

NEW ELEMENTARY SCHOOL

REED SITE, ARLINGTON PUBLIC SCHOOLS

CONCEPT DESIGN



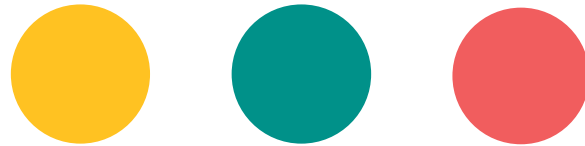
VMDO

BLPC + PFRC JOINT MEETING

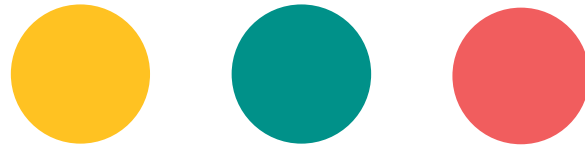
BUILDING LEVEL PLANNING COMMITTEE
PUBLIC FACILITIES REVIEW COMMITTEE

- 1. Welcome / Opening remarks**
- 2. Updates**
- 3. Parking Options**
- 4. Review Schemes**
- 5. Scheme Comparisons**
- 6. Transportation**
- 7. Public Comments**
- 8. Next Steps & Adjourn**

1. WELCOME / OPENING REMARKS

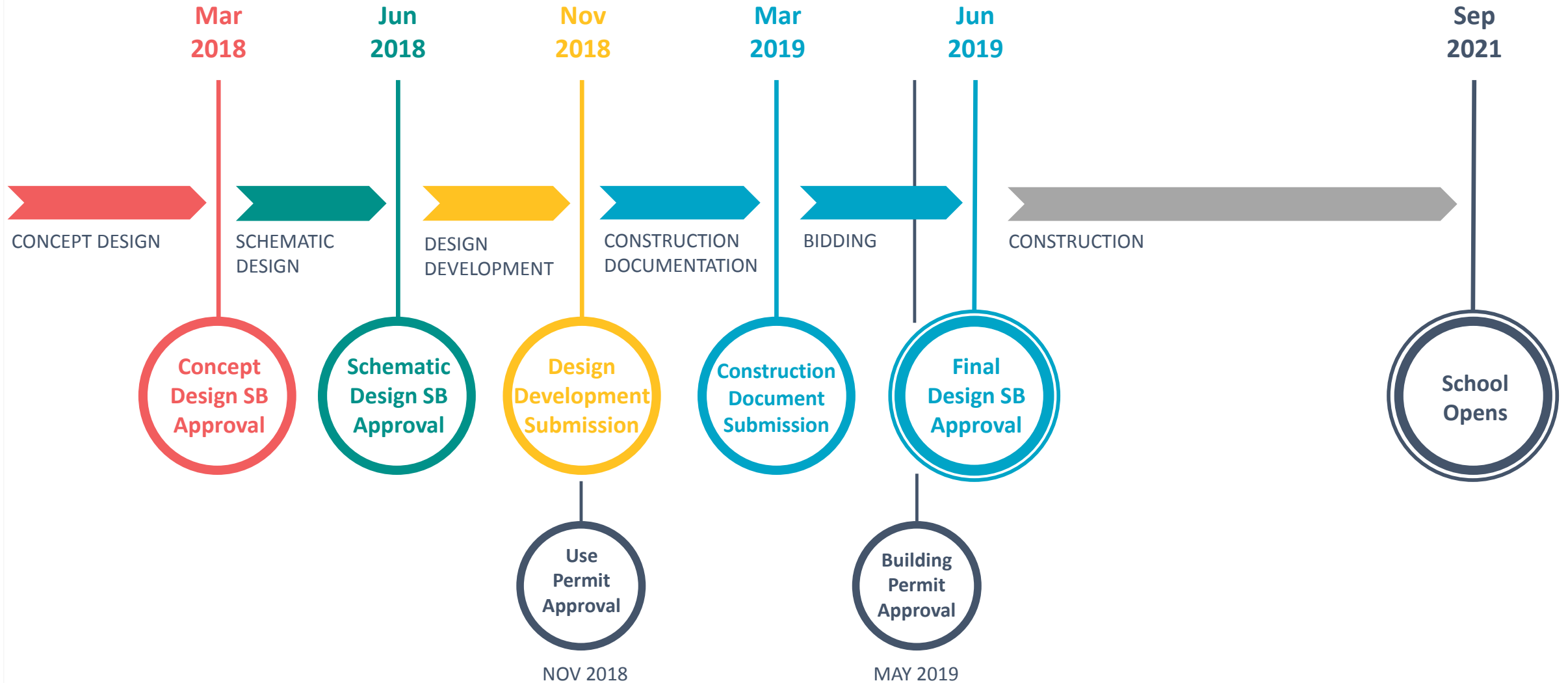


2. UPDATES



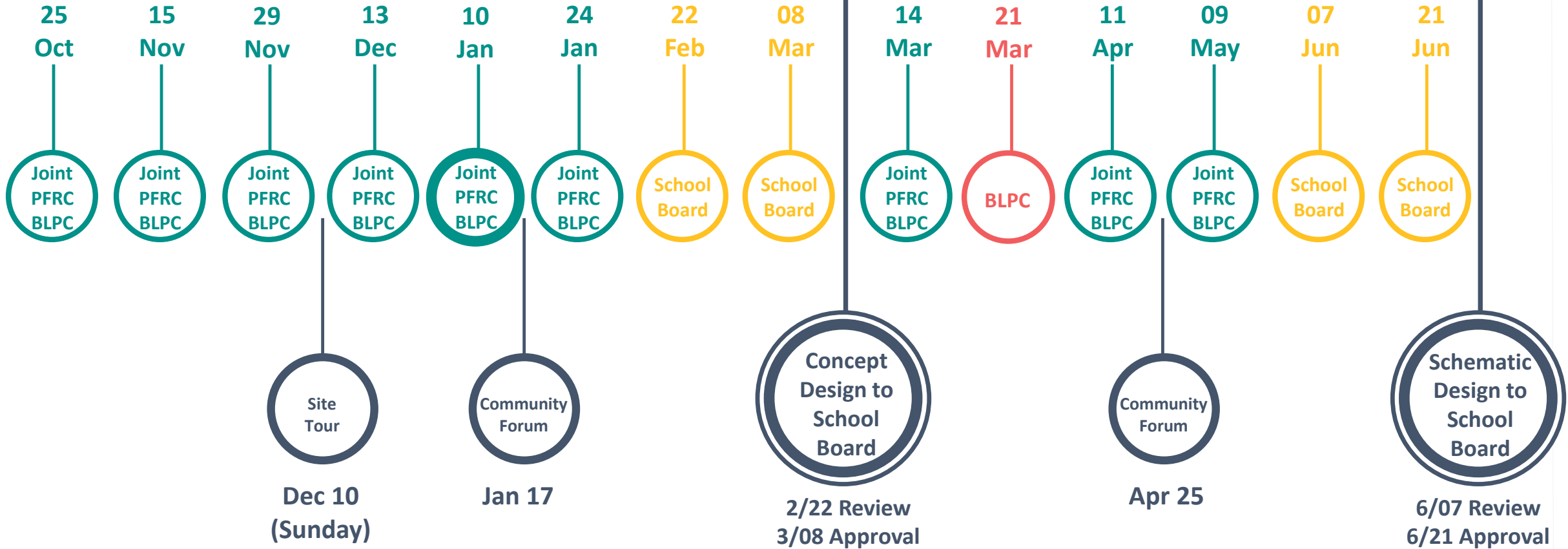
PROJECT PARAMETERS

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



SINCE WE LAST MET...

1. Meeting with instructional staff
2. Highly detailed test-fits of space program in all schemes
3. CMR selection process (on-going)
4. Final survey and tree survey completion
5. Further examination and refinement of cost estimates
6. Transportation study scoping meeting with the County held on January 3, 2018
7. Transportation study (on-going)
8. Investigating legal issues into demolishing a building while still repaying the bonds

COUNTY CONSIDERATIONS – CONCEPT DESIGN

Fire/emergency access

Utility conflicts



COUNTY CONSIDERATIONS – CONCEPT DESIGN

Zoning Code - Setbacks, Height

Trees, Open Space

Library needs

Impact to County Property

Impact to shared use(fields)

Site access and circulation

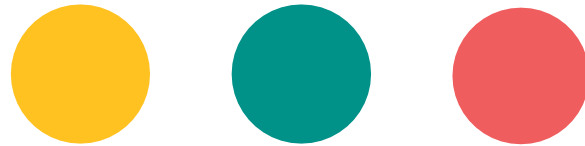
Changes within ROW

Parking

Utility Undergrounding



3. PARKING OPTIONS



EXISTING PARKING

127

TOTAL SPACES

2 fewer than pre-survey analysis

72

EXISTING ON-SITE SPACES

PERMANENT

38

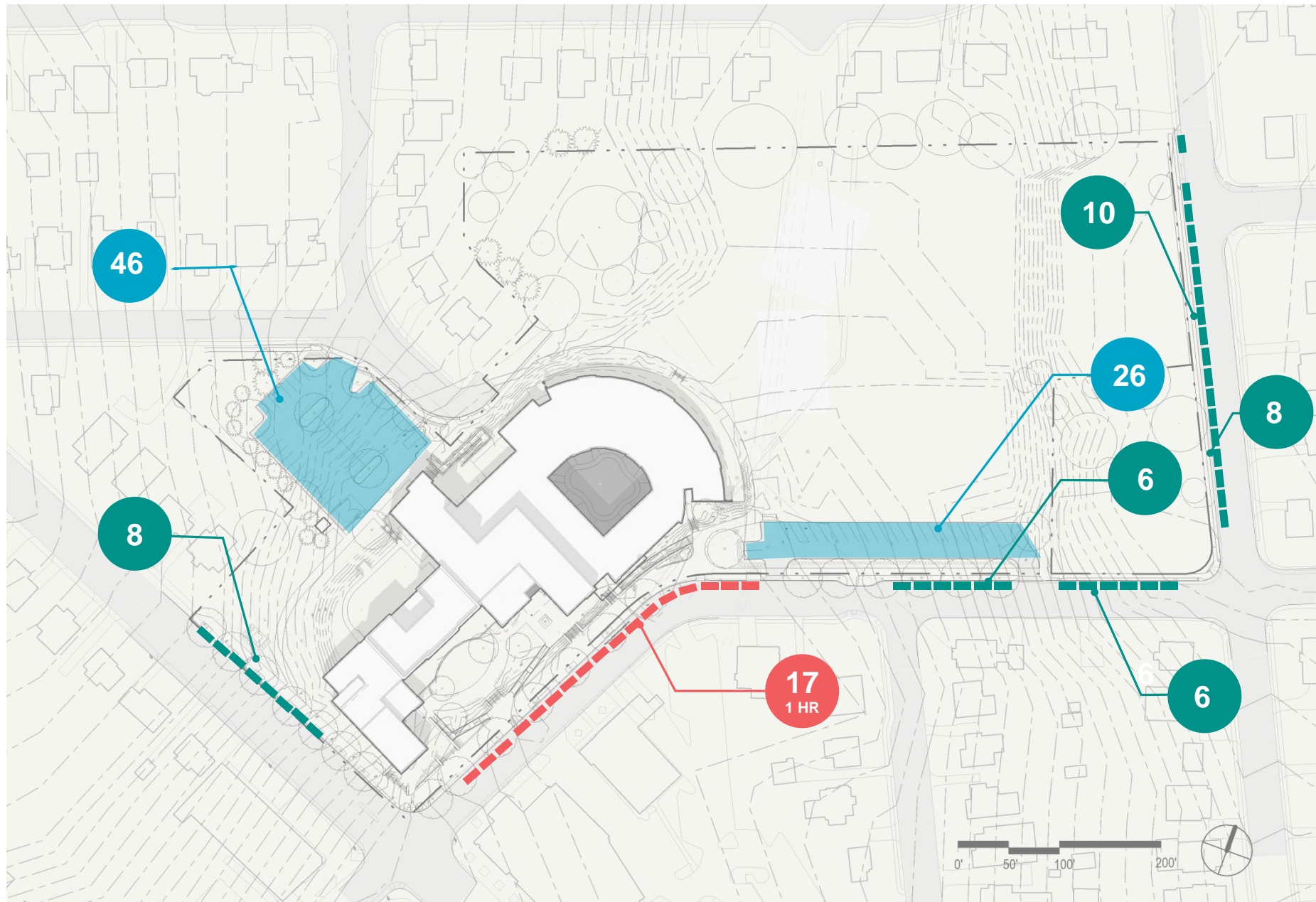
SPACES ON-STREET

ALL-DAY

17

SPACES ON-STREET

1 HR



EXISTING CONDITION

72

ON-SITE SPACES

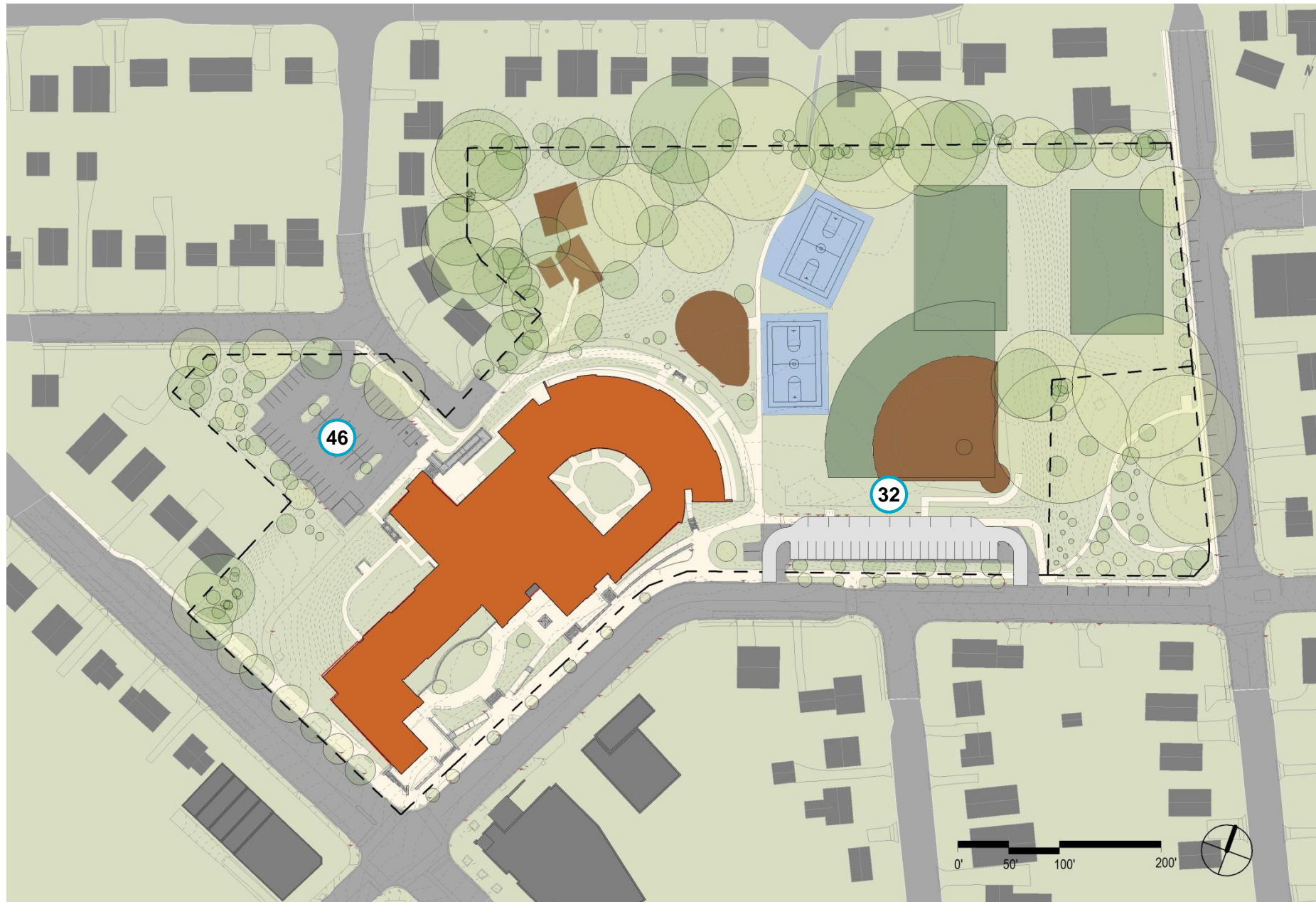


SLIGHT EXPANSION AT 18TH STREET

78

ON-SITE SPACES

EXISTING + 6



32 spots @ \$3K = +/- \$90K

LARGER EXPANSION AT 18TH STREET

102

ON-SITE SPACES

EXISTING + 30



56 spots @ \$3K = +/- \$168K

NEW LOT AT LEXINGTON

120

ON-SITE SPACES

EXISTING + 48

48 spots @ \$3.5K = +/- \$168K



BACK-IN PARKING AT LEXINGTON

102

ON-SITE SPACES

EXISTING + 30

Assumes no undergrounding
of overhead utilities

Some street parking lost

30 spots @ \$3.5K = +/- \$105K



EXPANDED NW LOT (NO CURB CUT)

91

ON-SITE SPACES

EXISTING + 19



Expanded lot at existing grade.

Could have a driveway (curb cut) into Wash Blvd, but none shown here.

65 spots @ \$4.5K = +/- \$293K

PARKING STRUCTURE AT NW LOT (CURB CUT)

159

ON-SITE SPACES

EXISTING + 87

Existing lot demolished and new lot built at lower elevation, with one tray of parking added above



PARKING DECK AT NW LOT (WITH CURB CUT)

Existing lot demolished and new lot built at lower elevation

Structural retaining walls required shown in orange

Entrance/Exits shown in blue arrows

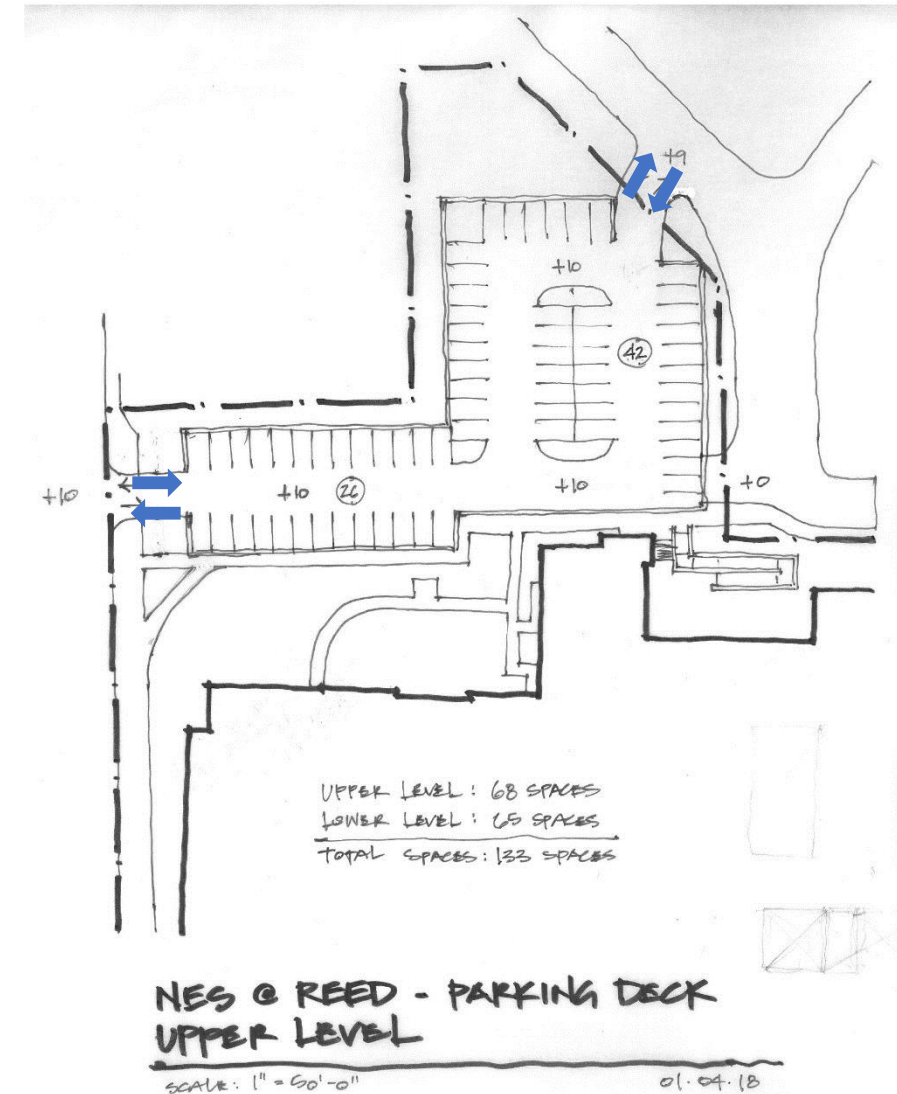
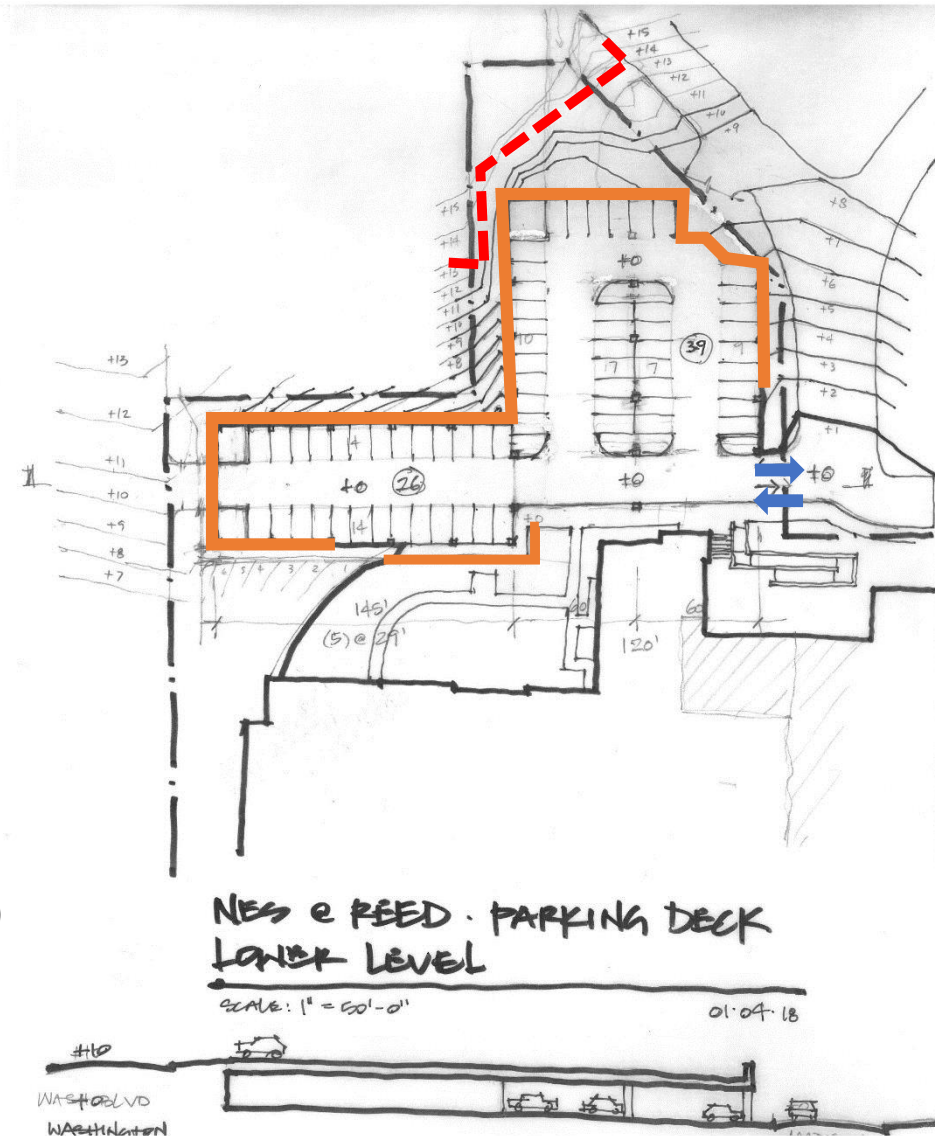
Curb cut at Washington Boulevard for entrance/exit to upper level of parking deck

Relocation of sanitary line shown in red

Relocation of Connect Arlington fiber line (not shown)

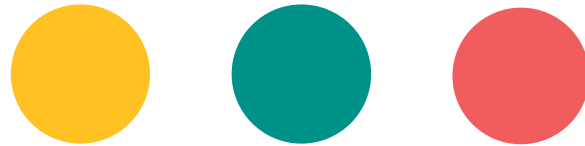
133 spots @ \$45K - \$70K each

\$6.5 Million to \$9 Million cost for parking structure

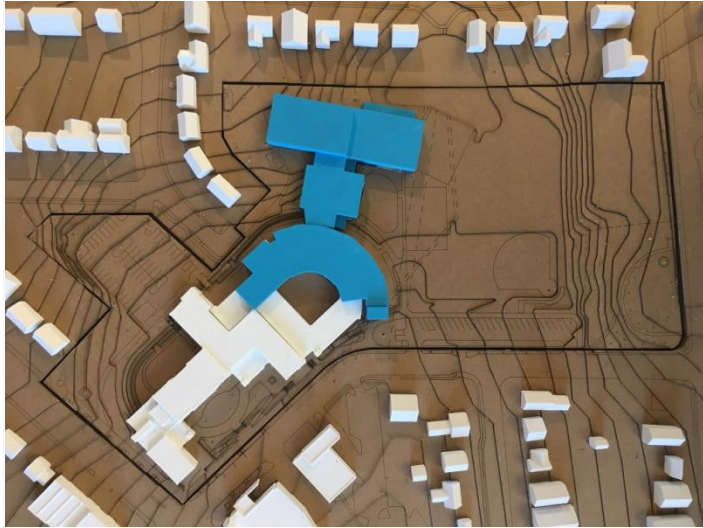




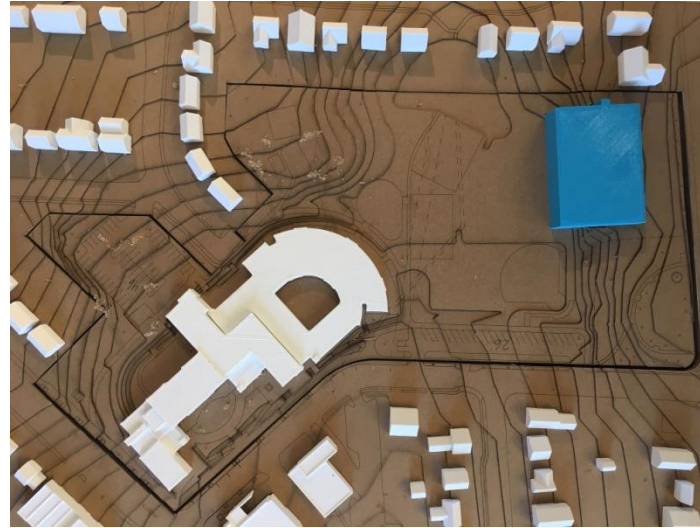
4. REVIEW SCHEMES



NORTH SCHEME - MODIFIED



EAST SCHEME



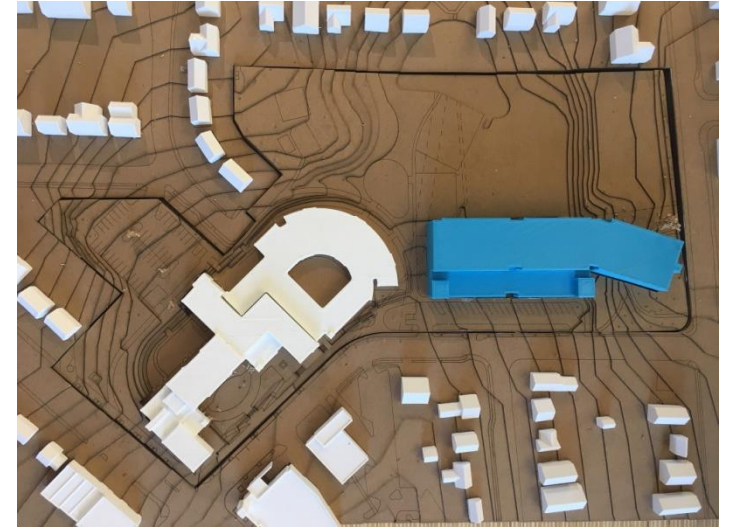
SOUTH SCHEME - MODIFIED



REPLACEMENT SCHEME



STANDALONE SCHEME



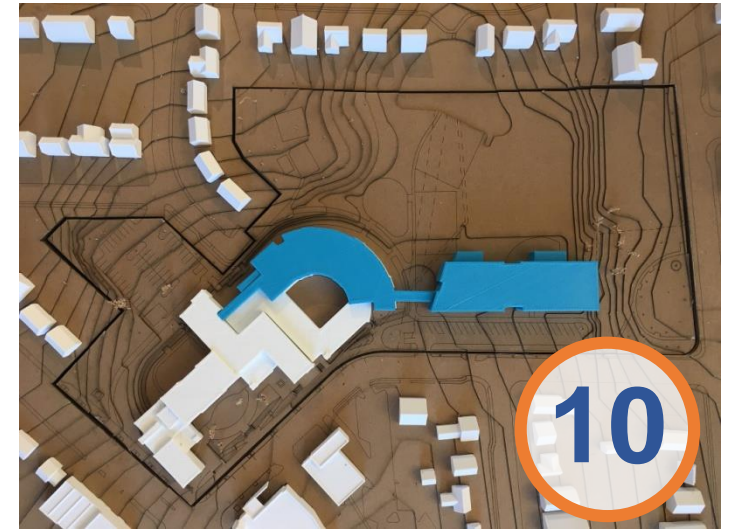
NORTH SCHEME - MODIFIED



EAST SCHEME



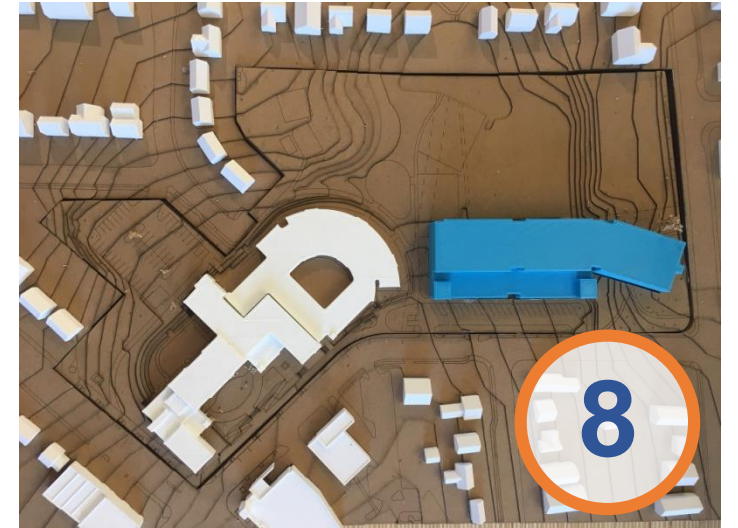
SOUTH SCHEME - MODIFIED



REPLACEMENT SCHEME



STANDALONE SCHEME



COMPARING THE SCHEMES RESULTS

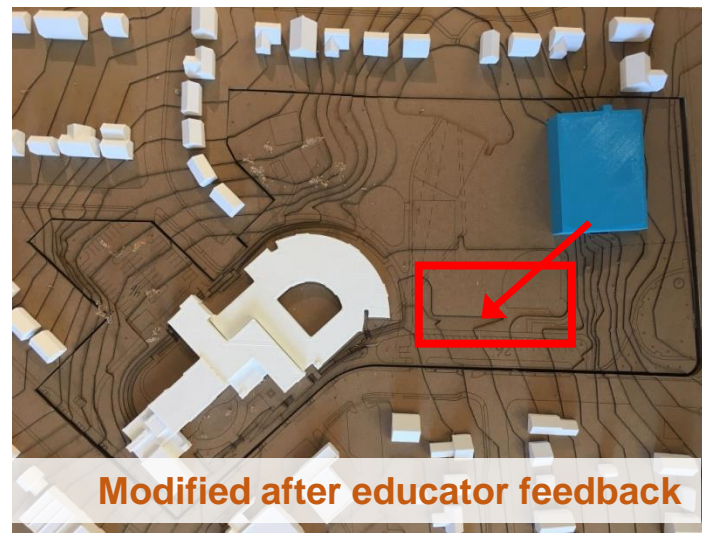


Scheme	Attribute												Rank
	Prelim. Estimated Cost (Compared to Budget)	Envelope to Area Ratio	School GSF	Footprint (SF)	Renovation Type	Energy Use Intensity (Lower = Better)	Solar Panel Area (SF)	Total Impervious (SF)	Site Work	Parking (Spaces on-site)	Open Space & Fields	Learning Environment	
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

NORTH SCHEME - MODIFIED



EAST SCHEME



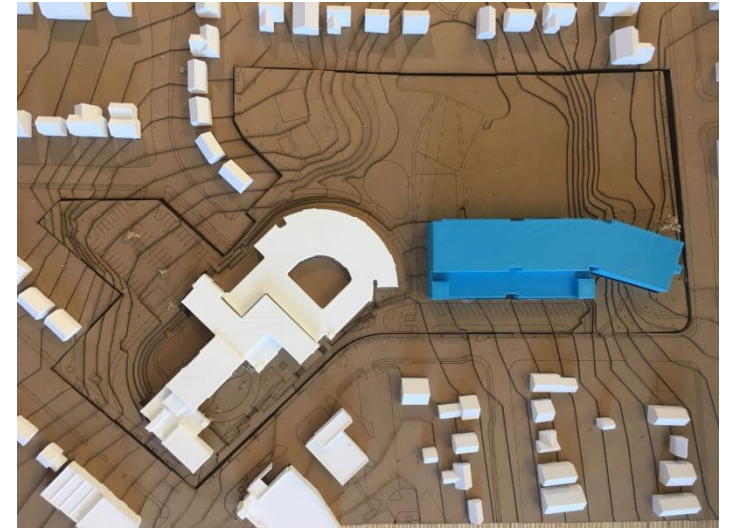
SOUTH SCHEME - MODIFIED



REPLACEMENT SCHEME



STANDALONE SCHEME



NORTH SCHEME

No Easy Fire Truck
Access Around New
Addition

Significant Loss of Trees,
Including Root Zones of
Trees with Canopy
Outside of Property Line

Re-routing of Utility Lines
into Washington Blvd
(shown in dashed line)



Existing building, designed in 2007, was built for a very specific program.

Instructional Concerns

Appropriate for early childhood programs, but...

Inefficient layout

Space constrained for older students

Visibility/Security (curved corridors)

Tight circulation & hallway widths

Circuitous distances between programs

No extended learning areas

No small group instruction

Design and Construction Concerns

Cost and constructability of adding second floor

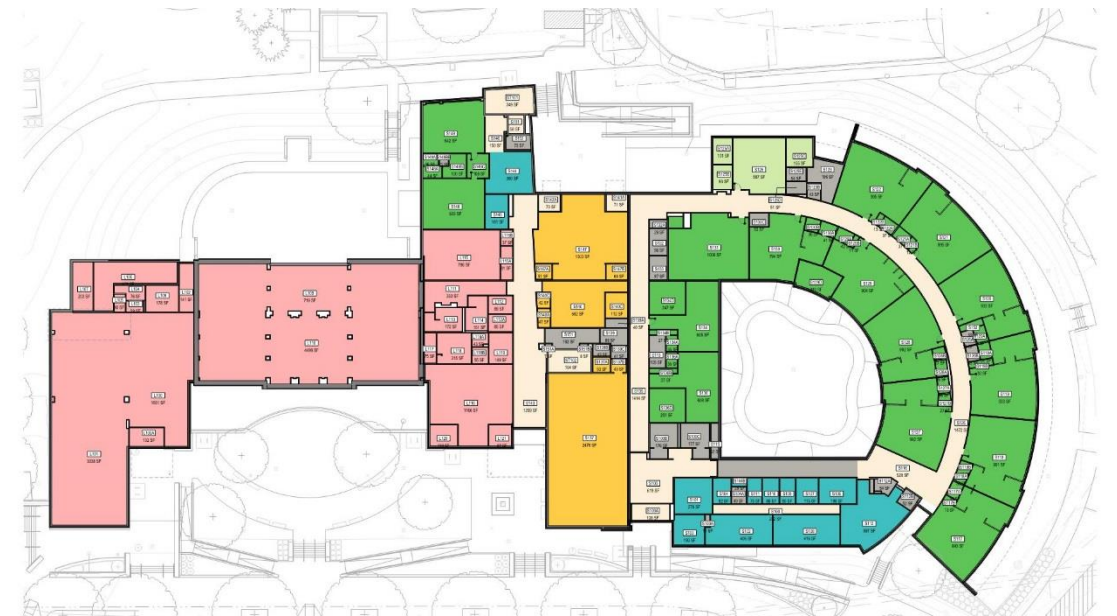
With a second floor, still need 63K-65K additional square feet

Below average energy efficiency

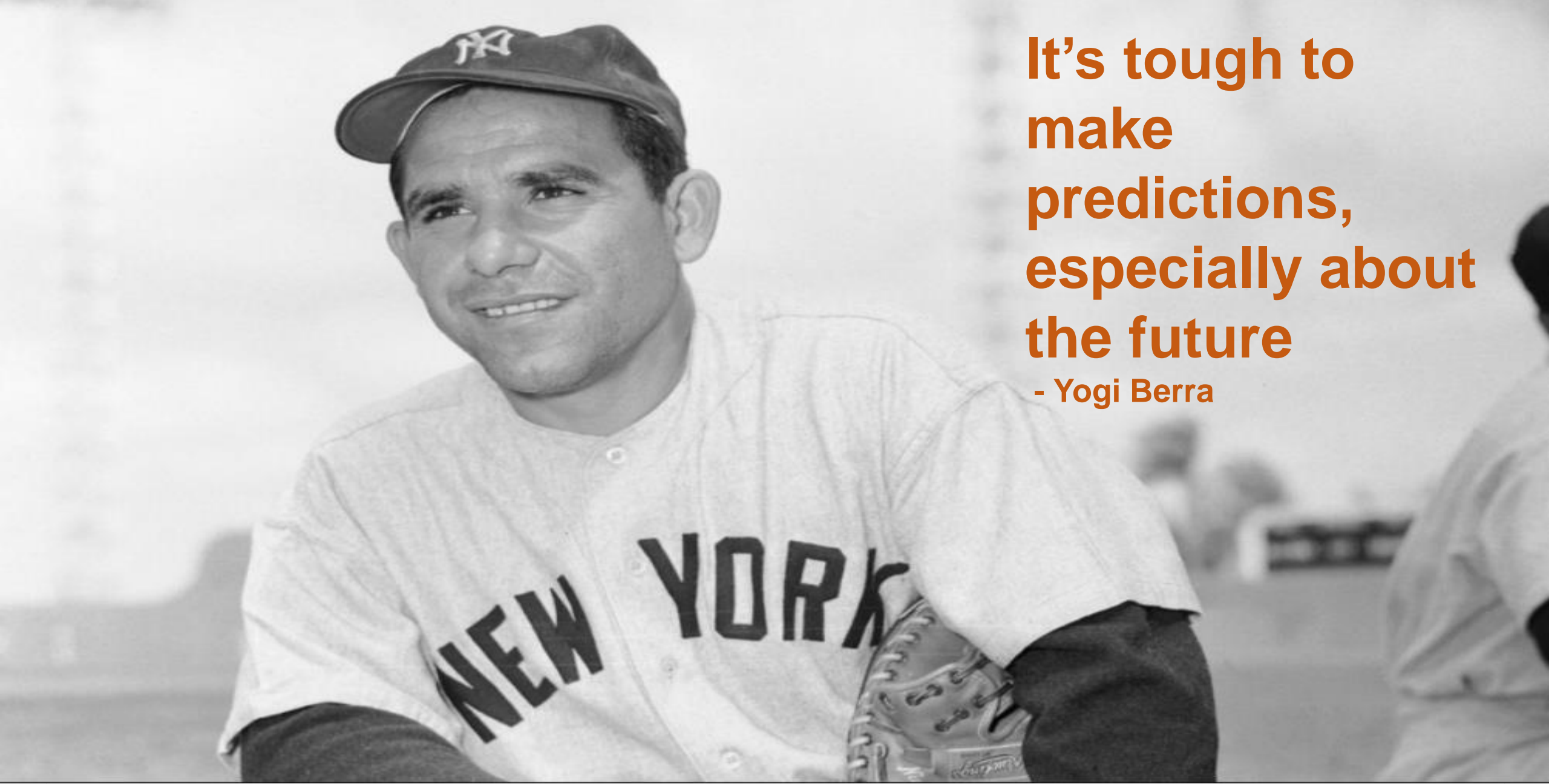
“Long Life”, but not “Loose Fit”



Existing Building: 2nd Floor



Existing Building: 1st Floor



**It's tough to
make
predictions,
especially about
the future**
- Yogi Berra

NORTH SCHEME - MODIFIED



EAST SCHEME



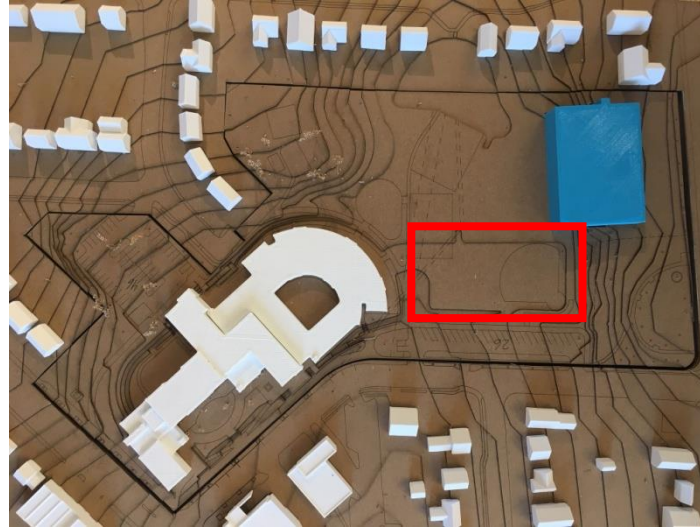
SOUTH SCHEME - MODIFIED



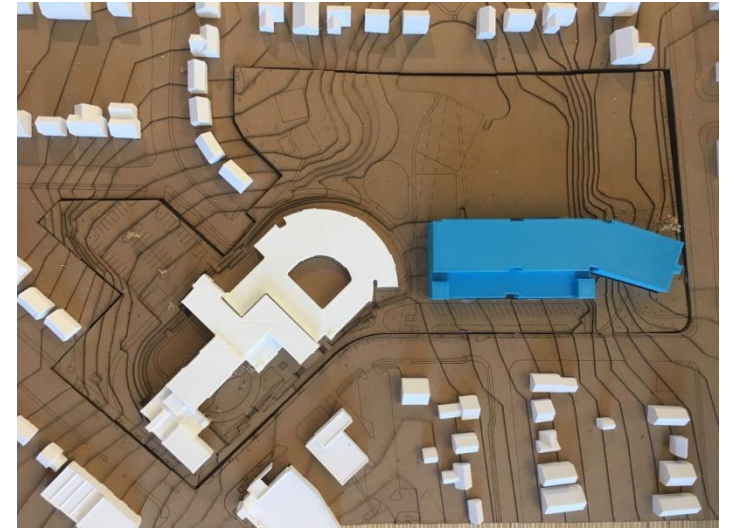
INTEGRATED SCHEME



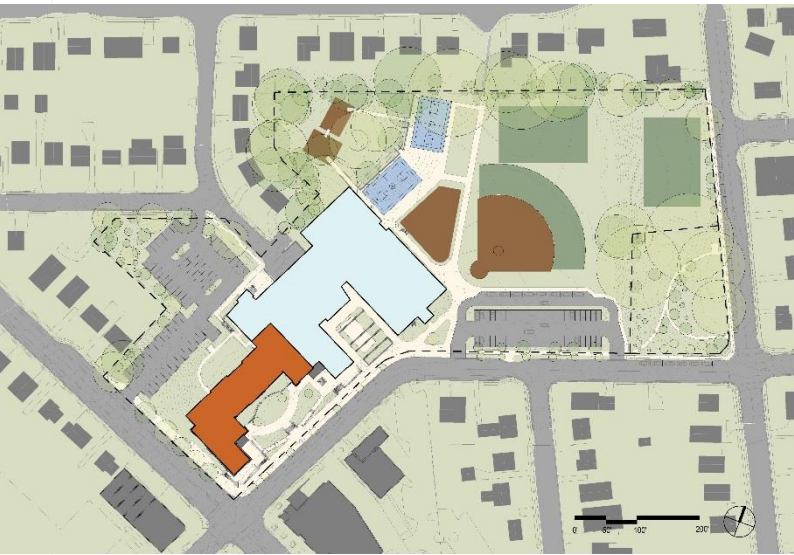
UPPER/LOWER SCHEME



STANDALONE SCHEME

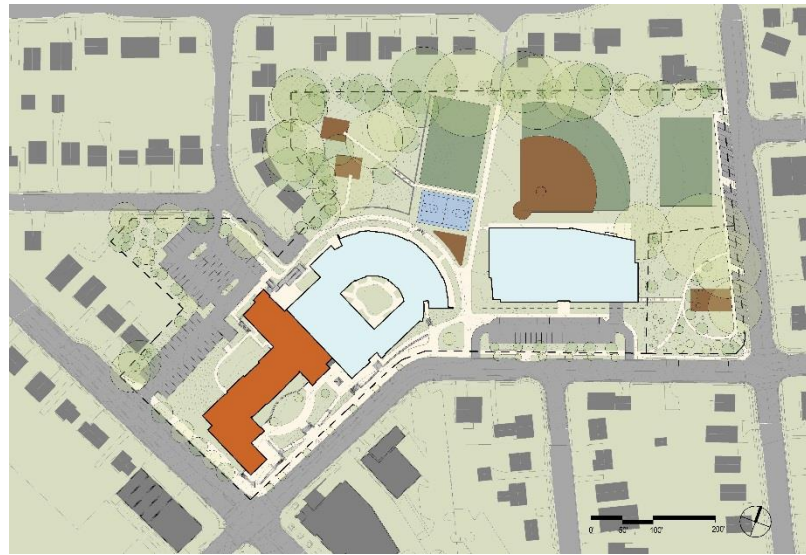


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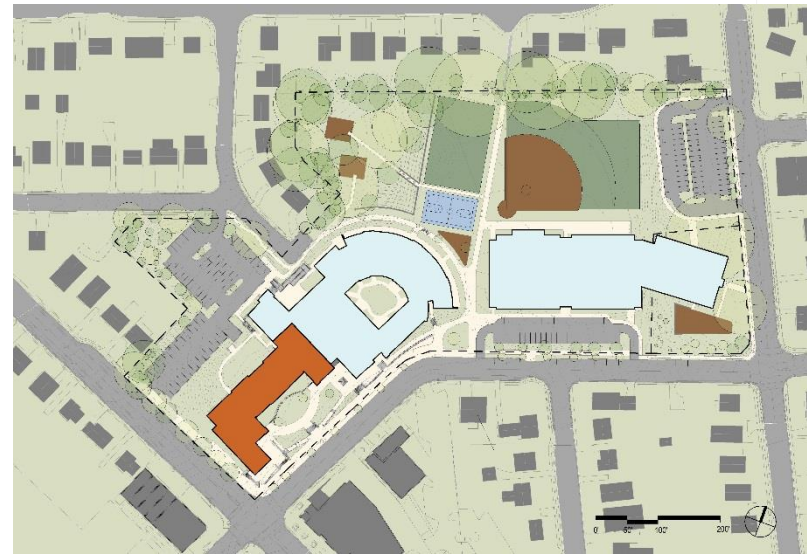
Middle Construction Cost
Highest Cost per Seat
Lowest Impervious Surface

UPPER/LOWER



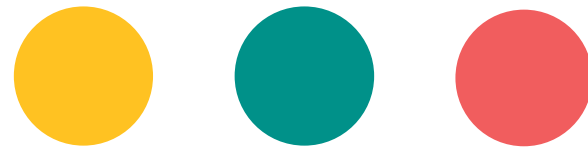
Lowest Construction Cost
Middle Cost per Seat
Middle Impervious Surface

STANDALONE



Highest Construction Cost
Lowest Cost per Seat
Highest Impervious Surface

STANDALONE SCHEME

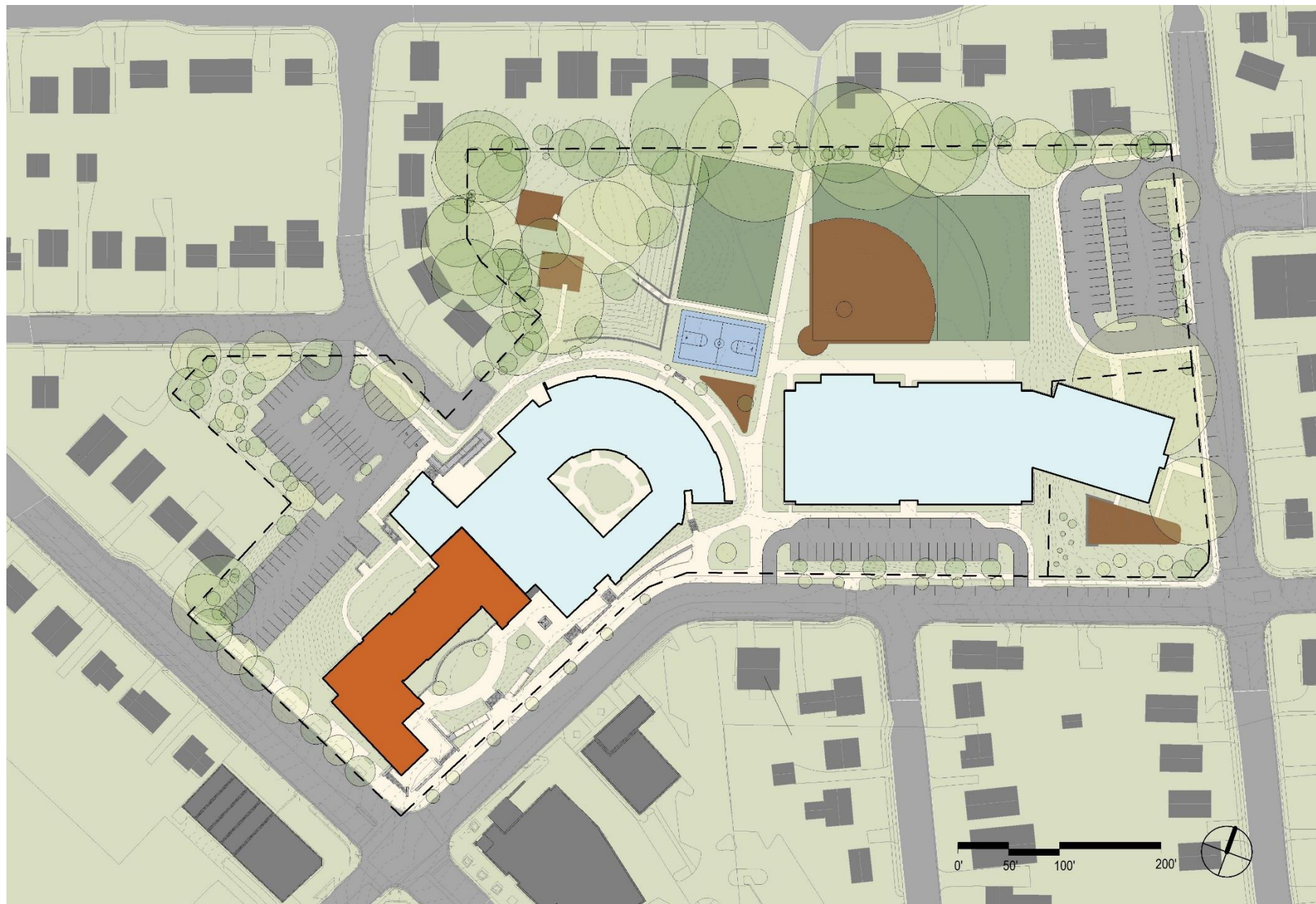


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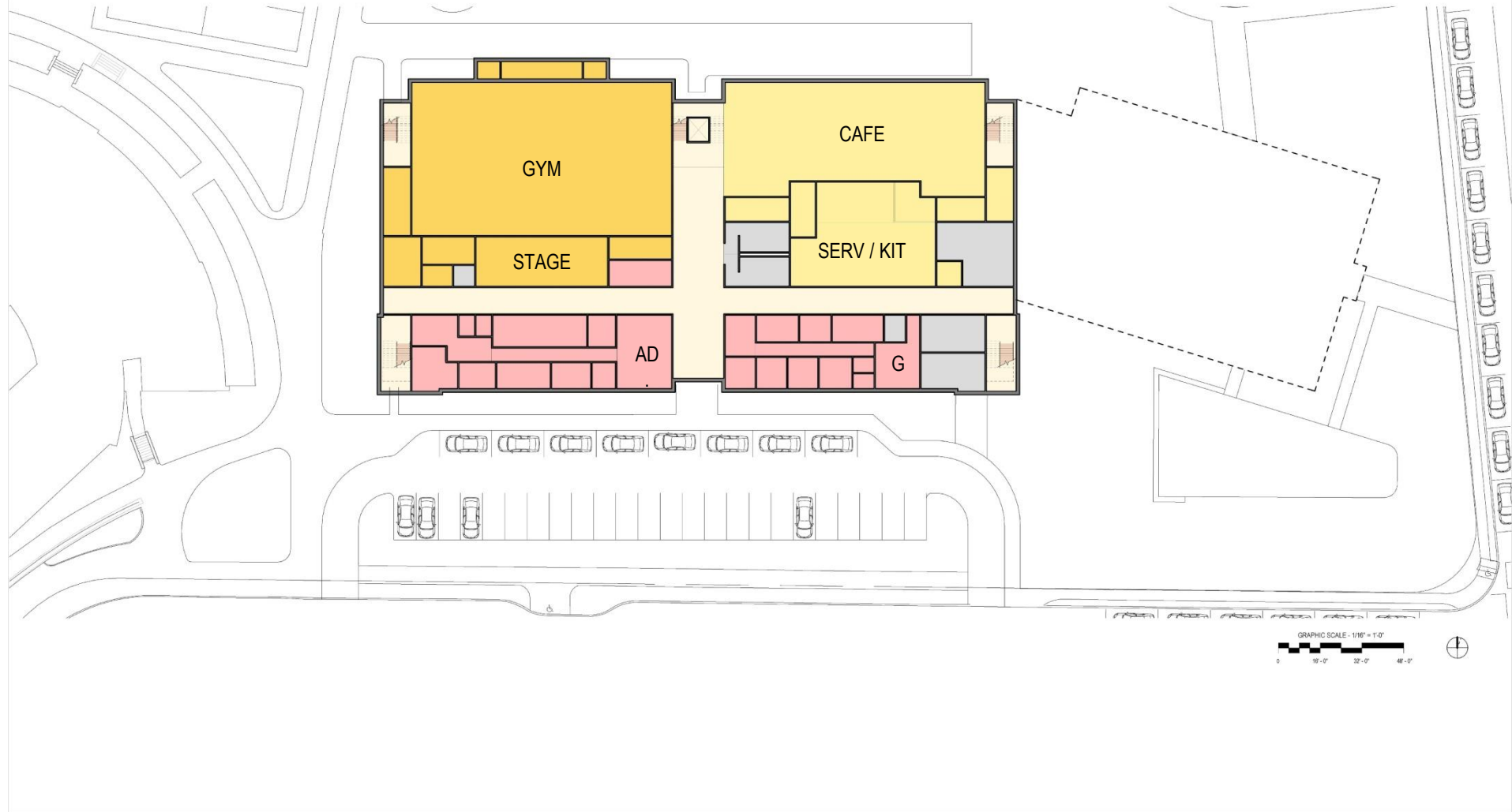


STANDALONE SCHEME

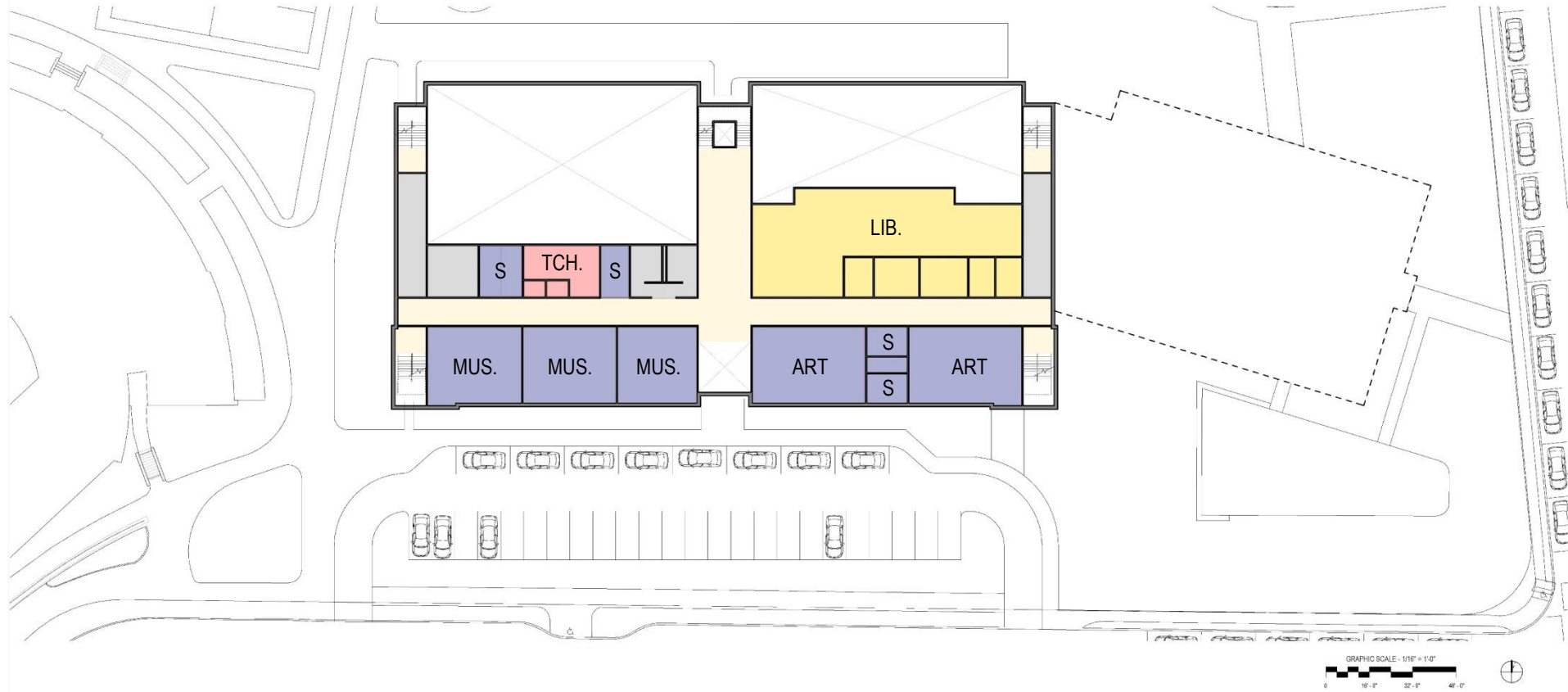
- +1 to +3 Cost v/s Budget (\$M)
- \$50-52K Cost per seat
- 1,003 Total student capacity (747 ES, 256 Pre-K)
- 76,300 SF Total school footprint (blue)
- +62,700 SF Impervious area (compared to existing)
- 204 Parking req. by zoning
- 20 Est. parking reduction
- 157 On-site parking
- 27 On-street parking
- 184 Total parking



STANDALONE SCHEME



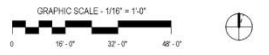
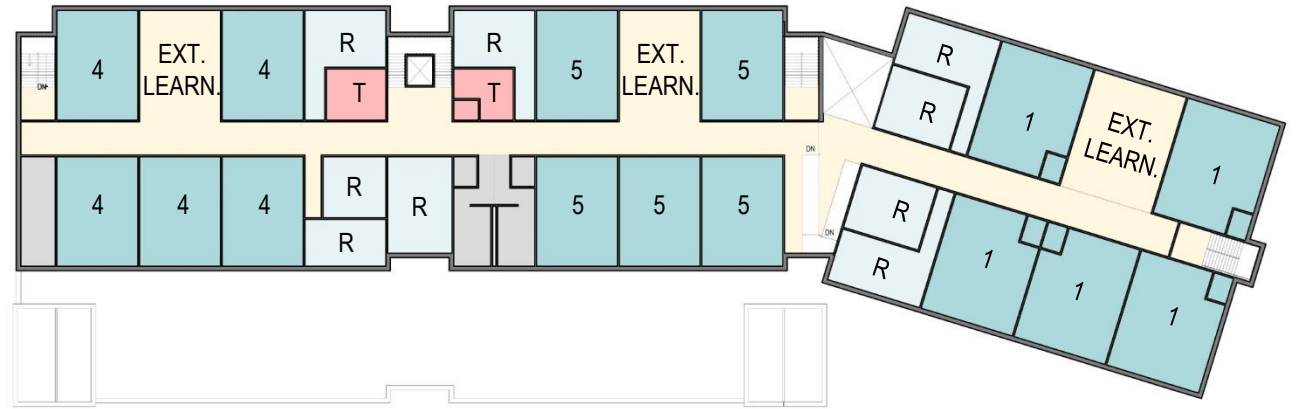
STANDALONE SCHEME



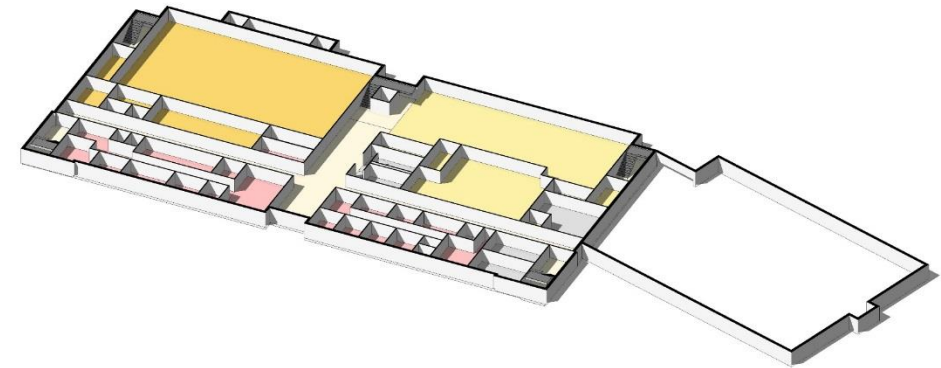
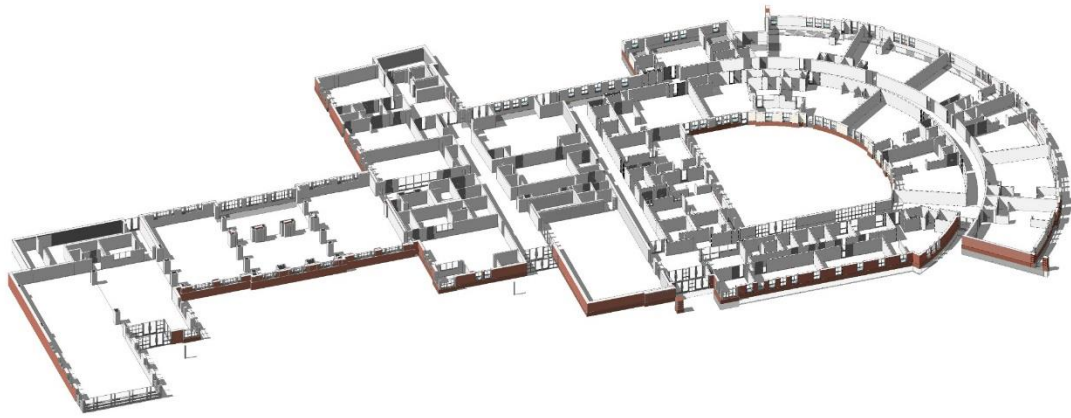
STANDALONE SCHEME



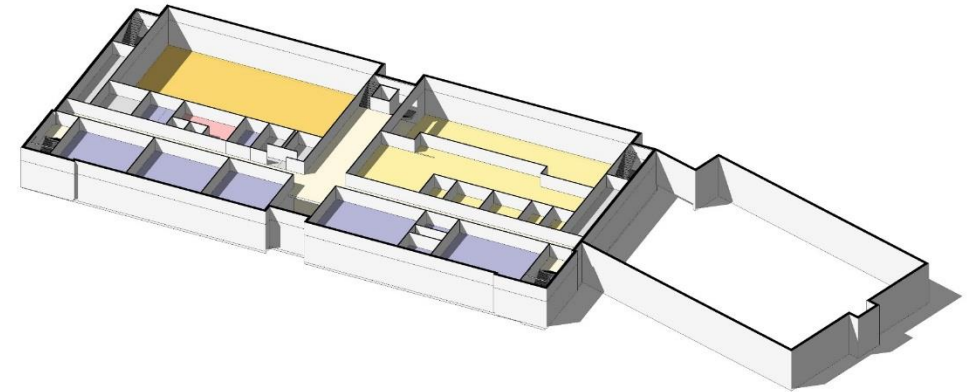
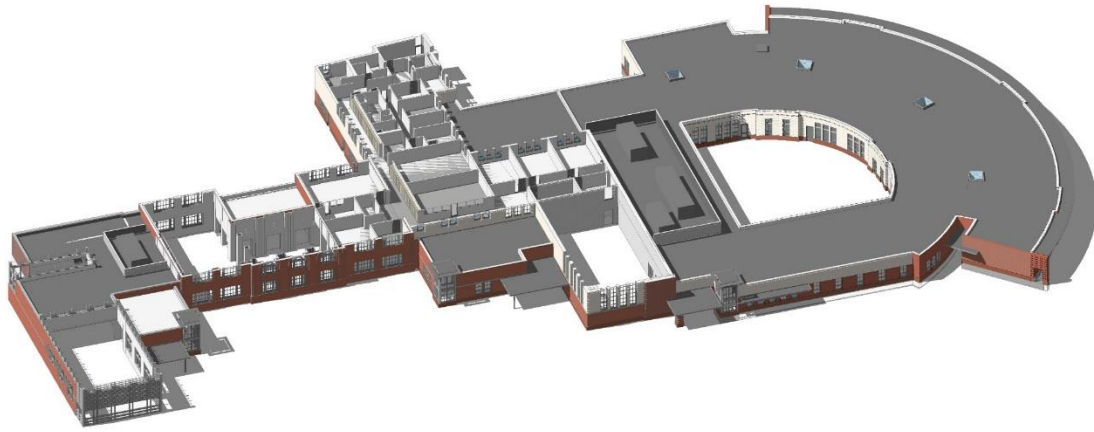
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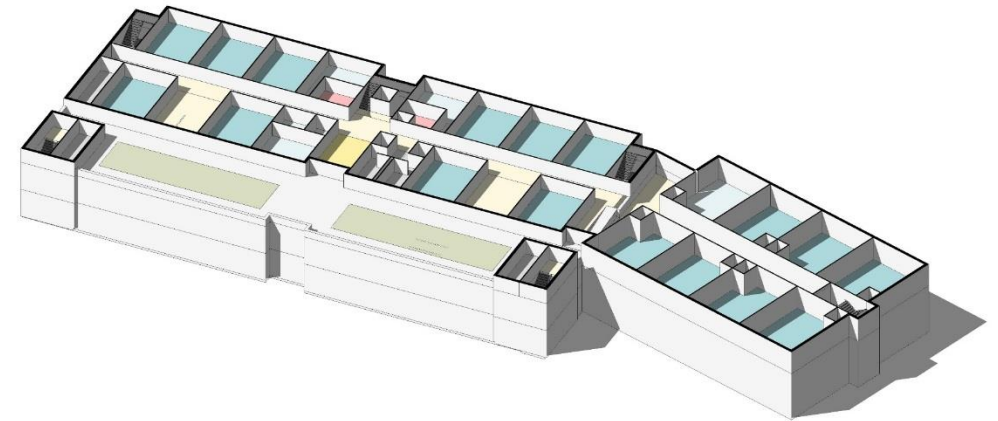
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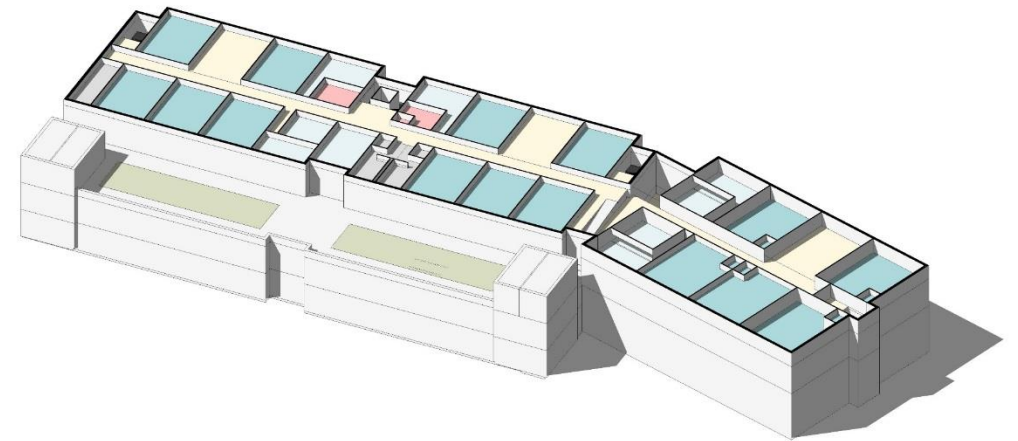
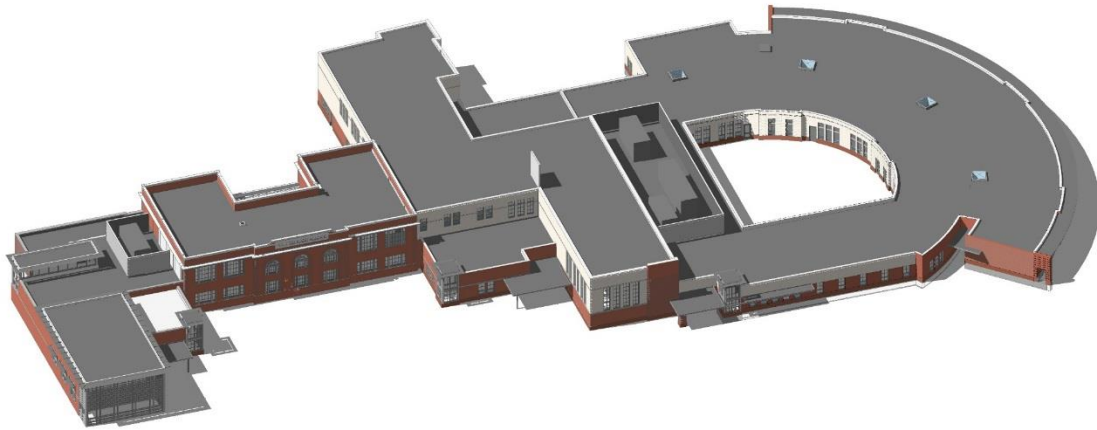
STANDALONE SCHEME



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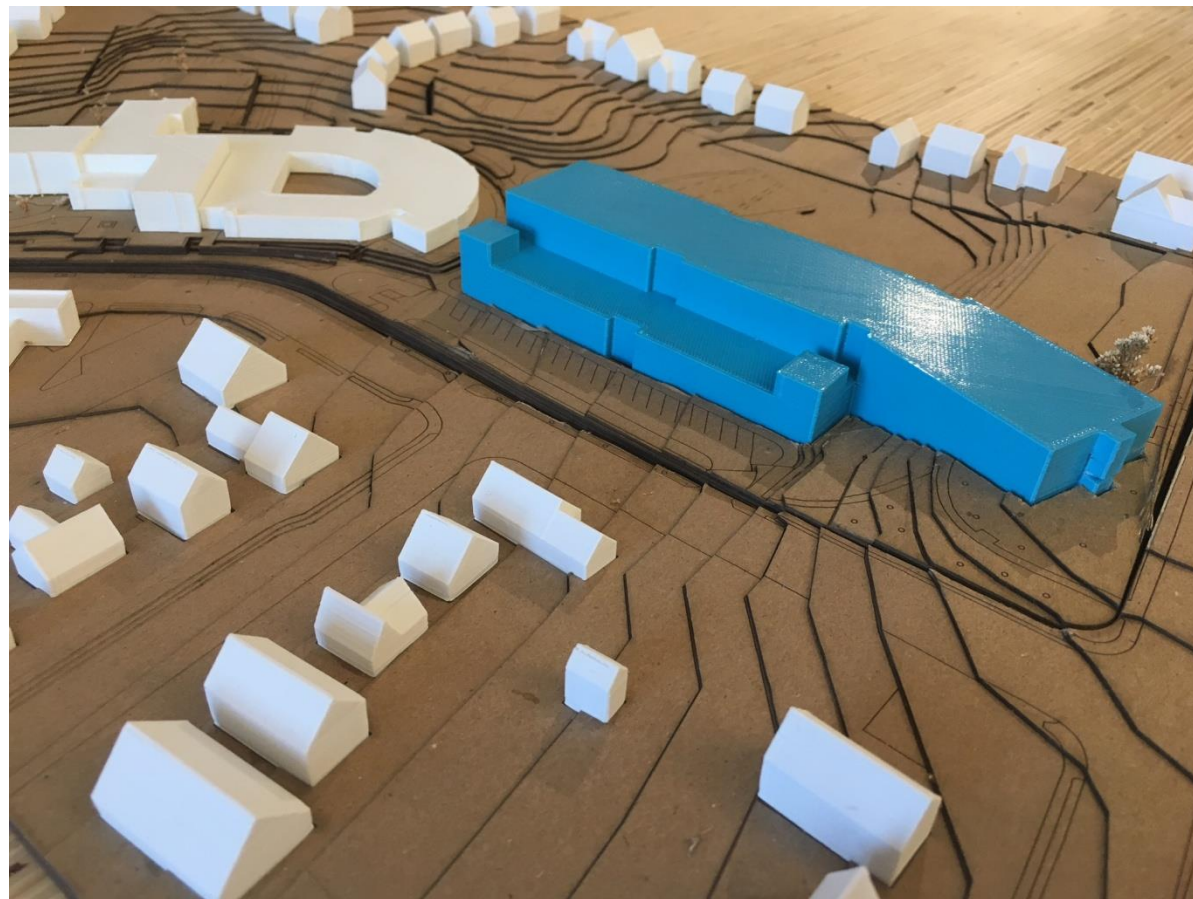
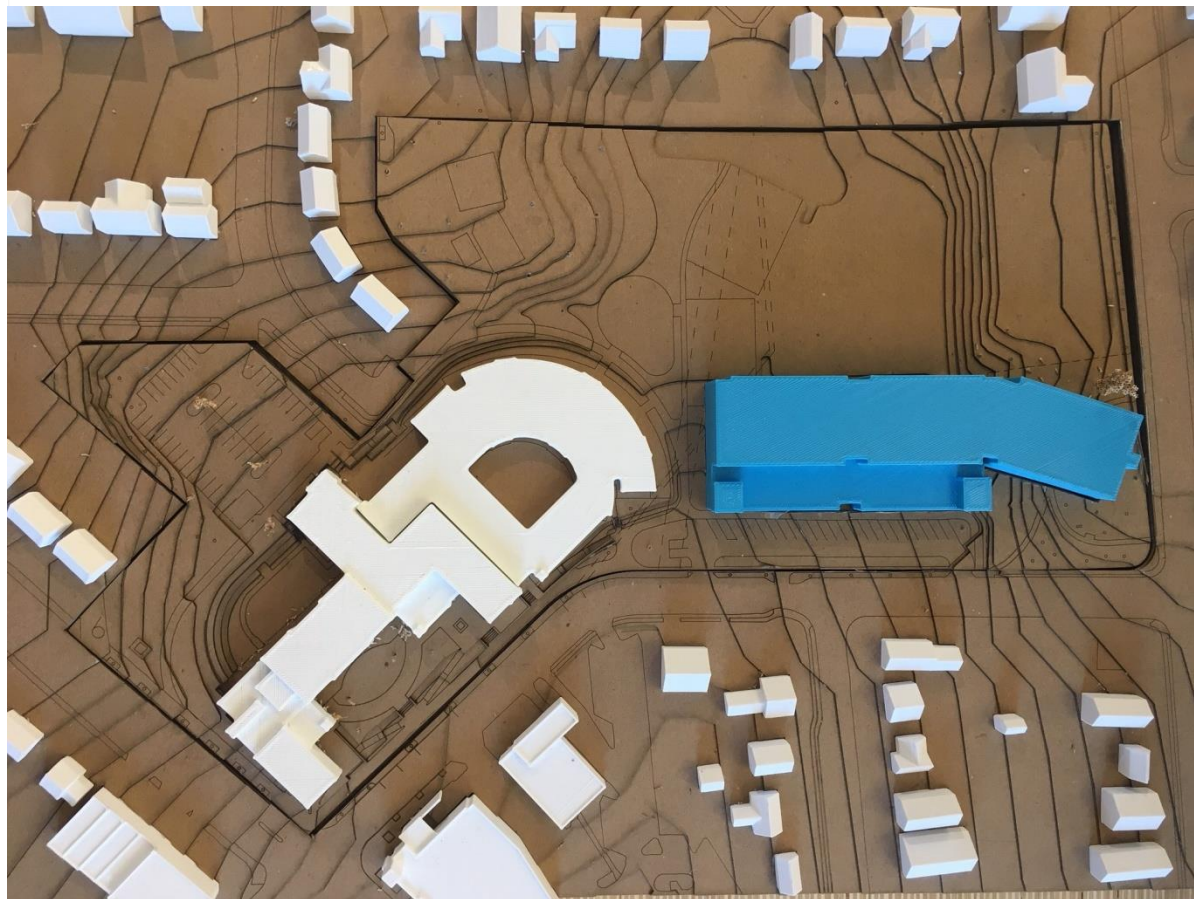


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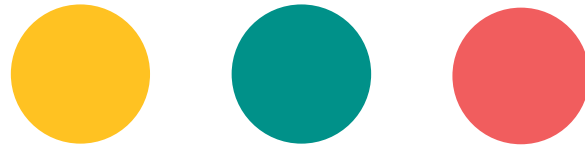


STANDALONE SCHEME

MASSING MODEL



UPPER / LOWER SCHEME

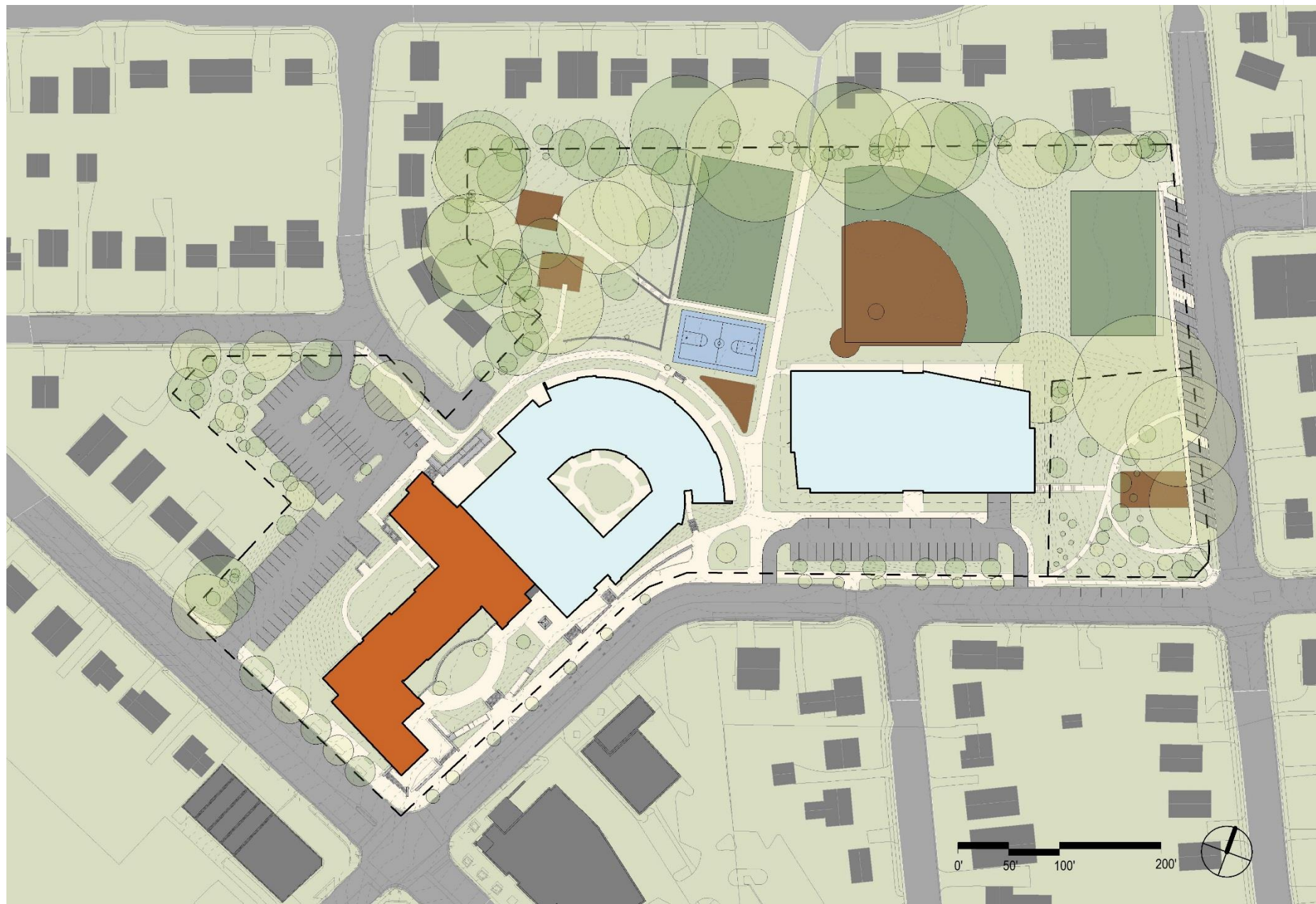


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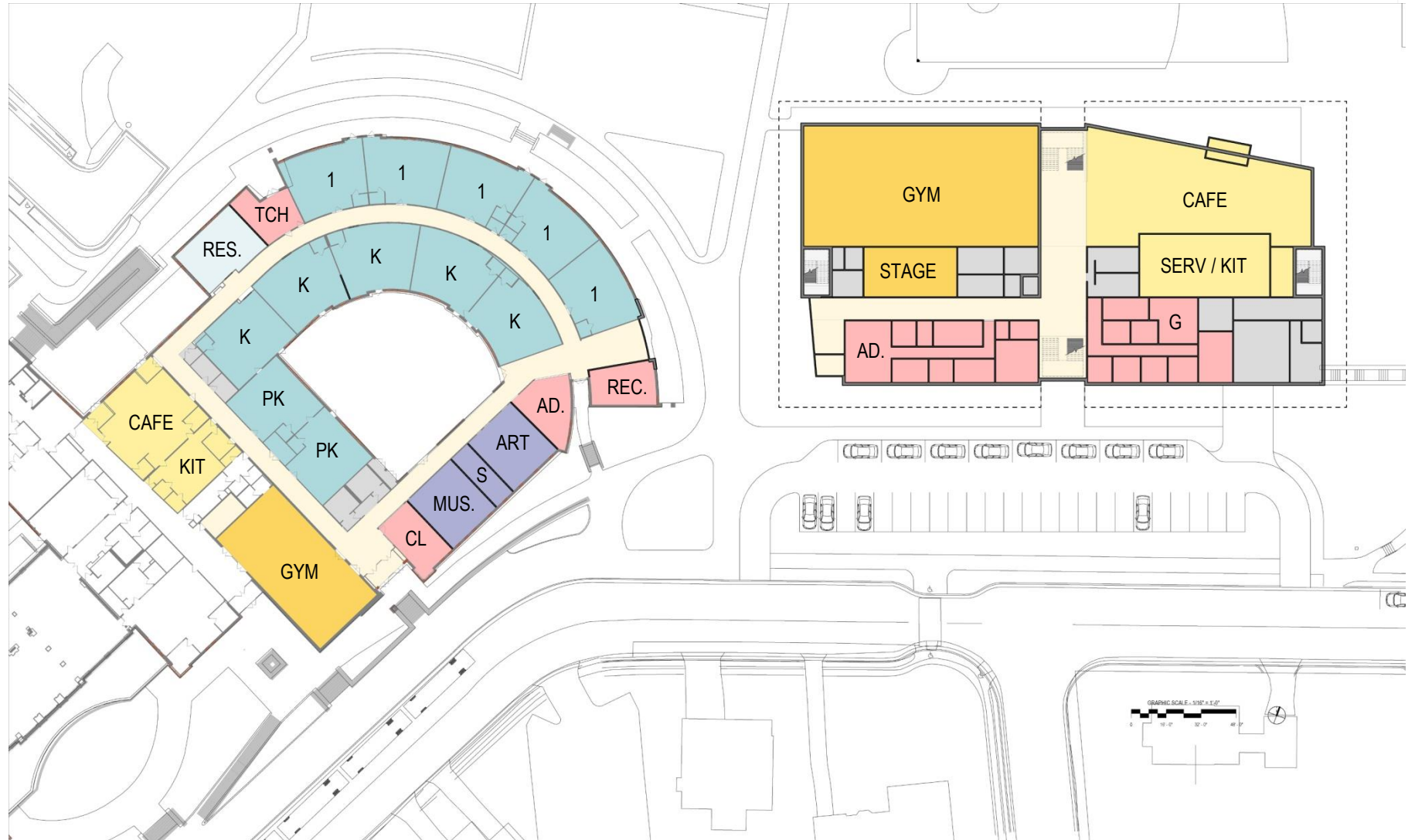


UPPER – LOWER SCHEME

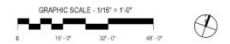
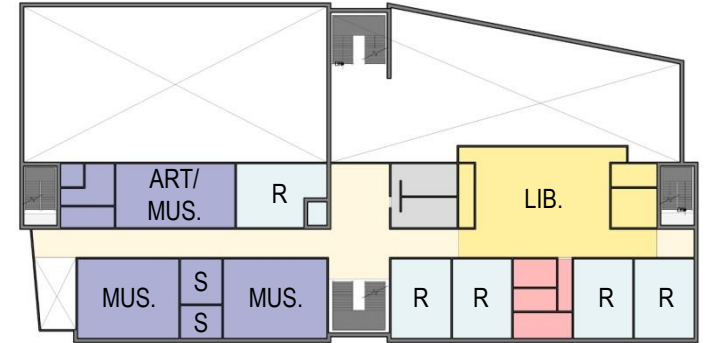
- 3 to -1 Cost v/s Budget (\$M)
- \$63-66K Cost per seat
- 732 Total student capacity
- 58,600 SF Total school footprint (blue)
- +37,300 SF Impervious area (compared to existing)
- 165 Parking req. by zoning
- 20 Est. parking reduction
- 139 On-site parking
- 6 On-street parking
- 145 Total parking



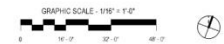
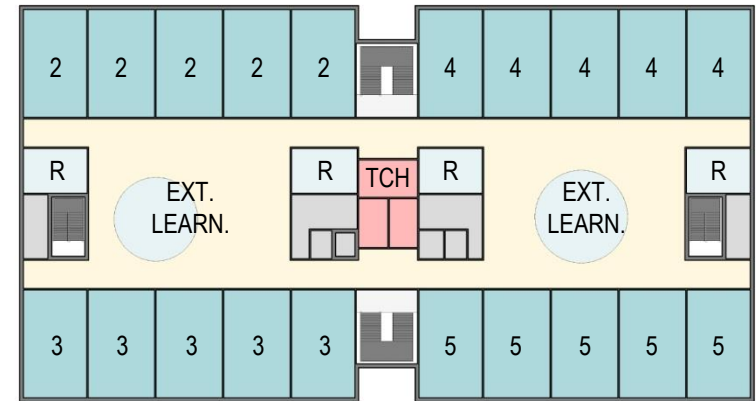
UPPER/LOWER SCHEME



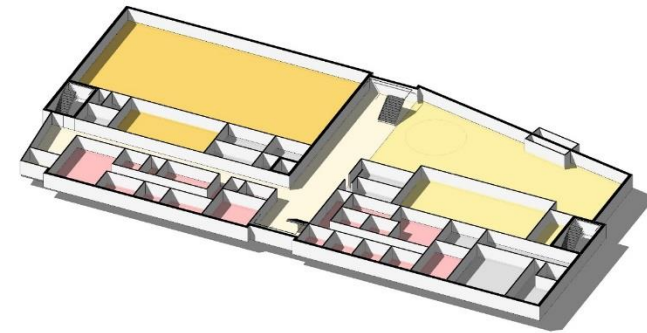
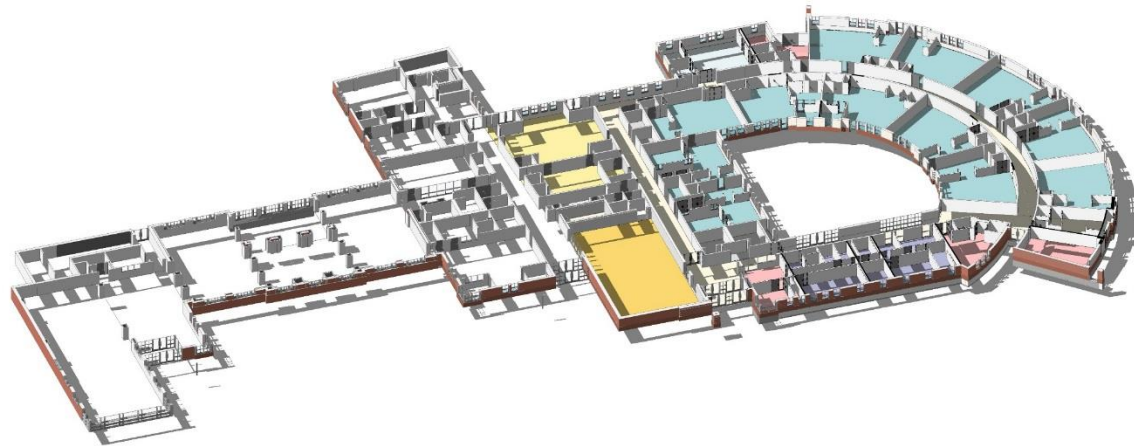
UPPER/LOWER SCHEME



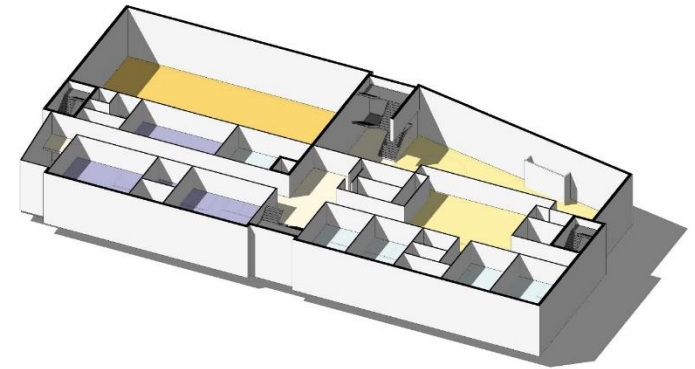
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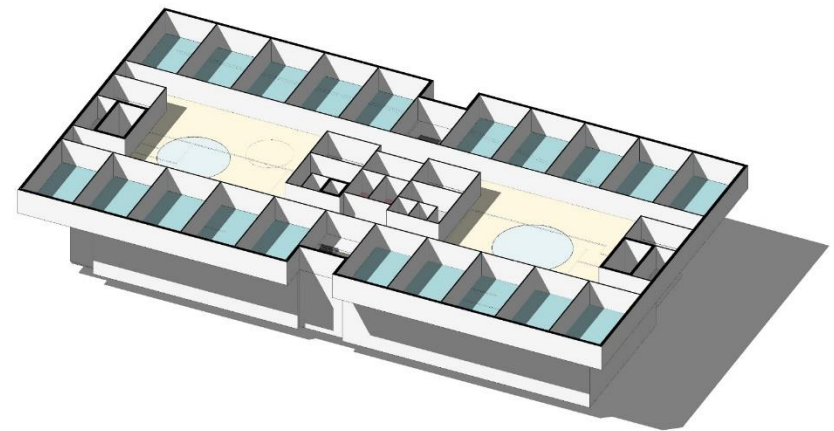
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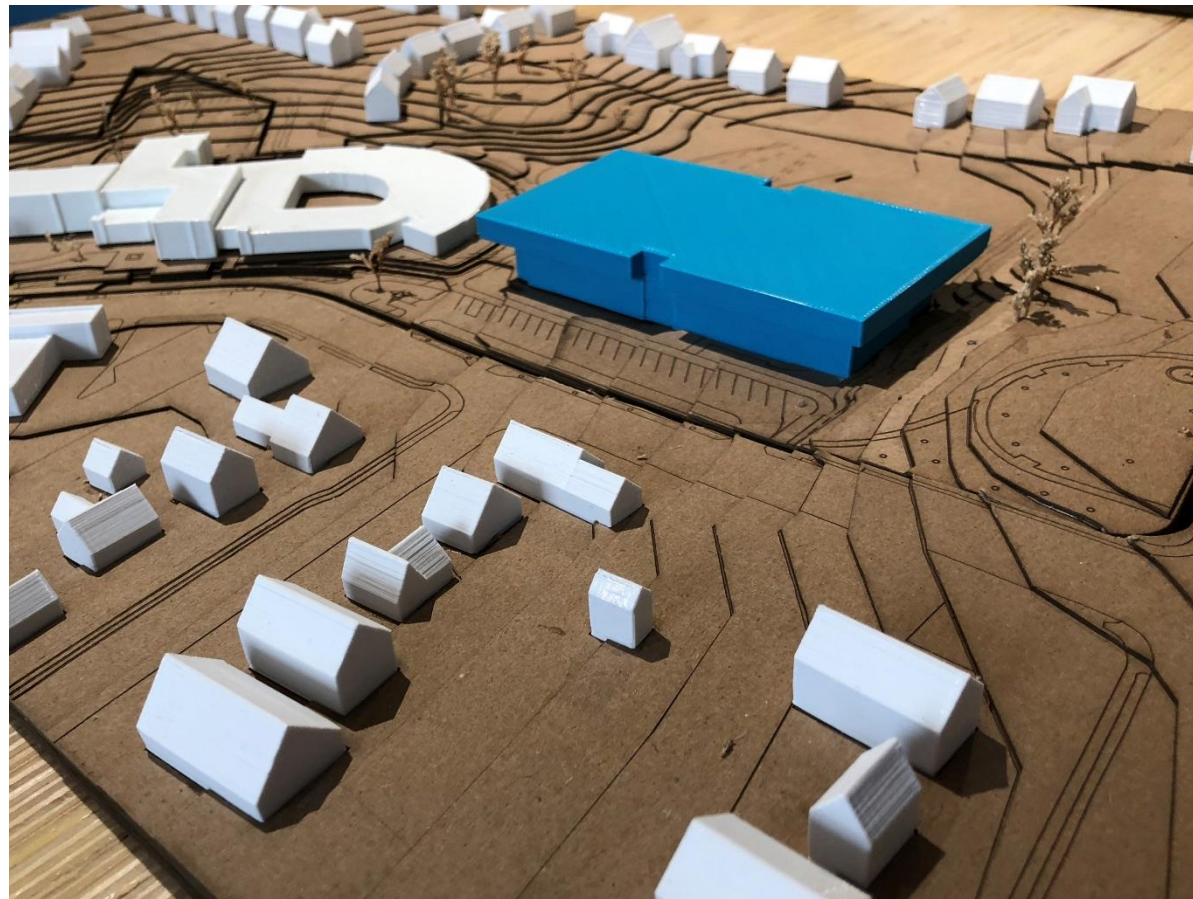
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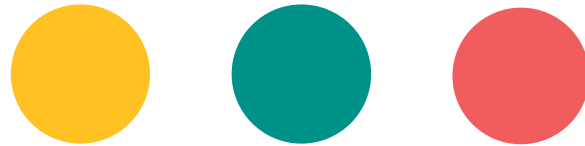
UPPER/LOWER SCHEME



UPPER LOWER SCHEME MASSING MODEL



INTEGRATED SCHEME

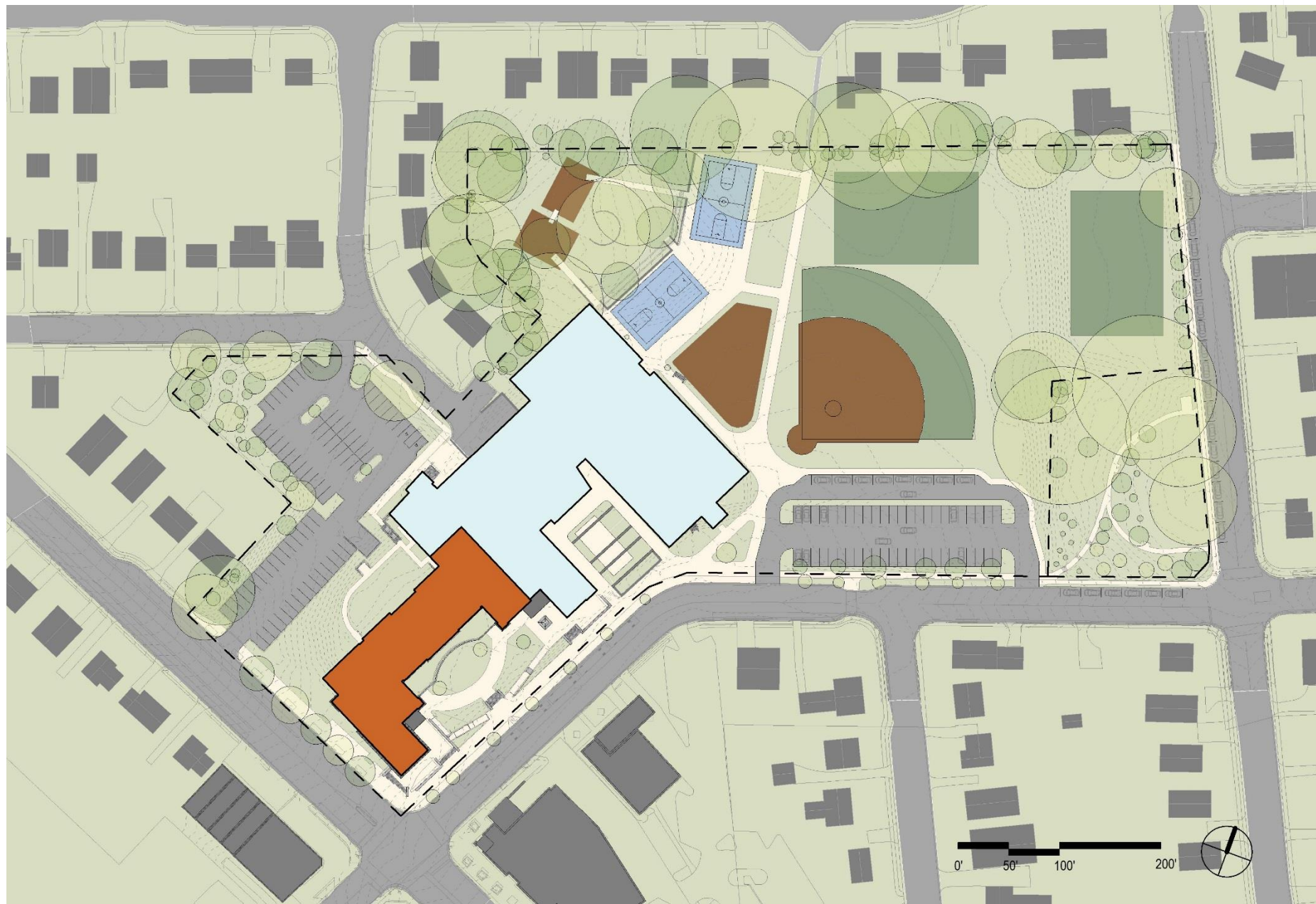


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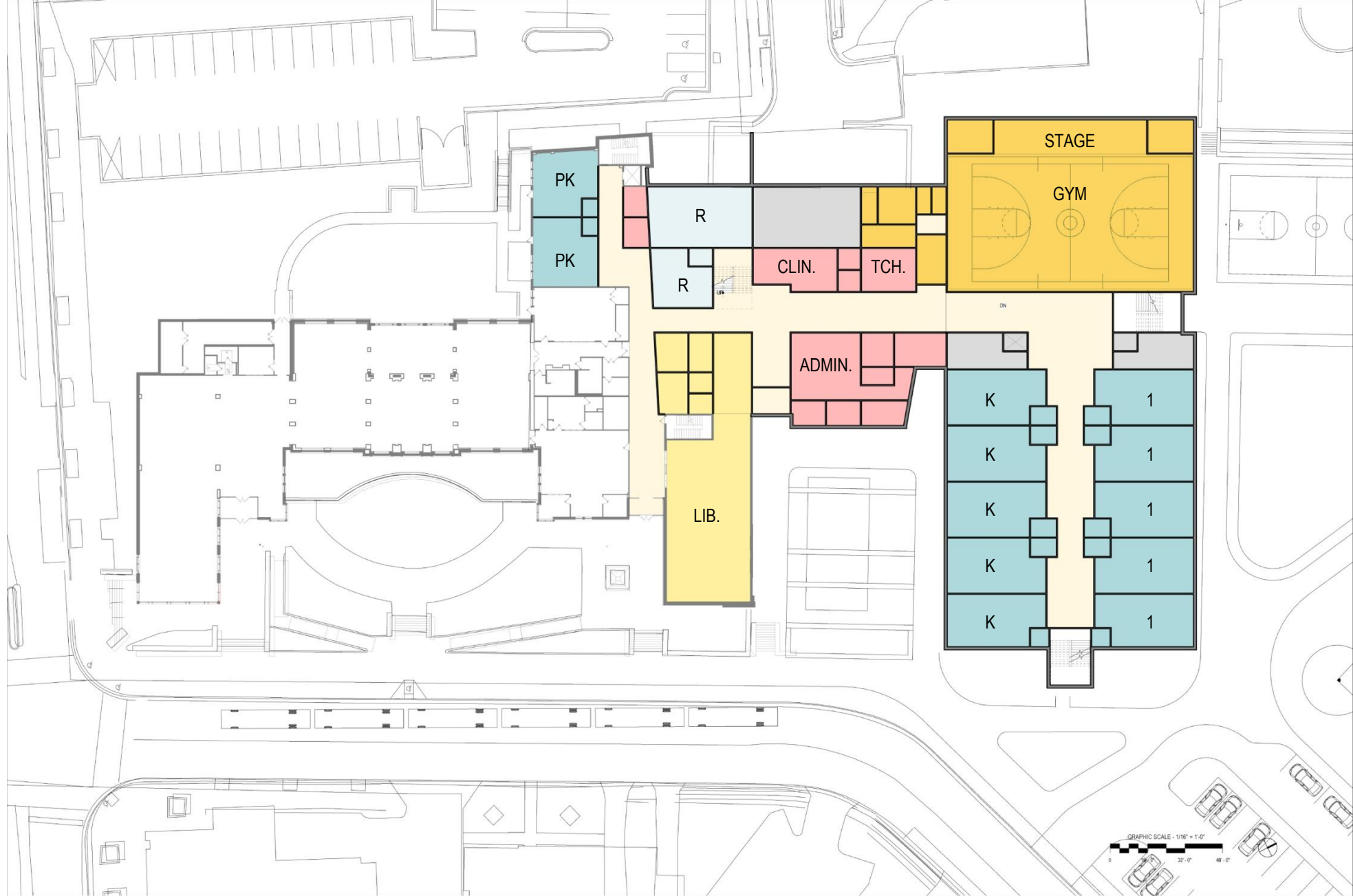


INTEGRATED SCHEME

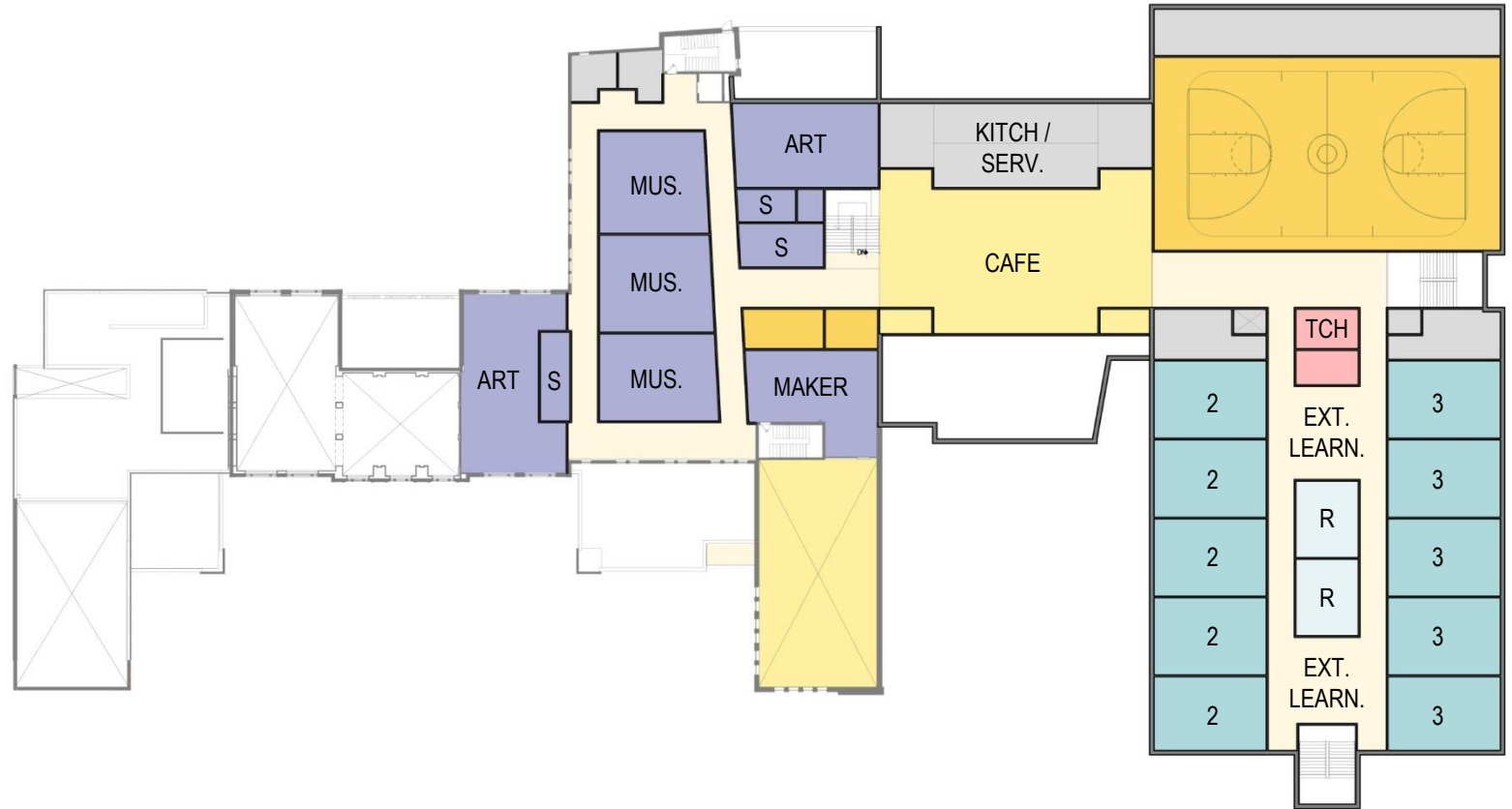
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- \$66-68K Cost per seat
- 732 Total student capacity
- 44,000 SF Total school footprint (blue)
- +16,800 SF Impervious area (compared to existing)
- 150 Parking req. by zoning
- 20 Est. parking reduction
- 133 On-site parking
- 24 On-street parking
- 157 Total parking



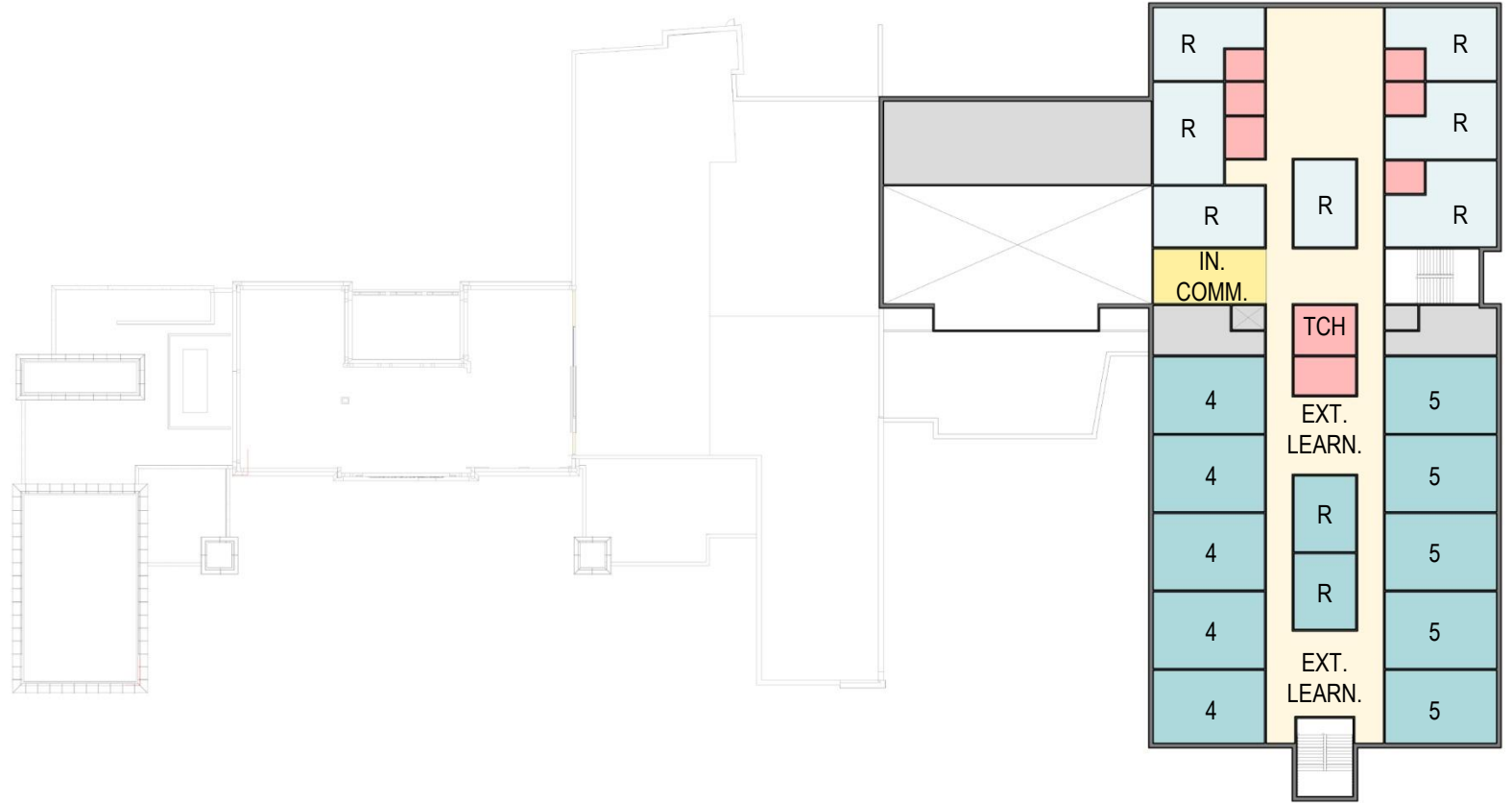
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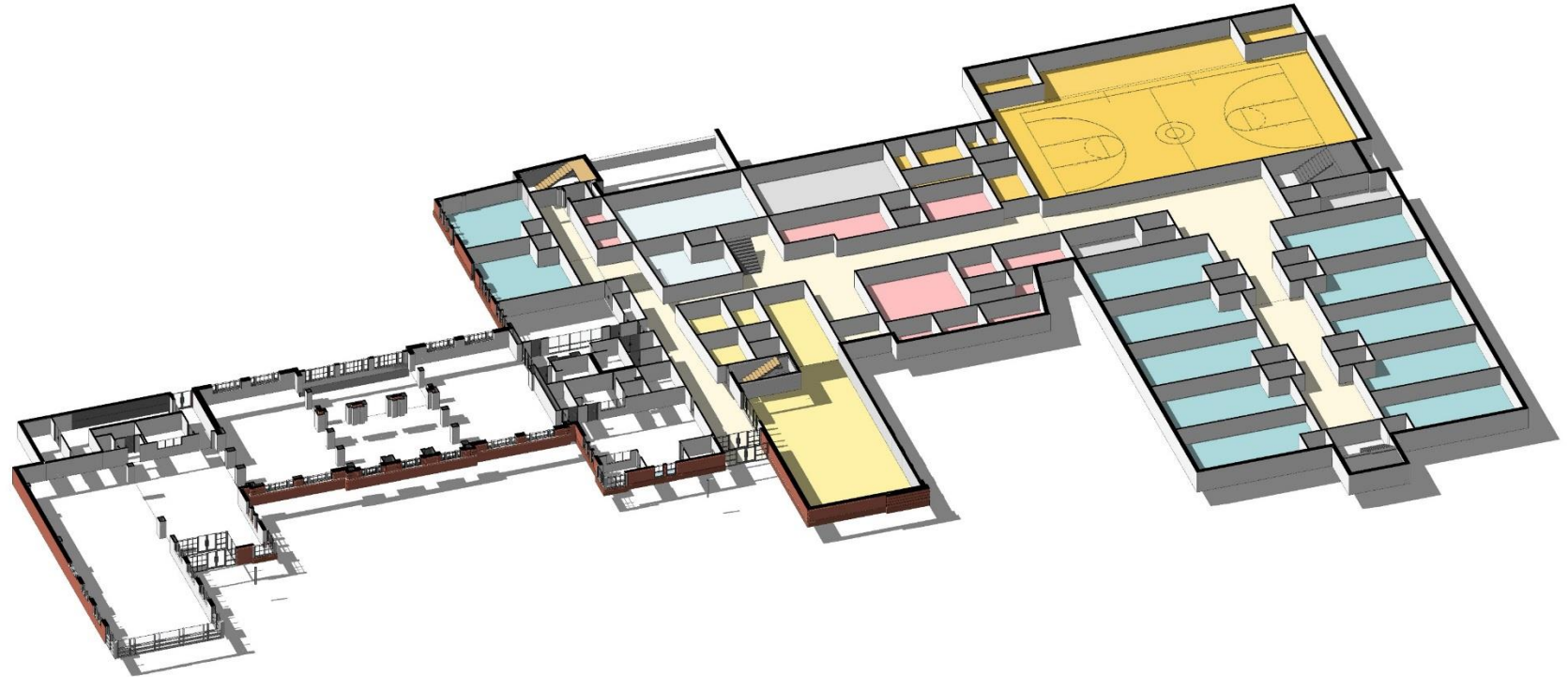
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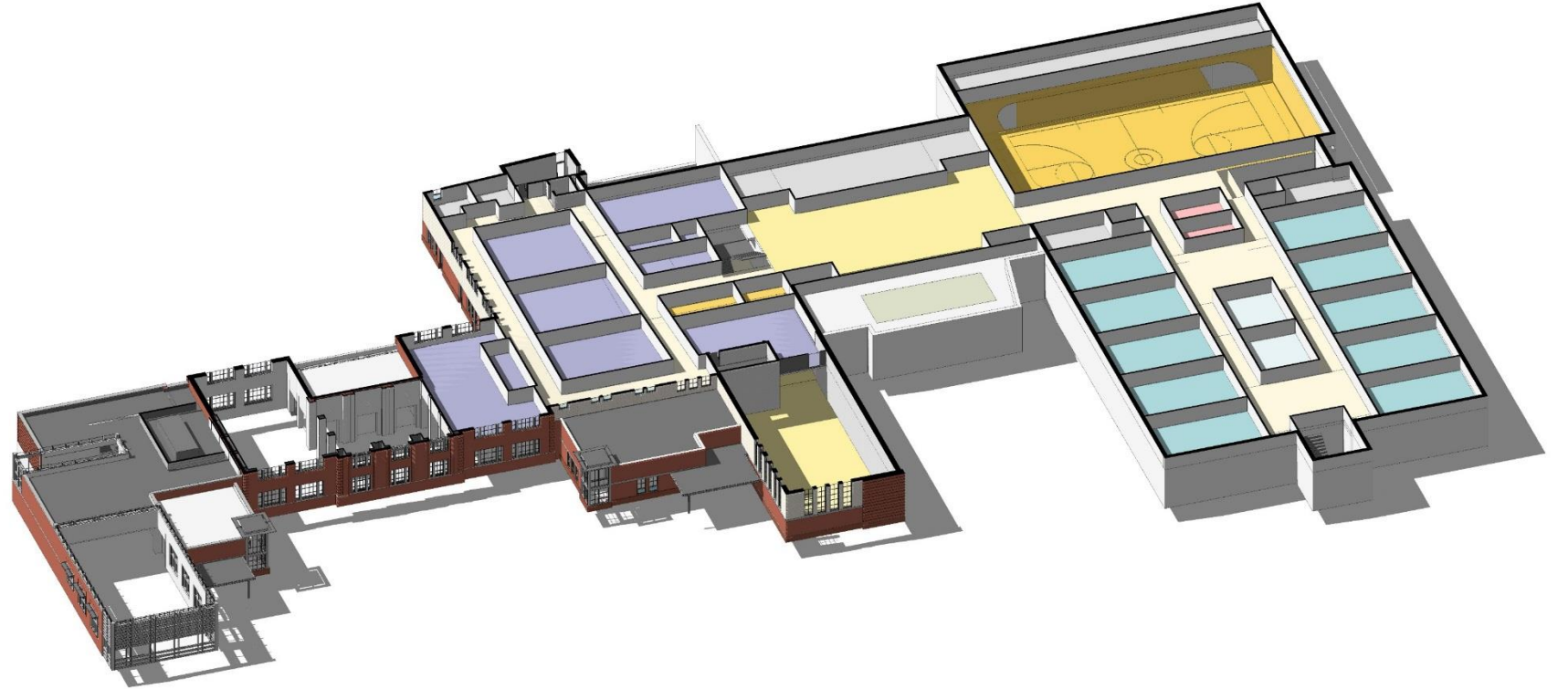
INTEGRATED SCHEME



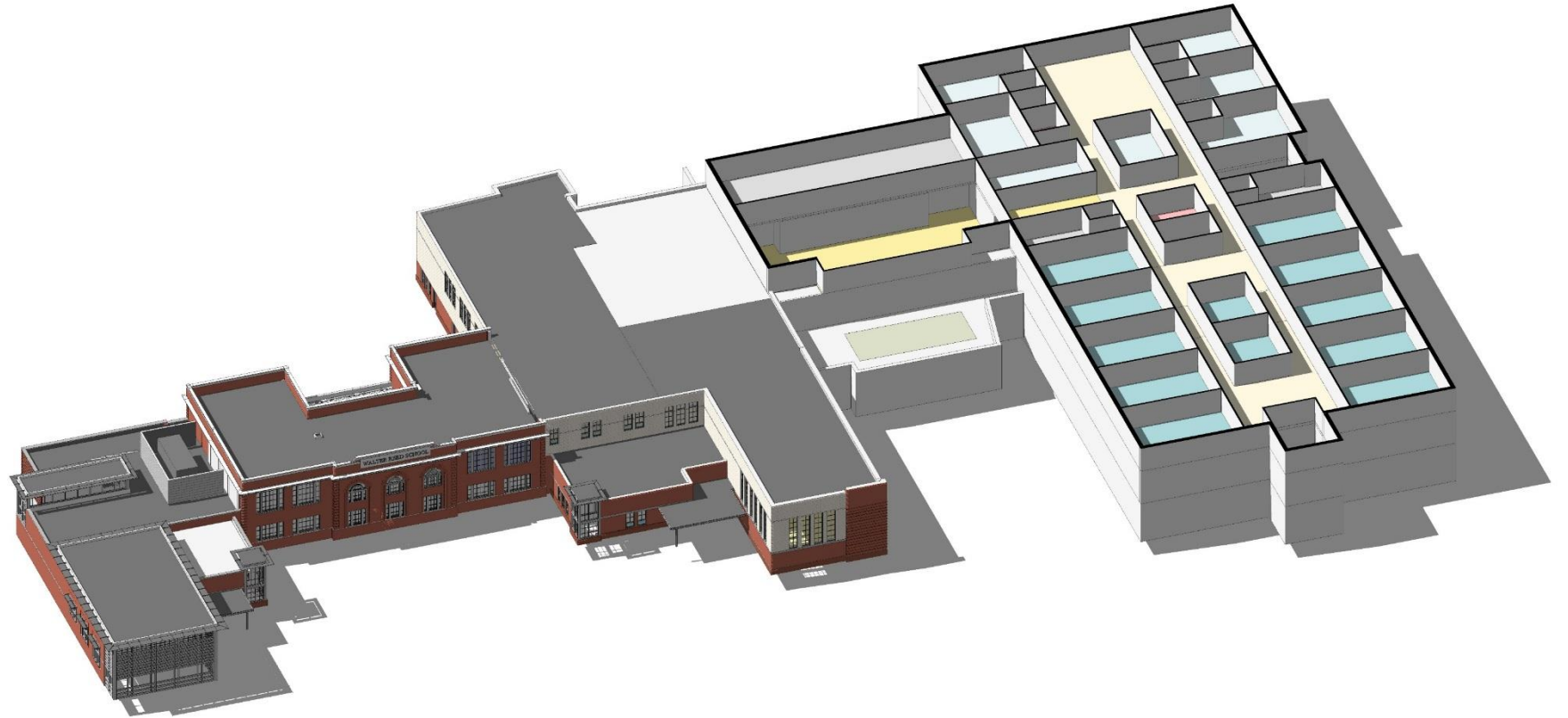
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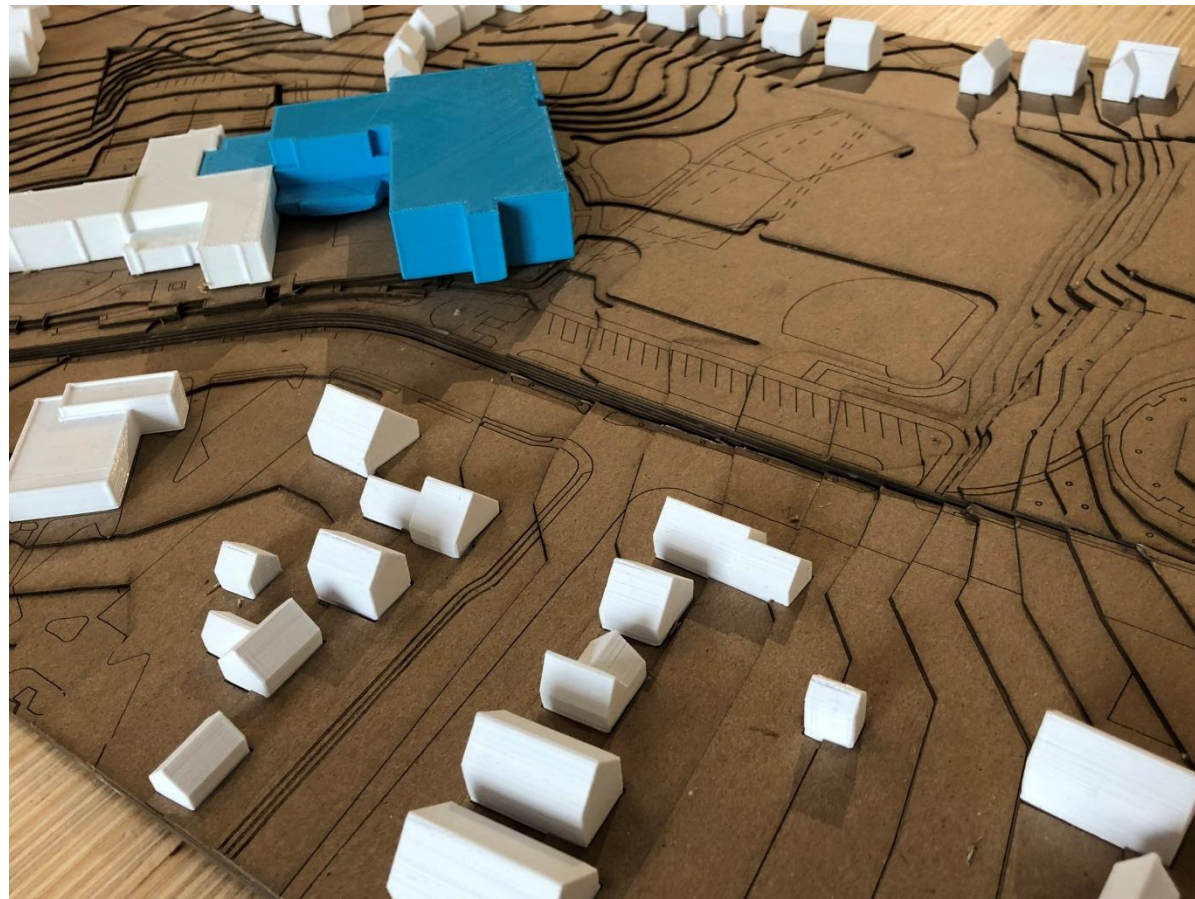
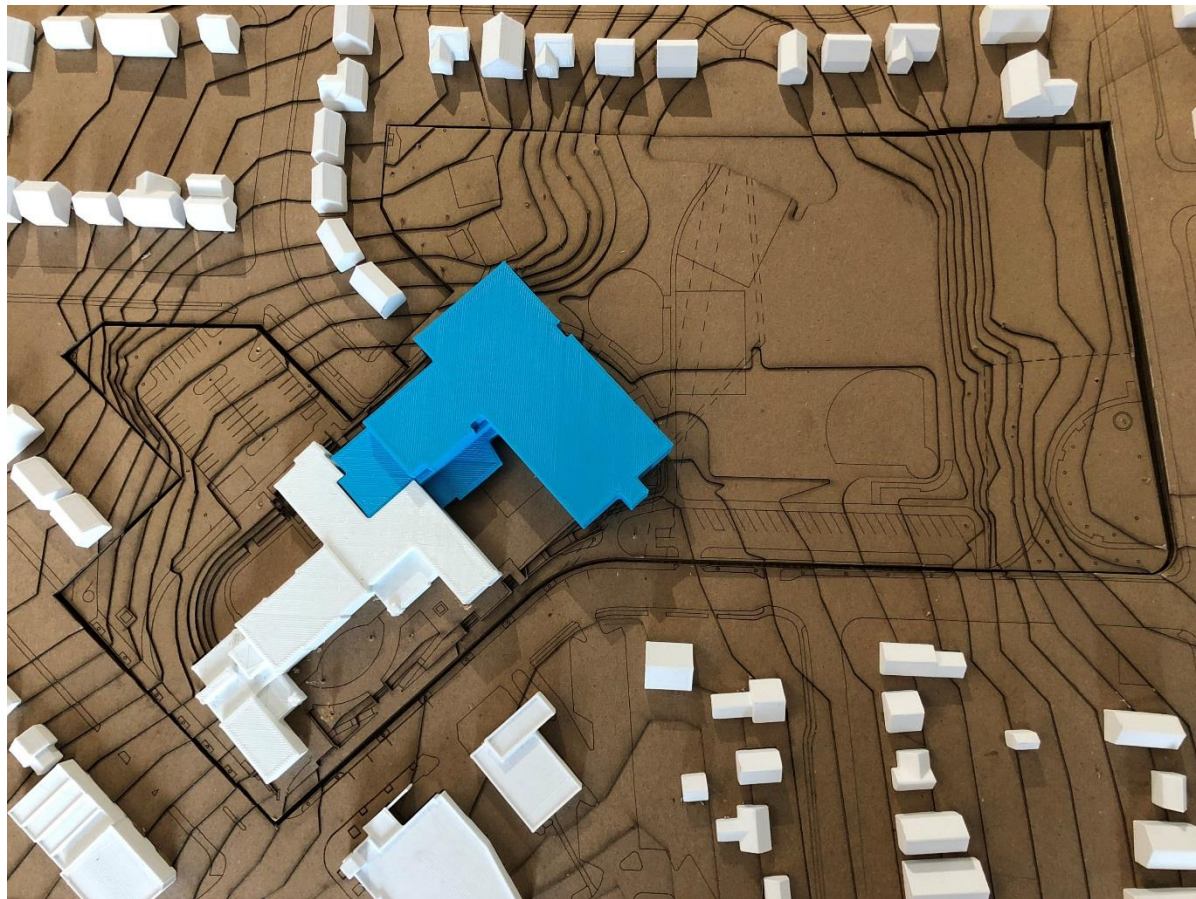
INTEGRATED SCHEME



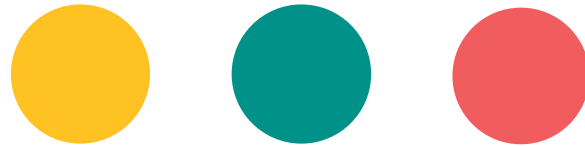
INTEGRATED SCHEME



INTEGRATED SCHEME MASSING MODEL



5. SCHEME COMPARISONS



INTEGRATED



Middle Cost

- Lowest Capacity (732)**
- Highest Cost per Seat**
- Lowest Impervious Surface**
- Lowest Total Energy Use per SF**
- Lowest Required Parking**

UPPER/LOWER



Lowest Cost

- Low to Middle Capacity (732+)**
- Middle Cost per Seat**
- Middle Impervious Surface**
- Middle Total Energy Use per SF**
- Middle Required Parking**

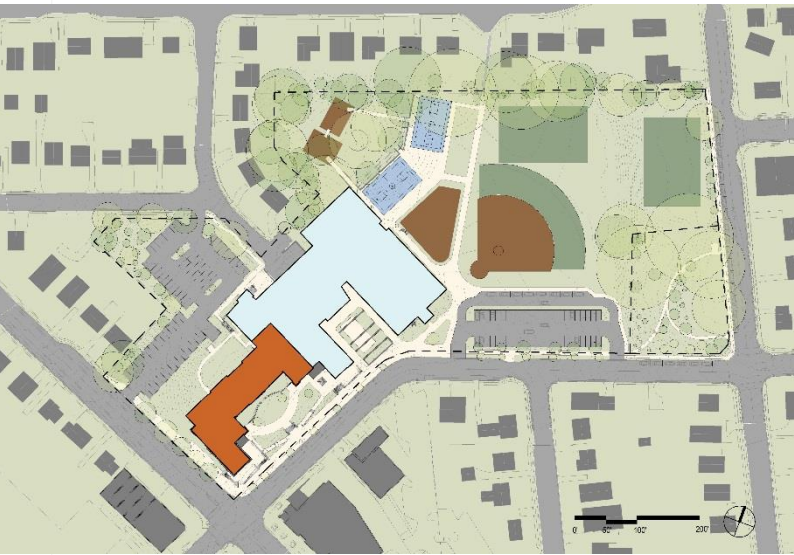
STANDALONE



Highest Cost

- Highest Capacity (1003)**
- Lowest Cost per Seat**
- Highest Impervious Surface**
- Highest Total Energy Use per SF**
- Highest Required Parking**

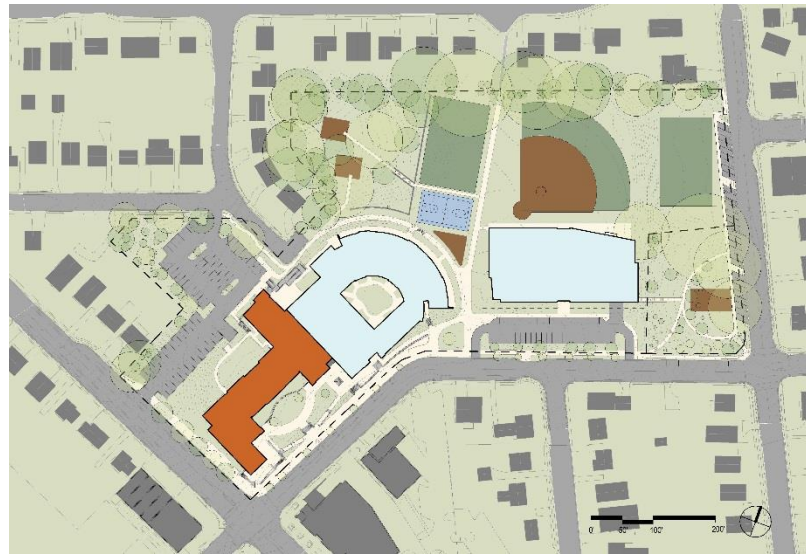
INTEGRATED



-1 to +1 Cost (\$ Million)
 \$66-68K Cost per seat
 732 Total student capacity
 44,000 SF Total school footprint
 (blue)
 +16,800 SF Impervious area
 (compared to existing)

150 Parking req. by zoning
 -20 Est. parking reduction
 133 On-site parking
 24 On-street parking
 157 Total parking

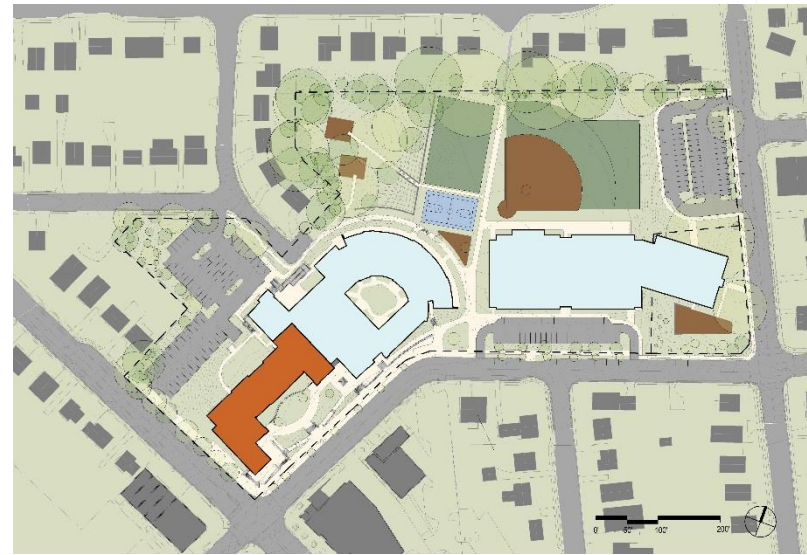
UPPER/LOWER



-3 to -1 Cost (\$ Million)
 \$63-66K Cost per seat
 732+ Total student capacity
 58,600 SF Total school footprint
 (blue)
 +37,300 SF Impervious area
 (compared to existing)

165 Parking req. by zoning
 -20 Est. parking reduction
 139 On-site parking
 6 On-street parking
 145 Total parking

STANDALONE



+1 to +3 Cost (\$ Million)
 \$50-52K Cost per seat
 1,003 Total student capacity
 76,300 SF Total school footprint
 (blue)
 +62,700 SF Impervious area
 (compared to existing)

204 Parking req. by zoning
 -20 Est. parking reduction
 157 On-site parking
 27 On-street parking
 184 Total parking

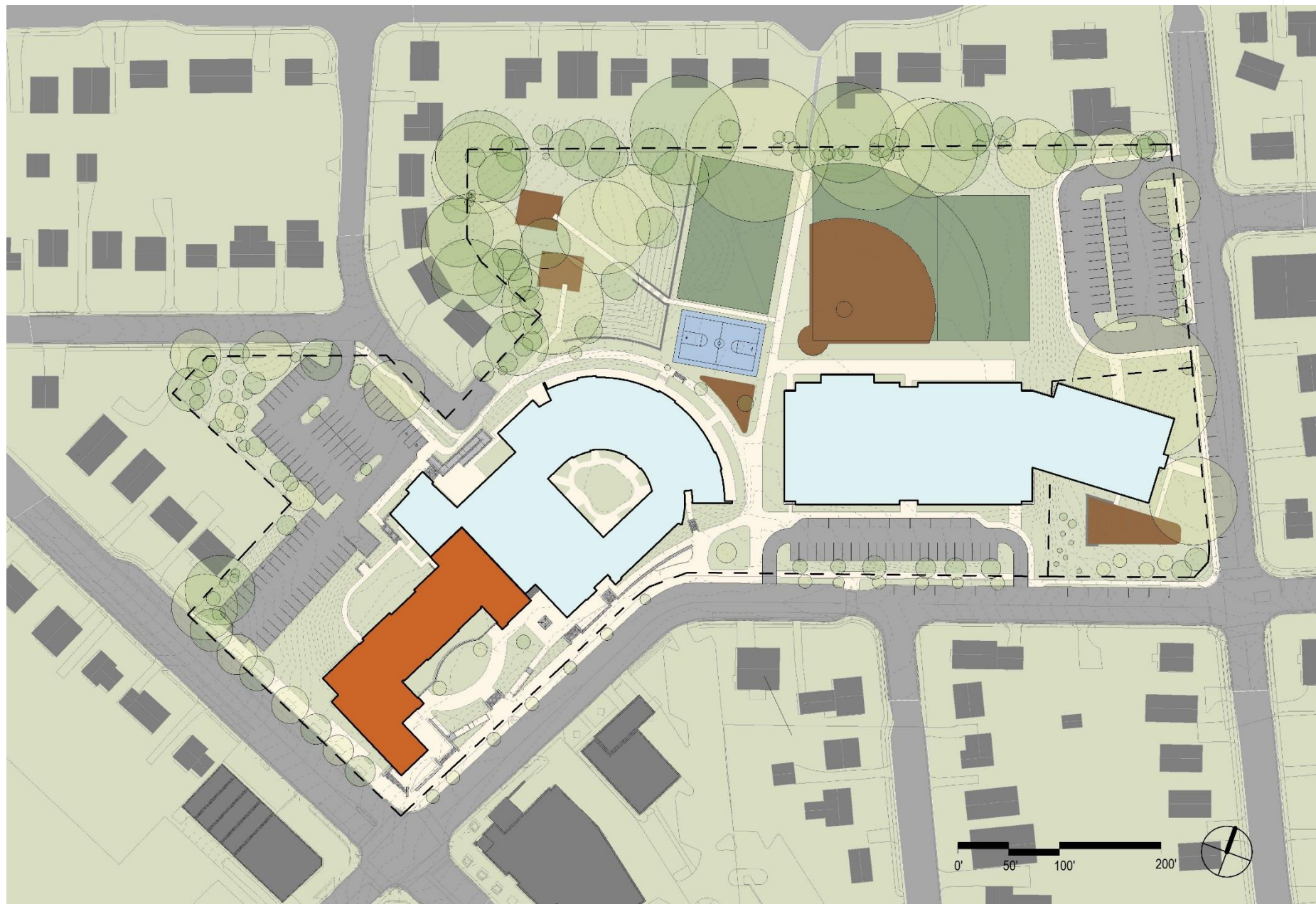
COMPARING THE SCHEMES



Scheme	Attribute	Prelim. Estimated Cost (Compared to Budget)	Cost per Student Seat (Range)	Student Capacity	School GSF	Site Work	Renovation Type	Energy Use Intensity (Lower = Better)	Footprint (SF)	Total Impervious (SF)	Parking	Open Space & Fields	Learning Environment	Rank
Standalone	+1 to +3 (\$ Mil)	\$50-52K	747 New 256 Pre-K 1,003 Total	45,500 Ext 109,100 New 154,600 Total	\$\$	None	19.0 New 56.0 Ext 29.9 Avg	76,300	210,200	157 On-Site 27 Off-Site 184 Total	-1 Court -5 Trees -1/2 Park	Extended Corridor		
Upper / Lower	-3 to -1 (\$ Mil)	\$63-66K	732	30,500 Ren 80,100 New 110,600 Total	\$	Light / Medium	19.0 New 35-50 Ren 25.3 Avg	58,600	184,800	139 On-Site 6 Off-Site 145 Total	-1 Court -3 Trees	Curved Corridor		
Integrated	-1 to +1 (\$ Mil)	\$66-68K	732	26,200 Demo 20,700 Ren 86,700 New 107,400 Total	\$	Medium / Heavy	19.0 New 24-35 Ren 21.1 Avg	44,000	164,300	133 On-Site 24 Off-Site 157 Total	+1 Field -0 Trees	Learning Communities		
Existing	-	-	256	45,000	-	-	56	35,000	147,500	72 On-Site	-	-		

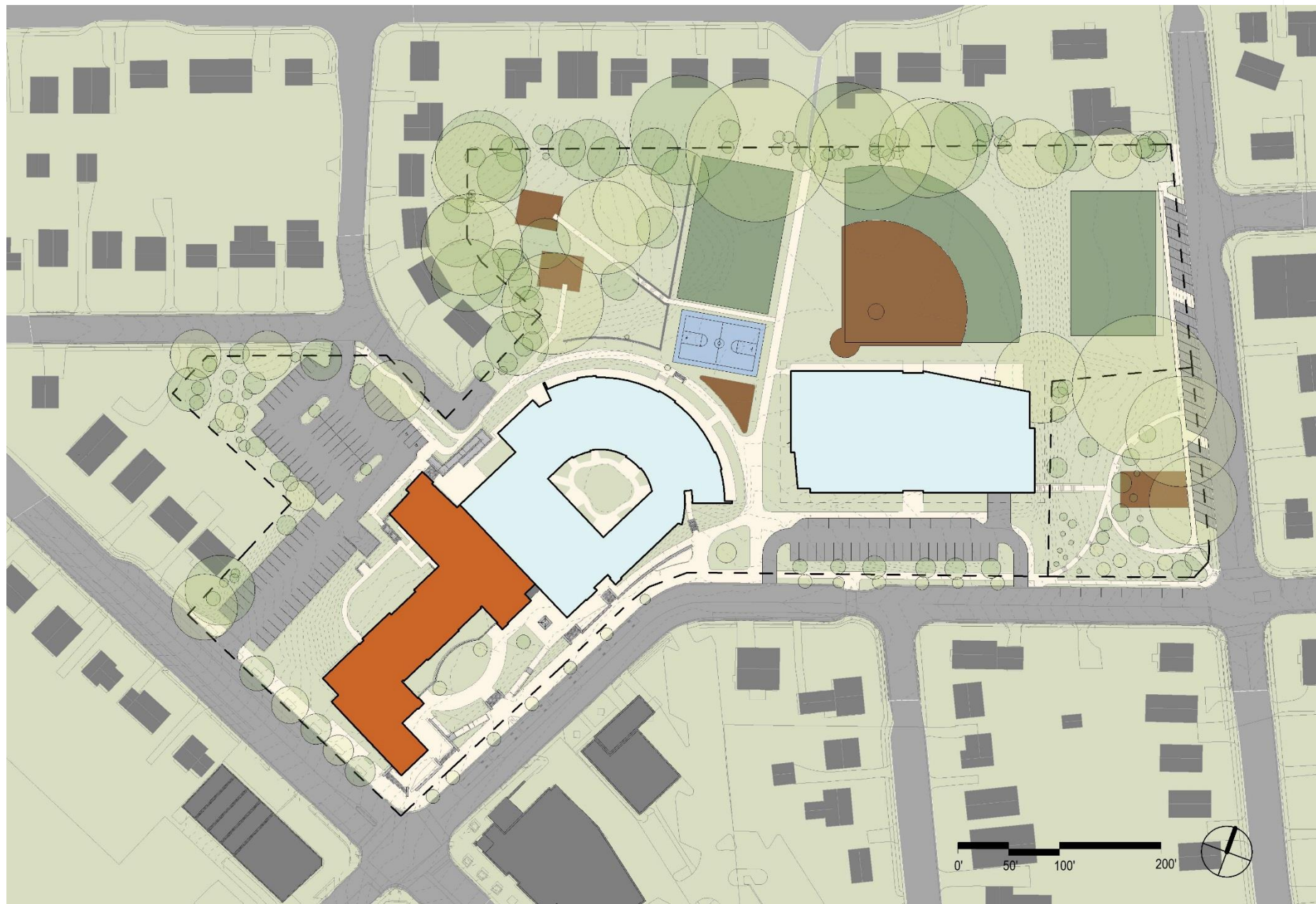
STANDALONE SCHEME

- +1 to +3 Cost v/s Budget (\$M)
- \$50-52K Cost per seat
- 1,003 Total student capacity (747 ES, 256 Pre-K)
- 76,300 SF Total school footprint (blue)
- +62,700 SF Impervious area (compared to existing)
- 204 Parking req. by zoning
- 20 Est. parking reduction
- 157 On-site parking
- 27 On-street parking
- 184 Total parking



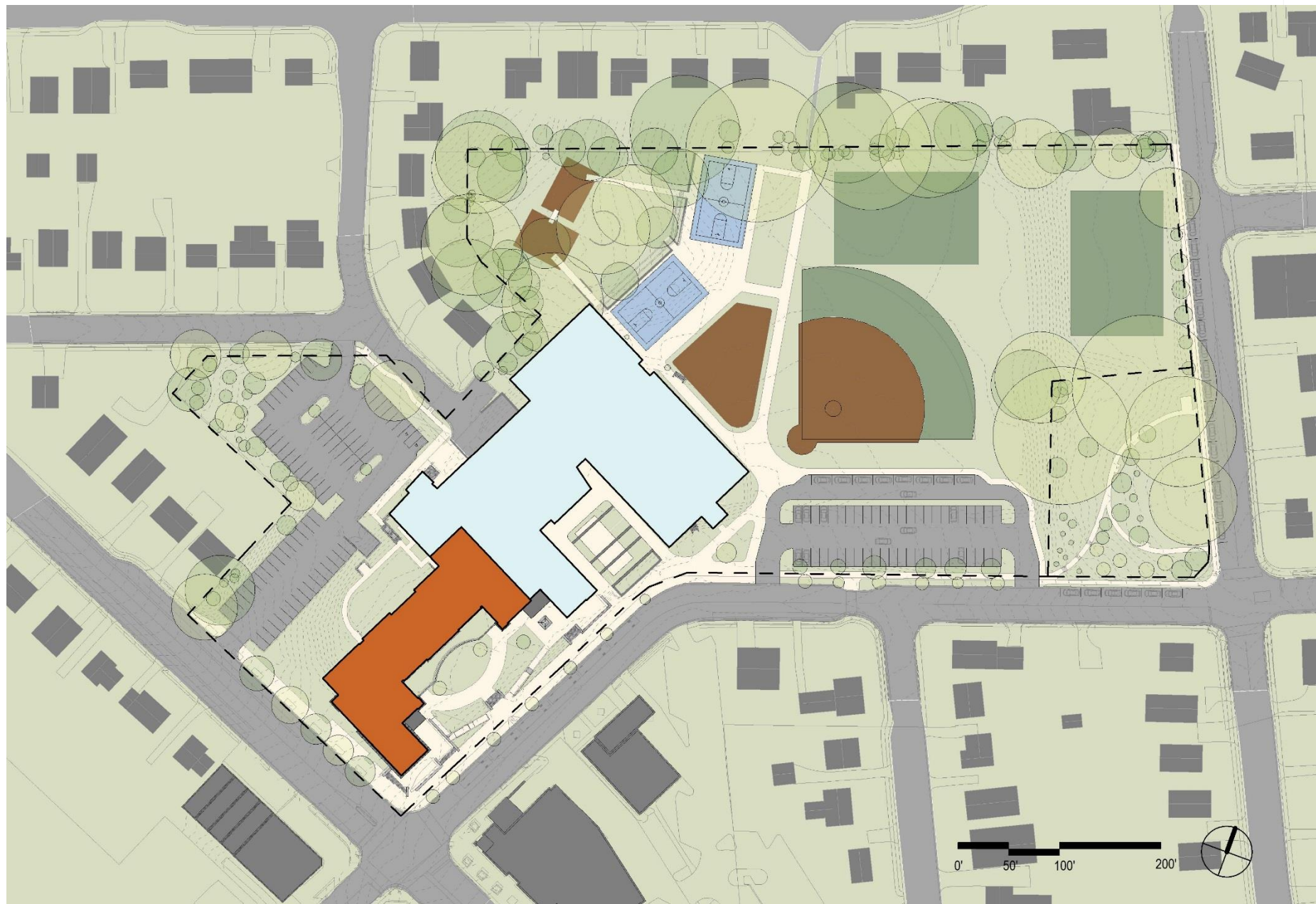
UPPER – LOWER SCHEME

- 3 to -1 Cost v/s Budget (\$M)
- \$63-66K Cost per seat
- 732 Total student capacity
- 58,600 SF Total school footprint (blue)
- +37,300 SF Impervious area (compared to existing)
- 165 Parking req. by zoning
- 20 Est. parking reduction
- 139 On-site parking
- 6 On-street parking
- 145 Total parking

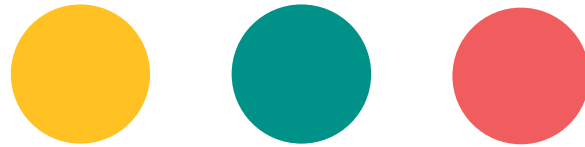


INTEGRATED SCHEME

- 1 to +1 Cost v/s Budget (\$M)
- \$66-68K Cost per seat
- 732 Total student capacity
- 44,000 SF Total school footprint (blue)
- +16,800 SF Impervious area (compared to existing)
- 150 Parking req. by zoning
- 20 Est. parking reduction
- 133 On-site parking
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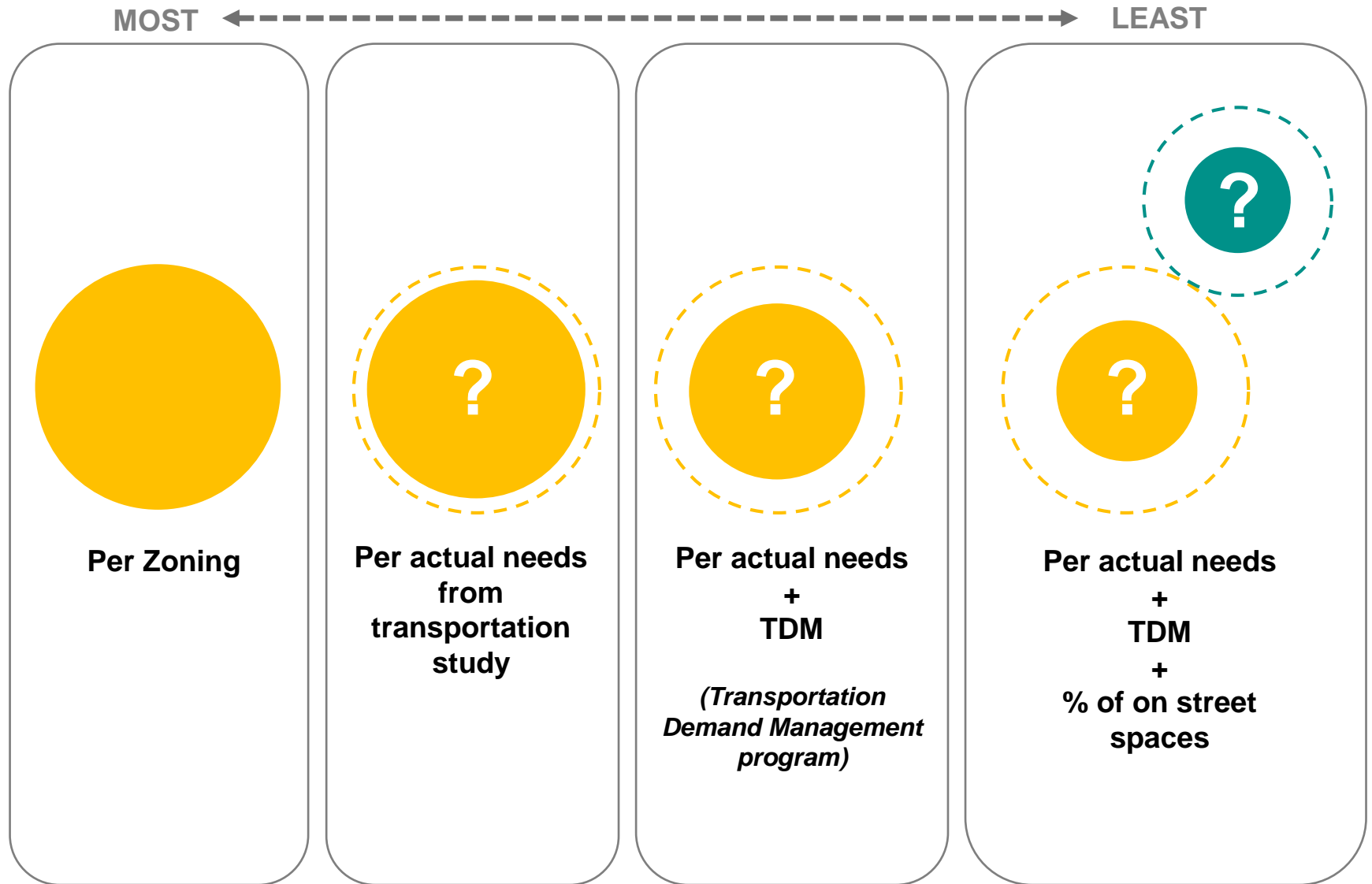
6. TRANSPORTATION



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

KEY

-  On-Site Spaces
-  On-Street Spaces



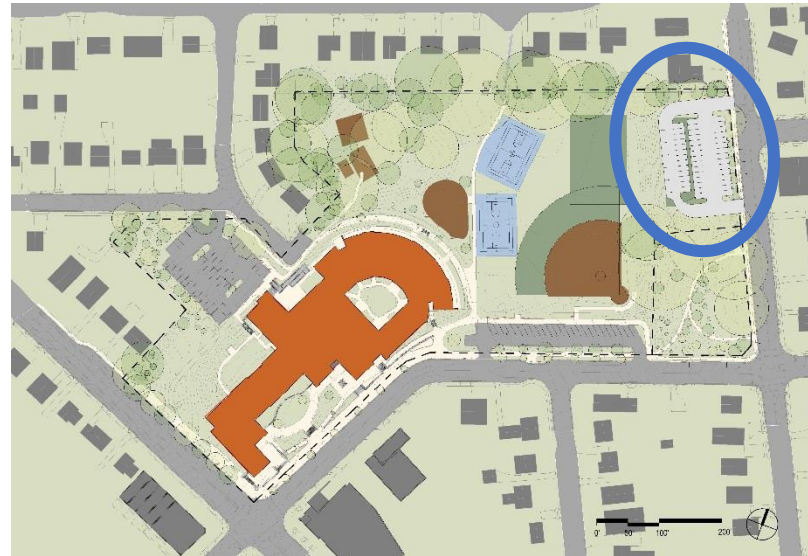
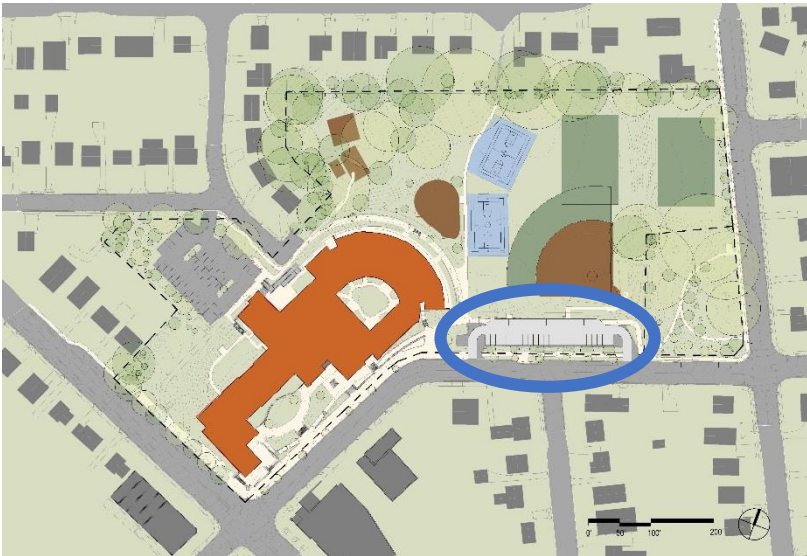
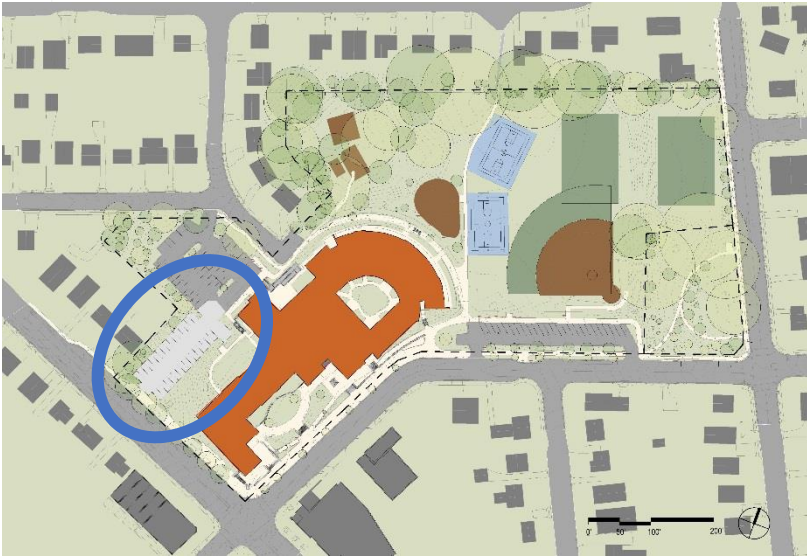
HOW DO WE REACH THE ACTUAL NUMBER OF ON-SITE SPOTS THAT SHOULD BE PROVIDED?

COMPARING ON-SITE PARKING PROVIDED FOR RECENT PROJECTS

	Fleet	Stratford	Wilson	Abingdon	McKinley	Discovery
Capacity	752 ES 1,086 MS	1,000 MS	775 MS/HS	725 ES	684 ES	630 ES 997 MS
Date of Use Permit Approval	22-Apr-17	18-Mar-17	25-Feb-17	19-Sep-15	20-Sep-14	21-Sep-13
Parking Spaces Required by Zoning	292	159	378	116	108	258
Parking Spaces Provided	250	134	100	98	56	209
Difference b/t Provided and Zoning (under)	(42)	(25)	(278)	(18)	(52)	(49)

Notes:

1. Data derived from Arlington County Government staff reports prepared for the Use Permit hearing.
2. Parking spaces provided includes spaces on APS property, ACG property, and dedicated off-site spaces. Excludes spaces on-street.



Parking Principles & Objectives

We want the parking provided to do the following:

- Be right-sized to the demand
- Provide options for drivers to disperse traffic
- Have access points that reflect traffic away from residential streets
- Work with student pick-up and drop-off operations
- Have a convenient location to discourage use of other lots
- Provide opportunities to share



TRANSPORTATION STUDY UPDATE

Scoping meeting with the County held on January 3, 2018

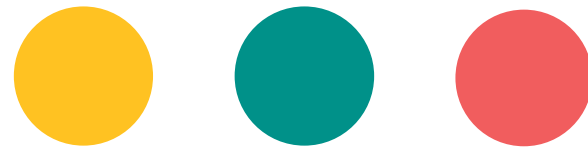
- Pedestrian analysis of expected walking routes to the School
- Review of bicycle routes to and from the school
- Analysis of school bus and parent morning drop-off and afternoon pick-up operations and queues
- Data collection at nearby intersections
- Traffic capacity analyses for several scenarios and time periods
- Parking demand analyses
- Recommendation of Transportation Demand Management (TDM) measures

Please send us your thoughts:

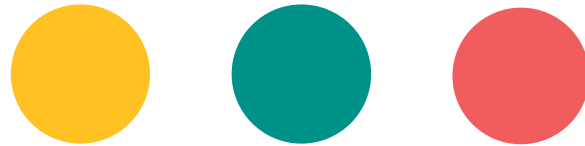
reed.info@apsva.us

- Transportation concerns (e.g. barriers on walking routes, congestion spots, parking issues, etc...)
- Opportunities (e.g. sharing of parking resources, under utilized sources of capacity)
- Anything information data we should take into account

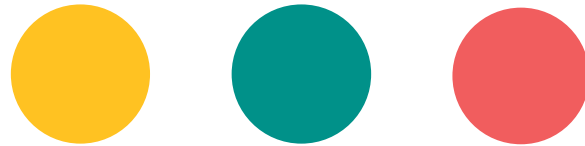
7. DISCUSSION



8. PUBLIC COMMENTS



9. NEXT STEPS & ADJORN



NEXT STEPS

1. Development of advanced graphics for public meeting
2. No new design changes, outside of items agreed upon tonight
3. Sign contract with CMR and get them started
4. Upcoming Dates:
 - Jan 17th – Community Forum (Wednesday) – **6:30pm**
 - Jan 24th – PFRC / BLPC (Wednesday) Last meeting of Concept Phase.
 - Feb 22nd – Information Item to School Board

ADJOURN

- Provide feedback to APS via project email: reed.info@apsva.us
- 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/>