

Project Summary:

New Hope-Solebury School District High School Modernization Study

21 April, 2014

High School Facilities Assessment				
Part 1 - General Information				
Material / System	Condition / Age/Recommendation	Cost		
		Not Included	Included	
1.1	Age of Building and Additions	1938/50/58/67/97		N/A
1.2	Era of last Significant Renovat	1997 and 2007		N/A
1.3	Overall Building Condition	Good		N/A
1.4	Weather Protection	Leaks reported at both the Middle School and High School Gyms in the Upper wall. It appears water is getting into the top of the wall. The roofing to wall connection should be investigated and repaired.		\$15,000
1.5		Leaks were observed around the garden courtyard. Recommend providing storm drain and water proofing on walls below grade.		\$30,000
1.6	Conditioning			N/A
1.7	Building Use	High School / District Administration		N/A
1.8	Construction Type	'38 Masonry Bearing w/ wood floor & Roof		N/A
1.9		'50/58/67 Masonry Bearing with Steel Floor/ Roof Framing		
1.10		'98 Masonry Bearing with Steel Floor & Roof Framing		
1.1	Sprinklers	Wet-type sprinkler protection in areas new to 1998 construction. Good condition.		N/A
Part 2 - Site Conditions				
2.1	Asphalt Paving	The majority of the paving is 15 years old. Some Minor Cracking / previous crack repair is evident/ Recommend overall sealant to prevent deterioration. 212,200 sf X \$0.40		\$84,880
2.2	Concrete Paving	Some areas of spalling/joint sealant is failing / Recommend replacing spalled concrete and replacing failed joint sealant.		\$50,000
2.3	Storm Water Management			N/A
2.4	Site Utilities			
2.5	Water service	City water connection 5 years old shared with MS - Good Condition		N/A
2.6	Fire water service	City water connection 5 years old shared with MS - Good Condition		N/A
2.7	Electric service	480V service fed from PECO transformer during 1998 construction - Good Condition		N/A
2.8	Gas service	Gas Service from PECO - serves the Kitchen, science classrms and Boilers.		
2.9	Sanitary lateral	City sanitary connection shared with MS - Good Condition		N/A

2.10	Phone / cable	Phone, cable, etc. fed from applicable utilities during 1998 construction. Fiber service is thru an agreement with the BCIU - All services are in Good Condition	N/A
2.11	Underground oil tanks	Existing 20,000 gallon underground storage tank with leak detection - Good condition. New to 1998 construction	N/A

Other

Part 3 - Building Exterior Shell			
3.1	Exterior Walls	Brick and painted masonry/ Brick and mortar are in good shape / Painted Block is failing particularly on upper gym walls / Recommend removing loose paint and repainting all masonry. Some minor repointing should be done on the '38 Building.	\$24,750
3.2		There is a Structural Crack in the North West Corner of the Cafeteria. This should be investigated and repaired.	\$10,000
3.3	Exterior Doors	Aluminum doors in Alum. Frames from the '98 building add/reno. - No issues.	N/A
3.4		Painted Hollow metal Doors and frames - in need of paint	\$15,000
3.5	Windows	'98 building has alum. Frames with insulated glass, operables are casement type / Good Condition.	N/A
3.6		'50 building has alum. double hung units installed in the mid 80s which are difficult to operate / Recommend replacing.	\$72,000
3.7		'38 building has alum. double hung units installed in the mid 80s which are difficult to operate / Recommend replacing.	\$418,500
3.8	Roofing Systems	'98 building has Asphalt shingles - No problems reported. Other Building had their roofs replaced between 2002 and 2005 / Minor drainage and flashing issues were observed these should be corrected before they develop into a problem.	\$15,000
3.9		'38 Building roof is showing some alligating.	
3.10	Roof and Floor Framing	'38 building wood frame - No issues	N/A
3.11		All other building Steel frame in good	N/A

3.12 Basement Water Manag.	'38 building - minor water infiltration in the 2 lower level classrooms /this is currently handled by sump pump. Recommend moving teaching spaces off lower level. Improve on water proofing and drainage condition.	\$5,000
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Other

	Part 4 - Building Interior	
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4.1	Casework and cabinets	Much of the Case work is from '98 renovation and is in good condition with the following exceptions.	N/A
4.2		'38 building has 4 classrooms with original case work.	\$40,000
4.3		Science Work rooms have original case work which is showing deterioration. Replace.	\$72,000
4.4		Counter top in the Computer Lab in the '50's building laminate is coming off. Replace the Computer top with computer furniture.	\$8,000
4.5		Lockers and Casework in the existing Gyms, music and Art rooms are damaged and should be replaced.	\$179,600
4.6		Lockers in existing HS Building are serviceable, they have been repainted and repaired many times over the years. In a significant renovation they should be replaced.	\$80,000
4.7		Cafeteria, the District would like to repalace the tables and loose chairs in the cafeteria with tables that have fixed chairs attached to	need value
4.8	Interior doors and frames	Doors in general are in good condition. The gyms, music and art rooms doors are worn and in need of replacement.	\$134,700

Finishes

4.9	Walls	Painted Masonry in Good Condition; Should be repainted in major renovation.	\$153,800
4.10	Ceilings	Replaced in '98 through out / Classrooms are in good condition/ Public areas are damaged very dirty - Replace classrooms on an as needed basis / Replace Ceiling in all Public areas.	\$230,700
4.11	Floors	Flooring was replaced in '98 through out / VCT is showing ware / Carpet is worn with seams becoming loose. VCT expected to last 15-20 years. Recommend replacing flooring through out the building. Carpet was used in the '38 building as a sound buffer on the wood flooring. HS only.	

	Rooms		\$470,000
	Corridors		\$130,000

4.12	Toilet rooms	The public Rest Rooms are showing age. The P.Lam partitions are broken in many areas. Recommend up dating the partitions in all the public rest rooms.	\$150,000
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Other

Part 5 - Mechanical, Electrical and Plumbing Systems

Plumbing

5.1	Domestic water piping	Good condition, mostly new to 1998 construction	
5.2	Domestic water heater	Domestic hot water storage tank heating by heating boilers shared with MS - Good	
5.3	Plumbing fixtures	Mostly Good condition, mostly new to 1998 construction. There are a few plumbing fixtures original to the building	\$25,000
5.4	Flush Valves	All faucets and flush valves are manually operated. Add Automatic control valves.	\$275,000
5.5	Gas piping	Good condition, mostly new to 1998 construction	NA
5.6	Fire Protection System	Wet-type sprinkler protection in areas new to 1998 construction. Good condition.	NA
5.7	Water consumption	Good for 1998 vintage. No leaky fixtures noticed. Newer fixtures could decrease water consumption. These should be replaced as required by work to provide ADA compliant fixtures.	
5.8	Water Fountains	It has been reported that the Drinking Fountains are constantly maintained to keep them in service, however, they are in rough shape. These should be replaced through out. \$1200 per unit	\$8,400

Other

HVAC

5.9	Boiler	Three dual fuel cast iron boilers new to 1998 construction. Can last over 30 years with proper maintenance. Shared with MS. Good Condition.	N/A
5.10	Chiller	Add a Central Chiller and distribution piping in lieu of Individual Roof top Chillers. This would replace item below. Would serve HS & MS.	\$2,183,500

5.11	Replace Compressors & Air Handling Units (AHU) are mostly new to 1998 construction. Fan and coils appear to be in good condition. Building has a large number of DX cooling units which include compressors, several of which have recently required replacement. Typical life expectancy is around 15-20 years. New refrigerant standards require replacement of interior units. It <u>may</u> be possible to retrofit interior units which could reduce cost by \$300-\$500,000.	\$1,153,500
5.12	Replace Unit Ventilator with Remote Chillers.	\$150,000
5.13	Replace all self contained Unit ventilators	\$330,000
5.15	Control System Front End Software is new and has the capabilities the district would like to have. The district would like all system controls updated to tie into this program.	NA
5.16	1998 vintage digital controls. Antiquated system. Controller availability is limited and servicability will become more difficult and more expensive in the future. These will be updated to tie into the controls program. If the system is replaced without the replacement of AHU noted above, total cost is \$731,150.	\$400,000
5.17	Code Compliant Ventilatio Code compliant for 1998. Current code may require small increase. Equipment should be flexible enough to handle slight increase. Upgrade in the ventilation will be covered by the replacement of the HVAC units as listed above.	Covered in above Price
5.18	Energy Efficiency Replace small domestic boiler with High Efficiency condensing boiler. Energy efficiency should offer 8-10 year payback in natural gas savings.	\$135,000
5.19	Other Remove abandoned Water tank.	\$15,000
Electrical		
5.20	Service 480V service fed from PECO transformer during 1998 construction - Good Condition	N/A
5.21	Size of service 3000A @ 480V 3 phase	N/A
5.22	Main panels Good Condition / Constructed 1998 / parts readily available	N/A

5.23	Sub panels	Majority of panels in Good Condition / Constructed 1998 / parts readily available. There are a few panels from older renovations that are in Poor Condition and should be replaced.	\$75,000
5.24	Transformers	Majority of transformers in Good Condition (does not meet current energy codes) / Constructed 1998 / recommend replace to save energy and increase power factor for additional savings. There are a few transformers from older renovations that are in Poor Condition and should be replaced.	\$90,000
5.25	Emergency Generator	65kW, 480V generator manufactured by Generac / Natural Gas / Good Condition / Constructed 1991 /Currently Overloaded / Parts readily available. As emergency loads are added to generator (i.e. more data, mechanical, etc.) generator may need to be replaced with a larger unit. The size will need to be doubled to accomodate the additional load. The District would like this moved to the exterior. Replace with 150Kw Natural Gas Exterior Generator.	\$300,000
5.26	Fire alarm (manuf/expandable) MS + HS	Manufactured by Simplex / Good Condition / Fed from HS in 1998 / Life expectancy of 15-20 years. System is obsolete and future repairs will become more difficult and expensive / Should be replaced	\$365,575
5.27	Smoke detection	Smoke detection is code compliant and throughout building.	in price above
5.28	FA annunciation	visual devices throughout building, audible annunciation does not meet current audible codes in classrooms.	in price above
5.29	Phone	Analog Comdial system with digital admin phones / New in 2007 Good Condition / parts readily available / should be upgraded to provide additional functionality, or replaced with new system.	\$240,000
5.30	Gym Sound System	Both gym sound systems are marginally functional / some components are damaged by pervious use / Installed during 1998 renovations / 15-20 year life expectancy / Systems should be replaced and designed to better allow student use.	\$70,000

5.31	Aud. Sound System	Marginally functional / Installed during 1998 renovations / 15-20 year life expectancy / System should be replaced and designed to better allow student use.	\$50,000
5.32	Clock	Simplex system in satisfactory condition. The District would like this replaced.	\$125,000
5.33	Public address systems	Simplex system in satisfactory condition w/ no reported issues. Should be done if ceilings are replaced.	\$208,900
5.34	Data	Data infrastructure is CAT5 in satisfactory condition but the wire type will likely fail to support systems over the next few years / Installed during 1998 construction / System is at maximum capacity and should be replaced in near future	\$524,650
5.35	Door access control MS + I	System in satisfactory condition and exists at exterior doors / upgrade/replace as needed to provide additional functionality as required	\$90,000
5.36	CCTV	Security Cameras should be added at the exterior and Interior.	\$208,000
5.37	Lighting	Satisfactory condition / Constructed 1998 / Ballasts are at end of life and will require replacement. Lighting can be upgraded as part of an overall project, or ballasts replaced on a maintenance cycle.	\$861,925
5.38	Lighting Controls	Only occupancy sensors in classrooms with no level control, and no automatic control in corridors or larger spaces (i.e. library, etc.) / Occupancy sensors are starting to fail / recommend replacing occupancy sensors, either holistically, or on a maintenance cycle. Provide new automatic control for corridors and larger spaces, as well as exterior lighting in central system.	
	Replace CR Occ Sensors		\$45,000
	Corridor & Large Spaces		\$25,000
5.39	Auditorium Dimming	Functional / Installed during 1998 renovations / Spare parts are available. There is only incandescent lighting, if space is used as LGI, at a minimum, additional energy efficient, long life lighting should be added.	\$90,000

5.40	Energy Efficiency	Replace transformers and occupancy sensors. Add central automatic lighting control for corridors, larger spaces and corridors. Add dimming in instructional areas for additional level controls.	Price covered in above
5.41		Add daylight harvesting if holistically replacing light fixtures and/or ballasts.	\$187,375
5.42	Lightning Protection	System in poor condition / Constructed 1998 / If system is required, it should be repaired and recertified.	
	Other		

Part 6 - Code Implications / Accessibility

6.1	ADA parking spaces	Parking spaces and access were addressed in a previous project. However additional spaces and curb cuts should be located at the Main entrance.	In Total Below
6.2	Direct accessible route to main entrance	Main Entrance access needs to be modified to comply, including slope of walkway, handrails, signage.	In Total Below
6.3	Interior Route; corridors, doors, ramps	Numerous doors do not have the required clearance, bottom of vision lite in doors is too low, there are 8 doors with a threshold that is too high.	In Total Below
6.4		There is no access to the aux Gym. - educational programs should be removed from this area.	
6.5		There are numerous projections into the clear path of the corridor.	In Total Below
6.6	Teaching Spaces	There are sinks within the classrooms that are not accessible.	In Total Below
6.7		The instrumental music room has built in risers - the risers should be removed.	In Total Below
6.8	Stairs	Numerous stairs do not have the proper handrail extensions, or are missing the handrail or guards.	In Total Below
6.9		There is no contrasting detectable warnings on treads.	In Total Below
6.10			
6.11	Toilet Rooms	ADA Improvements have been made however, some issues still exist with clearance and height of fixtures.	
6.12	Exits		
6.13	Assembly Spaces	Cafeteria; should have a transaction counter mounted to the appropriate height.	

6.14	Auditorium; wheel chair seating needs to be designated, access to the stage should be provided.	In Total Below
6.15	Gymnasium; wheelchair seating should be designated, locker facilities should have appropriate clearances for benches and plumbing fixtures.	In Total Below
Total		\$400,000

Part 7 - Hazardous Materials - Architect is not qualified to evaluate this subject and is only reporting suspicions

Owner's complaint of mold or mildew

7.1	Asbestos Has an Asbestos Report be Approx. 20 sf in Auditorium Ceiling	\$5,000
7.2	Lead Paint	

Total Budgeted Cost	\$6,694,405
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Notes: 1 Improvements to systems noted above do not include any changes to the layout of rooms.

Middle School Facilities Accessment

Part 1 - General Information			
Material / System	Condition / Age/Recommendation	Cost	
		Not included	Included

Age of Building and Additions	1997		N/A
Era of last Significant Renovat	None		N/A
Overall Building Condition	Good		N/A
Weather Protection	No Reported Water Leaks.		N/A
Conditioning			N/A
Building Use	Middle School		N/A
Construction Type			N/A
Sprinklers	Wet-type spinkler protection throughout		N/A

Part 2 - Site Conditions

Asphalt Paving	Minor Cracking has been sealed/ recommend overall sealer. 19,585 sf. x \$0.40		\$7,850
Concrete Paving	In good Condition		
Storm Water Management	No Issues.		
Site Utilities			
Water service	City water connection shared with HS - Good Condition		
Fire water service	City water connection shared with HS - Good Condition		
Electric service	Fed from HS during 1998 construction - Good Condition		
Gas service	limited natural gas		
Sanitary lateral	Public sanitary connection shared with HS - Good Condition		
Special utilies / phone / ca	Phone, cable, etc. fed from HS during 1998 construction - Good Condition		
Underground oil tanks	none		
Other			

Part 3 - Building Exterior Shell

Exterior Walls	Brick and Split face - Good, no work needed.		
Exterior Doors	Aluminum in Alum. Frame w insulated glass - Good		NA
Windows	Alum. Frame w/insulated glass - Good.		NA
Roofing Systems	Asphalt Shingles - Good, no work needed.		NA

Roof and Floor Framing Steel Joist and Concrete Floor/ Steel truss Roof.

**Water Wangement
Other**

Part 4 - Building Interior - 59,000 SF

Casework and cabinets Good Condition - No work needed. NA

Interior doors and frames Wood doors in Hollow Metal Frames - Good Condition, no work needed. NA

Finishes

Walls Painted CMU; Showing signs of age, in a major renovation Should be replaced. \$118,000

Ceilings Acoustical Tile; Showing signs of age, in a major renovation Should be replaced. \$177,000

Floors VCT with limited Ceramic and Terrazzo; the VCT is showing signs of age, in a major renovation VCT Should be replaced. \$236,000

Other

Part 5 - Mechanical, Electrical and Plumbing Systems

Plumbing

Domestic water pipe Good condition, new to 1998 construction

Domestic water heater Domestic hot water storage tank heating by heating boilers shared with HS - Good Condition

Plumbing fixtures Good condition, new to 1998 construction. All faucets and flush valves are manually operated.

Gas piping Very little in building

Fire Protection System Wet-type sprinkler protection throughout building. Good condition.

Water consumption Good for 1998 vintage. No leaky fixtures noticed. Newer fixtures could decrease water consumption.

Other

HVAC

Boiler See HS HS

Chiller 1998 air cooled chiller.

Interior units Good condition. Hot water, chilled water modular air handling units. No work needed.

Energy Recovery none

Control System 1998 vintage digital controls. Anequated system. Controller availability is limited. HS

Ventilation	Code compliant for 1998. Current code may require small increase. Equipment should be flexible enough to handle slight increase.	NA
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Energy Efficiency
Other

Electrical

Service	Fed from HS during 1998 construction - Good Condition	
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Size of service	400A & 480V 3 phase	
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Main panels (age / avail pa	Good Condition / Constructed 1998 / parts readily available. No work needed.	NA
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Sub panels (age / avail pa	Good Condition / Constructed 1998 / parts readily available. No work needed.	NA
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Transformers	Good Condition (does not meet current energy codes) / Constructed 1998 / recommend replace to save energy and increase power factor for additional savings	HS
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Fire alarm	Manufactured by Simplex / Good Condition / Fed from HS in 1998 / System is obsolete / Should be replaced.	HS
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Smoke detection	Smoke detection is code compliant and througout building.	
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FA annunciation	visual devices throughout building, audible annunciation does not meet current audible codes in classrooms.	HS
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Phone	Analog Comdial system extended from HS / Good Condition / parts readily available / should be upgraded to provide additional functionality, or replaced with new system.	
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Clock	Simplex system in satisfactory condition / Fed from HS in 1998.	NA
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Public address systems	Simplex system in satisfactory condition / Fed from HS in 1998.	HS
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Data	Data infrastructure is CAT5 in satisfactory condition / Fed from HS during 1998 construction / System is at maximum capacity and should be replaced in near future.	\$206,500
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Door access control	System in satisfactory condition and exists at Satisfactory condition / Constructed 1998 / Ballasts are at end of life and will require replacement. Lighting can be upgraded as part of an overall project, or ballasts replaced on a maintenance cycle.	\$339,250
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Lighting Controls	Only occupancy sensors in classrooms with no level control, and no automatic control in corridors or larger spaces (i.e. library, etc.) / Occupancy sensors are starting to fail / recommend replacing occupancy sensors, either holistically, or on a maintenance cycle. Provide new automatic control for corridors and larger spaces, as well as exterior lighting in central system.	\$29,500
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Add daylight harvesting if holistically replacing light fixtures and/or ballasts. \$73,750

Other

Part 6 - Code Implications / Accessibility		
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ADA parking spaces	two additional curb cuts are needed.	\$2,000
Direct accessible route to main	No Issues.	
Interior Route; corridors, doors	Some of the water fountains project too far into the corridor; Provide a guard at floor level.	\$3,600
Stairs	Additional signage required.	
Toilet Rooms	No required vertical Grab bars	
Exits	Good condition - No work needed.	
Other	Classroom Sinks are not accessible; Provide one accessible sink in each room.	\$34,000
	Transaction counter at the Library not accessible; adjust a portion of the counter to the correct height.	\$2,000

Part 7 - Hazardous Materials - Architect not qualified to evaluate and is only reporting suspicions		
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Mold	TDB
Asbestos	TDB
Lead Paint	TDB

Total Budgeted Cost	\$609,950
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Notes: 1 Improvements to systems noted above do not include any changes to the layout of rooms.

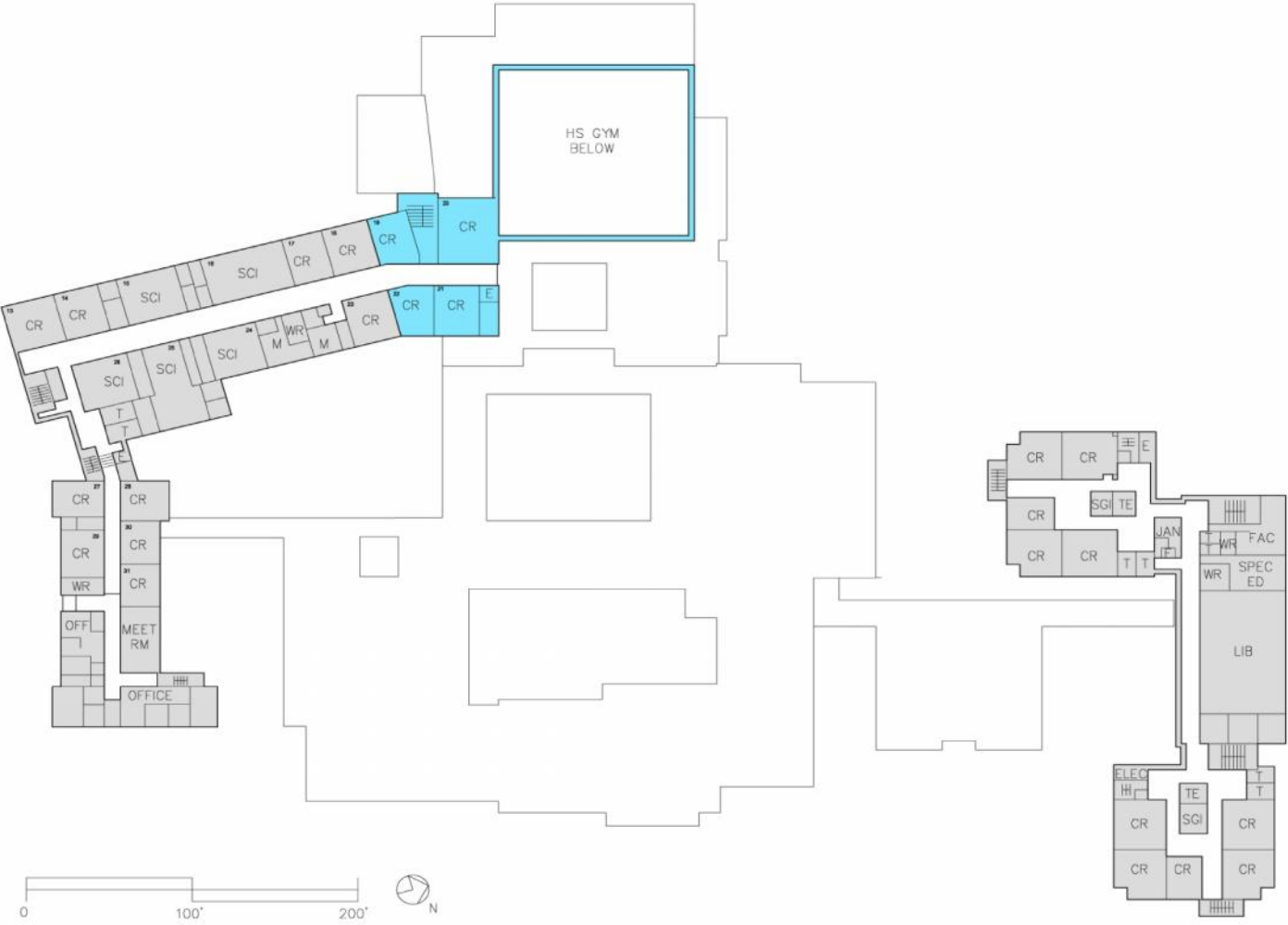
High School Design Option 1 Lower Level

- 1 New Public Entrance and centralized HS & MS Administration. Addition links two buildings together to eliminate the need for exterior circulation.
- 2 New Public Entrance gives direct access to the new Gymnasium.
- 3 Two-Story Classroom Addition provides direct circulation between the HS classroom wing and the remainder of the building.
- 4 New Corridor links Public Entrances together and give access to the Auditorium, both Gymnasiums and the Fitness Center.
- 5 Renovate wing as an Art Center
- 6 Renovate existing MS Gym into a Large Group Instruction learning lab.
- 7 Move Choral Music into current Band Room and Renovate remainder of Music Department for a larger Orchestra Room.
- 8 Renovate for Orchestra Room.
- 9 Renovate former MS Admin for Family and Consumer Science.
- 10 Existing HS Gym utilized for MS.
- 11 Renovate former HS Admin for additional HS classrooms
- 12 New HS / Public Athletic Center.
- 13 New Senior Lounge constructed within Courtyard.



Estimated Project Cost - \$30-35 million

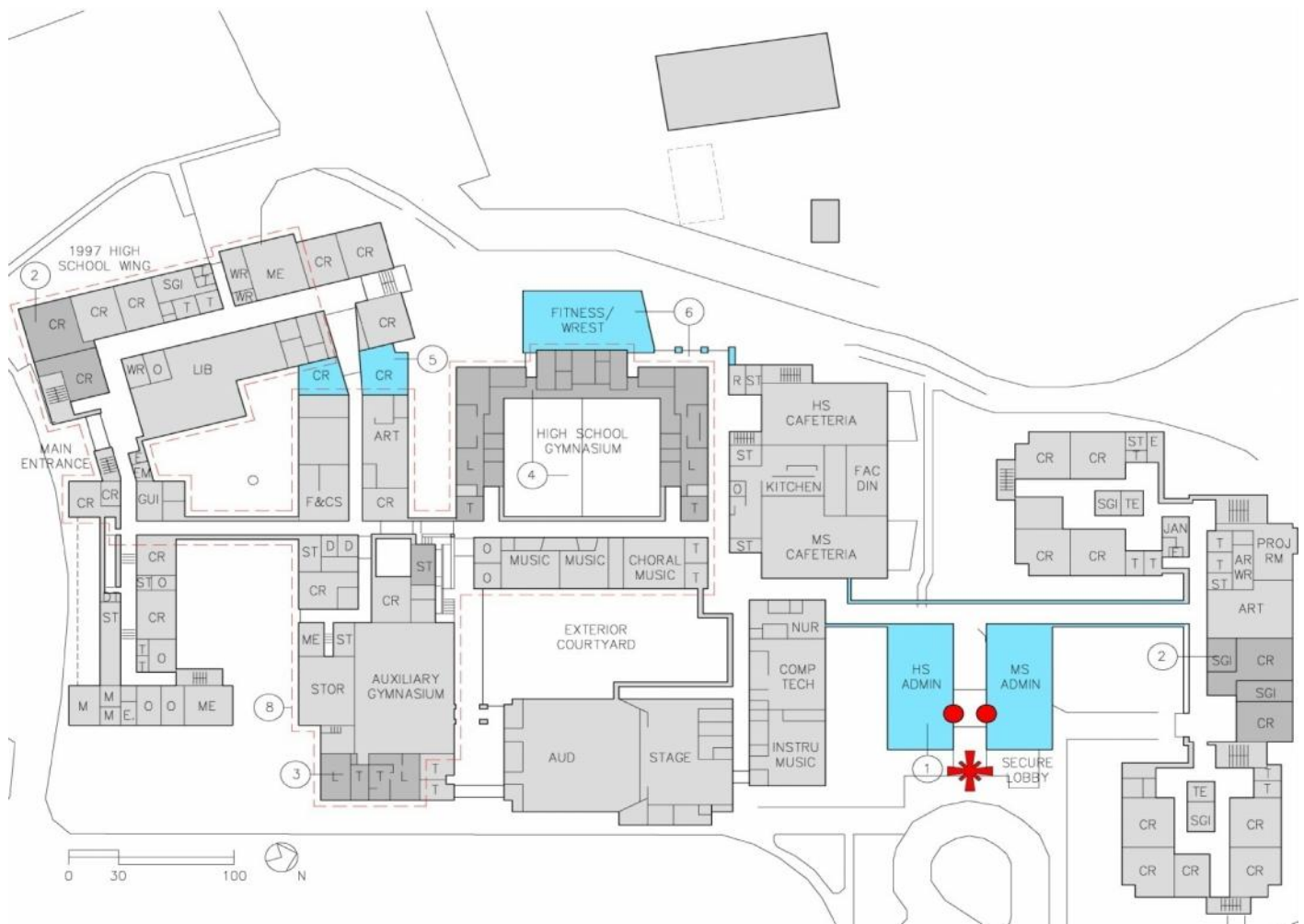
High School Design Option 1



High School Design Option 2

Lower Level

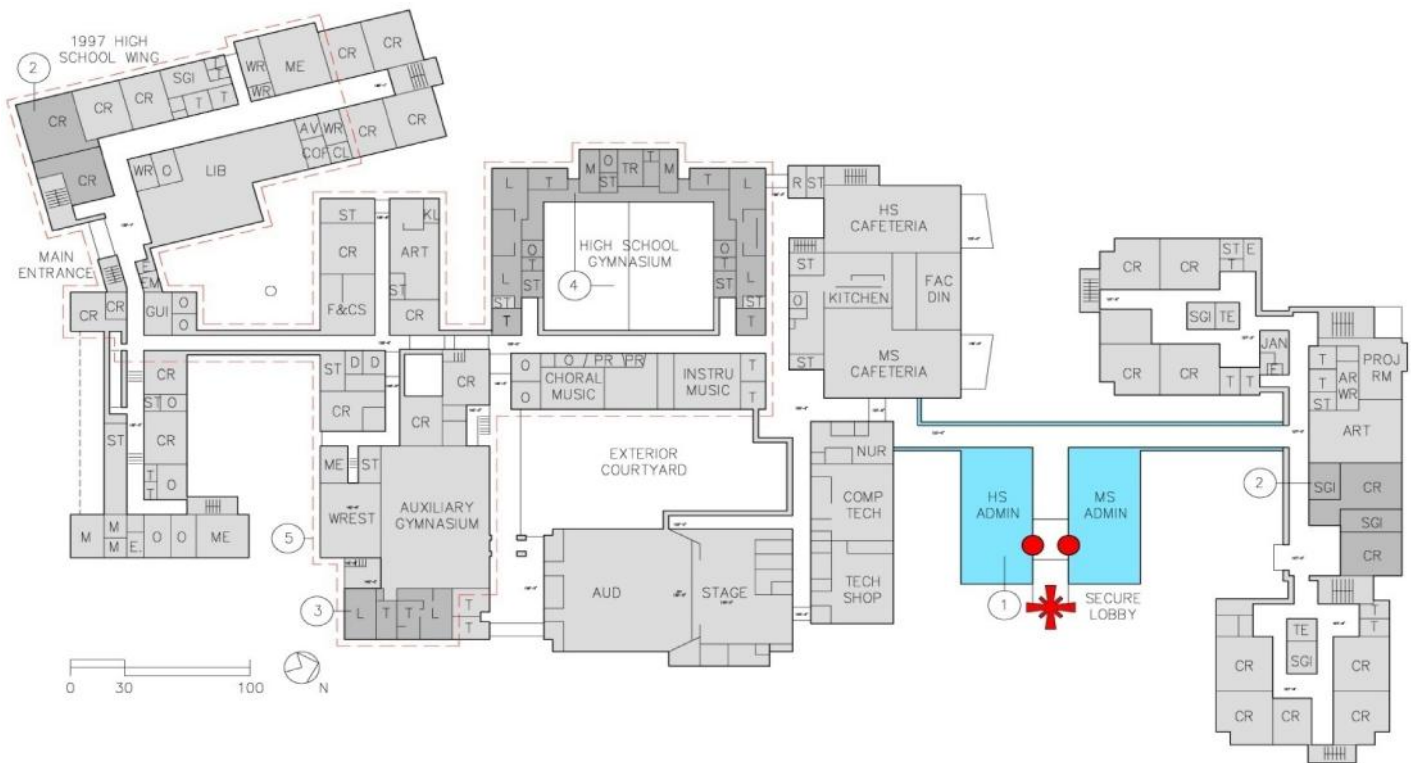
- 1 New Public Entrance and centralized HS & MS Administration. Addition links two buildings together to eliminate the need for exterior circulation.
- 2 Renovate former HS & MS Admin for additional Classroom Space.
- 3 MS Gymnasium stays in it's current location. Renovate existing MS Locker Rooms for improved visibility and condition.
- 4 HS Gymnasium stays in it's current location. Renovate existing HS Gym and Locker Rooms for improved condition.
- 5 Addition fills area between existing buildings to create accessible, interior route eliminating the need for exterior circulation.
- 6 New Fitness and Wrestling Room. Eliminates need to to use existing non-accessible Wrestling Room. Eliminates need to circulate to existing exterior Fitness Center. Introduce new public entrance for improved access to Addition and existing HS Gym.
- 8 Renovate 1930-60s construction for infrastucture improvement



Estimated Project Cost - \$18-20 million

High School Design Option 3 Lower Level

- 1 New Public Entrance and centralized HS & MS Administration. Addition links two buildings together to eliminate the need for exterior circulation.
- 2 Renovate former HS & MS Admin for additional Classroom Space.
- 3 MS Gymnasium stays in its current location. Renovate existing MS Locker Rooms for improved visibility and condition.
- 4 HS Gymnasium stays in its current location. Renovate existing HS Gym and Locker Rooms for improved condition.
- 5 Renovate 1930-60s construction for infrastructure improvement



Estimated Project Cost - \$14-15 million