

An aerial photograph of Springfield High School and its surrounding area. The school building is a large, multi-story structure with a central courtyard and several wings. It is surrounded by a dense residential neighborhood with many houses and streets. There are also some green spaces and trees visible. The text is overlaid on the center of the image.

Springfield High School

Springfield School District
Delaware County - Pennsylvania

Master Plan Presentation

Town Hall Meeting 3

Phasing / Traffic and Parking

December 11th, 2014

Town Hall Meetings

- **Town Hall Meeting 1 (October 16th, 2014)**
Repeat Presentation of May 22, 2014 Board Meeting
- **Town Hall Meeting 2 (November 13th, 2014)**
Existing Building / Right-Sizing / Education Model
- **Town Hall Meeting 3 (December 11th, 2014)**
Phasing / Traffic and Parking
- **Town Hall Meeting 4 (January 14th, 2015) (Meeting at D.C.I.U.)**
Community/ Academic / Athletics and Recreation / Sustainability
- **Town Hall Meeting 5 (February 4th, 2015)**
Financial Options / Cost Options / Tax Impact
- **Town Hall Meeting 6 (March 19th, 2015)**
Recap / Summary / Options for Moving Forward



Code



Roofing



Windows



Envelope



Electric



Asbestos Roof Deck



HVAC



Plumbing



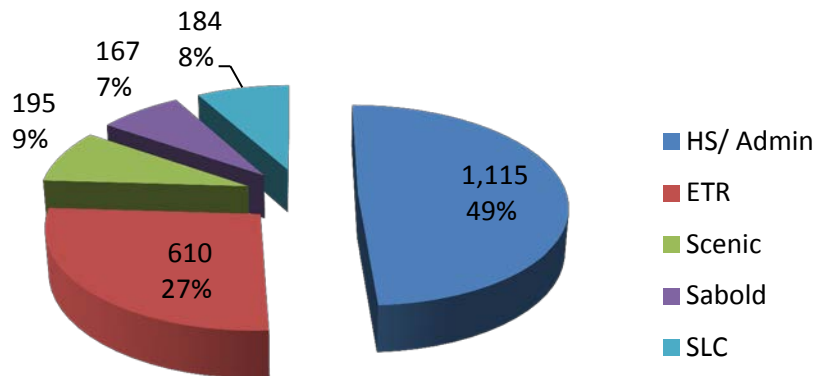
Work Order Management (Daily Maintenance Staff Activities)

- Utilize a Computerized Maintenance Management System (CMMS)
 - Status Reporting & Updates for Building Occupants
 - Work Prioritization
 - Source of Historical Data Reporting and Analysis
- Accessed by ALL District Staff: 500 +/- Sets of Eyes to Report Issues
- Total Maintenance Work Orders YTD (12/03/14): 2,330

Examples of Recent and Routine Preventative Maintenance Activities

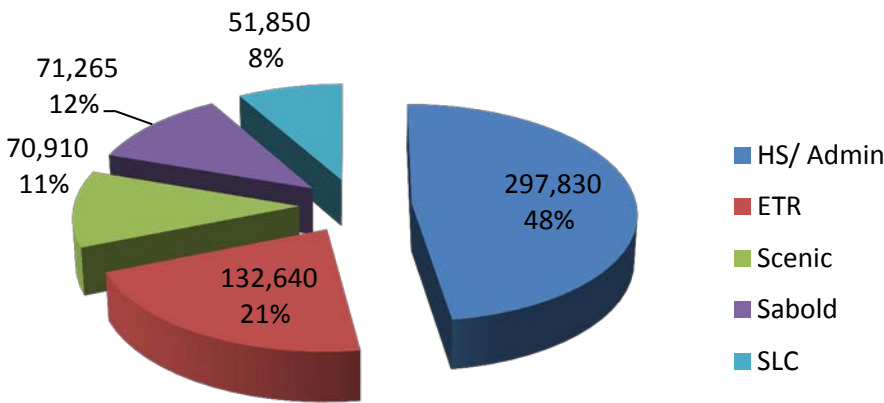
- | | |
|--|--|
| • Monthly Boiler System Water Treatment Monitoring | • Semi-Annual Kitchen Equipment PM |
| • Annual Boiler Cleaning and Burner Maintenance | • Semi-Annual Exhaust Hood Cleaning |
| • Uni-Vent Filter Changes (3-4 month cycle) | • Semi-Annual Ansul System Inspection |
| • District-Wide IAQ Testing | • Semi-Annual Generator PM |
| • District-Wide Water Quality Testing | • Fire Alarm System Inspection & Testing |
| • Main Switchgear/Transformer Inspection & Maintenance | • Monthly Crawlspace Ventilation Inspection |
| • Monthly Rooftop Inspection/Drain Cleaning | • Annual Elevator Inspection |
| • Semi-Annual Kitchen Equipment PM | • Stage Rigging Safety Inspection |
| • Playground Equipment Semi-Annual PM | • District-Wide Uni-vent Cleaning and Disinfection |

Work Order Allocation
3-Yr Average



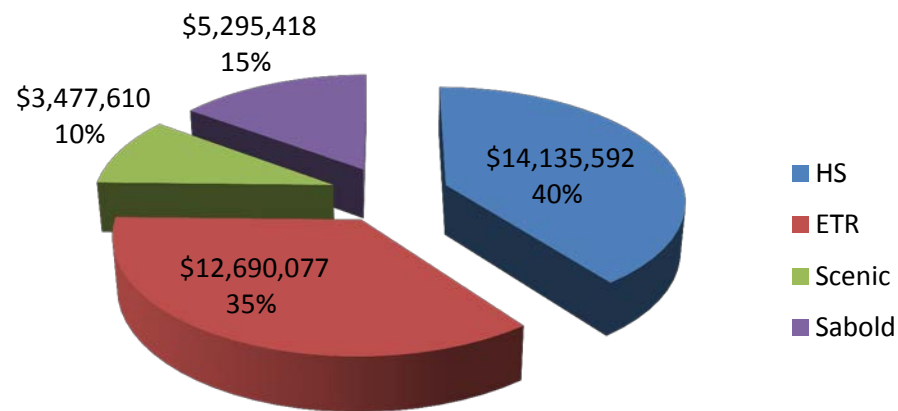
- 3-year Average Maintenance Work Orders: 2,271
- Work Order Allocation Correlates Well with Building Area Distribution
- Equal Allocation of Maintenance Man-power Resources.
- 3 years data used because lack of Literacy Center data before 2010-2011 would skew results

Building Size (SF) Distribution



Total Building Area (Incl. SLC): 624,495 SF

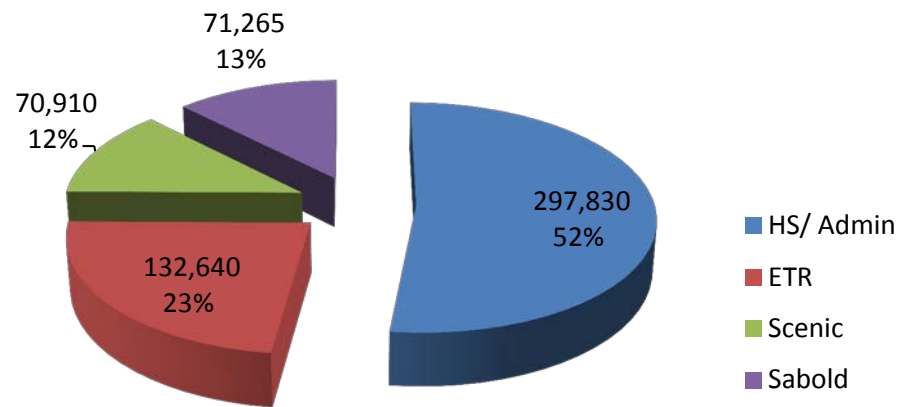
Capital Expenditures Since 2005/2006



- Capital Expenditure Distribution Correlates well with Buildings Area Distribution
- Divergence of HS Building Area Relative to Capital Expenditure Reflects Deliberate Deferred Costs with Pending Master Plan
- Does Not Include SLC – Initial Large Capital Cost Would Skew Analysis

School Building	Capital Expenditures
High School	\$ 14,135,592
ET Richardson	\$ 12,690,077
Scenic Hills	\$ 3,477,610
Sabold	\$ 5,295,418
	\$ 35,598,697

Building Size (SF) Distribution (Excl. SLC)



Total Building Area (Exc. SLC): 572,645 SF

Town Hall Meeting 3

Phasing / Traffic and Parking

Presentation Outline

- Phasing / Schedule
- Traffic / Circulation / Parking
- Discussion



Phasing / Schedule



Four Options Compared

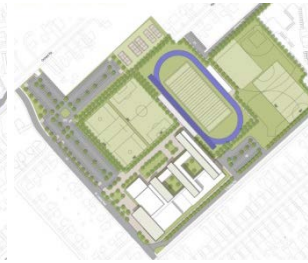
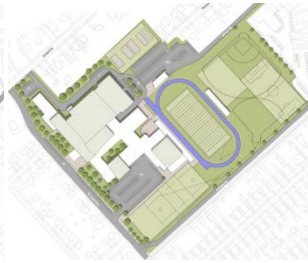
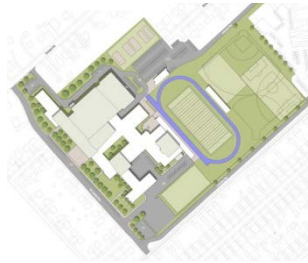
Detailed Review for Phasing / Cost

- Maintain Existing Building – (Service Life Extension)
- Renovate Existing Building
- Leamy Ave. New Building
- Saxer Ave. New Building



Key Issues:

- Disruption to Academic Programs
- Disruption to Athletics Programs
- Duration of Construction Activities
- Need for Temporary Classrooms
- Risk of Cost/Schedule Overruns



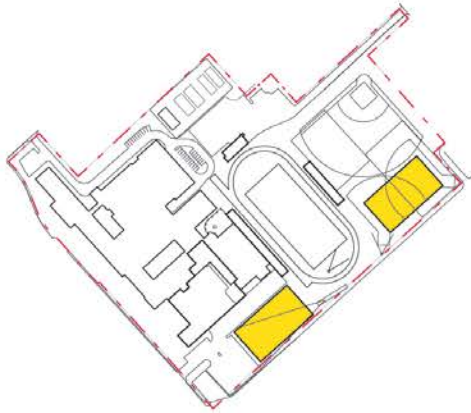
	Maintain Exstg	Renovate Exstg	New Leamy Ave.	New Saxer Ave.
	Maintain Current Facility	Maintain Existing + New Gym Relocate Admin	All New	All New
PHASING/SCHEDULE				
Estimated Base Construction Duration	3.2 yrs. (38 months)	3.25 yrs. (39 months)	3.25 yrs. (39 months)	1.75 yrs. (21 months)
Estimated Overall Project Duration (incl. phasing)	3.7 yrs. (44 months)	4.7 yrs. (56 months)	5 yrs. (60 months)	3 yrs. (36 months)
TEMPORARY SPACE				
Temporary Classrooms, etc. required	Yes	Yes	No	No

MAINTAIN KEY SCOPE ITEMS

- 3.7 Years (44 months)
- All Building and Performance, Maintenance and Upgrades will be completed
 - Abatement
 - Life-Safety Upgrades
 - Energy Performance – Exterior Envelope
 - Building Systems
 - Accessibility Upgrade
 - Access Control
 - Interior Finishes
 - New ADA compliant Main Entrance
- Not Included at this time:
 - Admin Building does not relocate
 - Limited campus/site improvements
 - Overall building design and Layout does not change.

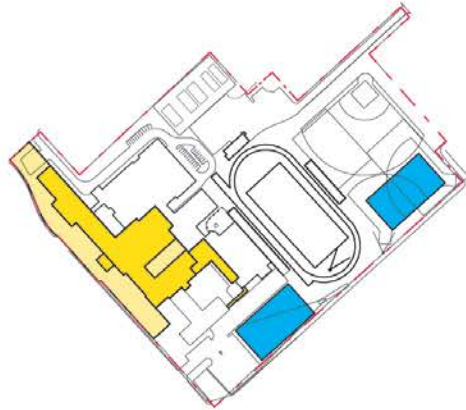


3.7 Years (44 Months)  Temp. Classrooms  Demolish  Under Construction  Complete



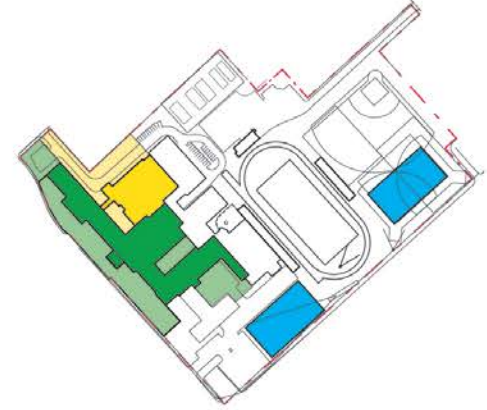
PHASE 1: 3 months

- Establish Temporary Classrooms



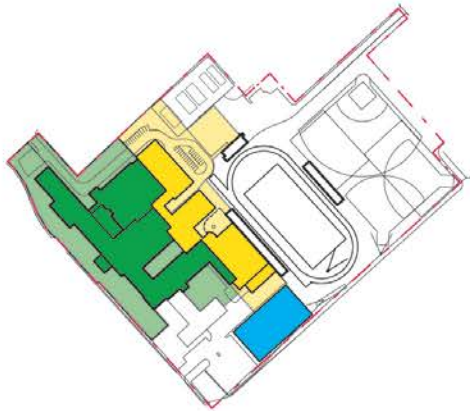
PHASE 2: 15 months

- Renovate Leamy Wing
- Construct New Entry



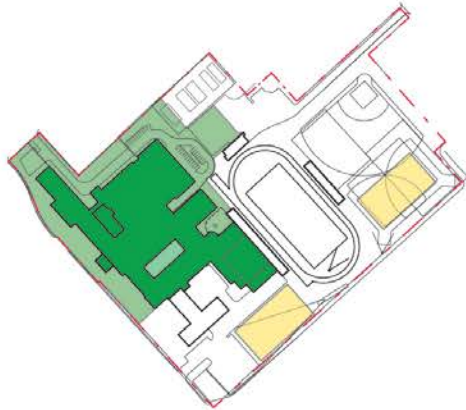
PHASE 3: 12 months

- Renovate Library/Academic Wing



PHASE 4: 12 months

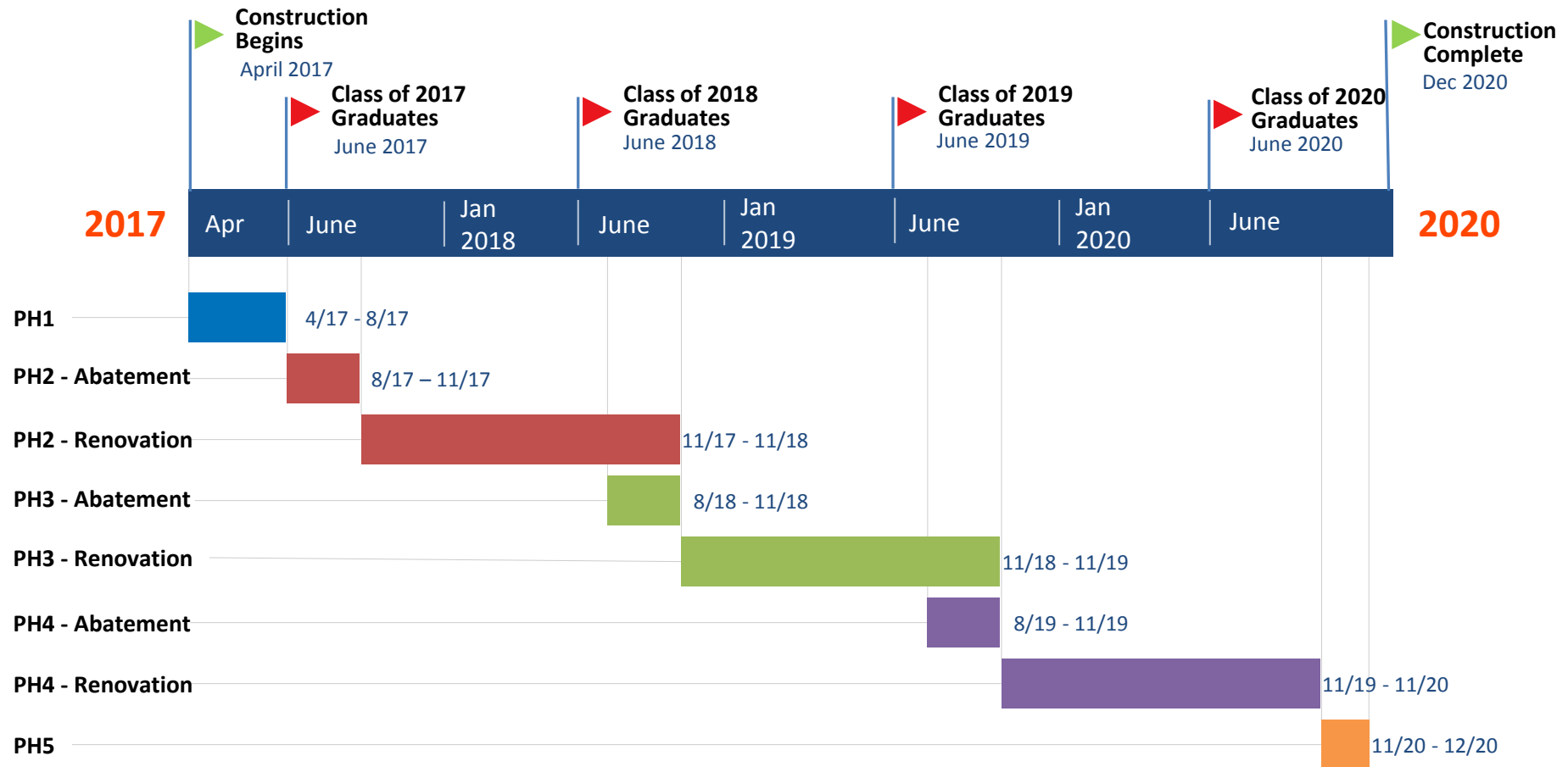
- Renovate Senior Wing & Blue Gym



PHASE 5: 2 months

- Site Work at Temporary Classrooms

3.7 Years (44 Months)



Actual start dependent on community/Board decision
Earliest start date and best case duration shown

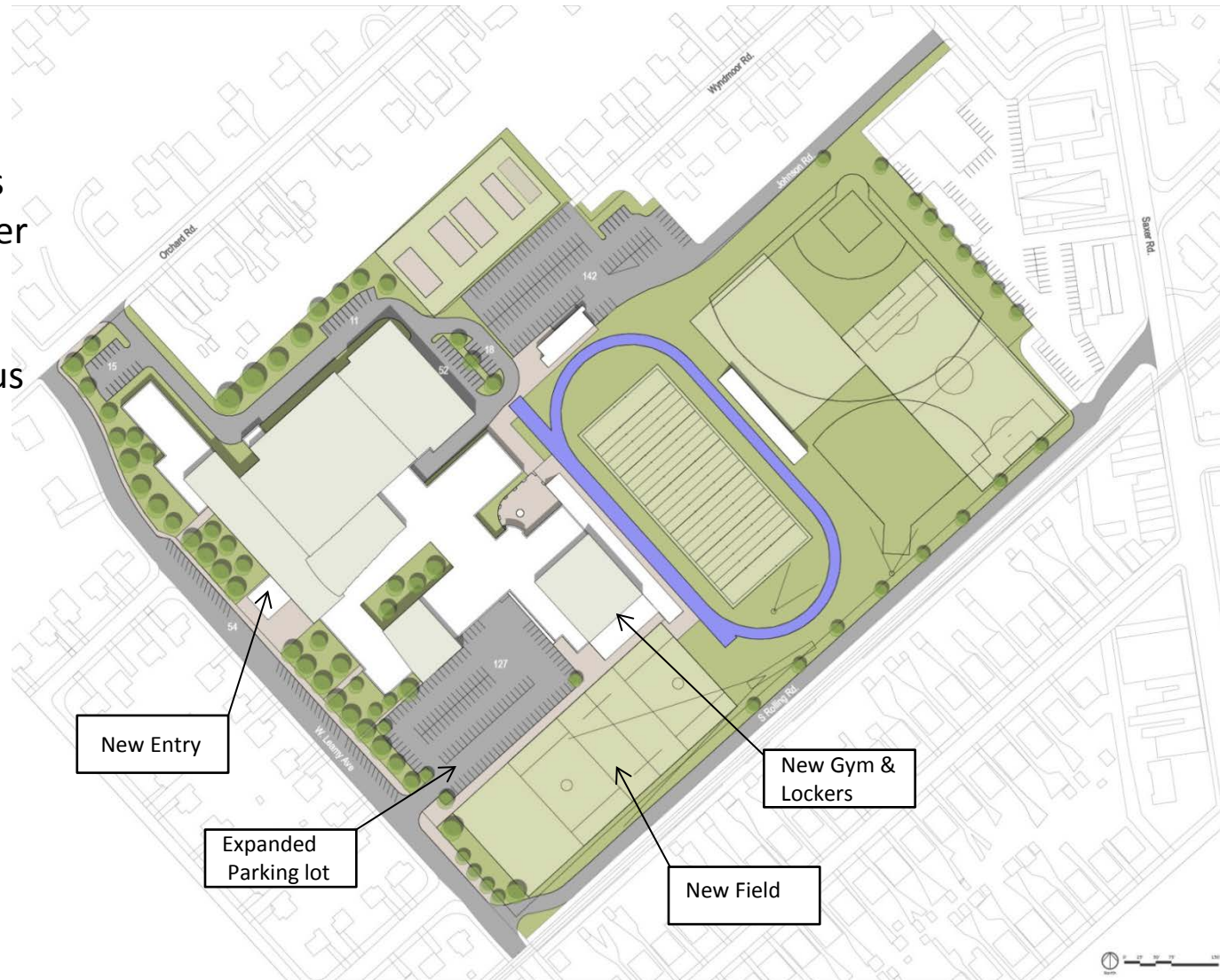
MAINTAIN PHASING HIGHLIGHTS

- Temporary Classrooms Required
- Remediation of Roof Deck and building envelope: exposure to elements.
- Building Systems: service interruptions
- Significant Building Renovation scope:
 - Cannot be completed within Summer periods
 - Construction Phasing Schedule long and complex

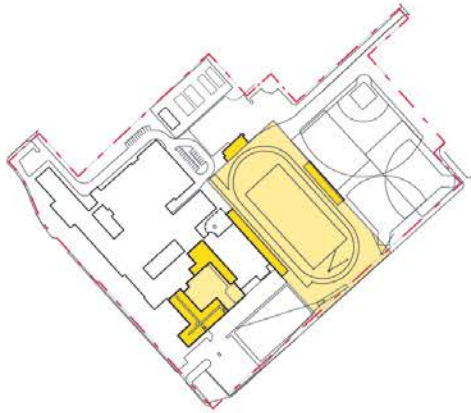


RENOVATE KEY SCOPE ITEMS

- 4.7 years (56 months)
- All Building and Performance Upgrades will be completed as per previous review.
- Relocate Admin and Bus Parking
- Construction of New Gymnasium and Lockers
- Additional Parking Spots
- Additional Regulation Sized Field

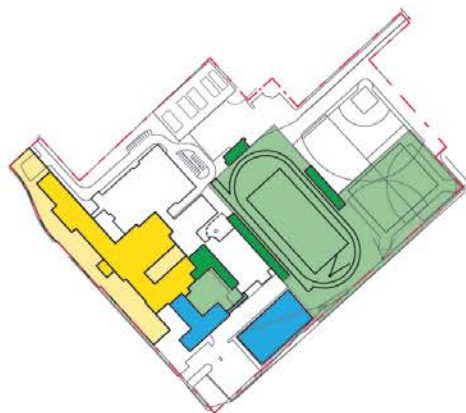


4.7 Years (53 Months) ■ Temp. Classrooms ■ Demolish ■ Under Construction ■ Complete



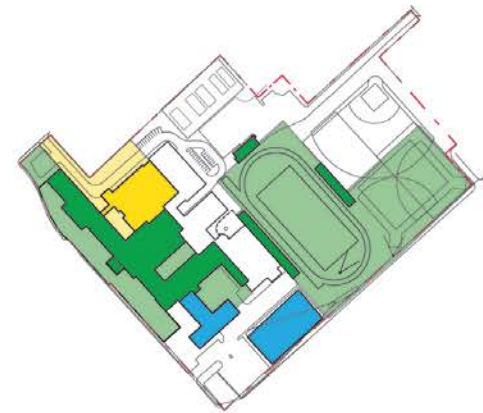
PHASE 1: 7 months

- Renovate Admin wing into classrooms
- Renovate Kitchen & Utilities
- Renovate Stadium Complex



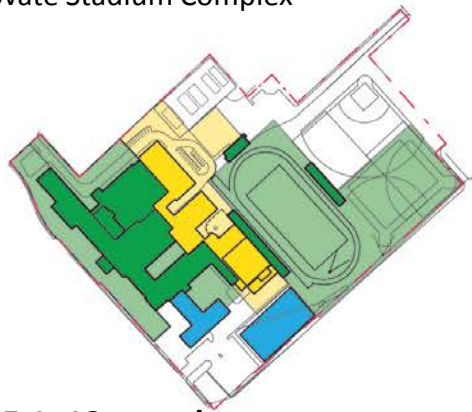
PHASE 2: 16 months

- Renovate Leamy Wing
- Construct New Entry



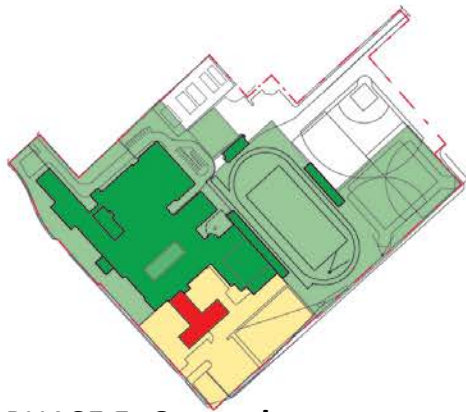
PHASE 3: 12 months

- Renovate Library/Academic Wing



PHASE 4: 12 months

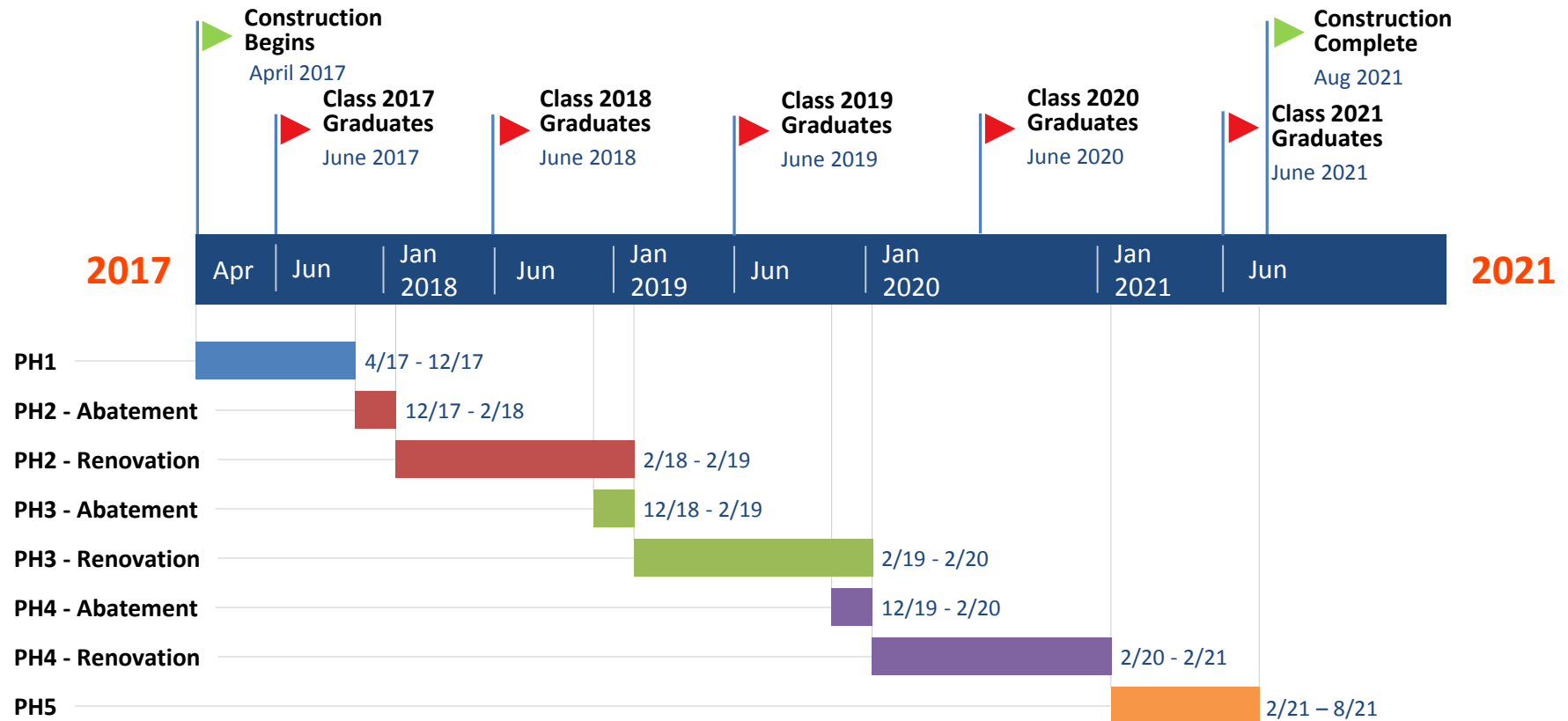
- Renovate Senior Wing
- Construct New Gym & Lockers



PHASE 5: 6 months

- Renovation Complete
- Demolish Admin Wing
- Renovate Parking and Field

4.7 Years (53 Months)



Actual start dependent on community/Board decision
Earliest Start date and best case duration shown

RENOVATE PHASING HIGHLIGHTS

- Temporary Classrooms Required
- Remediation of Roof Deck and building envelope: exposure to elements.
- Building Systems: service interruptions
- Significant Building Renovation scope:
 - Cannot be completed within Summer periods
 - Construction Phasing Schedule long and complex



LEAMY KEY SCOPE ITEMS

- 5 Years (60 months)
- Construction of New High School
- Demolition of Existing High School
- New Track and Field with Additional Lanes
- Additional Parking
- Site Improvements



5 Years (60 Months)



Temp. Classrooms



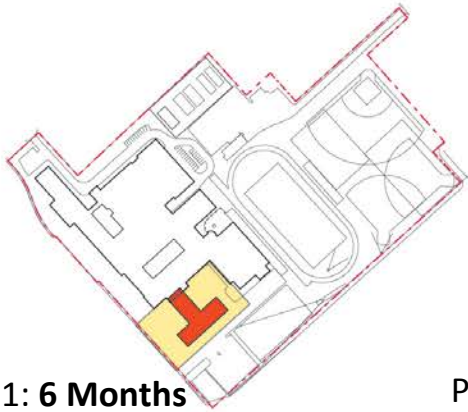
Demolish



Under Construction

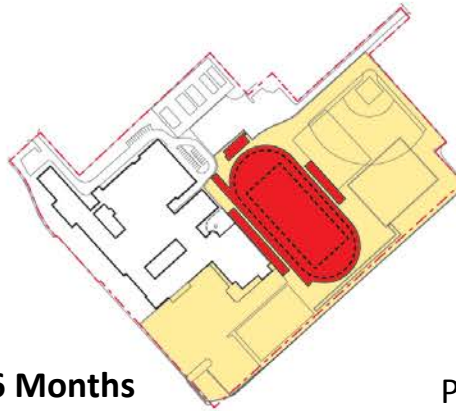


Complete



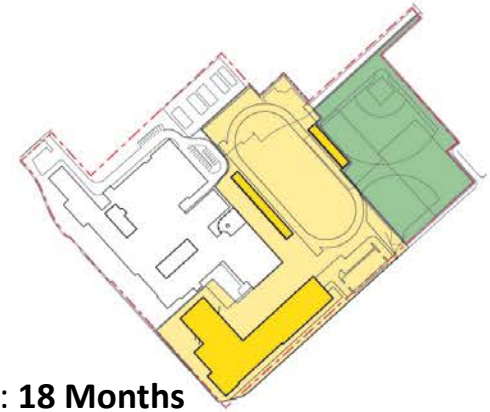
PHASE 1: 6 Months

- Demolish Admin Wing
- New Utility Connections



PHASE 2: 6 Months

- Demolish field & Stadium
- Site prep for new building
- Renovate athletic fields closest to Saxer.



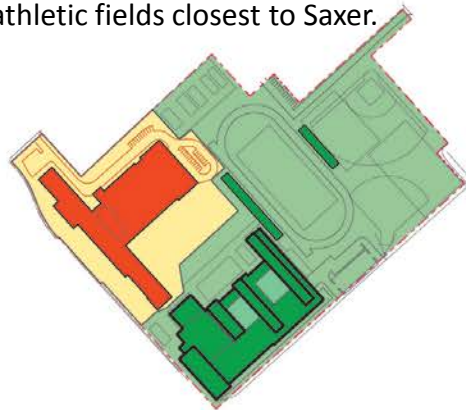
PHASE 3: 18 Months

- Construct New Support Wing
- Construct New Field & Stadium



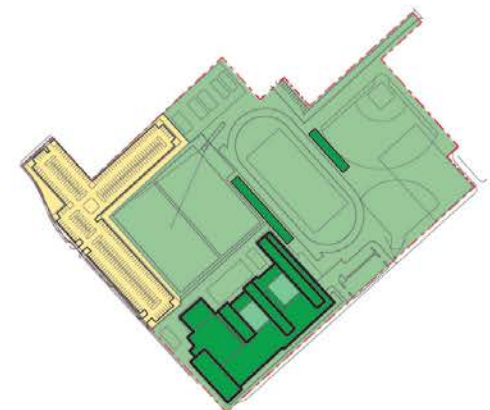
PHASE 4: 20 Months

- New Support Wing Complete
- Construct New Academic Wing
- Demolish Existing Support Spaces
- High School Split – Classroom & Support bldg.



PHASE 5: 6 Months

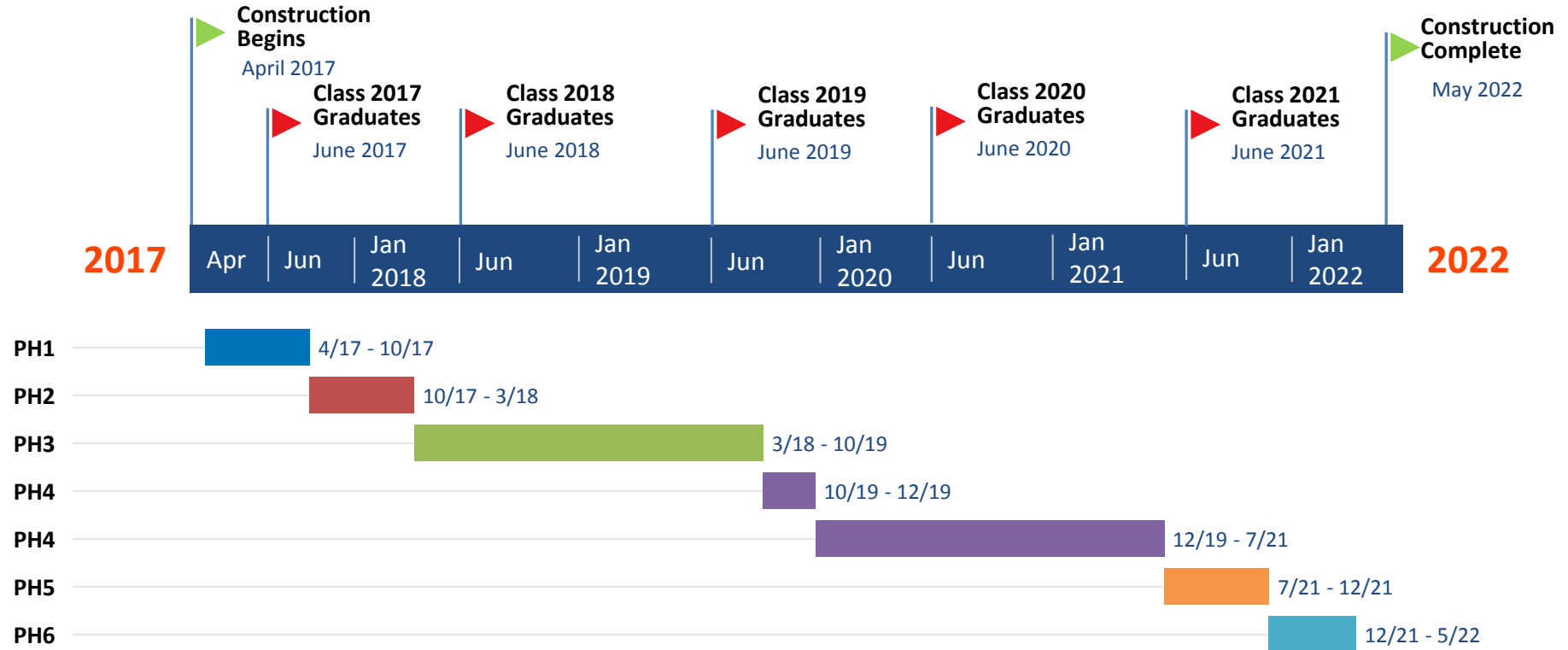
- New H.S. Complete and Occupied
- Demolish Existing H.S.



PHASE 6: 4 Months

- Construct New Parking Lot
- Construct New Fields

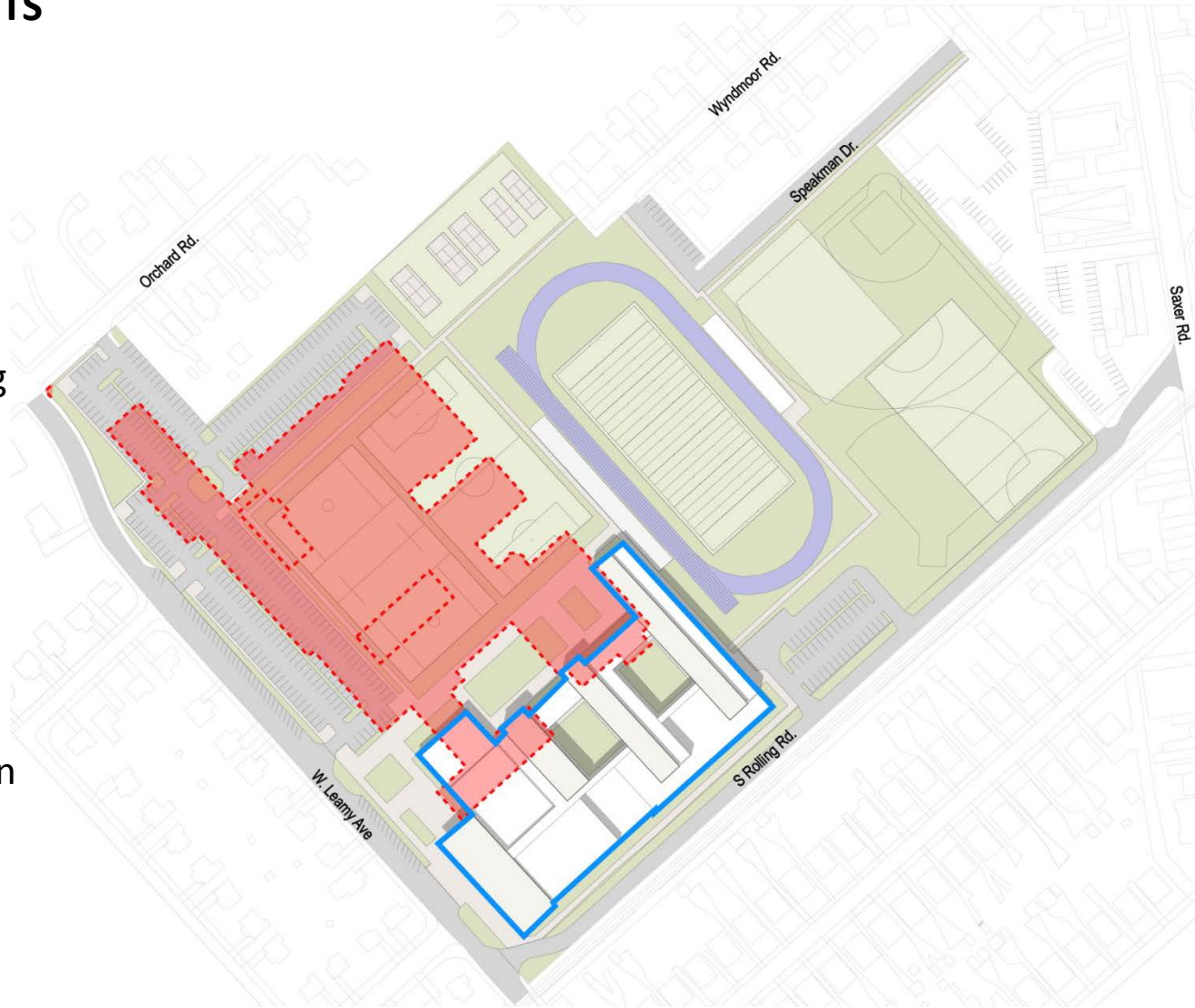
5 Years (60 Months)



Actual start dependent on community/Board decision
Earliest Start date and best case duration shown

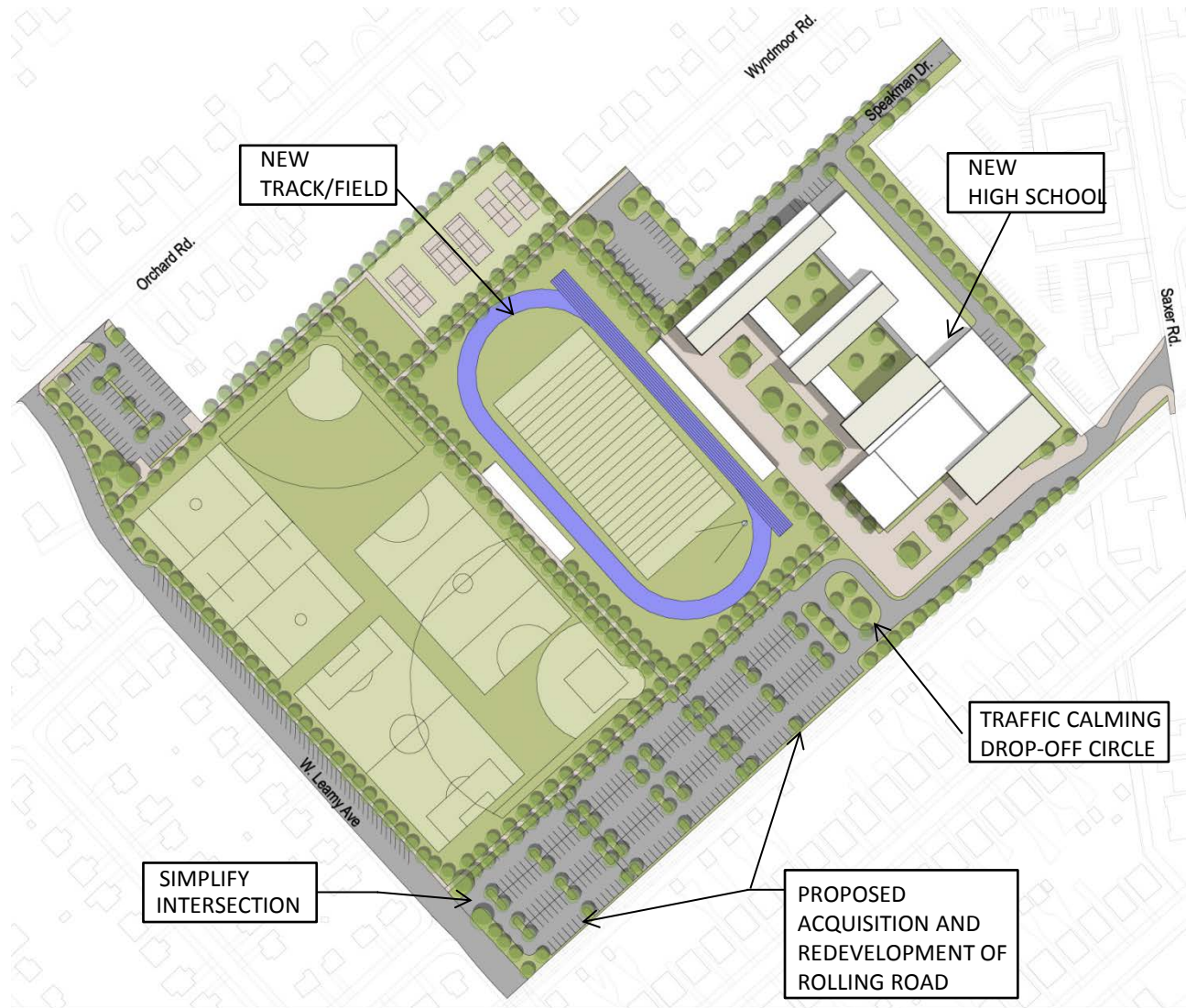
LEAMY PHASING HIGHLIGHTS

- Building Systems
 - Service interruptions (relocation of existing plant and utilities)
- Overlap of Existing Building with Proposed Building:
 - Intricate Construction Phasing
- 5 year Construction Period
- Core classrooms and support are split for portion of project

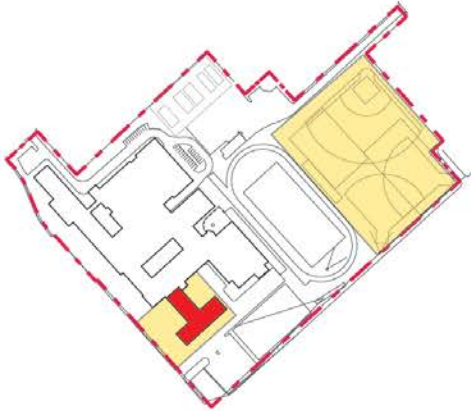


SAXER KEY SCOPE ITEMS

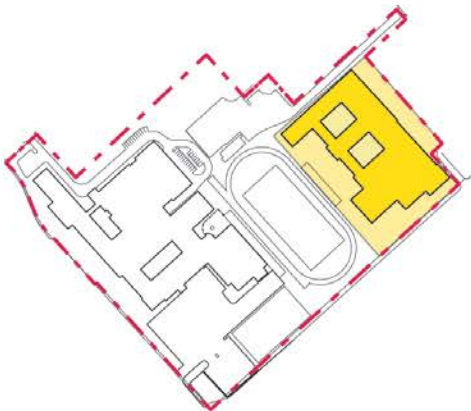
- 3 Years (36 months)
- Construction of New High School
- New Track and Field with Additional Lanes
- Added Athletic Fields/Green Space
- New School can be Constructed without Disruption of Existing Facility
- Acquisition of Rolling Rd.



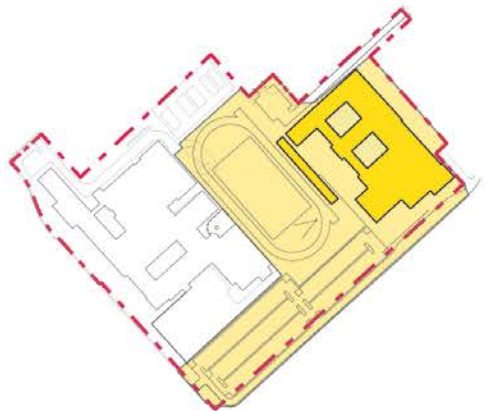
3 Years (36 Months) ■ Temp. Classrooms ■ Demolish ■ Under Construction ■ Complete



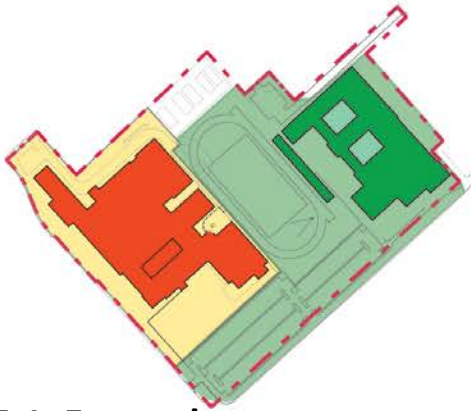
PHASE 1: 5 months
 -Demolish Admin Wing
 -Site Prep for New High School Begins



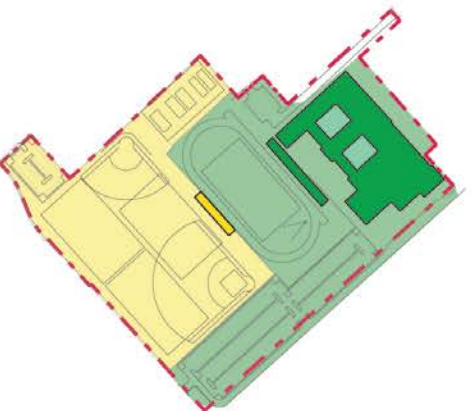
PHASE 2: 12 months
 - New H.S. Construction



PHASE 3: 9 months
 - Construct New Parking lot & Fields
 - Finish New H.S. Construction

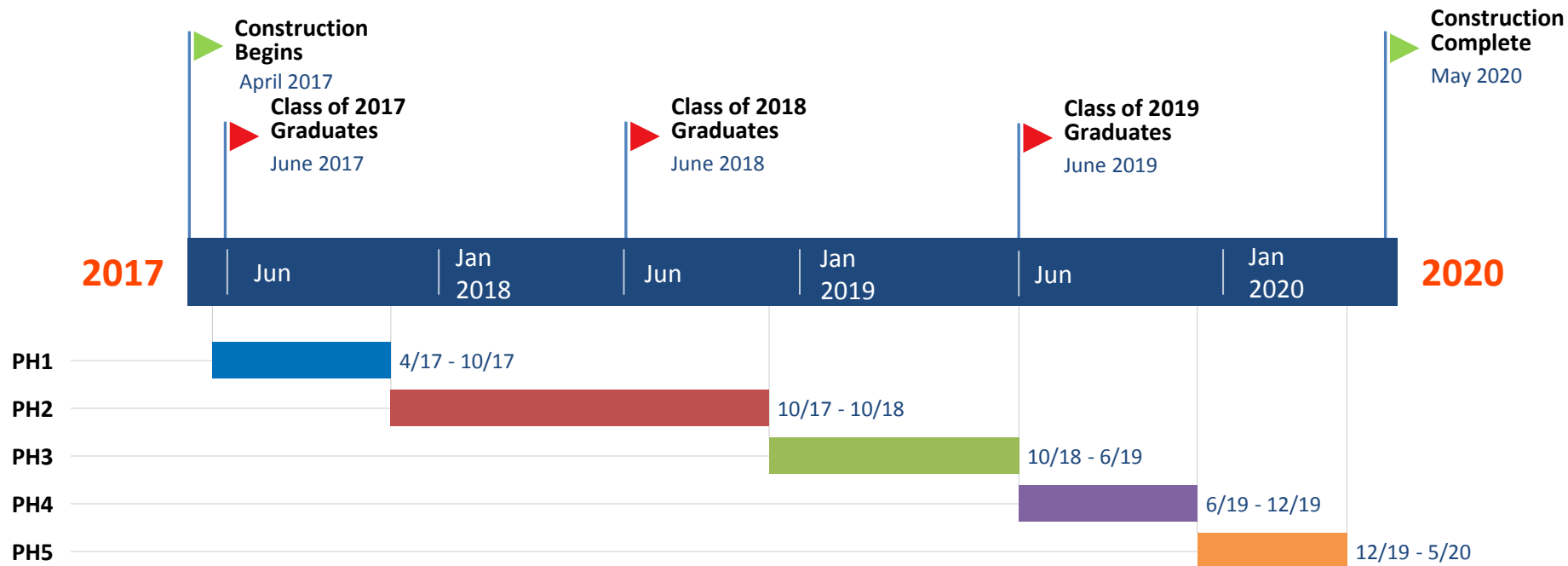


PHASE 4: 5 months
 - New Stadium/Track and H.S. in Operation
 - Demolish Old H.S.
 - New Parking Complete



PHASE 5: 5 months
 - New H.S. Complete and fully Occupied
 - Final Improvements of Fields

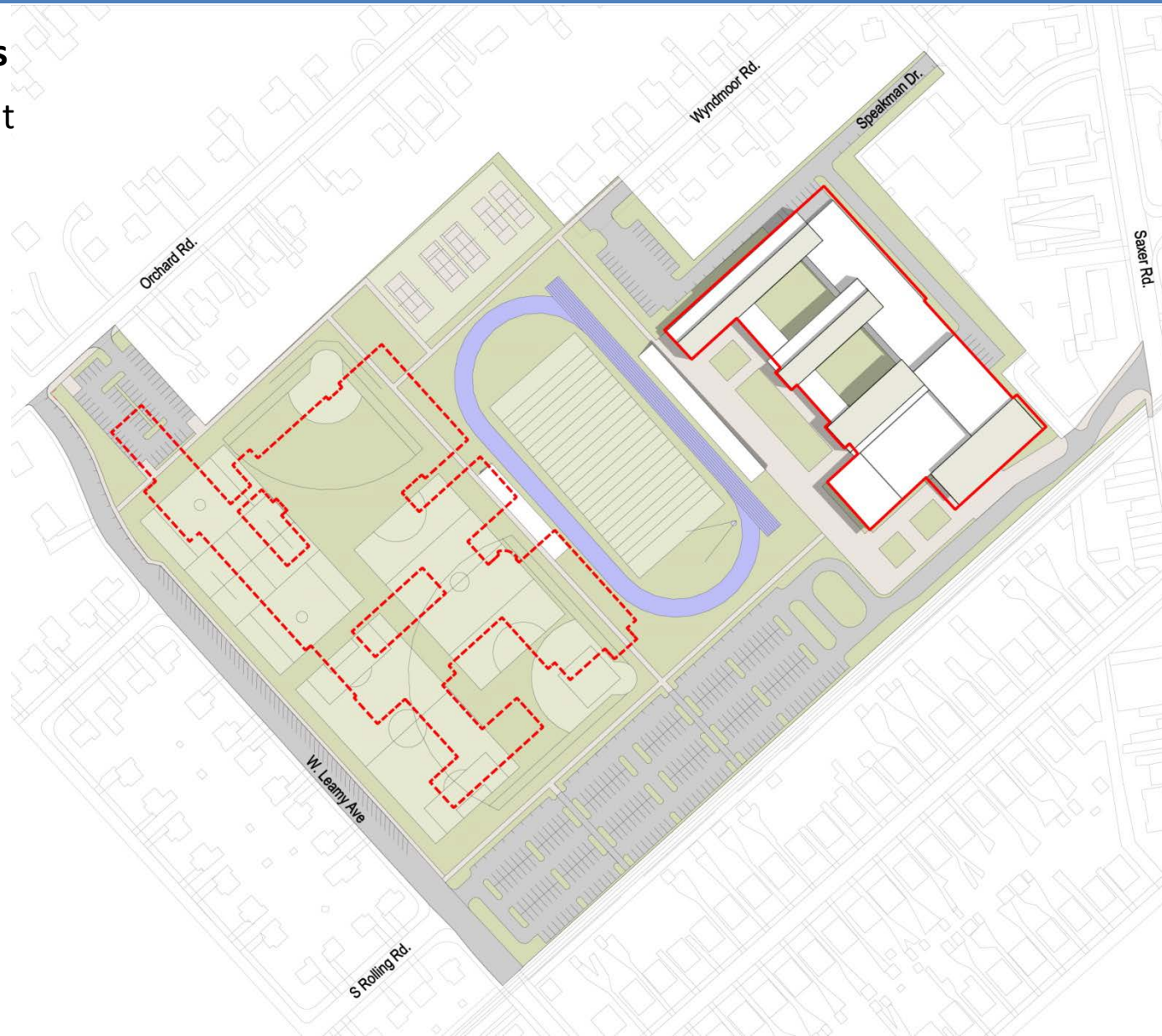
3 Years (36 Months)

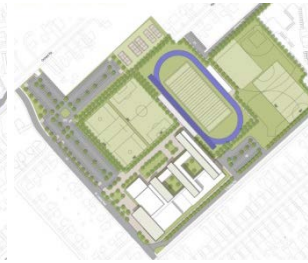
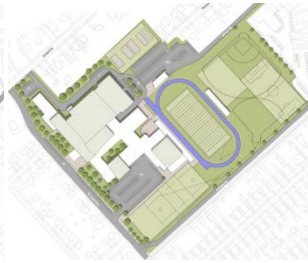
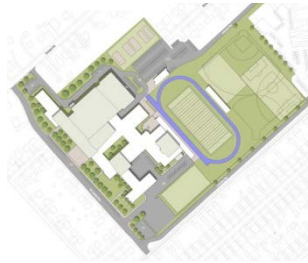


Actual start dependent on community/Board decision
Earliest Start date and best case duration shown

Saxer Phasing Highlights

- New School can be built while Existing School remains fully operational
- Track and Field can be relocated prior to any other work; only rear parking would be displaced





	Maintain Exstg	Renovate Exstg	New Leamy Ave.	New Saxer Ave.
	Maintain Current Facility	Maintain Existing + New Gym Relocate Admin	All New	All New

PHASING/SCHEDULE

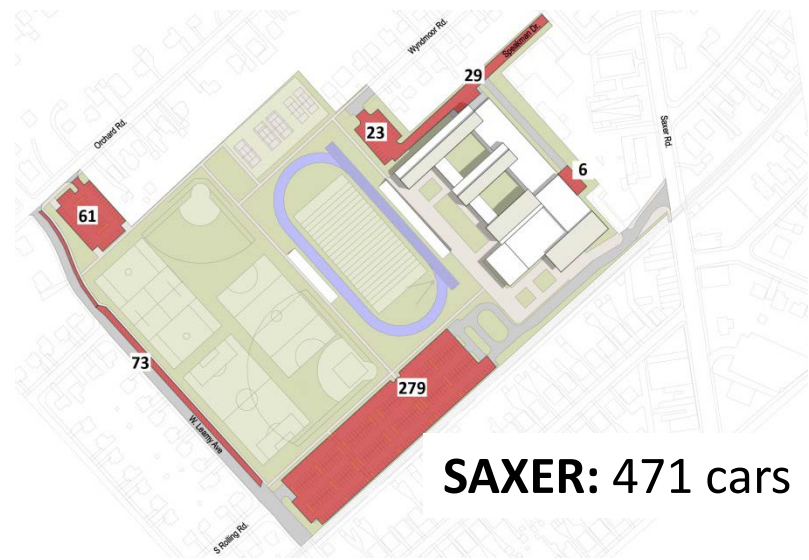
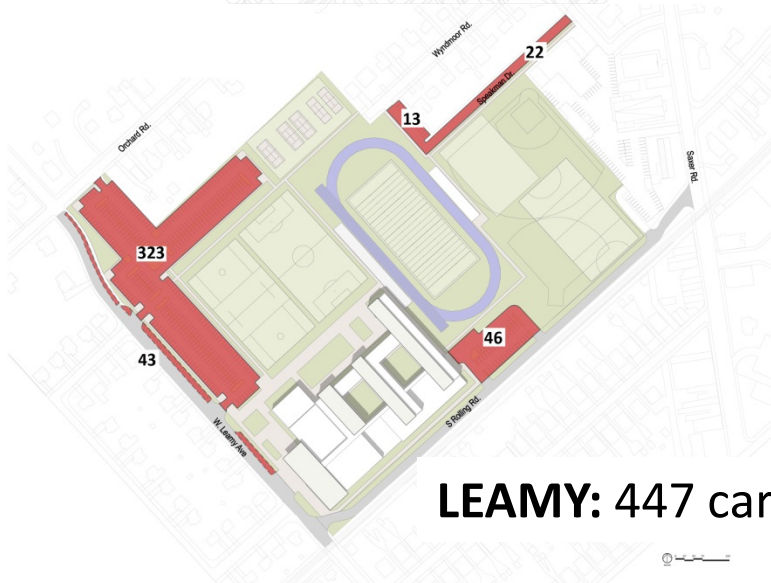
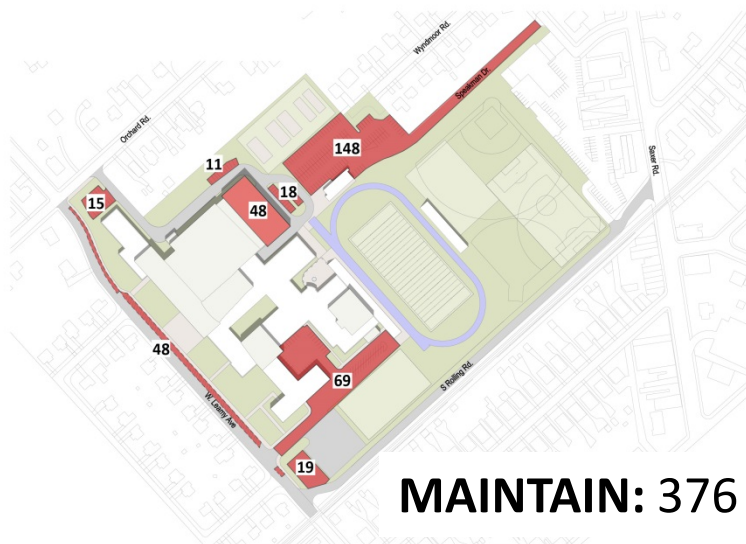
Estimated Base Construction Duration	3.2 yrs. (38 months)	3.25 yrs. (39 months)	3.25 yrs. (39 months)	1.75 yrs. (21 months)
Estimated Overall Project Duration (incl. phasing)	3.7 yrs. (44 months)	4.7 yrs. (56 months)	5 yrs. (60 months)	3 yrs. (36 months)
Senior Classes Effectd	4	5	5	3
Circulation/Campus Disruption	High	High	Medium	Low
Potential for Schedule Creep	High	High	Medium	Low

TEMPORARY SPACE

Temporary Classrooms, Space required	Yes 25-30 -Potential	Yes 25-30-Potential	No	No
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An aerial photograph of a school campus. The central feature is a large, multi-story school building with a complex roofline. To the right of the main building is a large, oval-shaped sports field, likely a football or soccer field. To the left of the main building is another sports field, possibly a baseball or softball field. The campus is surrounded by a dense residential neighborhood with many houses and trees. The text "Traffic / Circulation / Parking" is overlaid in the center of the image.

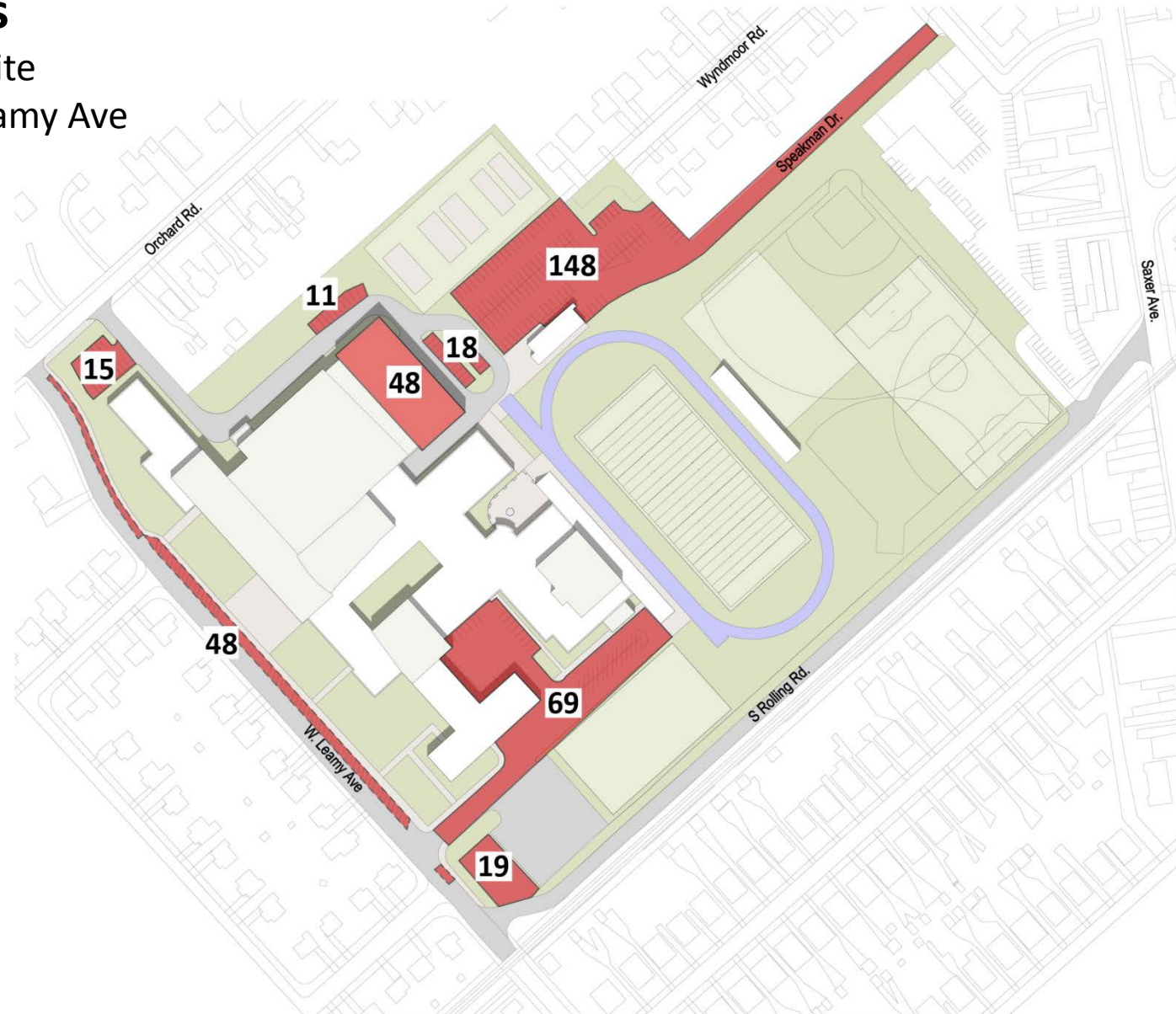
Traffic / Circulation / Parking



*381 cars required on-site per current parking ordinance

- **376 Total Spaces**

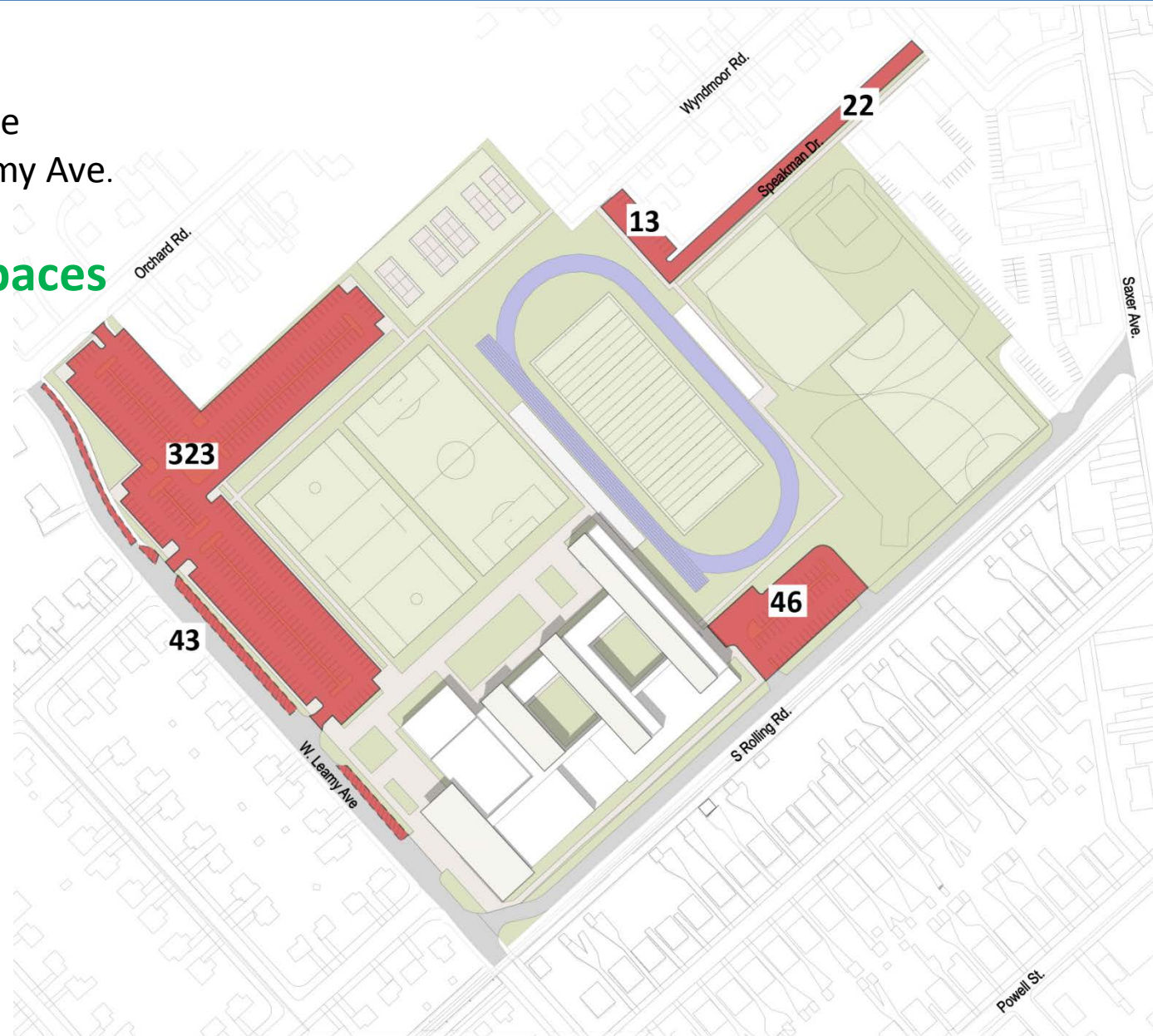
- 328 Spaces On-Site
- 48 Spaces On Leamy Ave



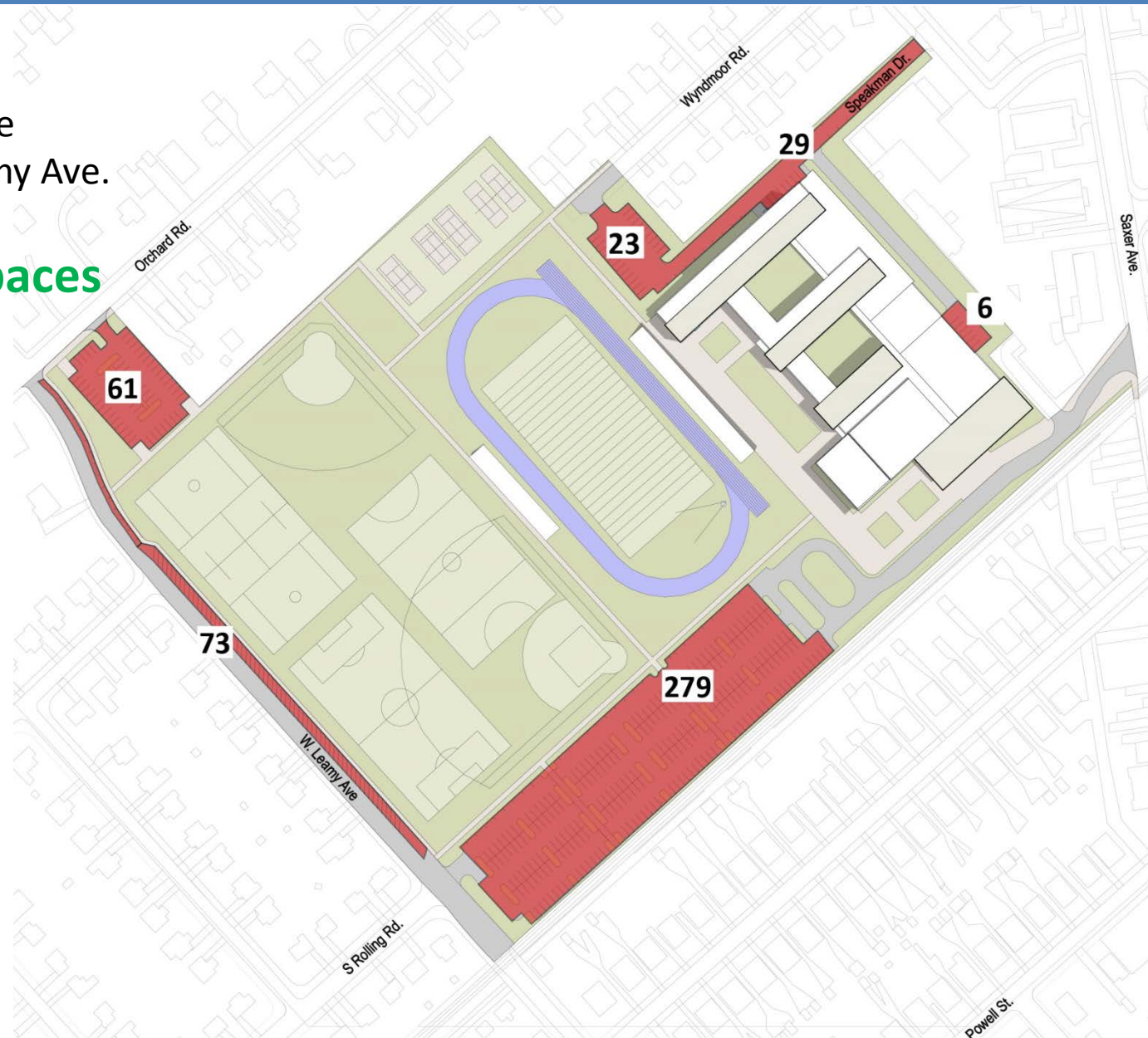
- **415 Total Spaces**
 - 367 Spaces On-Site
 - 48 Spaces On-Leamy Ave
- **Addition of 39 Spaces**

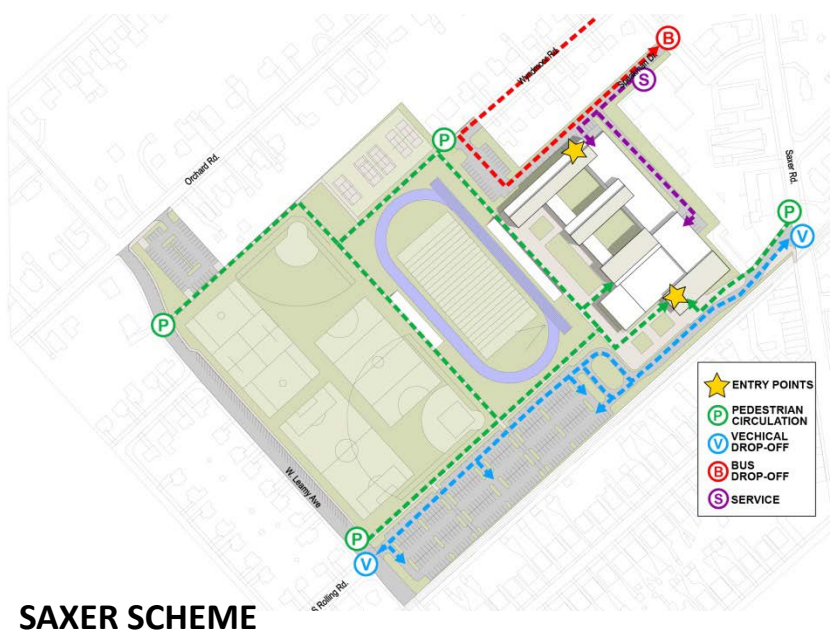
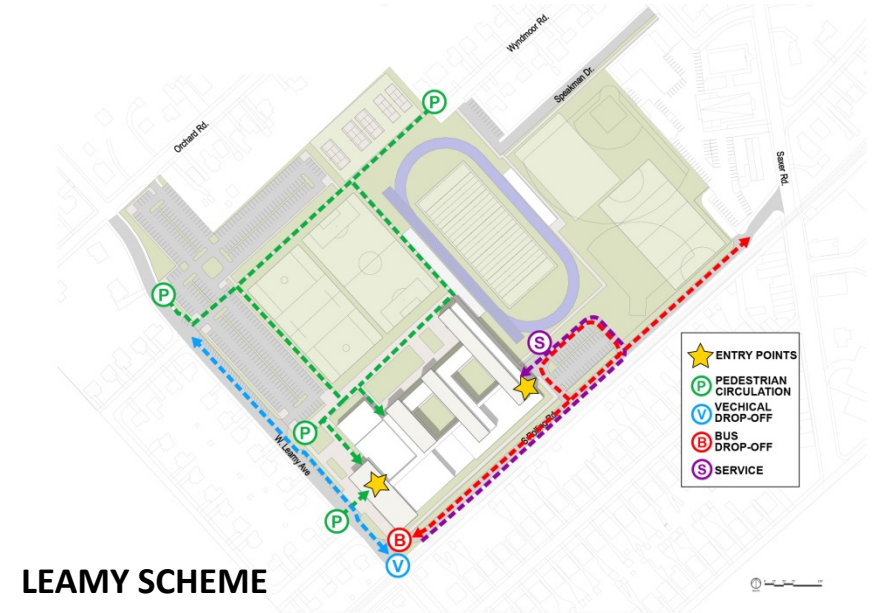
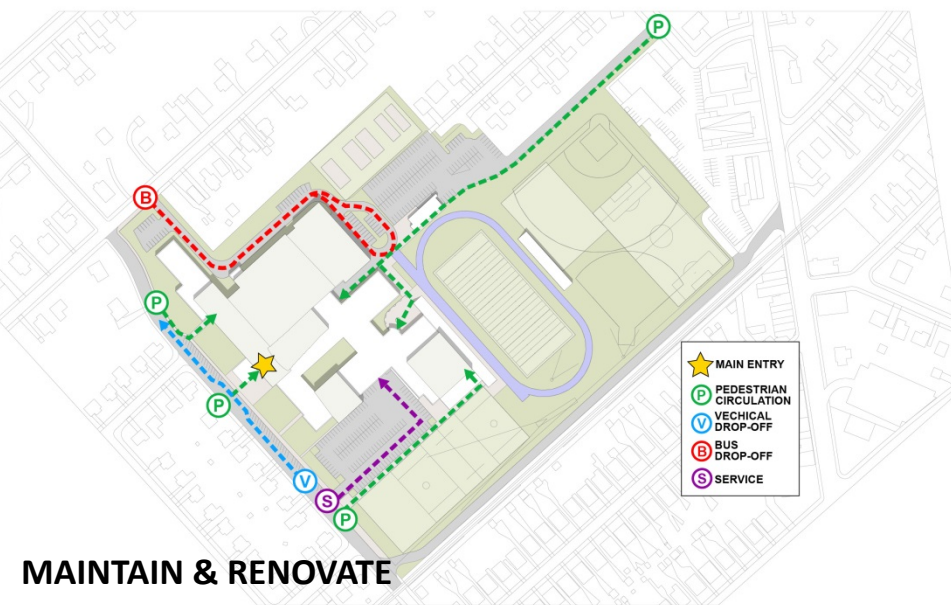


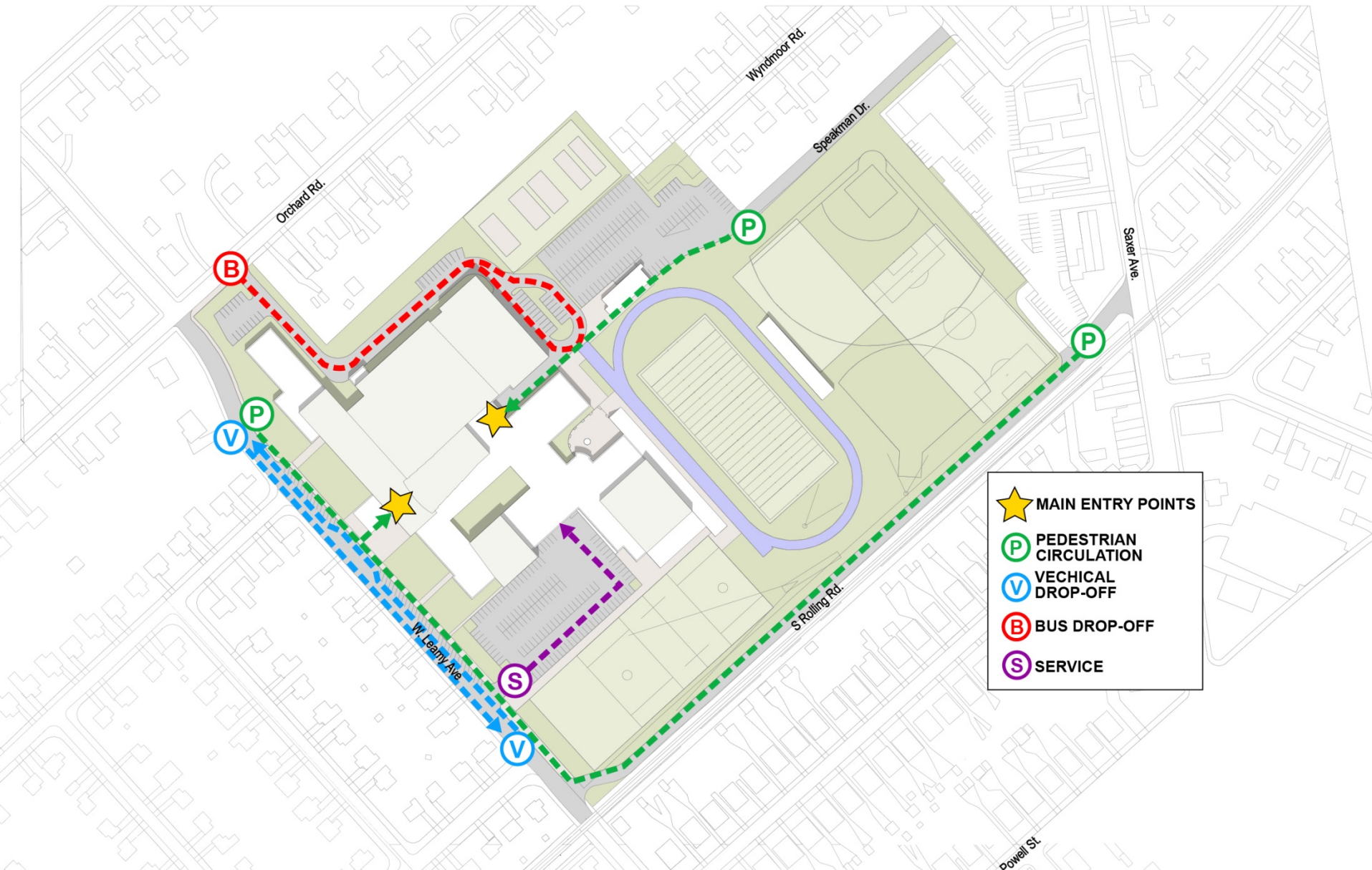
- **446 Total Spaces**
 - 404 Spaces On-Site
 - 43 Spaces on Leamy Ave.
- **Addition of 70 Spaces**

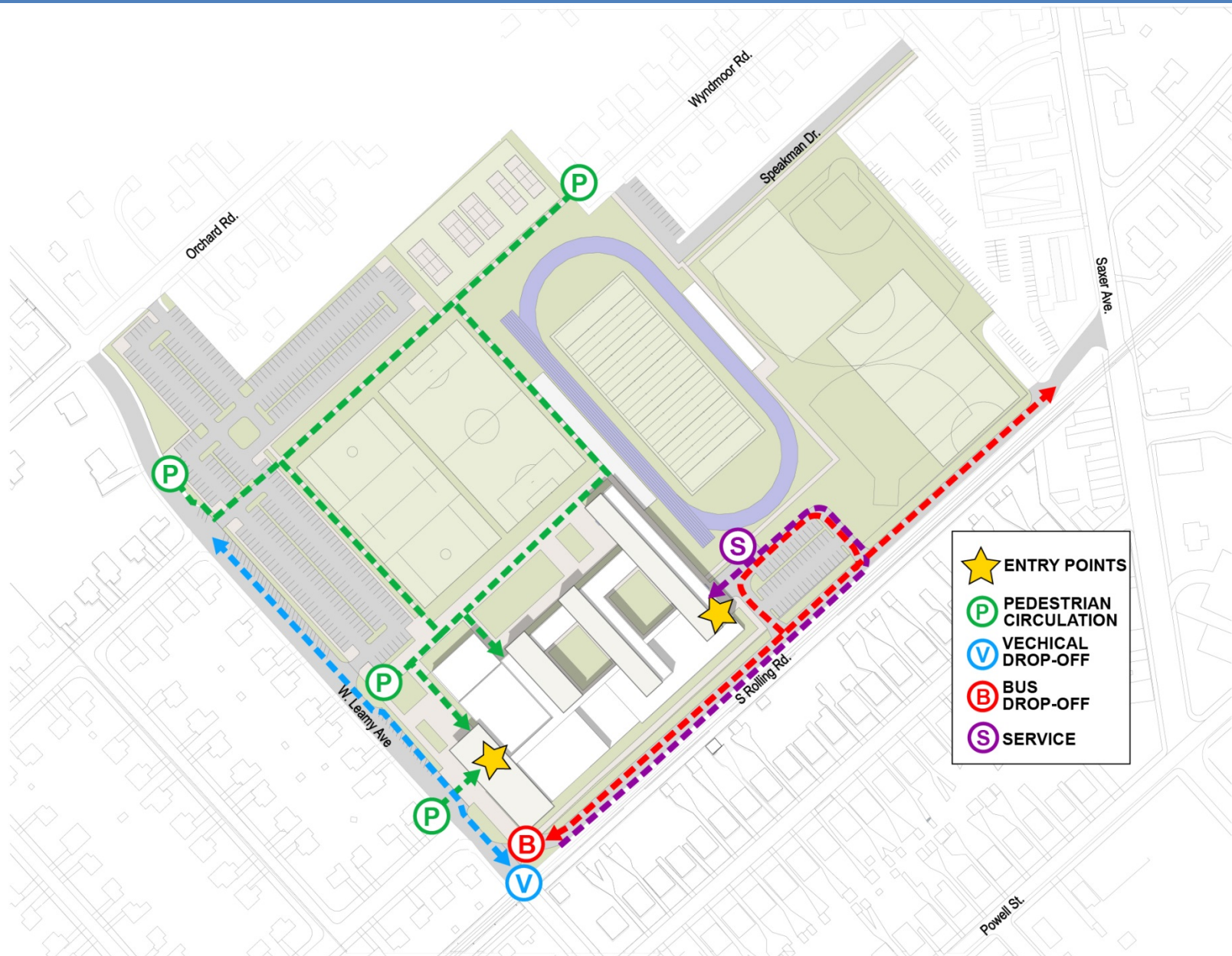


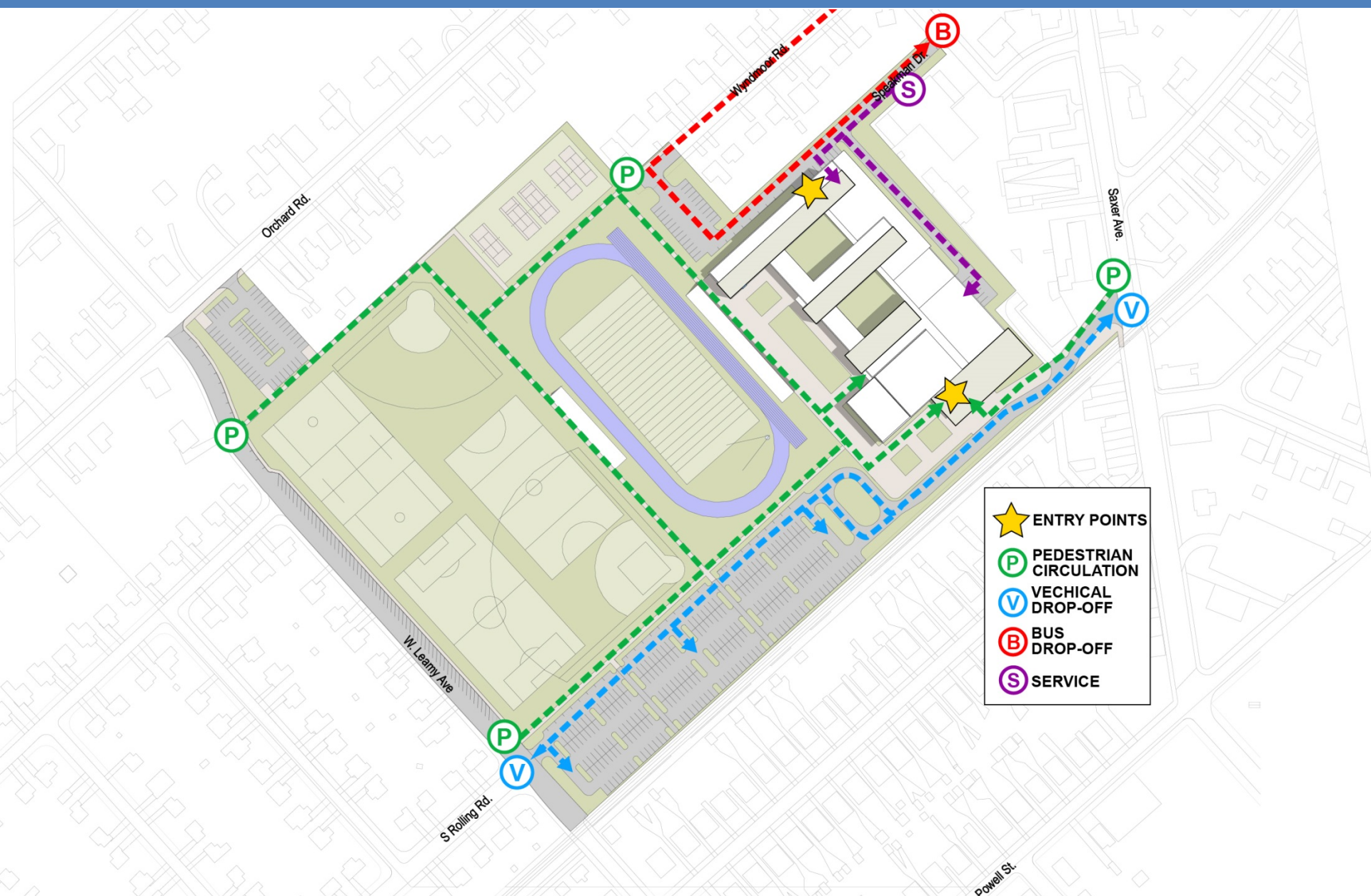
- **471 Spaces**
 - 398 Spaces On-Site
 - 73 Spaces on Leamy Ave.
- **Addition of 95 Spaces**



































	<i>Maintain Existing</i>	<i>Renovate Existing</i>	<i>Leamy Avenue</i>	<i>Saxer Avenue</i>
<i>Number of Students (No Student Increase)</i>	1270 	1270 	1270 	1270 
<i>Number of Buses</i>	6 	6 	6 	6 
<i>Bus Drop-off/Pick-up</i>	On-Site 	On-Site 	On-Site 	On-Site 
<i>Total Parking Spaces</i>	376 	415 	446 	471 
<i>Student Drop-Off/Pick-Up</i>	On-Street 	On-Street 	On-Street 	On-Site 
<i>Administrative Staff Relocated Off-Site?</i>	No 	Yes 	Yes 	Yes 
<i>Privatization of Rolling Road?</i>	No	No	Yes	Yes
<i>Modification to existing travel patterns surrounding the site?</i>	No	Yes – Driveway Relocations	Yes – Rolling Road Closure	Yes – Rolling Road Closure

KEY:

LOW IMPACT

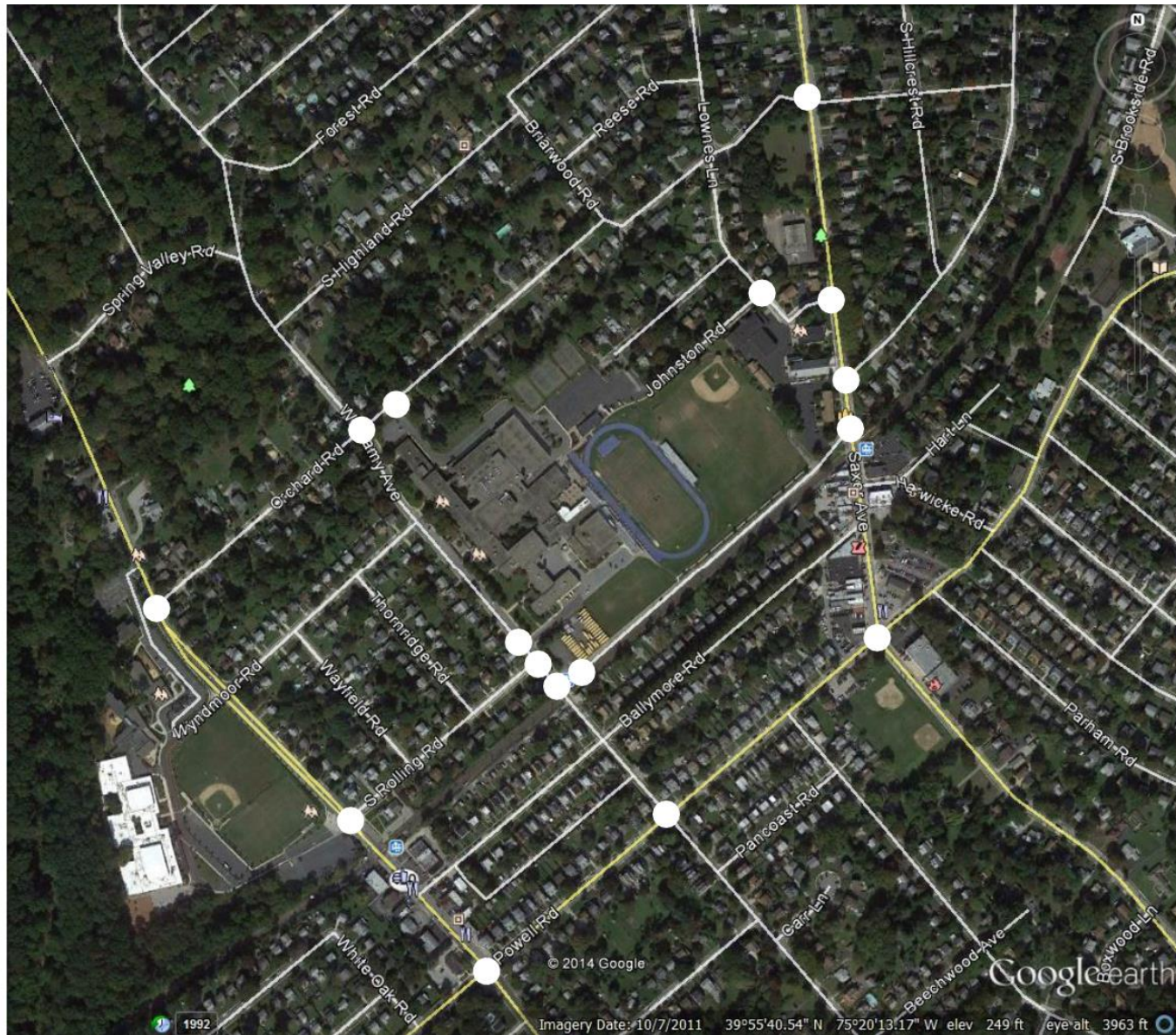
MEDIUM IMPACT

HIGH IMPACT

- Conducted traffic counts and preliminary analysis at 16 intersections surrounding the High School during the morning and afternoon School peak hours:

• <i>Orchard Rd & High School Driveway;</i>	• <i>Woodland Ave (Route 420) & Orchard Rd;</i>
• <i>W. Leamy Ave & High School Driveway;</i>	• <i>Woodland Ave (Route 420) & Rolling Rd/Middle School Access;</i>
• <i>Rolling Rd & High School Driveway;</i>	• <i>Woodland Ave (Route 420) & Powell Rd;</i>
• <i>Speakman Dr & Lownes Ln;</i>	• <i>Saxer Ave & Orchard Rd;</i>
• <i>W. Leamy Ave & Orchard Rd;</i>	• <i>Saxer Ave & Johnston Rd;</i>
• <i>W. Leamy Ave & Rolling Rd (eastern leg);</i>	• <i>Saxer Ave & Rolling Rd (eastern leg);</i>
• <i>W. Leamy Ave & Rolling Rd (western leg);</i>	• <i>Saxer Ave & Rolling Rd (western leg);</i>
• <i>W. Leamy Ave & Powell Rd;</i>	• <i>Saxer Ave & Powell Rd</i>

- Most of the intersections and roadways studied are anticipated to operate in a similar manner under either of the Schemes.



Approximate Average School Peak hr Roadway Volume (vehicles/hr) 3.42

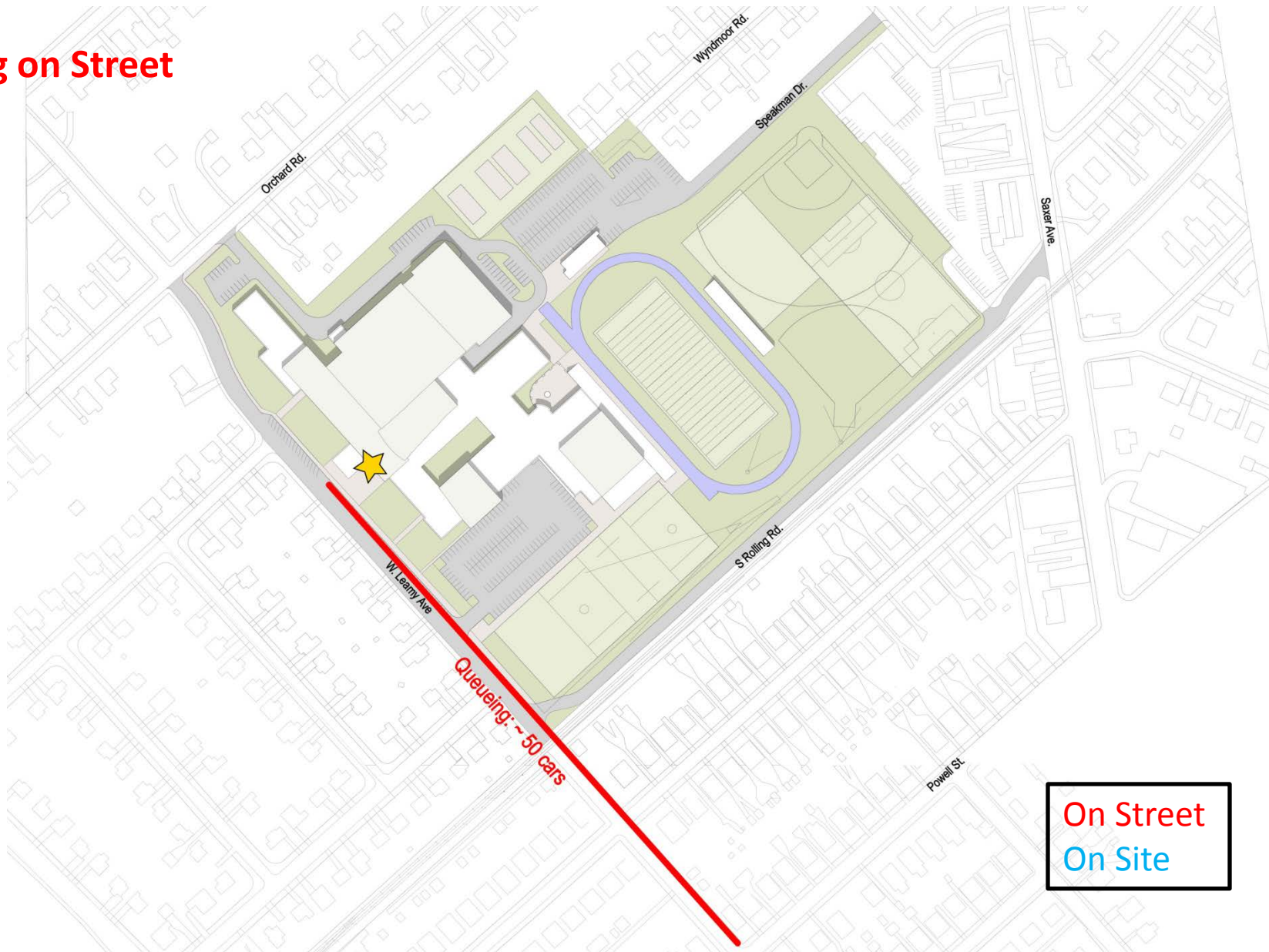
<i>Roadway</i>	<i>Maintain Existing</i>	<i>Renovate Existing</i>	<i>Leamy Avenue</i>		<i>Saxer Avenue</i>	
			<i>w/o Rolling Road Closure</i>	<i>with Rolling Road Closure</i>	<i>w/o Rolling Road Closure</i>	<i>with Rolling Road Closure</i>
Orchard Road - between HS Driveway and Briarwood Road	235	235	275	305	225	255
Rolling Road - between Leamy Avenue and Woodland Avenue	315	315	315	310	310	290
Woodland Avenue - between Powell Road to MS Driveway	1255	1255	1255	1260	1225	1245
Powell Road - between Leamy Avenue and Saxer Avenue	855	855	855	945	875	965
Saxer Avenue - between Rolling Road and Powell Road	935	935	920	830	980	890

Level of Service	Control Delay Per Vehicle (Seconds)			
	Signalized		Unsignalized	
	Delay (seconds)	Qualitative Description	Delay (seconds)	Qualitative Description
A	≤ 10	Good progression, few stops, and short cycle lengths	≤ 10	Little or no delay
B	> 10 and ≤ 20	Good progression and/or short cycle lengths; more vehicle stops.	> 10 and ≤ 15	Short traffic delays
C	> 20 and ≤ 35	Fair progression and/or longer cycle lengths, some cycle failures; significant portion of vehicles must stop.	> 15 and ≤ 25	Average traffic delays
D	> 35 and ≤ 55	Congestion becomes noticeable; high volume-to-capacity ratio; longer delays, noticeable cycle failures.	> 25 and ≤ 35	Long traffic delays
E	> 55 and ≤ 80	At or beyond limit of acceptable delay; poor progression, long cycles, high volumes, long queues.	> 35 and ≤ 50	Very long traffic delays
F	> 80	Unacceptable to drivers, arrival volumes greater than discharge capacity; long cycle lengths, unstable-unpredictable flows.	> 50	Congestion when volume exceeds capacity.

<i>Intersection</i>	<i>Peak Hour</i>	<i>Maintain Existing</i>	<i>Renovate Existing</i>	<i>Leamy Avenue</i>		<i>Saxer Avenue</i>	
				<i>w/o Rolling Road Closure</i>	<i>with Rolling Road Closure</i>	<i>w/o Rolling Road Closure</i>	<i>with Rolling Road Closure</i>
<i>Saxer Avenue & Orchard Road</i>	Morning	A	A	A	A	A	A
	Afternoon	A	A	A	A	A	A
<i>Saxer Avenue & Rolling Road (western leg)</i>	Morning	A	A	A	A	A	A
	Afternoon	A	A	A	A	A	A
<i>Saxer Avenue & Powell Road</i>	Morning	B	B	B	B	B	B
	Afternoon	B	B	B	B	B	B
<i>Powell Road & Leamy Avenue</i>	Morning	C	C	C	D	C	D
	Afternoon	B	B	B	B	B	B
<i>Powell Road & Woodland Avenue</i>	Morning	C	C	C	C	C	C
	Afternoon	D	D	D	D	D	D
<i>Woodland Avenue & Orchard Road</i>	Morning	A	A	A	A	A	A
	Afternoon	A	A	A	A	A	A
<i>Leamy Avenue & Orchard Road</i>	Morning	C	C	C	D	B	C
	Afternoon	A	A	A	A	A	A

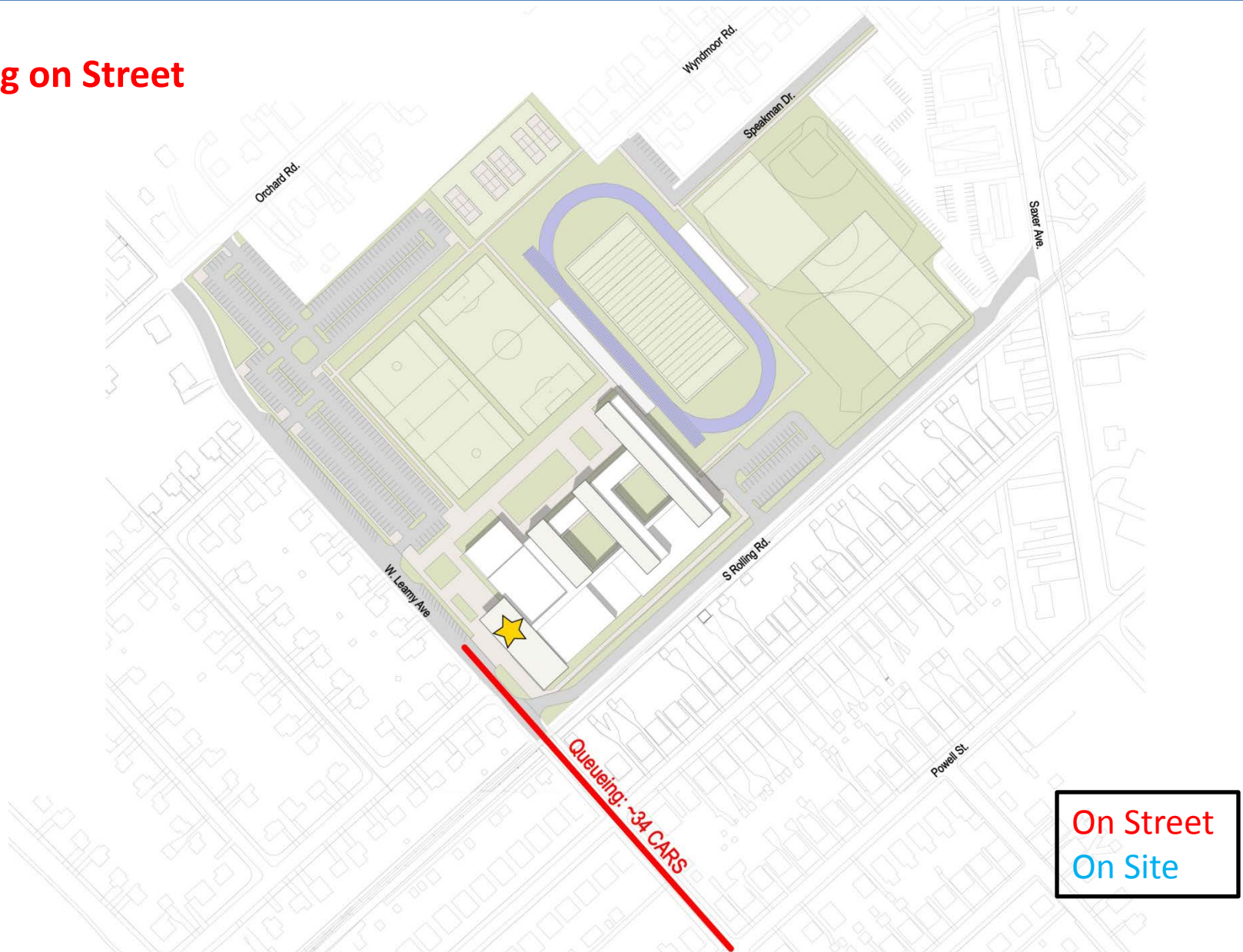
*Overall intersection LOS D or better is typically considered acceptable for this area

Queueing on Street
~50 cars

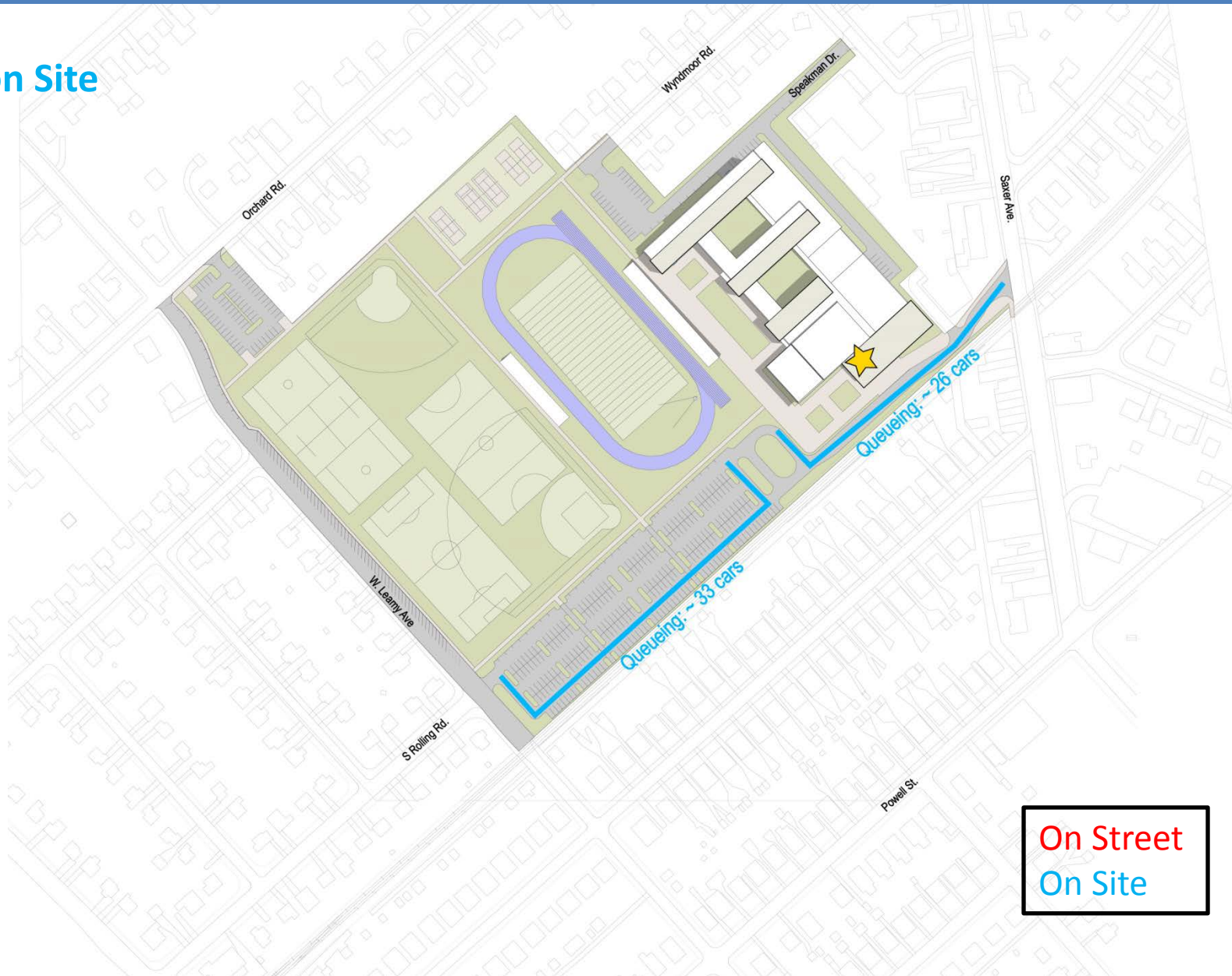


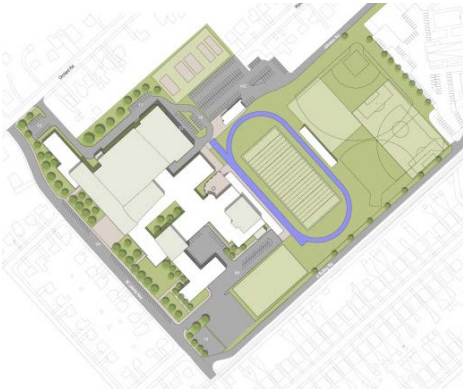
On Street
On Site

Queueing on Street
~34 cars

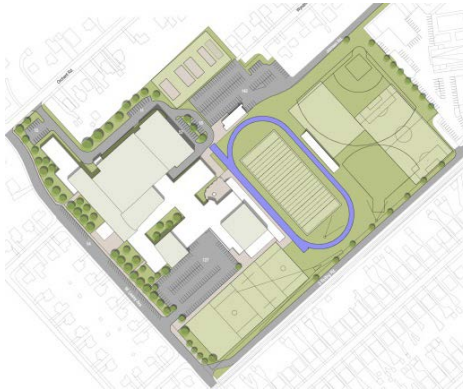


Queueing on Site
~59 cars





Maintain Existing



Renovate Existing



New Leamy



New Saxer

Discussion

Town Hall Meetings

- **Town Hall Meeting 1** (October 16th, 2014)
Repeat Presentation of May 22, 2014 Board Meeting
- **Town Hall Meeting 2** (November 13th, 2014)
Existing Building / Right-Sizing / Education Model
- **Town Hall Meeting 3** (December 11th, 2014)
Phasing / Traffic and Parking
- **Town Hall Meeting 4** (January 14th, 2015) (Meeting at D.C.I.U.)
Community/ Academic / Athletics and Recreation / Sustainability
- **Town Hall Meeting 5** (February 4th, 2015)
Financial Options / Cost Options / Tax Impact
- **Town Hall Meeting 6** (March 19th, 2015)
Recap / Summary / Options for Moving Forward

An aerial photograph of a school campus. The central feature is a large, multi-story school building with a complex roofline. To the right of the main building is a large baseball field. To the left of the main building is another baseball field. The campus is surrounded by a dense residential neighborhood with many houses and trees. The word "Appendix" is overlaid in the center of the image.

Appendix

- The morning and afternoon school peak hours were evaluated;
- PennDOT guidelines require the evaluation of Levels of Service (LOS) where the with development scenario is compared to the without development scenario;
- Marginal increases in delay are typically permitted by PennDOT. Beyond a marginal increase in delay, mitigation measures are typically identified.
 - Mitigation measures include optimizing signal timings, upgrading pedestrian facilities, upgrading signal equipment, etc.
- Overall intersection LOS D or better is typically considered acceptable for this area.

Town Parking Ordinance

Previous Off-Street Parking Requirement for High School:

- 1 space per faculty member or FTE
- + 2 spaces per classroom
- + 1 space per 12 students over age 16

=379 spaces

Current Off-Street Parking Requirement for High School:

- 0.3 parking spaces per student

= 381 spaces (assuming 1,270)