

NEW ELEMENTARY SCHOOL

REED SITE, ARLINGTON PUBLIC SCHOOLS

CONCEPT DESIGN



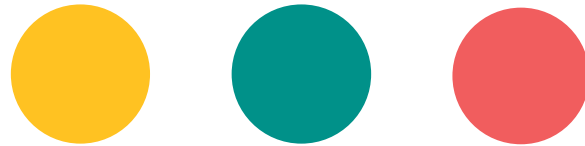
VMDO

BLPC + PFRC JOINT MEETING

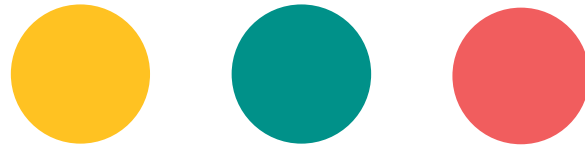
**BUILDING LEVEL PLANNING COMMITTEE
PUBLIC FACILITIES REVIEW COMMITTEE**

- 1. Welcome / Opening remarks**
- 2. Updates & Review / County Information**
- 3. Progress**
- 4. Transportation**
- 5. Review Concepts & Schemes**
- 6. Scheme Comparisons**
- 7. Discussion**
- 8. Public Comments**
- 9. Next Steps & Adjourn**

1. WELCOME / OPENING REMARKS

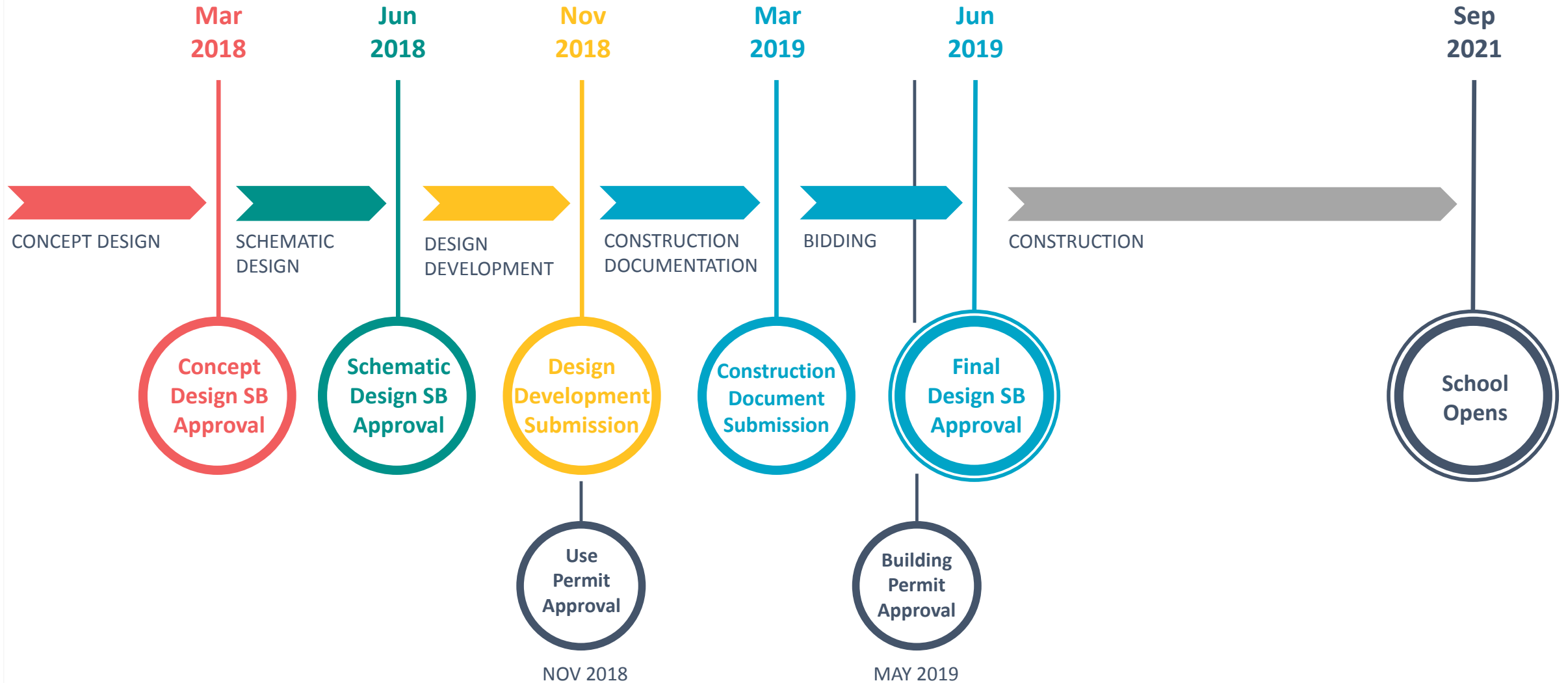


2. UPDATES & REVIEW



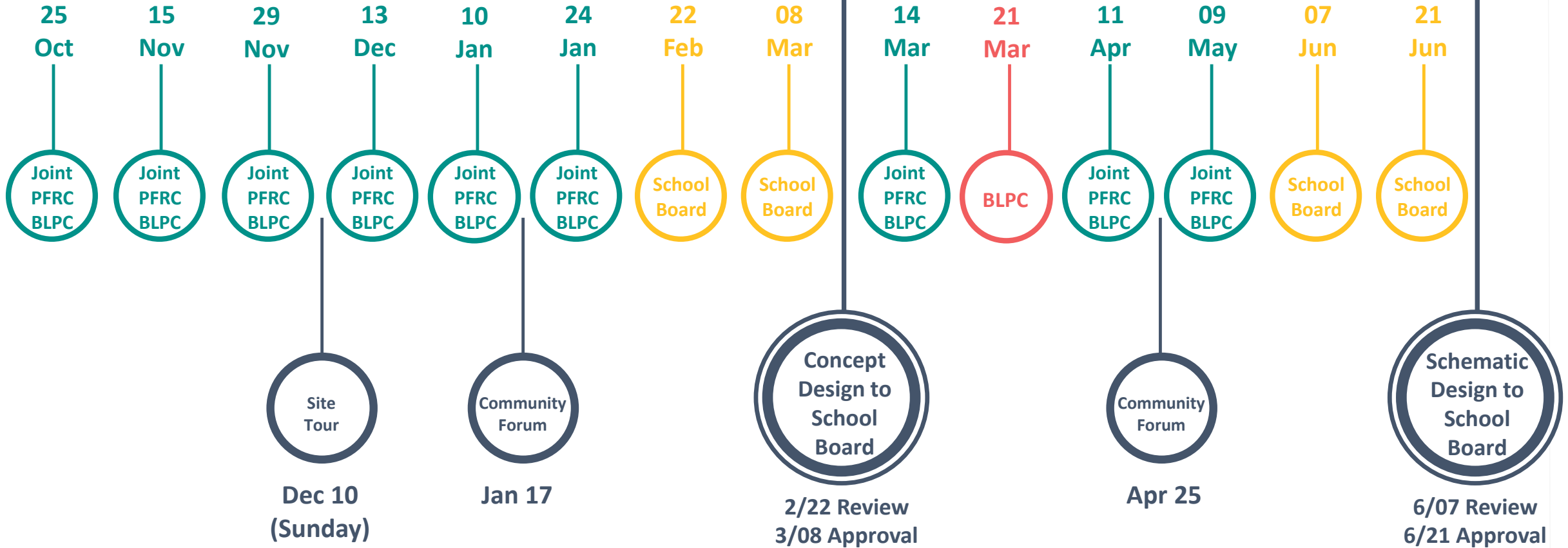
PROJECT PARAMETERS

1. Create a **new neighborhood elementary school** with an attendance zone
2. Support APS Strategic Plan Goals, specifically **Goal #4 – Provide Optimal Learning Environments**
3. Address capacity by providing at least **725 seats**
4. Open by start of school **2021**
5. Spend a maximum project cost **\$49 million, with options for less**



CONCEPT DESIGN

SCHEMATIC DESIGN



NORTH SCHEME



Option A



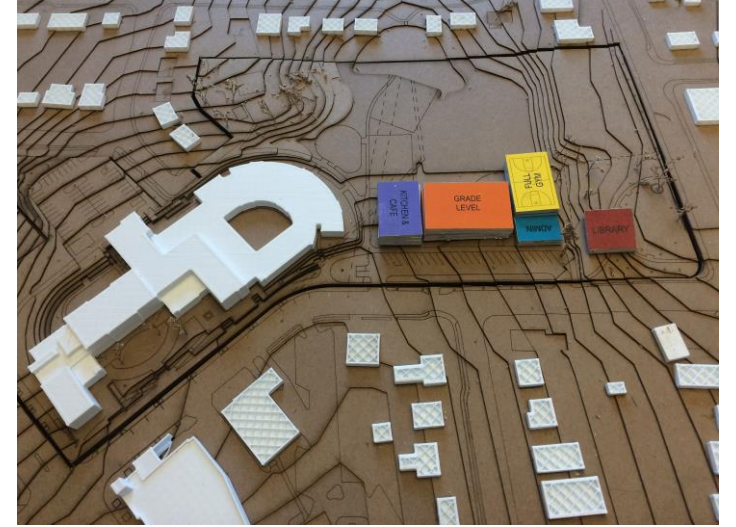
Option B

EAST SCHEME



Option A

SOUTH SCHEME



Option A



Option B

MEETING TAKEAWAYS: WHAT WE HEARD

Some items had broad consensus, some items were solitary comments

- Generally “B” Options are preferred which build on-top of existing school
- Preserve as much green space as possible
 - Verify consistency of overlapping play fields
- Which is the higher priority: the hills with trees as a play area or flat fields as play area?
 - Kids currently play on both
- Amount of parking remains an issue: traffic consultant to consider 66 toll and holiday retail
- Library or Art & Music are preferred options for Level 2 program in existing building
- Concerns about splitting school into upper and lower schools, although there is an interest to learn more
 - Ability of high performing kids to cross grades may be compromised
 - Functionality/efficiency of staff not yet understood
 - Potential duplication of program
- Verify structural capacity for potential 2nd and/or 3rd level addition to existing building
- Appears that North and South Schemes equally preferred over East Scheme / consider East Scheme in North location
- Options exist for mixing parts of all schemes
- Consider demolishing 1 story part of existing building and building on same footprint

REED SCHOOL UPDATE

DECEMBER 13, 2017



ARLINGTON
VIRGINIA

COUNTY CONSIDERATIONS

Zoning Code - Setbacks, Height

Trees, Utility Poles

Library needs

Impact to County Property

- Open Space/DPR recreational uses

Site access and circulation

Changes within ROW

Parking



COUNTY CONSIDERATIONS, CONT.

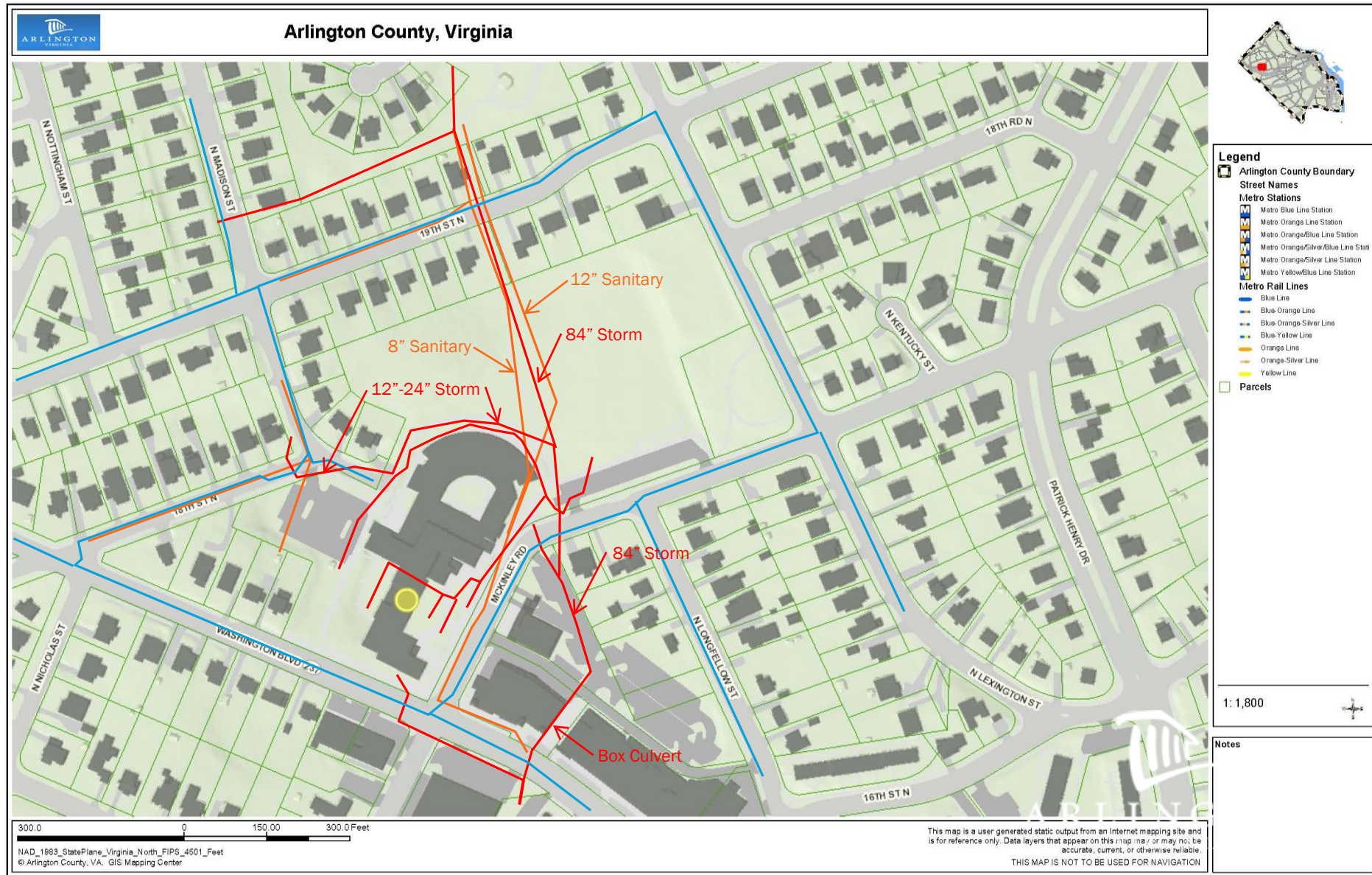
Stormwater

Fire/emergency access

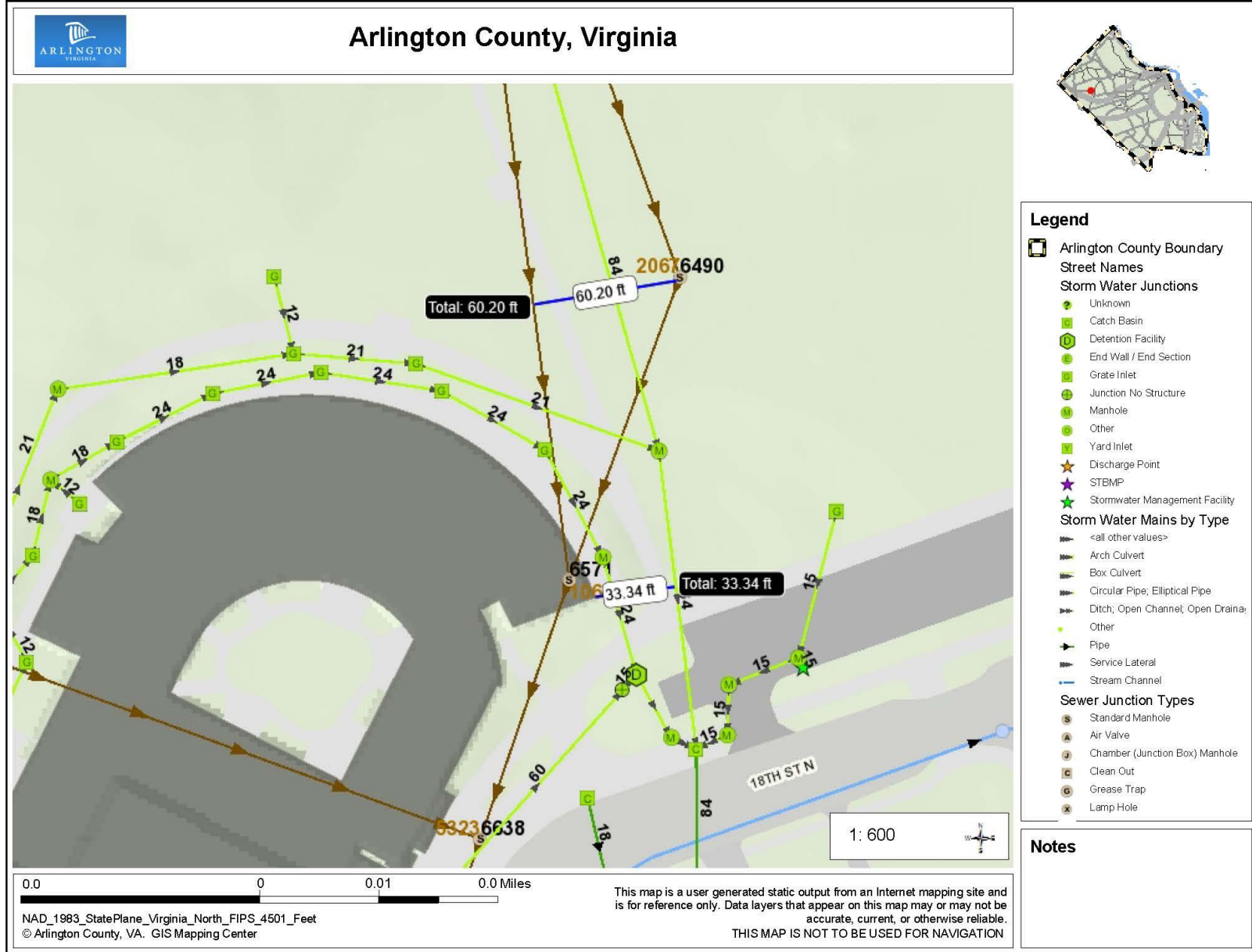
Utility conflicts



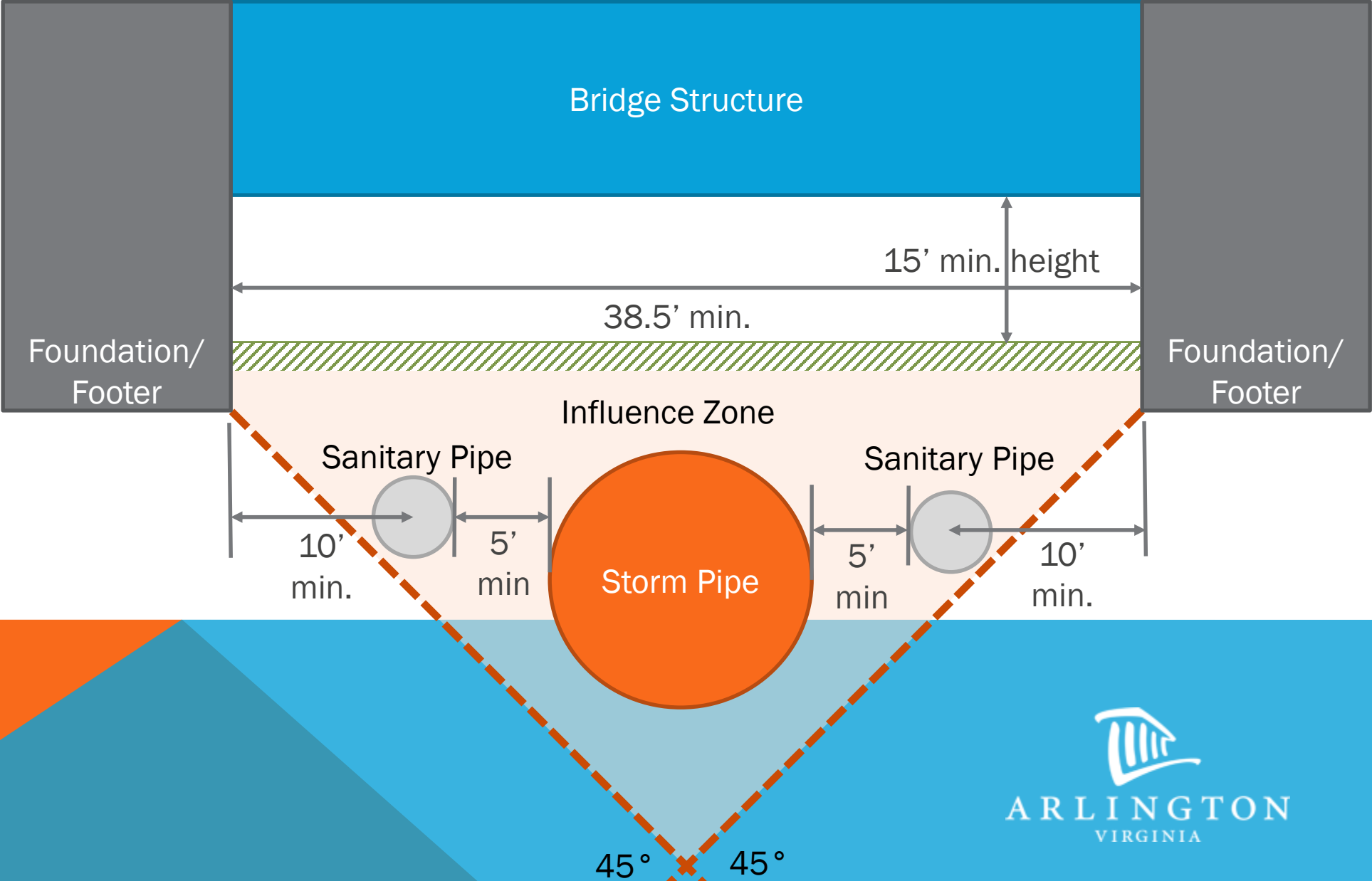
EXISTING CONDITIONS



EXISTING CONDITIONS



BRIDGING OVER UTILITIES (NOT TO SCALE)



NEXT STEPS

Transportation analysis

- Multimodal transportation assessment (MMTA)
- APS survey data
- Parking (on- and off-site)

School/library/retail relationship

VDOT coordination



CODE LANGUAGE

Arlington County Code:

§ 18-7. General Provisions.

“Buildings erected over public sewers. No building shall be erected over a public storm or sanitary sewer, except in cases of undue hardship, limiting the full use of the property, in which case permission may be granted by the County Manager or his designee for storm sewers and sanitary sewers, to construct a limited portion of a building over a public storm or sanitary sewer, provided the plans for such buildings are approved by the Building Official, or his designee. Arlington County will not be responsible for damage to any structure built over a public storm or sanitary sewer if it becomes necessary to excavate under or near such structure to maintain the public storm or sanitary sewer.”

CODE LANGUAGE

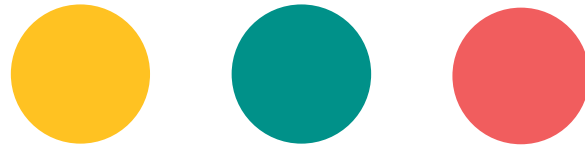
2012 Virginia Plumbing Code

SECTION 305 PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS

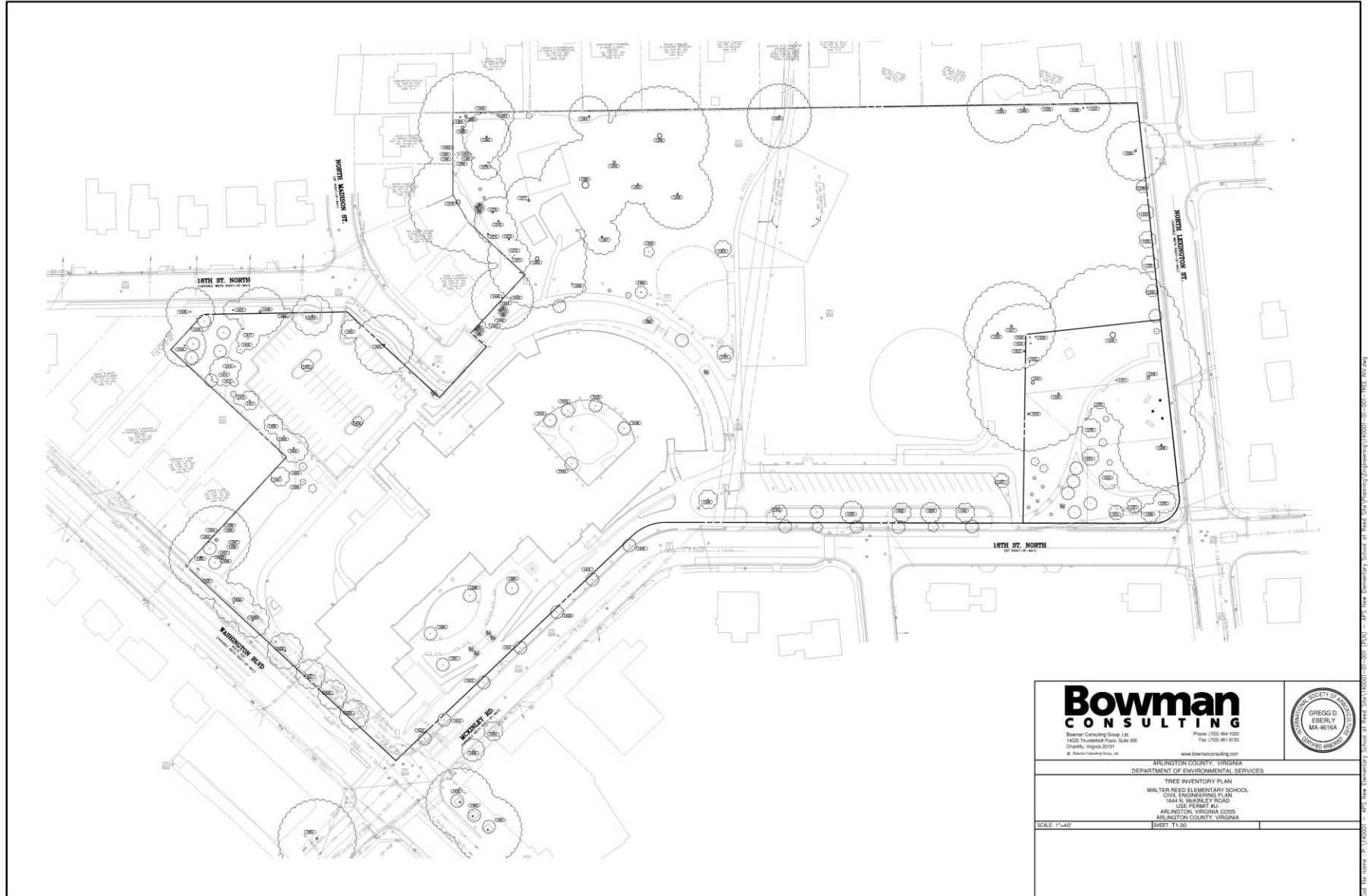
305.2 Stress and strain.

“Piping in a plumbing system shall be installed so as to prevent strains and stresses that exceed the structural strength of the pipe. Where necessary, provisions shall be made to protect piping from damage resulting from expansion, contraction and structural settlement.”

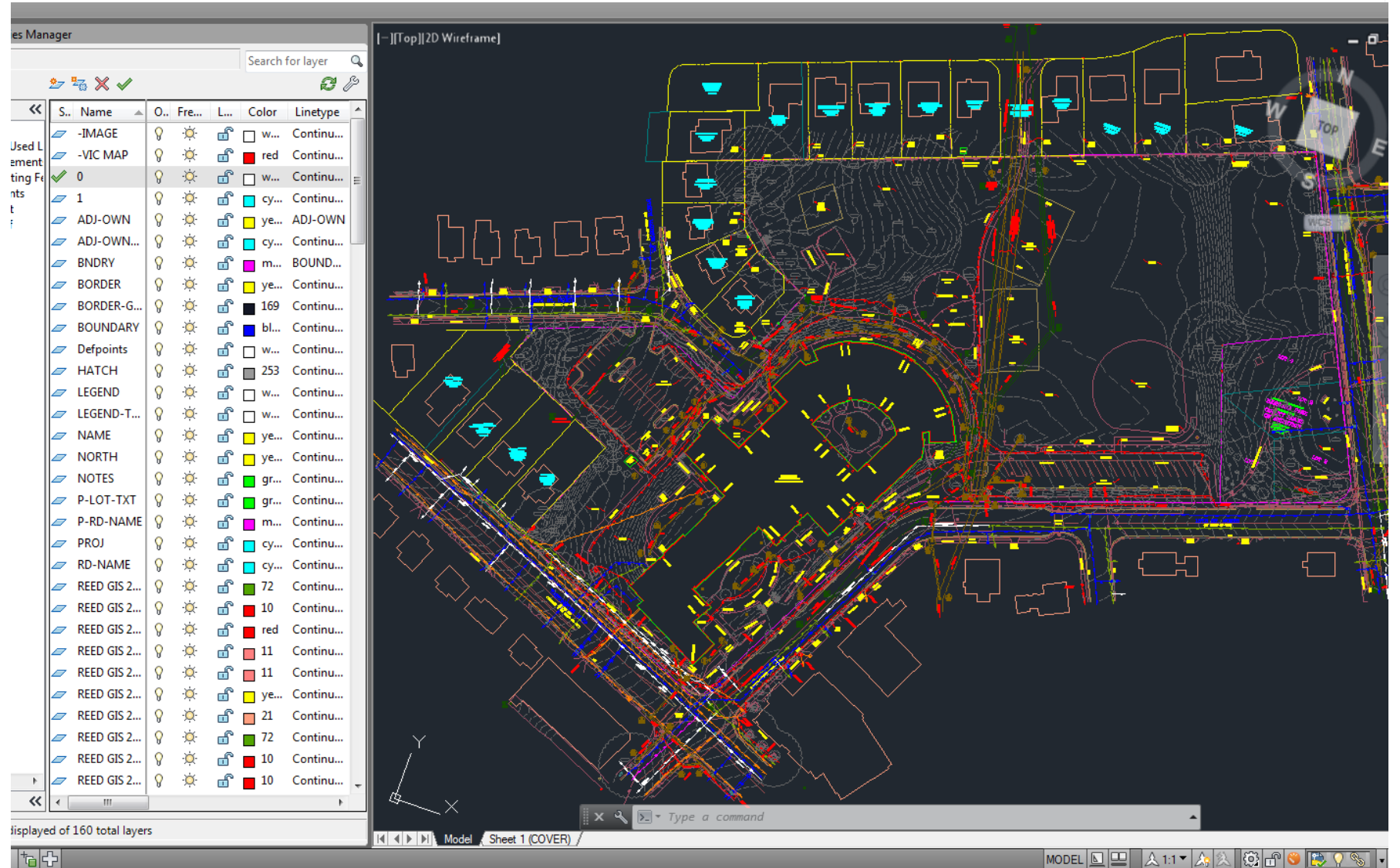
3. PROGRESS



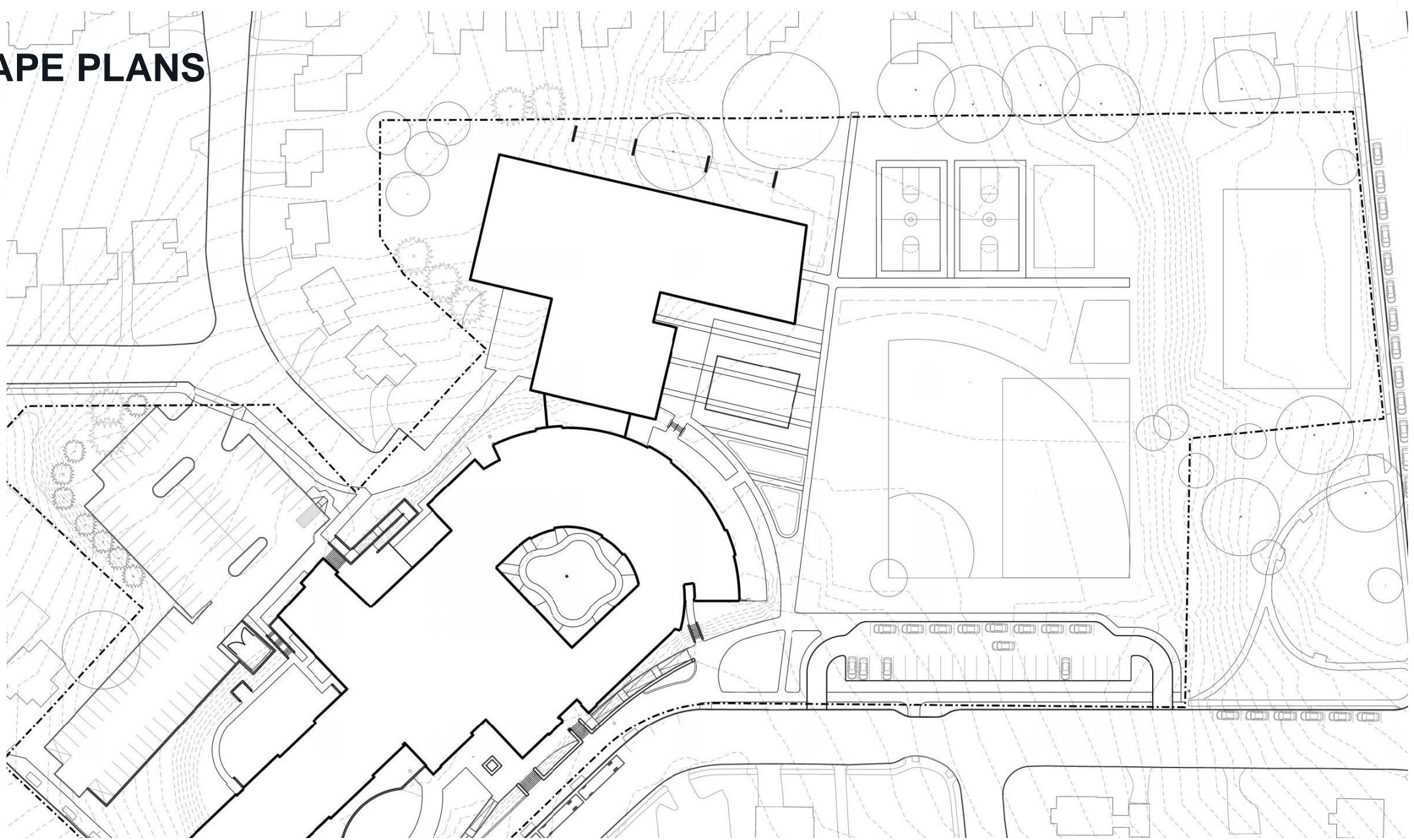
TREE SURVEY



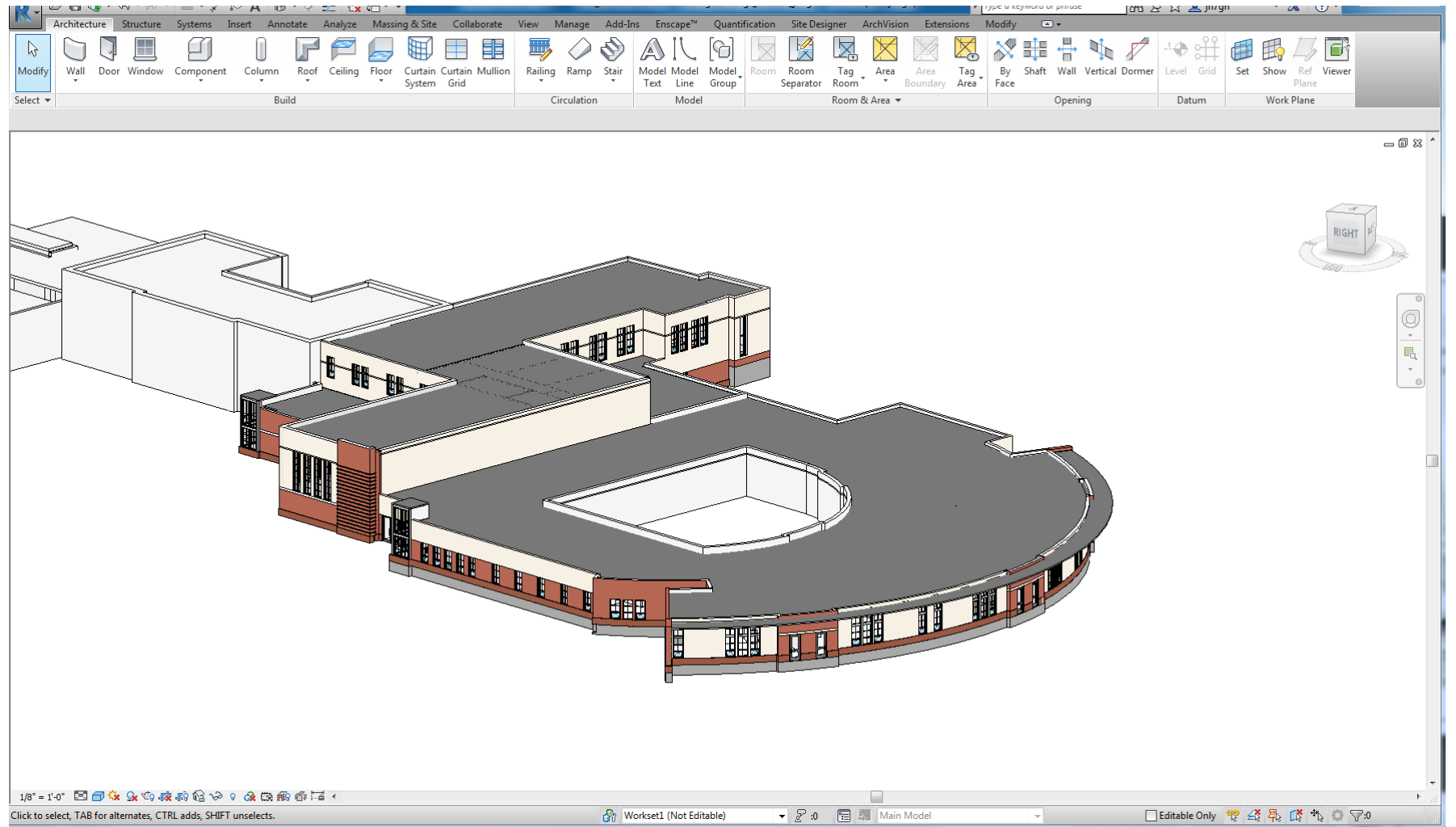
EXISTING SURVEY



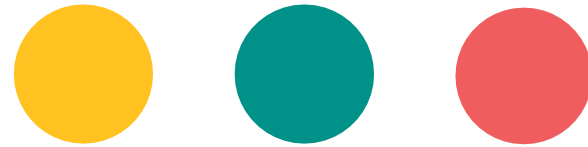
LANDSCAPE PLANS



EXISTING BUILDING REVIT MODEL



4. TRANSPORTATION



GOROVE/SLADE ASSOCIATES

Local traffic engineering and planning firm, headquartered in Washington DC

Significant experience working in Arlington County

Significant experience working in education (Pre-K to large Universities)



Dan VanPelt, P.E., PTOE
Principal and Vice President



Rob Schiesel, P.E.
Director of Planning



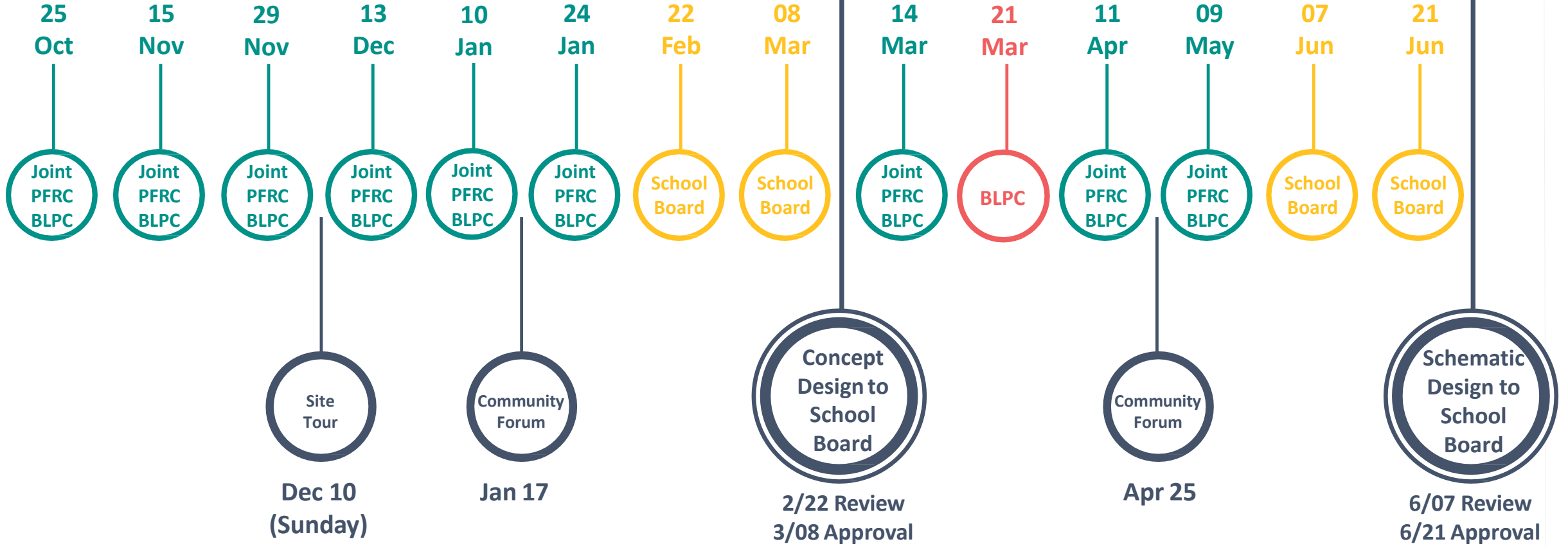
Daniel Solomon
Transportation Planner



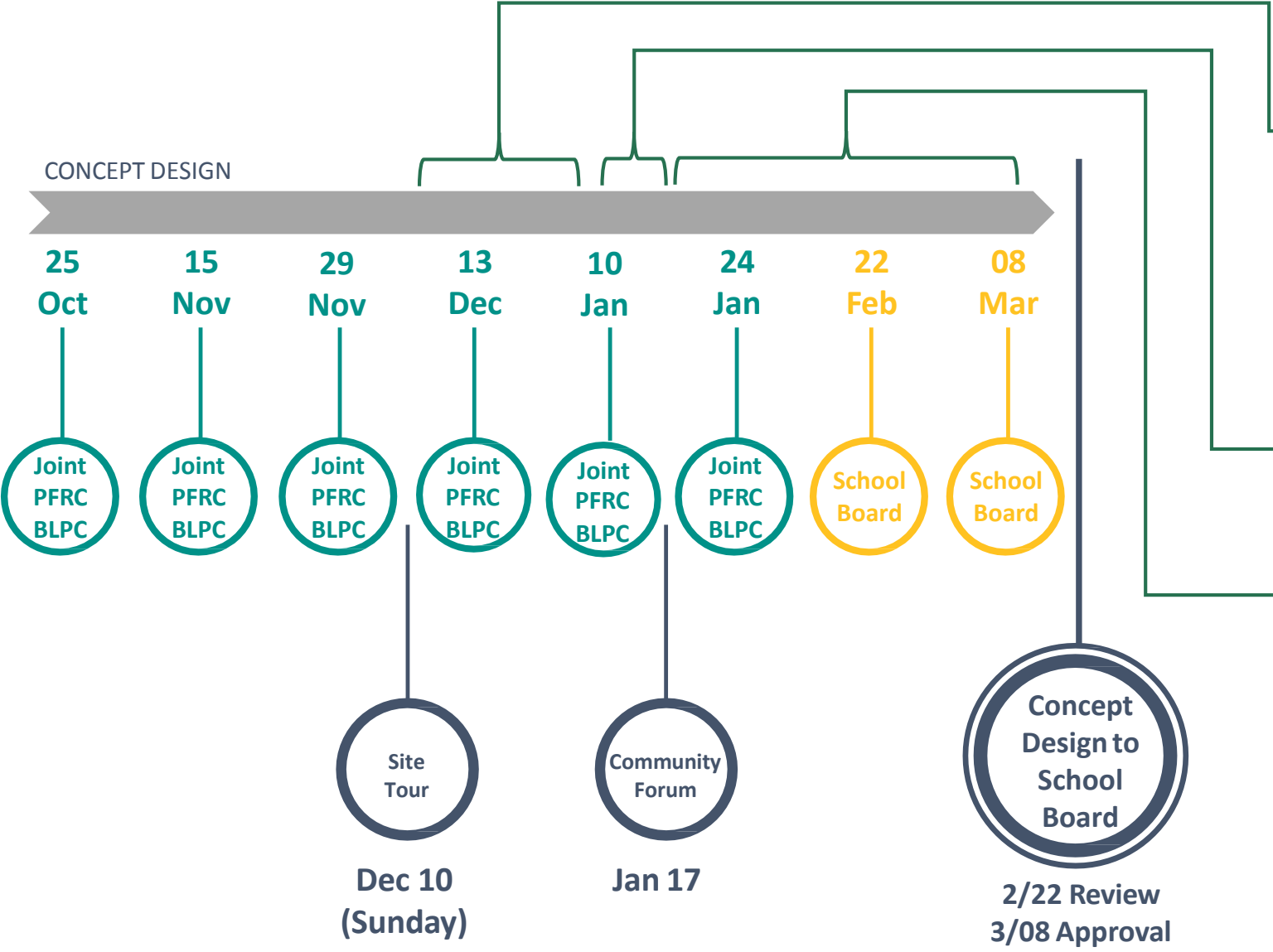
Maris Fry, P.E.
Transportation Engineer

CONCEPT DESIGN

SCHEMATIC DESIGN



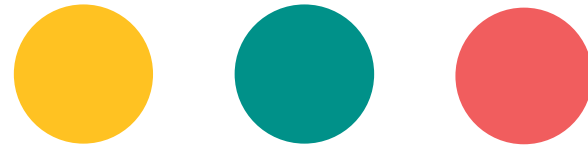
GOROVE/SLADE TIMELINE



- **Getting Started**
 Introductions, reviewing, background material, kick-off meeting with County staff, parking data collection, preliminary feedback to VMDO on initial alternatives
- **Listening Sessions**
 Present initial thoughts and gain input from community
- **Perform Data Collection & Analyses**
 Remainder of data collection, more substantial comparison of alternatives for VMDO, help refine transportation elements of plans



5. REVIEW CONCEPTS & SCHEMES



NORTH SCHEME



Option A



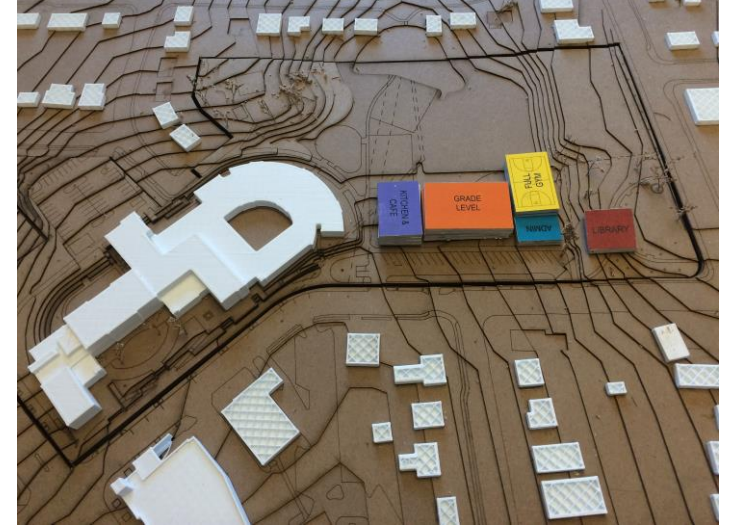
Option B

EAST SCHEME



Option A

SOUTH SCHEME

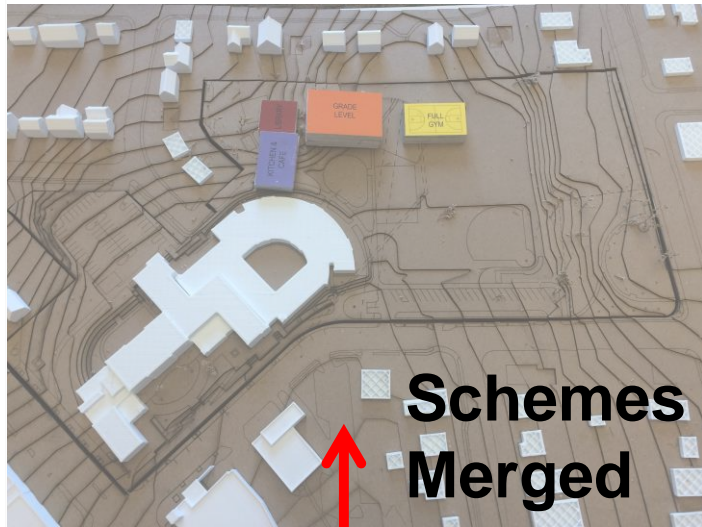


Option A



Option B

NORTH SCHEME



Option A



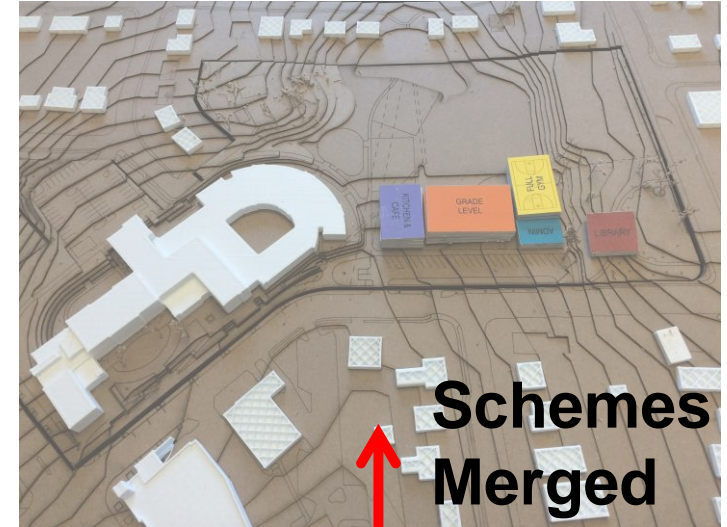
Option B

EAST SCHEME

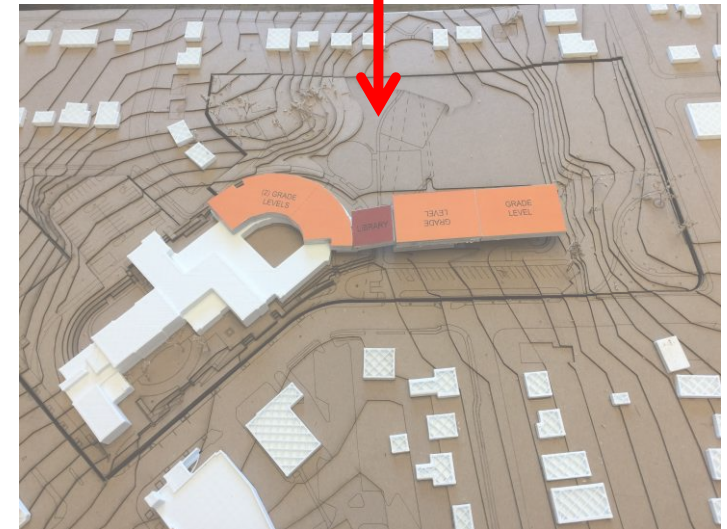


Option A

SOUTH SCHEME



Option A

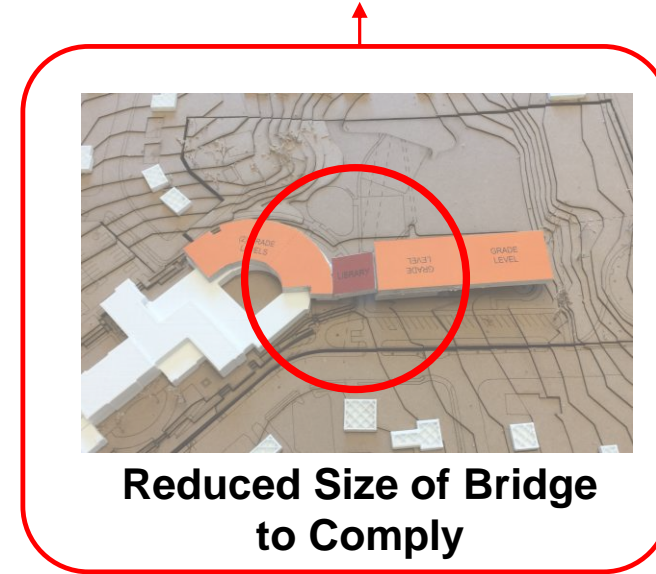
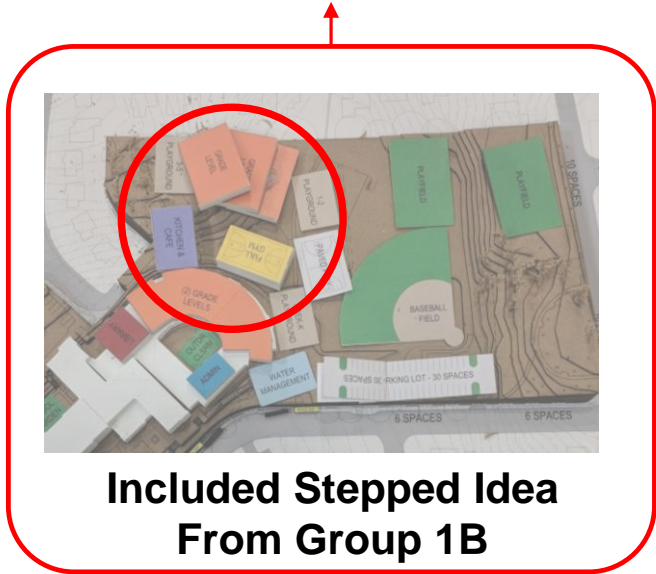
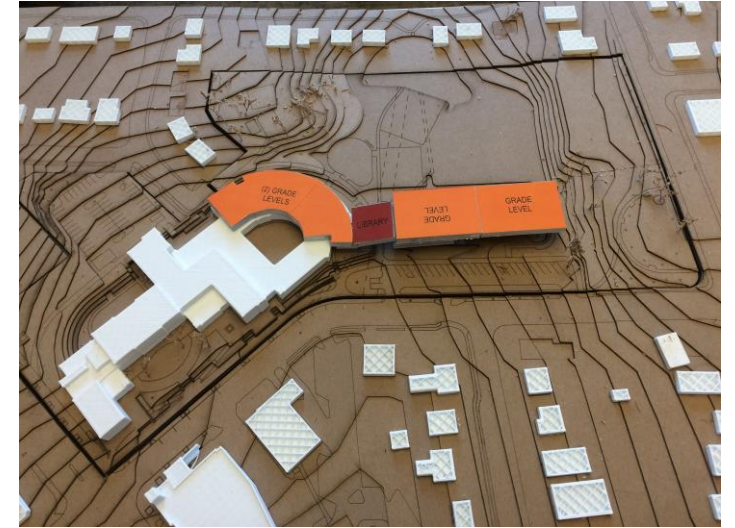
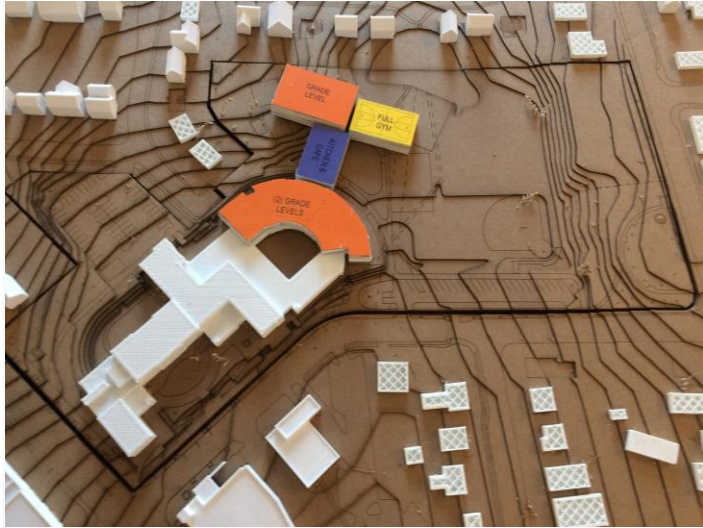


Option B

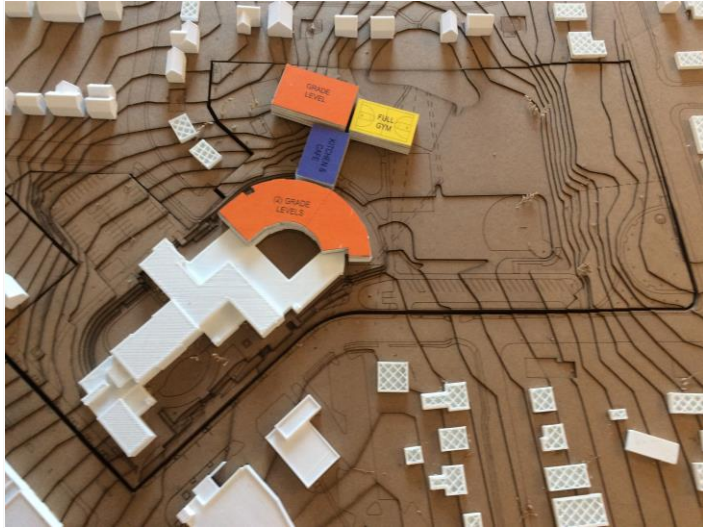
NORTH SCHEME - MODIFIED

EAST SCHEME

SOUTH SCHEME - MODIFIED



NORTH SCHEME - MODIFIED



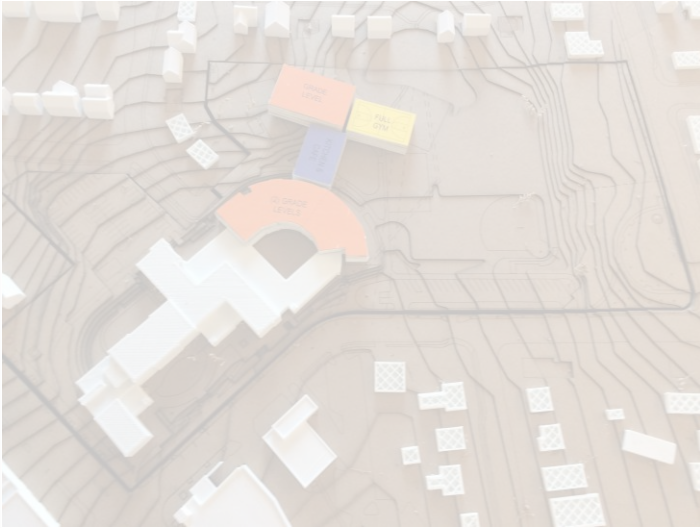
EAST SCHEME



SOUTH SCHEME - MODIFIED



NORTH SCHEME



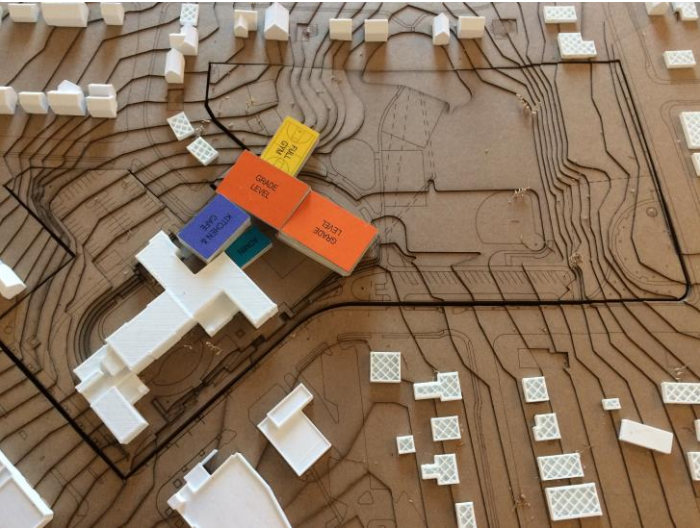
EAST SCHEME



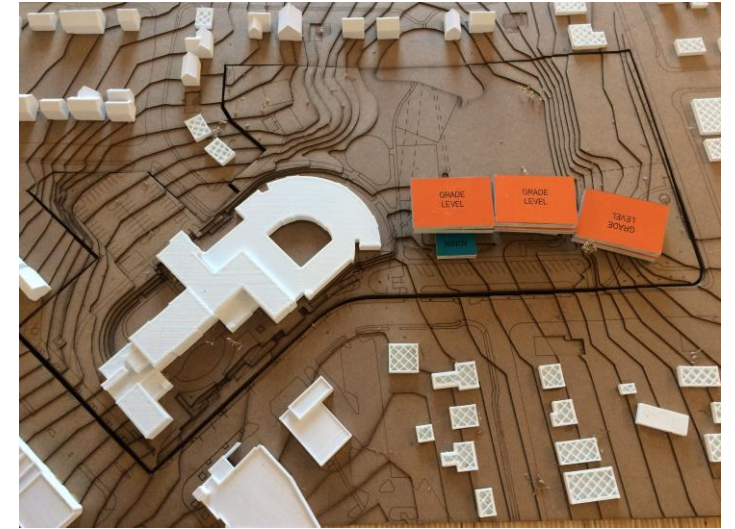
SOUTH SCHEME



REPLACEMENT SCHEME

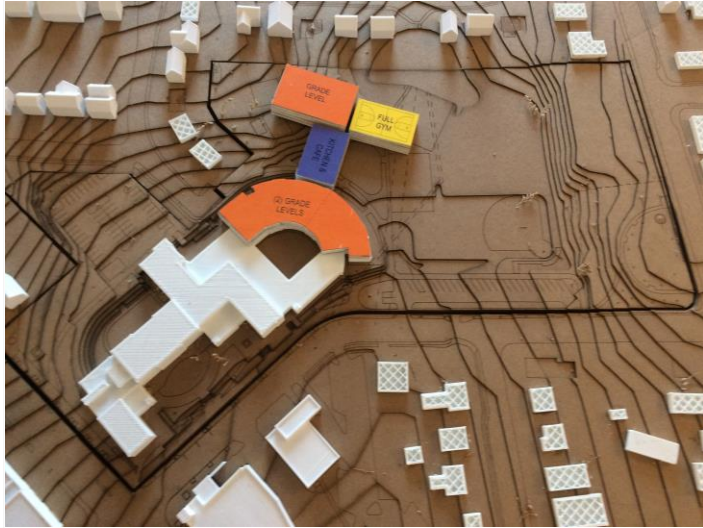


STANDALONE SCHEME



**2 New
Schemes**

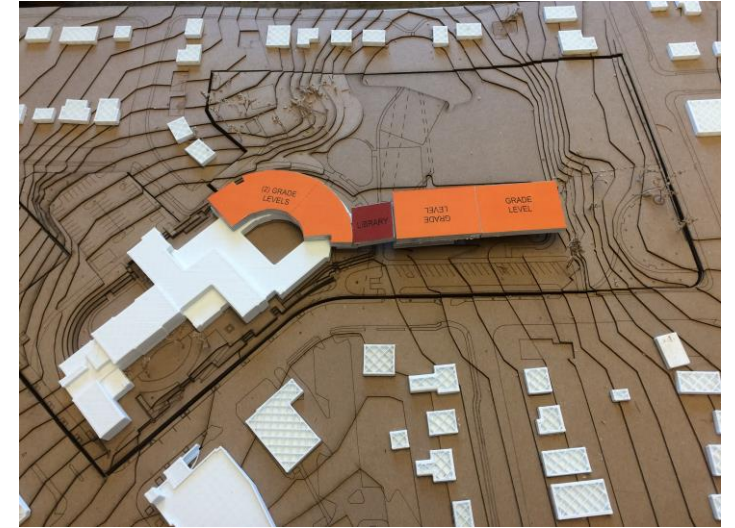
NORTH SCHEME - MODIFIED



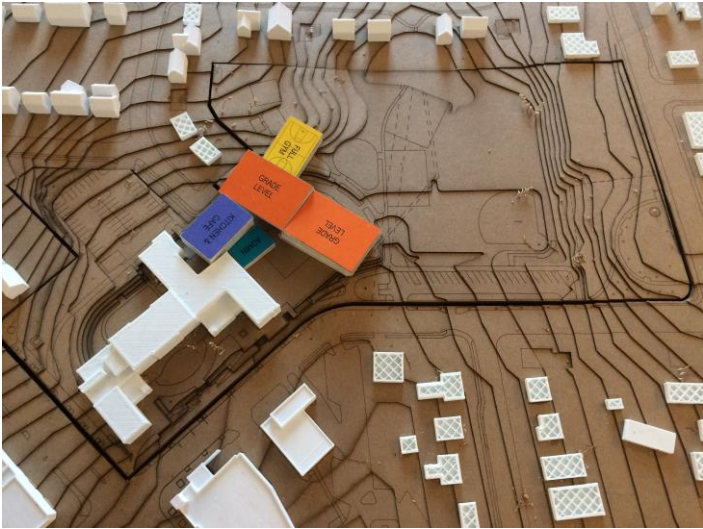
EAST SCHEME



SOUTH SCHEME - MODIFIED

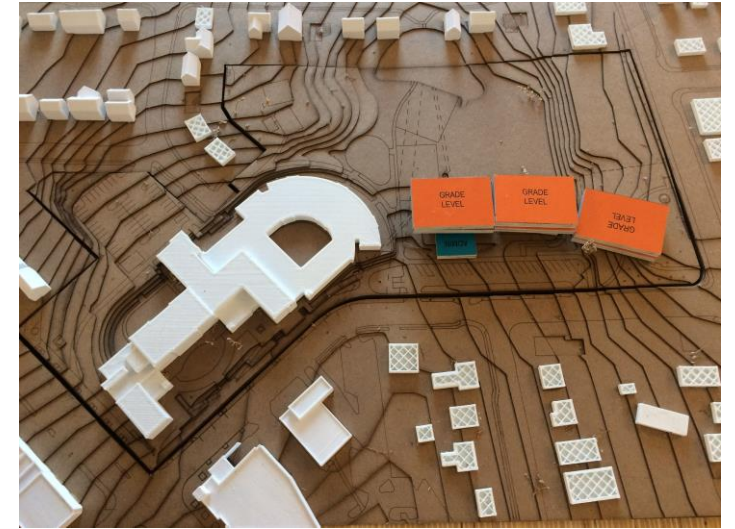


REPLACEMENT SCHEME



5 Current Schemes

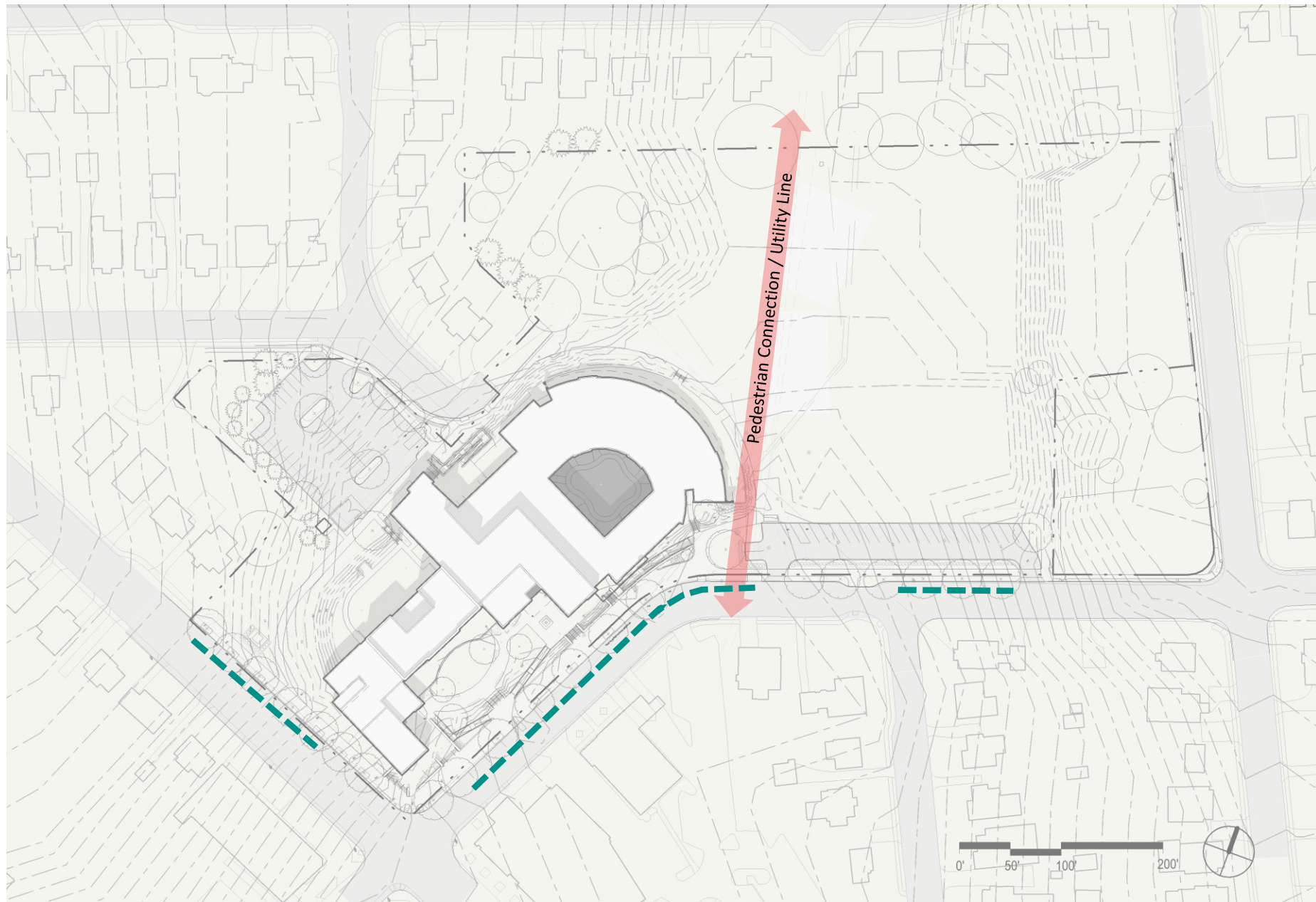
STANDALONE SCHEME



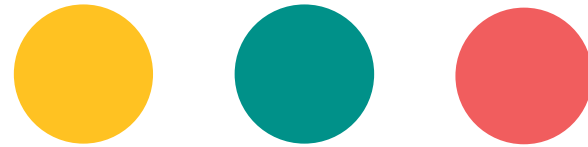
ALL SCHEMES

Shares the following with all schemes:

- Maintain north/south pedestrian connection
- Maintain large, contiguous, open space
- No relocation of 84" storm sewer
- Preserve on-street parking for commercial uses
- Provides >130 parking spots
- No structured parking



NORTH SCHEME



NORTH SCHEME

New construction is “hidden” behind existing, but closer to neighbors

Clear school side and recreation side

Eliminates the most trees of any schemes

Large new building footprint

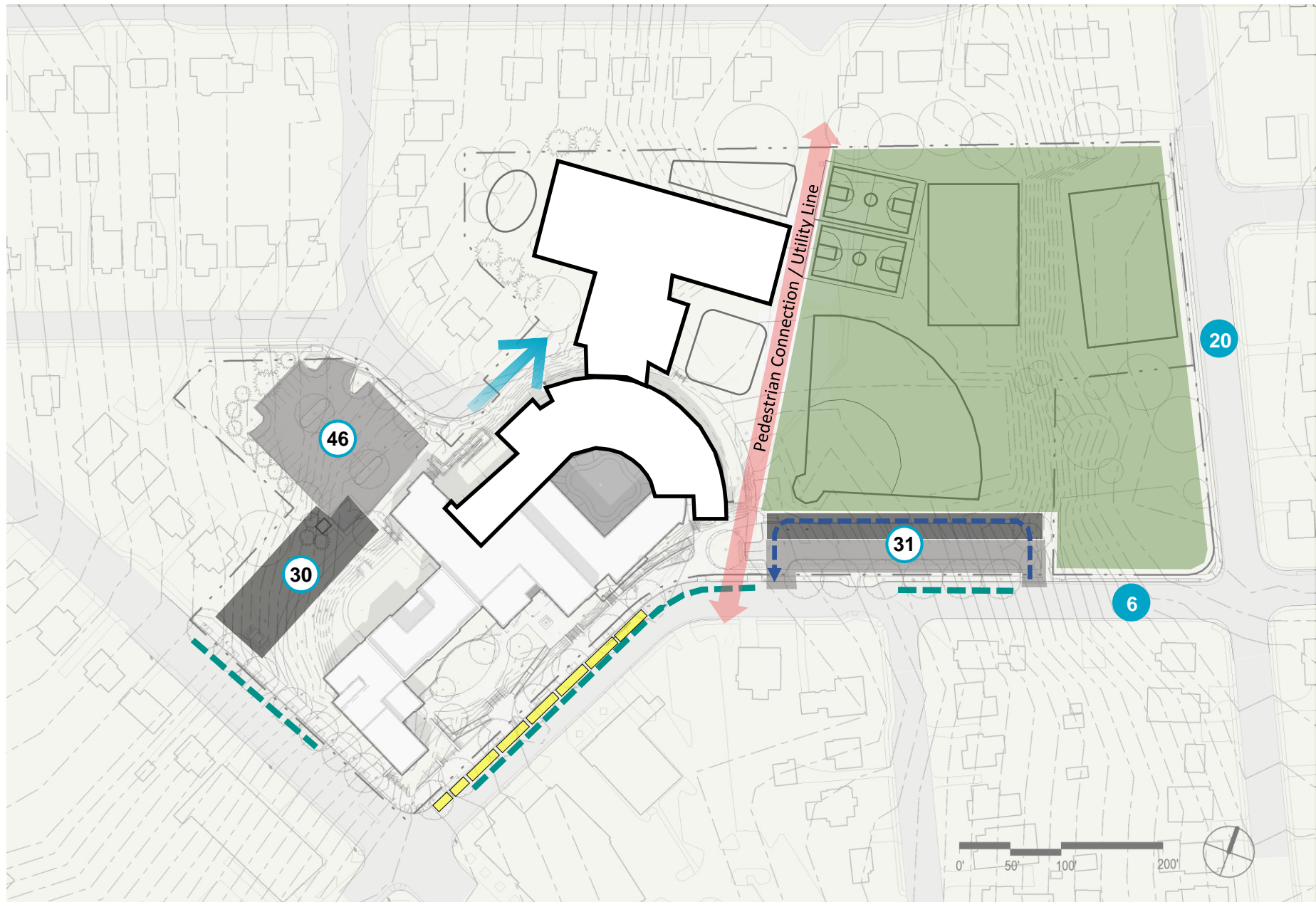
26,100 SF SF NEW BUILDING FOOTPRINT

12,800 SF SF NEW PARKING FOOTPRINT

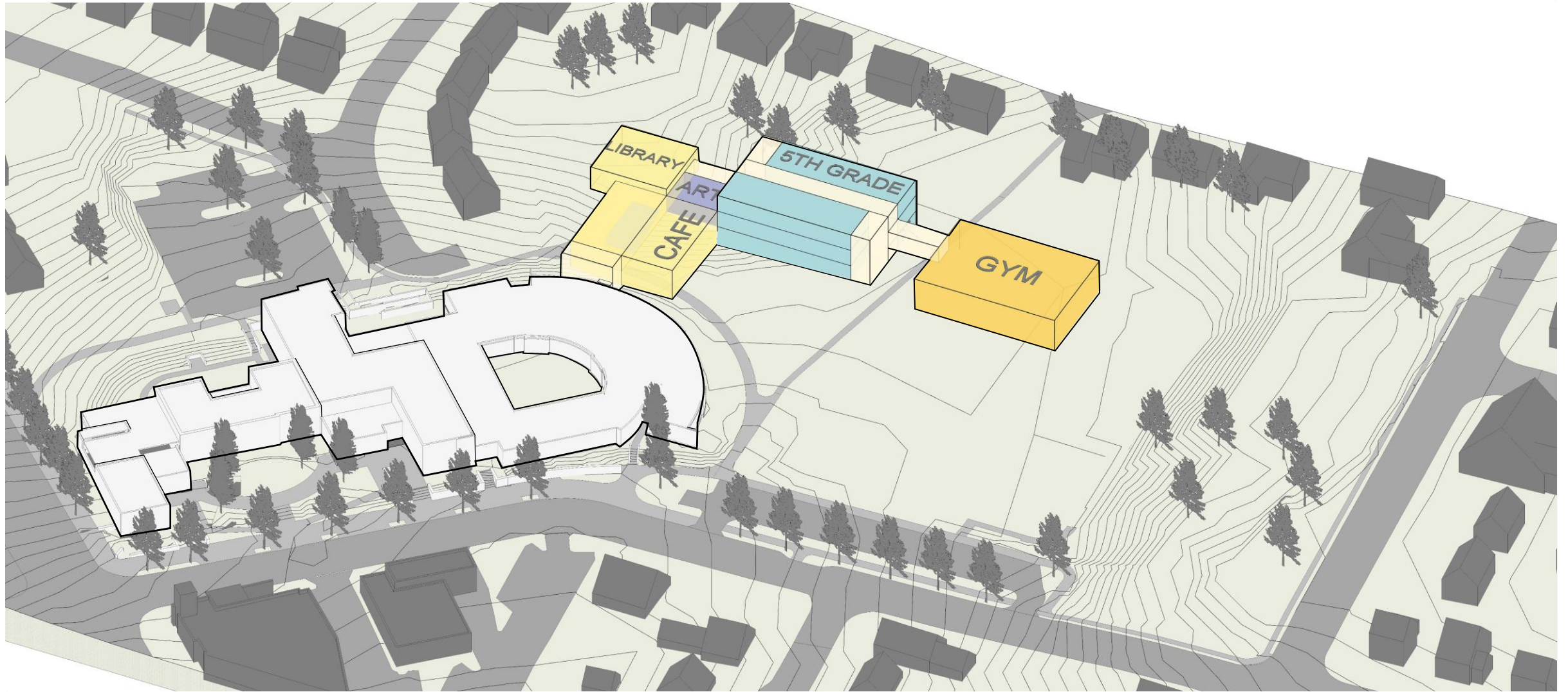
108 SPACES ON-SITE

26 SPACES ON-STREET

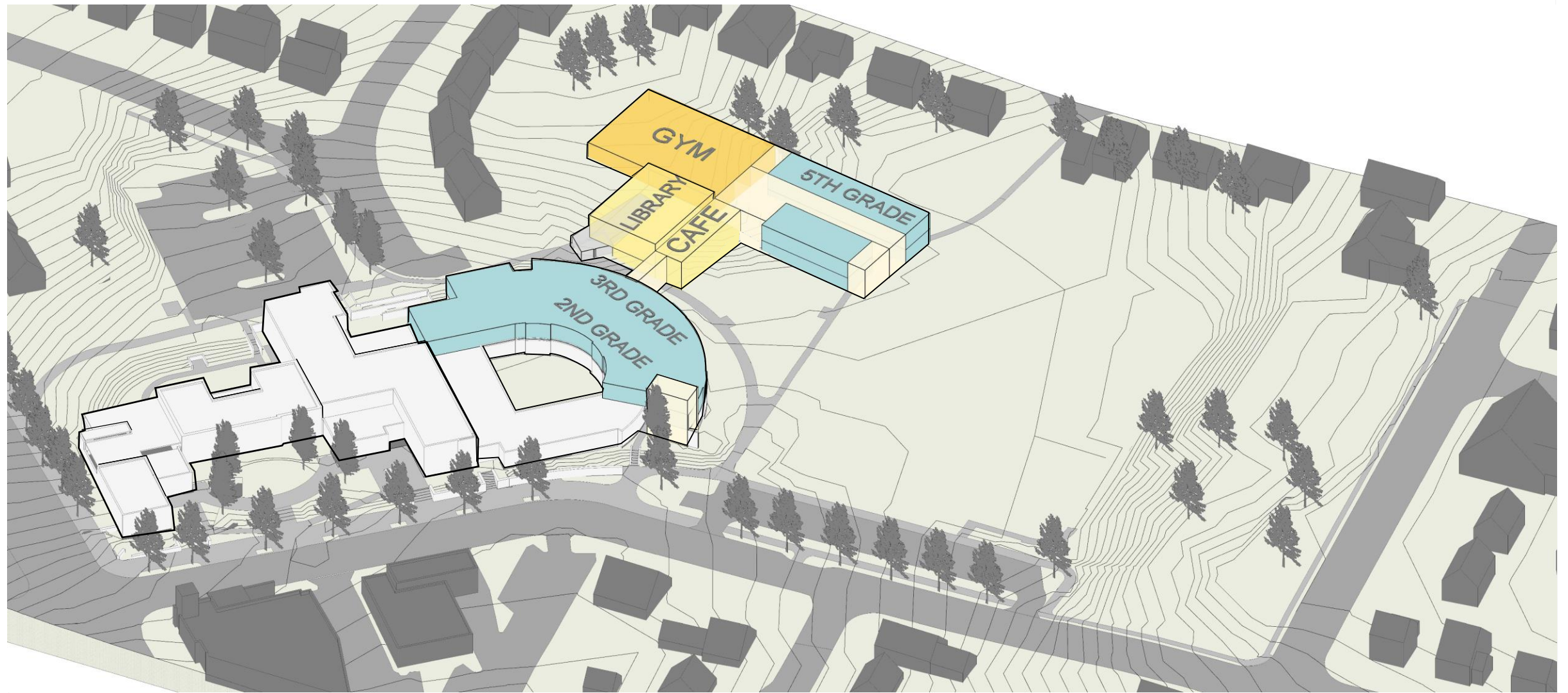
134 TOTAL SPACES



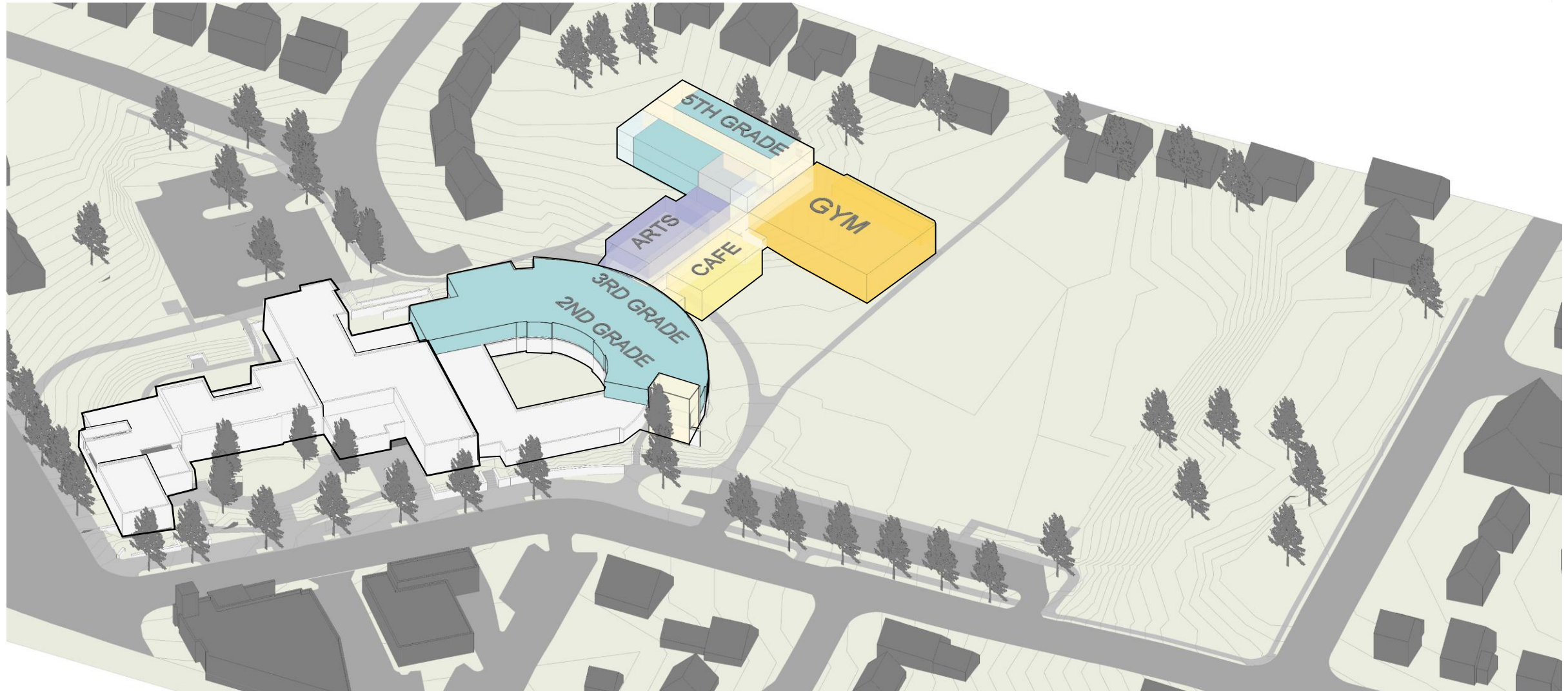
NORTH SCHEME OPTION A - OLD



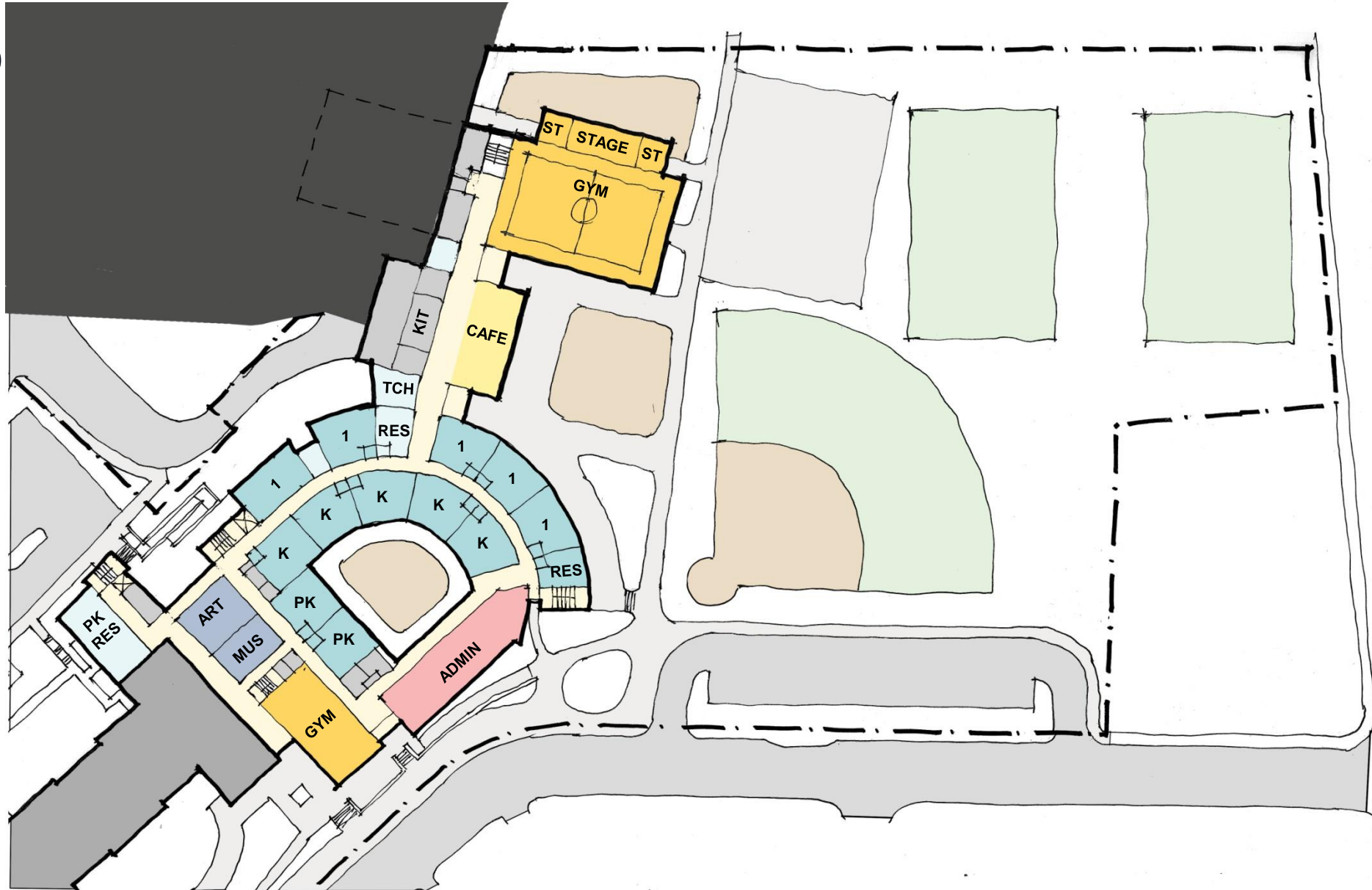
NORTH SCHEME OPTION B - OLD



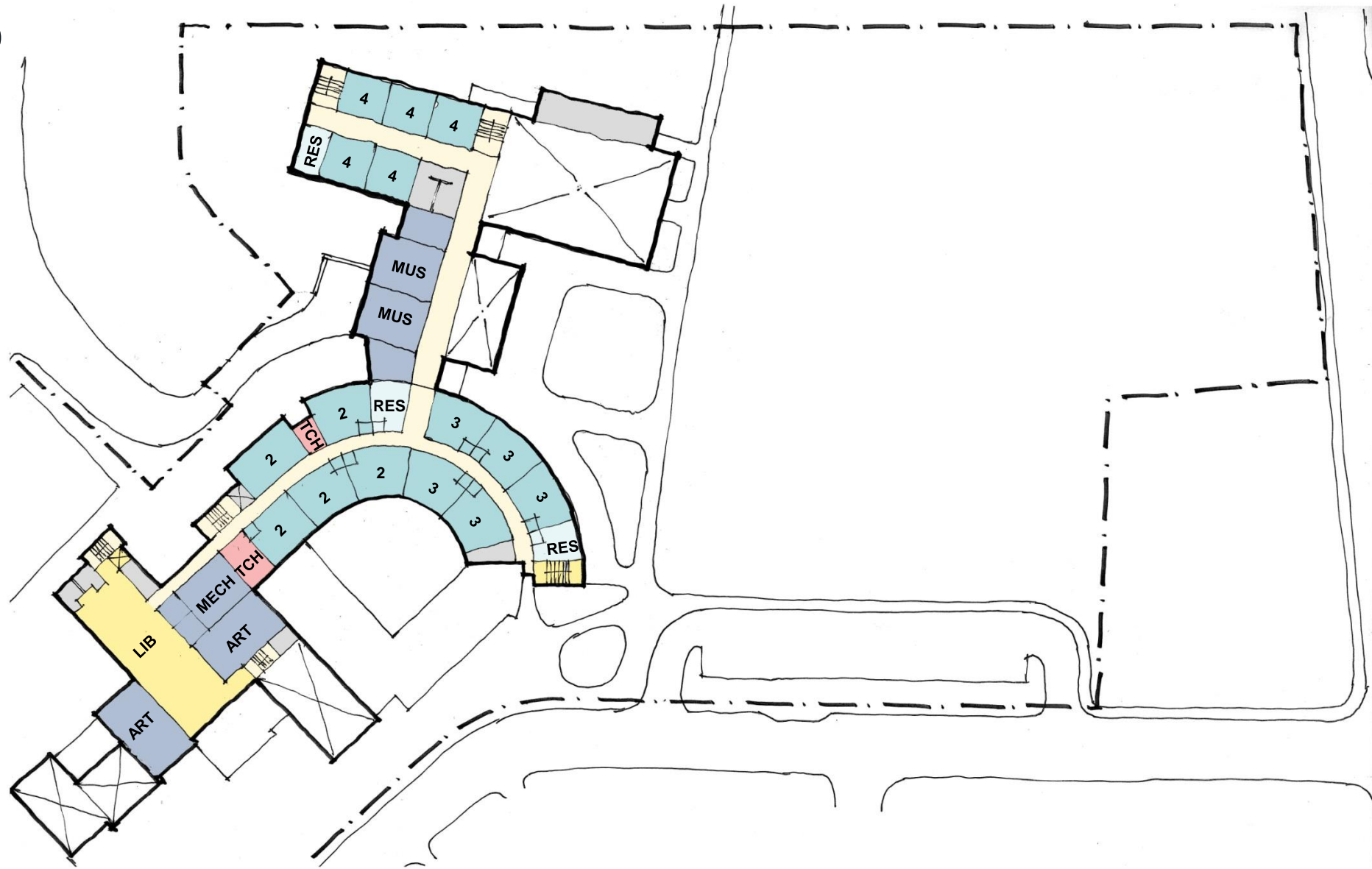
NORTH SCHEME REVISED



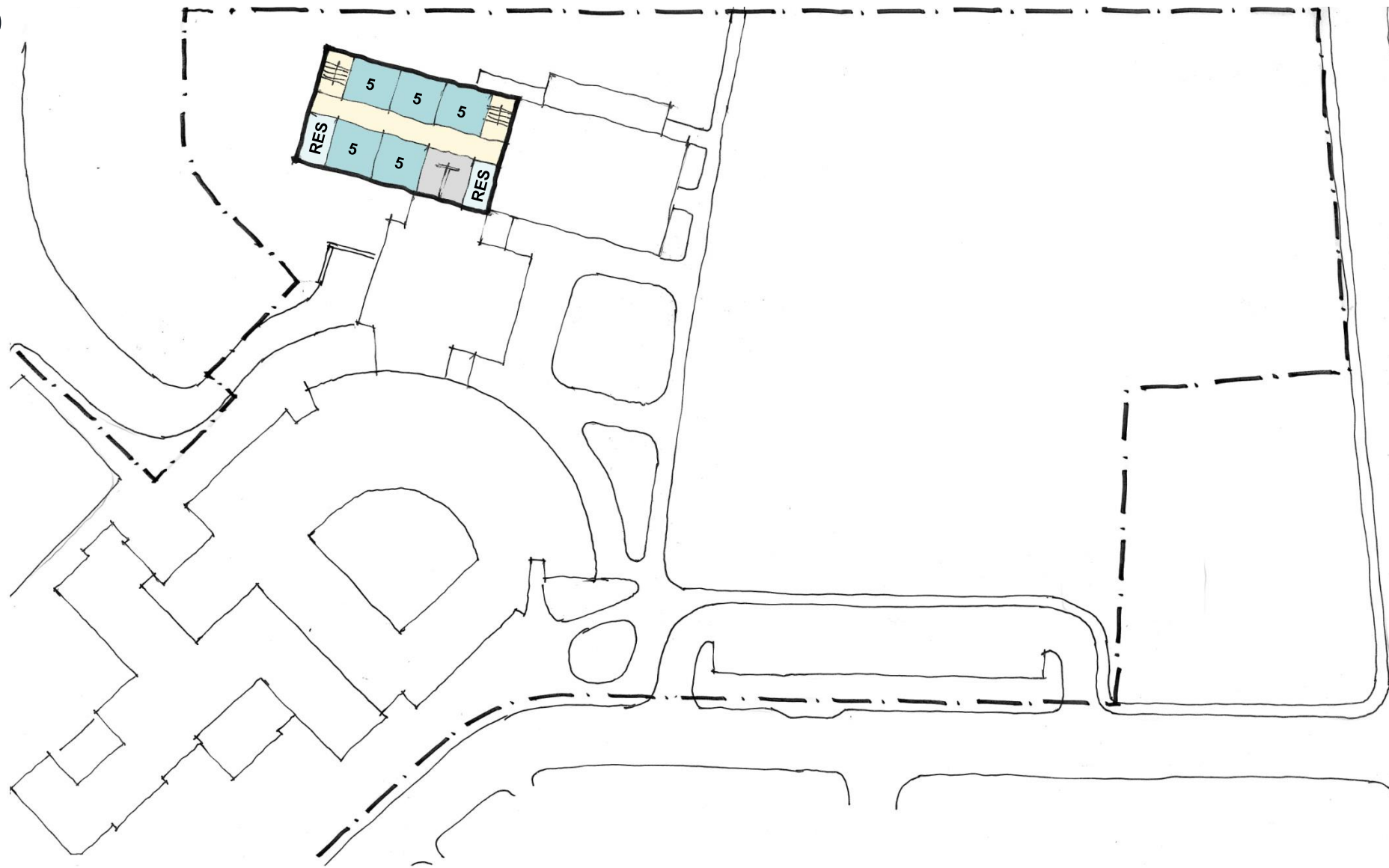
NORTH SCHEME OPTION B - REVISED



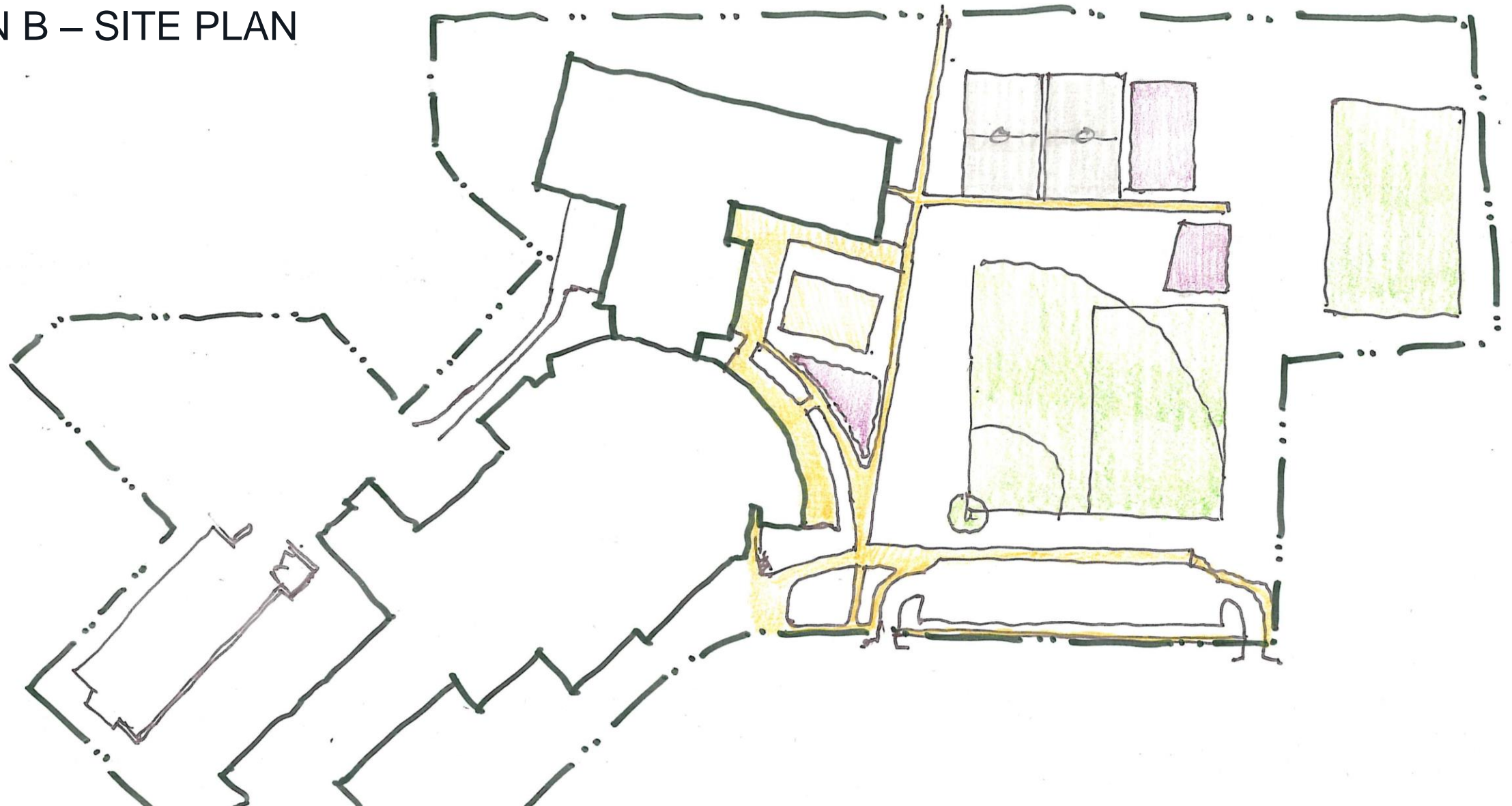
NORTH SCHEME OPTION B - REVISED



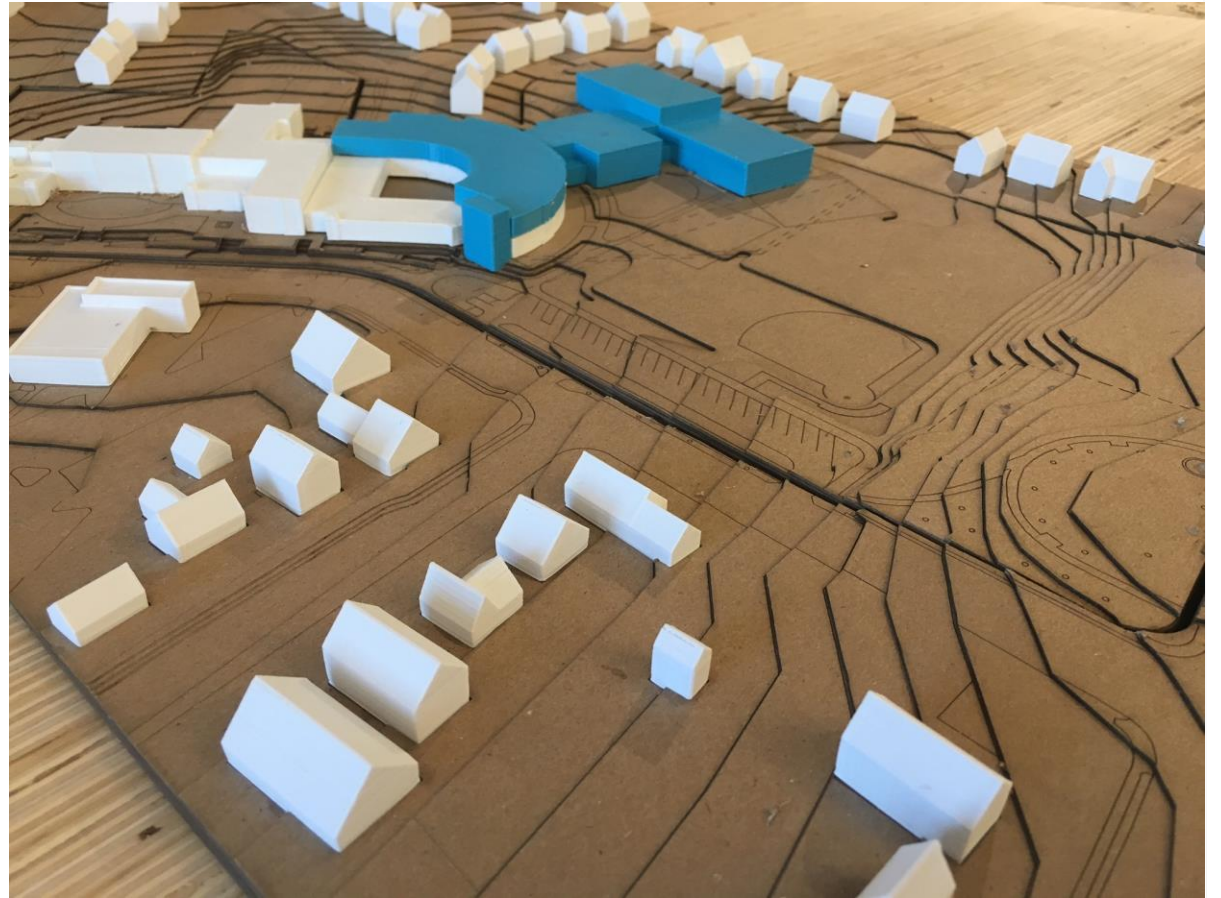
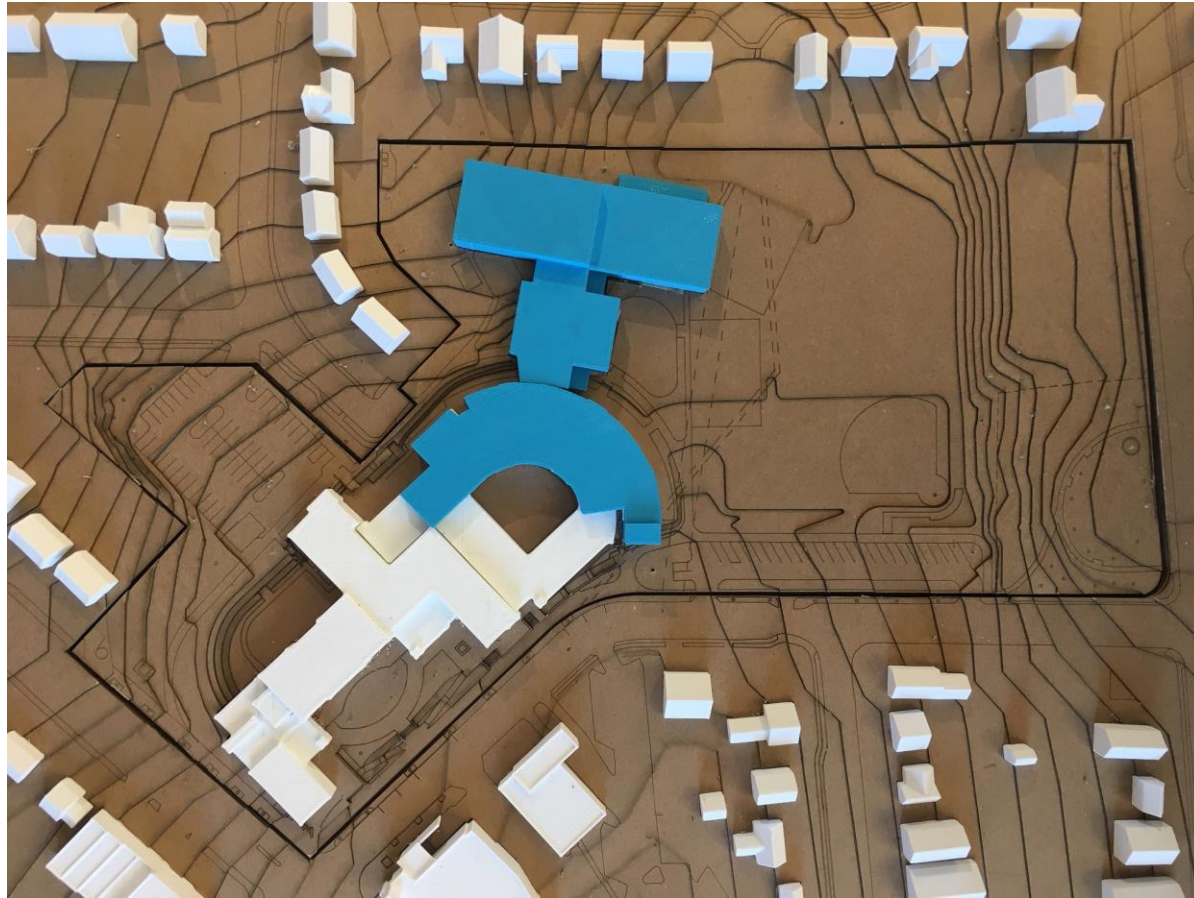
NORTH SCHEME OPTION B - REVISED



NORTH SCHEME OPTION B – SITE PLAN



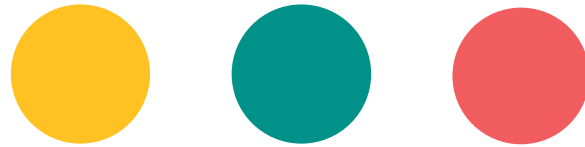
NORTH SCHEME MASSING MODEL



NORTH SCHEME PRECEDENT



EAST SCHEME



EAST SCHEME

Compact new building

Builds into hill

Clear views across site (both north/south and east west)

Preserves most all trees & green space behind library

Lightly renovates existing school

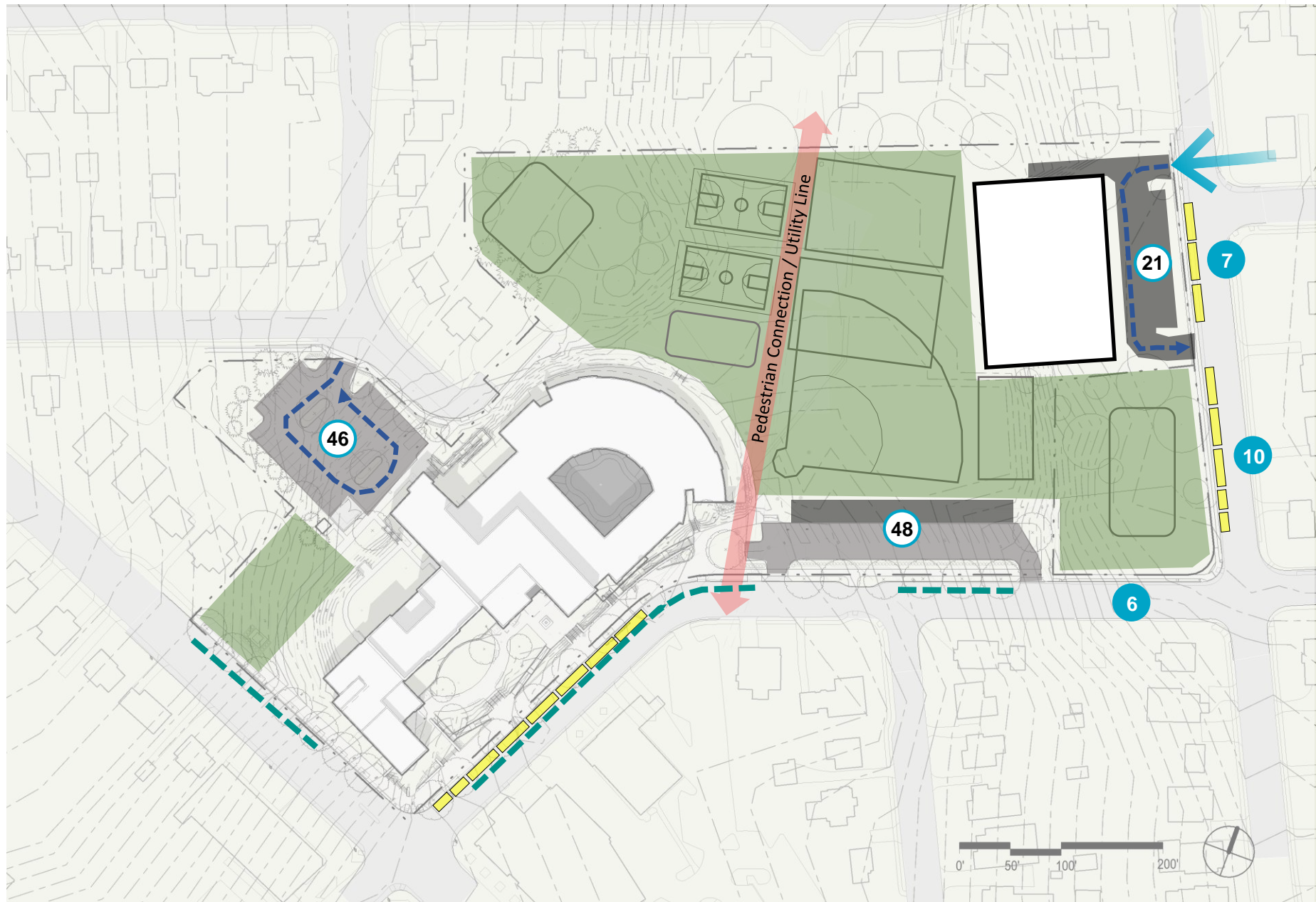
22,000 SF SF NEW BUILDING FOOTPRINT

12,500 SF SF NEW PARKING FOOTPRINT

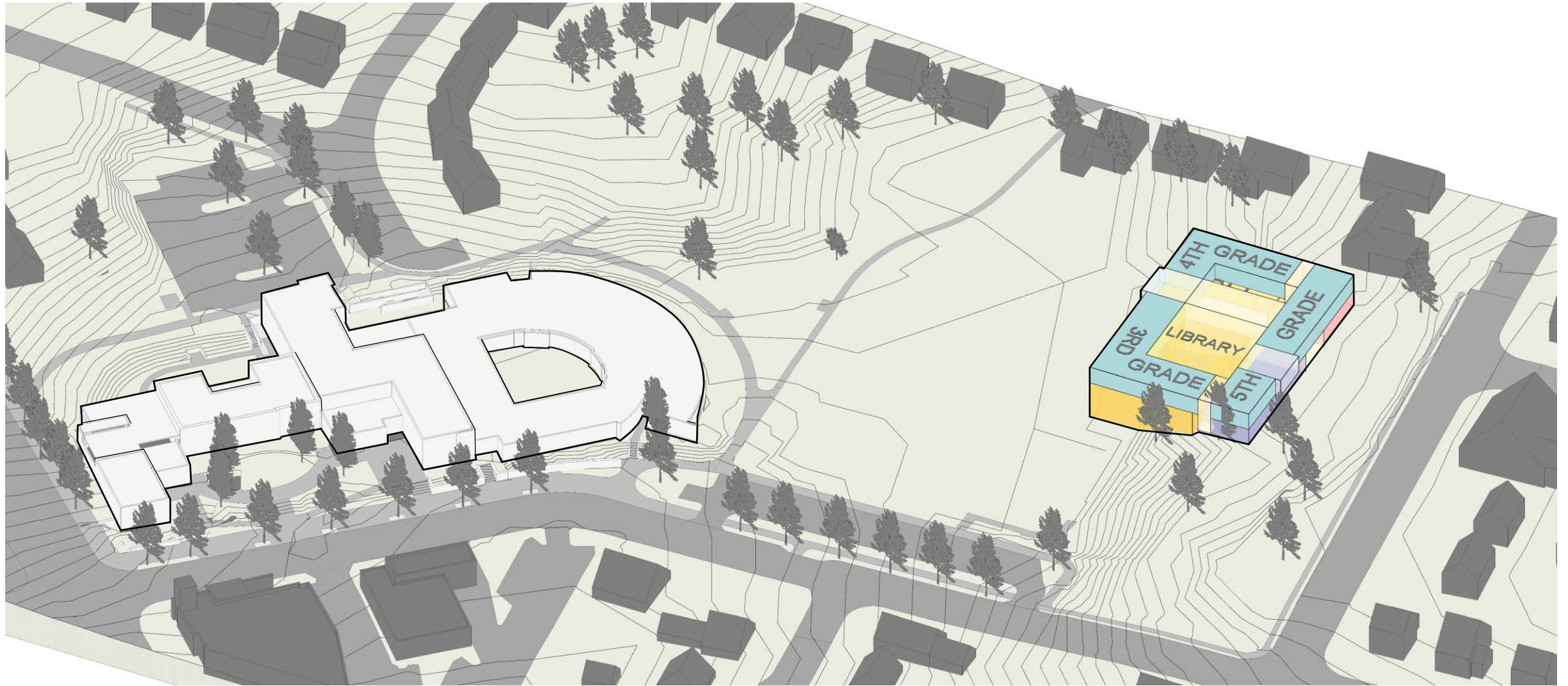
115 SPACES ON-SITE

23 SPACES ON-STREET

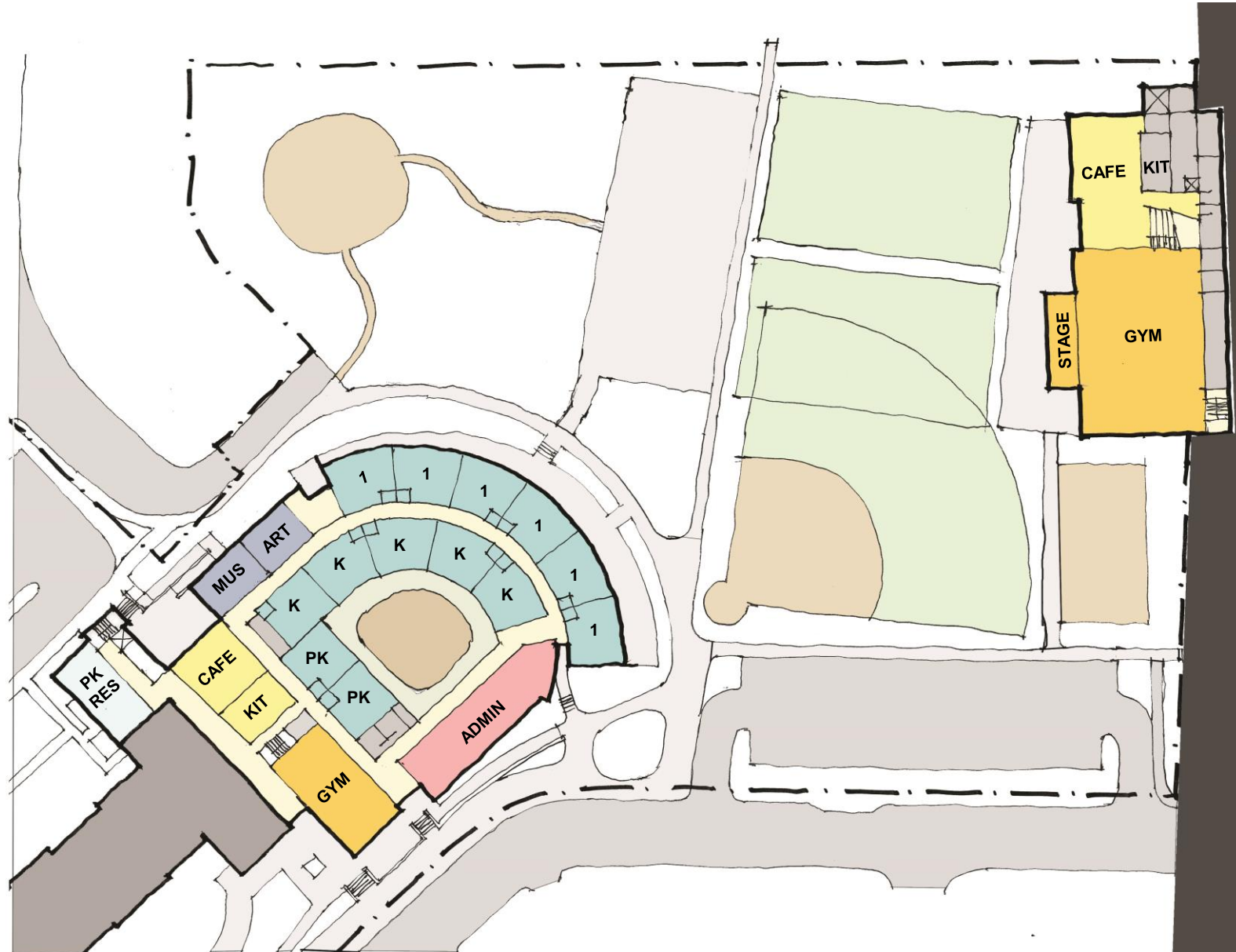
138 TOTAL SPACES



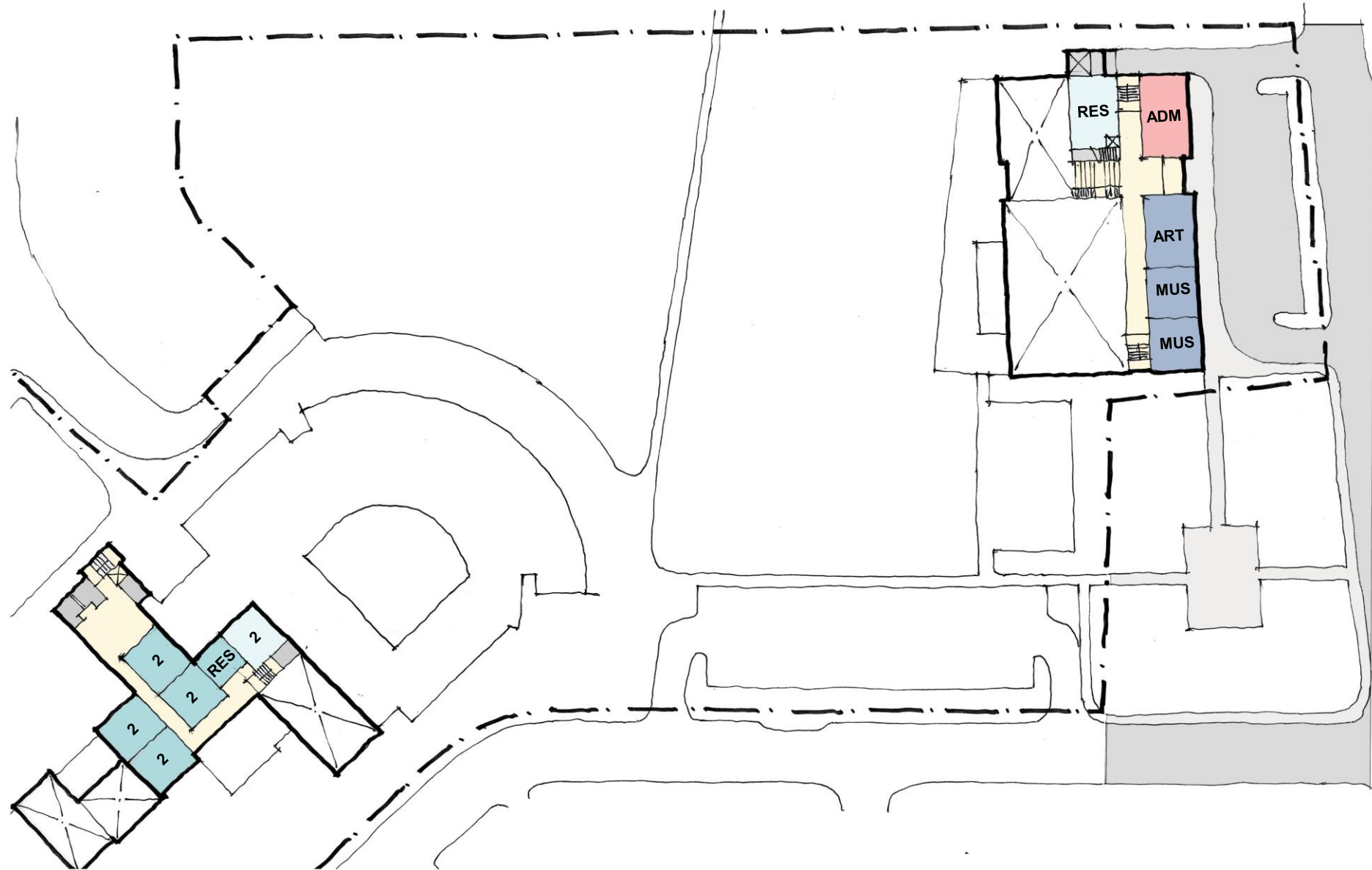
EAST SCHEME



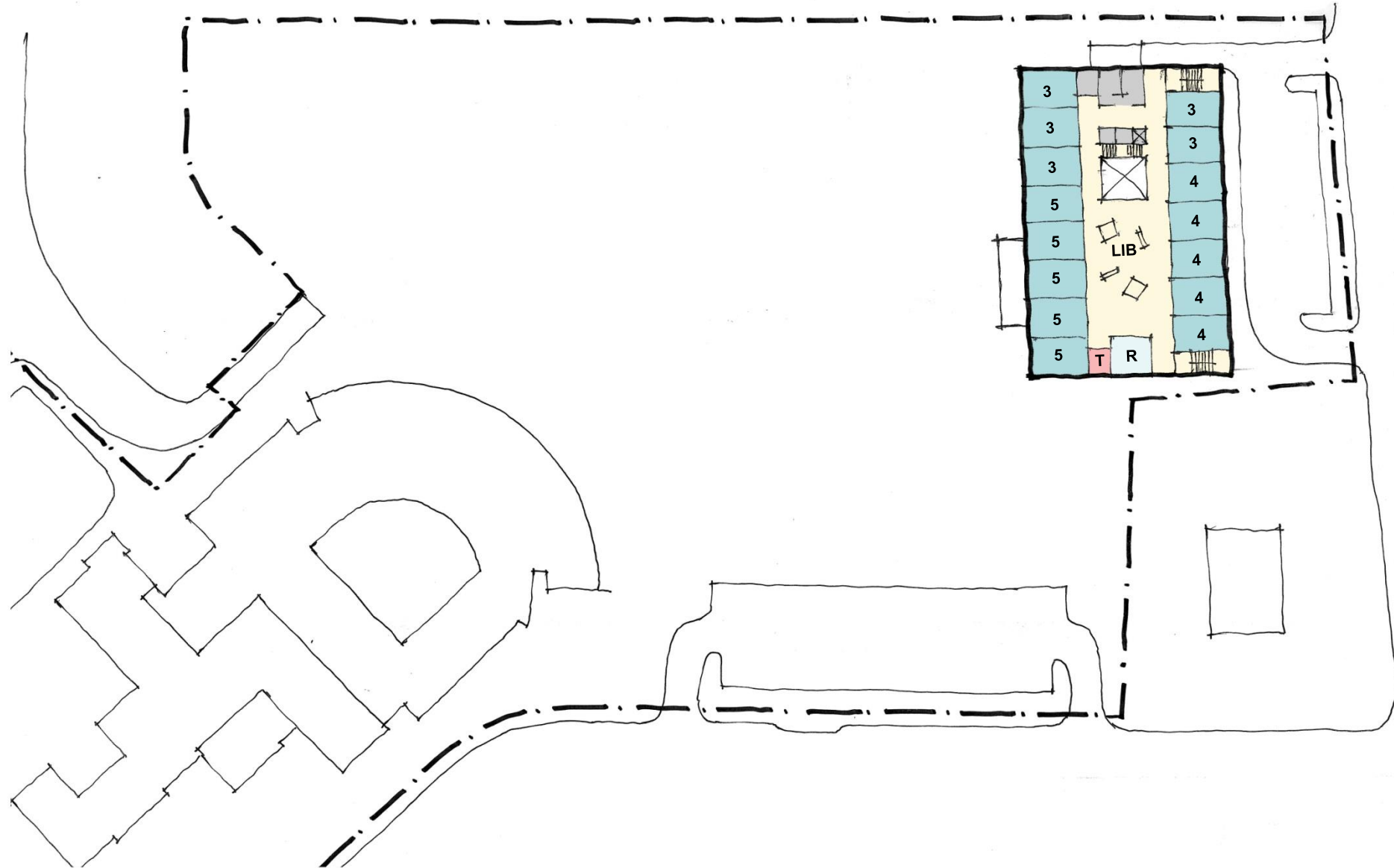
EAST SCHEME



EAST SCHEME



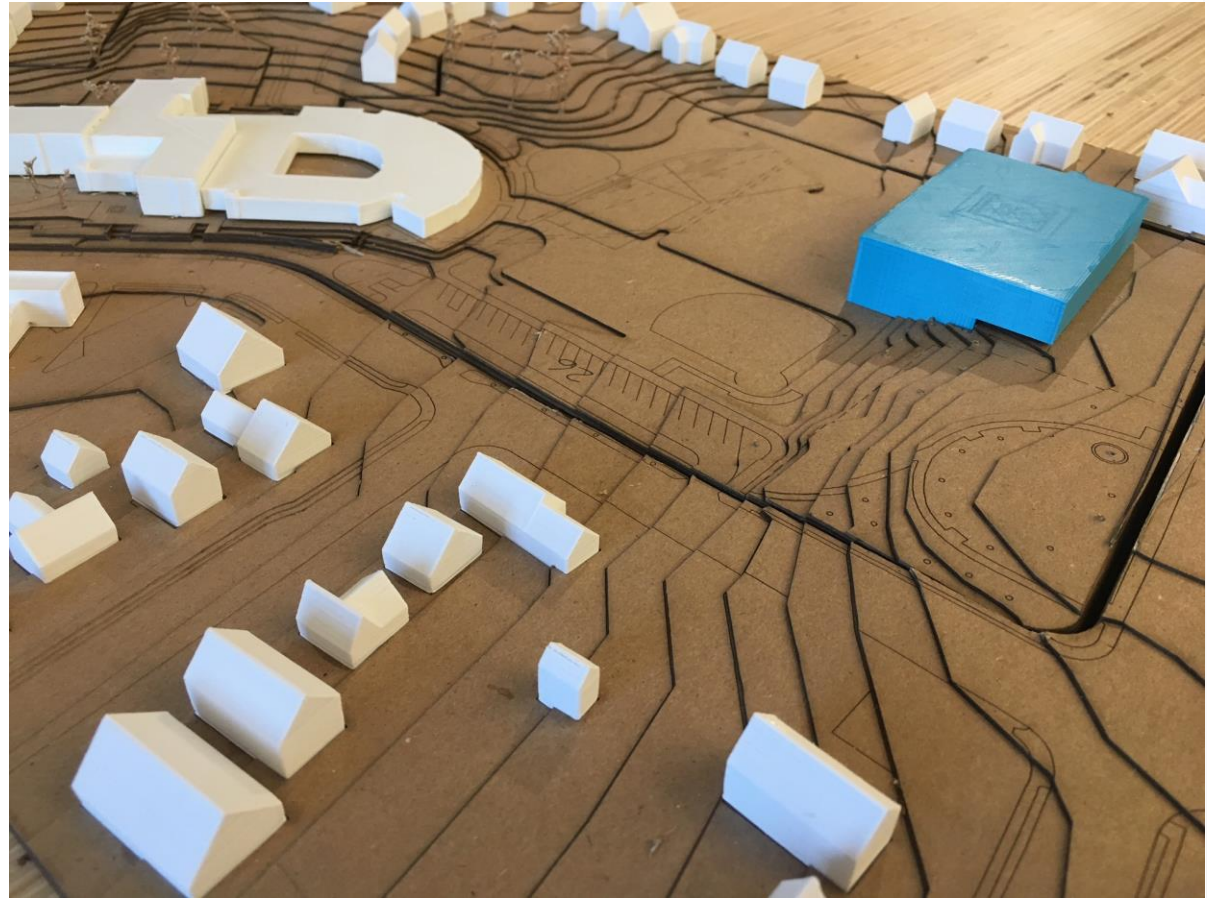
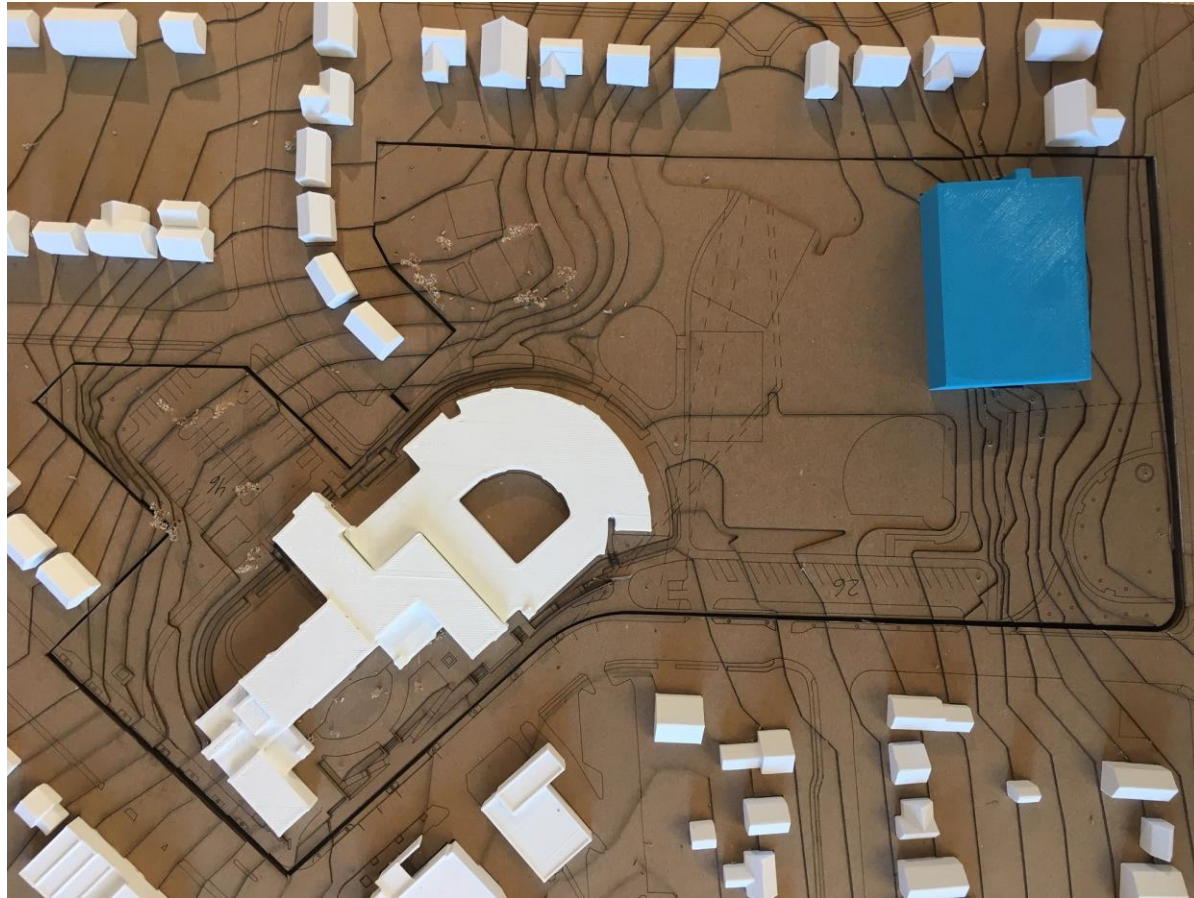
EAST SCHEME



EAST SCHEME SITE PLAN



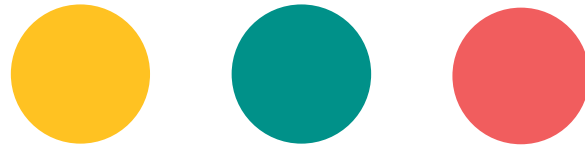
EAST SCHEME MASSING MODEL



EAST SCHEME PRECEDENT



SOUTH SCHEME



SOUTH SCHEME

New building addresses street in same manner as existing building

Contiguous open space oriented to residential side

Preserves most all trees

Smallest new building footprint

Could use corner park in some way

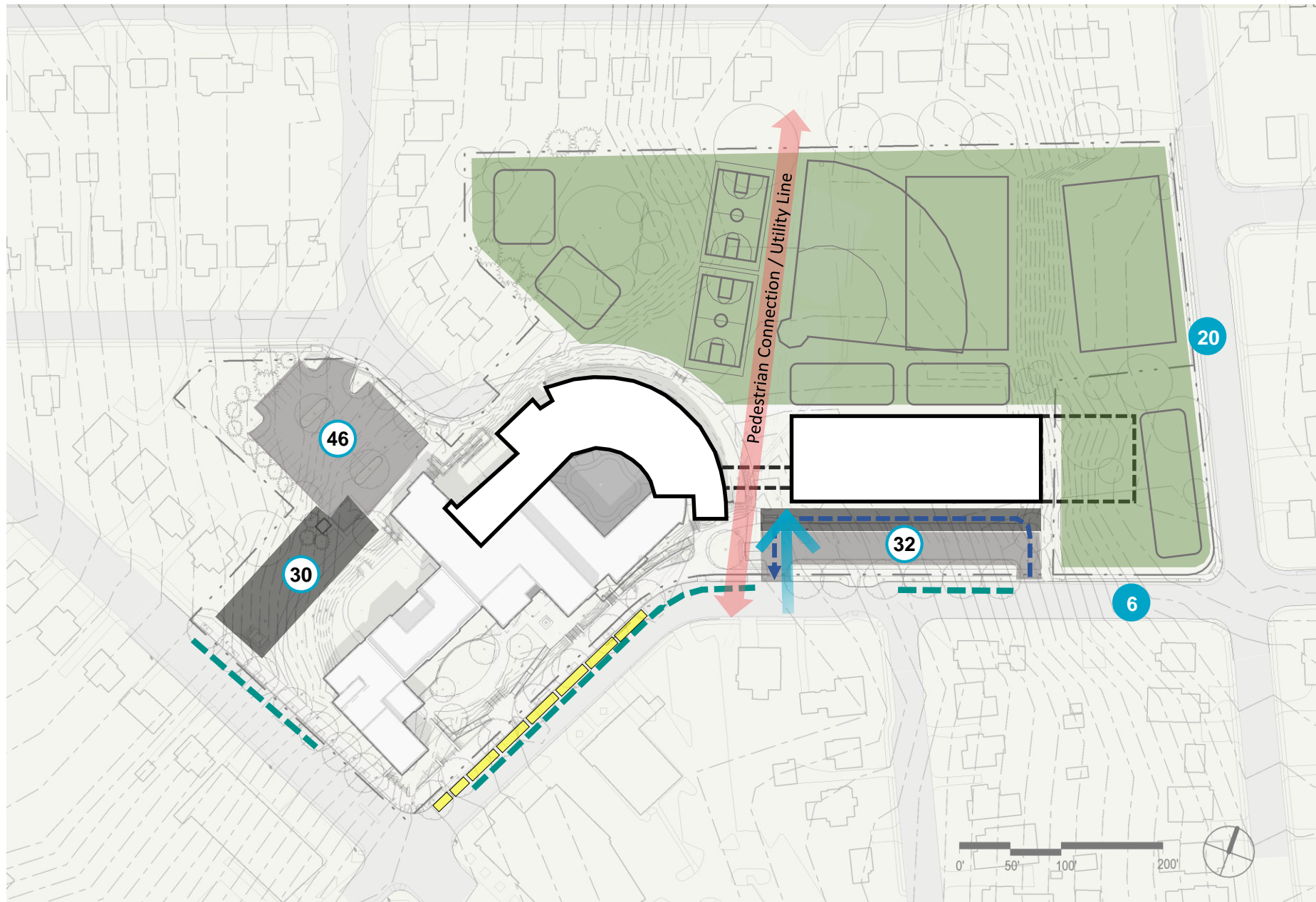
17,600 SF SF NEW BUILDING FOOTPRINT

12,100 SF SF NEW PARKING FOOTPRINT

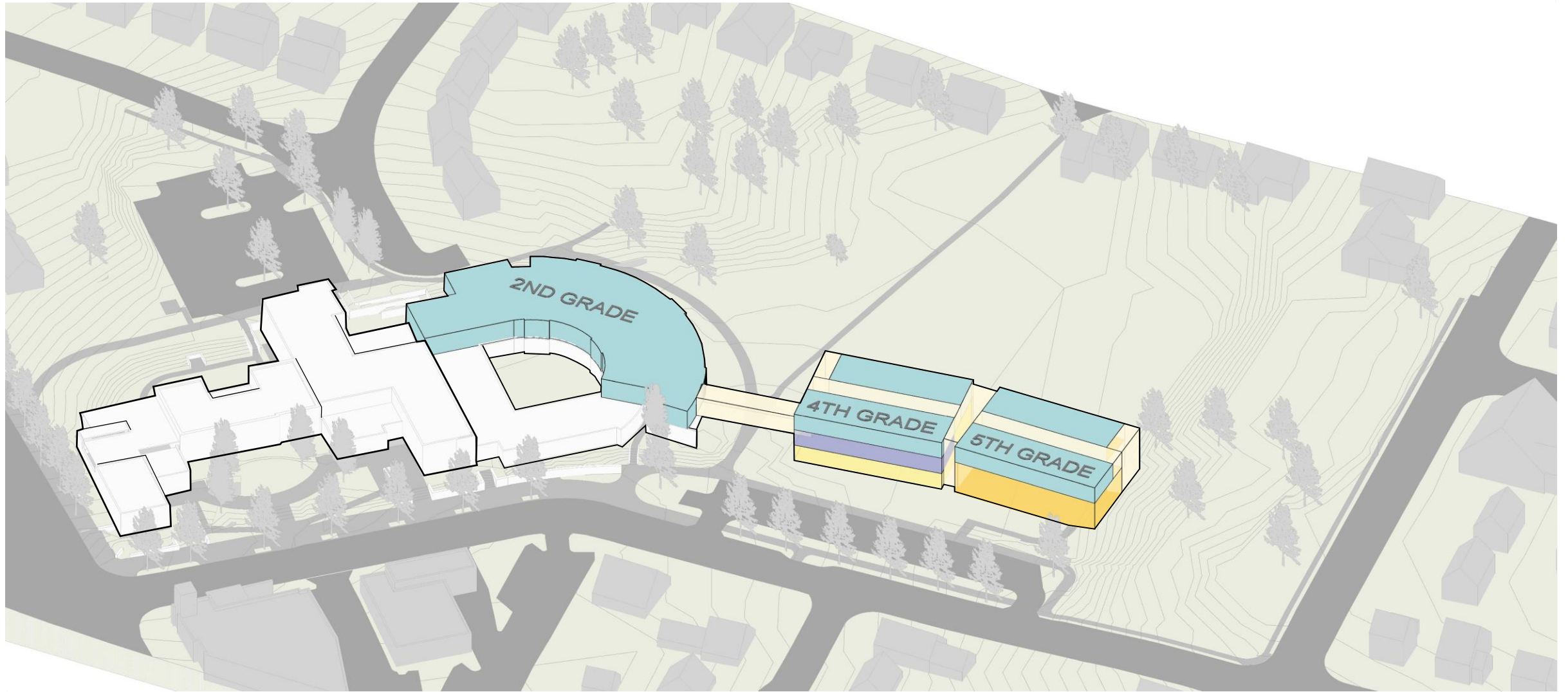
108 SPACES ON-SITE

26 SPACES ON-STREET

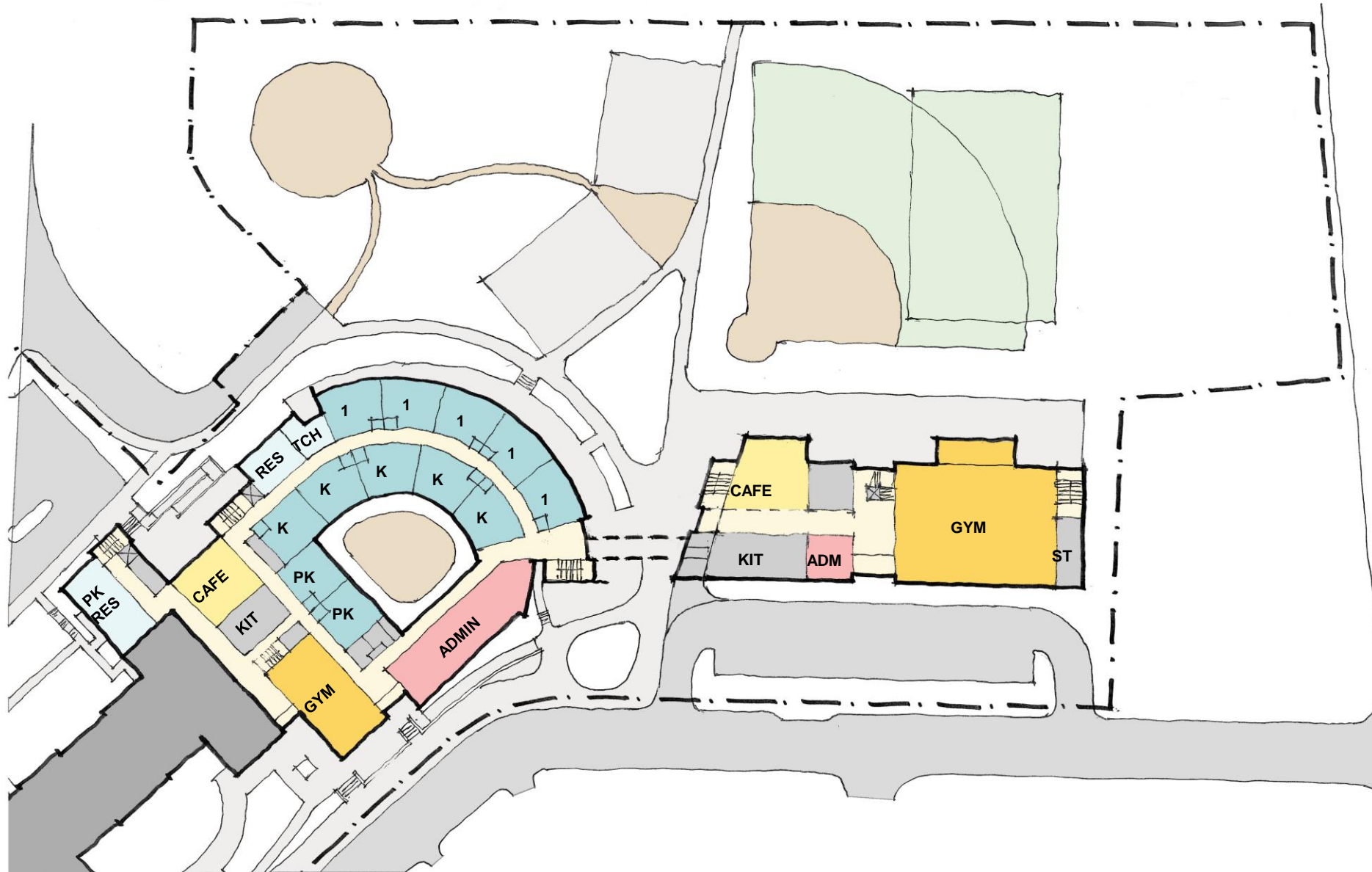
134 TOTAL SPACES



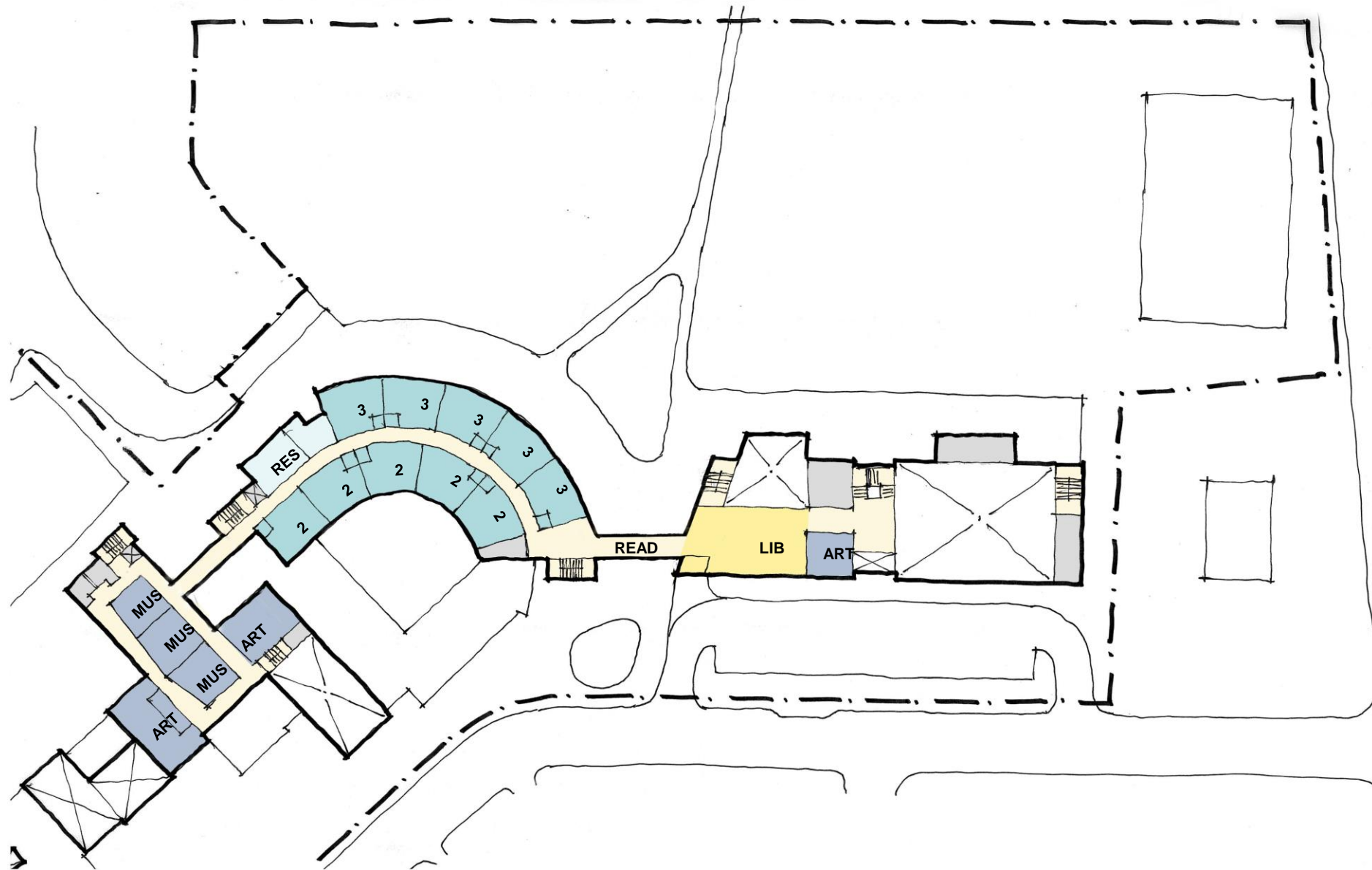
SOUTH SCHEME OPTION B



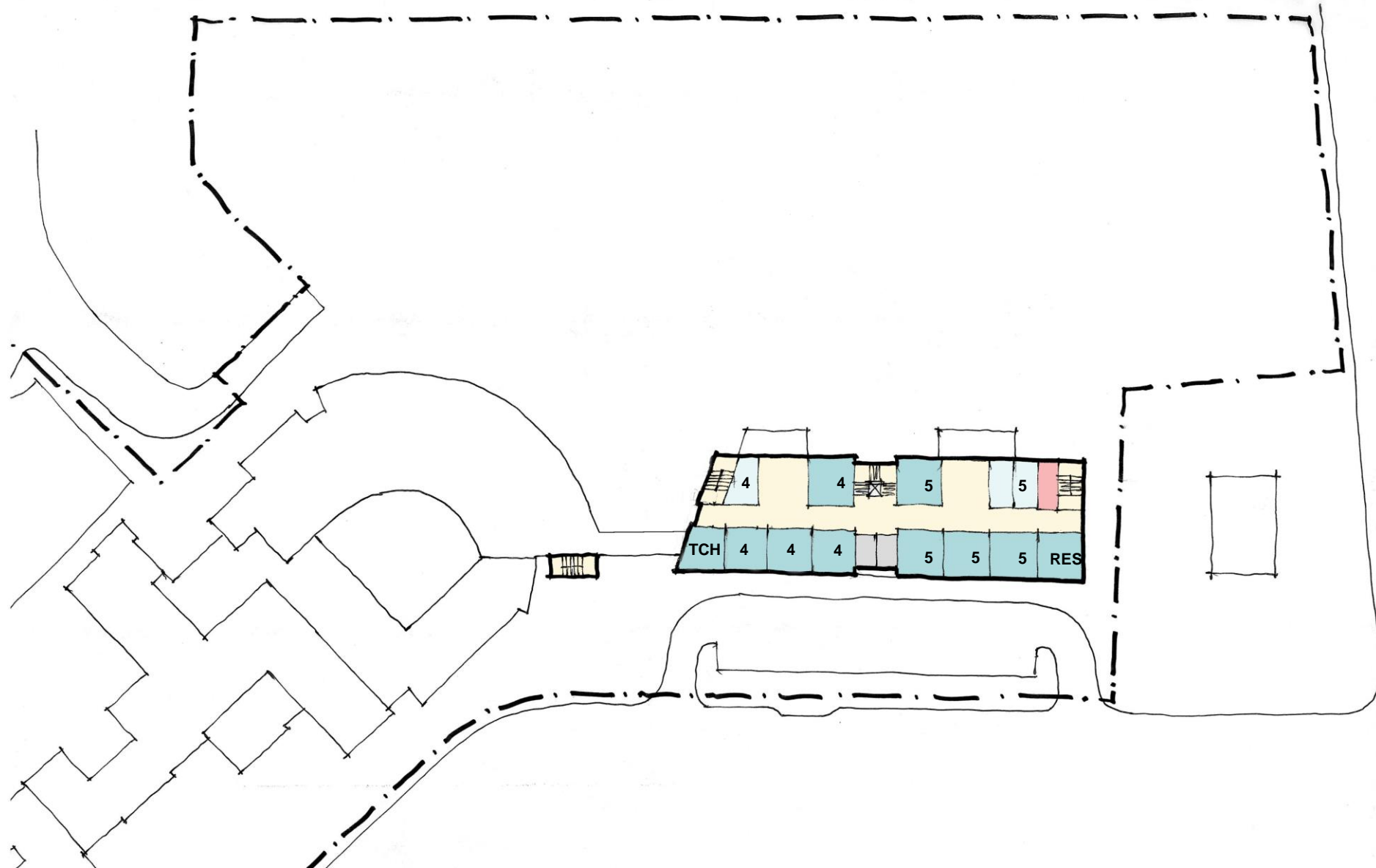
SOUTH SCHEME OPTION B



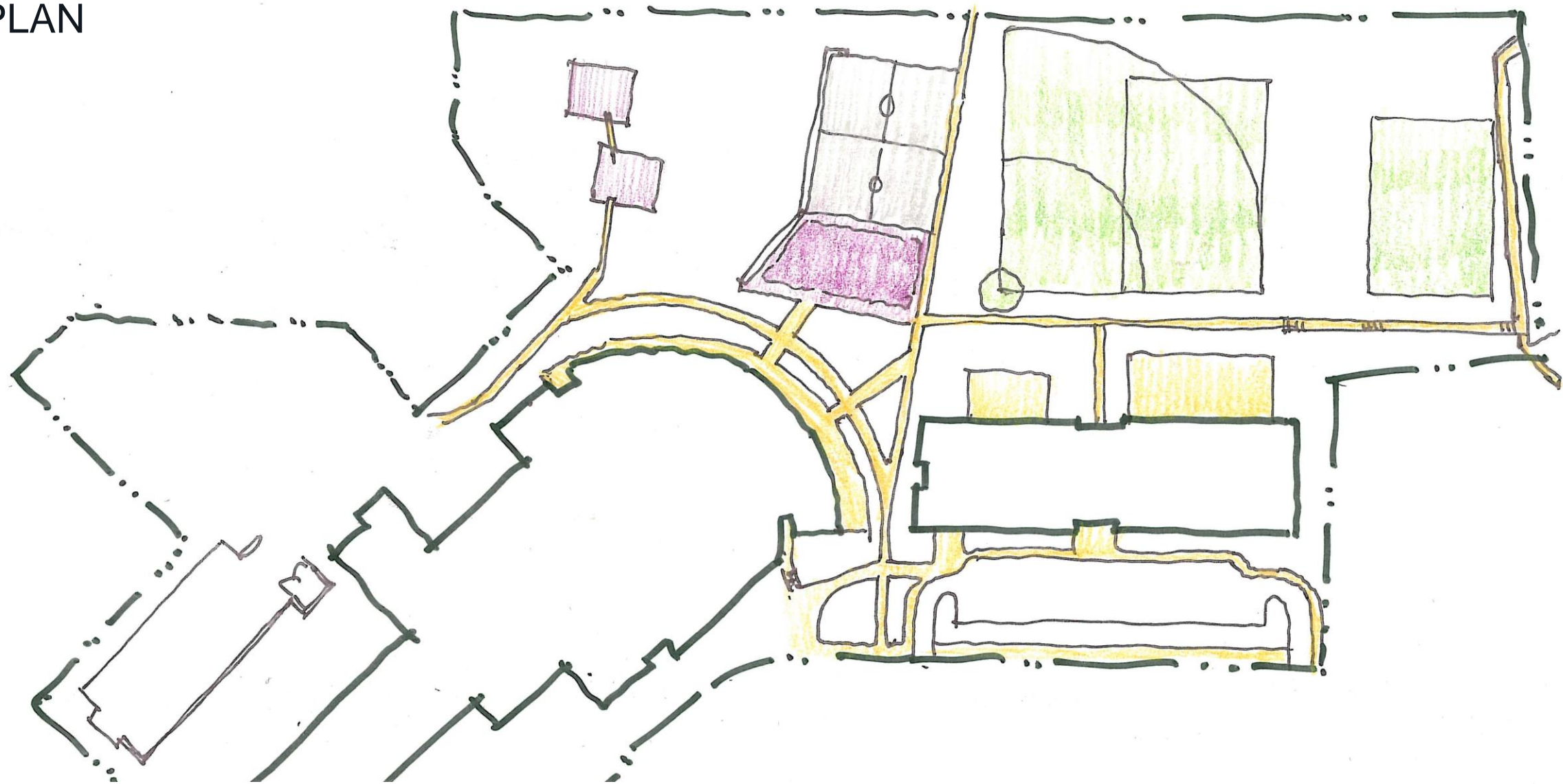
SOUTH SCHEME OPTION B



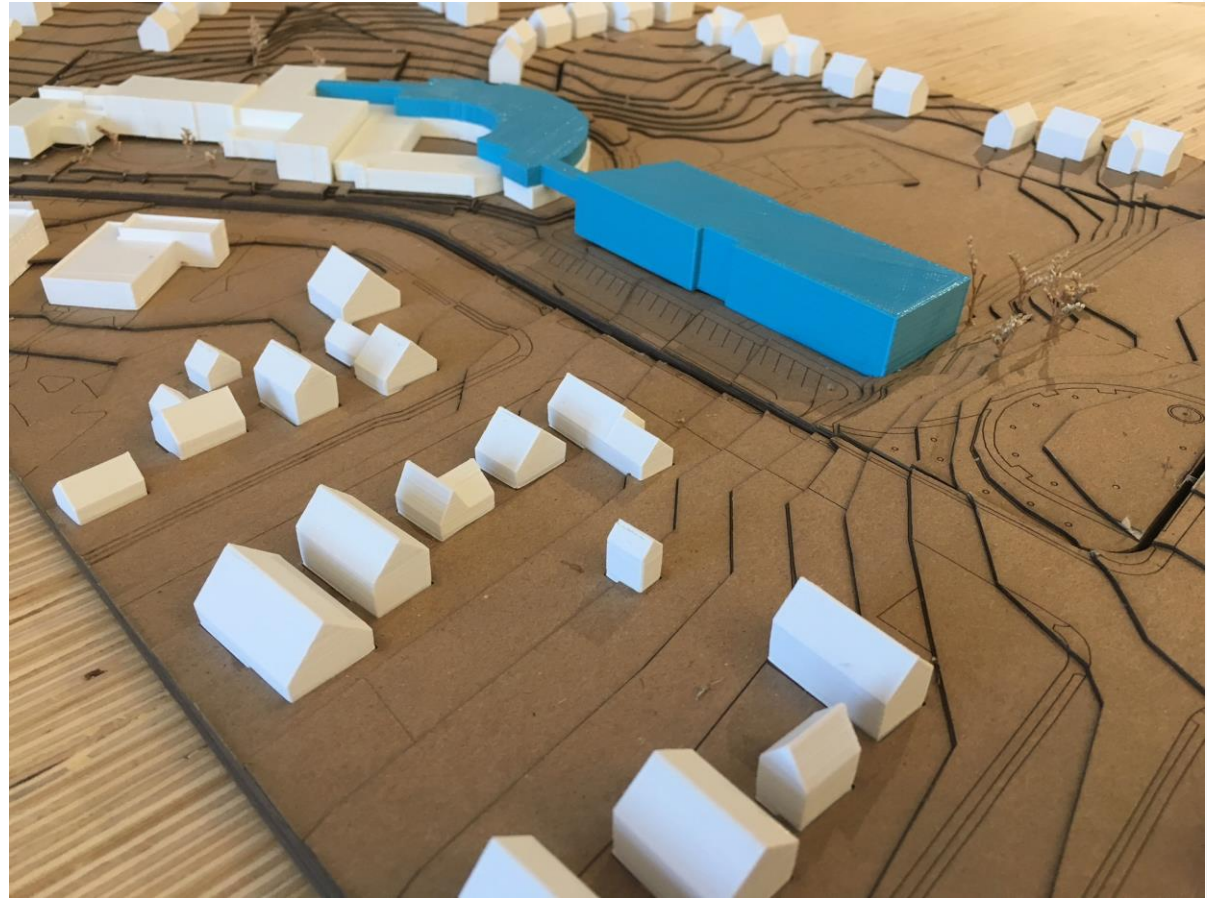
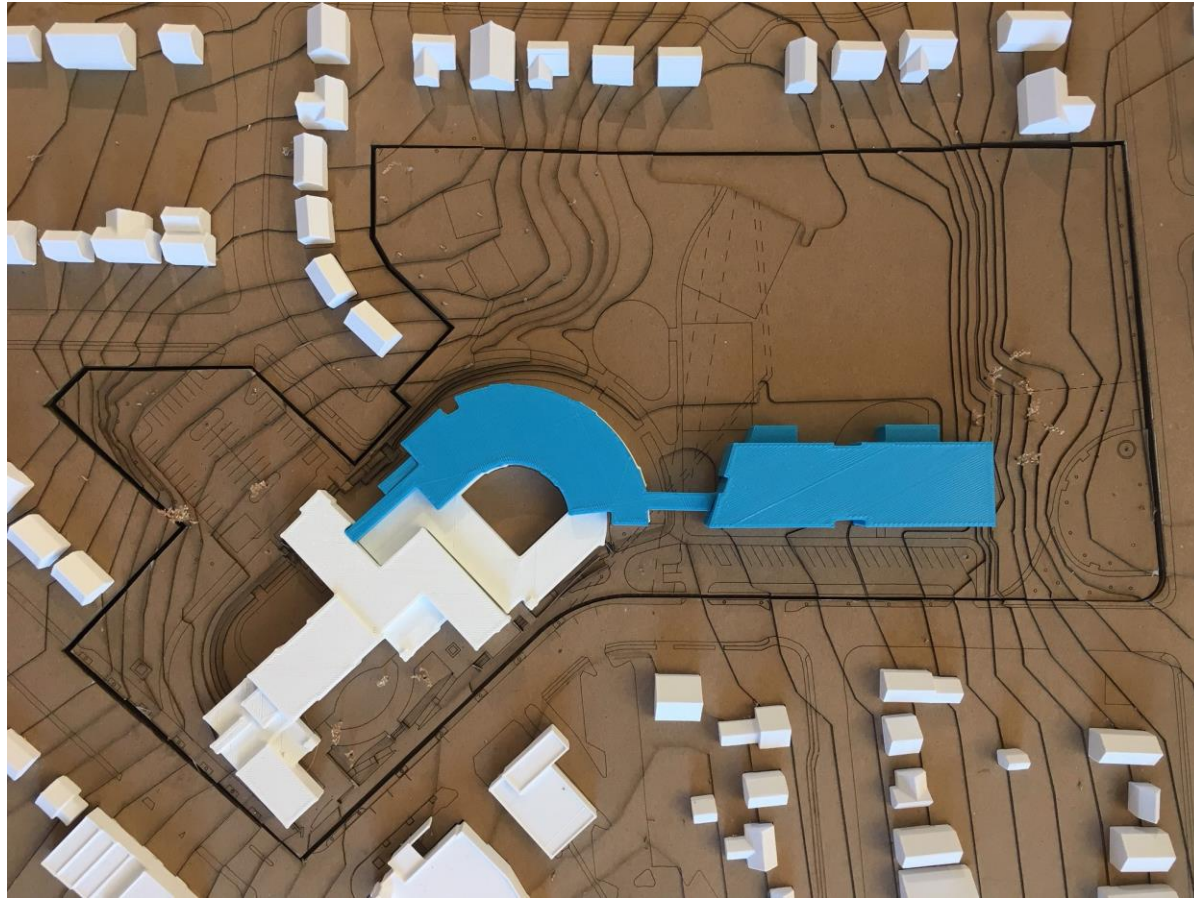
SOUTH SCHEME OPTION B



SOUTH SCHEME SITE PLAN



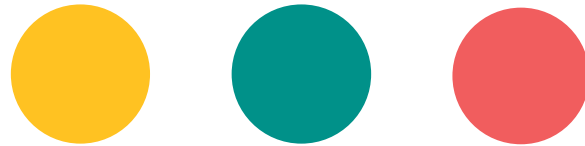
SOUTH SCHEME MASSING MODEL



SOUTH SCHEME PRECEDENT



PARTIAL REPLACEMENT SCHEME



PARTIAL REPLACEMENT SCHEME

Demolish single story part of existing building and replace with new building

Widen interior courtyard

Preserves all trees and green space

Smallest new building footprint

26,200 SF SF BUILDING DEMO FOOTPRINT

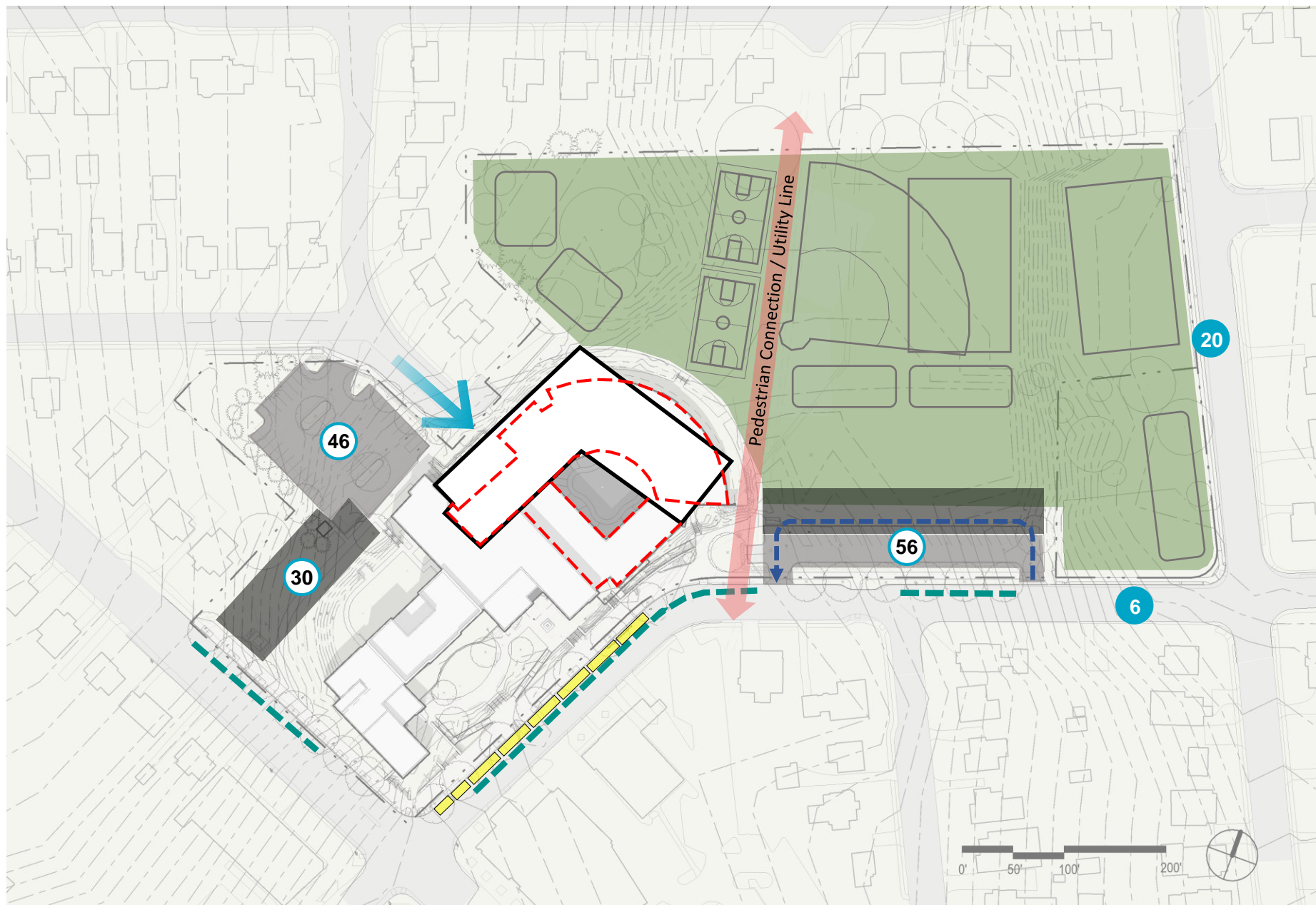
25,000 SF SF NEW BUILDING FOOTPRINT

12,100 SF SF NEW PARKING FOOTPRINT

132 SPACES ON-SITE

26 SPACES ON-STREET

158 TOTAL SPACES



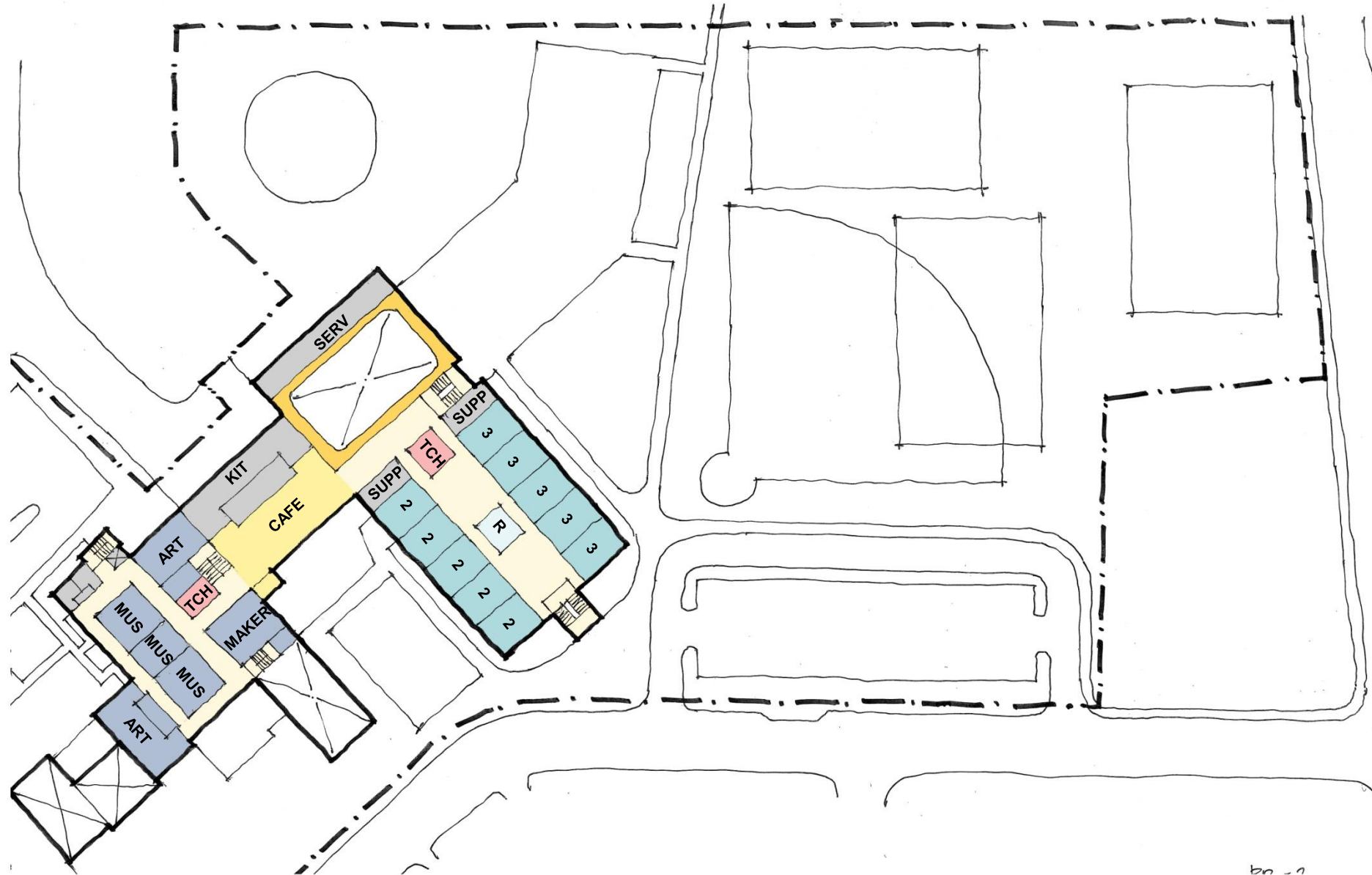
PARTIAL REPLACEMENT SCHEME



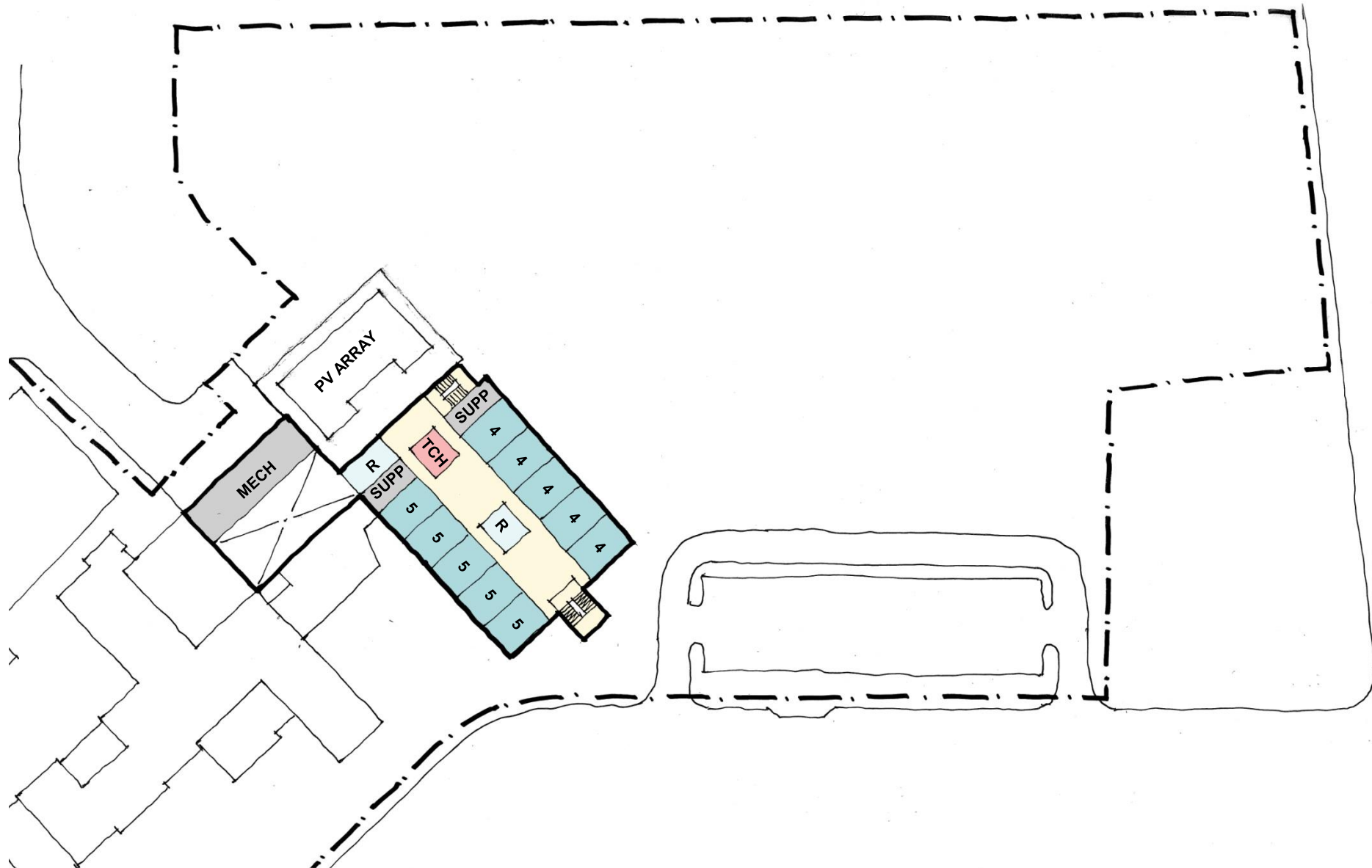
PARTIAL REPLACEMENT SCHEME



PARTIAL REPLACEMENT SCHEME

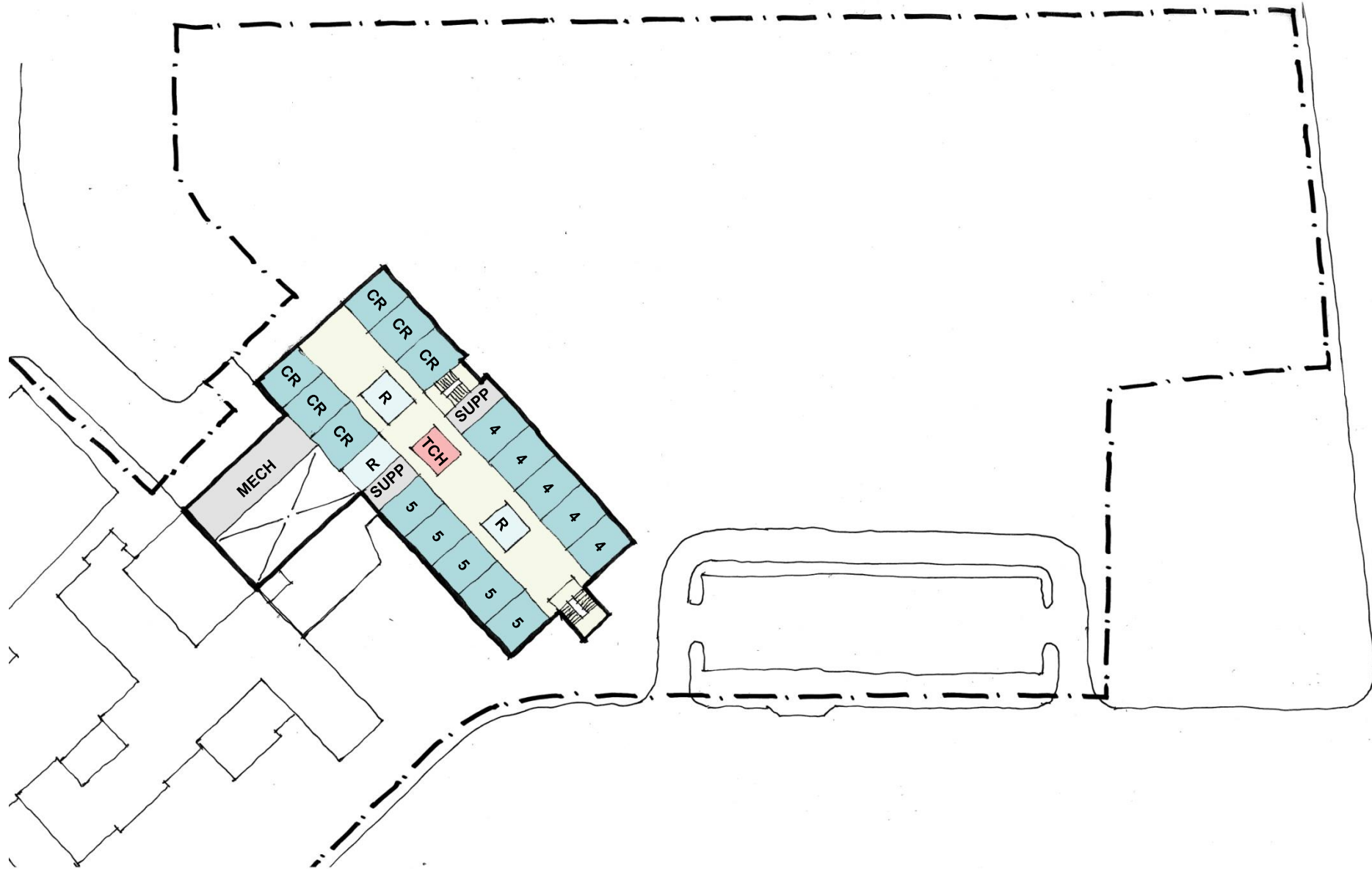


PARTIAL REPLACEMENT SCHEME



PARTIAL REPLACEMENT SCHEME ALTERNATE

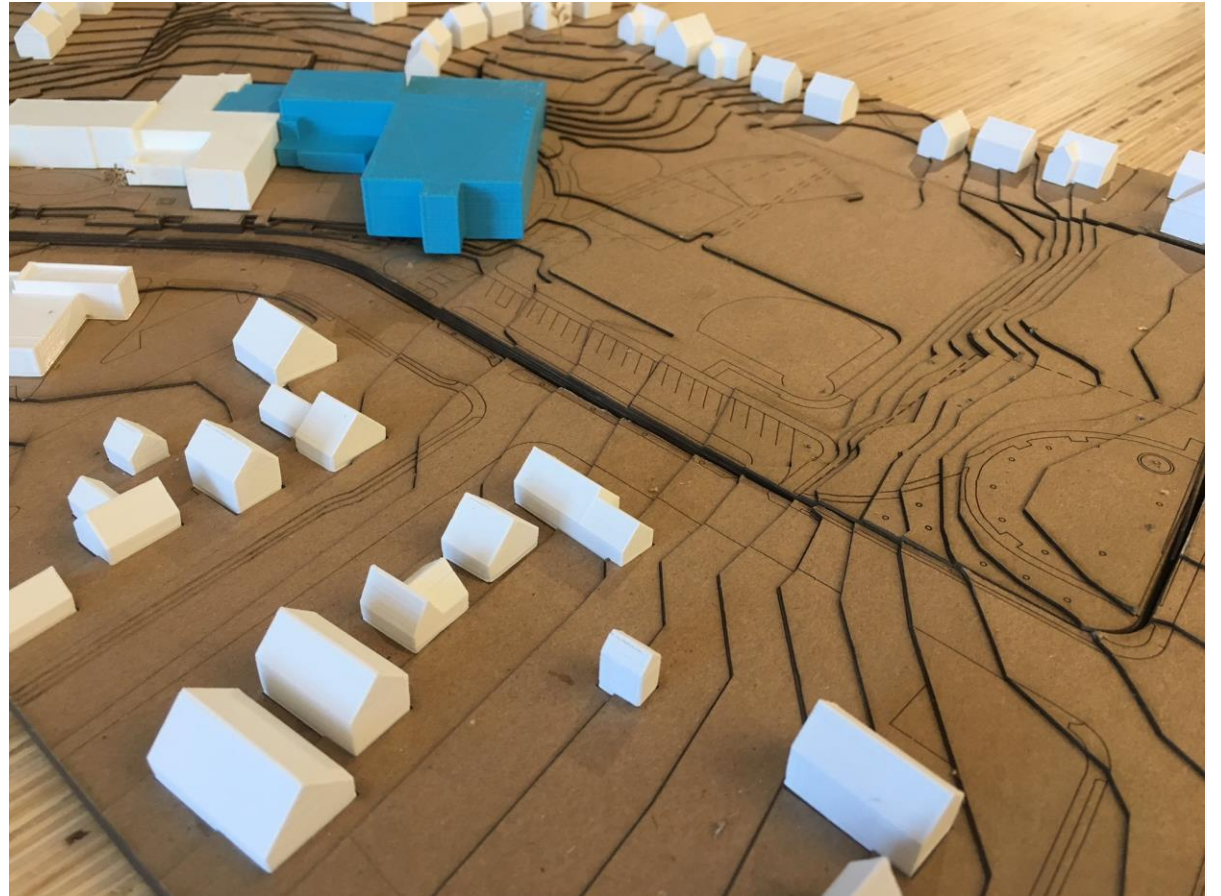
Added Capacity:
+150 Students



PARTIAL REPLACEMENT SCHEME



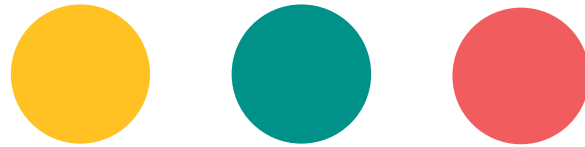
PARTIAL REPLACEMENT SCHEME MASSING MODEL



**PARTIAL
REPLACEMENT
SCHEME
PRECEDENT**



STAND-ALONE SCHEME



STAND-ALONE SCHEME

New building addresses street in same manner as existing building

Contiguous open space oriented to residential side

Preserves most all trees

Uses corner park

Doesn't touch existing building

Loses Open Green Space

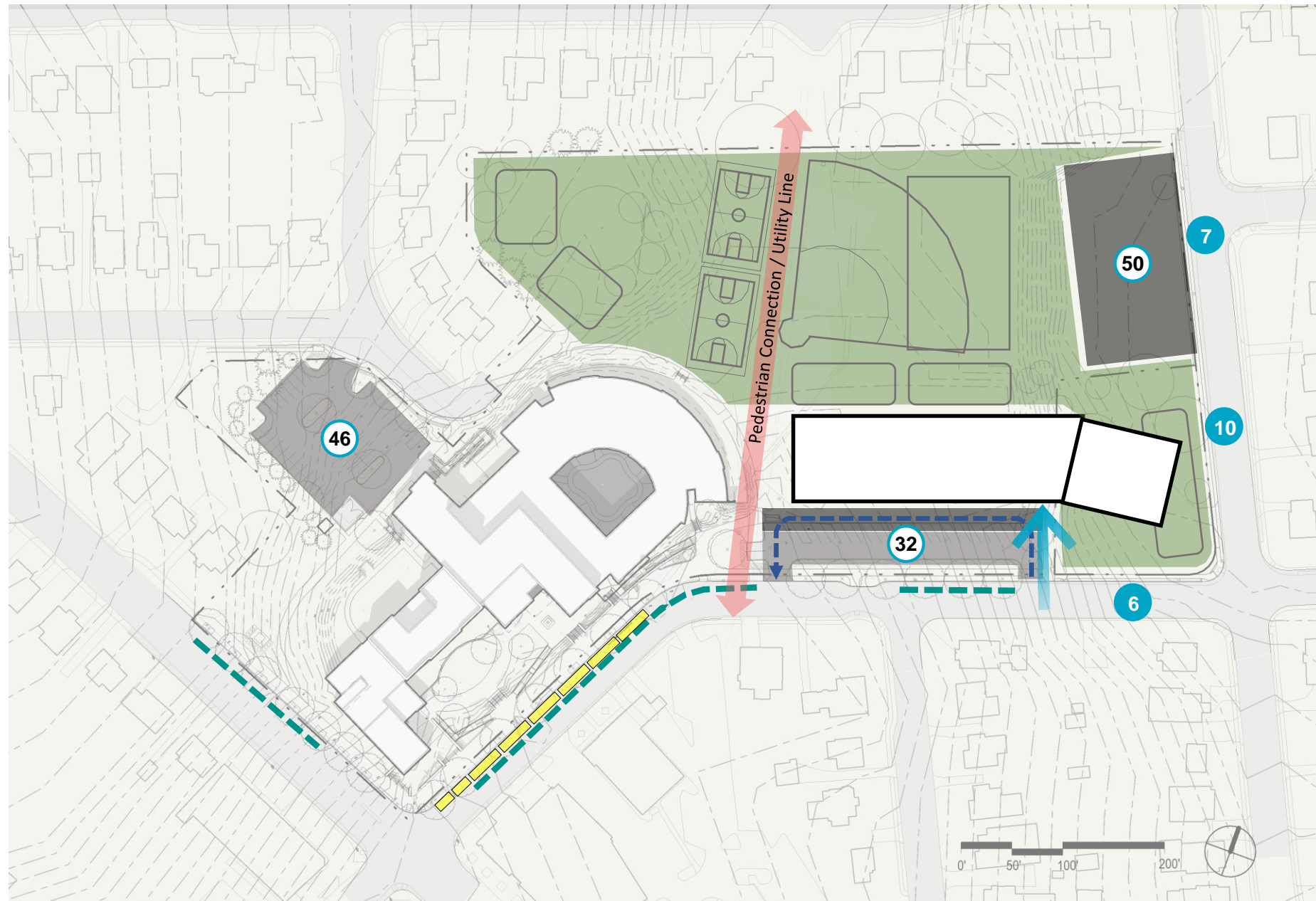
40,300 SF SF NEW BUILDING FOOTPRINT

24,000 SF SF NEW PARKING FOOTPRINT

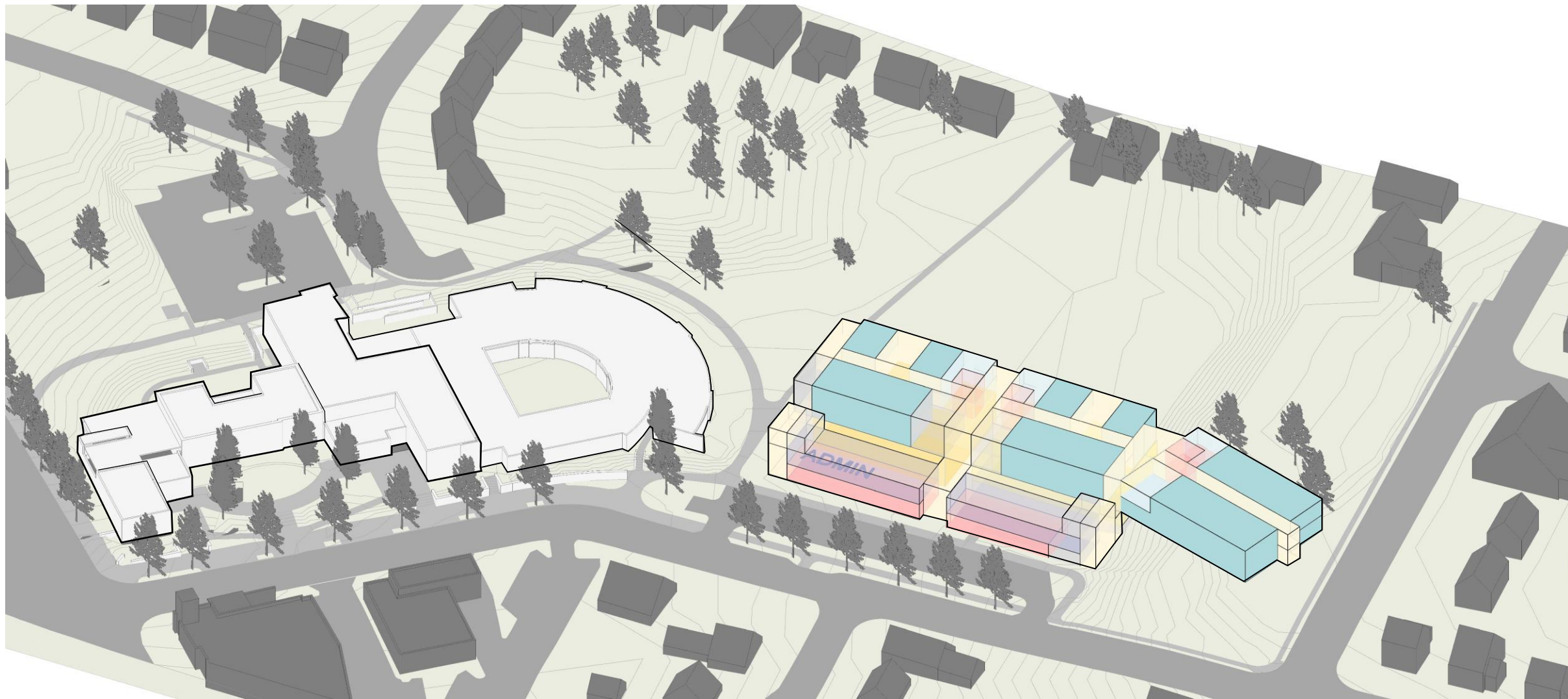
128 SPACES ON-SITE

23 SPACES ON-STREET

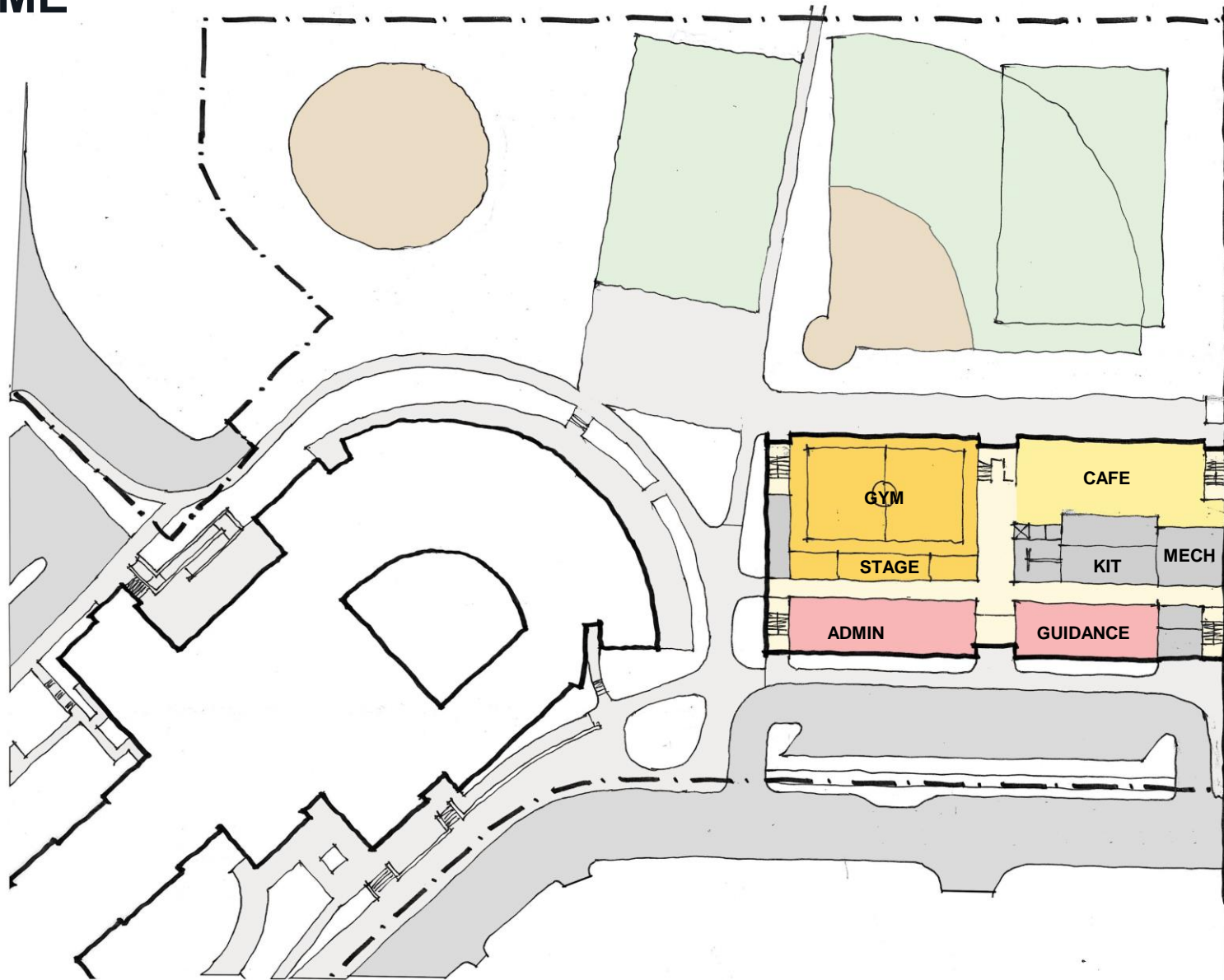
141 TOTAL SPACES



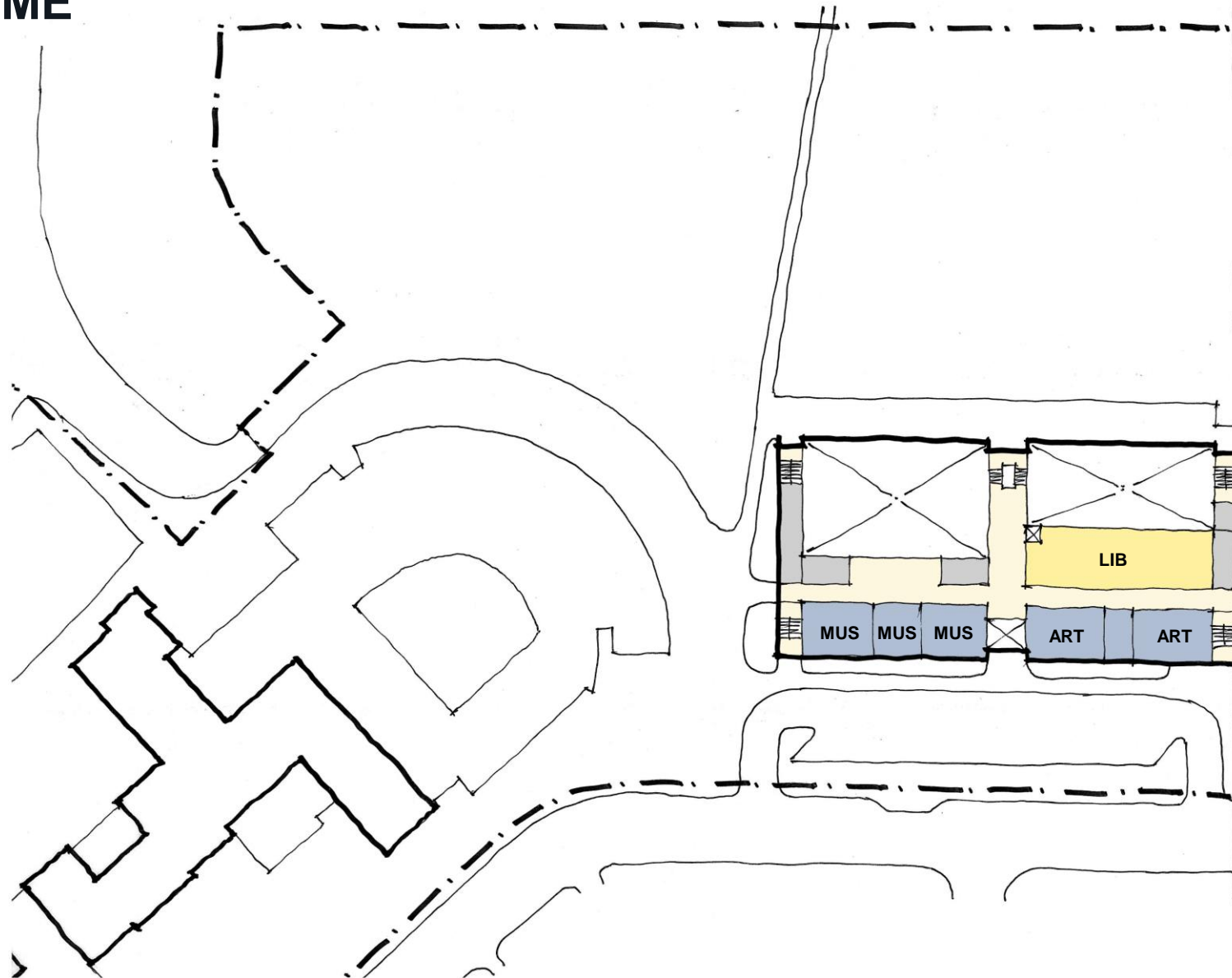
STANDALONE SCHEME



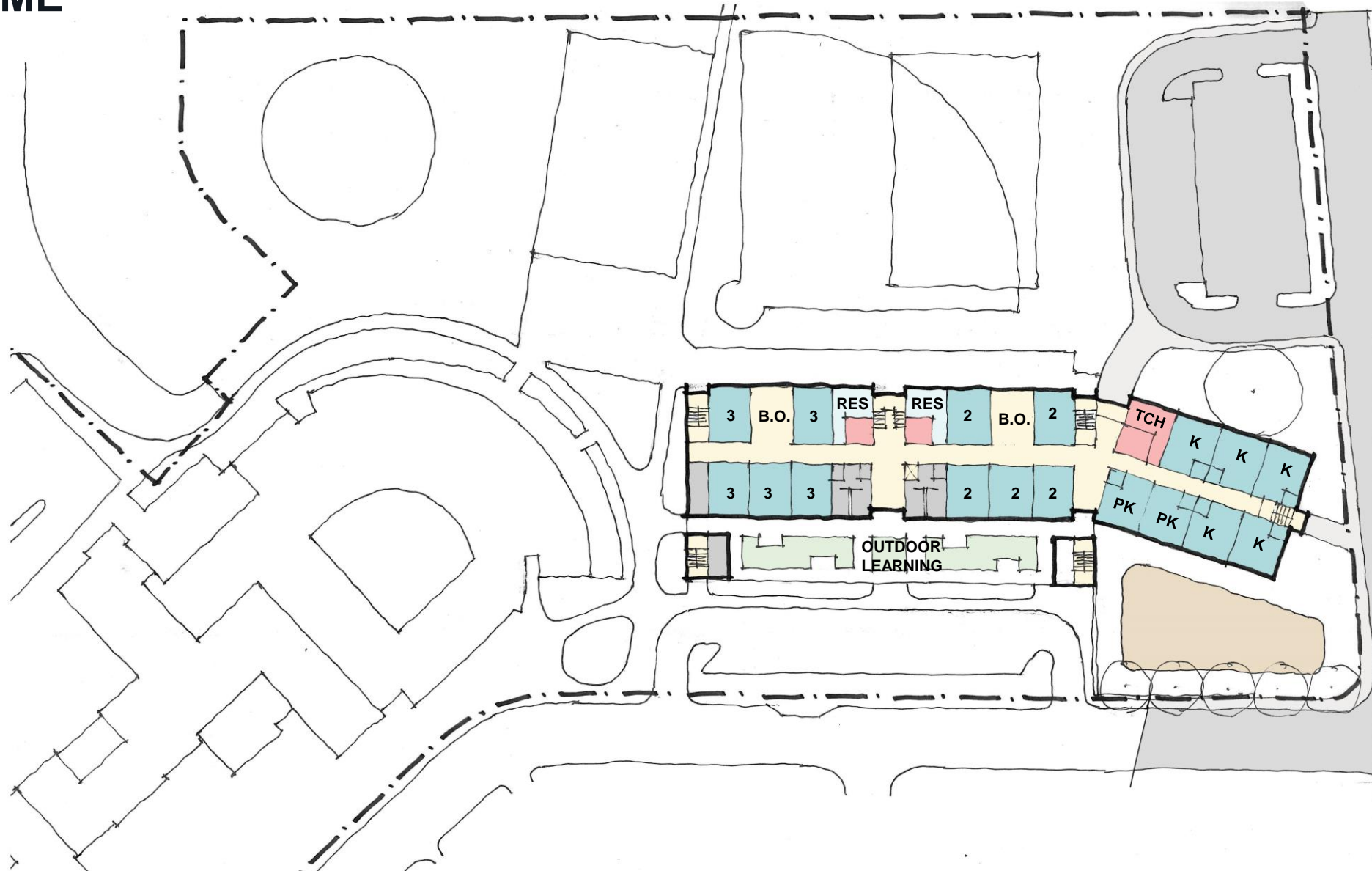
STANDALONE SCHEME



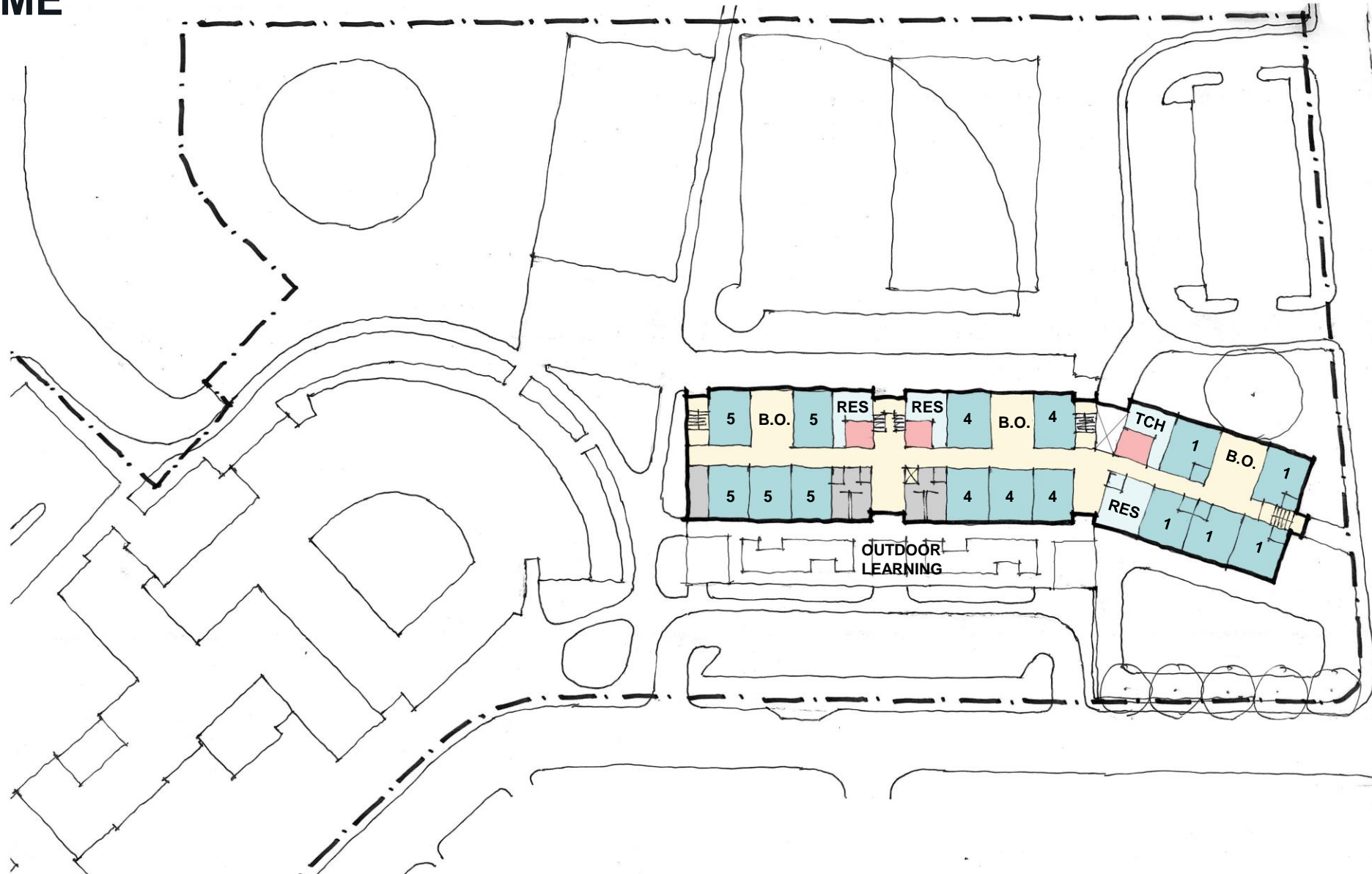
STANDALONE SCHEME



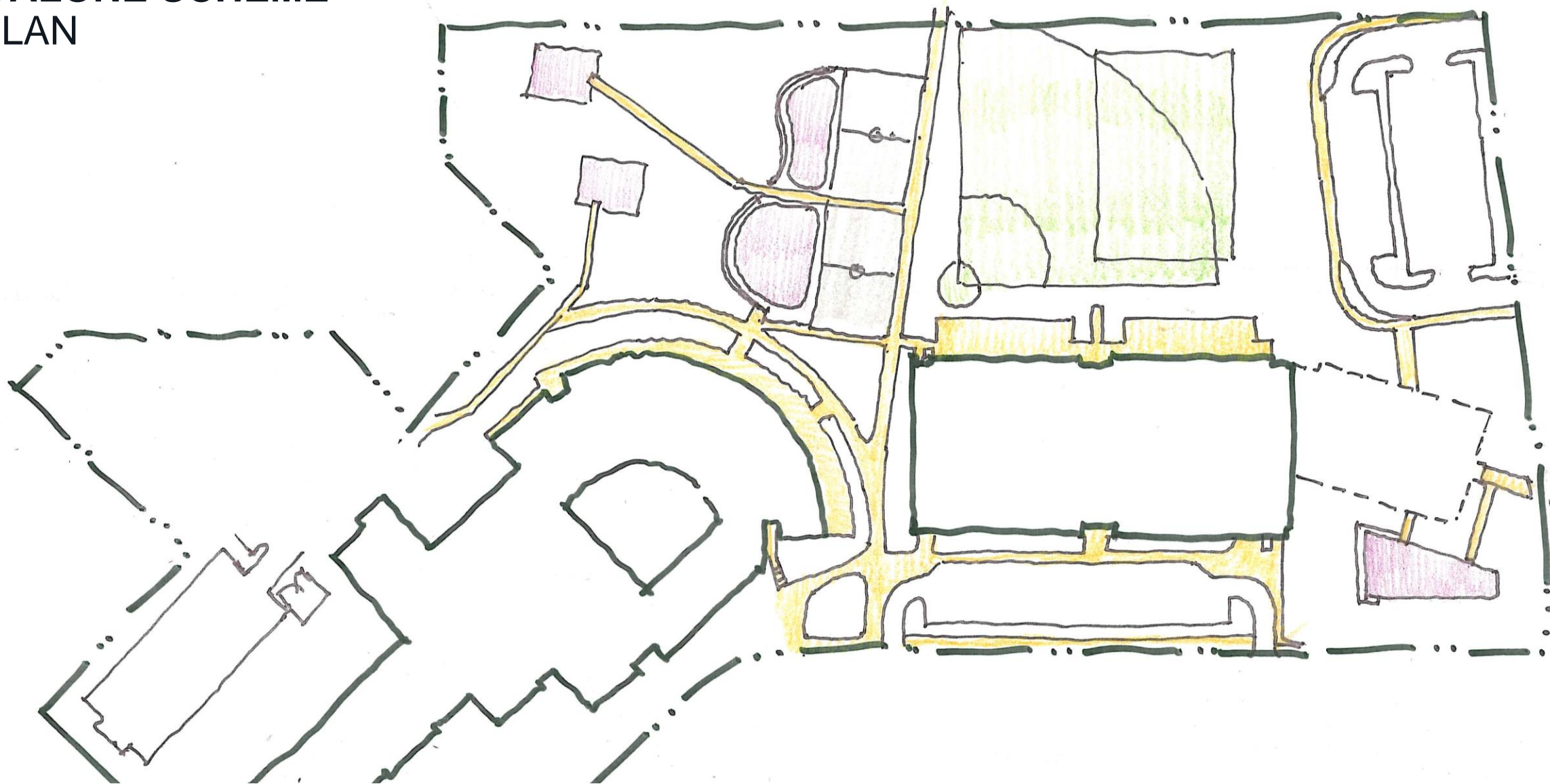
STANDALONE SCHEME



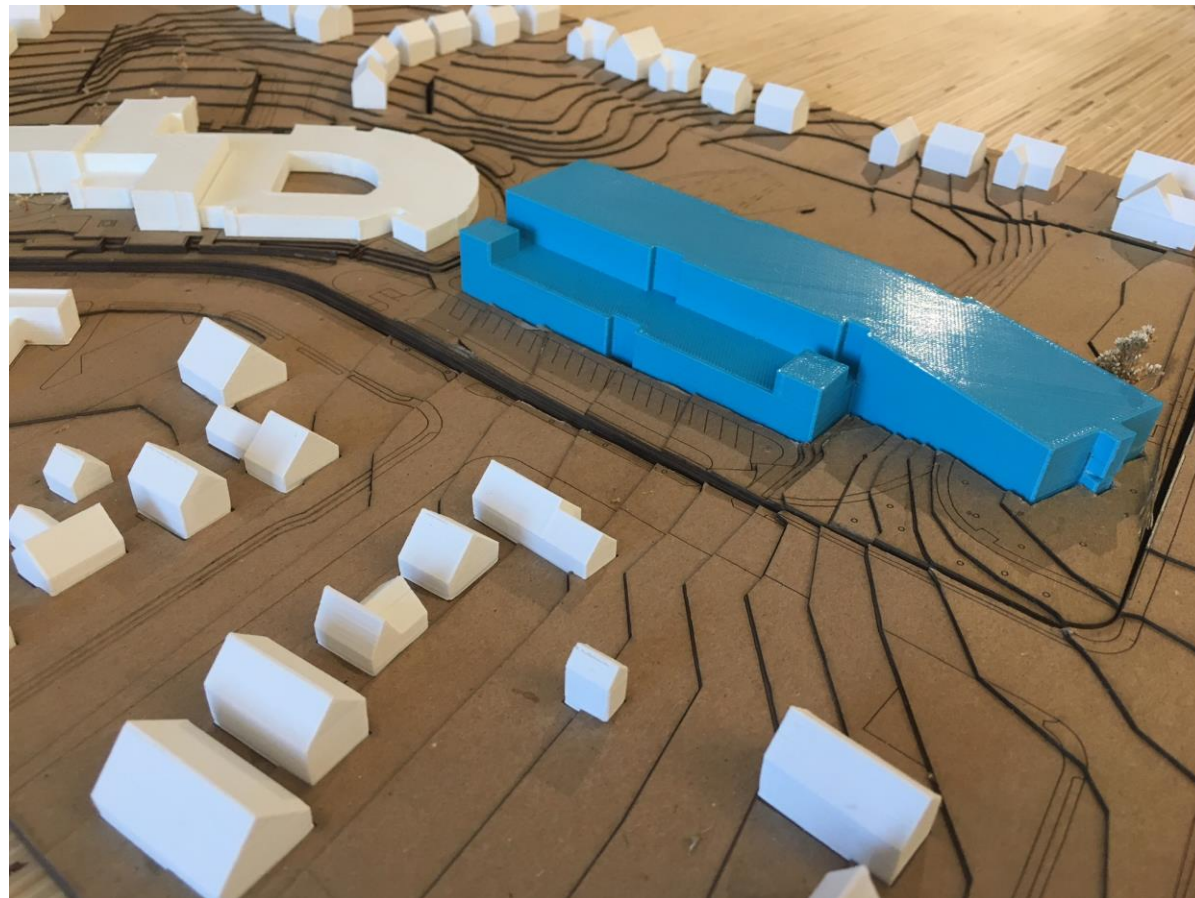
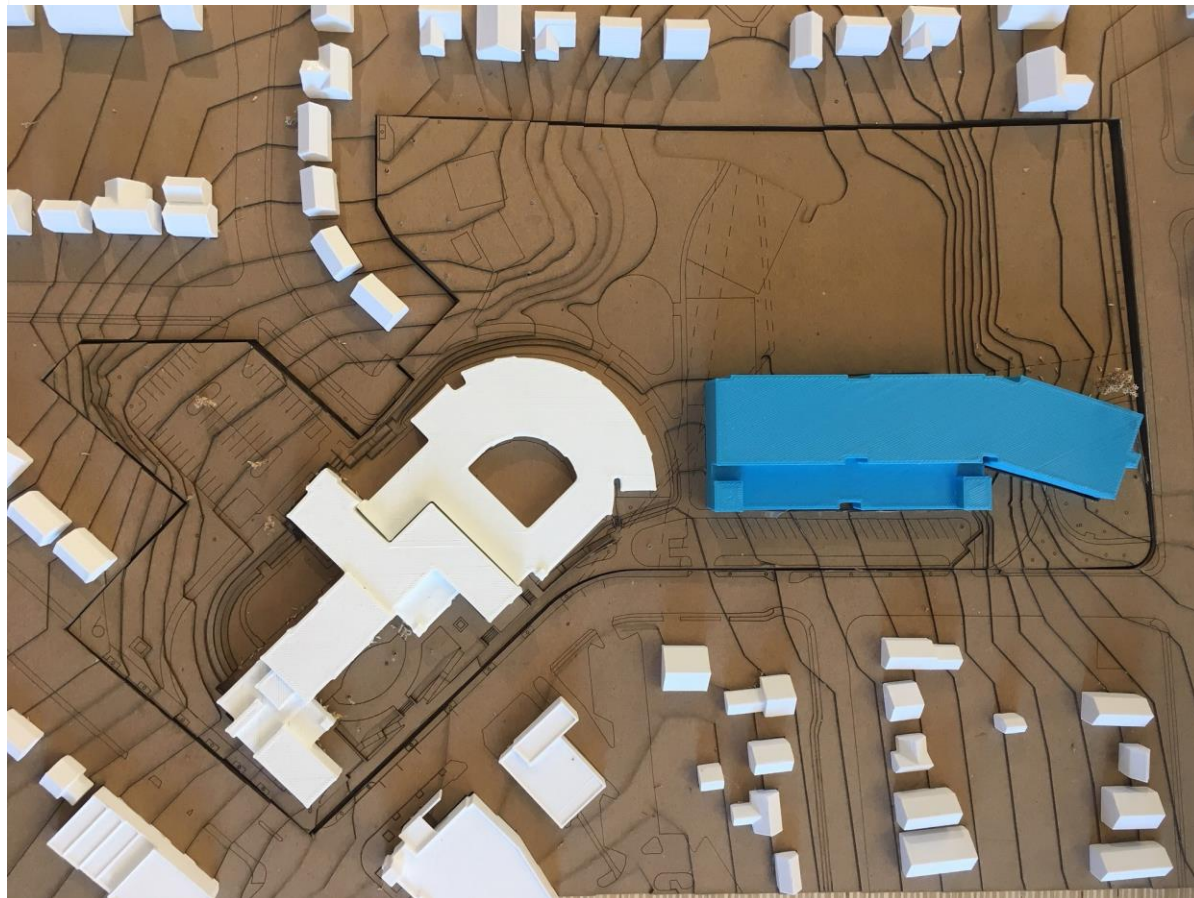
STANDALONE SCHEME



STANDALONE SCHEME SITE PLAN



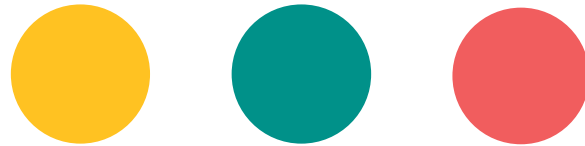
STANDALONE SCHEME MASSING MODEL



STANDALONE SCHEME PRECEDENT



6. SCHEME COMPARISONS



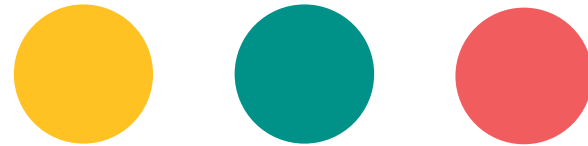


COMPARING THE SCHEMES

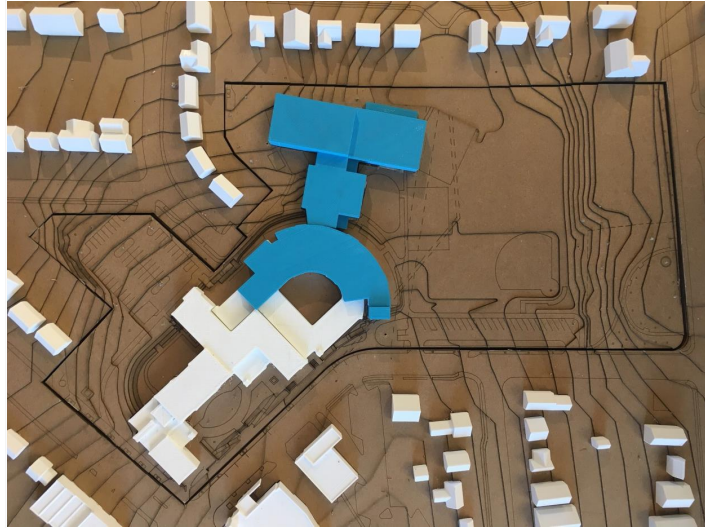


Scheme	Attribute												Rank
	Prelim. Estimated Cost (Compared to Budget)	Envelope to Area Ratio	School GSF	Footprint (SF)	Renovation Type	Energy Use Intensity (Lower = Better)	Solar Panel Area (SF)	Total Impervious (SF)	Site Work	Parking (Spaces on-site)	Open Space & Fields	Learning Environment	
North (B)	-1 to +1 (\$ Mil) ●	1.07 ●	45,500 Ren 64,700 New 110,100 Total ●	55,900 ●	Medium (\$20/SF) ●	20 New 35 Ren 26.2 Avg ●	14,600 Add. Req. ●	147,800 ●	\$\$\$ ●	108 Spaces ●	-0 Fields -7 Trees -Tree Hill ●	Curved Corridor ●	
East	-7 to -5 (\$ Mil) ●	1.03 ●	45,500 Ren 57,800 New 103,300 Total ●	53,600 ●	Light (\$2/SF) ●	20 New 54 Ren 36.7 Avg ●	26,500 Add. Req. ●	156,200 ●	\$ ●	115 Spaces ●	-0 Fields -3 Trees -Sled Hill ●	Two Schools ●	
South (B)	-2 to 0 (\$ Mil) ●	1.06 ●	45,500 Ren 63,000 New 108,500 Total ●	54,800 ●	Medium (\$20/SF) ●	20 New 35 Ren 26.2 Avg ●	14,900 Add. Req. ●	140,400 ●	\$\$ ●	108 Spaces ●	-0 Fields -1 Tree ●	Bridge Separator ●	
Partial Replacement	-1 to +1 (\$ Mil) ●	.86 ●	26,200 Demo 20,800 Ren 86,000 New 106,800 Total ●	44,700 ●	Heavy (\$50/SF) ●	19 New 24 Ren 19.4 Avg ●	7,400 Add. Req. ●	137,700 ●	\$\$ ●	132 Spaces ●	+1 Field -0 Trees ●	Learning Communities ●	
Standalone	-1 to +1 (\$ Mil) ●	.85 ●	45,500 Ext 109,100 New 154,600 Total ●	36,000 Exst 40,300 New 76,300 ●	None (\$0/SF) ●	19 New * 00 Ren 19 Avg ●	10,300 * Add. Req. ●	158,900 ●	\$ ●	128 Spaces ●	-1 Field -5 Trees -1/2 Park ●	Extended Corridor ●	

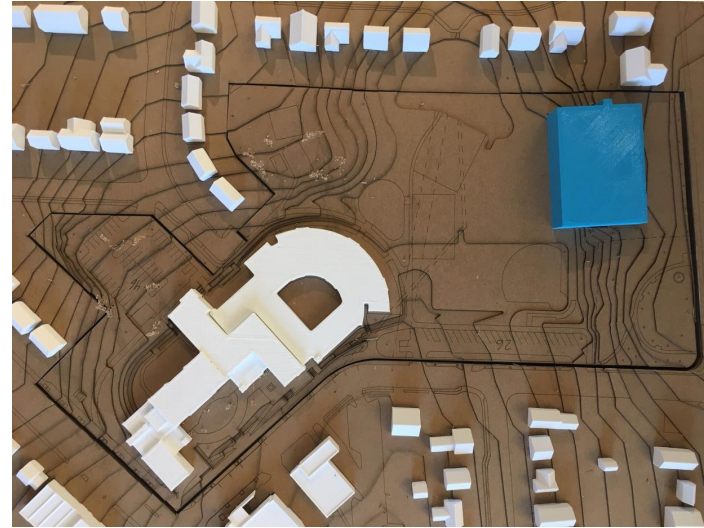
7. DISCUSSION



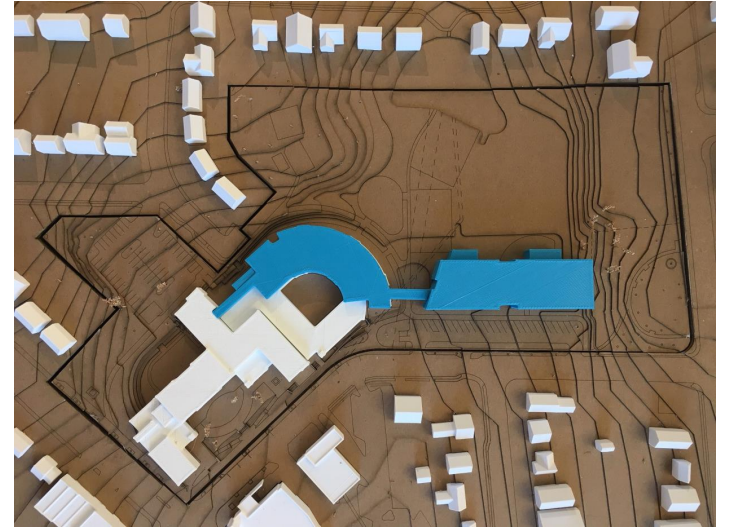
NORTH SCHEME - MODIFIED



EAST SCHEME



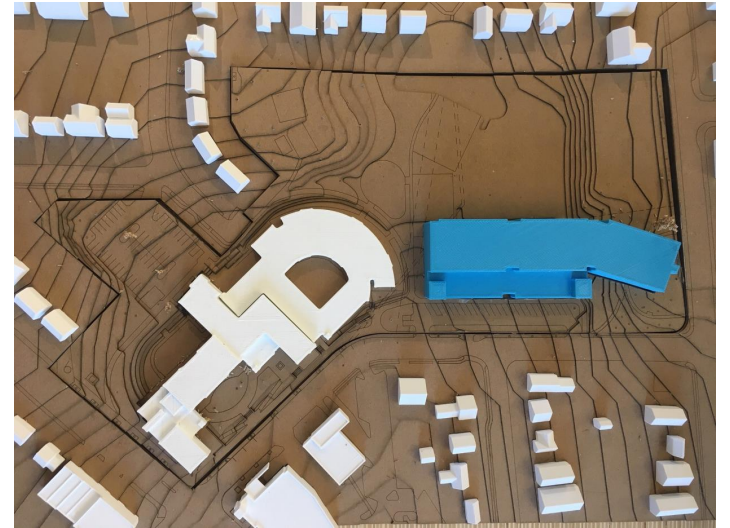
SOUTH SCHEME - MODIFIED



REPLACEMENT SCHEME



STANDALONE SCHEME



COST DRIVERS

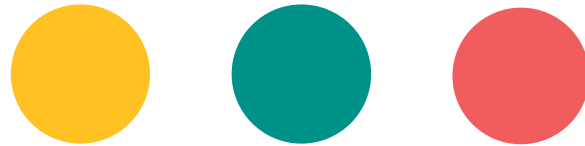
Scheme	Utility Relocation	Renovation SF	Level of Renovation	New SF	(New) Exterior Wall SF	New Roof Area	Envelope to Area Ratio	# of Stories	Site Retaining	Building Retaining	Demolition SF	Time	
North (B)	Y Storm & Sewer	45.5K	Med (\$20/SF)	64.7k	38k	20k	1.07	2 w/ Step @ New	Y 100LF	Y 200 LF @ 14'	N	Slow	
East	N	45.5K	Light (\$2/SF)	57.8k	27k	18k	1.08	3	N	Y 300 LF @ 14'	N	Fast	
South (B)	N	45.5K	Med (\$20/SF)	63.0k	35k	19k	1.06	3	N	Y 160 LF @ 14'	N	Slow	
Partial Replacement	Y Minor Storm	20.8K	Heavy (\$50/SF)	86.0k	36k	34k	.86	3	N	Y 285 LF @ 14'	Y 25,500 SF @ 14'	Faster	26.2K Demo SF
Standalone	Y 12" Sewer	NA	NA (\$0/SF)	109.1k	52k	41k	.85	4	Y 200 LF @ 16'	Y 120 LF @ 14'	N	Fastest	

PARKING – SURFACE VS STRUCTURED

Type	Per Space	100 Car Lot
Surface	\$2,500 – \$4,000	\$250,000
Above Ground Structured	\$35,000 - \$65,000	\$3,500,000 to \$6,500,000
Below Ground Structured	\$80,000 - \$110,000	\$8,000,000 to \$11,000,000



8. PUBLIC COMMENTS



MEETING TAKEAWAYS: WHAT WE HEARD

Some items had broad consensus, some items were solitary comments

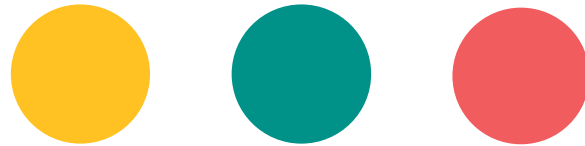
- Reinforced support to preserve as much green space as possible
- Amount of parking remains an issue: traffic consultant to compile data from recent field observation
 - Community concerns about parking study (conducted on an atypically cold day)
- Schemes presented and voted on: public told not to worry about politics of decision in ranking the schemes.
- Schemes – (See attached scorecard for ranking data)
 - North – Concerns including: size of building in comparison to neighbors, high cost of utility relocation, difficult fire access
 - East – Concerns including: splitting into upper and lower schools, potential increased operational cost of larger staff. Lowest cost option a bonus
 - South – Revisions to bridge connection better for utilities. Compactness and efficiency of layout generally supported.
 - Partial Replacement – Preferred solution of the night. Support of scheme’s maintaining open space, apparent high quality of learning communities. Some concern about size and scale of the building in respect to existing building: desire to study courtyard size
 - Standalone – Non-consensus on use of county park. Compactness and efficiency of scheme appreciated
- Design Team’s Suggested Next Steps: carry three schemes forward
 - Carry East as low cost option
 - Carry South/Standalone as merged mid-cost option
 - Carry Partial Replacement as preferred on-budget option
 - (Drop North Scheme)

COMPARING THE SCHEMES RESULTS



Scheme	Attribute												Rank
	Prelim. Estimated Cost (Compared to Budget)	Envelope to Area Ratio	School GSF	Footprint (SF)	Renovation Type	Energy Use Intensity (Lower = Better)	Solar Panel Area (SF)	Total Impervious (SF)	Site Work	Parking (Spaces on-site)	Open Space & Fields	Learning Environment	
North (B)	-1 to +1 (\$ Mil) ●	1.07 ●	45,500 Ren 64,700 New 110,100 Total ●	55,900 ●	Medium (\$20/SF) ●	20 New 35 Ren 26.2 Avg ●	14,600 Add. Req. ●	147,800 ●	\$\$\$ ●	108 Spaces ●	-0 Fields -7 Trees -Tree Hill ●	Curved Corridor ●	1 st Place – 0 2 nd Place – 6
East	-7 to -5 (\$ Mil) ●	1.03 ●	45,500 Ren 57,800 New 103,300 Total ●	53,600 ●	Light (\$2/SF) ●	20 New 54 Ren 36.7 Avg ●	26,500 Add. Req. ●	156,200 ●	\$ ●	115 Spaces ●	-0 Fields -3 Trees -Sled Hill ●	Two Schools ●	1 st Place – 0 2 nd Place – 1
South (B)	-2 to 0 (\$ Mil) ●	1.06 ●	45,500 Ren 63,000 New 108,500 Total ●	54,800 ●	Medium (\$20/SF) ●	20 New 35 Ren 26.2 Avg ●	14,900 Add. Req. ●	140,400 ●	\$\$ ●	108 Spaces ●	-0 Fields -1 Tree ●	Bridge Separator ●	1 st Place – 3 2 nd Place – 10
Partial Replacement	-1 to +1 (\$ Mil) ●	.86 ●	26,200 Demo 20,800 Ren 86,000 New 106,800 Total ●	44,700 ●	Heavy (\$50/SF) ●	19 New 24 Ren 19.4 Avg ●	7,400 Add. Req. ●	137,700 ●	\$\$ ●	132 Spaces ●	+1 Field -0 Trees ●	Learning Communities ●	1 st Place – 23 2 nd Place – 2
Standalone	-1 to +1 (\$ Mil) ●	.85 ●	45,500 Ext 109,100 New 154,600 Total ●	36,000 Exst 40,300 New 76,300 ●	None (\$0/SF) ●	19 New * 00 Ren 19 Avg ●	10,300 * Add. Req. ●	158,900 ●	\$ ●	128 Spaces ●	-1 Field -5 Trees -1/2 Park ●	Extended Corridor ●	1 st Place – 1 2 nd Place – 9

9. NEXT STEPS & ADJORN



NEXT STEPS

1. Narrow Scheme Options
2. Shortlist and interview CMRs
3. Design!
4. Upcoming Meeting Dates:
 - Jan 10th – 6:30pm, Tour of Existing Building (Wednesday)
 - Jan 17th – Community Forum (Wednesday)
 - Jan 24th – PFRC / BLPC (Wednesday)

ADJOURN

- For further information, please contact:

APS Project Manager

Ajibola (Aji) Robinson PMP

703-228-7738

ajibola.robinson@apsva.us

County Project Manager

Nicole Boling

703-228-3945

nboling@arlingtonva.us

- BLPC, PFRC, and Community Meeting dates are scheduled and posted on the APS project website: <https://www.apsva.us/design-and-construction/new-elementary-school-reed/>
- Provide feedback and comments:
 - To APS: reed.info@apsva.us
 - To Arlington County: <https://commissions.arlingtonva.us/planning-commission/public-facilities-review-committee-pfrc/school-projects/walter-reed/>










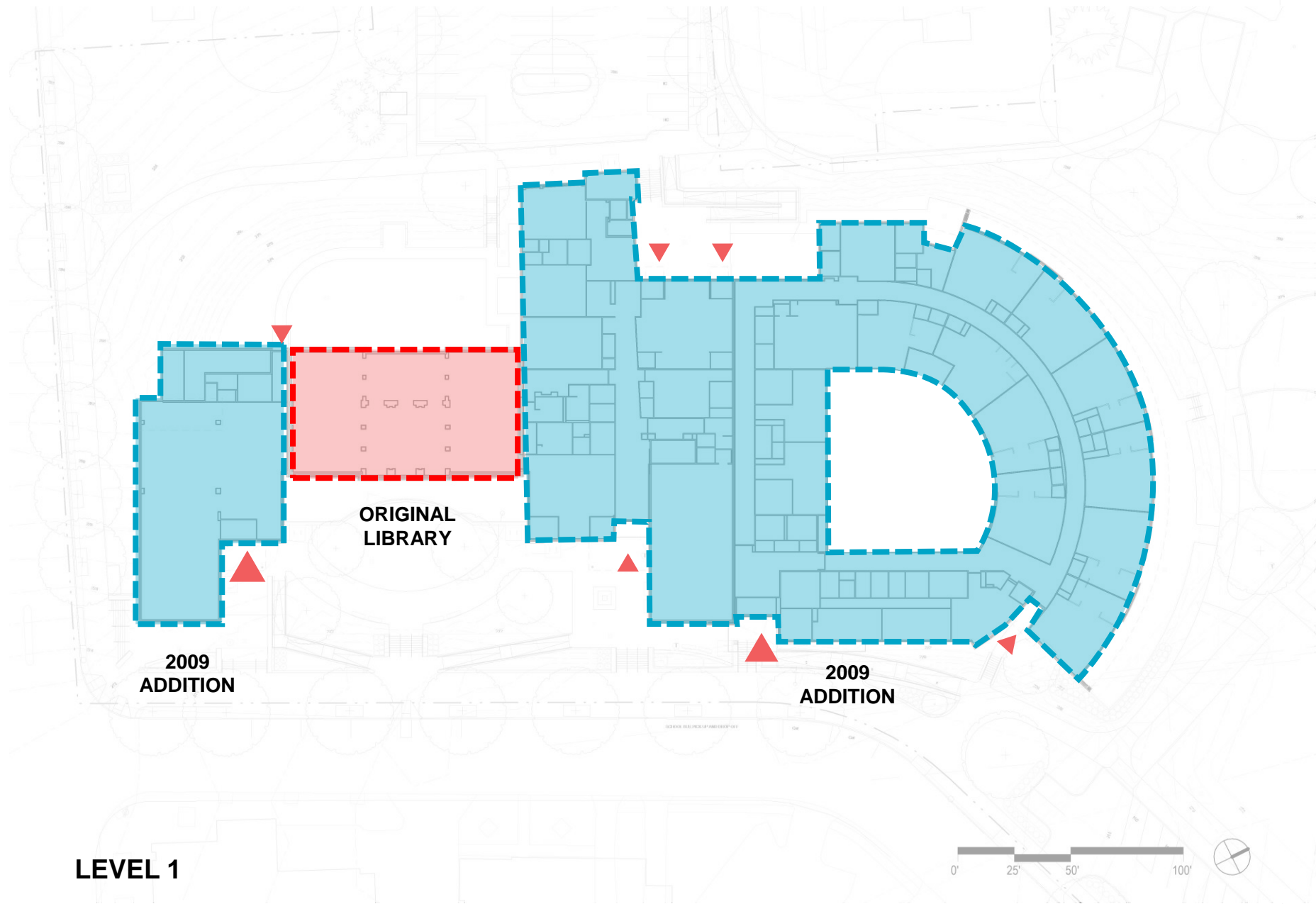


EXISTING BUILDING LEVEL 1

- Original Library with 2009 Addition

KEY

-  Original Library
-  2009 Addition
-  Entrance

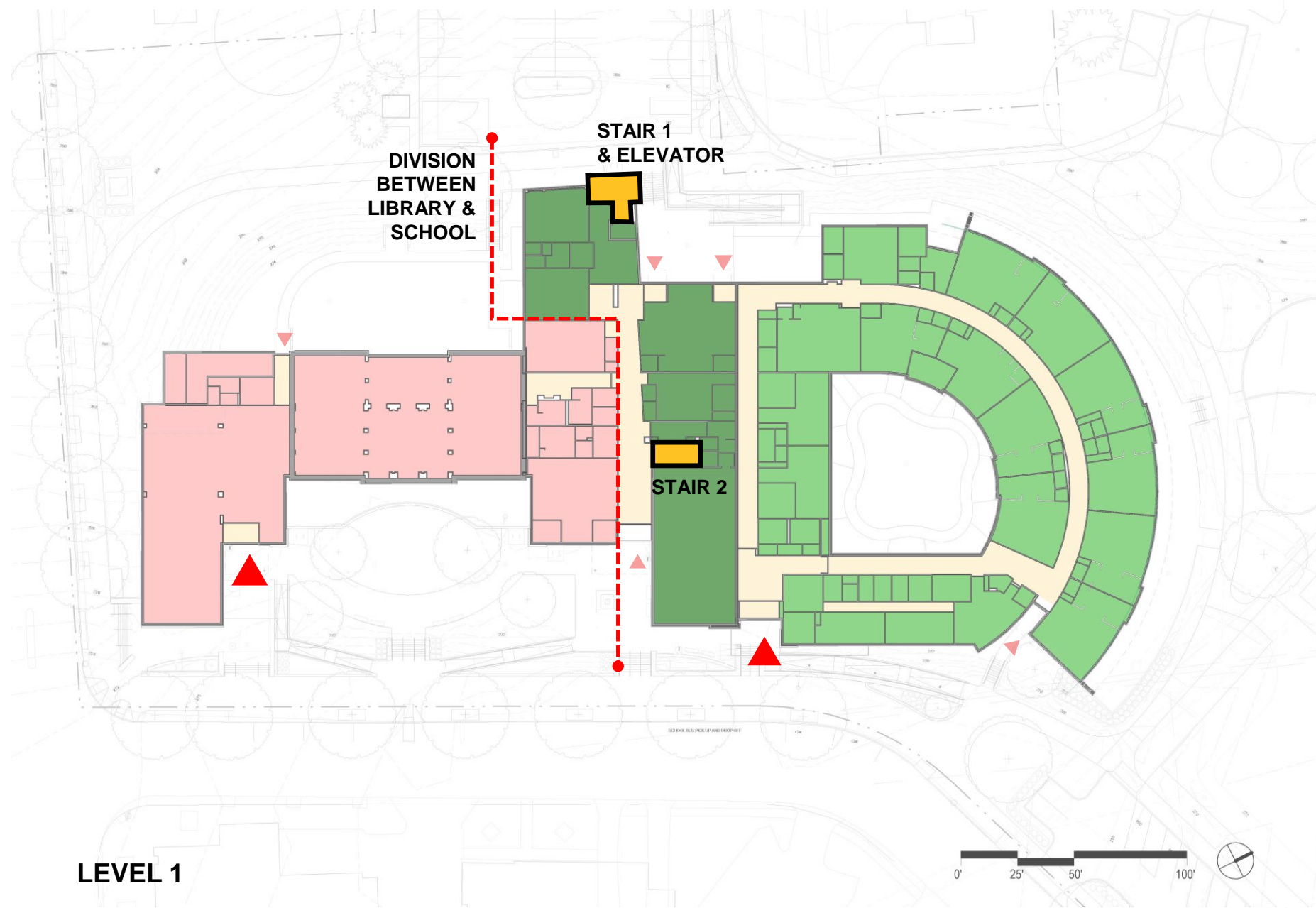


EXISTING BUILDING LEVEL 1 PROGRAM

- Middle portion of the building contains mixed programming
- Circulation to Level 2 difficult to reach through main entrances

KEY

- School Use - Zone 1
- School Use - Zone 2
- Walter Reed Library
- Stair / Elevator Access
- ▲ Entrance
- - - Division Between Library & School Program

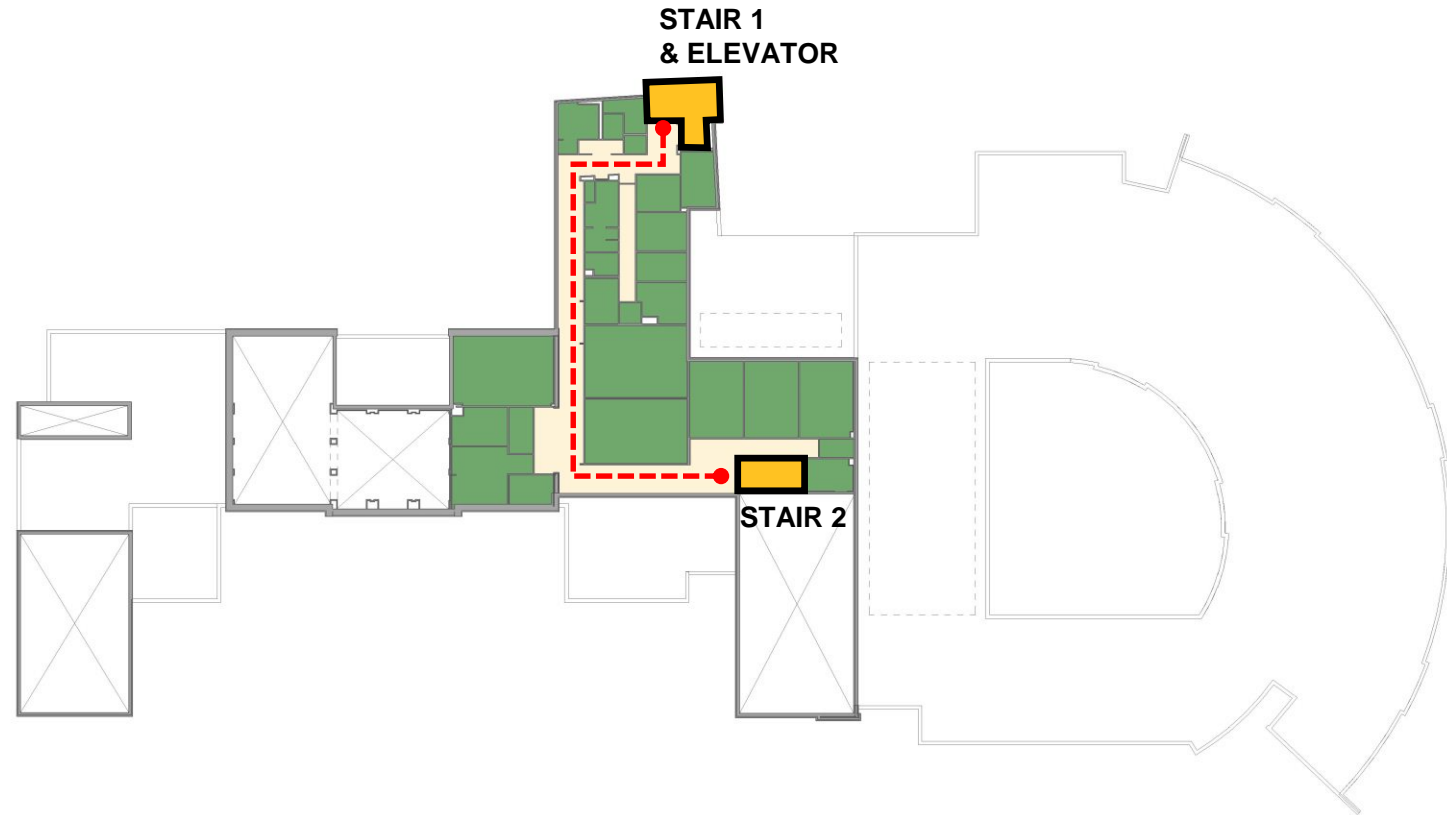


EXISTING BUILDING LEVEL 2 PROGRAM

- Long corridor between stairs

KEY

- School Use - Zone 1
- School Use - Zone 2
- Stair / Elevator Access
- Path along Corridor





LEVEL 2

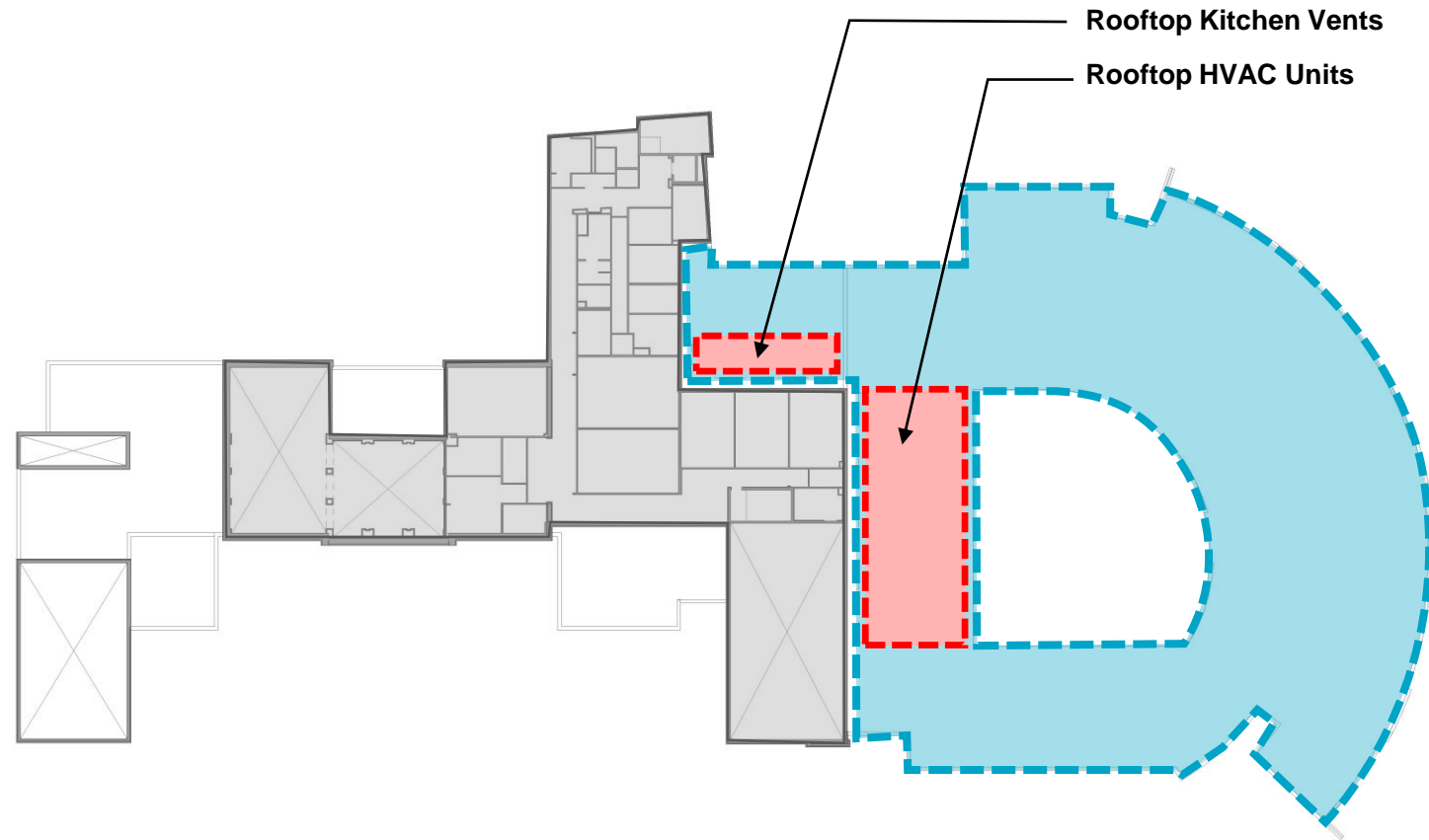


EXISTING BUILDING LEVEL 2 EXPANSION

- Appears as though a portion of Level 1 structure sized to carry one additional level
- Existing rooftop units pose an obstacle for expansion

KEY

-  Structure Sized for Second Story Addition?
-  Rooftop units



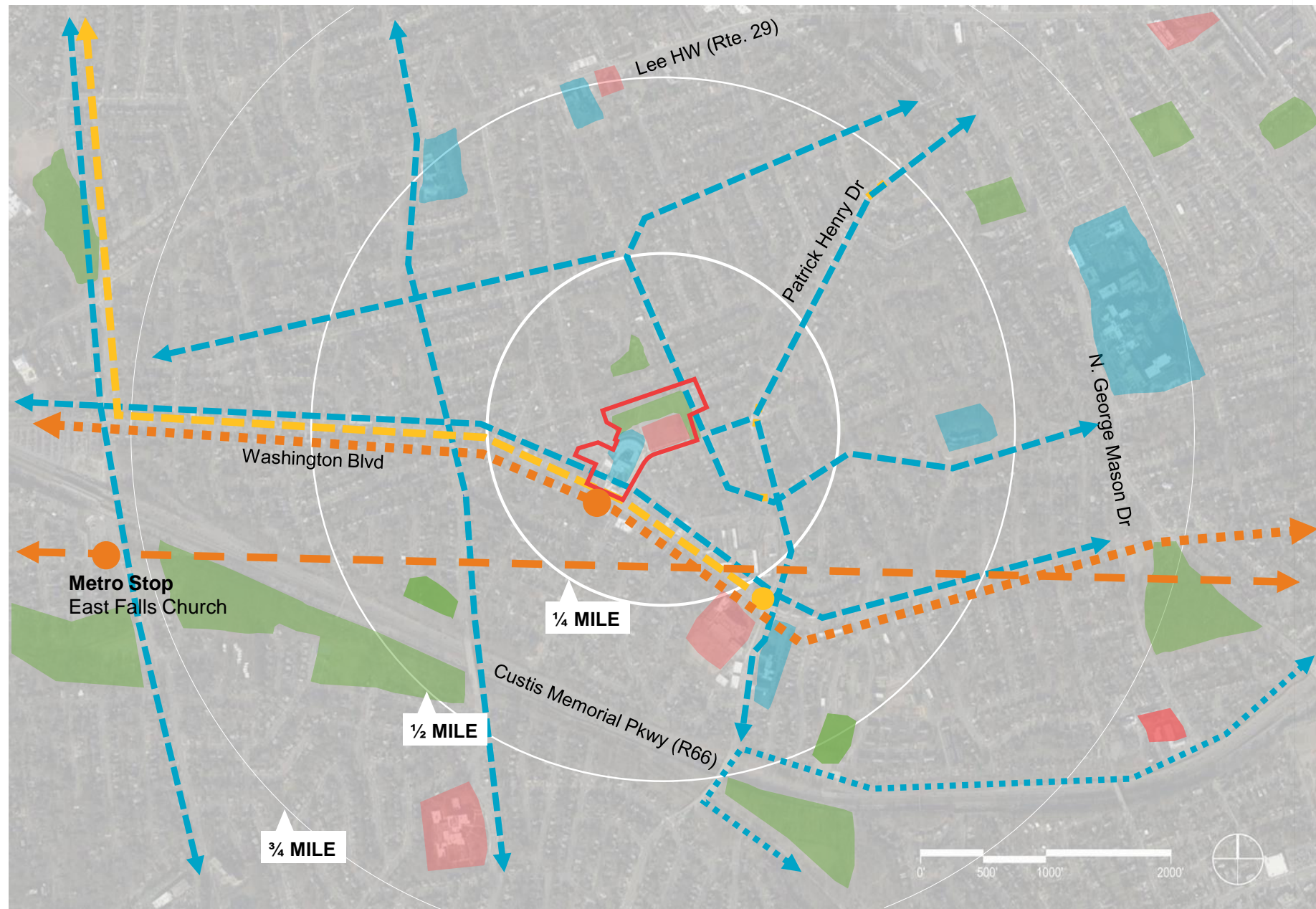
LEVEL 2

EXPANDED CONTEXT

- Only 1 bus route nearby
- Not well-connected via public transportation

KEY

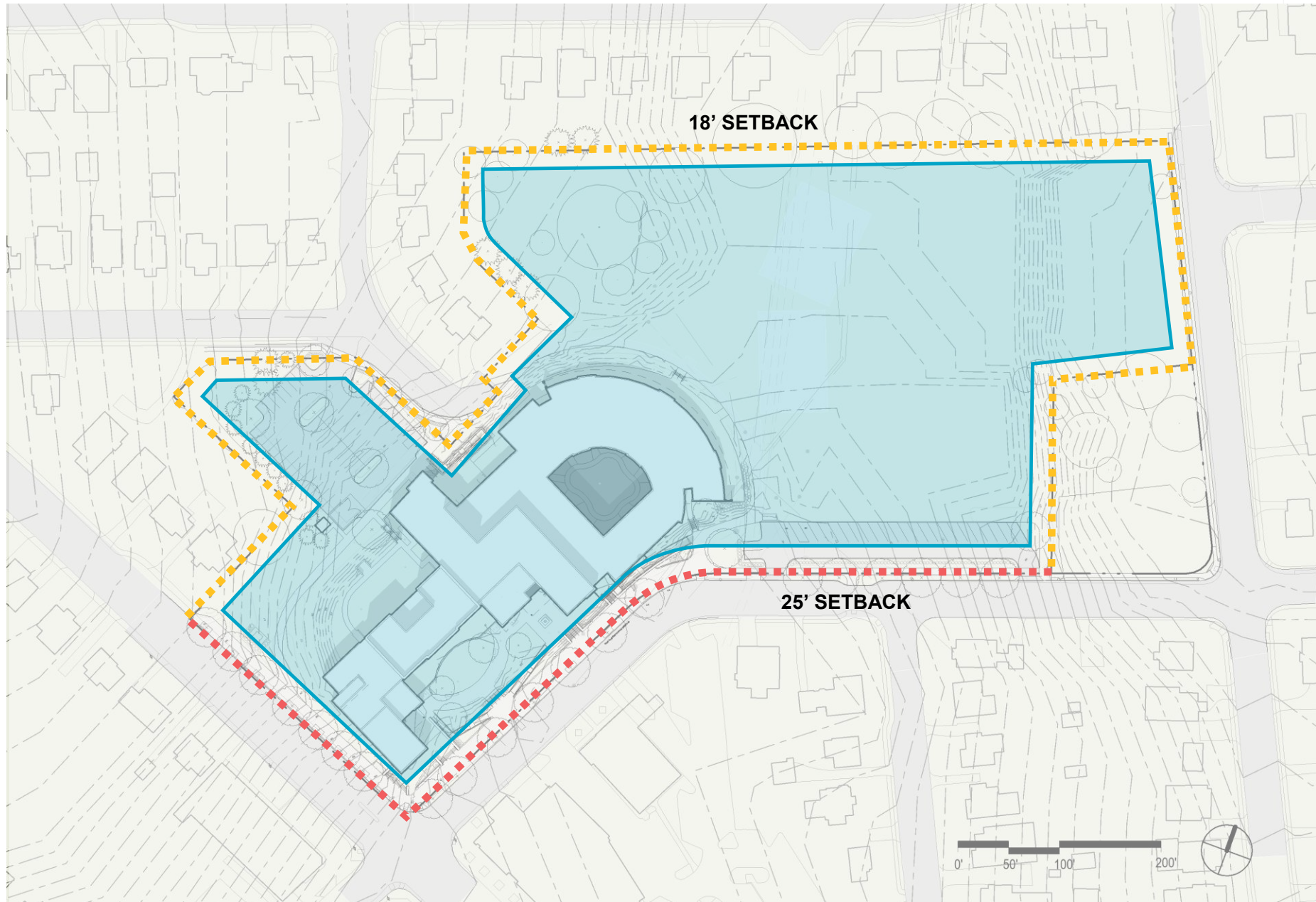
- School
- Green Space
- Civic
- Bus Route
- ⋯ Metro Bus 2A
- Orange Metro Line & Stop
- ⋯ Bicycle Routes
- ⋯ Arlington Loop



SITE SETBACKS

KEY

- 18' Setback
- 25' Setback



EXISTING PARKING

INCLUDING SPACES ADJACENT TO CORNER PARK (AC Property)

129

TOTAL SPACES

72

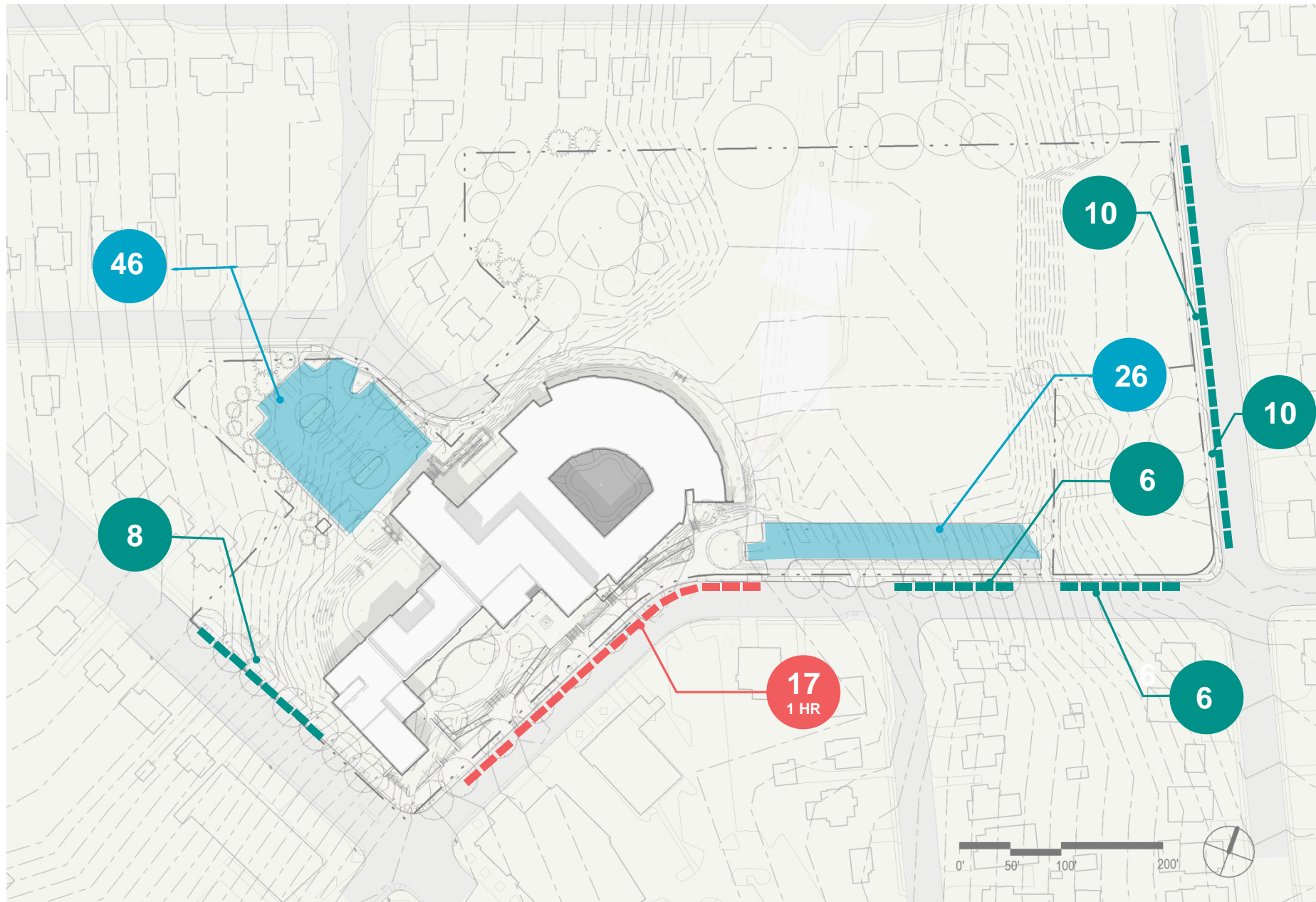
EXISTING ON-SITE SPACES
PERMANENT

40

SPACES ON-STREET
ALL-DAY

17

SPACES ON-STREET
1 HR





REQUIRED PARKING BY ZONING

150 TOTAL
REQUIRED
SPACES

<p>116 SCHOOL SPOTS</p>	<p>{</p>	<p>19 VISITOR SPACES</p>	=	<p>725 STUDENTS</p>	/	<p>40 STUDENTS/SPACE</p>
		<p>+</p> <p>97 STAFF SPACES</p>	=	<p>725 STUDENTS</p>	/	<p>7.5 STUDENTS/SPACE</p>
<p>34 LIBRARY SPOTS</p>	<p>{</p>	<p>34 SPACES</p>	=	<p>16,750 SF TOTAL AREA OF LIBRARY</p>	/	<p>500 SF PER SPACE</p>

HOW DO WE REACH THE ACTUAL NUMBER OF ON-SITE SPOTS THAT SHOULD BE PROVIDED?

KEY

-  On-Site Spaces
-  On-Street Spaces

