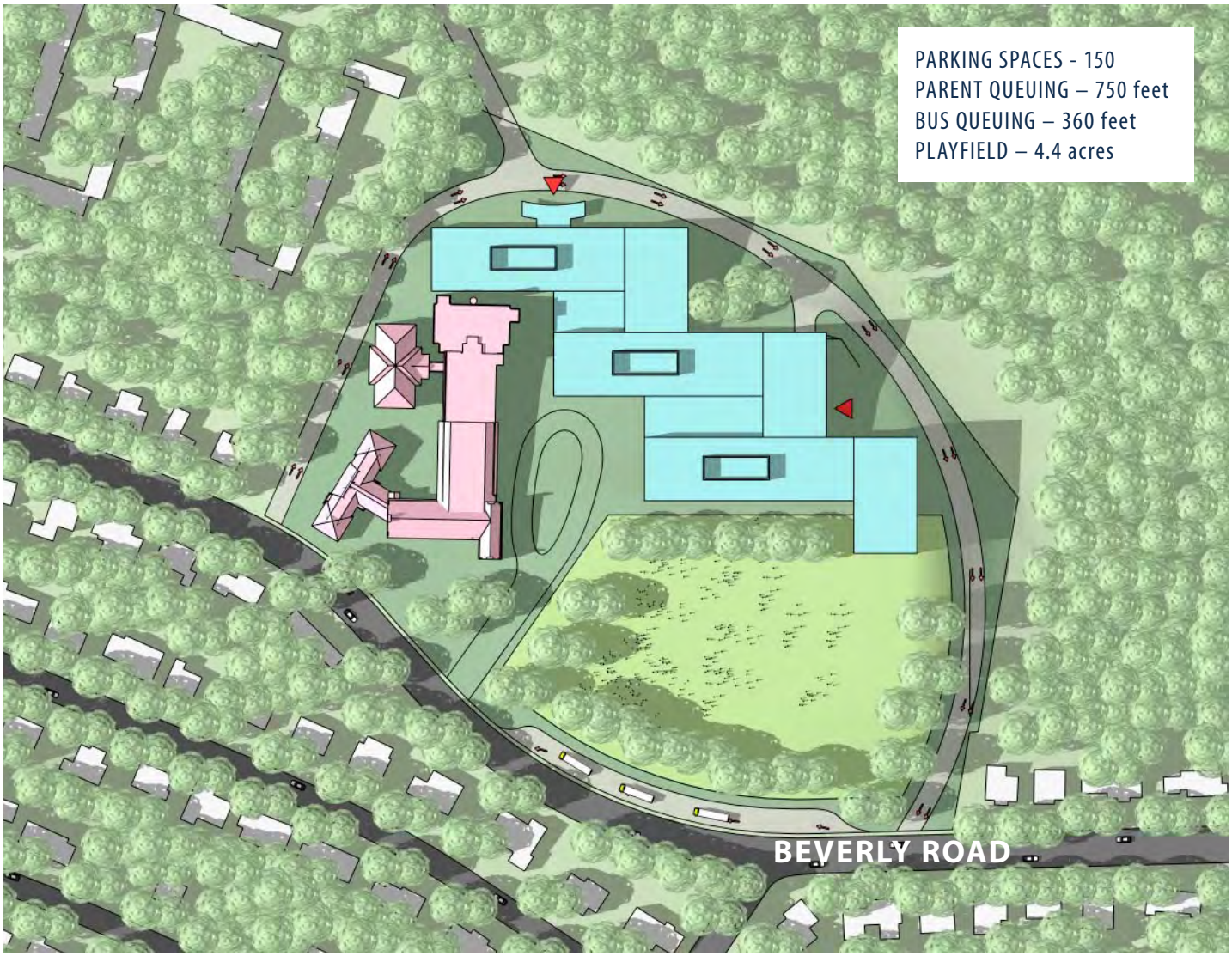
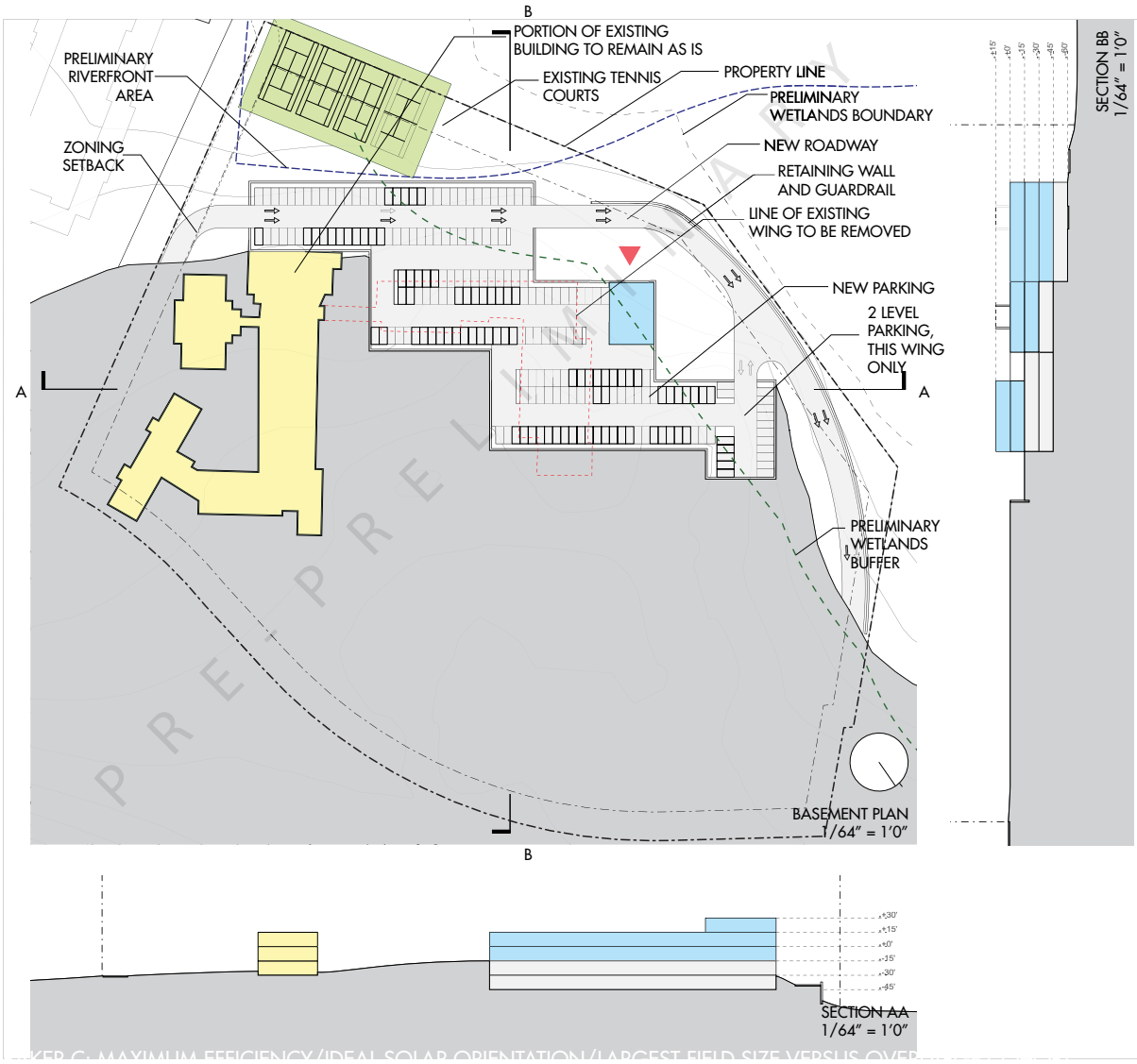


BAKER SITE SCHEME C



BAKER SITE SCHEME C
1 K-8 SCHOOL WITH 4 ACADEMIES, STRUCTURED PARKING

BAKER SITE: SCHEME C



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BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

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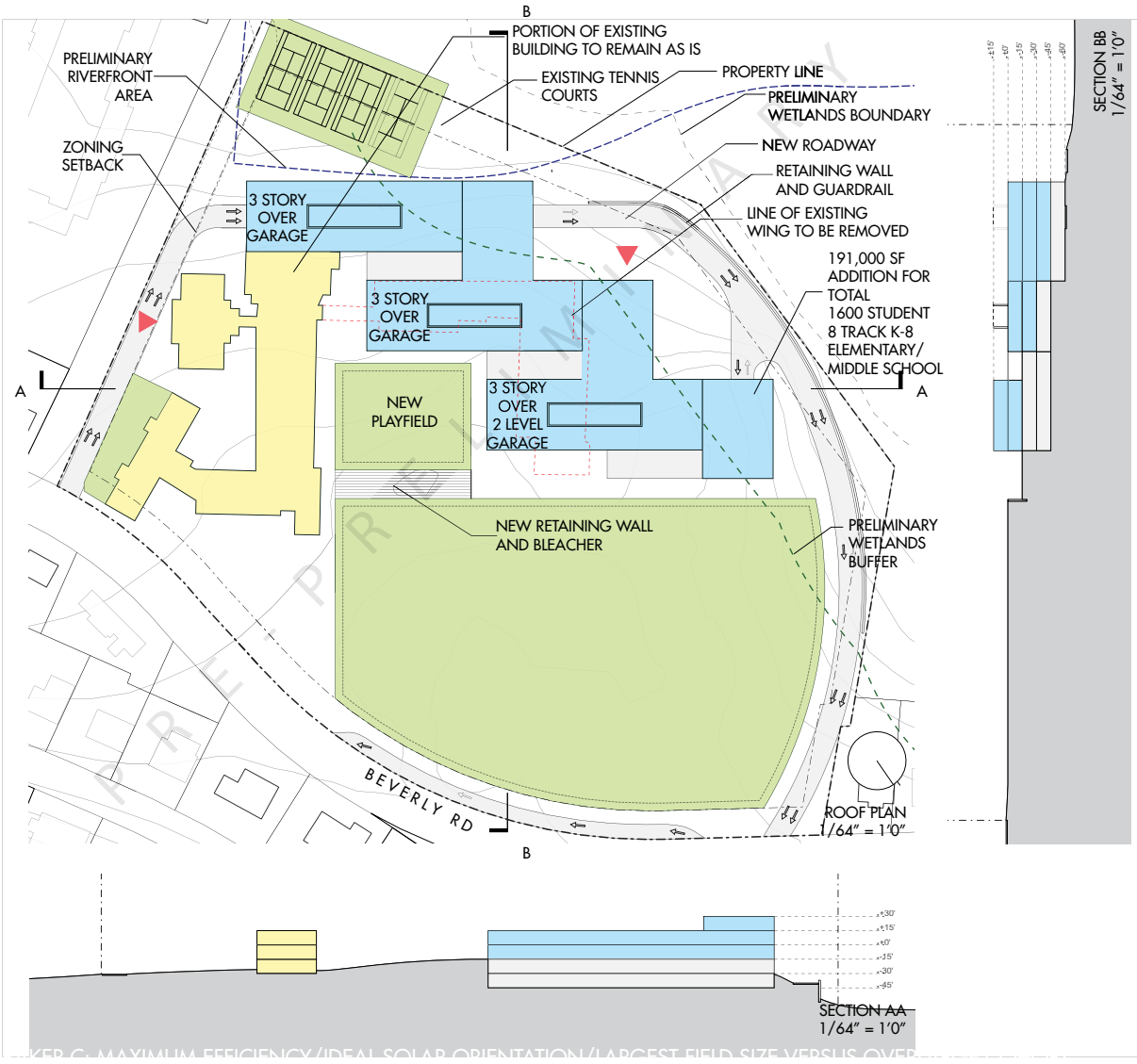

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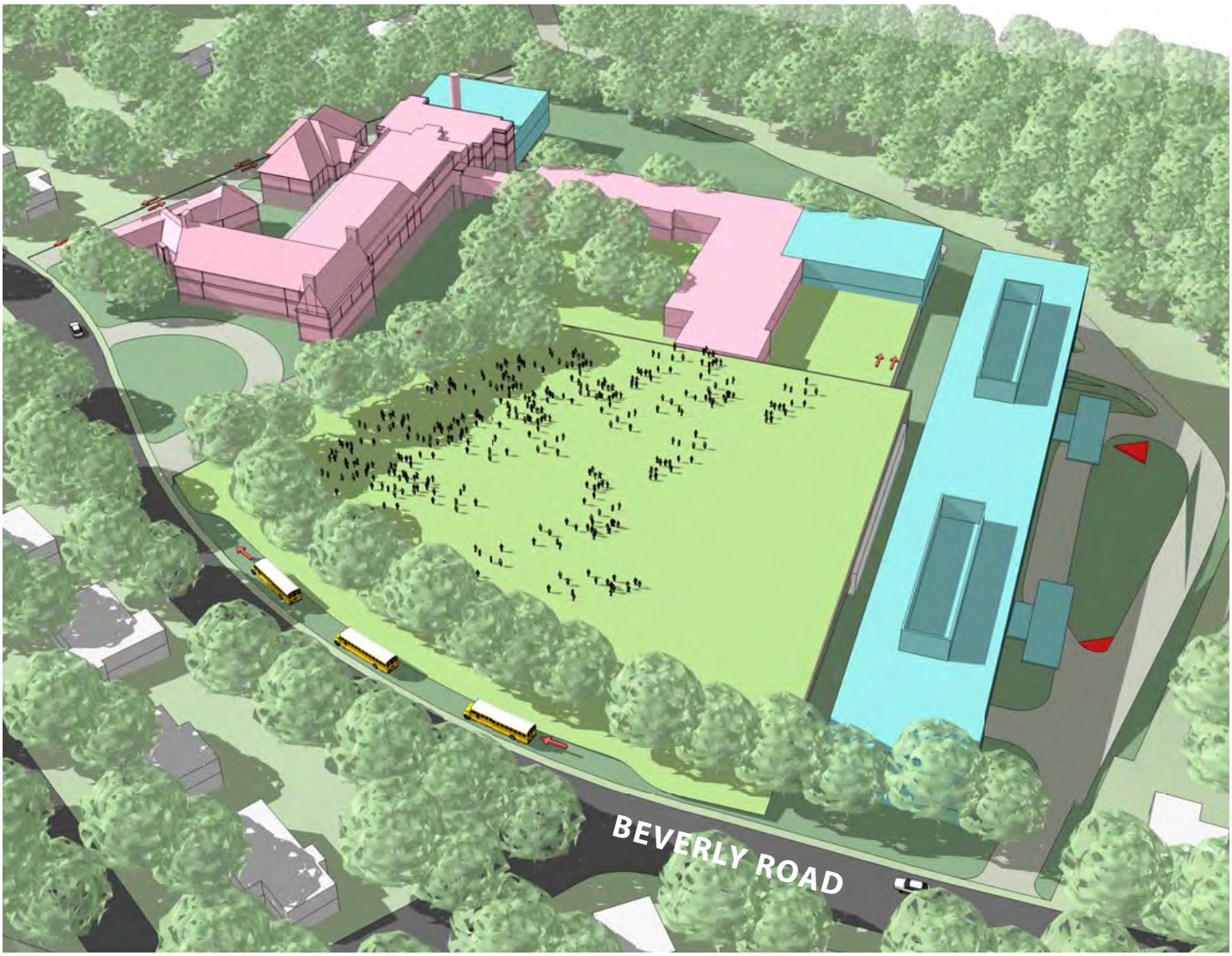
DRAWING NAME
BAKER C
2 OF 2

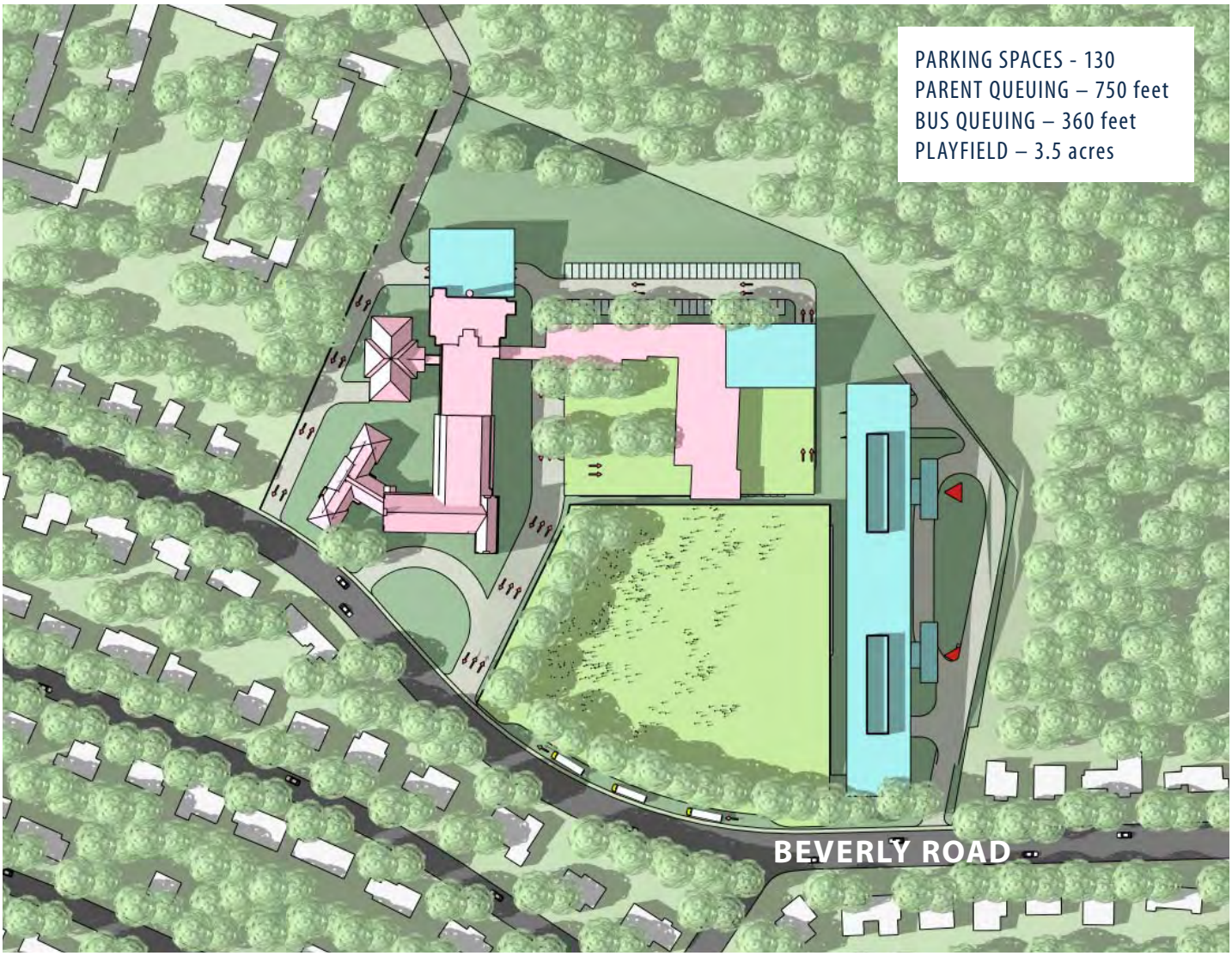
PROJECT NO.

DRAWING NO.

BAKER C: MAXIMUM EFFICIENCY/IDEAL SOLAR ORIENTATION/LARGEST FIELD SIZE VERSUS OVER

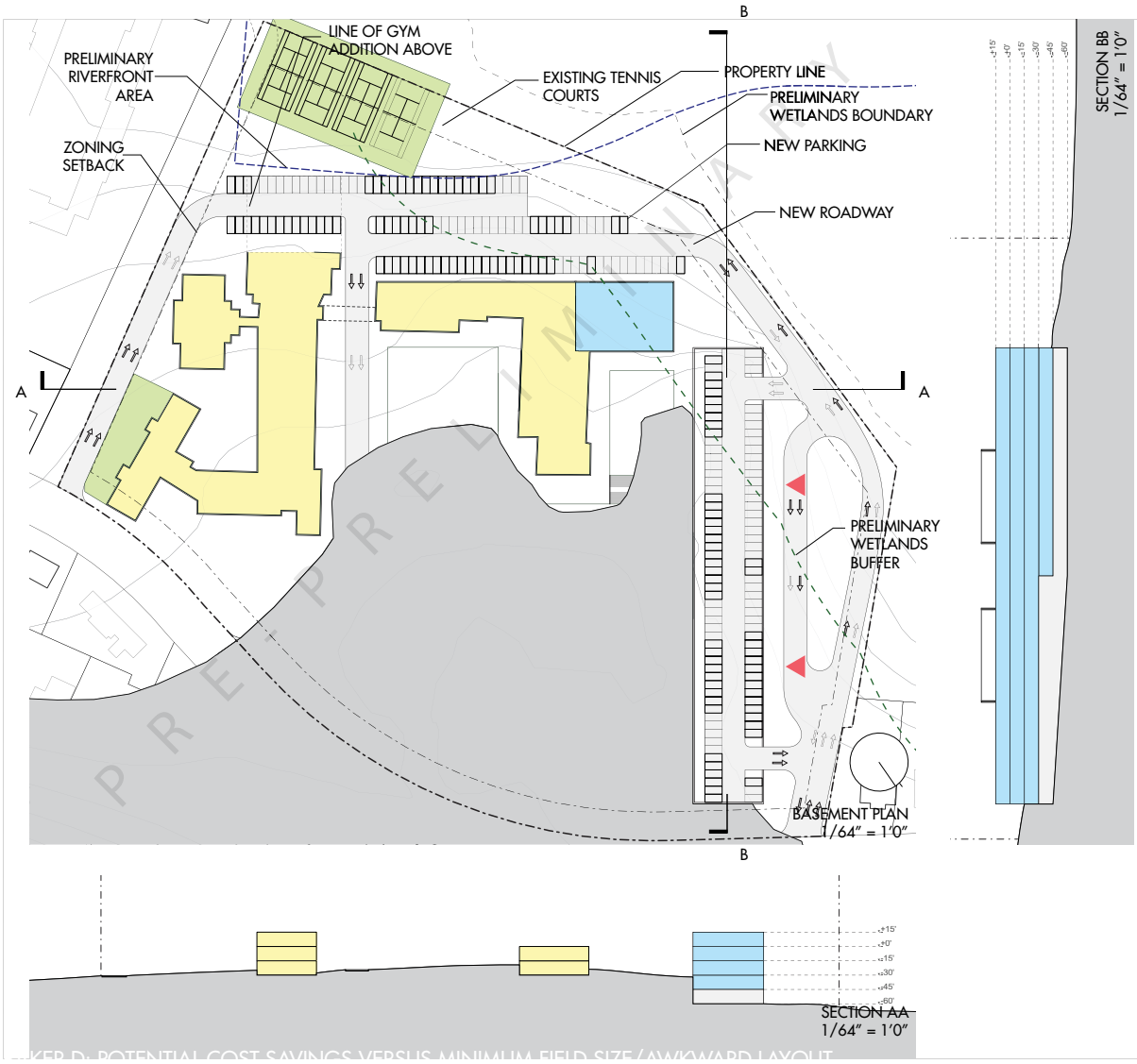


BAKER SITE SCHEME D



BAKER SITE SCHEME D
K-8 SCHOOL ADDITIONS WITH EXISTING BAKER STRUCTURE

BAKER SITE: SCHEME D



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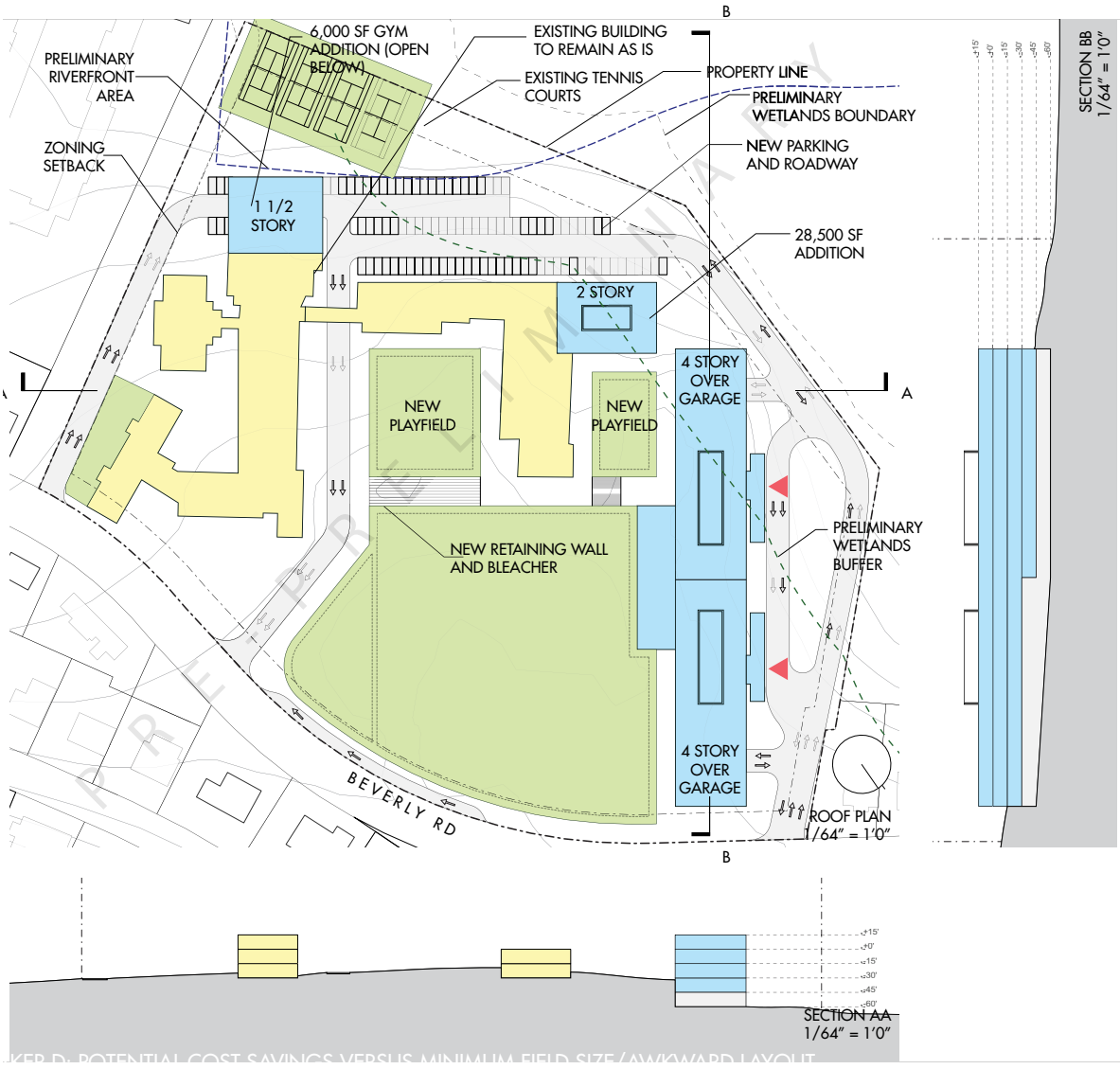
BAKER D: POTENTIAL COST SAVINGS VERSUS MINIMUM FIELD SIZE / AWKWARD LAYOUT



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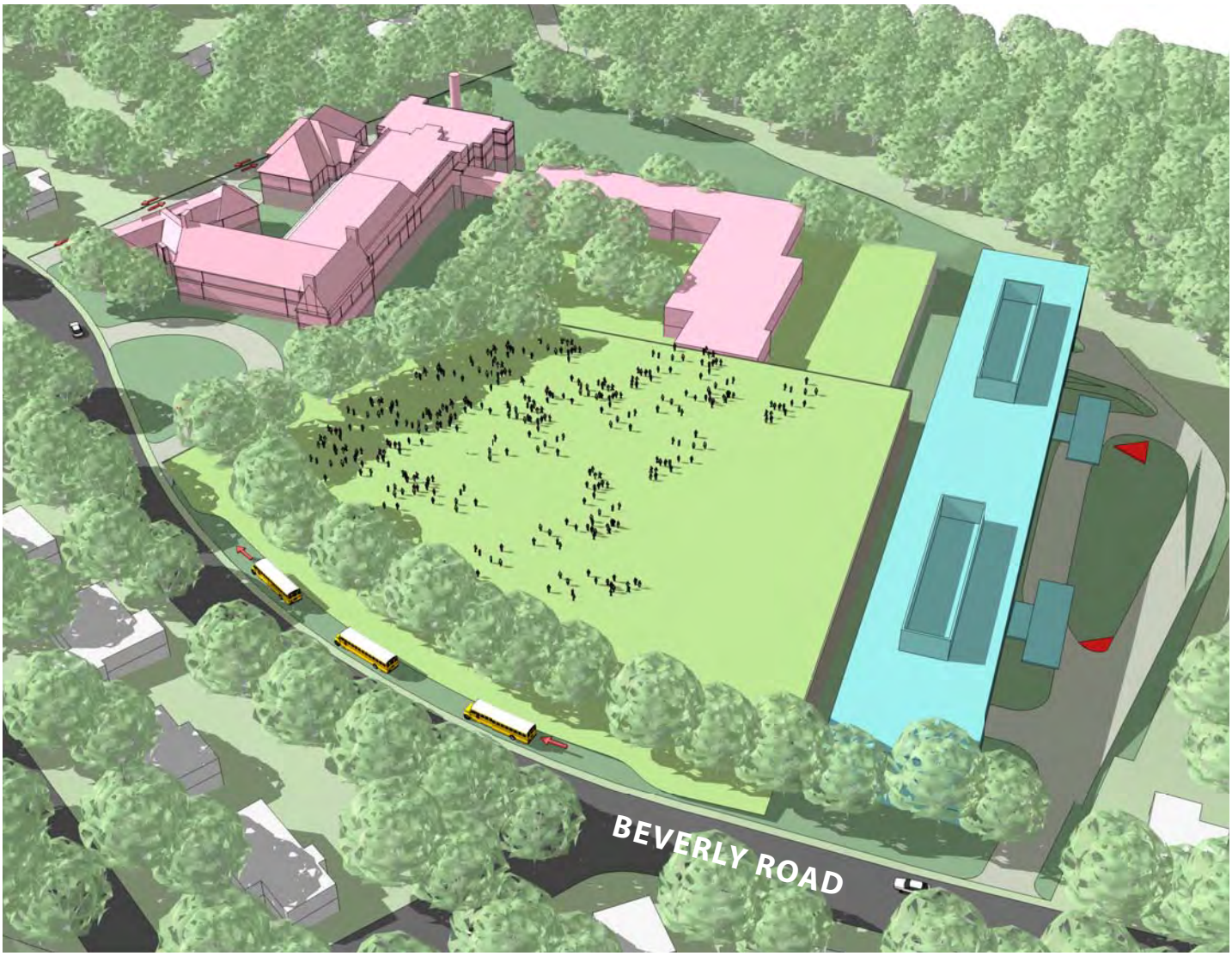
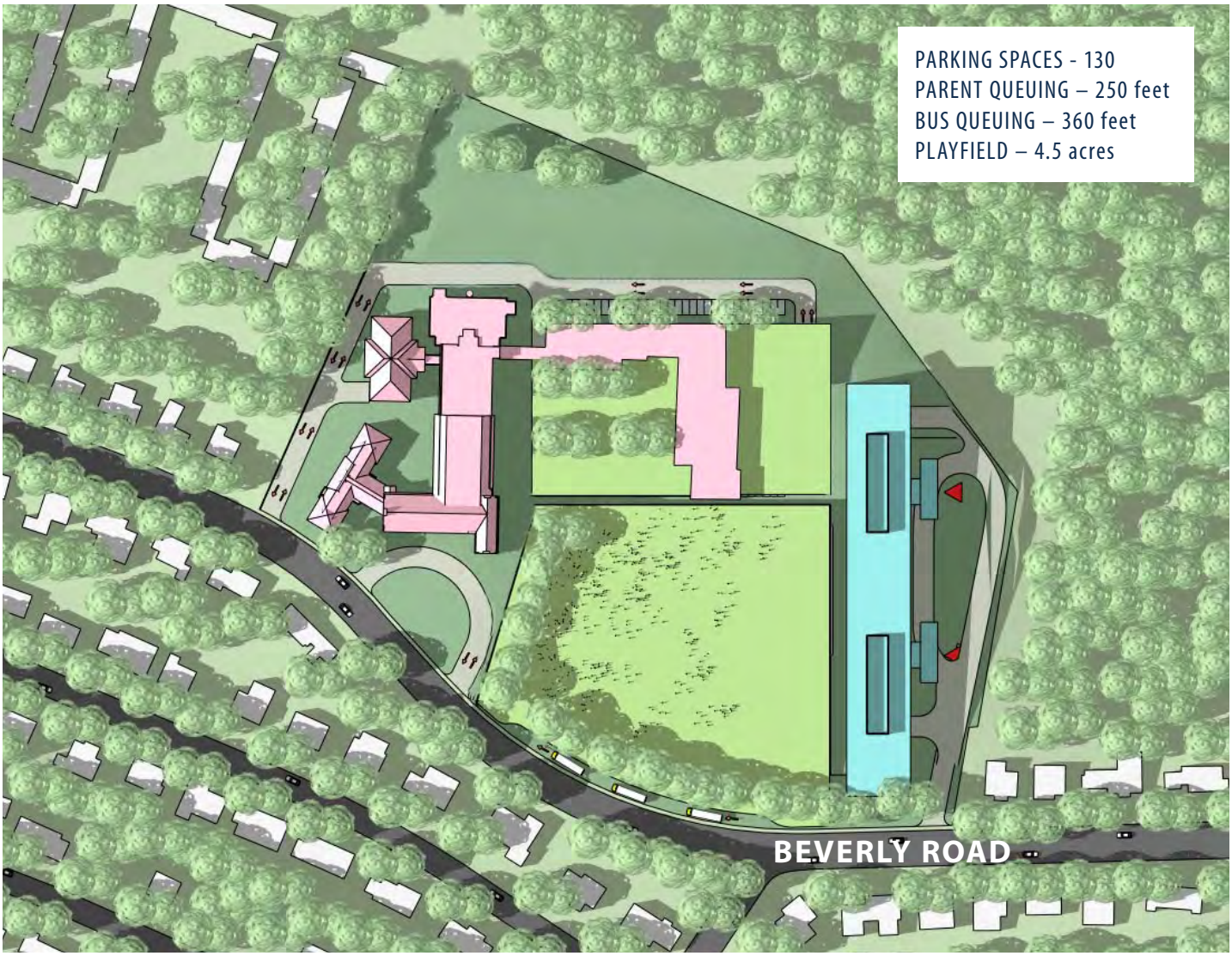
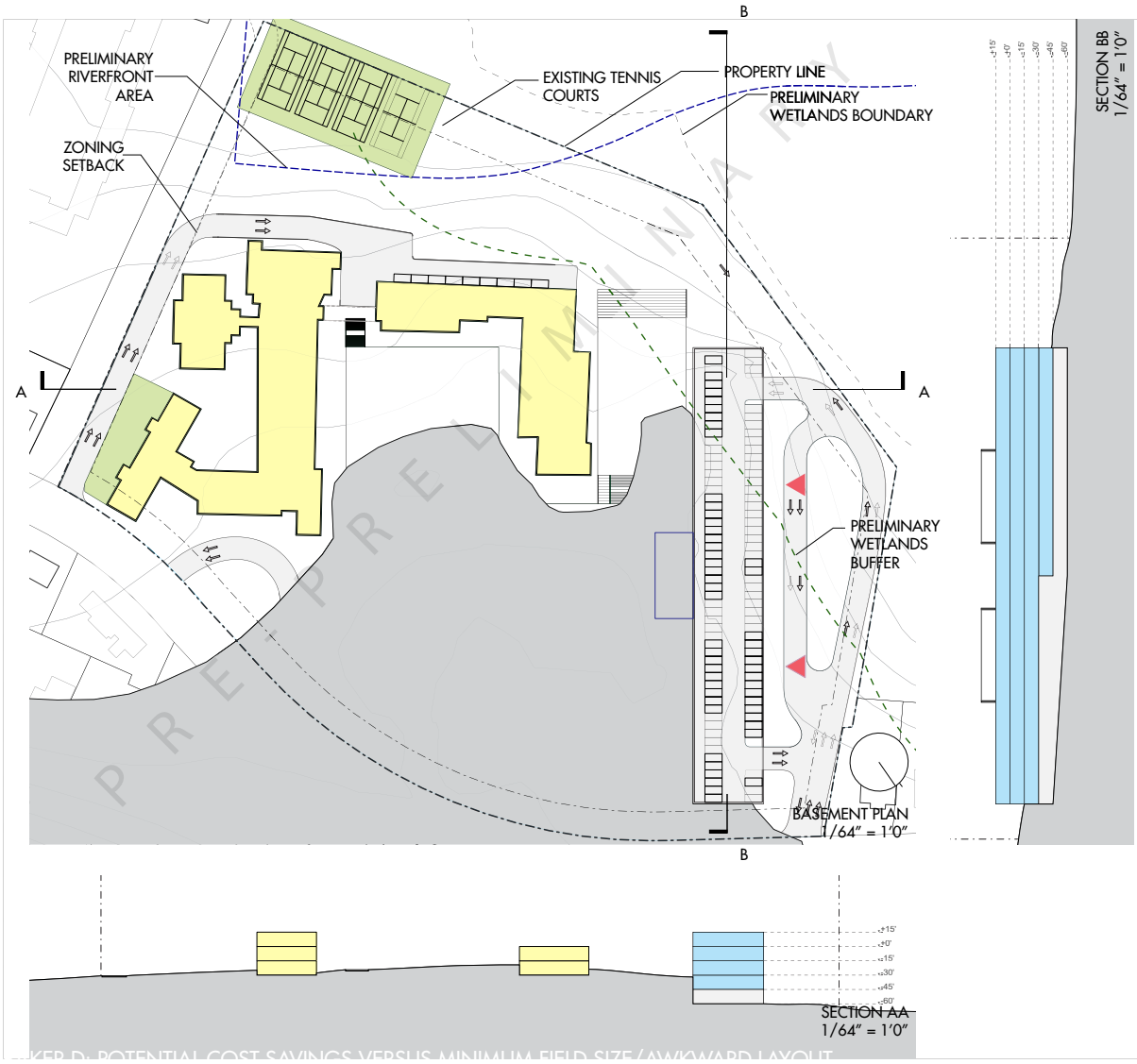


BAKER SITE SCHEME E



BAKER SITE SCHEME E
K-8 SCHOOL WITH EXISTING BAKER STRUCTURE

BAKER SITE: SCHEME E



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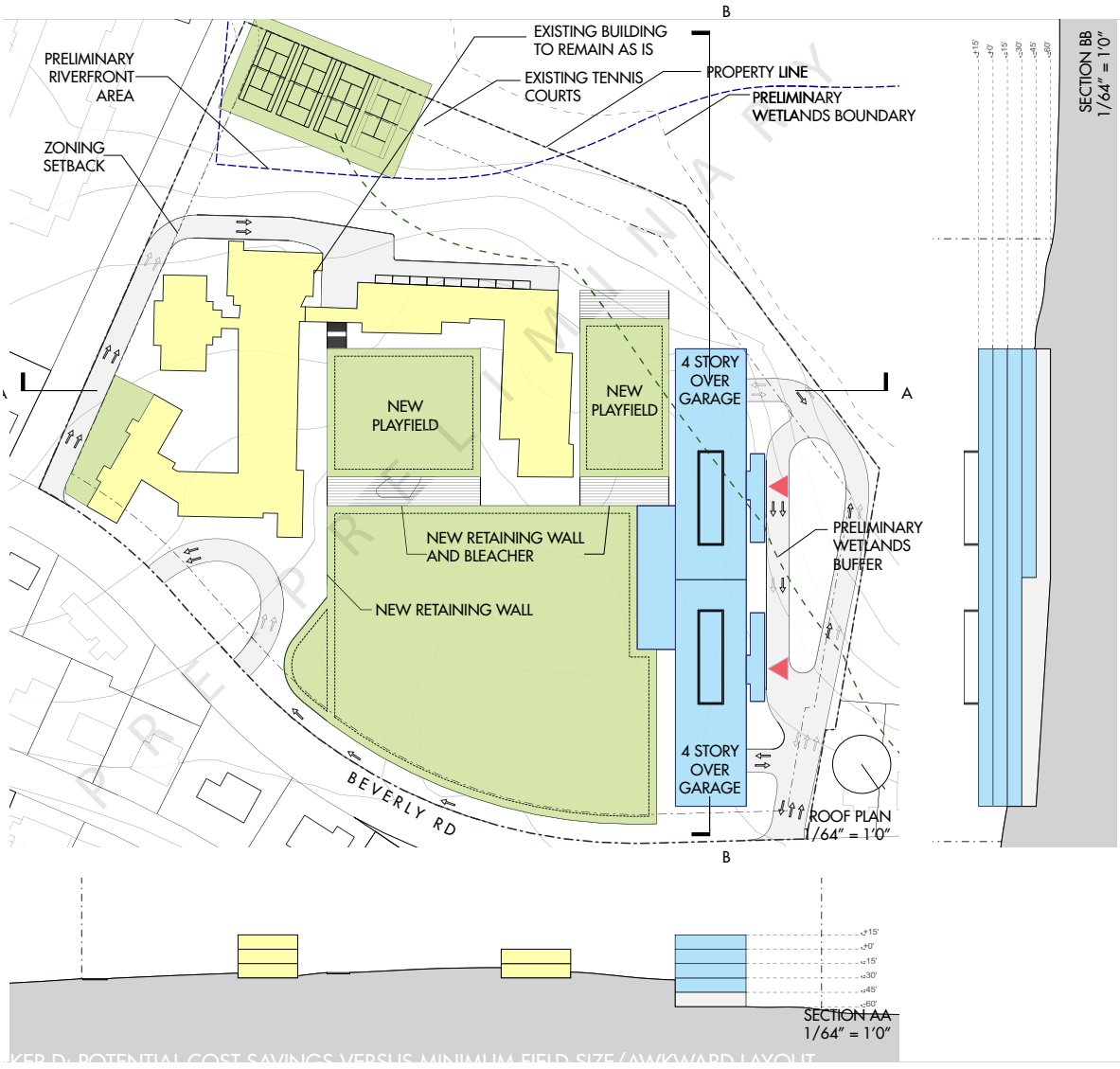

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PRE-CONCEPT CONSTRUCTION PHASING SUMMARY:

1. EXISTING BAKER AND MODULARS REMAIN FULLY IN OPERATION DURING CONSTRUCTION
2. GRADE NEW REAR PARKING FOR LAYDOWN USE. PLAYFIELD REMAINS IN USE
3. CONSTRUCT NEW SCHOOL, ADDITIONS AND STRUCTURED PARKING
4. COMPLETE SITE WORK

BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
BAKER E
2 OF 2

PROJECT NO.

DRAWING NO.

KER D: POTENTIAL COST SAVINGS VERSUS MINIMUM FIELD SIZE / AWKWARD LAYOUT

Brookline 9th Elementary School - Site Selection Study
Evaluation Matrix

RATINGS - RELATIVE BETWEEN THE 3 SITES:

+	Advantageous
-o-	Neutral
-	Disadvantageous
- -	Very Disadvantageous / High Risk

		BAKER SITE	BAKER SITE COMMENTS
Location Factors			
L.1	Traffic Impacts – Off-Site Congestion	+	Baker has ability to improve existing congestion on Beverly Road by providing vehicle queuing space for both new and existing schools within site and off roadway.
L.2	Safe Access for Walking/ Biking	+	Comparatively small roadways with slower vehicular speeds
L.3	Fire Department Response Time	-	Ratings shown as determined by Brookline Fire Department. Baker is comparatively far from Fire Station, with potentially more congested roadway access.
L.4	Community Use	-o-	Little change from existing.
L.5	Townscape Improvement	-o-	Little change from existing.
L.6	Sustainability - Carbon Footprint	-o-	Neutral
L.7	Proximity to Public Transportation	-	Little access to public transportation
Site Size and Configuration		11.4 Acres (2 Schools)	
S.1	School Footprint	+	Larger site allows most functional layout
S.2	Parity with Other 8 K-8 School Building Programs	-o-	Baker site most open.
S.3	Makes Right-Sizing Baker More Efficient	+	Existing Baker School currently serving larger population than originally designed for the building.
S.4	Program Displacement	-o-	No program displacement required
S.5	Playgrounds, Recess and Fields	-	Baker reduces current amount of open space per student.
S.6	On-Site Drop-off/Pick-up Queuing / Parking Access	+	Larger site allows most functional layout
S.7	On-Site Bus Access / Drop-Off	-o-	Neutral
S.8	Service Access-Deliveries, Refuse	+	Larger site allows most functional layout
S.9	Separation of Pedestrians and Vehicles	+	Larger site allows most functional layout
S.10	Overall Student Safety	+	Less urban/ congested sites are easier to monitor and control.
S.11	Security - Controlled Access to Students	+	Ratings shown as determined by Brookline Police Department. Less urban/ congested sites are easier to monitor and control.
S.12	Topography	-o-	All sites have sloped topography.
S.13	Storm Drainage	-o-	Neutral
S.14	Proximity to Neighbors	-o-	Baker comparatively far from neighbors.
S.15	Community Access/Use – Indoor and Outdoor	-o-	Little change from existing.
S.16	Underground Obstacles	-o-	All sites have ledge.
S.17	Landscape Conservation / Tree Removal	-	Baker would remove several existing trees.
S.18	Orientation for Natural Light	+	Ideal orientation is east-west.
Schedule and Cost Risk Factors			
R.1	Construction Duration	+	Comparatively large site size assists with layout areas, constructability.
R.2	Construction Phasing	-o-	Limited phasing required to not interfere with existing school operations.
R.3	Existing Building Demo	-o-	May not be required, depending on design alternative selected
R.4	Hazardous Material Soil Removal	-o-	Comparatively small risk of soil contamination at an existing school site
R.5	Hazardous Materials in Existing Buildings	-o-	May not be required, depending on design alternative selected
R.6	Wetland Concerns	-	Baker adjacent to stream and wetlands.
R.7	Development Process Complexity	+	Property already owned by Brookline and controlled by Brookline Public Schools
R.8	Acquisitions - Schedule	+	Property already owned by Brookline and controlled by Brookline Public Schools
R.9	Acquisitions - Cost Certainty	+	Property already owned by Brookline and controlled by Brookline Public Schools
R.10	Potential Article 97 Process	-o-	Neutral
R.11	Deed Restrictions	+	Property already owned by Brookline and controlled by Brookline Public Schools
R.12	Permitting - Zoning	-o-	Some zoning relief likely recommended for all sites.
Cost Range		$90M to $105M **$105M to $$120M	** If improvments / additions are added to the existing Baker School, the Cost range increases by $15M

Evaluation Highlights and Commentary

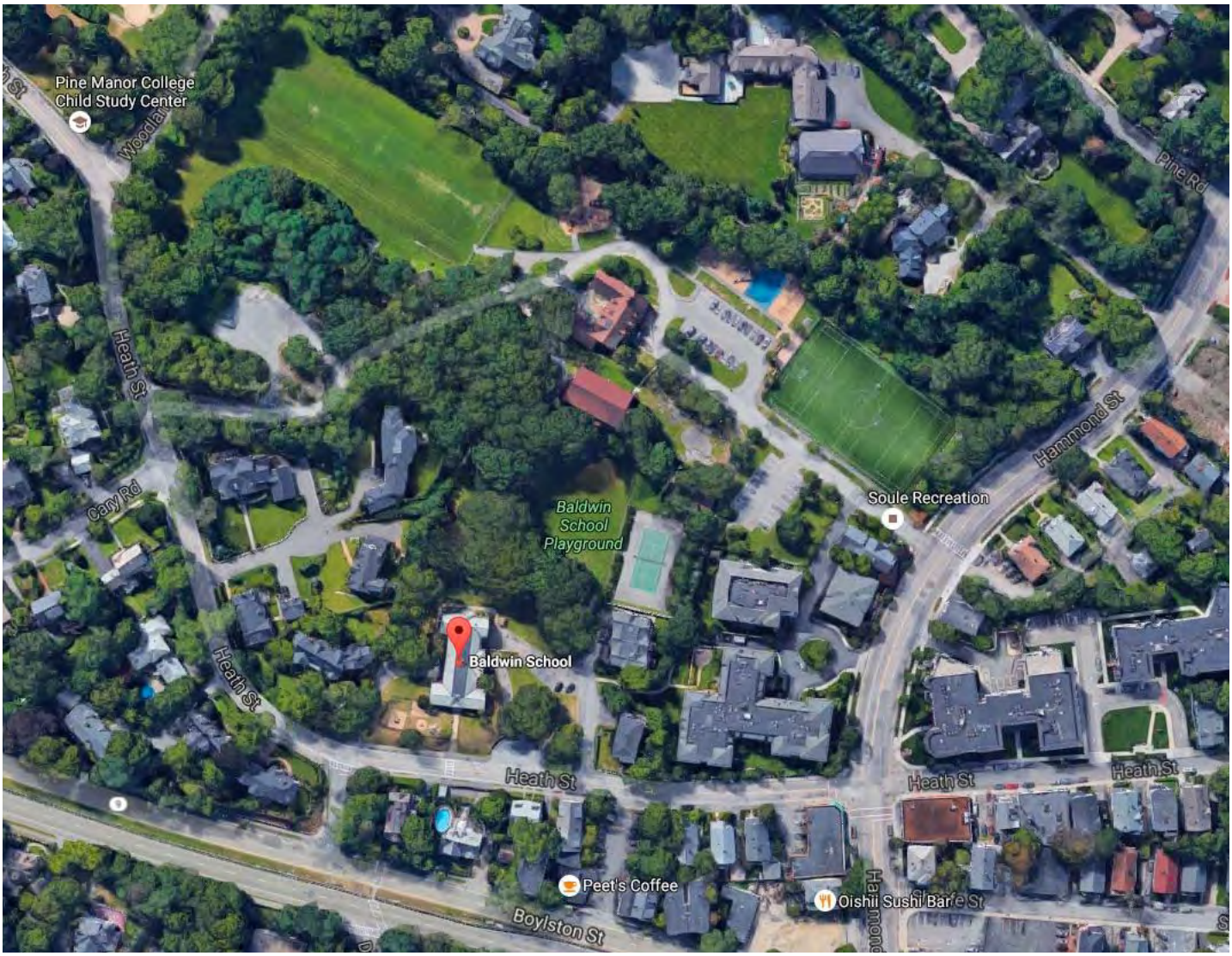
In addition to the analysis documanted above, the major benefit of the use of the Baker site is the predictability of the process leading to the construction of a new school - with the likelihood that a project can be conducted, with reasonable certainty, within the town's preferred timeline. With the partial exception of the Conservation Commission review, this is due to all major development factors being within Town control. Traffic is also an advantage of the site as its large size easily accommodates all necessary queuing and parking offstreet, not only for the new school, but to improve the existing traffic problems caused by the existing school. With the addition of improvements to the existing Baker's parking and circulation, the current congestion on Beverly Road can be alleviated, thereby making available its full, 32 foot wide, capacity as a feeder road.

Negatives of the site concern:

a) The perception that the nearness of two large schools might impact their educational programs. No credible evidence has been found to indicate that this would be the case. It is anticipated that each school would have a distinct identity and an appropriate scale of learning community similar to that which is provided at the Baker and other schools around the district today.

b) A removal of approximately 3 to 4 acres of currently forested area adjacent to the wetlands / sanctuary buffer zone

c) A reduction of playspace square footage per student with the increased student population.



BALDWIN SITE AERIAL VIEW

4 Baldwin School Parcel/Soule Recreation

Site Analysis

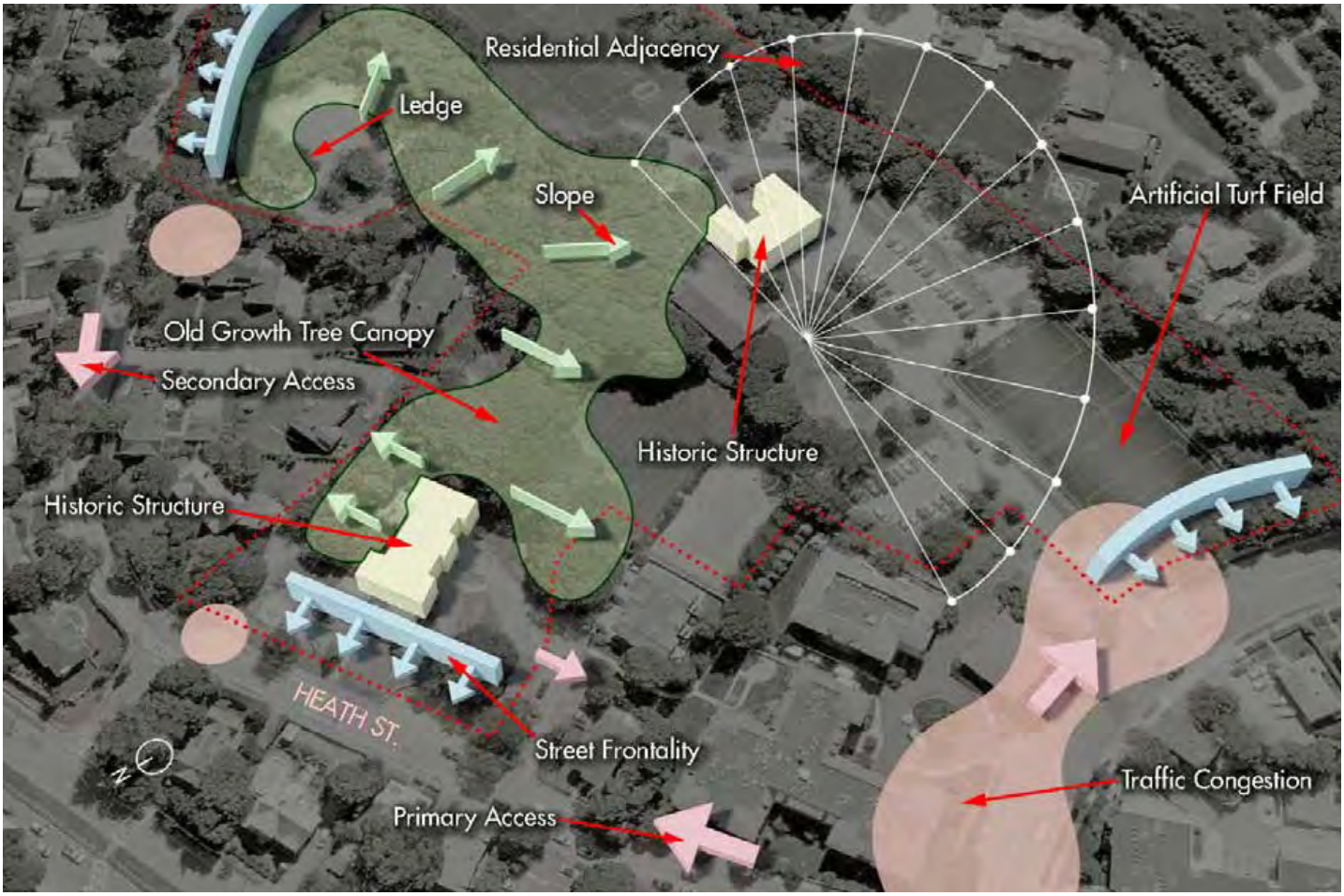
The Baldwin site consists of two distinct parcels. The first, fronting on Heath Street, is controlled by the school department and includes a small former elementary school which is currently being used for a specialty high school program and as a day care facility. In addition to the school, this site also has a small portion dedicated for recreational use and is currently developed as tennis courts. The second parcel, the Soule Recreation Center, is not part of the site proper, but is part of the Town of Brookline parks and recreation portfolio. It includes a number of amenities which could potentially be shared by a future adjacent K-8 school.

The 2.6 acre school site is small - particularly when the tennis court area, which is protected open space, is subtracted from the buildable area. Access to this site is currently restricted to Heath Street; which is currently experiencing significant congestion relating to the Hammond Street intersection. The site includes complex topography. At its low point there is the potential for the collection of runoff which may require permitting with the Conservation Commission. In discussions with the Town's Conservation agent it is anticipated that this low point, even if found to be a regulated area, would simply require compensatory stormwater storage volume to be accounted for on site. There are a number of large trees as well as exposed ledge indicating the presence of ledge throughout the site below grade.

A short private road, Oak Street, serves several single-family residence abutters. There are also a significant number of abutters in multifamily structures to the East and Southwest. The Soule Recreation Center property includes two large play fields, one of which is artificial which are used extensively by the community. There is also a significant undeveloped portion to the Northeast which has potential for development as a shared parking area- either structured or at grade. This area is accessible from further east on Heath Street and from Woodland Road, which would add fewer vehicles to the Hammond Street congestion as compared to Heath Street access to the new school.

Test Fit Alternatives A,B,C,D

Site Considerations - Vehicular
Schemes A, B and C started from a conceptual understanding with the Parks and Open Space Division and Recreation Department that a new parking area, field improvements, and new pedestrian paths might be developed on and for the Soule site for shared use by teachers and staff during school hours when Parks and Recreation use is less intense and users of the recreation center at all times. Pick up and drop off, both by parents and by bus, would be restricted to the Baldwin school site. None of these schemes are capable of developing enough off-street queuing space to serve in 800 student school, so it would be anticipated that these schemes would result in vehicle queues that



BALDWIN SITE ANALYSIS

would extend onto Heath Street, adding more traffic to an existing very disadvantageous traffic condition.

To potentially minimize traffic impacts, a fourth scheme, D, was recently added to study the possibility of utilizing the shared parking area on the Soule site as a drop-off and pickup zone with access from Woodland. Scheme D does address this problem, but it should be noted that even with its revised site access location, the problems of congestion added to the Hammond Street intersections would still be of great concern to the traffic engineer. Additionally, this solution would likely create a change to the current Article 97 use of the Soule site, and would require approval from the Parks and Recreation Commission, Conservation Commission, Town Meeting, Massachusetts Executive Office if Energy and Environmental Affairs, and the State Legislature.

Building Envelope /Program Fit
Three initial test fits were studied. All were restricted to the Baldwin School property proper. The first retained and reused the existing historic elementary school. The second attempts to reduce the new construction height by demolishing the existing school and utilizing the additional footprint area. The third test fit looked at the possibility of a compact, atrium-themed alternative high school program.

Sustainability
Given the compact site area the shape and orientation of the building footprint cannot be sited for proper solar orientation. Similarly the restricted site area would limit the ability to develop extensive geothermal or solar harvesting fields. The site would need to be cleared of its existing large tree canopy in order to make room for the needed improvements.

Site Considerations - Programmatic
An advantage of the Baldwin site is the potential for sharing outdoor space with the adjacent Soule site. This would provide substantially more playspace per student for this school than the other two sites. The gymnasium and auditorium would need to be developed below grade in order to conserve site space and reduce the impact to neighbors of building height.

Cost
The reduced need for developing site space due to the possibility of sharing existing playfields combined with increased building height and small smaller footprint implies a degree of relative cost efficiency.

Program Relocation
Construction will result in necessary relocation of the existing high school and day care programs which are currently housed at the historic Baldwin school.

BALDWIN SITE TEST FIT ALTERNATIVES

Baldwin Site: Scheme A

Baldwin Site: Scheme B

Baldwin Site: Scheme C

Baldwin Site: Scheme D

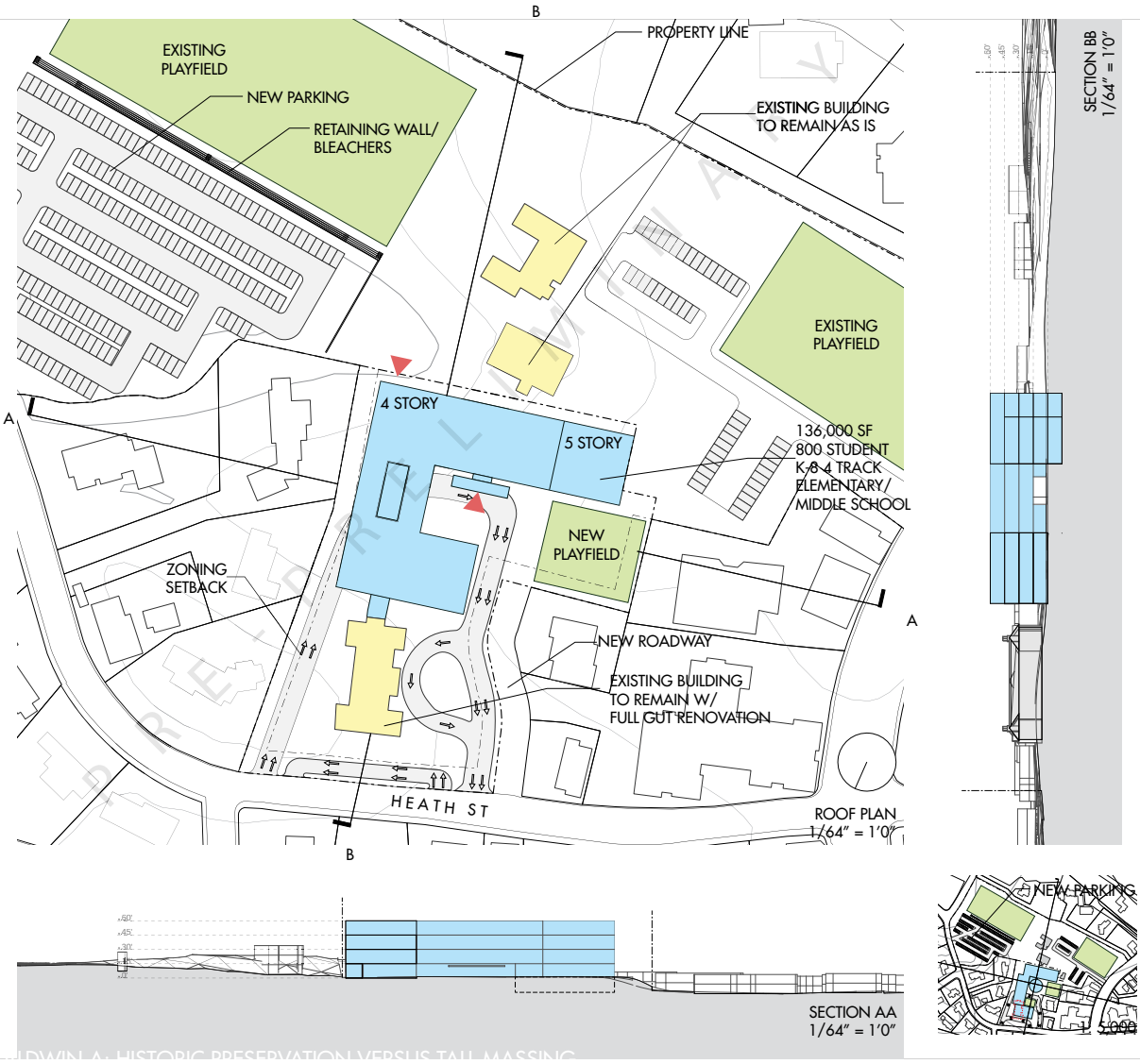
Approvals and Permitting

Development of the Baldwin school site depends heavily on coordination and approvals regarding the use of the adjacent Soule property. Permitting for any of the studied test fits that require a change of Article 97 land use conversion (i.e. vehicular access for primarily school circulation, pick-up, drop-off) would be complex, lengthy and approval uncertain. Such uncertainty may impact the desired timeline for completion of a new facility. Similarly, the best option for reducing the neighborhood traffic impacts of any new project regardless of size will likely depend on the reconfiguration of neighborhood (making Woodland Road two-way for at least a portion of its length)-again, requiring significant approvals outside the control of the school department.

BALDWIN SITE SCHEME A

BALDWIN SITE SCHEME A
K-8 SCHOOL INCORPORATING EXISTING BALDWIN STRUCTURE

BALDWIN SITE: SCHEME A



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PRE-CONCEPT CONSTRUCTION PHASING SUMMARY:

1. RELOCATE HIGH SCHOOL WINTHROP HOUSE AND CHILD CARE TO SCHOOL DEPT. SWING SPACE
2. LAYDOWN SPACE AT NEW PLAYFIELD AND EXISTING BALDWIN YARDS
3. CONSTRUCT NEW SCHOOL
4. COMPLETE SITE WORK

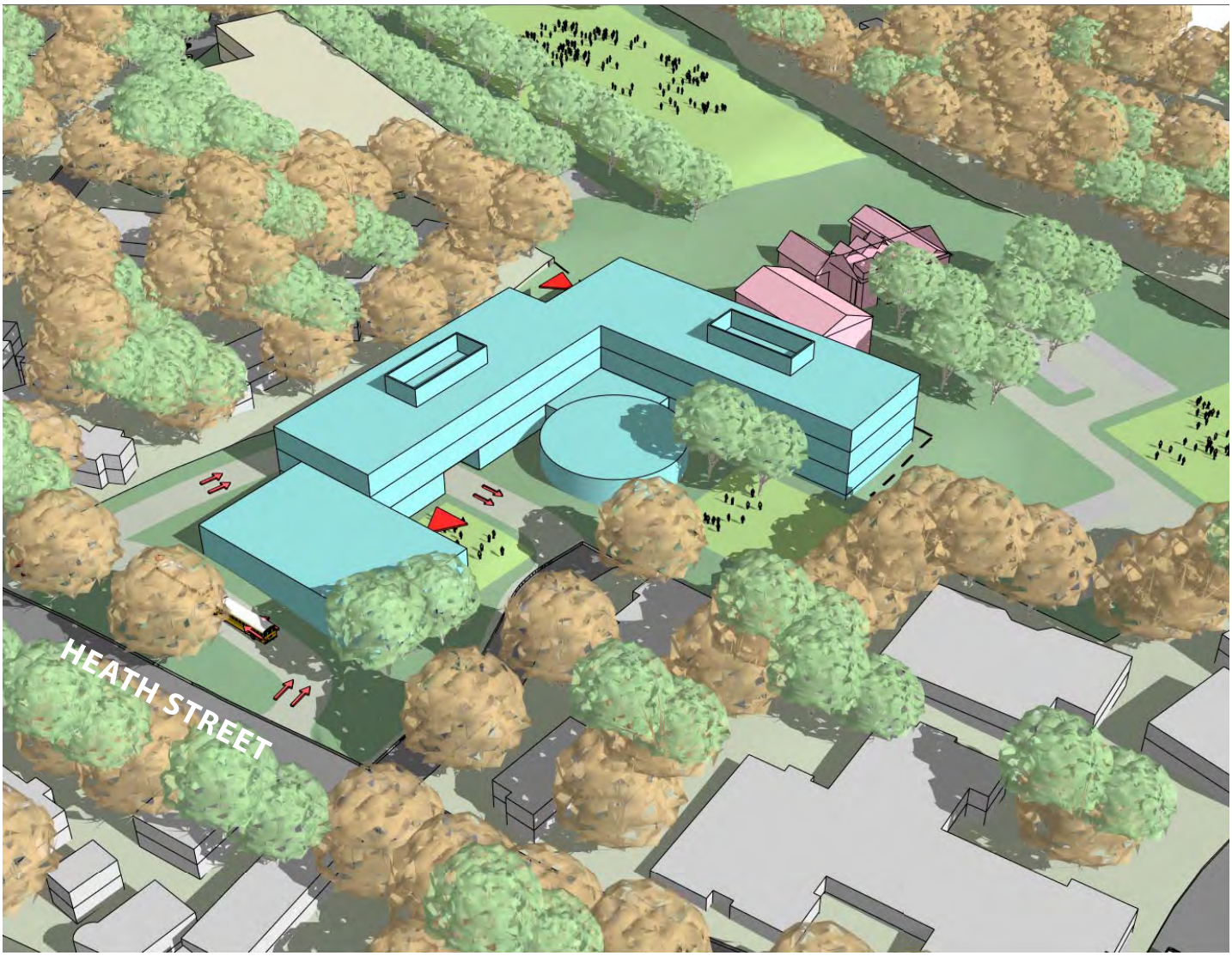
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
BALDWIN A
1 OF 1

PROJECT NO.

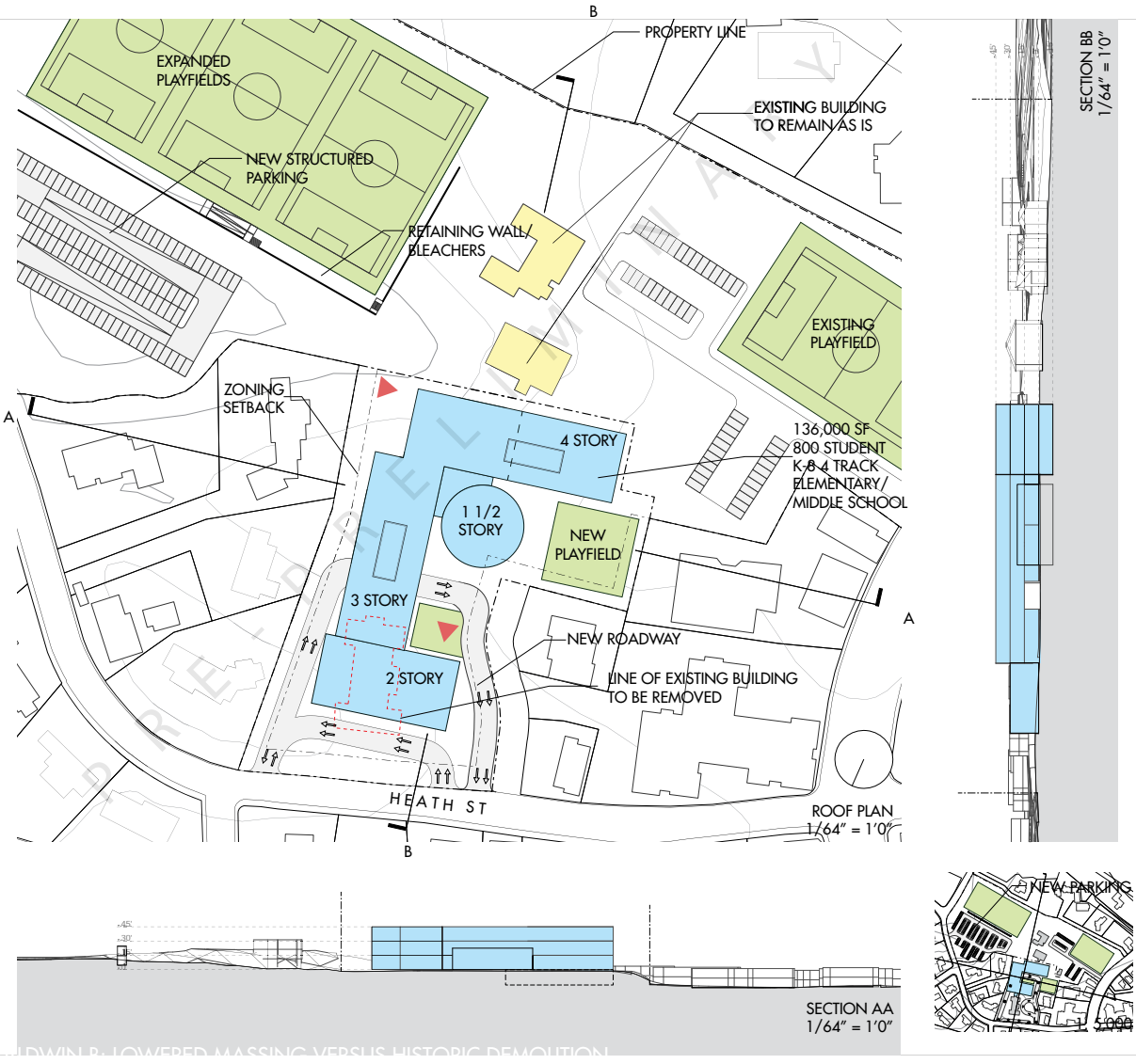
DRAWING NO.



BALDWIN SITE SCHEME B

BALDWIN SITE SCHEME B
K-8 SCHOOL - ALL NEW CONSTRUCTION

BALDWIN SITE: SCHEME B



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2. DEMOLISH EXISTING SCHOOL
3. LAYDOWN SPACE AT NEW PLAYFIELD AND NORTH END OF SITE
3. CONSTRUCT NEW SCHOOL WITH NORTH WING LAST TO PROVIDE PHASED LAYDOWN SPACE
4. COMPLETE SITE WORK

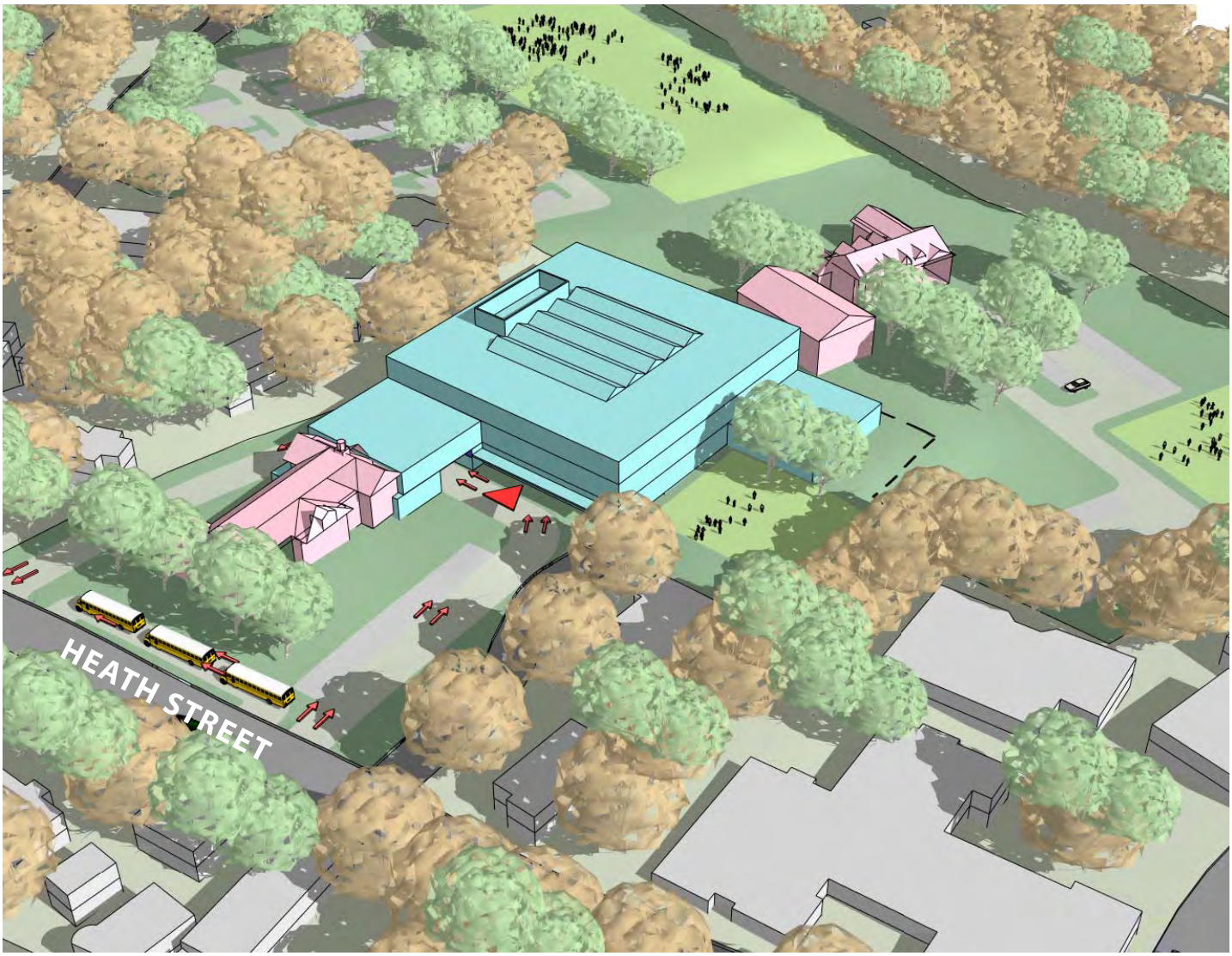
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
BALDWIN B
1 OF 1

PROJECT NO.

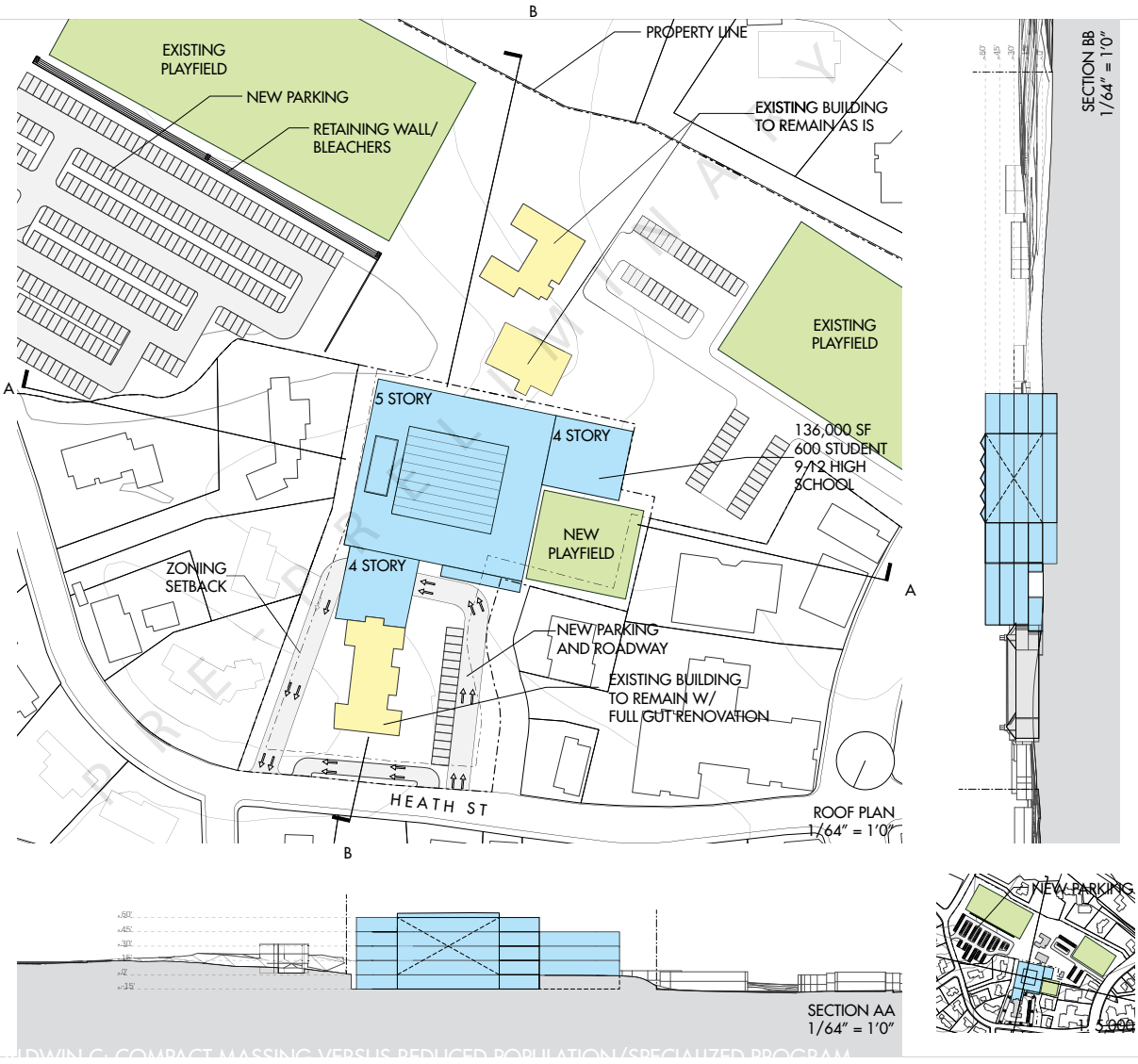
DRAWING NO.



BALDWIN SITE SCHEME C

BALDWIN SITE SCHEME C
SATELLITE HIGH SCHOOL INCORPORATING EXISTING BALDWIN STRUCTURE

BALDWIN SITE: SCHEME C



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PRE-CONCEPT CONSTRUCTION PHASING SUMMARY:

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2. LAYDOWN SPACE AT NEW PLAYFIELD AND EXISTING BALDWIN YARDS
3. CONSTRUCT NEW SCHOOL
4. COMPLETE SITE WORK

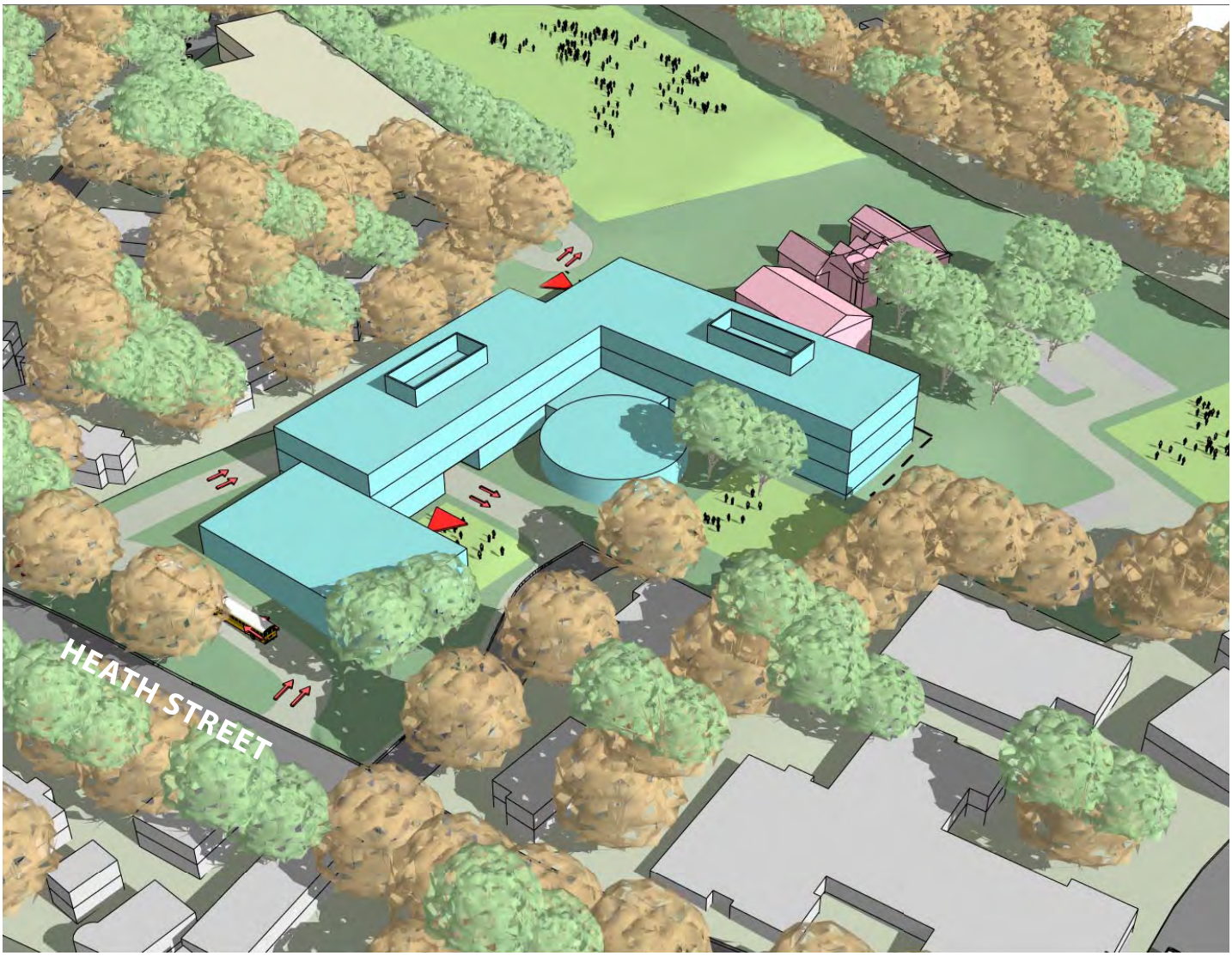
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
BALDWIN C
1 OF 1

PROJECT NO.

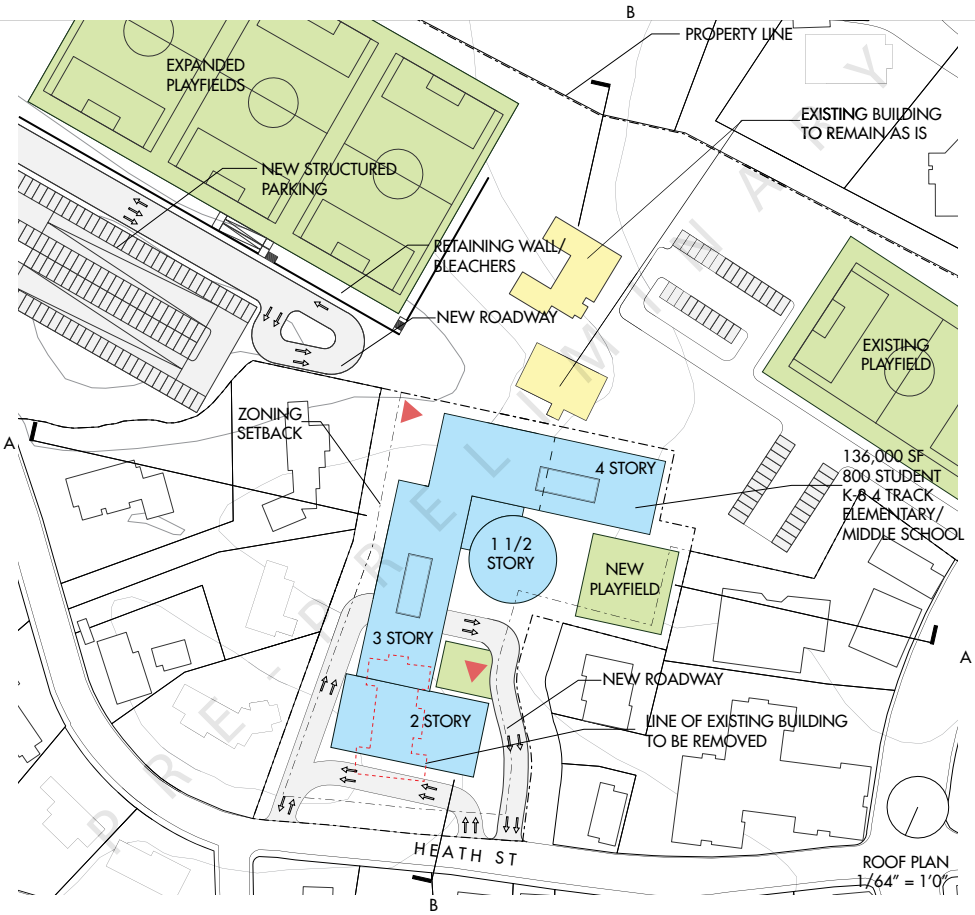
DRAWING NO.

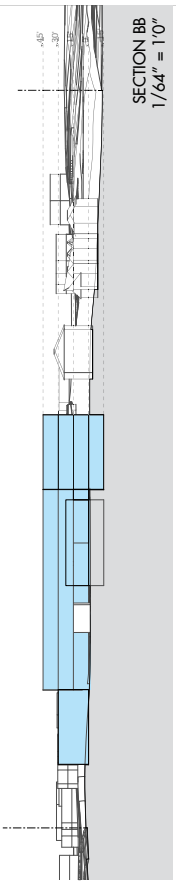


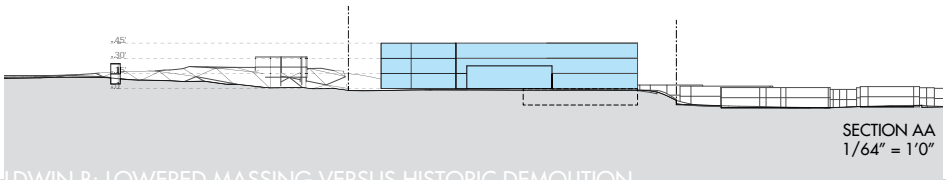
BALDWIN SITE SCHEME D

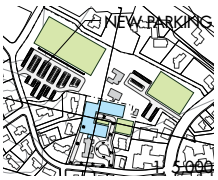
BALDWIN SITE SCHEME D
K-8 SCHOOL - ALL NEW CONSTRUCTION WITH VEHICLE ACCESS ONTO WOODLAND ROAD

BALDWIN SITE: SCHEME B









BALDWIN B: LOWERED MASSING VERSUS HISTORIC DEMOLITION

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2. DEMOLISH EXISTING SCHOOL
3. LAYDOWN SPACE AT NEW PLAYFIELD AND NORTH END OF SITE
3. CONSTRUCT NEW SCHOOL WITH NORTH WING LAST TO PROVIDE PHASED LAYDOWN SPACE
4. COMPLETE SITE WORK

BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
BALDWIN D
1 OF 1

PROJECT NO.

DRAWING NO.

Brookline 9th Elementary School - Site Selection Study
Evaluation Matrix

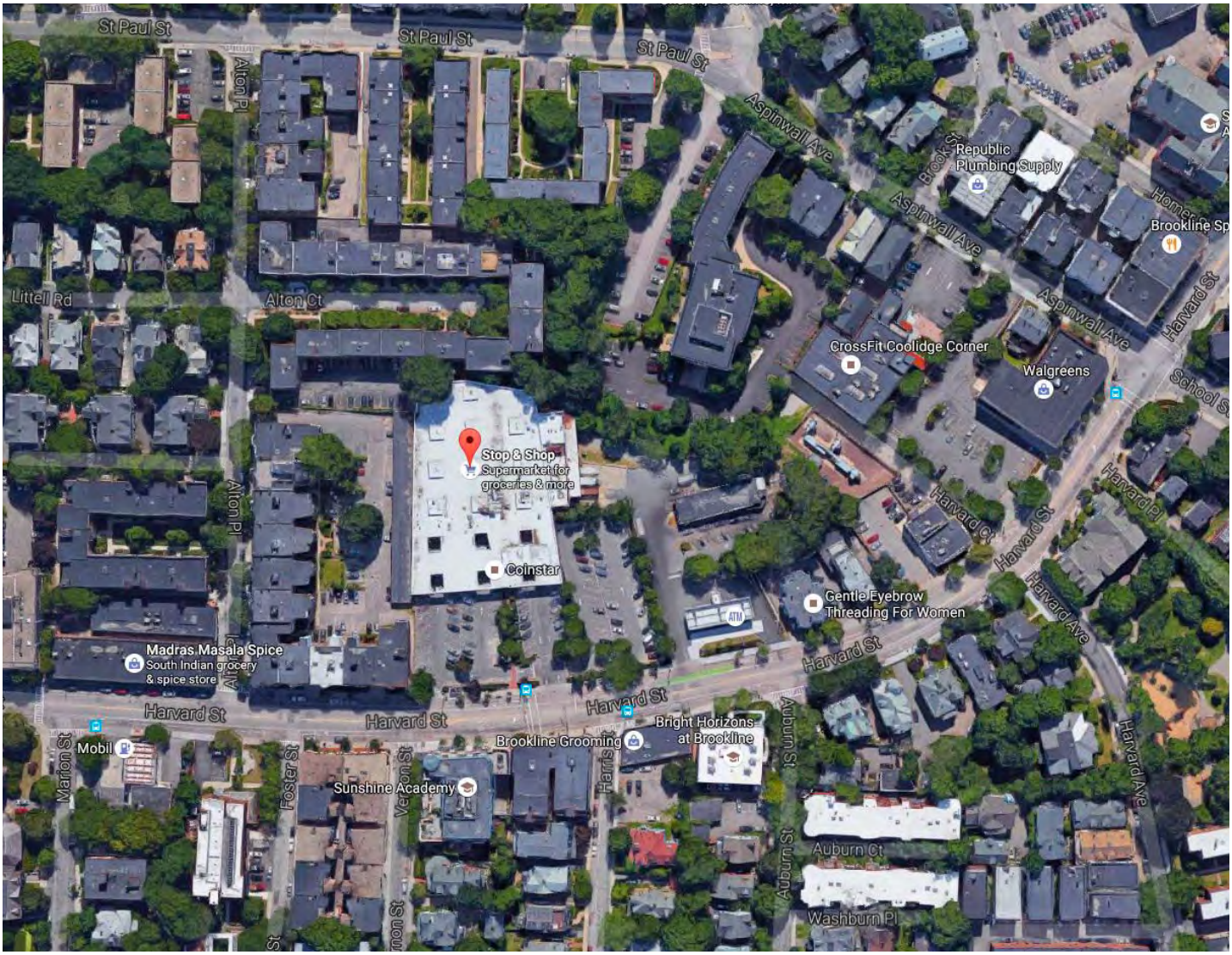
RATINGS - RELATIVE BETWEEN THE 3 SITES:

+	Advantageous
-o-	Neutral
-	Disadvantageous
- -	Very Disadvantageous / High Risk

		BALDWIN SITE		BALDWIN SITE COMMENTS
		BASE	*EXPANDED	
Location Factors				
L.1	Traffic Impacts – Off-Site Congestion	- -	-	Small available site area at Baldwin limits vehicle queuing on-site, and would likely overflow to street at peak times.
L.2	Safe Access for Walking/ Biking	-o-	-o-	Route 9 very busy, and can be intimidating to cross.
L.3	Fire Department Response Time	-	-	Ratings shown as determined by Brookline Fire Department. Baldwin is comparatively far from Fire Station, with potentially more congested roadway access.
L.4	Community Use	+	+	Baldwin would improve Soule Rec parking.
L.5	Townscape Improvement	-o-	-o-	Little change from existing.
L.6	Sustainability - Carbon Footprint	-o-	-o-	Neutral
L.7	Proximity to Public Transportation	-o-	-o-	Some access to public transportation: Chestnut Hill T Stop across Route 9
Site Size and Configuration		2.6 Acres + 2.7 Acre Soule Co-Use	2.6 Acres + 3.2 Acre Soule Co-Use	
S.1	School Footprint	-	-	Site size affects ideal layout - Baldwin is a smaller site
S.2	Parity with Other 8 K-8 School Building Programs	-o-	-o-	Neutral
S.3	Makes Right-Sizing Baker More Efficient	-o-	-o-	Neutral
S.4	Program Displacement	-	-	Baldwin option would displace current SPED use in existing building.
S.5	Playgrounds, Recess and Fields	+	+	Combined use with Soule Rec fields
S.6	On-Site Drop-off/Pick-up Queuing / Parking Access	- -	+	Baldwin has insufficient driveway length available for all car queuing on site.
S.7	On-Site Bus Access / Drop-Off	- -	+	Sufficient Bus drop off lane problematic at Baldwin.
S.8	Service Access-Deliveries, Refuse	-	-	Service vehicle separation problematic at Baldwin.
S.9	Separation of Pedestrians and Vehicles	-o-	-o-	More challenging on tight sites.
S.10	Overall Student Safety	+	+	Less urban/ congested sites are easier to monitor and control.
S.11	Security - Controlled Access to Students	-o-	-o-	Ratings shown as determined by Brookline Police Department. Less urban/ congested sites are easier to monitor and control.
S.12	Topography	-o-	-o-	All sites have sloped topography.
S.13	Storm Drainage	-	-	Baldwin would eliminate greatest percentage of existing permeable surface
S.14	Proximity to Neighbors	-	-	Baldwin has close proximity to neighbors
S.15	Community Access/Use – Indoor and Outdoor	+	+	Baldwin would add parking for Soule Rec.
S.16	Underground Obstacles	-o-	-o-	All sites have ledge.
S.17	Landscape Conservation / Tree Removal	-	-	Baldwin would remove existing trees.
S.18	Orientation for Natural Light	-o-	-o-	Neutral
Schedule and Cost Risk Factors				
R.1	Construction Duration	-	-	Comparatively small site size adversely affects layout areas, constructability.
R.2	Construction Phasing	+	+	No phasing required
R.3	Existing Building Demo	-	-	Unknown complexity of demo of Baldwin School.
R.4	Hazardous Material Soil Removal	-o-	-o-	Comparatively small risk of soil contamination at an existing school site
R.5	Hazardous Materials in Existing Buildings	-	-	Unknown extent of hazmats in Baldwin School.
R.6	Wetland Concerns	-o-	-o-	No adjacent wetlands, but small area of intermittent standing water on site.
R.7	Development Process Complexity	+	- -	Property already owned by Brookline
R.8	Acquisitions - Schedule	+	+	Property already owned by Brookline
R.9	Acquisitions - Cost Certainty	+	+	Property already owned by Brookline
R.10	Potential Article 97 Process	-	- -	Baldwin Options require shared parking with Soule, which has Article 97 restrictions
R.11	Deed Restrictions	-	-	Baldwin has restricted use of Parks and Rec land.
R.12	Permitting - Zoning	-o-	-o-	Some zoning relief likely recommended for all sites.
Cost Range		$85M to $95M	$85M to $95M	

Evaluation Highlights and Commentary

The potential for sharing the upper Soule field is a significant benefit of developing the site both from an educational programming perspective and from the cost savings perspective. The available area for locating a building is limited, but this limitation can be overcome by development of subgrade spaces and removing vehicle circulation and parking to the adjacent recreational parcel. However, regardless of measures to consider reducing the building's population and reconfiguring local roadway circulation patterns, it is the opinion of the team's traffic consultant that neighborhood traffic would be adversely affected. Please see Traffic memo in the appendix.



VILLAGE SITE AERIAL VIEW

5 Village Site

Site Analysis

The site is not currently owned by the Town, is not for sale, and the current landowners have not responded to inqueries from the team. Potential acquisition options include purchase, long term lease, and/or eminent domain. These were not looked at in detail as part of the study. The study assumes the cooperation of the existing grocery store which occupies a portion of the site. Two configurations of the site were considered. The first uses a limited site area in order to reduce the complexity of site acquisition. This includes the grocery store site proper plus a separately owned parking area which is currently used by the retail operation for patrons. The second includes an expanded site area to free up building footprint and possibilities for on-site vehicle circulation and parking. The additional area includes acquiring a car wash facility and a gas station. The car wash facility is separately owned. The gas station is owned and operated by the same entity as the grocery store establishment.

The topography is complex with a shallow slope dropping from north to south along Harvard Street. A major drop-off occurs between the site and the abutting properties to the East.

Though it is a tight urban site, the orientation is advantageous for solar orientation both to the north and to the south. There is currently an existing traffic signal to facilitate turning movements into the grocery store parking areas. The signal could also benefit the new school use.

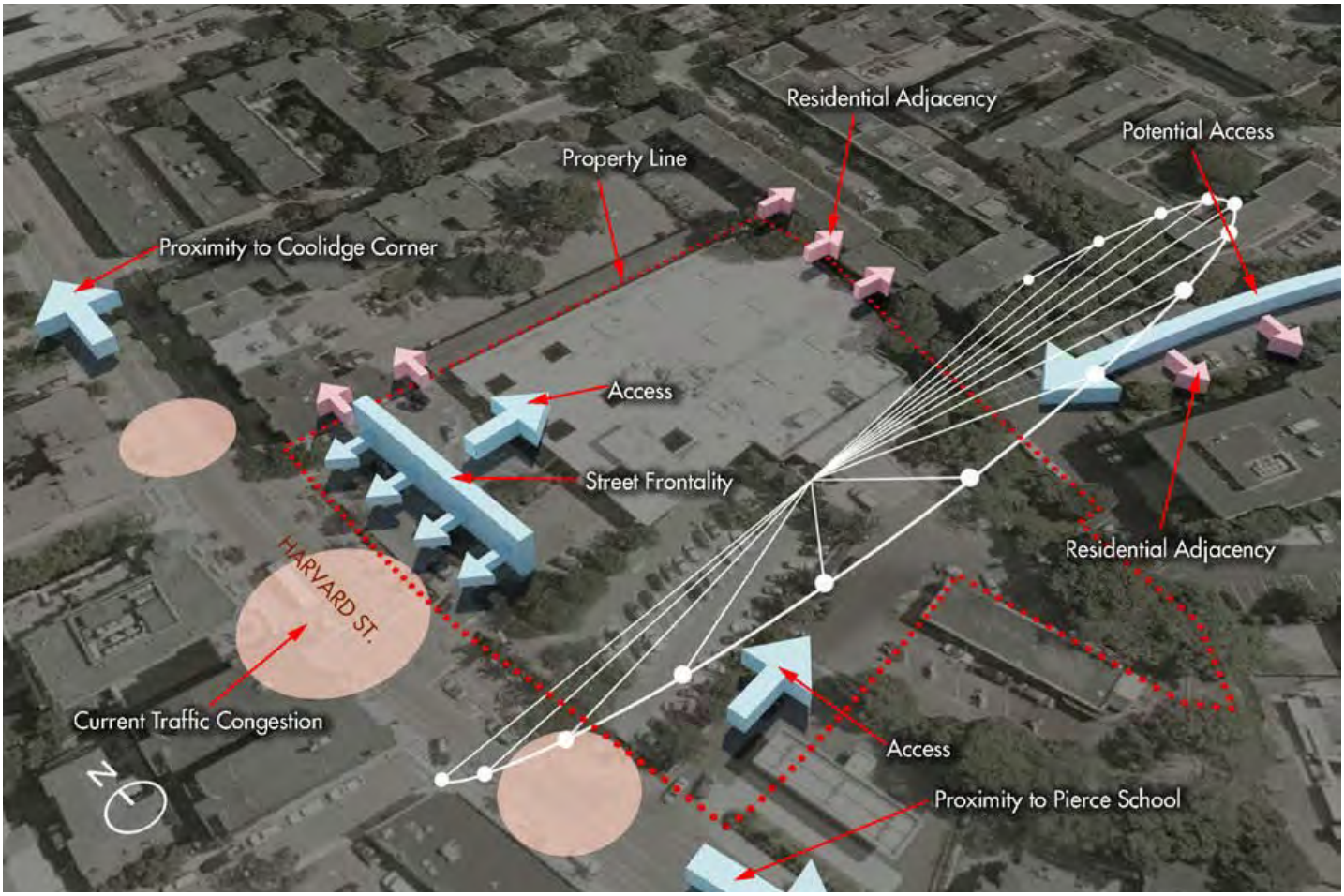
From an urban design perspective, the siting of a new school at this location offers significant potential to create a functionally and aesthetically improved Harvard Street streetscape.

Test Fit Alternatives A.1, A.2, B.1, B.2, C.1, C.2

Site Considerations - Vehicular
A new school would add to the congestion of Harvard Street, especially during the commuter rush-hour. Ingress and egress to the site could be effectively managed with the relocation of the existing signal at the site entrance and the addition of a guarded intersection at the site exit.

All schemes for the Village site provide adequate vehicular queuing space for parent pickup and drop-off by extending vehicle circulation around the perimeter. Parking is assumed to be reduced to 60 spaces for the school due to the urban location. The shared multi-level structured parking in schemes A.1 and A.2 would replace in-kind the quantity of existing retail parking. Loading and tractor-trailer movements were also considered in understanding the viability of the shared parking facility.

Schemes A.1 and A.2 would require a co-mingling of school traffic and



VILLAGE SITE ANALYSIS

retail traffic. Schemes B .1 and B .2 would require a controversial eminent domain taking, but would diminish the traffic impact by providing a separate site entrance from the East for the exclusive use of parents teachers and staff. This would effectively fully separate school traffic from retail traffic, but would require an aquisition process for 2 seperate residential condominium associations, both of which have expressed clear opposition. which would otherwise, necessarily, be combined.

Building Envelope/Program Fit
Three pairs of test fit alternatives were considered each with a base and expanded site version. The first pair A .1 and A .2 assumed vehicle access restricted to Harvard Street. The second pair B .1 and B .2 added and access passage for vehicles between multifamily residential properties connecting St. Paul and Aspinwall streets to the eastern boundary of the property. Though and an early point in the process the selectmen publicly committed to retention of the grocery store use, a school only scenario was studied in options C .1 and C .2 in order to fully understand the capacity of the for educational use.

All the schemes utilized a primary orientation of classroom program space spanning from East to West in order to help create a boundary and separation between the northern retail use of the site and the southern educational use. All the schemes also assumed that the deficit in site space could be partially made up through the utilization of the retail building's roof as an artificial turf playfield accessible from the second floor of the new school and with possible controlled public access as well. The enlarged site schemes provided at grade playfield space in addition to the rooftop areas.

Sustainability
The suggested East-West orientation of the main school classroom wing is ideal for solar harvesting. Limited site space would also, as at the Baldwin, mean limited opportunities for geothermal fields and for solar array collection. However the urban location with its possibilities for walking, public transportation and conservation of resources, is ideal from the overall consideration of sustainability.

Site Considerations - Programmatic
The internal accommodation of program on the site would be the equal of the others. However the majority of the school program space would be displaced from the street by at least one level causing a barrier in the relationship between school and community. The available open space for outdoor education, in the best case scenario combining the rooftop and at grade playfield areas, would fall well below the other schools in the district's portfolio in regard to sf of open play-area per student.

Cost
Development of the Village site would necessarily include site acquisition hard and soft costs with the multiple landowners and the grocery store, making this alternative inherently more expensive and less

VILLAGE SITE TEST FIT ALTERNATIVES

Village Site: Scheme A.1

Village Site: Scheme A.2

Village Site: Scheme B.1

Village Site: Scheme B.2

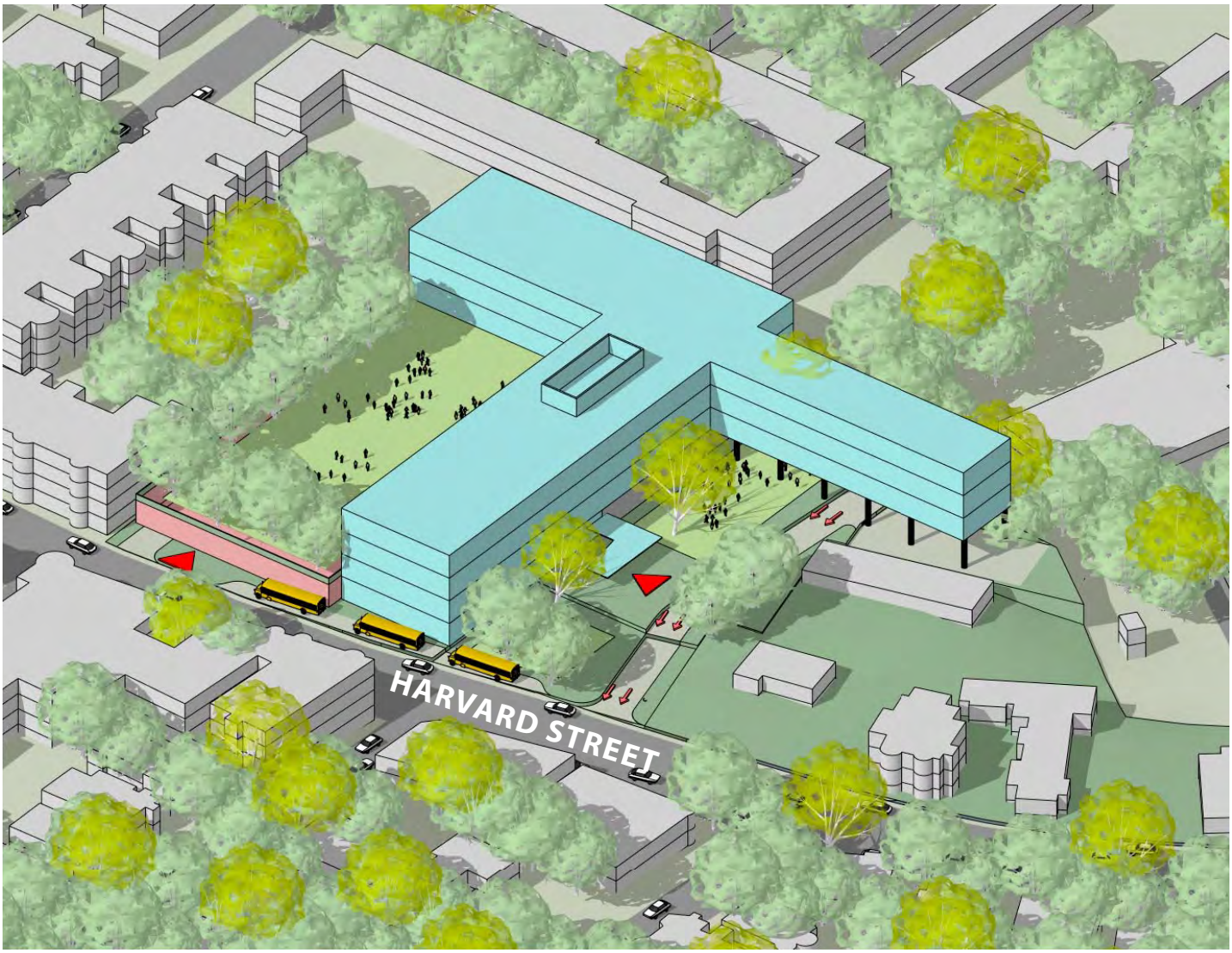
Village Site: Scheme C.1

Village Site: Scheme C.2

predictable from the cost point of view. Because of the site's history as a storage and manufacturing facility for the Navy, as well as the current accommodation of a car wash and gas station, hazardous materials remediation above and below ground is a significant and potentially enormously expensive unknown existing condition.

Construction Impact
As there is currently no school on-site there would be no construction impact to education. Impacts to the ongoing grocery store operation which is important to the local community would be minimized through phasing of construction and utilization of the school building area for temporary parking. However these measures would extend the timeline and costs for delivery of a new school.

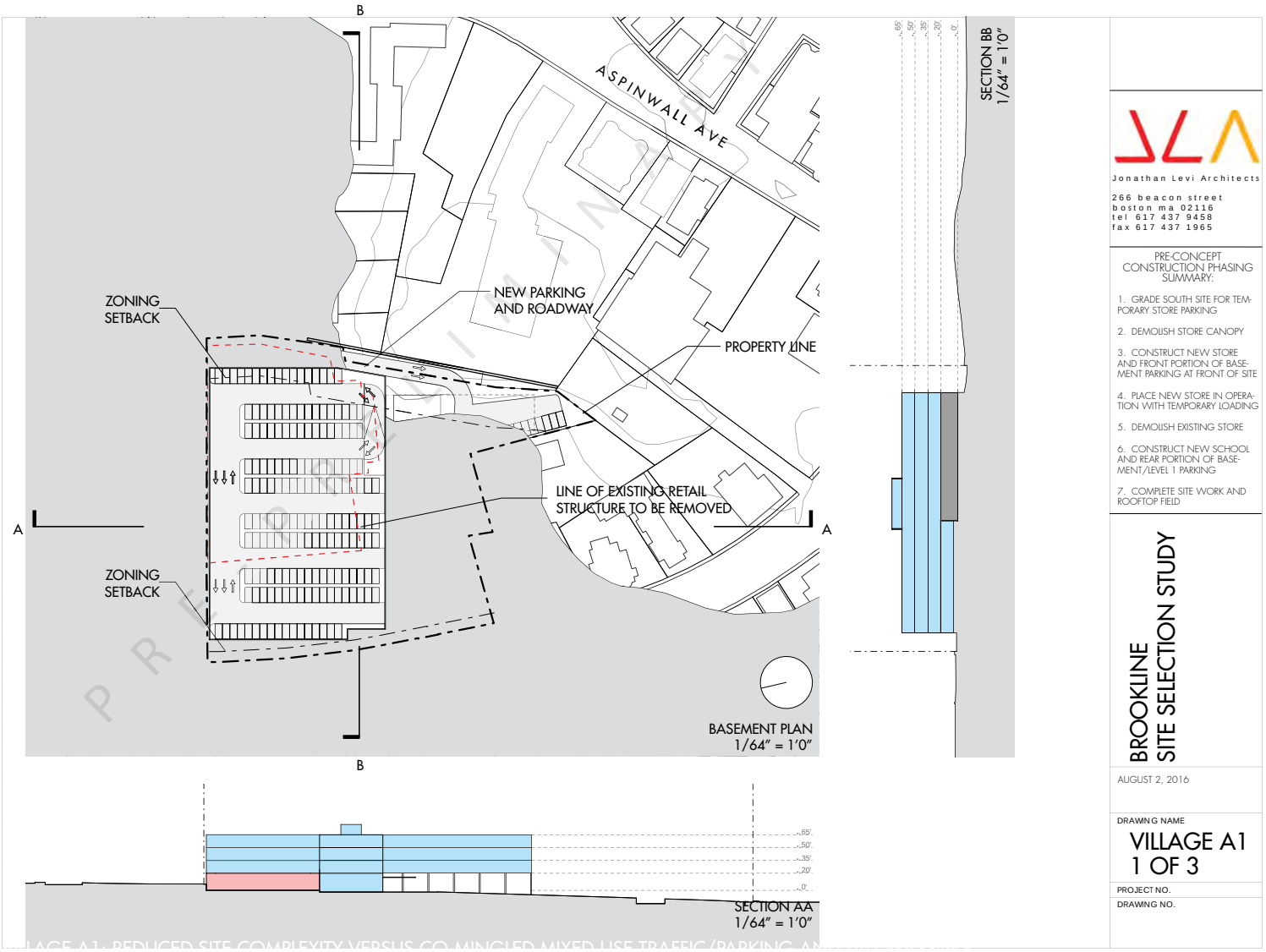
Approvals and Permitting
Approvals and permitting for this site hinge on the success of complex legal process as well as negotiations with the multiple private parties who currently have a real estate interest in the the land. The enhanced traffic approach with access from St. Paul and Aspinwall streets would further add complication and risk of failure. Assuming success with acquisitions, permitting with the Town would involve relief from the eastern rear setback requirements and potential zoning relief for the redevelopment of the grocery store.



VILLAGE SITE SCHEME A.1

VILLAGE SITE SCHEME A.1
K-8 SCHOOL WITH STOP AND SHOP ON BASE SITE

VILLAGE SITE: SCHEME A.1



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7. COMPLETE SITE WORK AND ROOFTOP FIELD

BROOKLINE
SITE SELECTION STUDY

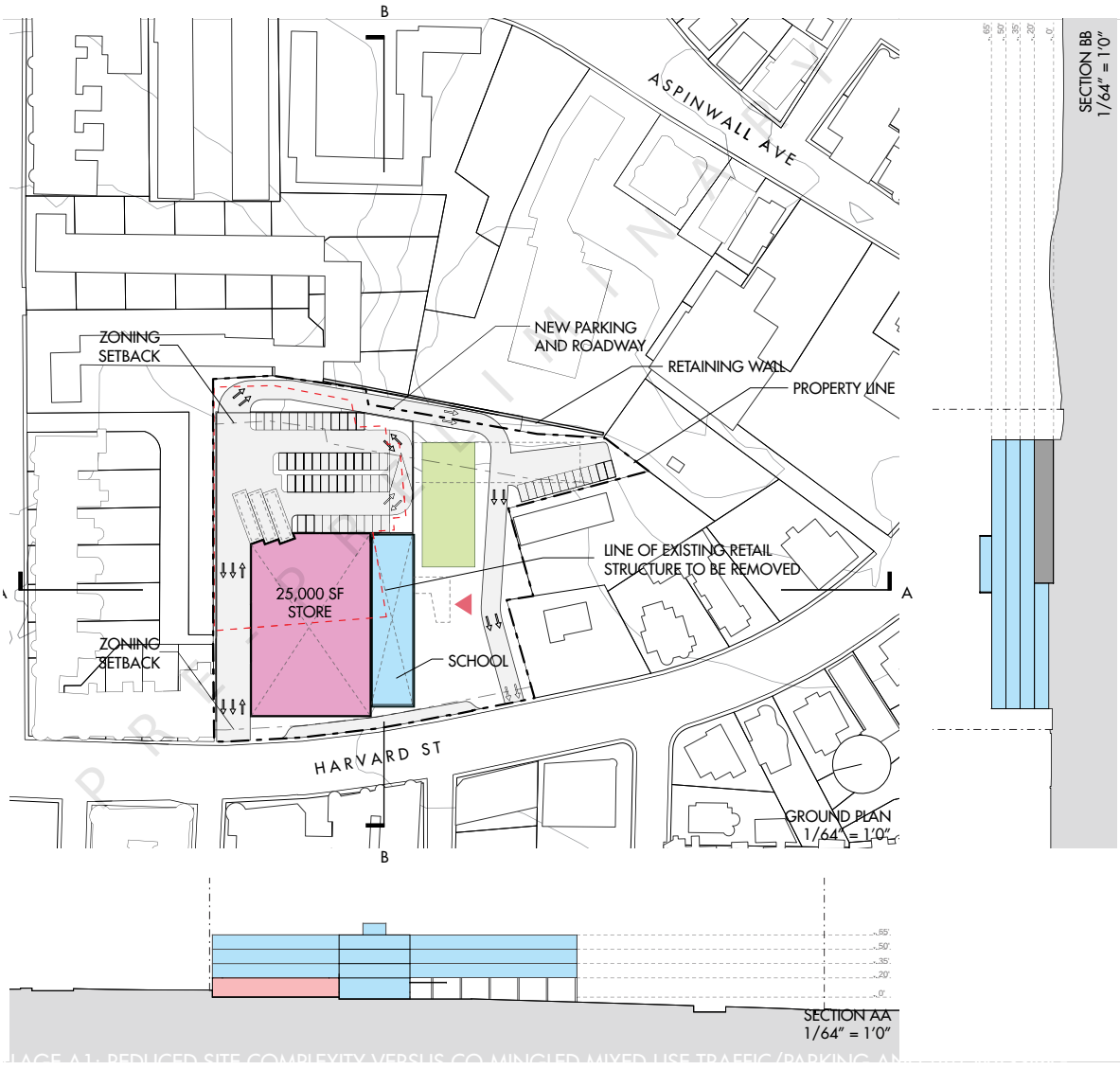
AUGUST 2, 2016

DRAWING NAME
VILLAGE A1
1 OF 3

PROJECT NO.

DRAWING NO.

VILLAGE A1: REDUCED SITE COMPLEXITY VERSUS CO-MINGLED MIXED-USE TRAFFIC/PARKING AN



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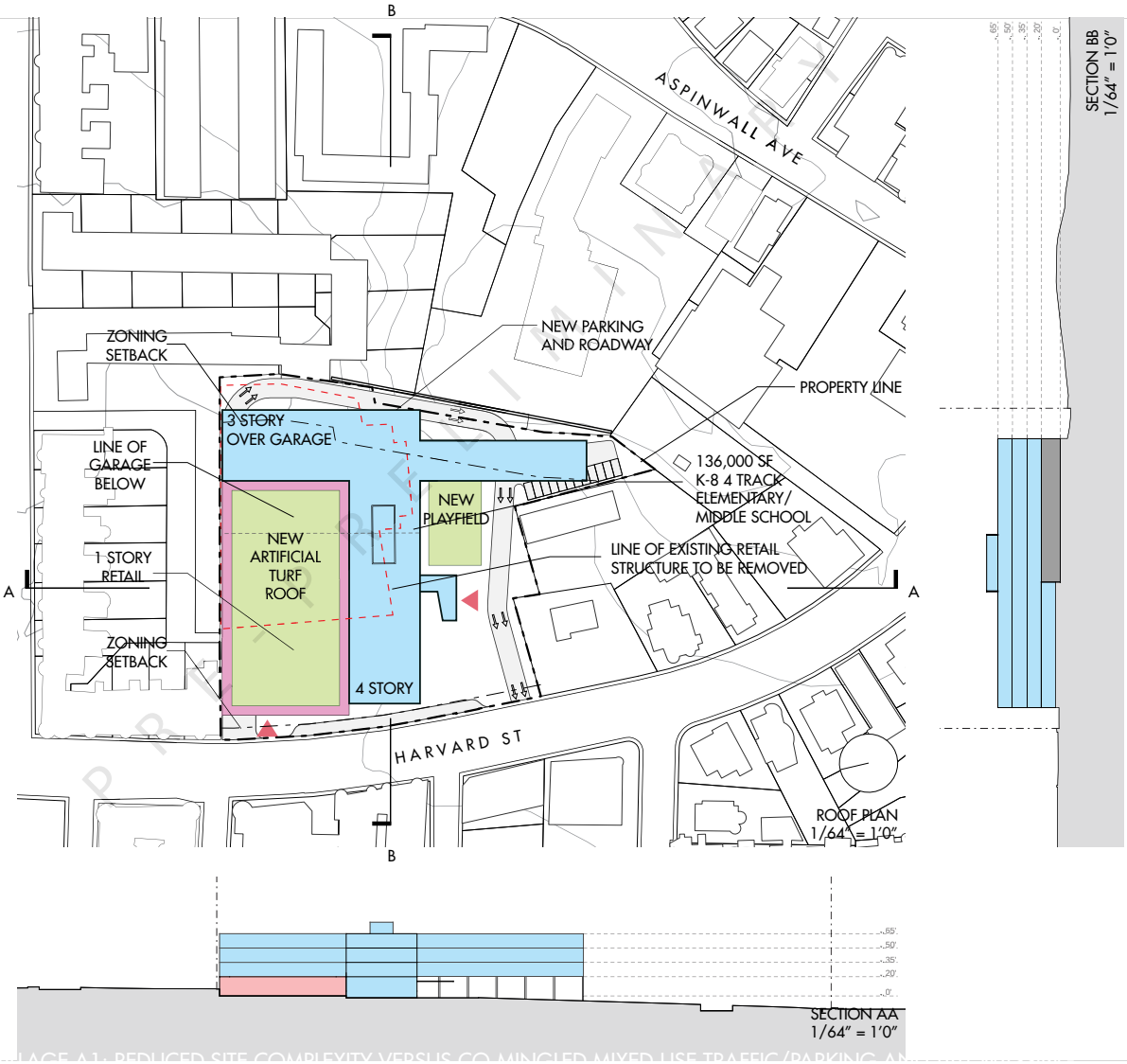
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
VILLAGE A1
2 OF 3

PROJECT NO.

DRAWING NO.



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BROOKLINE SITE SELECTION STUDY

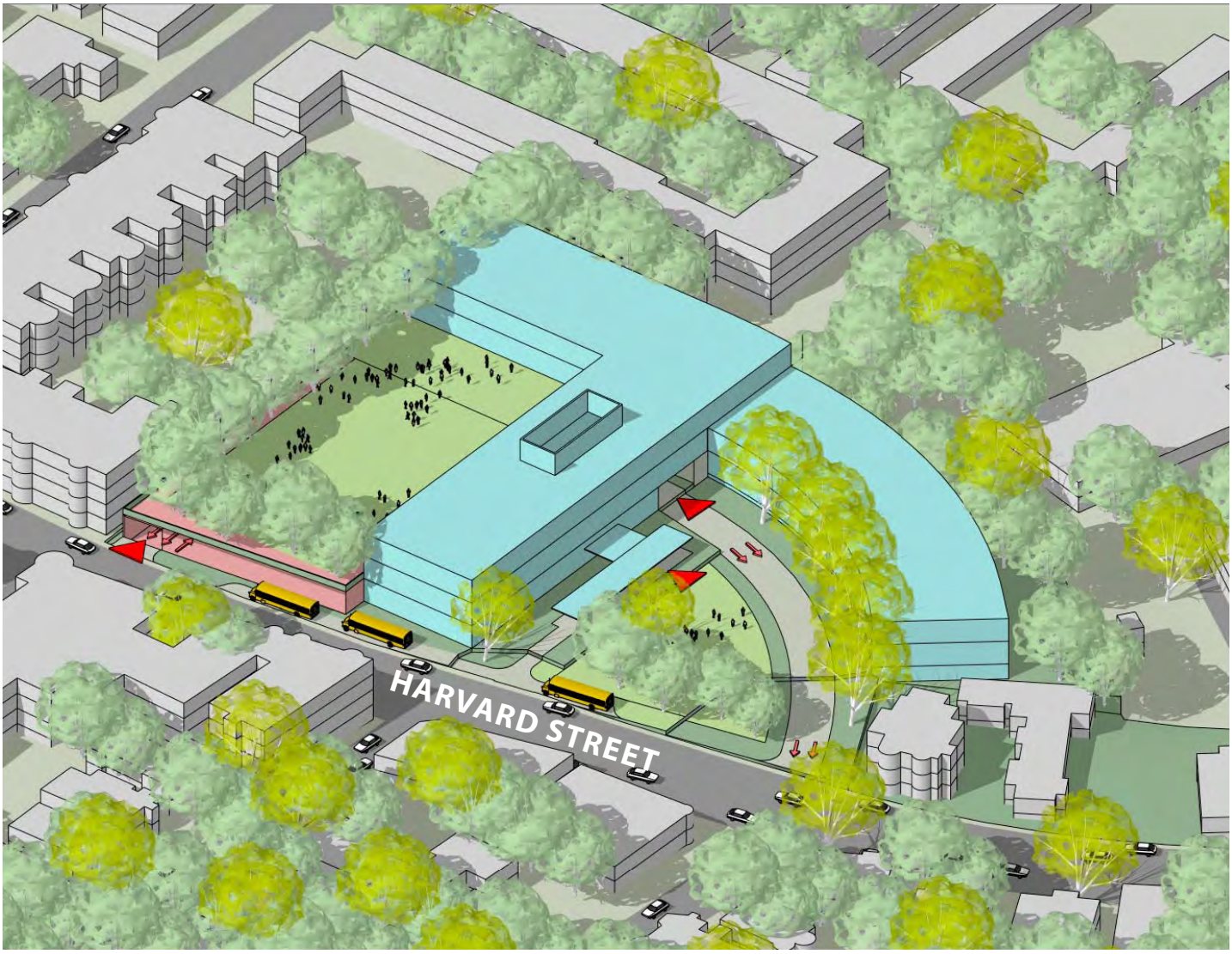
AUGUST 2, 2016

DRAWING NAME

VILLAGE A1 3 OF 3

PROJECT NO.

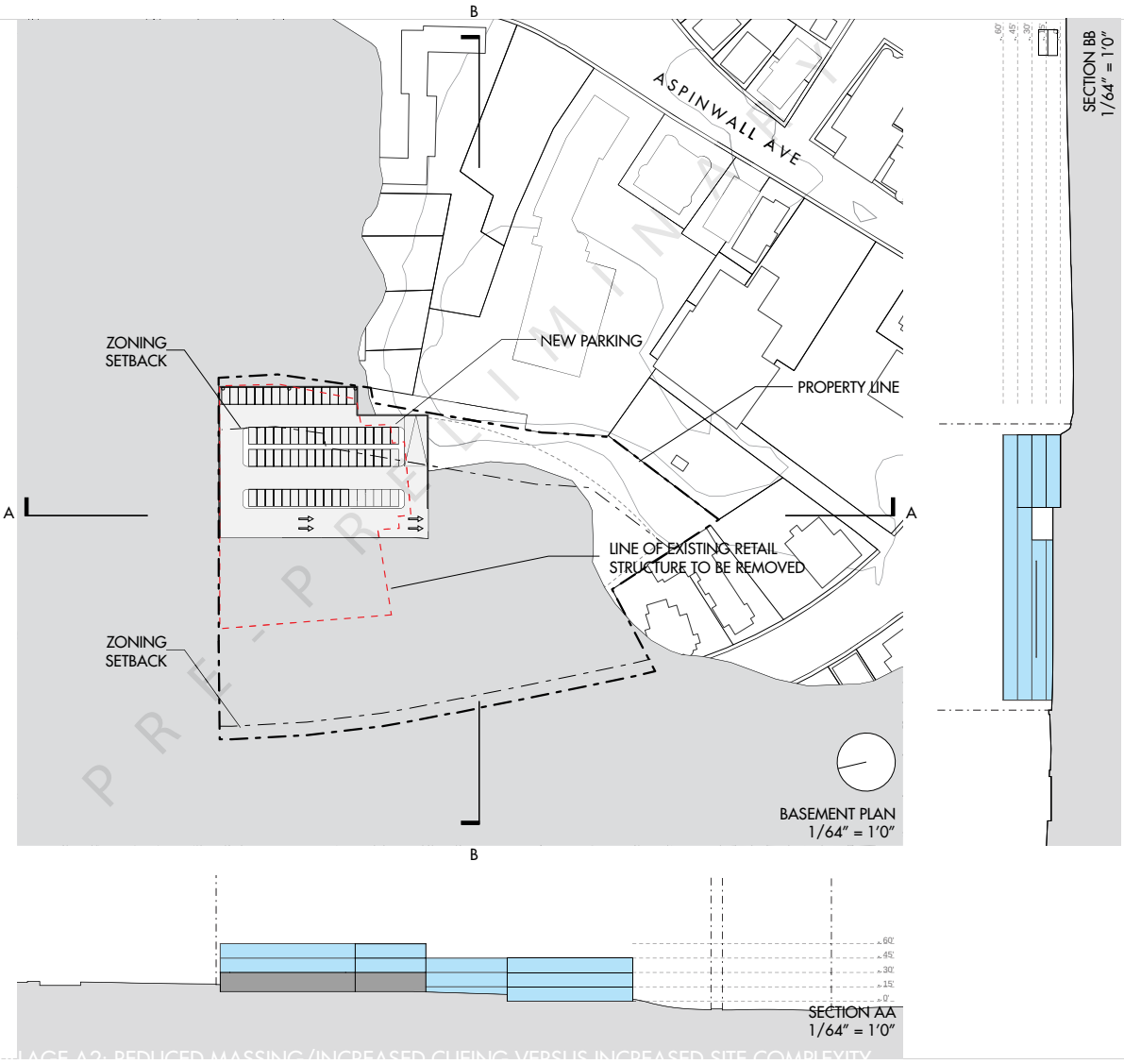
DRAWING NO.



VILLAGE SITE SCHEME A.2

VILLAGE SITE SCHEME A.2
K-8 SCHOOL WITH STOP AND SHOP ON EXPANDED SITE

VILLAGE SITE: SCHEME A.2



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BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
VILLAGE A2
1 OF 3

PROJECT NO.

DRAWING NO.

VILLAGE A2: REDUCED MASSING /INCREASED QUEING VERSUS INCREASED SITE COMPLEXITY

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SITE SELECTION STUDY

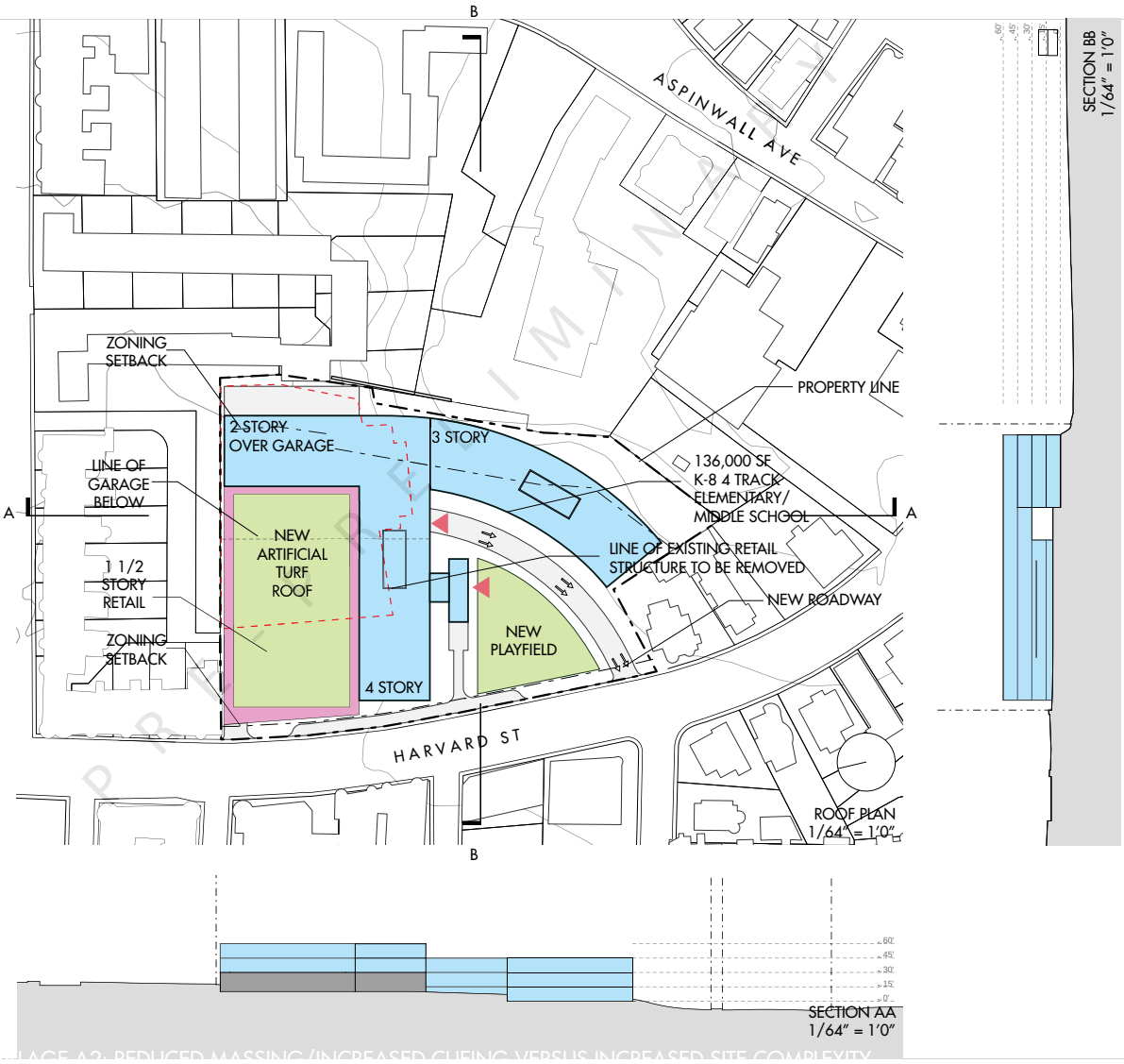
AUGUST 2, 2016

DRAWING NAME
VILLAGE A2
2 OF 3

PROJECT NO.

DRAWING NO.

VILLAGE A2: REDUCED MASSING /INCREASED CUEING VERSUS INCREASED SITE COMPLEXITY



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BROOKLINE SITE SELECTION STUDY

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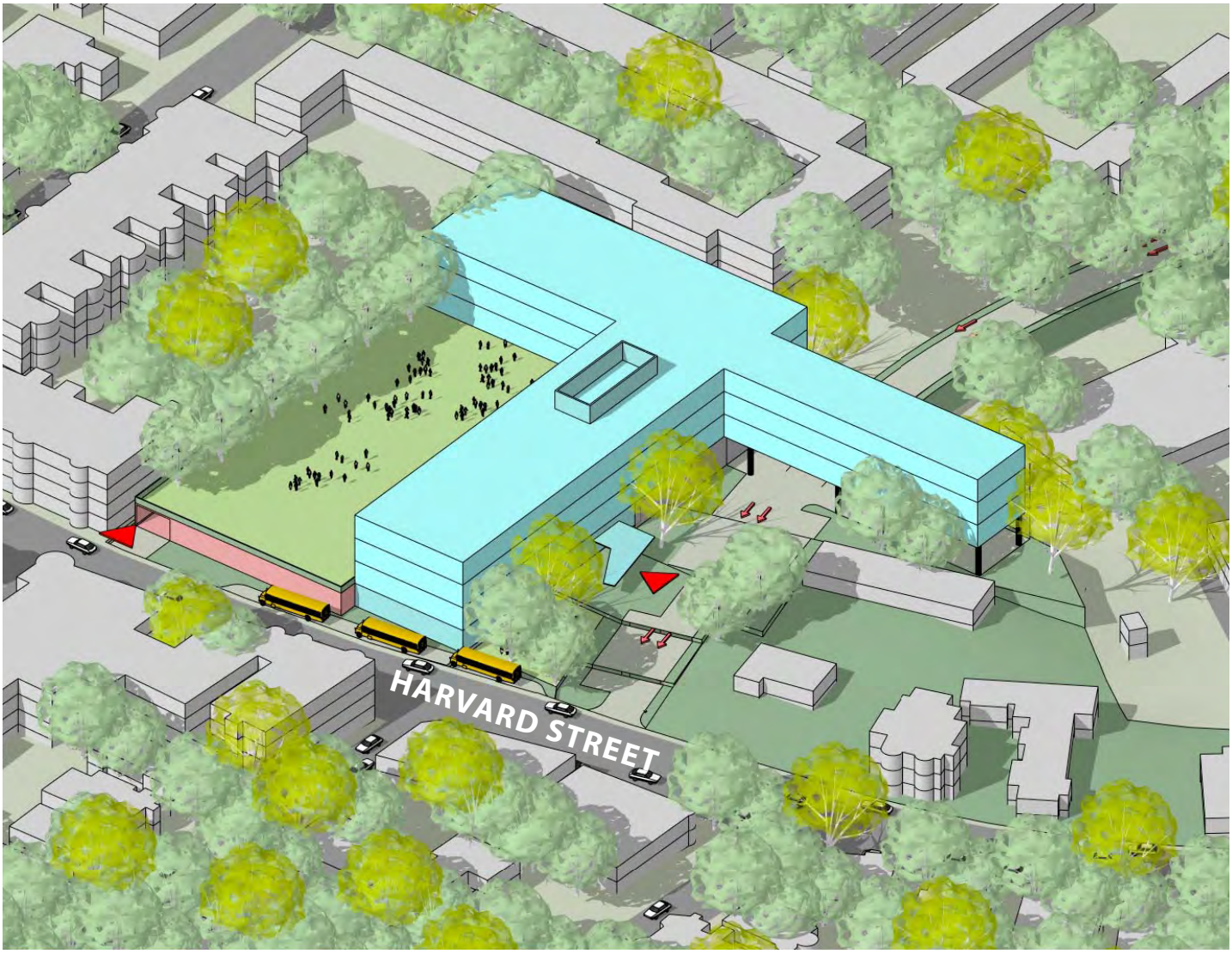
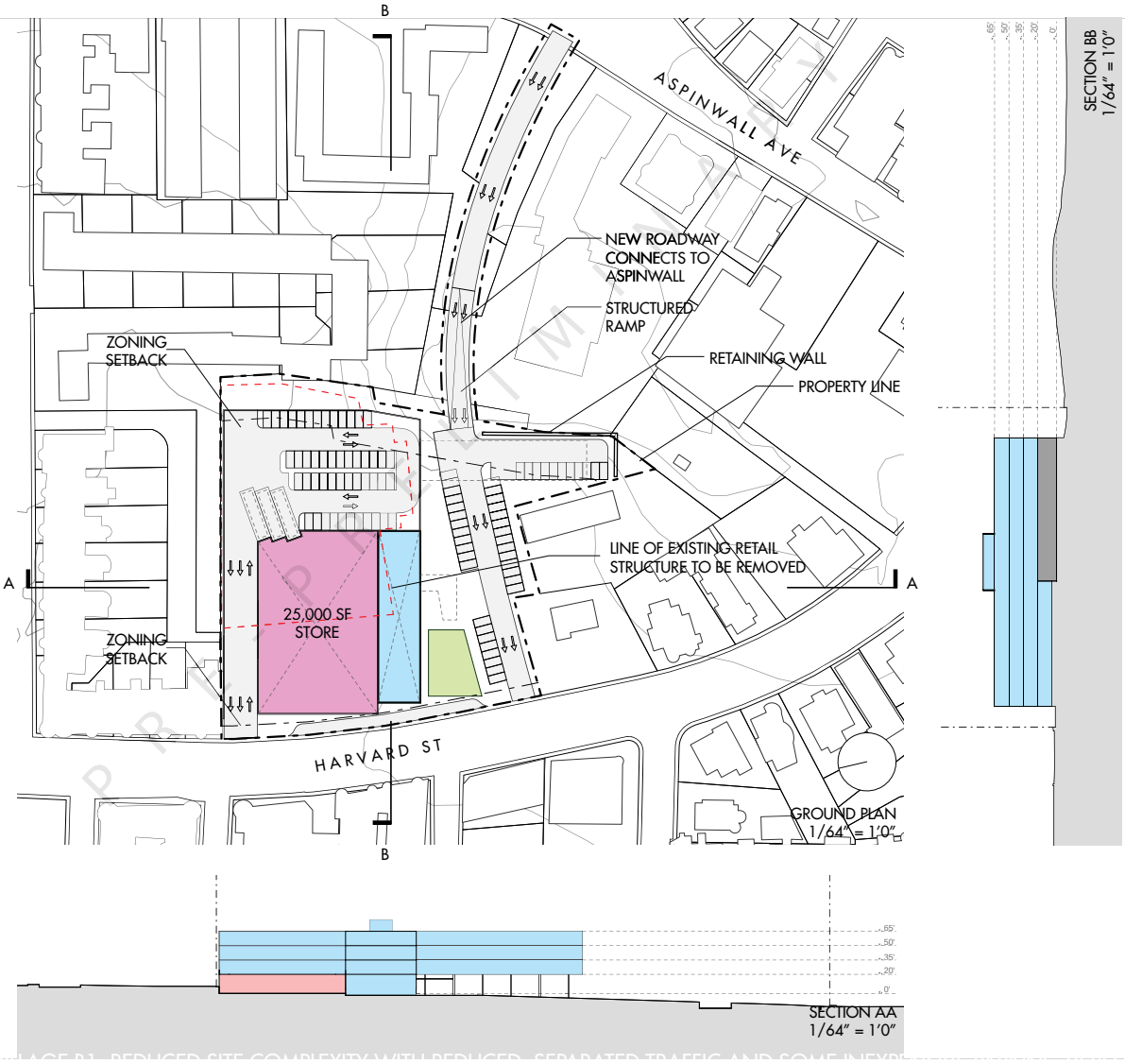


VILLAGE SITE SCHEME B.1

VILLAGE SITE SCHEME B.1
K-8 SCHOOL WITH STOP AND SHOP ON BASE SITE WITH ASPINWALL ACCESS

VILLAGE SITE: SCHEME B.1



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6. CONSTRUCT NEW SCHOOL AND REAR PARKING STRUCTURE
7. COMPLETE SITE WORK, REAR ACCESS ROAD AND ROOFTOP FIELD

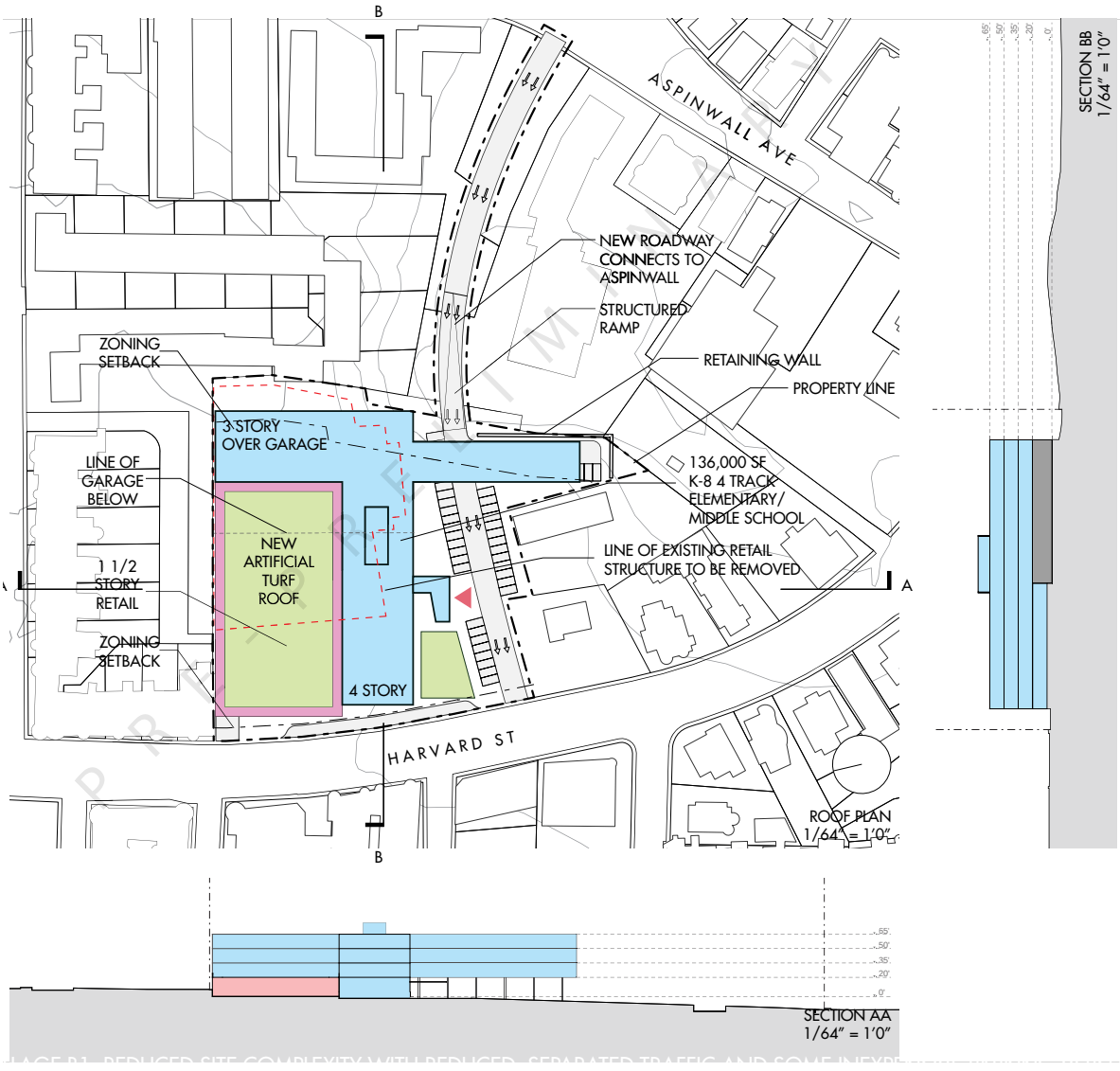
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
VILLAGE B1
1 OF 2

PROJECT NO.

DRAWING NO.



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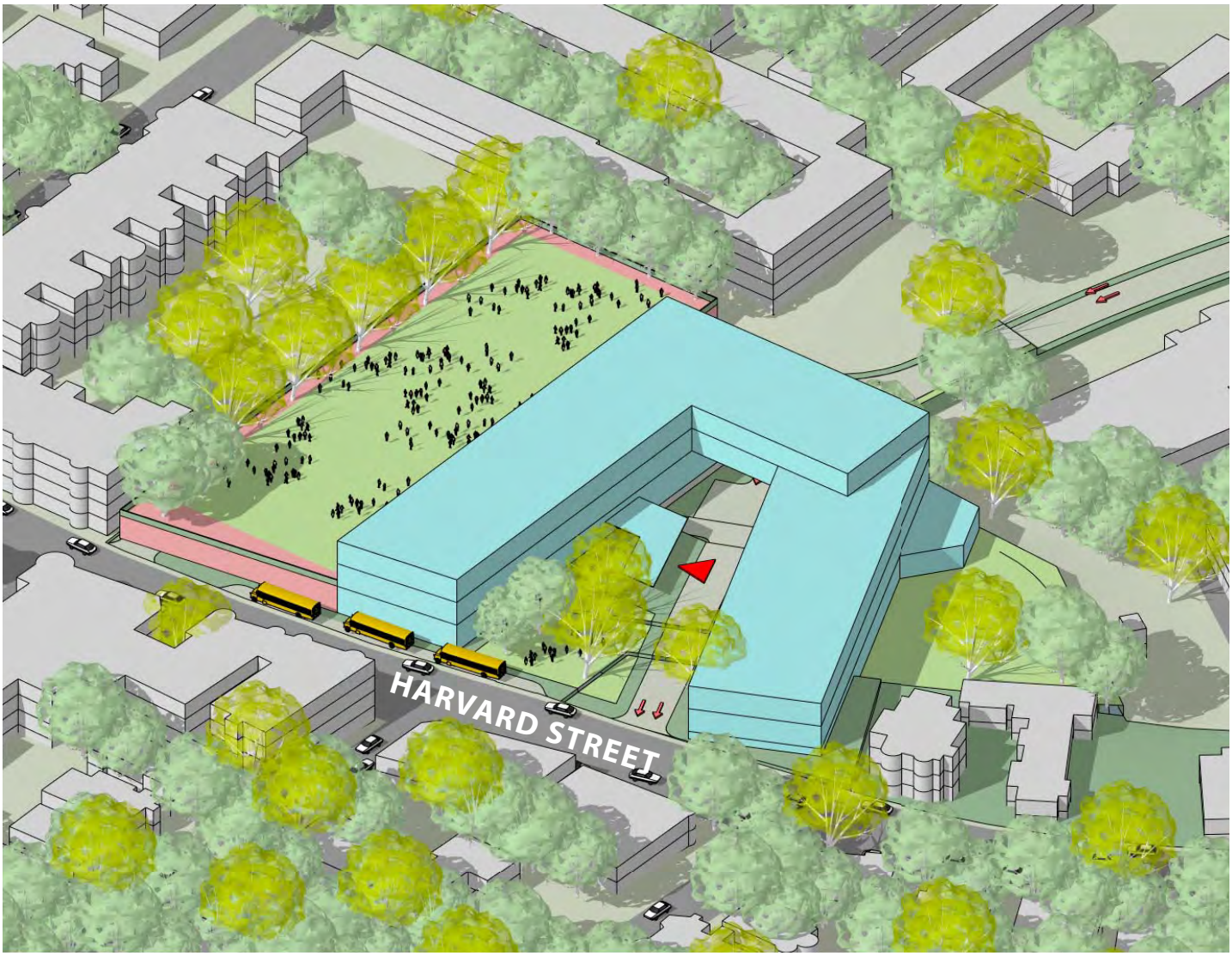
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

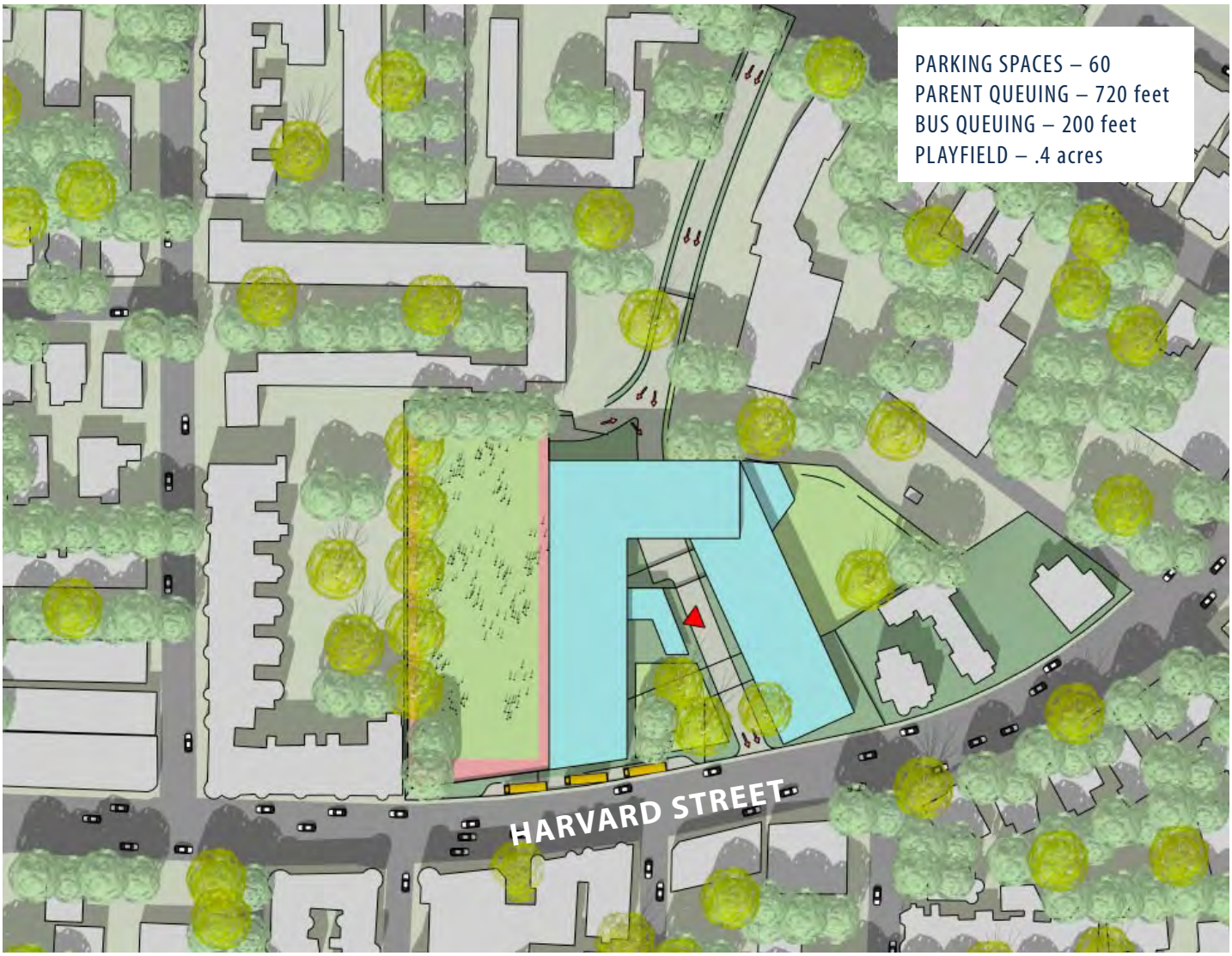
DRAWING NAME
VILLAGE B1
2 OF 2

PROJECT NO.

DRAWING NO.

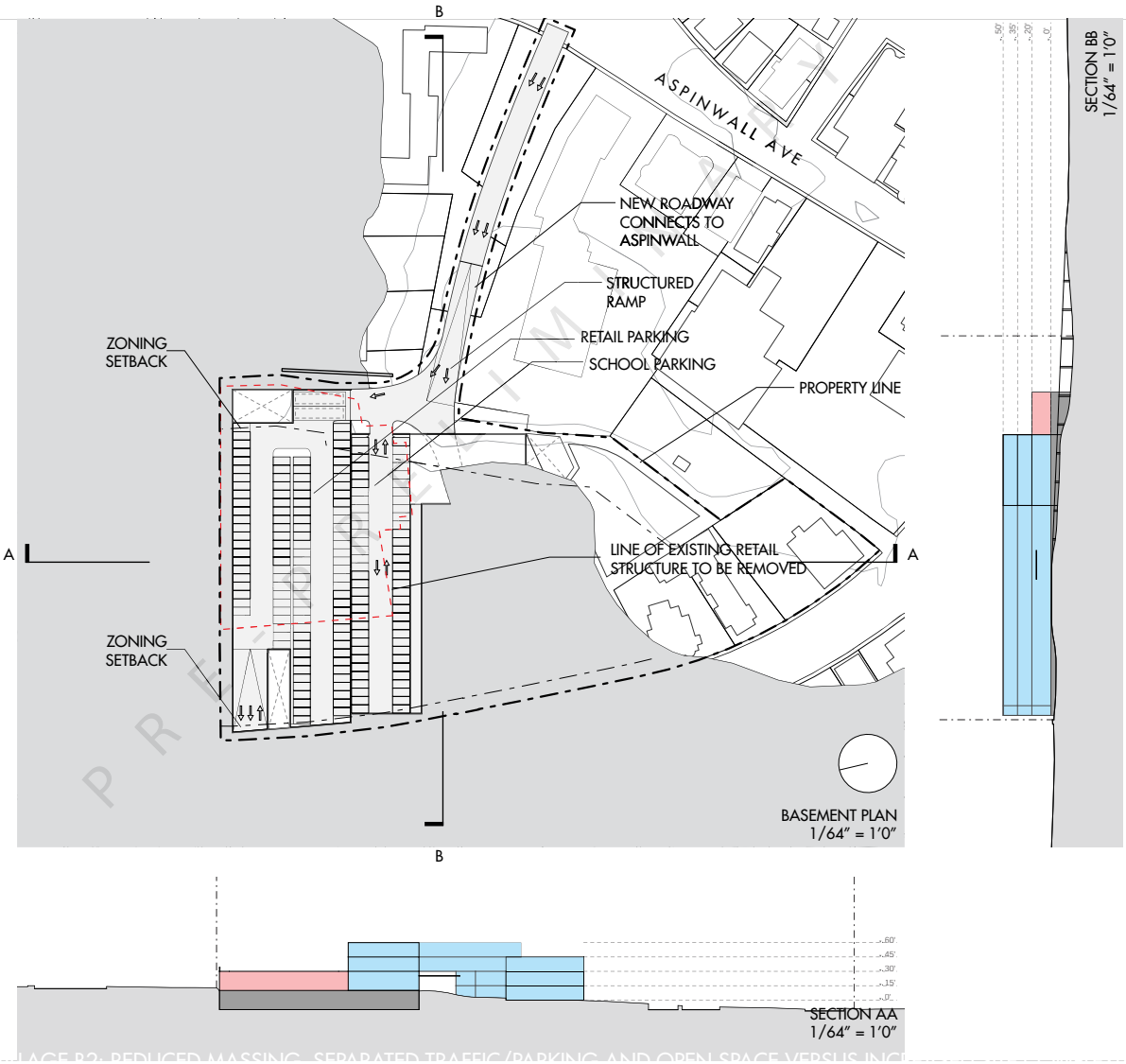


VILLAGE SITE SCHEME B.2



VILLAGE SITE SCHEME B.2
K-8 SCHOOL WITH STOP AND SHOP ON EXPANDED SITE WITH ASPINWALL ACCESS

VILLAGE SITE: SCHEME B.2



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7. COMPLETE SITE WORK AND ROOFTOP FIELD

BROOKLINE
SITE SELECTION STUDY

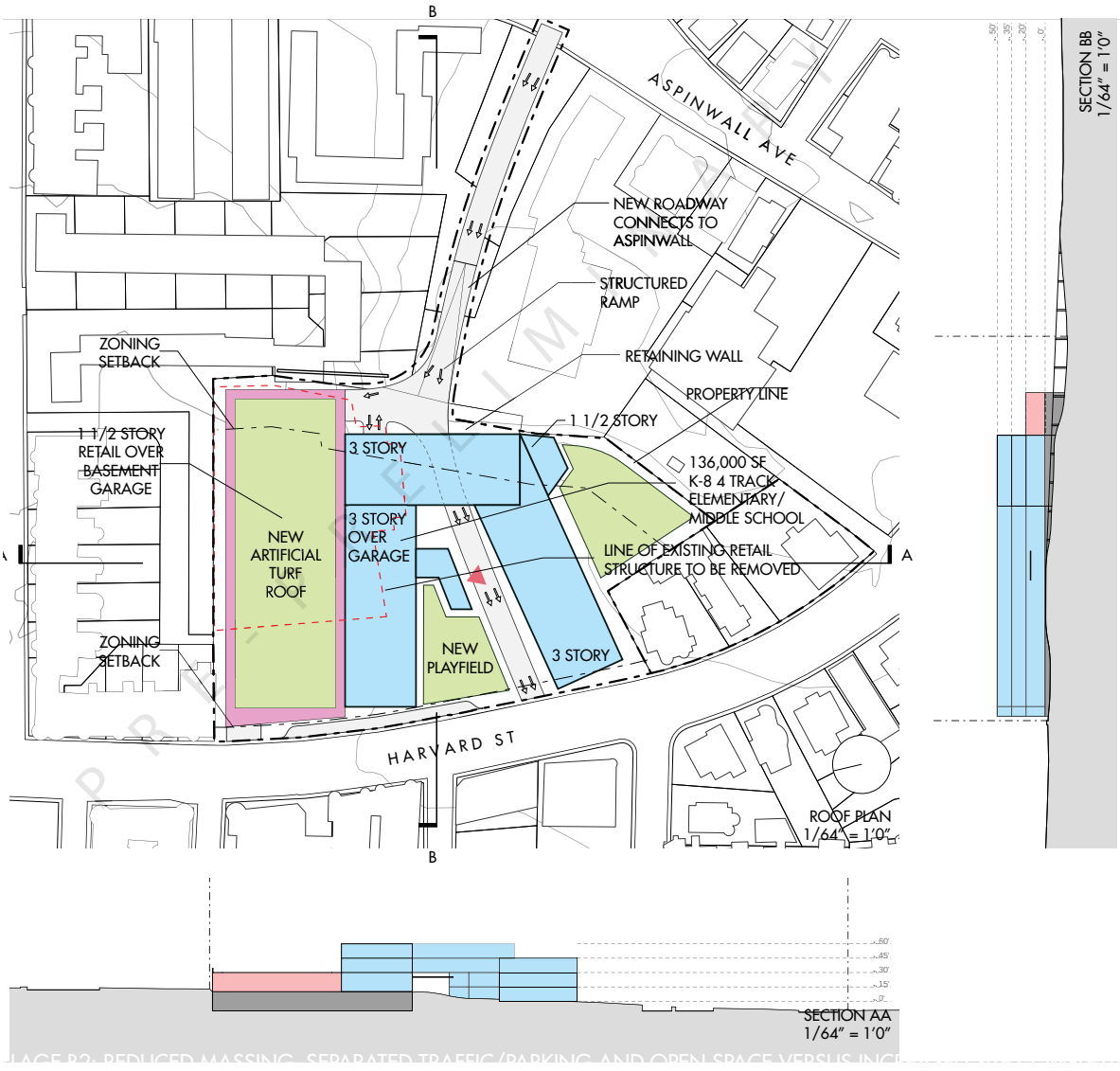
AUGUST 2, 2016

DRAWING NAME
VILLAGE B2
1 OF 2

PROJECT NO.

DRAWING NO.

VILLAGE B2: REDUCED MASSING, SEPARATED TRAFFIC/PARKING AND OPEN SPACE VERSUS INCL



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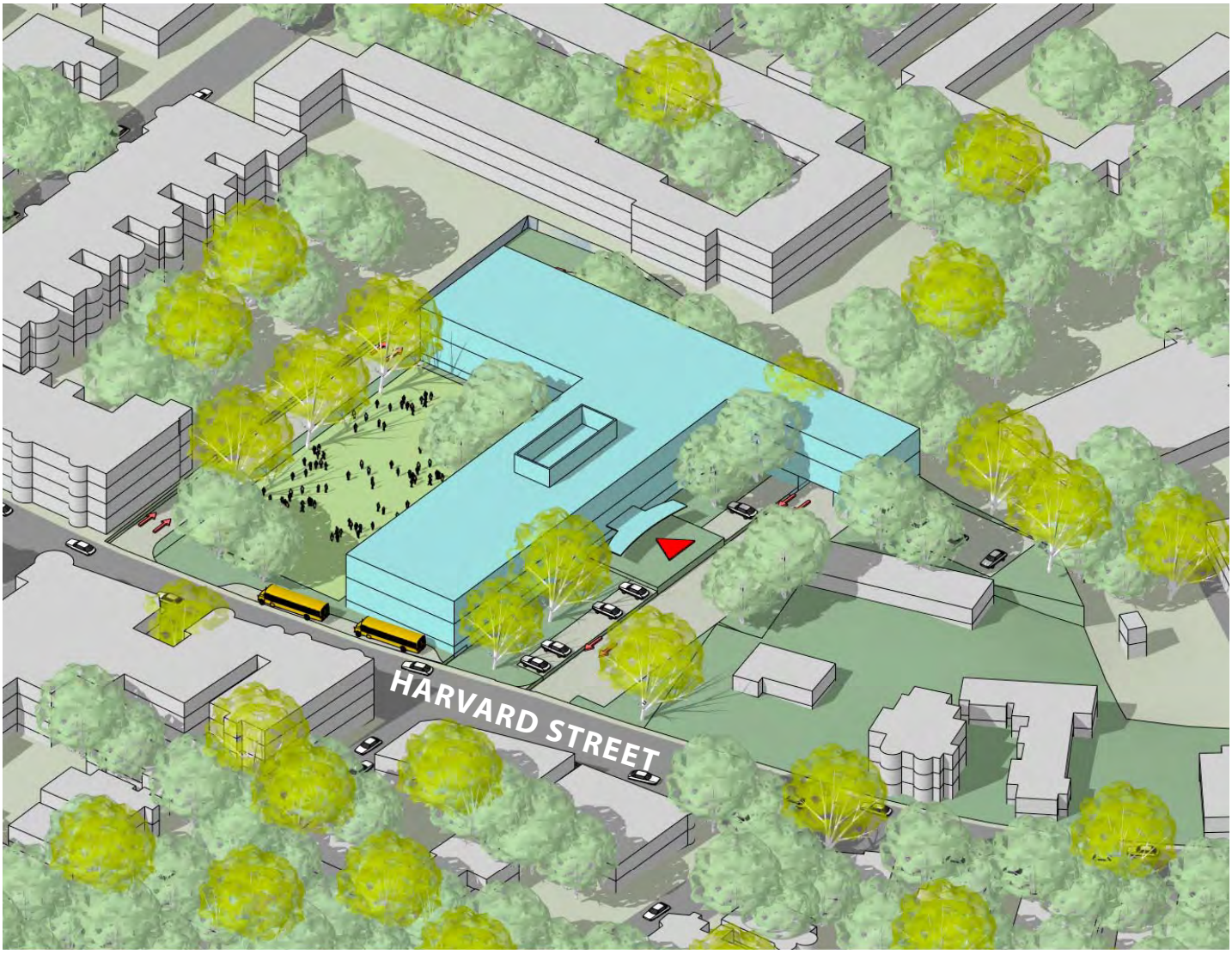
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
VILLAGE B2
2 OF 2

PROJECT NO.

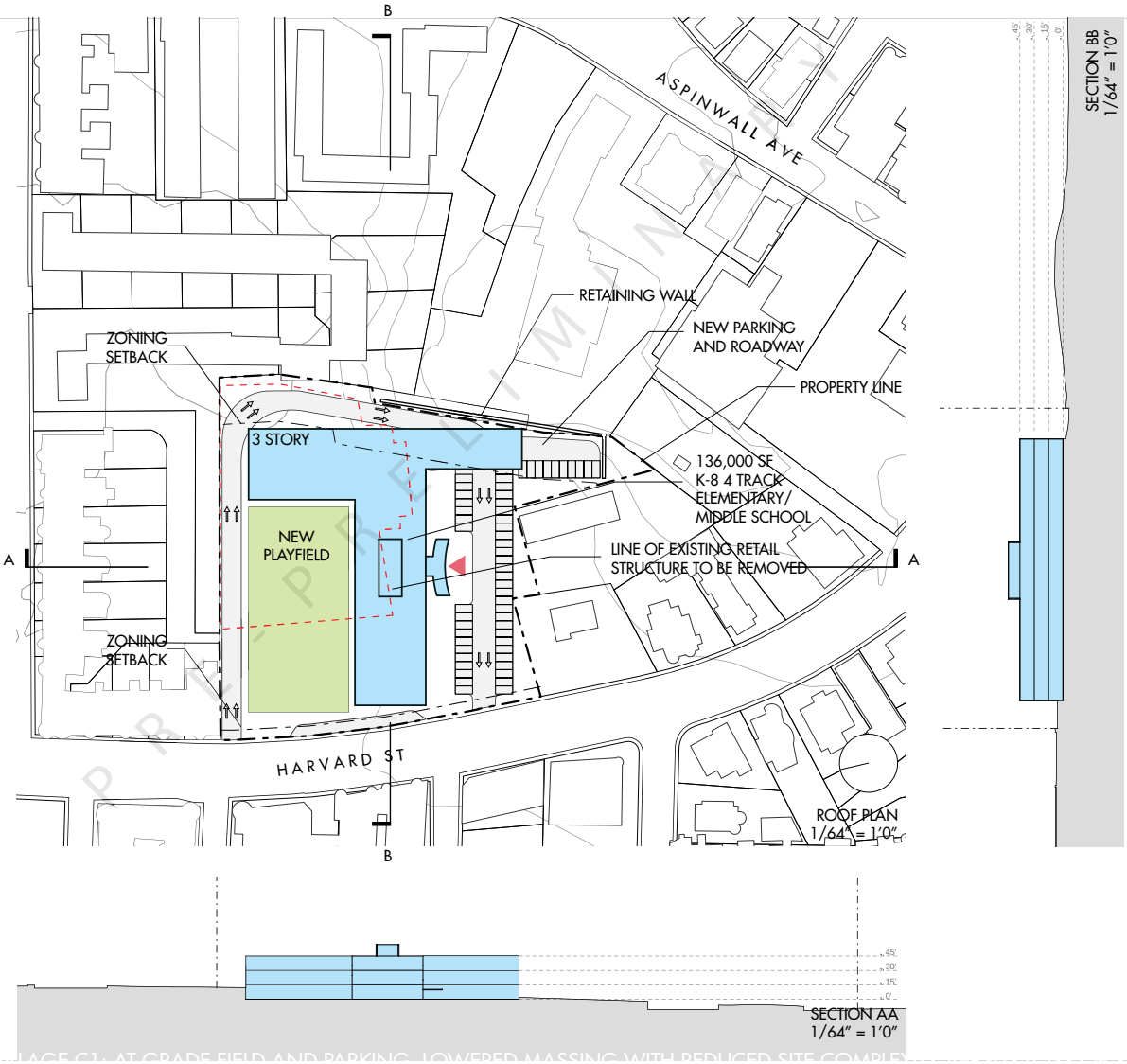
DRAWING NO.



VILLAGE SITE SCHEME C.1

VILLAGE SITE SCHEME C.1
K-8 SCHOOL ONLY ON BASE SITE

VILLAGE SITE: SCHEME C.1



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PRE-CONCEPT CONSTRUCTION PHASING SUMMARY:

1. DEMOLISH EXISTING STORE
2. CONSTRUCT NEW SCHOOL
3. COMPLETE SITE WORK

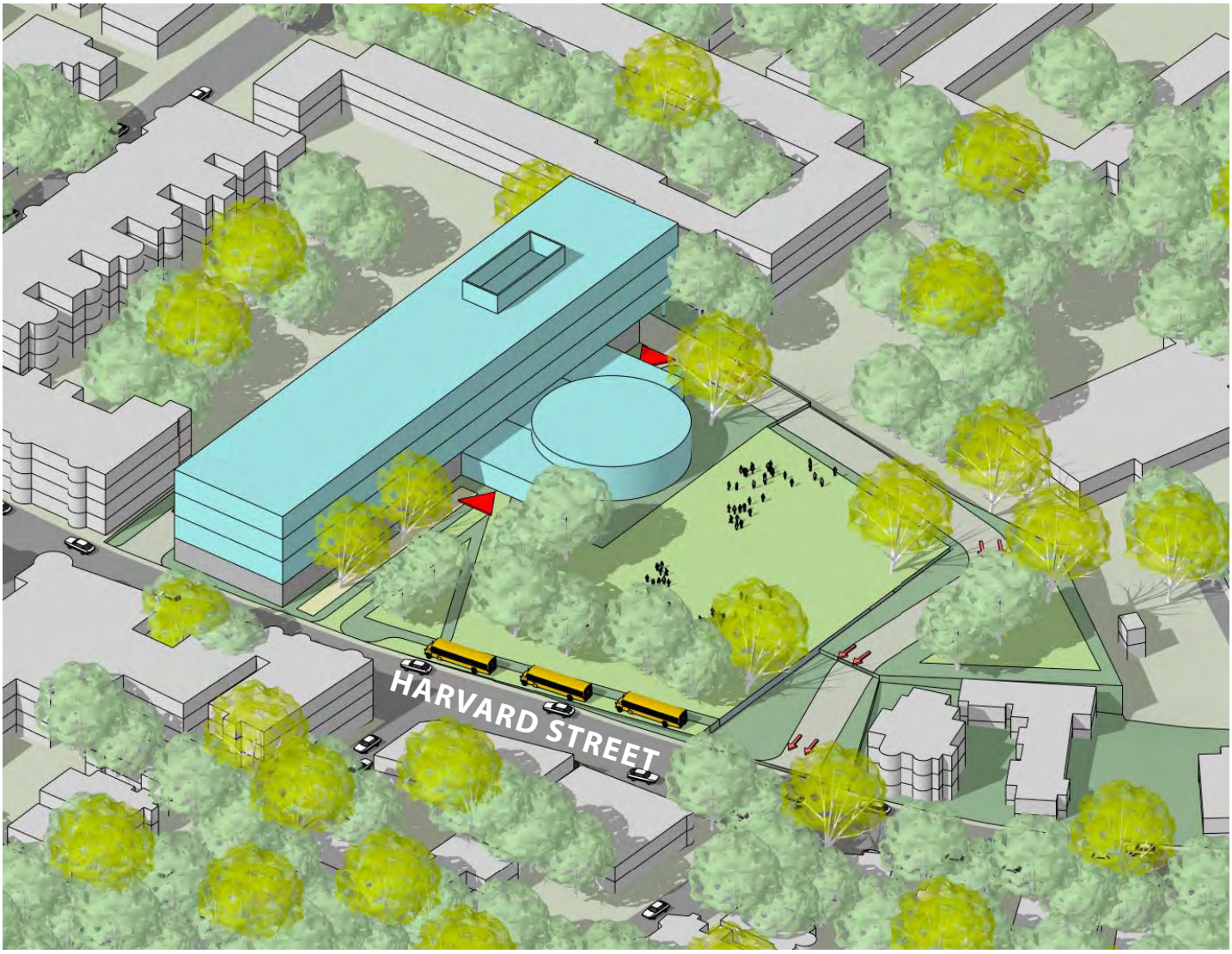
BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
VILLAGE C1
1 OF 1

PROJECT NO.

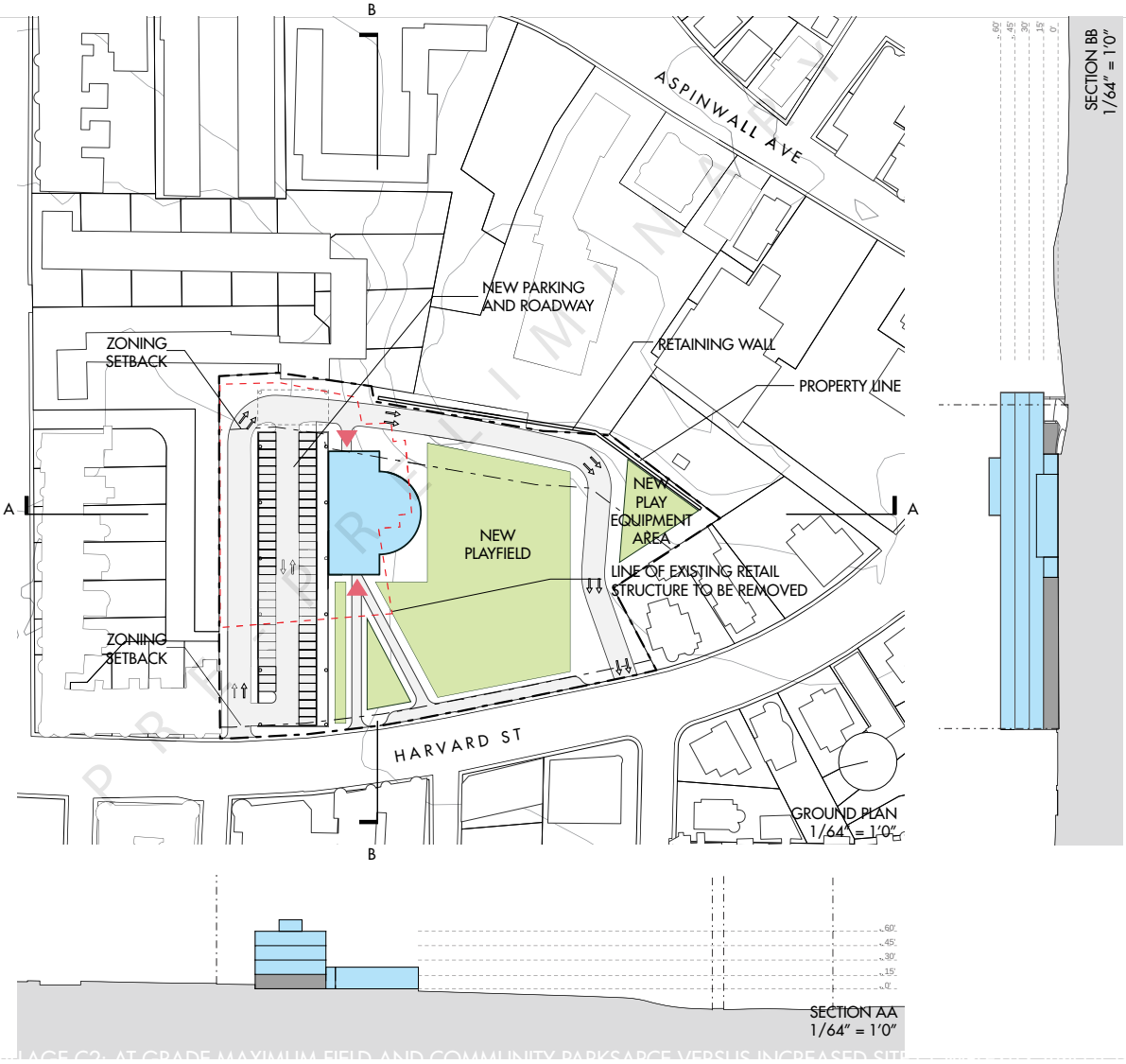
DRAWING NO.



VILLAGE SITE SCHEME C.2

VILLAGE SITE SCHEME C.2
K-8 SCHOOL ONLY ON EXPANDED SITE

VILLAGE SITE: SCHEME C.2



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3. COMPLETE SITE WORK

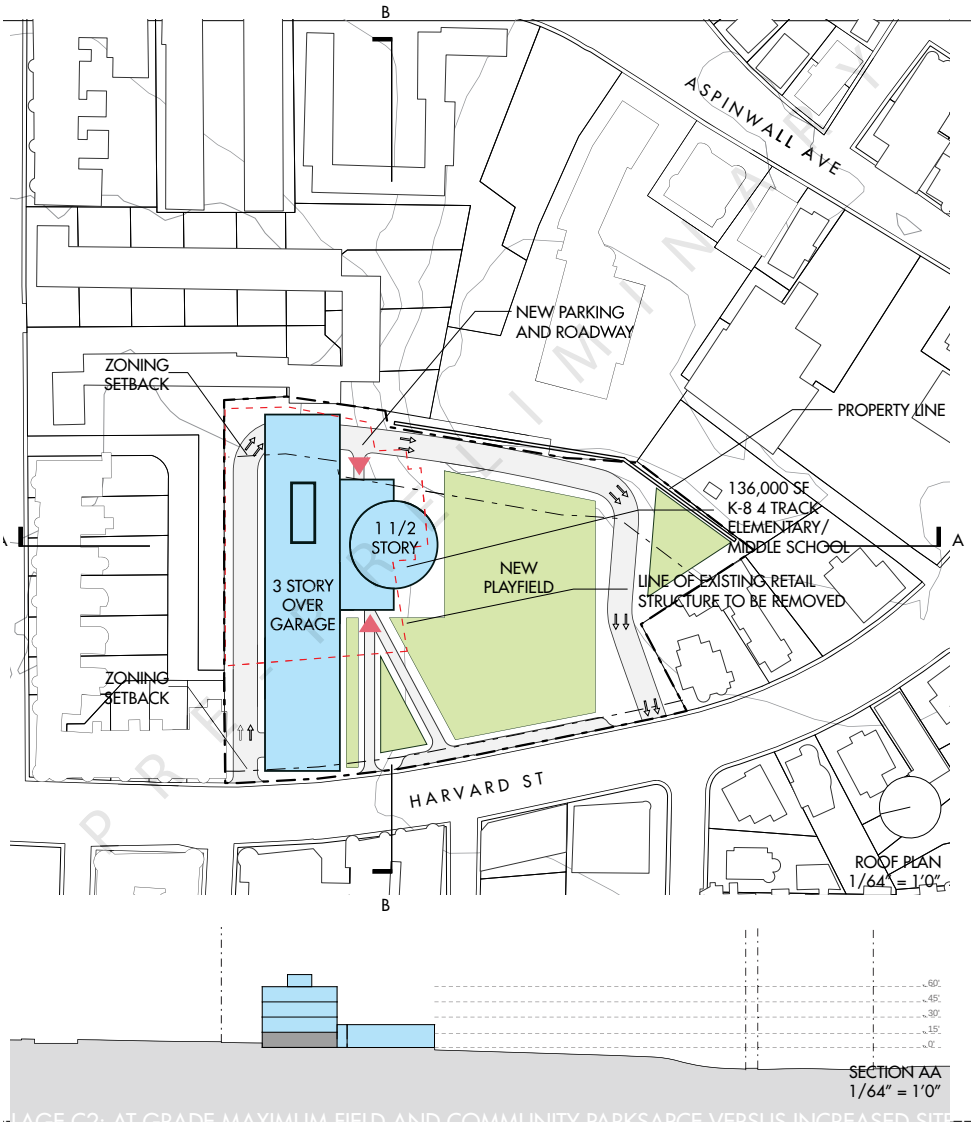
BROOKLINE
SITE SELECTION STUDY

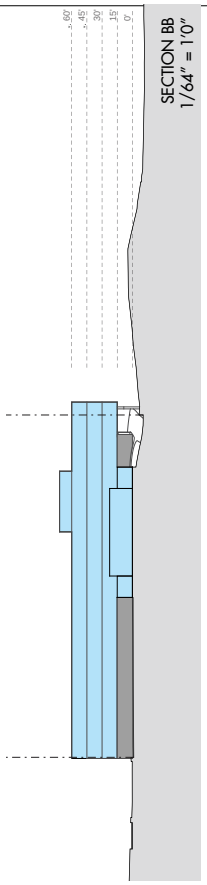
AUGUST 2, 2016

DRAWING NAME
VILLAGE C2
1 OF 2

PROJECT NO.

DRAWING NO.





SECTION BB
1/64" = 1'0"

SECTION AA
1/64" = 1'0"

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BROOKLINE
SITE SELECTION STUDY

AUGUST 2, 2016

DRAWING NAME
VILLAGE C2
2 OF 2

PROJECT NO.

DRAWING NO.

VILLAGE C2: AT GRADE MAXIMUM FIELD AND COMMUNITY PARKSPACE VERSUS INCREASED SITE

Brookline 9th Elementary School - Site Selection Study
Evaluation Matrix

RATINGS - RELATIVE BETWEEN THE 3 SITES:

+	Advantageous
-o-	Neutral
-	Disadvantageous
- -	Very Disadvantageous / High Risk

		VILLAGE SITE		VILLAGE SITE COMMENTS
		BASE	EXPANDED	
Location Factors				
L.1	Traffic Impacts – Off-Site Congestion	-	-	Village mix of supermarket and school vehicles undesirable.
L.2	Safe Access for Walking/ Biking	-	-	Harvard Street is very busy, and can be intimidating to cross.
L.3	Fire Department Response Time	+	+	Ratings shown as determined by Brookline Fire Department. Baker and Baldwin are further from Fire Station, with potentially more congested roadway access.
L.4	Community Use	+	+	Expanded Village site trades gas station and car wash for public space.
L.5	Townscape Improvement	+	+	Village options would improve streetscape, Expanded option provides green space.
L.6	Sustainability - Carbon Footprint	+	+	Village site has largest percentage of pedestrian use.
L.7	Proximity to Public Transportation	+	+	Village site has best proximity to public transportation
Site Size and Configuration		2.7 Acres	3.3 Acres	
S.1	School Footprint	-	-	Site size affects ideal layout - Village is a smaller site
S.2	Parity with Other 8 K-8 School Building Programs	-o-	-o-	Village Site most Urban.
S.3	Makes Right-Sizing Baker More Efficient	-o-	-o-	Neutral
S.4	Program Displacement	-o-	-	Expanded Village would displace gas station and car wash.
S.5	Playgrounds, Recess and Fields	- -	-	Village requires rooftop artificial turf, and less sf of open space per student than any other K-8
S.6	On-Site Drop-off/Pick-up Queuing / Parking Access	-	-	Smaller site allows less functional layout
S.7	On-Site Bus Access / Drop-Off	-o-	-o-	Neutral
S.8	Service Access-Deliveries, Refuse	-o-	-o-	Neutral
S.9	Separation of Pedestrians and Vehicles	-	-o-	More challenging on tight sites.
S.10	Overall Student Safety	-o-	-o-	Neutral
S.11	Security - Controlled Access to Students	-	-	Ratings shown as determined by Brookline Police Department. Proximity of school and grocery store at Village is inherently less controlled for security (comparable to Pierce School). Village rooftop open space not visible from street.
S.12	Topography	-o-	-o-	All sites have sloped topography.
S.13	Storm Drainage	-o-	-o-	Neutral
S.14	Proximity to Neighbors	-	-	Village has close proximity to neighbors
S.15	Community Access/Use – Indoor and Outdoor	-o-	+	Village expanded would add new community green.
S.16	Underground Obstacles	-o-	-o-	All sites have ledge.
S.17	Landscape Conservation / Tree Removal	+	+	Little removal of existing trees.
S.18	Orientation for Natural Light	+	+	Ideal orientation is east-west.
Schedule and Cost Risk Factors				
R.1	Construction Duration	- -	- -	Site size affects layout areas, constructability. Additionally, Village site would require extended schedule to relocate and maintain access to Stop and Shop.
R.2	Construction Phasing	- -	- -	Coordinating demo of existing Stop and Shop to limit down-time requires phasing.
R.3	Existing Building Demo	- -	- -	Unknown complexity of demolition of Stop and Shop, Gas Station, car wash.
R.4	Hazardous Material Soil Removal	- -	- -	Unknown extent of hazmats in soil below grocery (originally a factory), gas station, car wash.
R.5	Hazardous Materials in Existing Buildings	- -	- -	Unknown extent of hazmats in Stop and Shop, Gas Station, car wash.
R.6	Wetland Concerns	+	+	No adjacent wetlands
R.7	Development Process Complexity	- -	- -	Village site not owned by Brookline, expanded site owned by multiple parties.
R.8	Acquisitions - Schedule	- -	- -	Village site not owned by Brookline, expanded site owned by multiple parties
R.9	Acquisitions - Cost Certainty	-	- -	Village site not owned by Brookline, expanded site owned by multiple parties.
R.10	Potential Article 97 Process	-o-	-o-	Neutral
R.11	Deed Restrictions	- -	- -	Village eminent domain taking would not allow grocery use, so long term lease likely required. Village access to Aspinwall Ave likely problematic.
R.12	Permitting - Zoning	-o-	-o-	Some zoning relief likely recommended for all sites.
Cost Range		$110M to $135M	$120M to $145M	

Evaluation Highlights and Commentary

The Village site is highly attractive from the standpoint of sustainability and urban development. Traffic concerns seem manageable given the capacity of either the base or large sites to accommodate the necessary parent and bus queuing lengths. Without separate access and dedicated school vehicle circulation, a high degree of cooperation would be required between the grocery store and school operations to make the shared parking and vehicle access points workable. Most importantly, however, the complexity of site acquisitions with their attendant legal and cost uncertainties along with the potential for hazard materials roadblocks, make this site alternative the least predictable in terms of complying with the Town's desired delivery timeline.

Evaluation Matrix Topics Description

1) Location Factors

Traffic Impacts – Site, local, Town-wide
Includes analysis of impact of new school facility, and offsetting roadway design improvements to existing conditions
Safe Access for Walking/ Biking
May require crossing guard
Access to Public Transportation
Reduces both teacher parking and parent vehicular drop-off and pick-up
Central to Student Density and Growth
Reduces need for bussing
Compatibility with School System Portfolio
Community Use
Townscape Improvement
Sustainability

2) Site Size and Configuration

School Footprint/ Educational Goals
Should allow for scale and adjacencies appropriate for 21st Century learning. Ideally 2 floor classroom areas convenient to common areas.
Playgrounds, Recess and Fields
Within comparable range of Brookline's other K-8 Schools
Drop-off/Pick-up Cueing
Varies by site, depending on % parent vehicular drop-off / pick-up
Bus Access
Requires sidewalk on right-hand side of Bus
Service Access-Deliveries, Refuse
Should be convenient to kitchen, away from main entry
Separation of Pedestrians and Vehicles
Location of buildings, roadways and parking can be more or less conducive to congestion and to inherent safety-particularly to the separation and management of vehicle and pedestrian movements.
Overall Student Safety
Includes direct path of travel from building to play areas without need to cross a roadway, central access for emergency services, 100% current seismic, ADA, hazmat, and building code compliance (rather than grandfathered conditions)
Security
Sites which are easily surveilled from the street have enhanced site security.
Topography
Each option will have different costs associated with creating

flat playfields, site circulation, and handicapped accessibility. Costs may include wetlands mitigation or earthmoving and retaining walls

Impact to Neighbors

Negative impacts will include increasing noise or congestion for neighboring uses as well as compromising natural resources such as green space and trees

Community Access/Use – Indoor and Outdoor

Compartmentalization of security and planned throughout the day access as well as access to parking affects the ability of the community to use the building

Existing Building Potential for Adaptive Reuse

Existing buildings can have inefficient layouts, or wall locations incompativble with 21st Century learning objectives. It can also be hard to retrofit with technological infrastructure. Similarly such retrofits can be difficult to access or change.

Wetlands

Free from regulatory restrictions and process

Underground Obstacles

Including geologic conditions and utility lines requiring relocation

Hazardous Materials

In existing buildings and soil

Landscape Conservation

Free from regulatory restrictions and process

Run-off

Sustainability-Daylighting/Orientation

Overall building orientation is key in achieving the educational and operational cost savings benefits of school day use daylighting

Provides for Future Expansion Potential (building)

A constrained site which does not allow for the expansion of classroom wings and the enlargement of core areas will restrict the ability of the project to serve future uses and populations.

3) Cost

Construction Cost Premiums/Savings

Moving Costs

Temporary Occupancy Costs

Total Project Cost

Long Term Operating Costs

New or substantially new buildings are inherently superior in terms of long-term maintenance and operating costs regardless of the extent of renovation.

Long Term Maintenance/Repair

The selected options should address the long-term needs of facility maintenance to reduce long-term operating costs and the burden to the Town.

4) Schedule and Cost Risk Factors

Construction Phasing

Keeping existing uses up and running while performing on-site demo and construction requires complex phasing to maintain safety and operations. This adds significantly to time and cost.

Construction Schedule

Tight sites with limited access have reduced laydown areas and require more complex delivery schedules and construction phasing

Hazardous Material Removal

Unforseen conditions in soil and buildings can trigger Federal process and be extremely expensive and time consuming.

Acquisitions

Inherently risky due to potential legal complications

Deed Restrictions

Inherently risky due to potential legal complications

Permitting

Inherently risky due to potential complications

Brookline 9th Elementary School - Site Selection Study
Evaluation Matrix

RATINGS - RELATIVE BETWEEN THE 3 SITES:

+	Advantageous
-o-	Neutral
-	Disadvantageous
- -	Very Disadvantageous / High Risk

		BAKER SITE	BALDWIN SITE		VILLAGE SITE		COMMENTS * = Footnote. Comment by member of Board of Selectmen or School Committee
			BASE	*EXPANDED	BASE	EXPANDED	
Location Factors							
L.1	Traffic Impacts – Off-Site Congestion	+	- -	-	-	-	Baker has ability to improve existing congestion on Beverly Road by providing vehicle queuing space for both new and existing schools on-site and off roadway. Baldwin access and egress strongly compromised by Hammond Street congestion. Note: no current K-8 schools in brookline have this amount of vehicular queueing*1
L.2	Safe Access for Walking/ Biking	+	-o-	-o-	-	-	Route 9 and Harvard Street are very busy, and can be intimidating to cross. Devotion and Pierce students cross Harvard currently, Lincoln students cross Route 9*2
L.3	Fire Department Response Time	-	-	-	+	+	Ratings shown as determined by Brookline Fire Department. Baker and Baldwin are further from Fire Station, with potentially more congested roadway access. *3
L.4	Community Use	-o-	+	+	+	+	Baldwin would improve Soule Rec parking. Expanded Village site trades gas station and car wash for public space. *12
L.5	Townscape Improvement	-o-	-o-	-o-	+	+	Village options would improve streetscape, Expanded option provides green space. *12
L.6	Sustainability - Carbon Footprint	-o-	-o-	-o-	+	+	Village site has largest percentage of pedestrian use. *4
L.7	Proximity to Public Transportation	-	-o-	-o-	+	+	Village site has best proximity to public transportation. *5
Site Size and Configuration		11.4 Acres (2 Schools)	2.6 Acres + 2.7 Acre Soule Co-Use	2.6 Acres + 3.2 Acre Soule Co-Use	2.7 Acres	3.3 Acres	
S.1	School Footprint	+	-	-	-	-	Site size affects ideal layout - Baldwin and Village are smaller sites
S.2	Parity with Other 8 K-8 School Building Programs	-o-	-o-	-o-	-o-	-o-	All sites could fit 800 student building with parity to other Brookline k-8 schools. *6
S.3	Makes Right-Sizing Baker More Efficient	+	-o-	-o-	-o-	-o-	Existing Baker School currently serving larger population than originally designed for the building. *7
S.4	Program Displacement	-o-	-	-	-o-	-	Baldwin option would displace current teacher daycare and special education use in existing building. Expanded Village would displace gas station and car wash. *8 *12
S.5	Playgrounds, Recess and Fields	-	+	+	- -	-	Baker site reduces current amount of open space per student at Baker School. Village requires rooftop artificial turf and less sf of open space per student than any other K-8 *11
S.6	On-Site Drop-off/Pick-up Queuing / Parking Access	+	- -	+	-	-	Baldwin base site queuing would likely overflow to street at peak times. Baldwin expanded would have sufficient on-site queueing. Village mix of supermarket and school vehicles undesirable. *11
S.7	On-Site Bus Access / Drop-Off	-o-	- -	+	-o-	-o-	Sufficient Bus drop off lane problematic at Baldwin base site. *11
S.8	Service Access-Deliveries, Refuse	+	-	-	-o-	-o-	Service vehicle separation problematic at Baldwin.
S.9	Separation of Pedestrians and Vehicles	+	-o-	-o-	-	-o-	More challenging on tight sites.
S.10	Overall Student Safety	+	+	+	-o-	-o-	Ratings shown as determined by Brookline Police Department. Less urban/ congested sites are easier to monitor and control.
S.11	Security - Controlled Access to Students	+	-o-	-o-	-	-	Ratings shown as determined by Brookline Police Department. Proximity of school and grocery store at Village is inherently less controlled for security (comparable to Pierce School). Village rooftop open space not visible from street. *9
S.12	Topography	-o-	-o-	-o-	-o-	-o-	All sites have sloped topography.
S.13	Storm Drainage	-o-	-	-	-o-	-o-	Baldwin would eliminate greatest percentage of existing permeable surface
S.14	Proximity to Neighbors	-o-	-	-	-	-	Baker comparatively far from neighbors, Baldwin and Village closer proximity to neighbors *10, *12
S.15	Community Access/Use – Indoor and Outdoor	-o-	+	+	-o-	+	Baldwin would add parking for Soule Rec, Village expanded would add new community green. *12
S.16	Underground Obstacles	-o-	-o-	-o-	-o-	-o-	All sites have ledge.
S.17	Landscape Conservation / Tree Removal	-	-	-	+	+	Baker would trasnsform 3 to 4 acres of existing forested land. Baldwin would remove several existing trees.
S.18	Orientation for Natural Light	+	-o-	-o-	+	+	Ideal orientation is east-west.
Schedule and Cost Risk Factors							
R.1	Construction Duration	+	-	-	- -	- -	Site size affects layout areas, constructability. Additionally, Village site would require extended schedule to relocate and maintain access to Stop and Shop.
R.2	Construction Phasing	-o-	+	+	- -	- -	Coordinating demo of existing Stop and Shop to limit down-time requires phasing.
R.3	Existing Building Demo	-o-	-	-	- -	- -	Unknown complexity of demo Baldwin School, Stop and Shop, Gas Station, car wash.
R.4	Hazardous Material Soil Removal	-o-	-o-	-o-	- -	- -	Unknown extent of hazmats in soil below grocery (originally a factory), gas station, car wash.
R.5	Hazardous Materials in Existing Buildings	-o-	-	-	- -	- -	Unknown extent of hazmats in Baldwin School, Stop and Shop, Gas Station, car wash.
R.6	Wetland Concerns	-	-o-	-o-	+	+	Baker adjacent to stream and wetlands. Baldwin has area of intermittent standing water.
R.7	Development Process Complexity	+	+	- -	- -	- -	Change from Woodland Road from 1-way to 2-way traffic for Expanded Baldwin site would affect all residents on Woodland, and could be challenged. Village site not owned by Brookline, expanded site owned by multiple parties.
R.8	Acquisitions - Schedule	+	+	+	- -	- -	Village site not owned by Brookline, expanded site owned by multiple parties
R.9	Acquisitions - Cost Certainty	+	+	+	-	- -	Village site not owned by Brookline, expanded site owned by multiple parties.
R.10	Potential Article 97 Process	-o-	-	- -	-o-	-o-	Both Baldwin Options require shared parking with Soule, which has Article 97 restrictions. Baldwin Expanded Site would require State approval after unanimous votes from Brookline Parks and Recreation Commission and Conservation Commission for change from existing Article 97 use.
R.11	Deed Restrictions	+	-	-	- -	- -	Baldwin has restricted use of Parks and Rec land. Village eminent domain taking would not allow grocery use, so long term lease likely required. Village access to Aspinwall Ave likely problematic.
R.12	Permitting - Zoning	-o-	-o-	-o-	-o-	-o-	Some zoning relief likely recommended for all sites.
Cost Range		$90M to $105M **$105M to $$120M	$85M to $95M	$85M to $95M	$110M to $135M	$120M to $145M	Baker cost includes improvements to on-site vehicle queueing for the existing school. Costs to expand Baker to fully accommodate current 800 students would add approximately $15M to range indicated. Village costs do not include Aspinwall access.

FOOTNOTES:

*Expanded Baldwin Site includes use of the Soule property for school vehicular drop-off and pick-up

*1. Row L.1 - Suggest separate row for traffic benefits

*2. Row L.2 - Suggest Village is neutral

*3. Row L.3 - Suggest response time sufficient

*4. Row L.6 - Should trees be included in calculation? [See S.17]

*5. Row L.6 - Suggest teachers don't use public transit. Suggest strike row or change all options to neutral

*6. Row S.2 - Suggest strike row S.2

*7. Row S.3 - Suggest strike row S.3. This only advantageous if additional $15M spent of existing Baker School.

*8. Row S.4 - Suggest limit displacement concerns to school use only

*9. Row S.11 - Suggest strike row S.11. Suggest Village to be neutral

*10. Row S.14 - Suggest Baker Site Disadvantageous

*11. Multiple Rows - Suggest provide data or strike row

*12. Multiple Rows - Suggest community rather than school concern, so separate and put at bottom

** If improvments / additions are added to the existing Baker School, the Cost range increases by $15M

7.1 Brookline K-8 Open Space Comparison

Brookline K-8 Open Space Comparison

Existing Schools		Open Space (acres)		Students	SF per Student
	Baker	3.5		793	194
	Devotion 2014	4.0		814	213
	Devotion 2018	3.4		1,044	140
	Driscoll	1.8		595	135
	Heath	1.7		555	135
	Lawrence	4.3		684	271
	Lincoln	0.8		574	64
	Pierce	1.8		824	98
	Runkle	1.1		587	81
	Average	*2.3*		*707*	*140*

Site Study Alternatives		Open Space (acres)		Students	SF per Student
	Baker A	3.2		1,600	86
	Baker B	3.6		1,600	97
	Baker C	4.4		1,600	121
	Baker D	3.5	Parks and Rec	1,600	94
	Baldwin A	0.2	2.7	800	156
	Baldwin B	0.2	2.7	800	154
	Baldwin C	0.2	N/A	600	17
	Village A1	0.1	0.6 rooftop	800	41
	Village A2	0.3	0.6 rooftop	800	48
	Village B1	0.1	0.6 rooftop	800	36
	Village B2	0.4	0.8 rooftop	800	63
	Village C1	0.5		800	28
	Village C2	1.0		800	56


BAKER


DEVOTION


DRISCOLL


HEATH


LAWRENCE


LINCOLN


PIERCE


RUNKLE

7.2 Prototype Space Summary Template
(Edward Devotion School)

EDWARD DEVOTION SCHOOL	Existing Conditions			PROPOSED Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES		**57**	**41,585**		**78**	**53,990**		**51**	**47,840**	
(List classrooms of different sizes separately)										
Pre-Kindergarten w/ toilet				1,200	2	2,400	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet	1,115	5	5,575	1,200	5	6,000	1,200	5	6,000	1,100 SF min - 1,300 SF max
General Classrooms - Grades 1-5	660	1	660	900	25	22,500	950	24	22,800	900 SF min - 1,000 SF max
" "	765	8	6,120							
" "	880	7	6,160							
" "	1,115	7	7,805							
General Classrooms - Grades 6-8	650	1	650	900	15	13,500	950	16	15,200	900 SF min - 1,000 SF max
" "	775	3	2,325							
" "	830	6	4,980							
" "	900	2	1,800							
Science Classroom / Lab	1,050	1	1,050	1,200	3	3,600	1,200	3	3,600	1 period / day / student
" "	1,290	1	1,290							
Prep room	110	1	110	80	3	240	80	3	240	
"	210	1	210							
World Language Classrooms	650	1	650	900	2	1,800				
Small Group Rooms - Grades K-5										
Small Group Rooms - Grades K-2				150	3	450				
Small Group Rooms - Grades 1-5				150	3	450				
Small Group Rooms - Grades 6-8				150	3	450				
Small Group Room / Literacy Specialists										
Literacy Specialist	100	1	100							
Literacy Specialist 6-8	250	1	250	150	1	150				
Literacy Specialist 3-5	360	1	360	150	2	300				
Literacy Specialist K-2	160	1	160	150	2	300				
Small Group/ Math Specialists										
Math Specialist 6-8	100	1	100	150	2	300				
Math Specialist 3-5	100	1	100	150	1	150				
Math Specialist K-2	100	1	100	150	1	150				
Enrichment Challenge Support	150	1	150	250	1	250				
ELL	180	1	180	250	4	1,000				
"	200	1	200							
ELL Hebrew	200	1	200							
"	300	1	300							

EDWARD DEVOTION SCHOOL	Existing Conditions			PROPOSED Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
SPECIAL EDUCATION			**5,677**			**9,335**			**12,080**	
(List rooms of different sizes separately)										
Self-Contained SPED - Grades 6-8							950	3	2,850	8% of pop. in self-contained SPED
Therapeutic Learning Center 7-8	550	1	550							
Therapeutic Learning Center 6-8				1,000	1	1,000				
Comprehensive Learning Center 6-8	500	1	500	500	1	500				
Self-Contained SPED - Grades K-5							950	5	4,750	8% of pop. in self-contained SPED
Therapeutic Learning Center 4-6	590	1	590							
Therapeutic Learning Center 3-5				1,000	1	1,000				
Comprehensive Learning Center 4-5	500	1	500							
Comprehensive Learning Center 3-5				500	1	500				
Therapeutic Learning Center K-3	780	1	780							
Therapeutic Learning Center K-2				1,000	1	1,000				
Comprehensive Learning Center K-3	380	1	380							
Comprehensive Learning Center K-2				500	1	500				
Self-Contained SPED - Grades K-5 toilet							60	5	300	
Self-Contained SPED - Grades 3-5 toilet				60	2	120				
Self-Contained SPED - Grades K-2 toilet				60	2	120				
Self-Contained SPED - Grades 6-8 toilet				60	2	120	60	3	180	
Resource Room - Grades 6-8							500	2	1,000	
Learning Center 7-8	400	1	400	500	1	500				
Learning Center 5-6	440	1	440	500	1	500				
Resource Room - Grades 1-5							500	3	1,500	
Learning Center 3-4	200	1	200	500	1	500				
Learning Center K-2	290	1	290	500	1	500				
Small Group Room / Reading							500	3	1,500	1/2 size Genl. Clrm.
Speech	200	1	200	150	3	450				
"	117	1	117							
OT	410	1	410	500	1	500				
PT				500	1	500				
Special Ed Team Facilitator	180	1	180	150	2	300				
Special Ed Team Clerk				125	1	125				
BCBA				150	1	150				
TLC Social Worker				150	1	150				
Psychologist	140	1	140	150	2	300				

EDWARD DEVOTION SCHOOL	Existing Conditions			PROPOSED Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
ART & MUSIC			**9,600**			**13,550**			**8,050**	
Art Classroom - Grades 1-5	1,050	1	1,050	1,000	2	2,000	1,000	2	2,000	assumed schedule 2 times / week / student
Art Classroom - Grades 6-8	1,010	1	1,010	1,200	1	1,200	1,200	1	1,200	assumed use - 50% population 2 times / week
Art Workroom w/ Storage & kiln	350	1	350	150	3	450	150	3	450	
Band / Chorus - 100 seats				1,500	1	1,500	1,500	1	1,500	
Music Classroom / Large Group - 25-50 seats	1,100	1	1,100	1,200	2	2,400	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble - Grades 1-5				75	4	300	75	4	300	
Music Practice / Ensemble - Grades 6-8				200	1	200	200	1	200	
Music Practice - Drum Room	300	1	300							
Music Storage	290	1	290							
Multipurpose room with Stage	5,500	1	5,500	5,500	1	5,500				
VOCATIONS & TECHNOLOGY			**660**			**3,200**			**3,200**	
Tech Clrm. - Instructional Technology	660	1	660	1,200	1	1,200	1,200	1	1,200	Assumed use - 25% Population - 5 times/week
Tech Clrm. - Instructional Technology				2,000	1	2,000	2,000	1	2,000	Assumed use - 25% Population - 5 times/week
HEALTH & PHYSICAL EDUCATION			**8,720**			**10,550**			**8,334**	
Gymnasium (2 stations)	4,340	1	4,340	6,000	1	6,000	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	250	2	500	150	1	150	150	1	150	
"	80	3	240							
Health Instructor's Office w/ Shower & Toilet	70	2	140	200	2	400	184	1	184	
Locker Rooms - Boys / Girls w/ Toilets	1,140	1	1,140	500	2	1,000	1,000	2	2,000	
" "	1,240	1	1,240							
Small Gymnasium (1 station)	1,120	1	1,120	3,000	1	3,000				
MEDIA CENTER			**4,720**			**5,547**			**5,547**	
Media Center/Reading Room	4,720	1	4,720	5,547	1	5,547	5,547	1	5,547	
DINING & FOOD SERVICE			**7,280**			**8,249**			**12,374**	
Cafeteria / Dining	4,740	1	4,740				7,575	1	7,575	2 seatings - 15SF per seat
				5,050	1	5,050				3 seatings - 15SF per seat
Kitchen	1,050	1	1,050	2,310	1	2,310	2,310	1	2,310	1600 SF for first 300 + 1 SF/student Add'l
Chair / Table / Equipment Storage	210	1	210	536	1	536	536	1	536	200 SF for first 300 + .333 SF/student Add'l
Staff Lunch Room	810	1	810	353	1	353	353	1	353	200 SF for first 400 + .25 SF/student Add'l
Stage							1,600	1	1,600	
Servery	470	1	470							

EDWARD DEVOTION SCHOOL	Existing Conditions			PROPOSED Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
MEDICAL			**430**			**810**			**810**	
Medical Suite Toilet	0	0	-	60	1	60	60	1	60	
Nurses' Office / Waiting Room	200	1	200	250	1	250	250	1	250	
Examination Room/ Resting	110	1	110	100	5	500	100	5	500	
" "	120	1	120							
ADMINISTRATION & GUIDANCE			**2,450**			**4,525**			**3,786**	
Principal's Office w/ Conference Area	270	1	270	375	1	375	375	1	375	
Principal's Secretary / Waiting	250	1	250	125	1	125	125	1	125	
VIce Principal's Office -VP1	200	1	200	130	1	130	130	1	130	
Vice Principal's Office - VP2	180	1	180	130	1	130	130	0	-	
Vice-Principal's Office - VP3				130	1	130				
General Office / Waiting Room / Toilet	330	1	330	638	1	638	638	1	638	
Conference room				284	1	284	284	1	284	
Teachers' Mail and Time Room				100	1	100	100	1	100	
Duplicating Room				167	1	167	167	1	167	
Records Room				141	1	141	141	1	141	
Supervisory / Spare Office				130	1	130	130	1	130	
General Waiting Room				100	1	100	100	1	100	
Guidance Office	100	2	200	150	6	900	150	6	900	
Guidance Storeroom				40	1	40	40	1	40	
Teachers' Work Room	720	1	720	655	1	655	655	1	655	
World Language Office	100	1	100	200	1	200				
METCO Office	100	1	100	150	1	150				
Steps to Success Office	100	1	100	130	1	130				
CUSTODIAL & MAINTENANCE			**850**			**2,567**			**2,567**	
Custodian's Office	150	1	150	150	1	150	150	1	150	
Custodian's Workshop	300	1	300	332	1	332	332	1	332	
Custodian's Storage	250	1	250	375	1	375	375	1	375	
Storeroom	150	1	150	674	1	674	674	1	674	
Recycling Room / Trash				400	1	400	400	1	400	
Receiving and General Supply				436	1	436	436	1	436	
Network / Telecom Room				200	1	200	200	1	200	
OTHER			**1,720**			**0**			**0**	
Extended Day Program Classroom	620	2	1,240							
Extended Day Program Storage	320	1	320							
Extended Day Program Office	160	1	160							

EDWARD DEVOTION SCHOOL	Existing Conditions			PROPOSED Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
PARKING			**20,000**			**20,000**			**0**	
Parking	20,000	1	20,000	20,000	1	20,000				
Pre-K and Parking Excluded										
Total Building Net Floor Area (NFA)			83,692			109,924			104,588	
Proposed Student Capacity / Enrollment						**1,010**			**1,010**	Enter grade enrollments to the right
Total Building Gross Floor Area (GFA)[2]			**141,231**			**164,885**			**156,882**	
Grossing factor (GFA/NFA)			**1.69**			**1.50**			**1.50**	
Pre-K and Parking Included										
Total Building Net Floor Area (NFA)			103,692			132,324			104,588	
Proposed Student Capacity / Enrollment						**1,010**			**1,010**	Enter grade enrollments to the right
Total Building Gross Floor Area (GFA)[2]			**162,051**			**198,485**			**156,882**	
Grossing factor (GFA/NFA)			**1.56**			**1.50**			**1.50**	

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true

Name of Architect Firm: HMFH Architect, Inc.

Name of Principal Architect: Philip S. Lewis

Signature of Principal Architect: Philip S. Lewis

Date: March 18, 2014

7.3 Traffic Memorandum

MEMORANDUM

FGH

TO:	Mr. Philip Gray Jonathan Levi Architects 266 Beacon Street Boston, MA 02116	**FROM:**	F. Giles Ham, P.E. Vanasse & Associates, Inc. 35 New England Business Center Drive Suite 140 Andover, MA 01810 (978) 474-8800
DATE:	October 3, 2016	**RE:**	7382
SUBJECT:	School Site Selection Brookline, Massachusetts		

As requested, Vanasse & Associates, Inc. (VAI) has provided a brief summary of our transportation review of the Elementary School Selection Study. Back in June of this year VAI visited each of the three sites to observe traffic conditions and conducted area traffic counts in June when schools were in session. Additional observations of traffic conditions were observed in September 2016.

Detailed traffic counts were conducted the week of June 6, 2016 during peak morning and afternoon periods. It is acknowledged that traffic conditions do vary during different periods of the year and different weather conditions. Typically, rainy days and cold weather days do increase drop-off and pick-up activity. In addition, during winter conditions, Beverly Road at the Baker site becomes one-way. However, the June 2016, traffic counts do provide a valid basis for the site comparisons.

With respect to parking demand and on-site queue storage we recommend the maximum of 0.17 parking spaces per student enrolled and a queue storage of 1.2 feet per student enrolled. The numbers do not account for transit reductions or expanded bus service. With an approximate 800-student school this would equate to approximately 130-140 parking spaces and 1,200-foot queue area ideally. With site constrains the maximum queue may be difficult to obtain and busing can reduce this requirement.

With respect to the three sites we offer the following comments:

BAKER SITE

Observations were conducted at the existing school in June 2016. Overall, VAI observed the following:

- Limited existing busing
- Drop-off count (estimate) – 58 in/58 out (7:15 – 8:15 AM)
- Pick-up count (estimate) – 42 in/42 out (2:30 – 3:30 PM)
- 9:00 AM – parked 52 cars in School Zone
- 1:45 PM - parked 48 cars in School Zone

The existing school traffic counts were as follows:

TRIP GENERATION SUMMARY

	Morning Period				Afternoon Period			
Direction	Drop-Off On-Street	Teachers Lot	School Driveway	Total	Drop-Off On-Street	Teachers Lot	School Driveway	Total
Entering	58	53	101	212	42	15	7	64
Exiting	58	9	87	154	42	38	8	88
Total	116	62	188	366	84	53	15	152

Beverly Road accommodates 288 two-way morning peak-hour vehicles and 164 two-way evening peak-hour vehicles. Overall, it is our opinion that the existing traffic congestion can be resolved with adequate on-site parking and queue areas.

Overall rating –advantageous.

BALDWIN SITE

Area conditions were reviewed in June 2016. Hammond Street in this area is very busy with 1,004 vehicles during the weekday morning peak hour and 1,175 vehicles during the weekday evening peak hour. Woodland Road accommodates 745 and 130 weekday morning and evening peak-hour trips respectively. Alternatives have been developed with access and egress from Heath Street. Parking for buses and queue storage is limited due to site constraints. Severe congestion along Hammond Street is a challenge.

Parking can be reduced to 120 spaces with increased busing.

Overall rating – very disadvantageous.

VAI also reviewed the Baldwin site with a potential access and egress driveway onto Woodland Road with Woodland Road potentially becoming modified to two-way travel. Under this plan, adequate bus parking and queue storage for drop-offs and pick-ups could be adequately accommodated and our relative rating would be improved from very disadvantageous to disadvantageous. Traffic congestion along Hammond Street remains a concern.

With Woodland Road access – overall rating – disadvantageous.

VILLAGE SITE

This site is located at the existing Stop & Shop off Harvard Street. Access and egress can be accommodated via the traffic signal at the Stop & Shop and the Aspinwall Avenue traffic signal. Alternatives have been reviewed with and without the supermarket. Area traffic counts are as follows:

- Harvard Avenue, 949 morning peak-hour traffic volume/1,057 evening peak-hour traffic volume
- School Street, 971 morning peak-hour traffic volume/891 evening peak-hour traffic volume
- Aspinwall Avenue, 743 morning peak-hour traffic volume/735 evening peak-hour traffic volume

The site circulation and access can be a challenge with the combined traffic and loading of the supermarket. Efforts have been made to separate the traffic under the alternatives. Parking can be reduced to 60 spaces due to the availability of public transportation and walking trips.

Overall rating –disadvantageous.

MEMORANDUM

FGH

TO:	Mr. Philip Gray Jonathan Levi Architects 266 Beacon Street Boston, MA 02116	**FROM:**	F. Giles Ham, P.E. Vanasse & Associates, Inc. 35 New England Business Center Drive Suite 140 Andover, MA 01810 (978) 474-8800
DATE:	October 3, 2016	**RE:**	7382
SUBJECT:	School Site Selection Brookline, Massachusetts		

As a follow-up to our September 22, 2016 joint public meeting with the Board of Selectmen and School Committee, I want to clarify my recommendation with respect to the Baldwin site. Our rating recommendation presented in the evaluation matrix was very disadvantageous, which is the lowest rating of any of the three sites. This rating was based upon my observation of traffic in the area, traffic counts conduced and expertise having worked on numerous traffic studies in the area. Hammond Street accommodates over 1,000 vehicles during the peak periods and the Route 9/Hammond Street traffic signal is state-controlled with a priority to Route 9 traffic flow. As such, during peak travel periods, lengthy vehicle queues on Hammond Street occur on a regular basis. A new elementary school at 800 students or downsized to 400 students cannot be accommodated with traffic inevitably required to utilize Hammond Street to enter or exit a potential new school. A new school could generate between 200-400 peak hour trips and there is not available capacity to accommodate such an increase. Consistent with our initial evaluation, we strongly recommend against this site for an elementary school even downsized, due to the existing traffic conditions along Hammond Street.

VAI also reviewed the Baldwin site with a potential access and egress driveway onto Woodland Road with Woodland Road potentially becoming modified to two-way travel. Under this plan, adequate bus parking and queue storage for drop-offs and pick-ups could be adequately accommodated and our relative rating would be improved from very disadvantageous to disadvantageous. Due to the existing traffic conditions along Hammond Street, we still recommend against this site for an elementary school.

7.4 Estimator's Report

Estimated Project Costs

	Low	High
Baker Sites:	**$90,000,000**	**$105,000,000**
(Add $15,000,000 to add to Baker to fully accomodate 800 students)		
Baldwin Sites:	**$85,000,000**	**$95,000,000**
(Includes Structured Parking on Soule Site)		
Village Base:	**$110,000,000**	**$135,000,000**
Village Expanded:	**$120,000,000**	**$145,000,000**
(Village costs do not include Aspinwall Access)		

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