



ARROWHEAD ELEMENTARY SCHOOL FACILITIES STUDY

July 16th, 2019



Tonight's Agenda:

- **Review June 4th presentation and answer questions**
- **Discuss the public survey**
- **Consider next steps for Arrowhead Elementary School**

METHACTON SCHOOL DISTRICT

K-4

Worcester E.S.

Methacton H.S.

K-4

Arrowhead E.S.

Eagleville E.S.

K-4

Skyview Upper E.S.

Arcola I.S.

Woodland E.S.

Aububon E.S.

K-4

**HALF DAY KINDERGARTEN*

LEGEND

-  Elementary Schools
-  Intermediate School
-  High School
-  Decommissioned School
-  Lower Providence Township
-  Worcester Township

What's Changed?

- The workforce has changed
- The way we teach has changed
- Our school buildings need to be adaptable to these educational changes

education



EFFECTS OF FULL DAY KINDERGARTEN

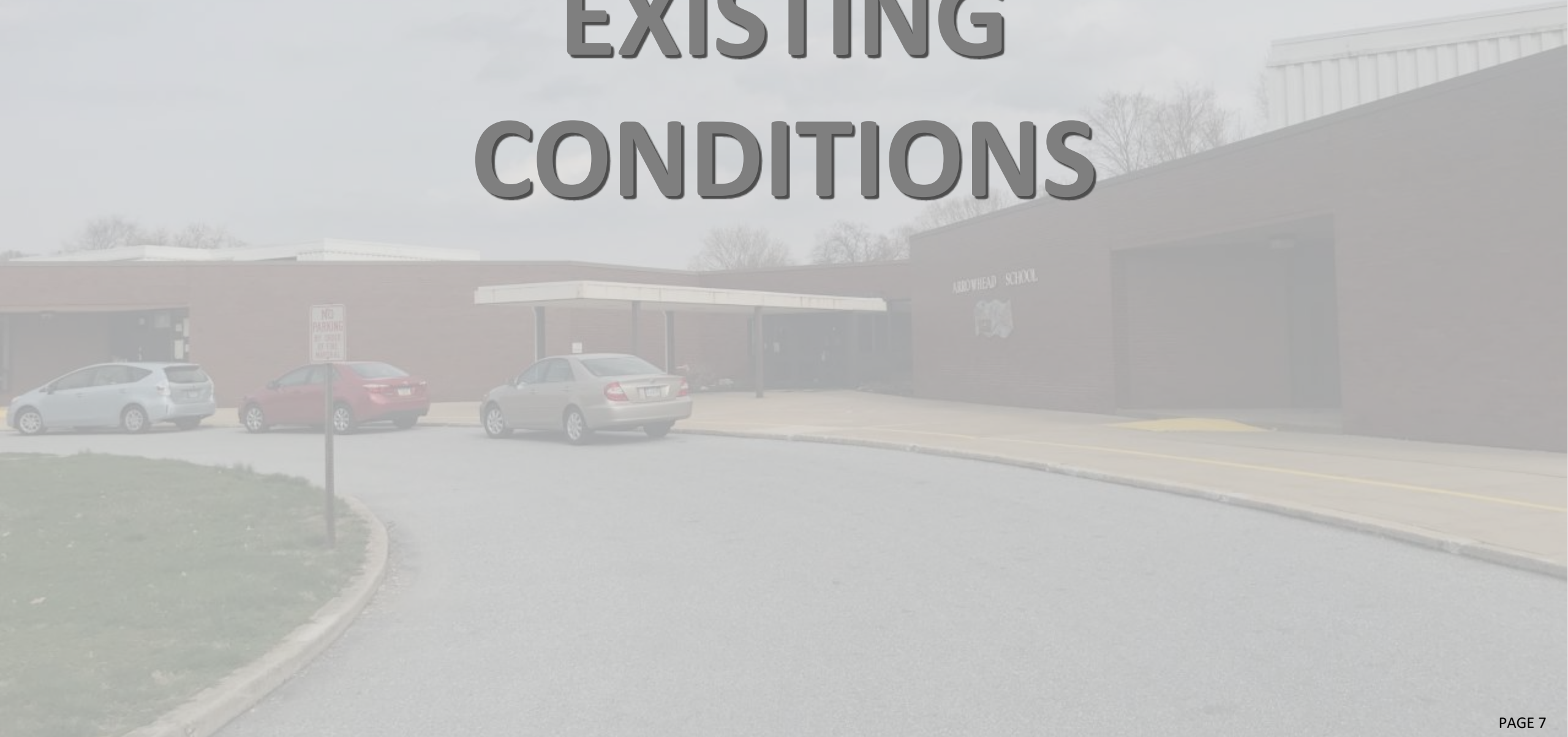




Building Capacity and Student Enrollment

- Functional capacity is impacted by educational use and programming
- Moving from Half Day-K to Full Day-K reduces the functional capacity of an existing school
- District wide housing projects impact future growth within the district

EXISTING CONDITIONS



PROCESS

An architectural/engineering analysis of the existing school and campus was conducted that evaluated the following:

- Overall functionality
- General condition
- Building systems
- Code compliance
- Energy efficiency
- Security protocols



PROCESS

Design team met with district administrators and EVERY teacher from Arrowhead Elementary School to survey their thoughts on the existing building.

Toured three new elementary schools in area school districts:

- Caley Elementary School (Upper Merion Area School District)
- Phoenixville Early Learning Center (Phoenixville Area School District)
- East Coventry Elementary School (Owen J Roberts School District)



ARROWHEAD ELEMENTARY SCHOOL



Summary:

1. Numerous exterior repairs to roofing, bricks, and flashing needed.
2. Numerous interior repairs to building are needed.
3. All building systems need replacement and upgrade.
4. Educational environments and security protocol improvements needed throughout.

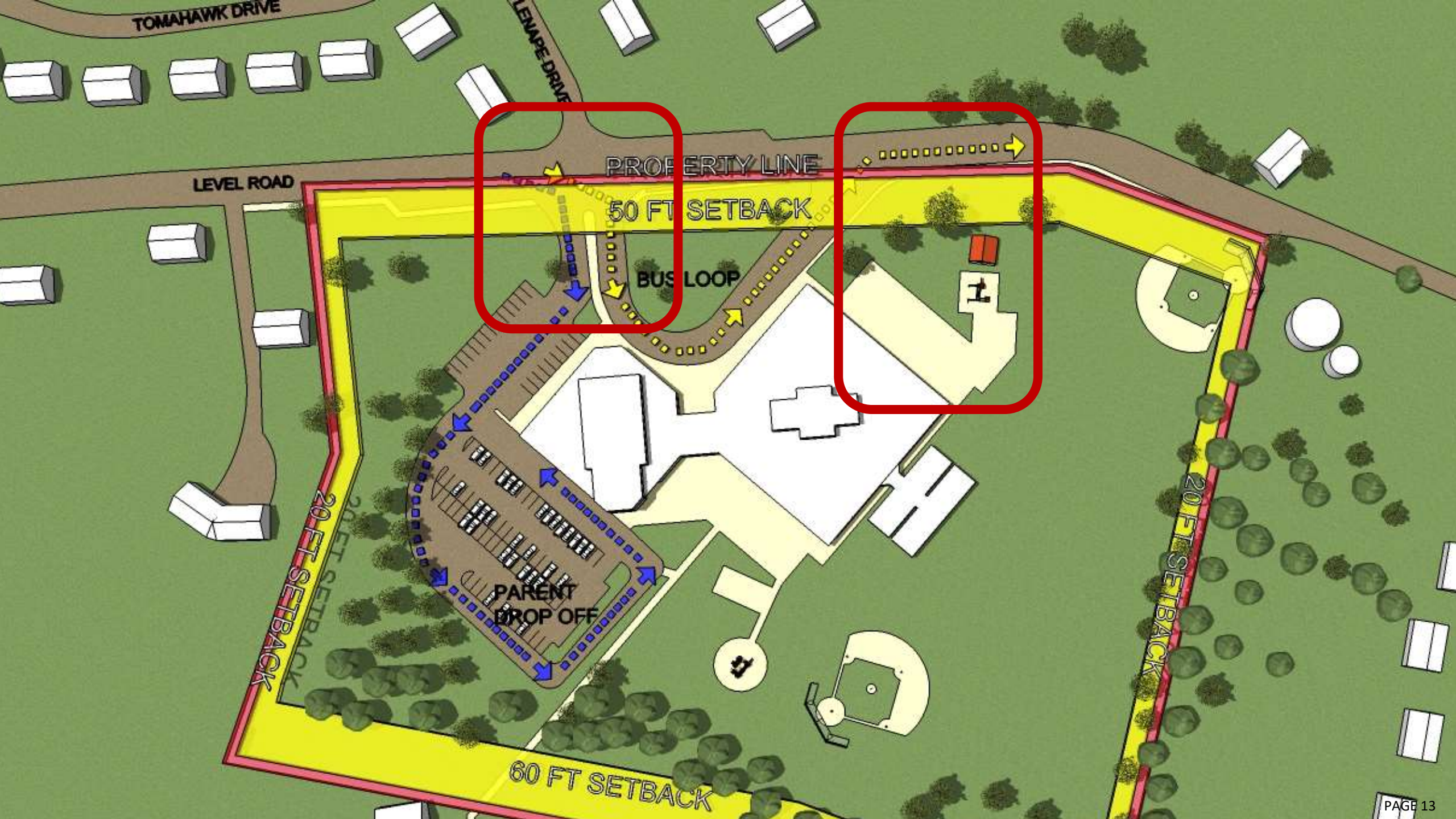


Items needed for proper renovation:

- 1. New roof**
- 2. New windows**
- 3. New interior partitions to create rectangular classrooms**
- 4. Doors into classrooms**
- 5. New technology in classrooms**
- 6. New secure entry vestibule**
- 7. New HVAC system**
- 8. ADA compliant plumbing fixtures**
- 9. New energy efficient lighting**
- 10. Building expansion to meet needs**
- 11. Include 2016 FAS items**

The background image shows a wide, paved parking lot with yellow curved lines. In the background, there is a long, low building with a flat roof and a taller brick building on the right. The sky is overcast and grey.

SITE AND TRAFFIC ANALYSIS





HOW DO WE MAKE THE CHANGE?



Renovation vs New Construction

Factors to Consider:

- Educational disruptions during construction
- Educational compromises
- Return on investment/long term value of either option
- Cost of new vs renovation



Energy Analysis Based on 58,534sf:

- **Annual energy costs for existing Arrowhead Elementary = \$75,000**
(\$1.28 /square foot)
- **Typical renovated system = \$70,241**
(\$1.20 /square foot) = \$4,759 annual savings
- **New efficient school = \$50,339**
(\$0.86 /square foot) = \$19,902 annual savings

Educational Program Analysis



Right Sizing the Box...

Existing Building = 52,534sf without modular classrooms
= 58,534sf with modular classrooms

Net Area Needed:

(2) Additional Classrooms = 1825sf

(3) Additional Small Group Instruction = 951sf

**some spaces reduced in size*

(4) Additional Common Edu. Spaces = 7867sf

**includes new gymnasium*

Additional Administration Spaces = 2194sf

Total = 12,837sf addition req'd to meet needs

***81,664sf total gross area programmed for 464 students**

The background image shows a school building with a brick wall on the right and a paved parking lot with yellow curved lines on the left. The scene is overcast and slightly hazy.

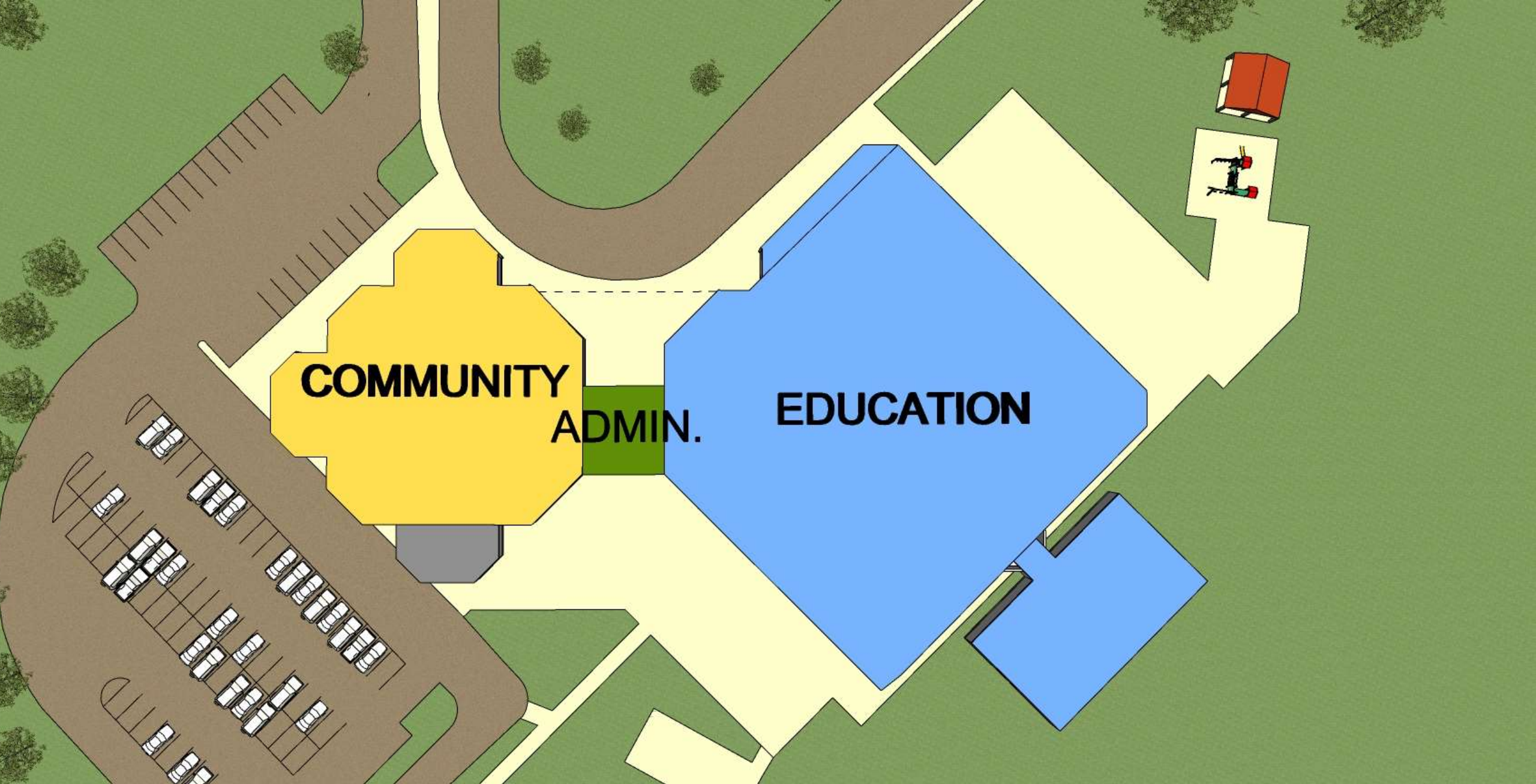
RENOVATION/ ADDITION OPTION



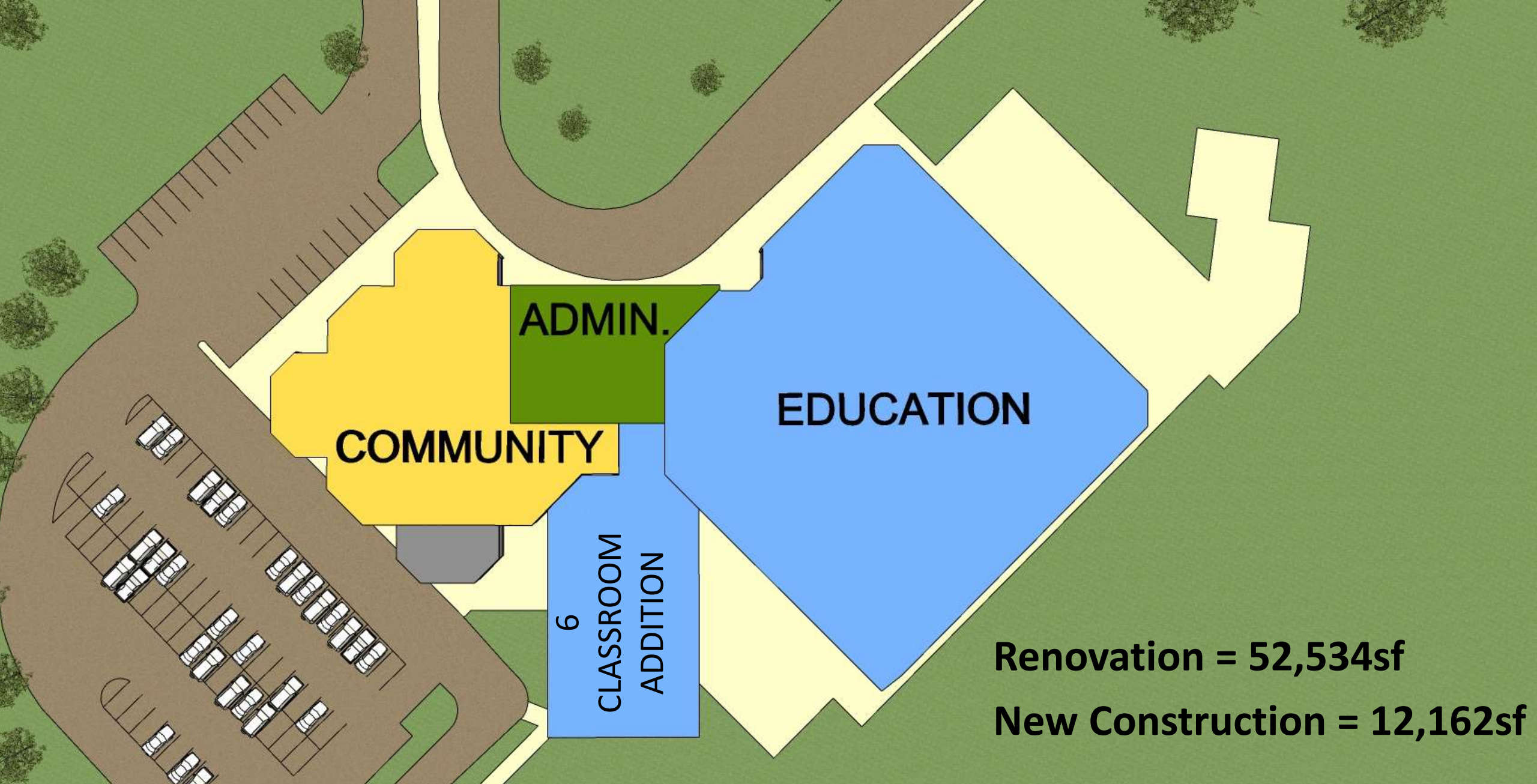
Concerns with existing layout:

- Classroom sizes too small
- Teachers struggle with room shape
- Lack of Small Group Instruction
- Lack of exterior access for windows
- Modulares past their anticipated life
- Administration area disconnected from secure entry vestibule
- Gym/Cafeteria combo too small
- Instrumental Music in storage room

EXISTING FLOOR PLAN (58,534sf school with modulares)



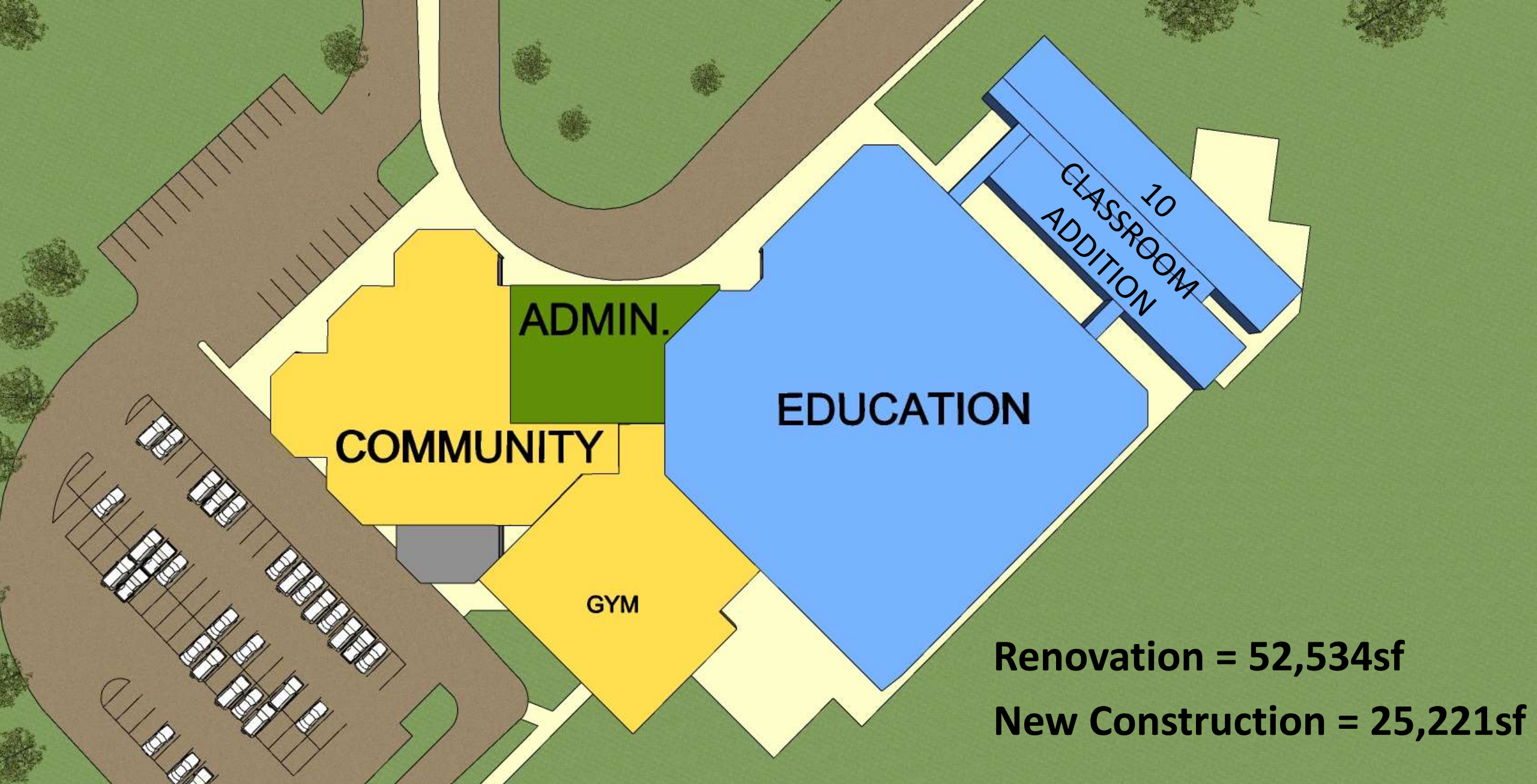
EXISTING FLOOR PLAN (58,534sf School with modulares)



Renovation = 52,534sf

New Construction = 12,162sf

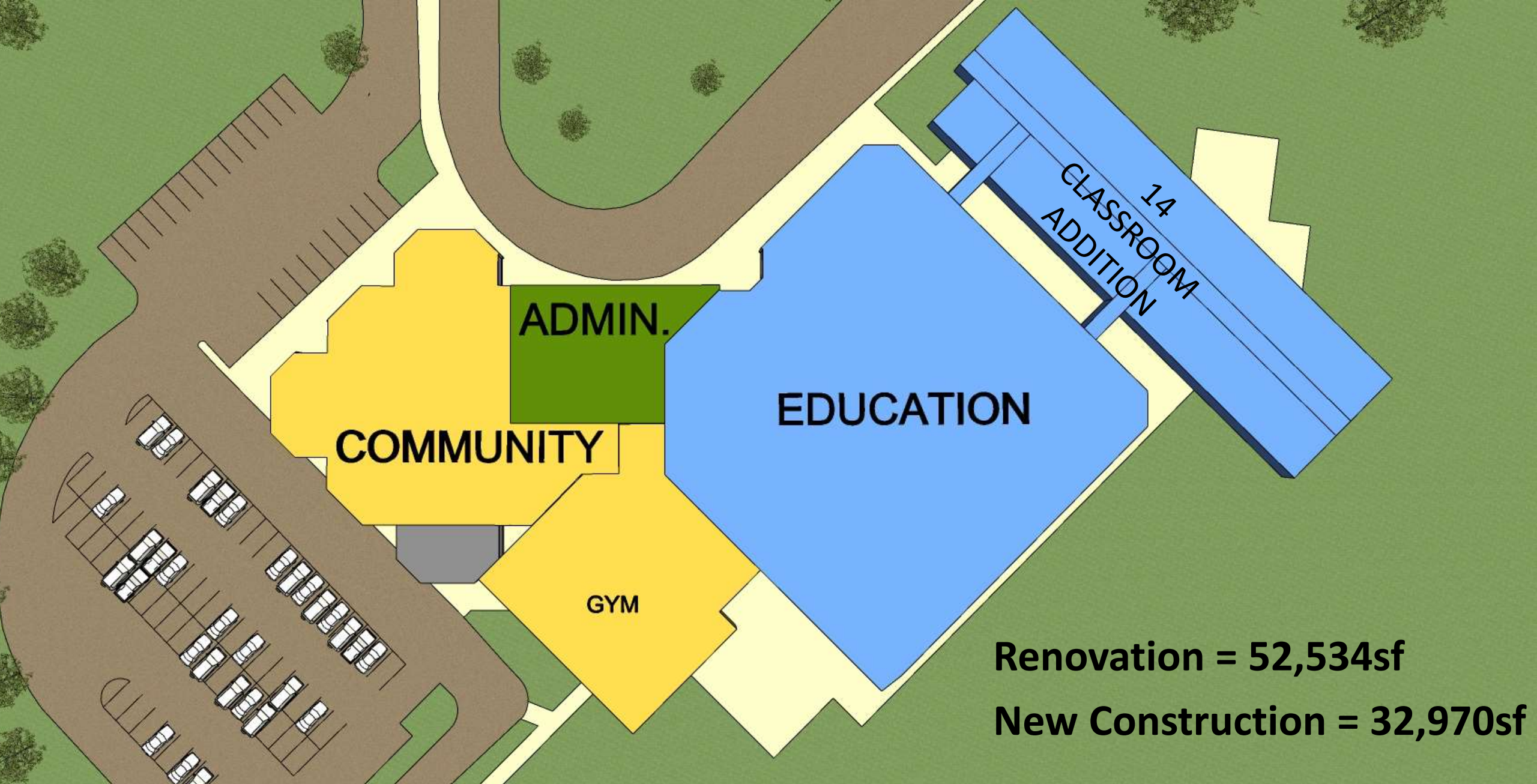
RENO+ADD OPT. #1 FLOOR PLAN – 525 Students (64,696sf School)



Renovation = 52,534sf

New Construction = 25,221sf

RENO+ADD OPT. #2A FLOOR PLAN – 525 Students (77,755sf School)



Renovation = 52,534sf

New Construction = 32,970sf

RENO+ADD OPT. #2B FLOOR PLAN – 625 Students (85,504sf School)

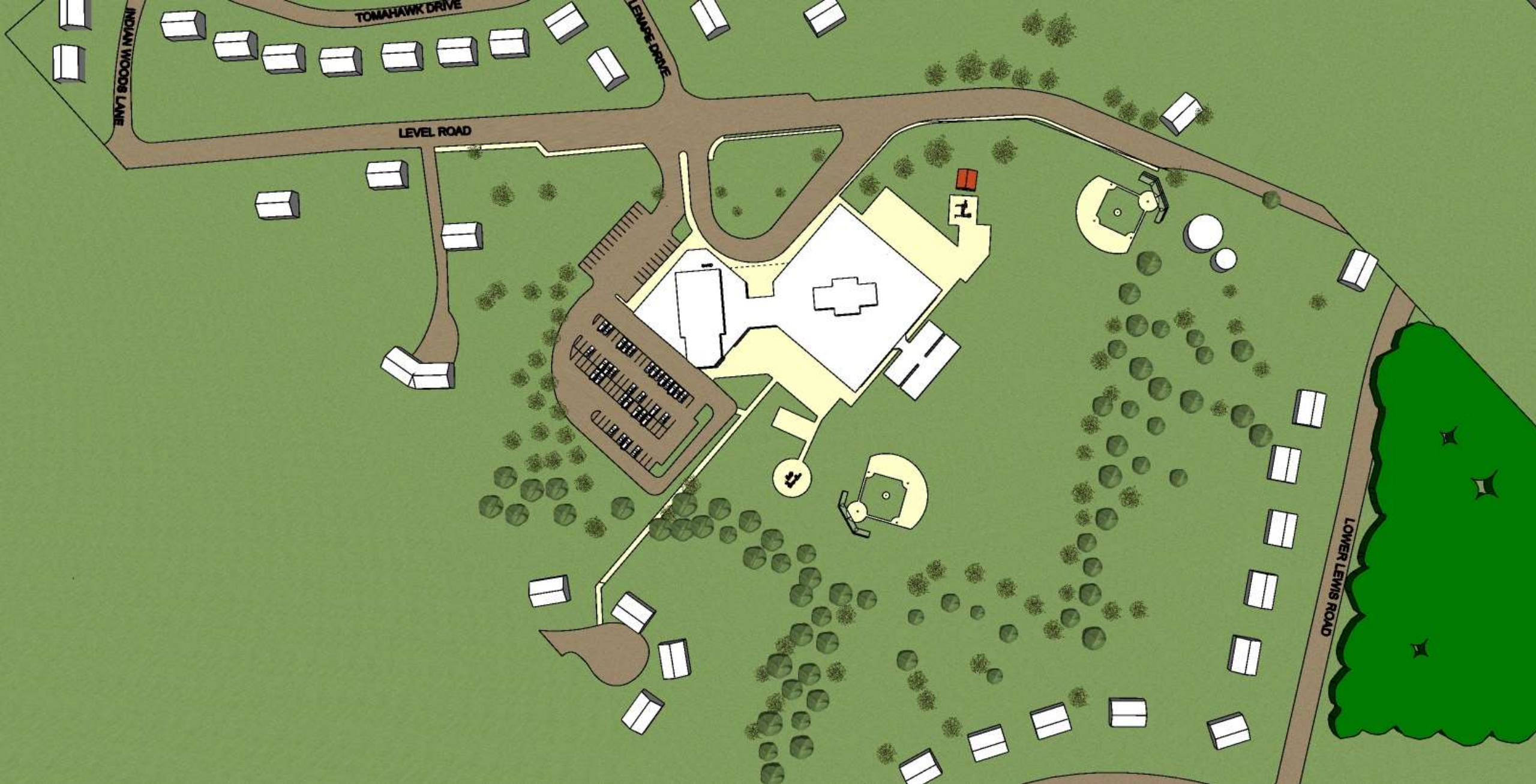


Renovation Summary:

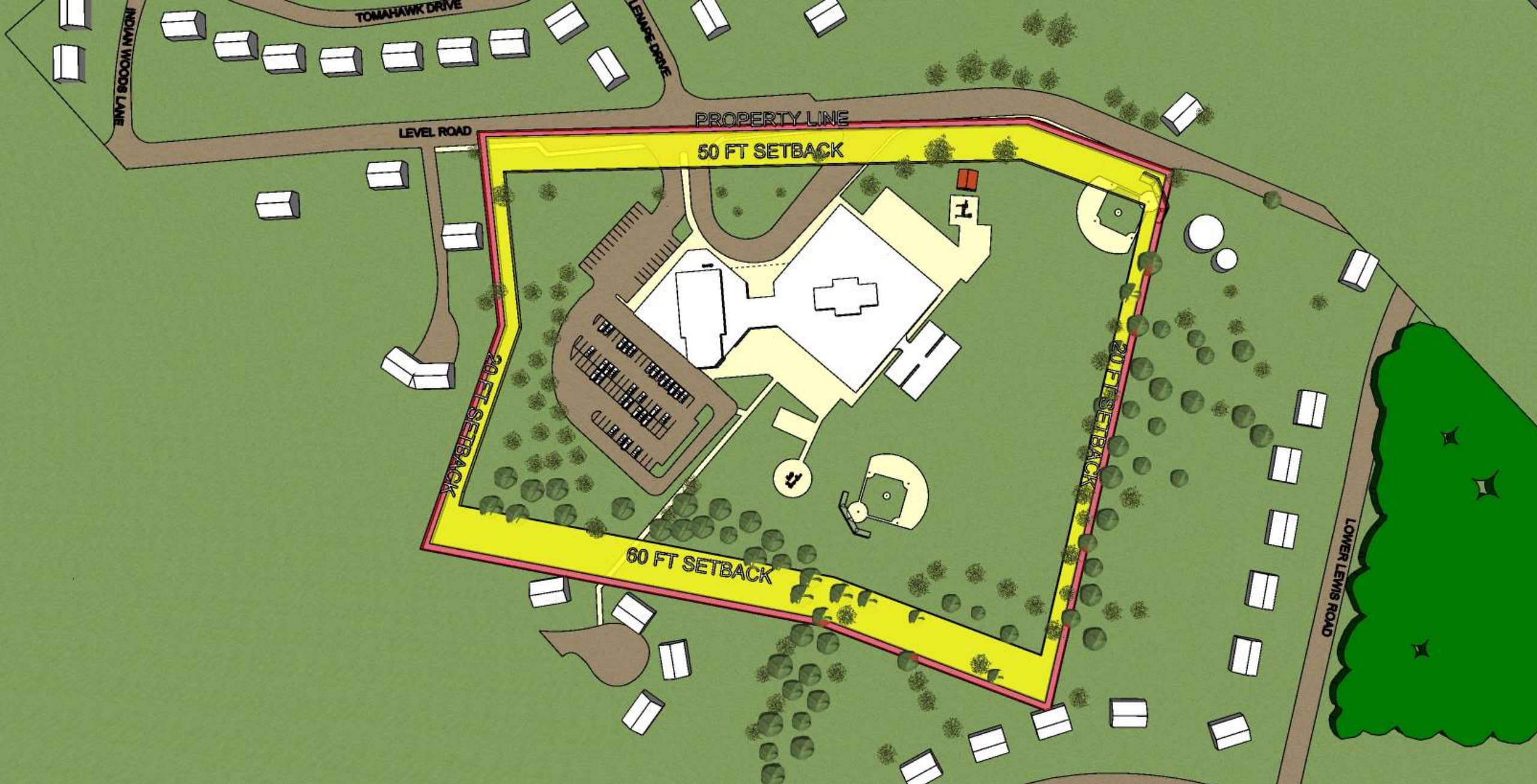
- Improved entry security
- New classrooms created
- 2A/2B Options - opportunity for community gym
- Existing classrooms still not ideal shape/proportion
- New classroom wing located away from core of school
- Not all spaces located or sized as desired
- Limited site improvements



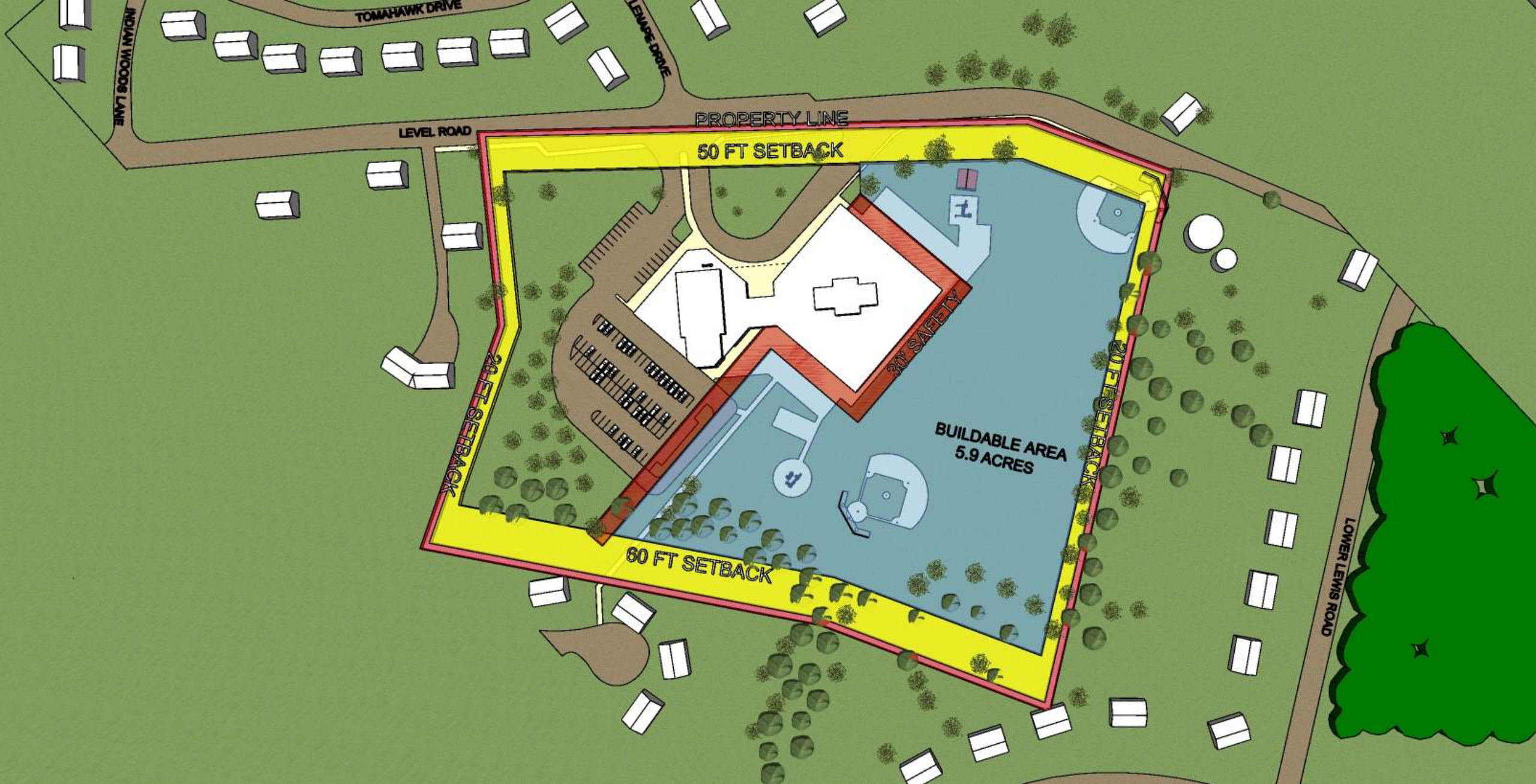
NEW BUILDING OPTION



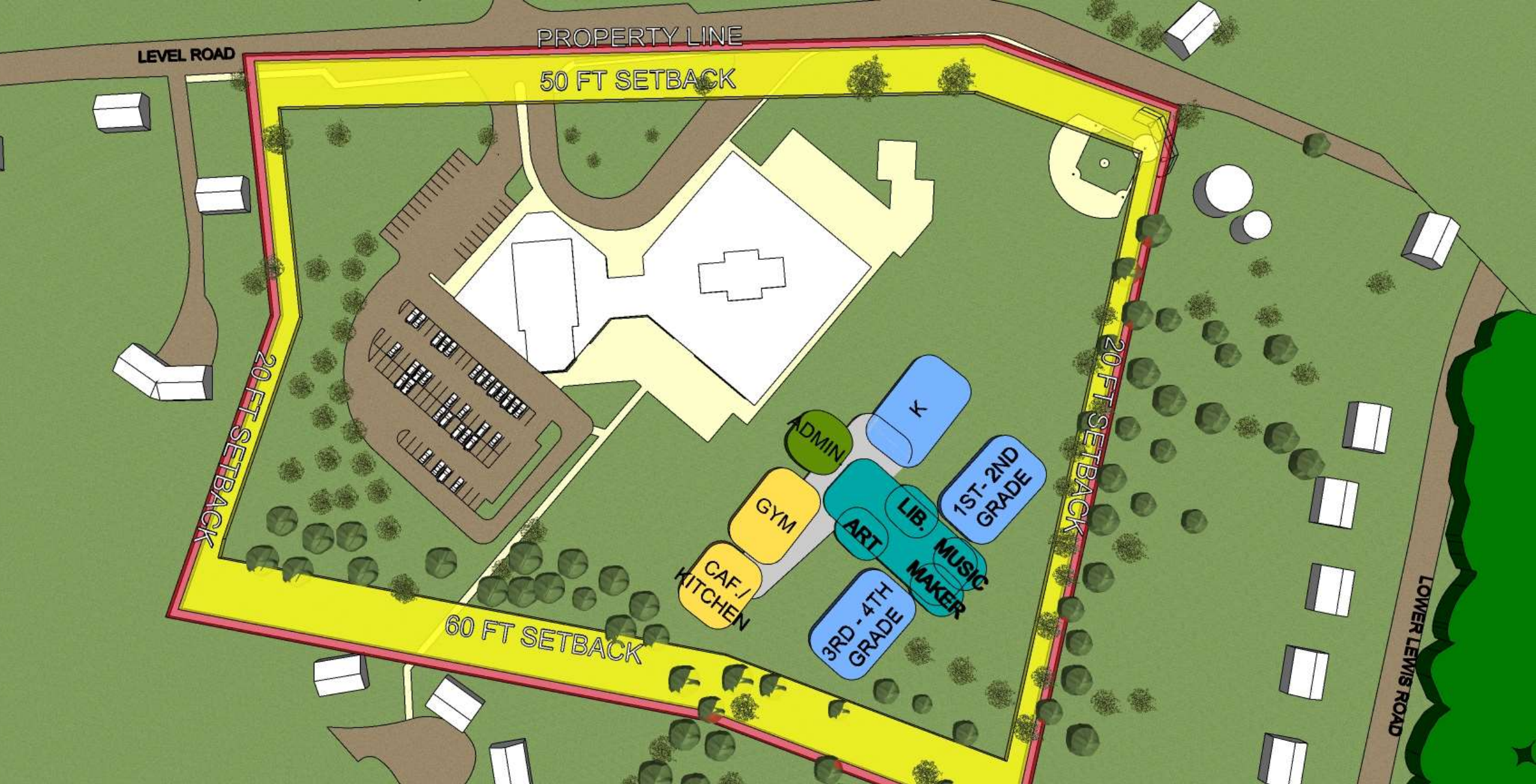
EXISTING SITE PLAN



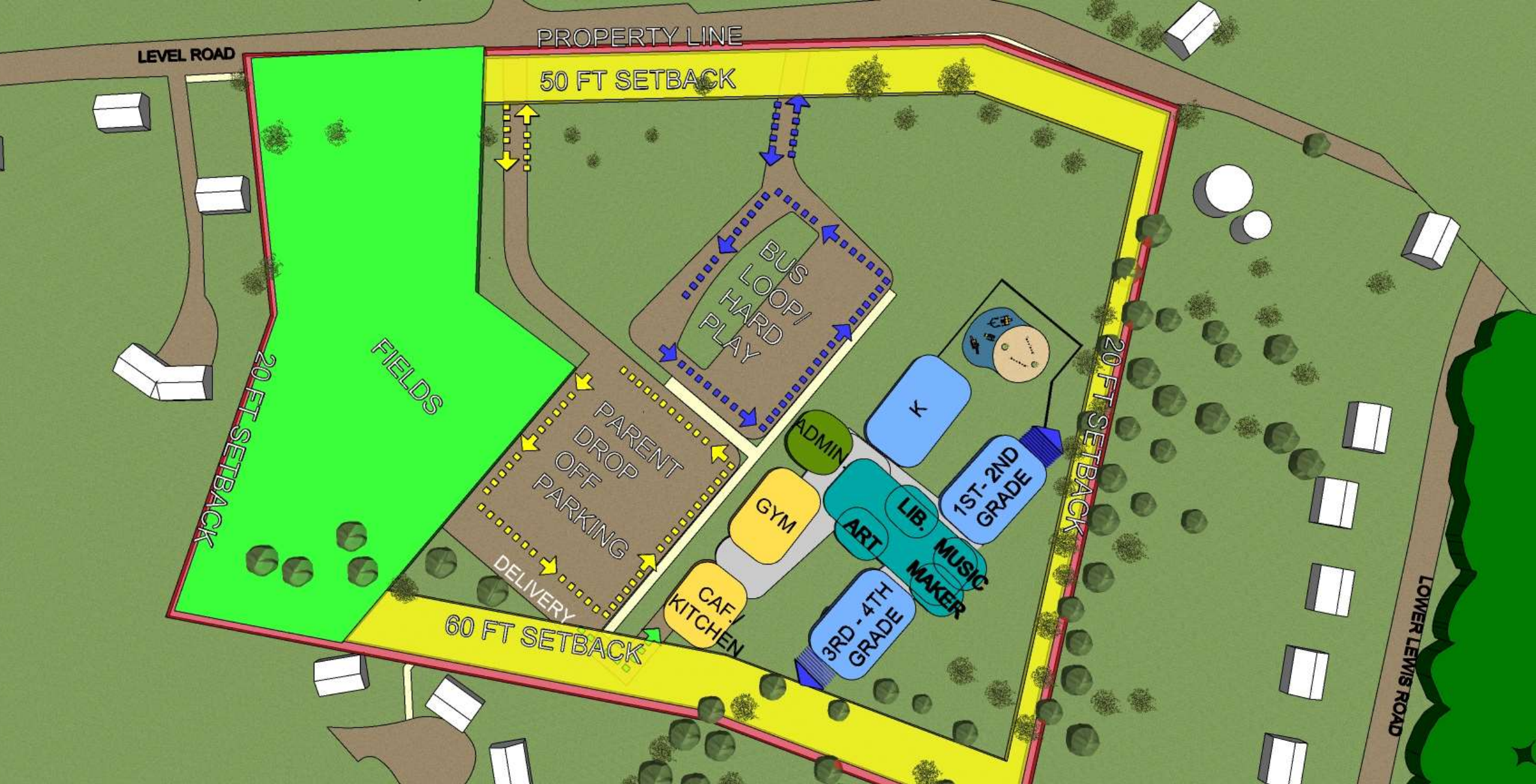
EXISTING SITE - SETBACKS



SITE BUILDABLE AREA

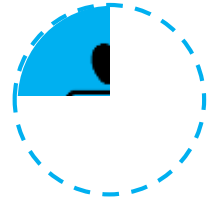


CONCEPTUAL NEW SCHOOL LAYOUT

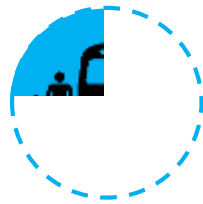


CONCEPTUAL NEW SCHOOL LAYOUT

Reno+Add Option #1 = \$22.2M



education



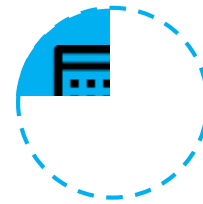
bus



parent loop



disruption



schedule

← 28 months

Reno+Add Option #2A = \$28.6M (\$32M for 625 students)



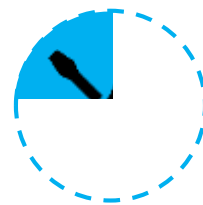
education



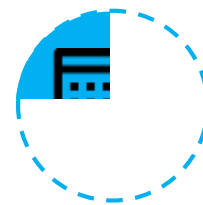
bus



parent loop



disruption



schedule

← 33 months

New School Construction = \$32.7M (\$35.5M for 625 students)



education



bus



parent loop



disruption



schedule











← 21 months

Comparative Analysis – Renovation or New Construction: 525 Student Options

* **Costs estimates are TOTAL project costs (construction, soft costs, + contingencies)**

RENOVATION

NEW CONSTRUCTION

<div>insufficient</div> <div></div> <div>ideal</div>	Educational Environments	<div>insufficient</div> <div></div> <div>ideal</div>
<div>insufficient</div> <div></div> <div>ideal</div>	Operational Priorities	<div>insufficient</div> <div></div> <div>ideal</div>
<div>negligible</div> <div></div> <div>sizable</div>	Impact During Construction	<div>negligible</div> <div></div> <div>sizable</div>
<div>low</div> <div></div> <div>high</div>	Project Cost	<div>low</div> <div></div> <div>high</div>
<div>25 years</div> <div></div> <div>100 years</div>	Long Term Value	<div>25 years</div> <div></div> <div>100 years</div>

BALANCE



BALANCE

OUTCOME

INVESTMENT

Recommendations

- 1. Not recommended to renovate or expand the existing school building**
 - Far too many modifications needed to justify expenditures**
- 2. Build a new school building behind existing school**
- 3. Design the school for a capacity of 625 to accommodate future growth**
 - Bid the project with alternate to reduce 4 classrooms (525 capacity)**
- 4. Release presentation and solicit feedback from the public**
- 5. Continue with Preliminary Design of new school this summer for board review and approval in August 2019**

Public Survey

An illustration showing three hands holding up survey forms. The hand on the left is wearing a red sleeve, the middle hand an orange sleeve, and the right hand a purple sleeve. The forms are white with grey lines representing text and checkboxes, some of which are marked with green checkmarks. The background is a light blue gradient.

Survey Summary:

- **534 respondents**
- **400 from Lower Providence Township**
- **67% strongly agreed or agreed with new construction option**
- **26% strongly disagreed or disagreed**

Public Survey

An illustration showing three hands holding up survey forms. The hand on the left is wearing a red sleeve, the middle one an orange sleeve, and the right one a purple sleeve. The forms are white with grey lines representing text and checkboxes, some of which are marked with green checkmarks.

Those who disagreed (26%):

- **Tax implications**
- **Cost of new construction**
- **Status of Audubon Elementary School**

Public Survey

An illustration showing three hands holding up survey forms. The hand on the left is wearing a red sleeve, the middle one an orange sleeve, and the right one a purple sleeve. The forms are white with grey lines representing text and checkboxes. Some checkboxes are marked with green checkmarks.

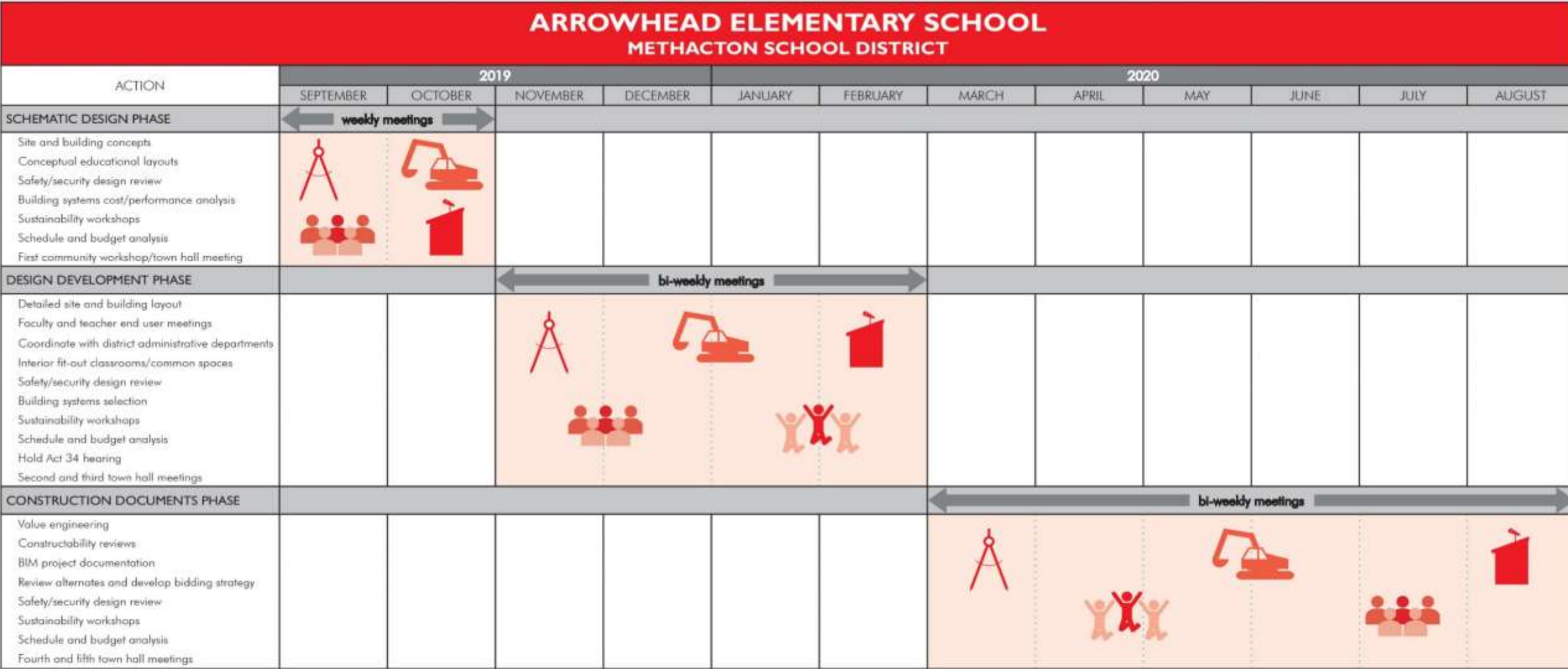
Those who agreed (67%):

- **Clear need for replacement of existing school building**
- **Safety, existing conditions, educational environments**
- **More fiscally responsible solution than cost of renovation**
- **Best for students, teachers, and community**



- **KCBA + MSD study preliminary design concepts for new 625 student elementary school behind existing Arrowhead**
- **Present concepts and updated estimates to the school board at August 20th meeting**
- **Consider moving forward with new school to open August 2022**

Potential Schedule for Collaborative Design Process





A/E TEAM
KCBA Architects
Snyder Hoffman Associates
Gilmore & Associates



CONSTRUCTION CONSULTANTS
Fidevia Construction Management
and Consulting
District Solicitor



DESIGN COMMITTEE
School Board
Dr. David Zerbe, Superintendent
Dr. Aaron Roberts, Arrowhead E.S. Principal
Mr. Tim Bricker, Director of Business Services
Mr. Mark Fretz, Director of Facilities
Other individuals identified by district



END USERS
Dr. Aaron Roberts, Arrowhead E.S. Principal
Arrowhead E.S. Faculty and Teachers
District Administrative Departments:
Food Service, Transportation, IT,
Security, Maintenance
Arrowhead E.S. Students



COMMUNITY
Arrowhead E.S.
Community

The background image shows a wide-angle view of a school building with a brick facade and a large, dark, rectangular opening. A paved road with yellow curved lines leads towards the building. The sky is overcast and grey. The word "DISCUSSION" is overlaid in the center in a large, bold, grey font.

DISCUSSION