

GLENBROOK HIGH SCHOOLS
Regular Board Meeting August 30, 2010
District Business Office

TO: Dr. Mike Riggle
Hillarie Siena

FROM: Kimberly Ptak

DATE: August 30, 2010

RE: DISCUSSION/ACTION: APPROVAL of \$10M LIFE
SAFETY/INFRASTRUCTURE LIST

Recommendation

It is recommended that the Board of Education approve -

1. The attached list of life safety and infrastructure items totaling \$10M to be paid for with the remaining \$10M referendum bond. The list was reviewed at the August 10, 2010 facility committee meeting.
2. Detailed testing of the GBN boilers to determine overall condition of boiler tubes and overall structure at a price not to exceed \$12,000

Background

Prior to the referendum, the district created a 10-year life safety & infrastructure plan. The first five years of the plan (FY 07, 08, 09, 10 and 11) totaling \$14,677,200 was completed with the first referendum bond issuance during the summers of 2007 and 2008. The remaining five years of the plan (FY 12, 13, 14, 15 and 16) totaling \$10,000,000 is recommended to be completed using the remaining \$10,000,000 referendum bond issuance during the summers of 2011, 2012 and 2013 (Build America Bonds must be spent within 3 years of issuance). As shown on the attached list, the majority of items have been slated for the summer of 2011 to take advantage of the competitive bidding market. A few items that cannot be completed during the summer of 2011, due to GBN summer school, have been slated for the summer of 2012. Lastly, there are two items (GBN boilers and GBN running track) slated for the summer of 2013 to allow ample time to analyze the situation and determine the best solution.

GBN Boilers

GBN has four steam boilers all 50+ years in age. The boilers are currently functioning well and require minimal repair and maintenance. According to our engineers, the boilers could last another 10-20 years. During the winter, when temperatures are above 30 degrees, the building is run using one boiler. As temperatures drop below 30 degrees a second boiler is used. The boilers are systematically set to rotate in usage. There are many options to consider and discuss once testing is complete. These options include, but are not limited to –

1. Do nothing

2. Replace the boiler feed system which is critical in running the boilers - \$80,000
3. Replace one boiler and the boiler feed system - \$400,000
4. Replace all four boilers and boiler feed system - \$1,000,000
5. Replace current steam boilers with hot water boilers - \$1,700,000

There is a significant cost to converting from steam to hot water as new hot water piping would need to be run from the boilers throughout the building. This is not recommended as there are minimal efficiencies gained in converting from steam to hot water and payback would be almost 50 years. This item is deferred to the summer of 2013 to give ample time for further evaluation and need analysis. Currently there is a placeholder for the boilers in 2013 of \$1M. If it is decided not to replace the boilers the \$1M will be repurposed to another project(s) on the deferred list.

It is recommended that detailed testing be done on the boilers to determine the metal thickness of the remaining tubes and the overall condition of the boiler structure. The cost of this testing is \$3,000 per boiler or \$12,000 total.

GBN Running Track

The GBN running track was deferred to the summer of 2013 to allow time to determine if fundraising efforts might result in the installation of an artificial turf field. If these efforts do materialize, the track and field would be done the same summer.

GBN CPA Air Handler Unit Replacement

The GBN CPA Air Handler Unit is scheduled for replacement the summer of 2011. Further investigative work will be done to ensure the unit needs to be replaced or if it is balancing issue. A test and balancing contractor will be brought in to measure the air flows and air pressures being produced by the fan. The results will be shared at the October 12, 2010 facility committee meeting. The cost for balancing will be minimal.

Many of the items on the list were a result of the 10-year life safety survey which was completed in 2006 and submitted to the state in the summer of 2007. Other infrastructure items were put on the list based on discussions with building plant operators, and input from our architects, engineers and other third party consultants. The list is revisited several times a year and items are reprioritized based on need. The next life safety survey will be submitted to the state in 2017, which is when our next 10-year list will begin.

Additional Items to Note

- ✓ A large part of the list replaces original mechanical systems with new, more efficient systems. Once this work is completed all of our major mechanical systems will be no more than 12 years old.
- ✓ The list includes a 5% contingency to allow for any bidding fluctuations and/or construction contingencies as well as a \$185,000 general contingency.
- ✓ Architect and construction management fees are built into the numbers.
- ✓ A majority of items presented have been on the list for 5+ years.
- ✓ There is a deferred list of needs that weren't priorities for this list, but will be used

to create a new 10-year plan beginning FY 2017. This list is attached.

- ✓ If it is determined that the full \$1M set aside for boiler replacement is not needed, items from our deferred list can be moved forward to the summer of 2013.

GLENBROOK HSD 225 - \$10M LIFE SAFETY & INFRASTRUCTURE LIST

		Energy Efficient	Brief Description	Summer 2011 FY/11/12	Summer 2012 FY 12/13	Summer 2013 FY 13/14
\$10M Bond Issuance						
<u>GLENBROOK NORTH</u>						
Architectural Items:						
Windows Replacement		X	Replace windows in C113b (SAC Office) & C200-C206 (2nd floor peer group/academy); all other windows at GBN have been replaced within the last 10 years.	80,000		
Fieldhouse Floor Replacement			The fieldhouse floor is original, installed in 1989 and at end of useful life. Frequent repairs are now needed for tears and rips.	475,000		
Fieldhouse - Paint ceiling and wall area				60,000		
Tennis Court Resurfacing (leveling/crack patch/fill)- 12			Recommended every 5-7 years.	40,000		
Exterior Doors to Fieldhouse/Back Gyms and PE locker room doors			The exterior doors to the fieldhouse and back gyms have deteriorated and are in need of replacement. In addition, interior locker room doors have plastic locking mechanisms that can be broken.	60,000		
Flooring & Asbestos						
- Carpet (IMC/SAC Hallway)			Carpet in these areas was installed over 12 years ago and will be replaced with the current, environmentally friendly, district standard.		70,000	
- VCT tile art rooms, pe classroom and corridor						
- Abatement of known areas					30,000	
Main Corridor - Toilet Room Renovation			Toilet rooms are original, this includes a complete renovation/replacement of fixtures, systems and finishes within each toilet room.		70,000	
Main Gym Toilet Room Renovation			Toilet rooms are original, this includes a complete renovation/replacement of fixtures, systems and finishes within each toilet room.	180,000		

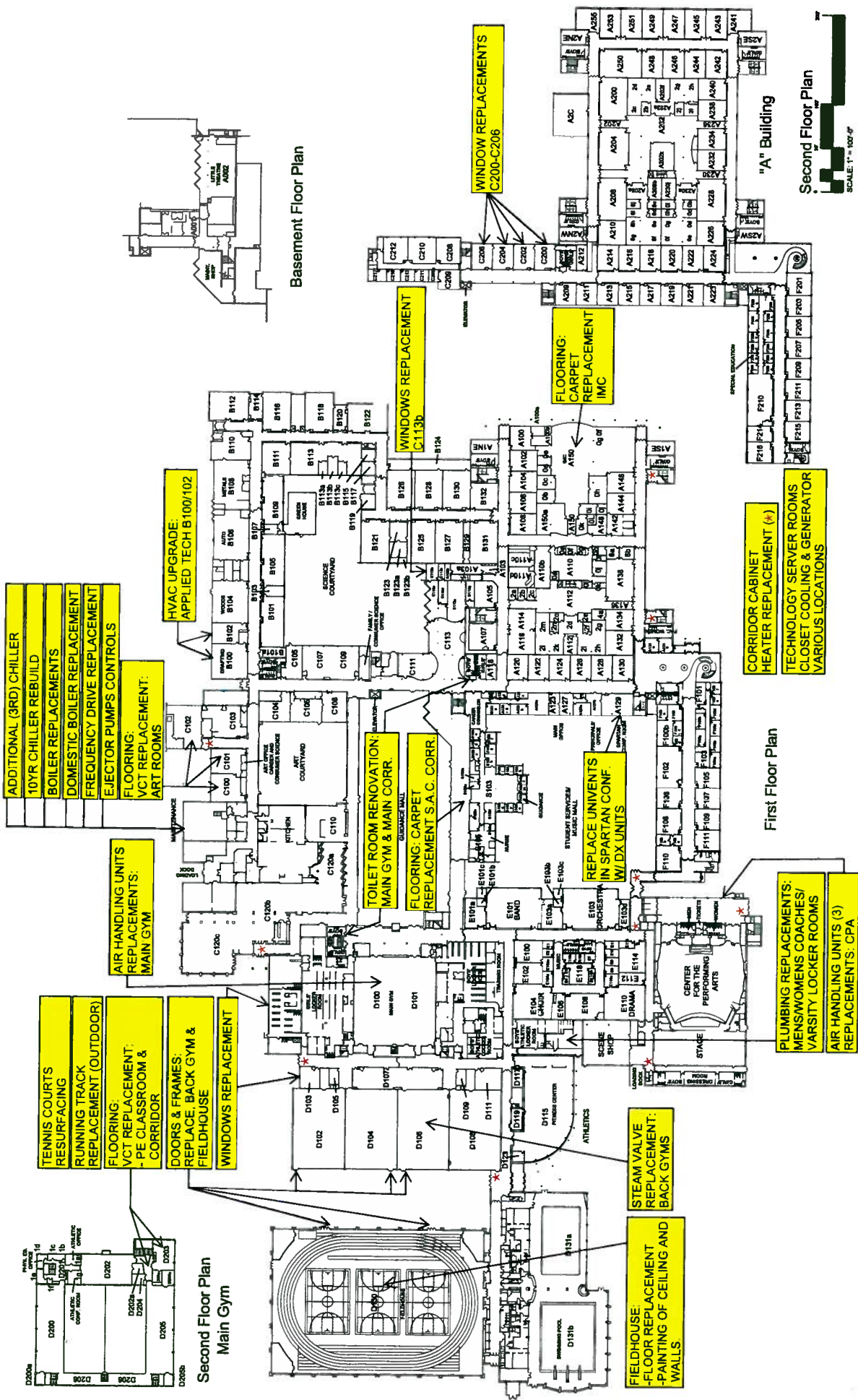
<u>\$10M Bond Issuance</u>	Energy Efficient	<u>Brief Description</u>	Summer 2011 FY/11/12	Summer 2012 FY 12/13	Summer 2013 FY 13/14
Running Track Replacement		The running track is over 15 years old and at end of it's useful life. There are high and low spots as well as settling issues and cracking in the rubberized surface.			350,000
CPA Drape Flame-proofing		Every 7 years, National Fire Protection Code requires drapes to be flame-proofed.	30,000		
<u>Mechanical Items:</u>					
Corridor Cabinet Heater Replacement	X	There are 10 original unit heaters in the doorway and vestibule area that are no longer functioning properly.	150,000		
Replace univents in Spartan Conference room to DX unit	X	Currently a univent system is run by the chillers or boilers, meaning in order to get cooling/heating in the Spartan conference room a chiller or boiler needs to be running. A DX unit will allow the Spartan Conf room to be self-supporting.	20,000		
Technology Server Rooms / Closet Cooling/Generator		This will provide proper cooling in all MDF/IDF closets and provide a link to the back-up generator where necessary.	160,000		
Chiller - Additional (3rd Chiller - Energy Efficient Model)	X	Currently there are (2) 550 ton chillers with a capacity load of 80-85% on a heavy-load day. The new 325 ton chiller will serve the building during light loads and provide redundancy.	350,000		
Back Gyms - Steam Valve Replacement	X	The steam valves which bring heat to the back gyms is original, 50 year old equipment. This will replace the equipment and change controls from neumatic to electric.	40,000		
Domestic Boiler Replacement	X	The domestic hot water boiler is original and has exceeded the useful life.	95,000		
10-year chiller rebuild - 1 chiller		As part of a preventative maintenance plan, chillers are recommended to be "rebuilt" every 10-years to ensure parts are working properly.	45,000		

	Energy Efficient	Brief Description	Summer 2011 FY/11/12	Summer 2012 FY 12/13	Summer 2013 FY 13/14
\$10M Bond Issuance Frequency Drive Replacement		Frequency drives, which control fan speed based on needs of the building, should be replaced every 10-years. This amount builds up proper inventory of drives.	55,000		
A/H Unit CPA Replacement	X	There is (1) original air handler supporting the main area of the CPA, this will be replaced with more efficient units.	350,000		
A/H Unit Main Gym Replacement	X	There are (2) original air handlers supporting the main gym, these will be replaced with more efficient units.	360,000		
Applied Tech HV AC Upgrade B100/102		The use of the applied tech room has moved over the years from drawing/drafting to CAD/computer lab space. The current air handler can not handle the shift in utilization.		75,000	
Boiler(s) Replacements	X	There are (4) boilers at GBN, all over 50 years old. Boilers well maintained, which ours are, can last another 10-20 years. New burners, firebrick and controls were installed in 1998. In winter months, GBN operates with boiler until temperatures drop below 30 degrees, at which time a second boiler is used. The boilers are rotated to allow equal usage. The cost to replace all 4 boilers with new steam boilers is \$1M. The cost to replace (1) of the (4) boilers with a new steam boiler and the boiler feed system which supports all four boilers is \$400K. A \$1M placeholder is being put in year 3.			1,000,000

<u>\$10M Bond Issuance</u>	<u>Brief Description</u>	Summer 2011 FY/11/12	Summer 2012 FY 12/13	Summer 2013 FY 13/14
Corridor Locker Replacement (\$250 per locker)				
- Area A: 1st Floor East (Old Pit)	Lockers are 9 inch, original (1962) and in poor condition. This replaces the lockers with new 12 inch lockers.	65,000		
- Area B: 1st Floor South (New Pit)		150,000		
- Area C: 2nd Floor East (Old Pit)		165,000		
- Area D: 2nd Floor South (New Pit)		170,000		
Drape Flame-proofing	Every 7 years, National Fire Protection Code requires drapes to be flame-proofed.	20,000		
<u>Mechanical Items:</u>				
Air Handling Replacement - Auditorium - 3 units	(3) Auditorium units are original and not energy efficient. Units will be replaced with more energy efficient units and tied in to the building automation/control system.	495,000		
Air Handling Replacement - Auto Shop and Exhaust	Equipment is original and no longer functioning properly.	165,000		
Add Supplemental Cooling (South / Math Wing)	During hot weather months, proper cooling cannot be provided in the far south wing.	55,000		
10-year Chiller Rebuild	As part of a preventative maintenance plan, chillers are recommended to be "rebuilt" every 10-years to ensure parts are working properly.	50,000	40,000	
Reinstall baseboard heater in the outer guidance office area (courtyard side).	Radiant baseboard heat in the guidance office area is necessary along the outside "courtyard" window walls to temper the cold outside air infiltration during winter months. To compensate for not having these baseboard heaters, the air handler is run 24/7 during winter months.	55,000		
Upgrade Nesbit CUH (cabinet unit heaters) in North Gym and Applied Tech hall	These cabinet unit heaters are original and not functioning properly. They will be replaced and added to the building control system.	50,000		

\$10M Bond Issuance	Energy Efficient	Brief Description	Summer 2011 FY/11/12	Summer 2012 FY 12/13	Summer 2013 FY 13/14
Corridor Cabinet Unit Heaters at Entrances "H", "I", "O" and "SS"		New cabinet heaters in these stair/vestibules are necessary to prevent fire sprinkler piping from freezing during winter months. The heat from the existing VAV system is not adequate.	80,000		
Technology Server Rooms / Closet Cooling		This will provide proper cooling in all MDF/IDF closets and provide a link to the back-up generator where necessary.	150,000		
Air Handling Replacement - Music Room Unit	X	This unit is original equipment and will be replaced and added to the building control system.	225,000		
Exhaust / Ventilation Jewelry Room & Work Stations		Existing exhaust is old, a new specialized exhaust system is required for proper bench soldering.	50,000		
Frequency Drives		Frequency drives, which control fan speed based on needs of the building, should be replaced every 10-years. This amount builds up proper inventory of drives.	55,000		
Plumbing Items:					
Domestic Water Pipe Replacements (Boiler Room to Cafeteria)		This is the last section of known galvanized pipe in the building. All other galvanized pipe has been replaced due to deterioration.	40,000		
GBSOUTH ~ TOTAL TO DATE:			3,405,000	40,000	0

	Energy Efficient	<u>Brief Description</u>	Summer 2011 FY/11/12	Summer 2012 FY 12/13	Summer 2013 FY 13/14
\$10M Bond Issuance					
<u>DISTRICT-WIDE 3801 & 1835</u>					
Voice Over IP		Cost for converting the entire district to Voice Over IP.	300,000		
General Contingency					185,000
DISTRICT OFFICE ~ TOTAL TO DATE:			300,000	0	185,000
TOTAL w/FEES & CONTINGENCIES:			7,638,000	558,000	1,804,000
					10,000,000



- ADDITIONAL (3RD) CHILLER
- 10YR CHILLER REBUILD
- BOILER REPLACEMENTS
- DOMESTIC BOILER REPLACEMENT
- FREQUENCY DRIVE REPLACEMENT
- EJECTOR PUMPS CONTROLS
- FLOORING: VCT REPLACEMENT: ART ROOMS
- HVAC UPGRADE: APPLIED TECH B100/102

- TENNIS COURTS RESURFACING
- RUNNING TRACK REPLACEMENT (OUTDOOR)
- FLOORING: VCT REPLACEMENT: PE CLASSROOM & CORRIDOR
- DOORS & FRAMES: REPLACE, BACK GYM & FIELDHOUSE
- WINDOWS REPLACEMENT

- AIR HANDLING UNITS REPLACEMENTS: MAIN GYM
- TOILET ROOM RENOVATION: MAIN GYM & MAIN CORR.
- FLOORING: CARPET REPLACEMENT S.A.C. CORR.

Second Floor Plan
Main Gym

Basement Floor Plan

First Floor Plan

"A" Building
Second Floor Plan

- CORRIDOR CABINET HEATER REPLACEMENT (*)
- TECHNOLOGY SERVER ROOMS CLOSET COOLING & GENERATOR VARIOUS LOCATIONS

- PLUMBING REPLACEMENTS: MENS/WOMENS COACHES/ VARSITY LOCKER ROOMS
- AIR HANDLING UNITS (3) REPLACEMENTS: CPA

- STEAM VALVE REPLACEMENT: BACK GYMS
- FIELDHOUSE: FLOOR REPLACEMENT - PAINTING OF CEILING AND WALLS

- WINDOW REPLACEMENTS C200-C206
- FLOORING: CARPET REPLACEMENT IMC

- WINDOWS REPLACEMENT C1130

GLENBROOK HIGH SCHOOL DISTRICT 225

Glenbrook North High School



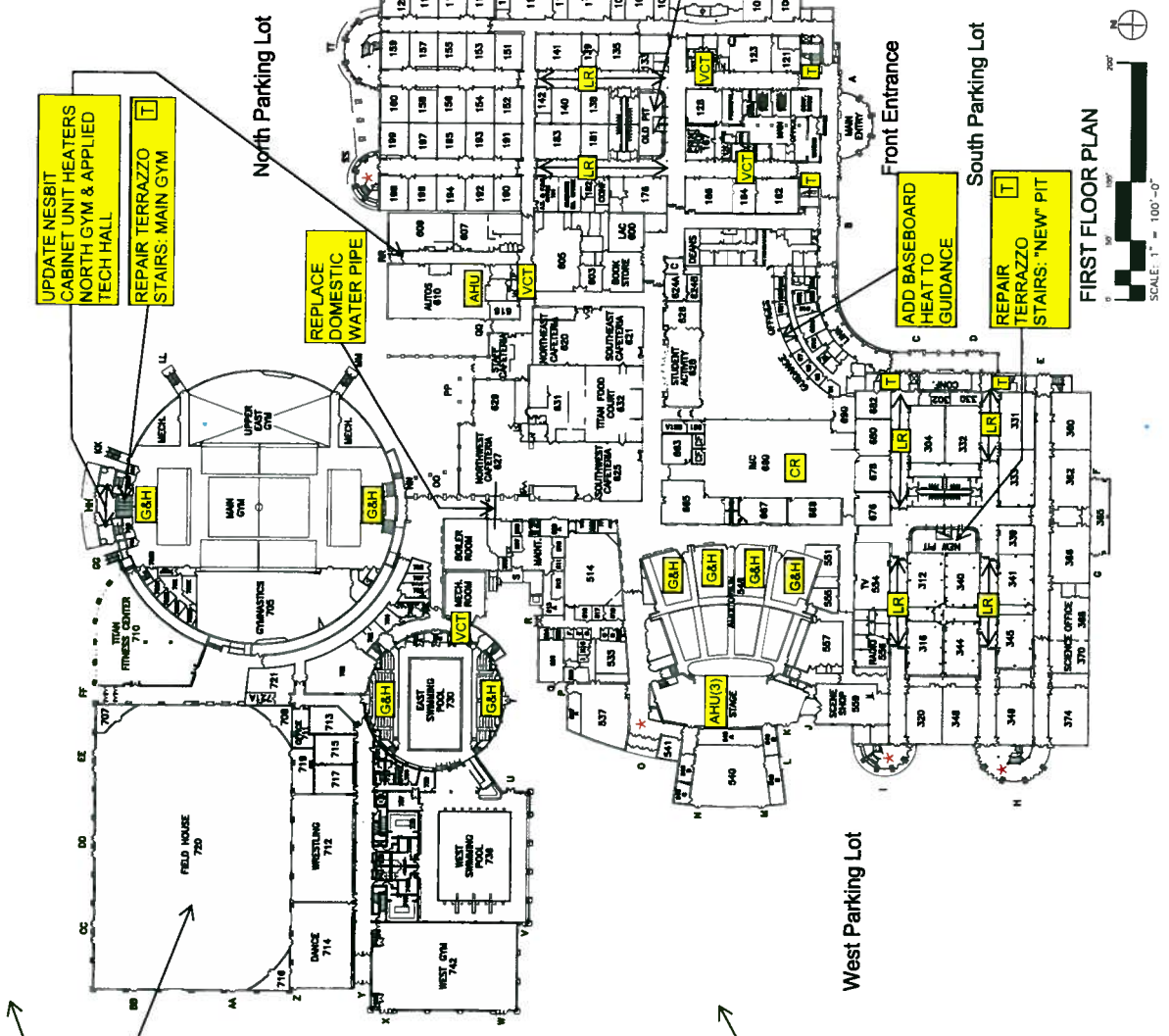
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TENNIS COURTS
RESURFACING

FIELDHOUSE:
-FLOOR REPLACEMENT
-PAINTING OF CEILING AND
WALLS

AIR HANDLING UNITS:
-AUDITORIUM (3) [AHU]
-AUTO SHOP & EXHAUST

10 YEAR CHILLER REBUILD
IN MAINTENANCE AND
FREQUENCY DRIVE
CHANGE-OUTS



CORRIDOR LOCKER [LR]
REPLACEMENTS
-1ST FLOOR EAST (OLD PIT)
-2ND FLOOR SOUTH (NEW PIT)
-2ND FLOOR EAST (OLD PIT)
-2ND FLOOR SOUTH (NEW PIT)

FLOORING: VCT [VCT]
REPLACEMENT
POOL LOBBY
NURSES OFFICE
ART ROOMS
MAIN OFFICE TOILET ROOMS

REPLACE JEWELRY ROOM
EXHAUST / VENTILATION

REPAIR TERRAZZO
STAIRS: "OLD" PIT [T]

GUARDRAIL & HANDRAIL [G&H]
REPLACEMENTS
AUD., GYM, SCIENCE SHOP,
OTHER

CORRIDOR CABINET (*)
HEATER AT
ENTRANCE "H", "O" & "SS"

TECHNOLOGY SERVER ROOMS
CLOSET COOLING &
GENERATOR VARIOUS
LOCATIONS

FLOORING:
CARPET REPLACEMENT
LYCEUM 103, IMC 660,
VARIOUS CORRIDORS [CR]

UPDATE NESBIT
CABINET UNIT HEATERS
NORTH GYM & APPLIED
TECH HALL

REPAIR TERRAZZO
STAIRS: MAIN GYM [T]

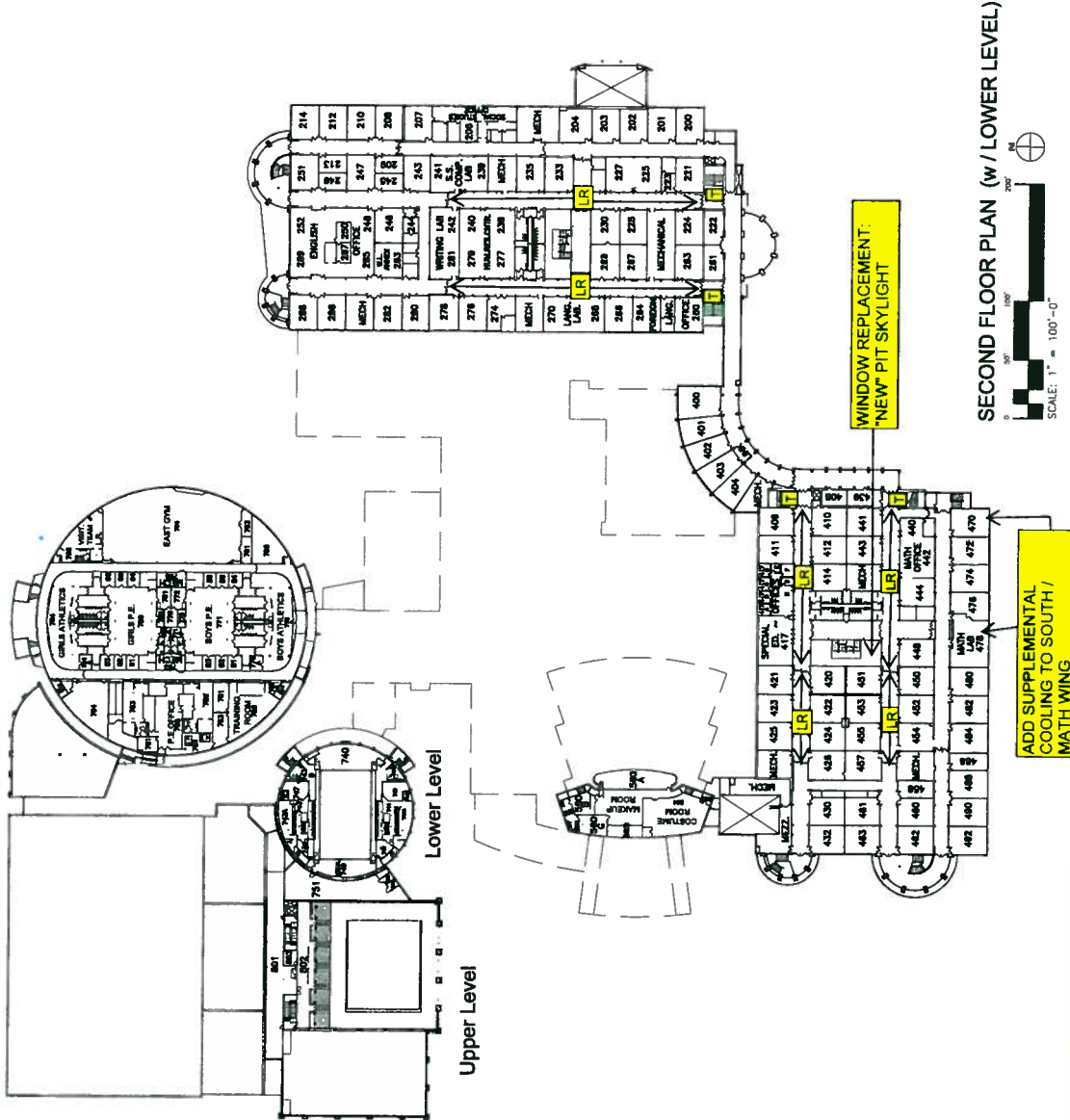
REPLACE
DOMESTIC
WATER PIPE

ADD BASEBOARD
HEAT TO
GUIDANCE

REPAIR
TERRAZZO
STAIRS: "NEW" PIT [T]

FIRST FLOOR PLAN
SCALE: 1" = 100'-0"





SECOND FLOOR PLAN (w / LOWER LEVEL)