

**GLENBROOK HIGH SCHOOLS  
District Business Office**

**TO: Dr. Mike Riggle  
Hillary Siena**

**FROM: Kimberly L. Ptak**

**DATE: OCTOBER 24, 2011**

**RE: DISCUSSION/ACTION: FY 12/13 Life Safety & Infrastructure Projects**

Recommendation

It is recommended that the Board of Education approve \$1,458,000 for life safety & infrastructure work as outlined in the attached spreadsheet under column FY 12/13.

Background

In July 2010, the remaining \$10M of referendum funds were procured through Build America Bonds. The funds are targeted for the completion of life safety and infrastructure projects and must be spent by the end of Summer 2013.

Attached are the following spreadsheets;

1. Remaining Projects: There is \$2,676,800 of remaining funds to be spent by the end of Summer 2013. Of this, we are recommending \$1,458,000 be spent the summer of 2012. Recommended projects are itemized on the attached spreadsheet. The highlighted items are new to the list, while the non-highlighted items are projects that have been discussed at previous facility and board meetings. Note: There is a \$625,667 general contingency fund for unidentified projects as well as a 4% bidding and construction contingency on all projects. A map of GBN and GBS is attached.
2. Completed Projects: Of the \$10M, \$7,323,200 was spent during the summer of 2011. All work has been completed and the majority of punch list items are completed as well. Of the \$170,000 of construction contingency money budgeted, \$58,000 was spent on the GBS staff parking lot. The unused \$112,000 of contingency money was placed back in the general contingency line item.
3. Deferred List: The deferred list is a working document. Please note, the items highlighted in orange, are items related to artificial turf fields, while items highlighted in grey are other priority items.

## REMAINING PROJECTS

### GLENBROOK HSD 225 - \$10M LIFE SAFETY & INFRASTRUCTURE LIST TO BE COMPLETED SUMMER 2012 & 2013

<b>\$10M Bond Issuance</b>	<b><u>Brief Description</u></b>	<b>Summer 2012 FY 12/13</b>	<b>Summer 2013 FY 13/14</b>
<b><u>GLENBROOK NORTH</u></b>			
<b><u>Architectural Items:</u></b>			
Flooring & Asbestos			
- Carpet (IMC 11K sf/SAC Hallway 5580sf)	Carpet in these areas was installed over 12 years ago and will be replaced with the current, environmentally friendly, district standard.	100,000	
- VCT tile art rooms, pe classroom and corridor		30,000	
- Abatement of known areas	Abatement needs to occur in the GBN Art Rooms (vct), SAC Corridor (carpet), Main Gym 2nd floor SW corner classrooms and corridor(vct). In addition, the main toilet rooms will most likely have some in the pipe chase (elbows, pipe wrap).	85,000	
Main Corridor - Toilet Room Renovation	Toilet rooms are orginial, this includes a complete renovation/replacement of fixtures, systems and finishes within each toilet room.	180,000	
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. Scope of work includes subbase removal and replacement and new track surface.		390,000
<b><u>Mechanical Items:</u></b>			
A/H Unit Main Gym	There are two heating only steam air handling units located in mechanical rooms at the northeast and southeast corners of the main gym. These are original units and are over 50 years old. The existing air handling units would be replaced with new air handling units. The existing ductwork would be reconnected. The existing steam and condensate piping would be reconnected to the units. New controls would be installed.	400,000	

## REMAINING PROJECTS

Applied Tech HVAC Upgrade B100/102	Applied Technology curriculum has changed from drawing and drafting to computer based systems. The existing air handling systems cannot maintain the proper environment in the labs with the computer equipment. The solution is to provide new rooftop air handling units with DX cooling to serve the Applied Tech rooms.	75,000	
Isolation Valves rooms A209-A223 and Capacity Increases to Univentilators for Rooms C200-C206	This was bid as an alternate during summer FY 11 bidding. When the boilers are in operation these rooms tend to overheat because steam is entering the univents. Isolation valves need to be added to the units to restrict the steam. In addition, the univentilators serving the east side classrooms need to be increased in capacity to provide proper cooling of these spaces. The larger capacity vertical unit ventilators should be sized for low speed operation to provide for low fan noise for these spaces. Savings is estimated at \$900/year.	70,000	
Replacement of Fieldhouse exhaust fans	This was bid as an alternate during summer FY 11 bidding. The replacement of the fieldhouse exhaust fans is necessary because these fans are original and have experienced metal fatigue. These fans are vital to the proper ventilation of the fieldhouse. Slight savings of \$300/year.	70,000	
<b><u>Plumbing Items:</u></b>			
Replacement of old galvanized piping - Industrial Ed. Area	In the industrial ed area, domestic water piping is original and very restricted. New piping will restore domestic water pressure to proper levels.	65,000	

## REMAINING PROJECTS

Humidity Control - Chilled Water Piping in "F" Wing Basement	The chilled water piping in the north side tunnel has mold and condensation on the jacket. The condensation is due to the high humidity levels in the tunnels. In addition, there was standing water in the tunnels from ground water that seeped into the tunnels. The solution is to eliminate the standing water in the tunnels and to lower the humidity levels. There are existing sump pumps and basins in the tunnels but water is collecting in low spots away from the basins. The concrete floor of the tunnel needs to be channeled to direct the water to the basin. In addition, a commercial de-humidifier would need to be installed. Lastly, jackets will be cleaned to remove the mold.	45,000	
<b>GBNORTH ~ TOTAL</b>		<b>1,010,000</b>	<b>390,000</b>
<b><u>GLENBROOK SOUTH</u></b>			
<b><u>Architectural Items:</u></b>			
Secure Front Entrance	This project encloses the front desk in the main entrance and creates a "mantrap"; similar to those that exist at GBN and Off Campus. This would also give the flexibility in the future to house the switchboard equipment and give that role a dual function.	60,000	
<b><u>Mechanical Items:</u></b>			
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.	20,000	
Replace Domestic Hot Water Heaters	The existing gas fired hot water heaters that provide domestic hot water to the buildings for kitchen use, showers and sinks do not operate reliably and require frequent repair to maintain them in operating condition. It is recommended that these units be replaced with new high efficiency gas fired hot water heaters and connect to the existing domestic hot water system. Savings: \$5K/year.	125,000	

## REMAINING PROJECTS

Storm Water Control	The flooding of the track on the north end of the gym occurs with heavy rains. The drains outside on the walkways cannot handle the volume of water coming off the domed roof during these downpours. The water runs down the stairs on the west side and proceeds to run under the doors which are below grade flooding the track area as well as the PE office and Training room. Historically these doors were used for PE classes and athletic teams to get to the fields. Instead, they now use the doors by the fitness center.	50,000	
<b>GBSOUTH</b>		<b>205,000</b>	<b>0</b>
<b><u>DISTRICT-WIDE 3801 &amp; 1835</u></b>			
General Contingency			<b>625,667</b>
<b>DISTRICT OFFICE</b>			
<b>TOTAL w/FEES &amp; CONTINGENCIES:</b>		<b>1,458,000</b>	<b>1,218,800</b>

**COMPLETED PROJECTS**

**GLENBROOK HSD 225 - \$10M LIFE SAFETY & INFRASTRUCTURE LIST  
COMPLETED SUMMER 2011**

<b><u>\$10M Bond Issuance</u></b>	<b><u>Brief Description</u></b>	<b>Summer 2011 FY 11/12</b>
<b><u>GLENBROOK NORTH</u></b>		
<b><u>Architectural Items:</u></b>		
Windows Replacement	Replace windows in C113b (SAC Office) 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
Fieldhouse - Translucent Panel System (added 12/14/10)		160,000
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
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
Back Gym Toilet Room Conversion		180,000
CPA Drapery Flame-proofing	Every 7 years, National Fire Protection Code requires drapes to be flame-proofed.	30,000
<b><u>Mechanical Items:</u></b>		
Corridor Cabinet Heater Replacement - <b><u>estimate reduced from \$150,000 (9/15/10).</u></b>	There are 10 original unit heaters in the doorway and vestibule area that are no longer functioning properly.	75,000
Replace univents in Spartan Conference room to DX unit	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

## COMPLETED PROJECTS

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)	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	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	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
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	Pump replacement and repiping.	21,000
<b><u>Plumbing Items:</u></b>		
Boiler Room - Ejector Pumps Controls	Ejector pump controls are original and somewhat manual, this replaces the pumps and puts them on the building automated system. They pump building waste to the sanitary sewers.	50,000
Plumbing in Men's/Woman's coaches/varsity locker room <b>(estimate increased from \$60,000 9/15/10.)</b>	Additional plumbing to add showers for coaches. Also, provide temperature controls to this area.	110,000
<b>GBNORTH ~ TOTAL</b>		<b>2,426,000</b>
<b><u>GLENBROOK SOUTH</u></b>		
<b><u>Architectural Items:</u></b>		
Window Replacement (New Pit Skylight)	Skylight has frequent leaks, is original and in need of replacement.	120,000
Guardrailing and Handrailing Replacements (Aud. & Gym, Scene Shop, other)	As part of life safety, certain guardrails and handrailings need to be replaced.	100,000
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 Ceilings and Walls		60,000
Flooring & Asbestos		

## COMPLETED PROJECTS

- Carpet / Flooring (Corridors, IMC, Lyceum)	Carpet in these corridors was installed over 12 years ago and will be replaced with the current, environmentally friendly, district standard.	450,000
- VCT pool lobby, nurse's office, art rooms, main office toilet rooms		30,000
- Abatement of known areas (increased 12/14/10)		160,000
- Repair and refinish terrazzo stairs in new and old pit and main gym.		80,000
Tennis Court Resurfacing (10cts crack patch and fill)		40,000
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
<b>Mechanical Items:</b>		
Air Handling Replacement - Auditorium - 3 units <b>(decreased from \$495,000 9/15/10)</b>	(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.	455,000
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
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



## COMPLETED PROJECTS

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	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
<b>Plumbing Items:</b>		
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
<b>GBSOUTH ~ TOTAL</b>		<b>3,515,000</b>
<b><u>DISTRICT-WIDE 3801 &amp; 1835</u></b>		
Voice Over IP	Cost for converting the entire district to Voice Over IP.	255,000
<b>DISTRICT OFFICE ~ TOTAL</b>		<b>255,000</b>
<b>TOTAL w/FEES &amp; CONTINGENCIES:</b>		<b>7,323,200</b>

**NOTE:** Construction Contingency money budgeted was \$170,000. Only \$58,000 was spent on the GBS west, staff parking lot. Therefore, project came in \$112,000 UNDER budget.

**GLENBROOK HSD 225**

Turf Field Infrastructure  
Priority Items

**DEFERRED LIST**

<b>Funded Through Operating Funds</b>		<b>Deferred FY 14/15+</b>
<b><u>GLENBROOK NORTH</u></b>		
CPA Seat Replacement - Balcony	Not a priority	110,000
Bleacher Repairs		
Main Gym Bleacher Replacement	The main floor bleachers are in need of replacement as they have reached the end of their useful life. We are currently replacing seating boards and the motors that move the bleachers are breaking down.	180,000
Outdoor Bleacher Replacement	This is for home side only and is a one-for-one replacement. If expansion is desired, cost will increase.	500,000
Tennis Court Replacement (10cts)	Not needed in next ten years.	200,000
Refinishing of Main Gym and Back Gym Floors	The main gym floor was last sanded and painted more than twenty years ago. We refinish it annually but the floor is due to be sanded and painted.	40,000
<b><u>Mechanical Items:</u></b>		
A/H CPA Stage		175,000
A/H Scene Shop		125,000
A/H Back Gyms		375,000
Boiler Replacement	Not needed in foreseeable future	1,000,000
DX Unit for Fitness Center		80,000
DX unit for Green and Gold Conference room		
Replacement of Pool Dectron system	The dectron system controls humidity and cooling in the pool area. The system has proven unreliable, very expensive to maintain and energy inefficient. Alternative systems need to be evaluated.	200,000
<b><u>Plumbing Items:</u></b>		
Detention	Detention would be added to the Village of Northbrook's existing detention basin. This amount of detention would allow for 1 artificial turf field at GBN.	120,000
<b>GBNORTH ~ TOTAL TO DATE:</b>		<b>3,105,000</b>

**GLENBROOK HSD 225**

Turf Field Infrastructure  
Priority Items

**DEFERRED LIST**

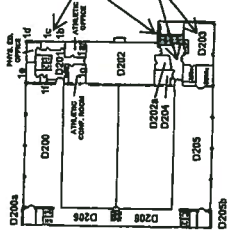
<b>Funded Through Operating Funds</b>		<b>Deferred FY 14/15+</b>
<b><u>GLENBROOK SOUTH</u></b>		
<b>Architectural Items:</b>		
Tile floors and walls in PE locker rooms and showers	P. E. locker room showers have painted walls and epoxy flooring. The painted block walls are very difficult to maintain and sanitize. The epoxy flooring in one of the showers has peeled off the floor leaving bare spots of concrete. Tiling of these areas would not only improve the looks of the areas but improve the maintenance and ability to sanitize these spaces.	65,000
Tile walls in new pool shower areas		
Replace netting with a batting cage on Lake Ave		
Field house bleachers	We currently have aluminum bleachers that can't stay in the fieldhouse because they don't fold up and they are dangerous. We keep them in the storage room and wheel them out to the fieldhouse. These permanent structures take up all of the much needed fieldhouse storage room.	42,550
Paint main gym ceiling	The ceiling and beams of the main gym have never been repainted and they are showing their age.	85,000
Auditorium pit lift overhaul		
Removal of total doors		
Replacement of interior doors and hardware		
Indoor Bleacher Replacement (Main Gym, all) (2022+)		160,000
Outdoor Bleacher Replacement (Home & Visitor Bleachers) (2022+)		1,100,000
Tennis Court Replacement (10cts) (2017+)	Not needed in next 10 years.	200,000
Running Track Replacement	Overlay 1 inch asphalt and resurface	225,000

**GLENBROOK HSD 225**

**Turf Field Infrastructure  
Priority Items**

**DEFERRED LIST**

<b>Funded Through Operating Funds</b>		<b>Deferred FY 14/15+</b>
Replacement of non addressable fire detectors with digital addressable units	The fire alarm system was upgraded in 1995 and at that time we installed a new main panel and added some addressable smoke detectors and made the pull stations addressable. However, we have areas of the building that are still set up in non-addressable zones which means we need to search areas when we get an alarm as opposed to getting an actual location.	275,000
<b>Plumbing</b>		
Detention	Detention would be built at the corner of Lake and Landwehr, just south of the off-campus building. This amount of detention would allow for 1 artificial turf field at GBS.	250,000
<b>Electrical</b>		
Replacement of Auditorium Presidium Lighting	There are 46 light fixtures over the orchestra pit that are deteriorating due to usage and old age. Several fixtures are non functional.	40,000
Main Gym Lighting Retrofit	Change out Gym lighting fixtures with energy efficient light fixtures with the capability of switching to allow areas to be off when not needed. Currently the entire gym must be lit up to be able to see.	120,000
Re-switch parking lot lights to two zones		
Re-switch hallway lighting into zones		
<b>GBSOUTH ~ TOTAL TO DATE:</b>		<b>2,210,000</b>
<b><u>DISTRICT-WIDE 3801 &amp; 1835</u></b>		
3801 Window Replacement		180,000
3801 Siding Replacement		50,000
<b>DISTRICT OFFICE ~ TOTAL TO DATE:</b>		<b>230,000</b>
<b>TOTAL:</b>		<b>5,545,000</b>
<b>TOTAL COST ESTIMATE WITH FEES AND CONTINGENCIES</b>		<b>6,654,000</b>
<b>Infrastructure for Turf Fields</b>		<b>595,000</b>
<b>Priority Items</b>		<b>677,550</b>



Second Floor Plan Main Gym

AIR HANDLING UNITS, REPLACEMENTS, MAIN GYM  
 FLOORING, ABATEMENT & VCT REPLACEMENT, PE CLASSROOM & CORRIDOR

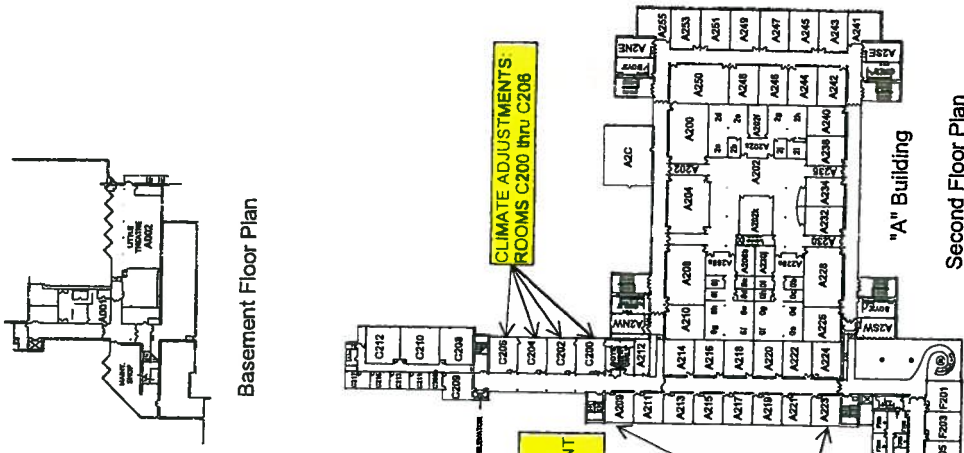
FLOORING, ABATEMENT AND VCT REPLACEMENT, ART ROOMS

HVAC, UPGRADE APPLIED TECH B100/102  
 PLUMBING, REPLACE OLD GALVANIZED PIPING, INDUSTRIAL ED. AREA

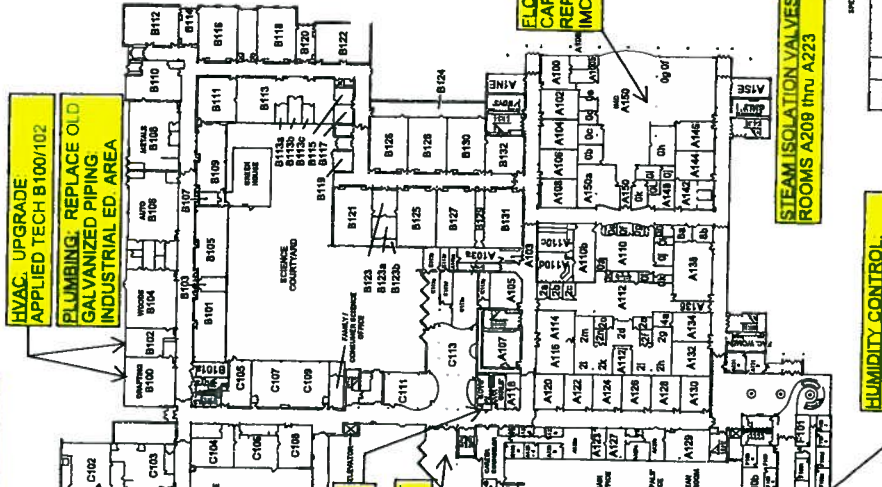
TOILET ROOM RENOVATION, MAIN CORRIDOR

FLOORING, ABATEMENT & CARPET REPLACEMENT S.A.C. CORR.

FIELDHOUSE, REPLACE EXHAUST FAN UNITS



Basement Floor Plan



First Floor Plan

HUMIDITY CONTROL, CHILLED WATER PIPING 'F' WING TUNNEL

FLOORING, CARPET REPLACEMENT IMC AREAS

STEAM ISOLATION VALVES, ROOMS A208 thru A223

CLIMATE ADJUSTMENTS, ROOMS C200 thru C206

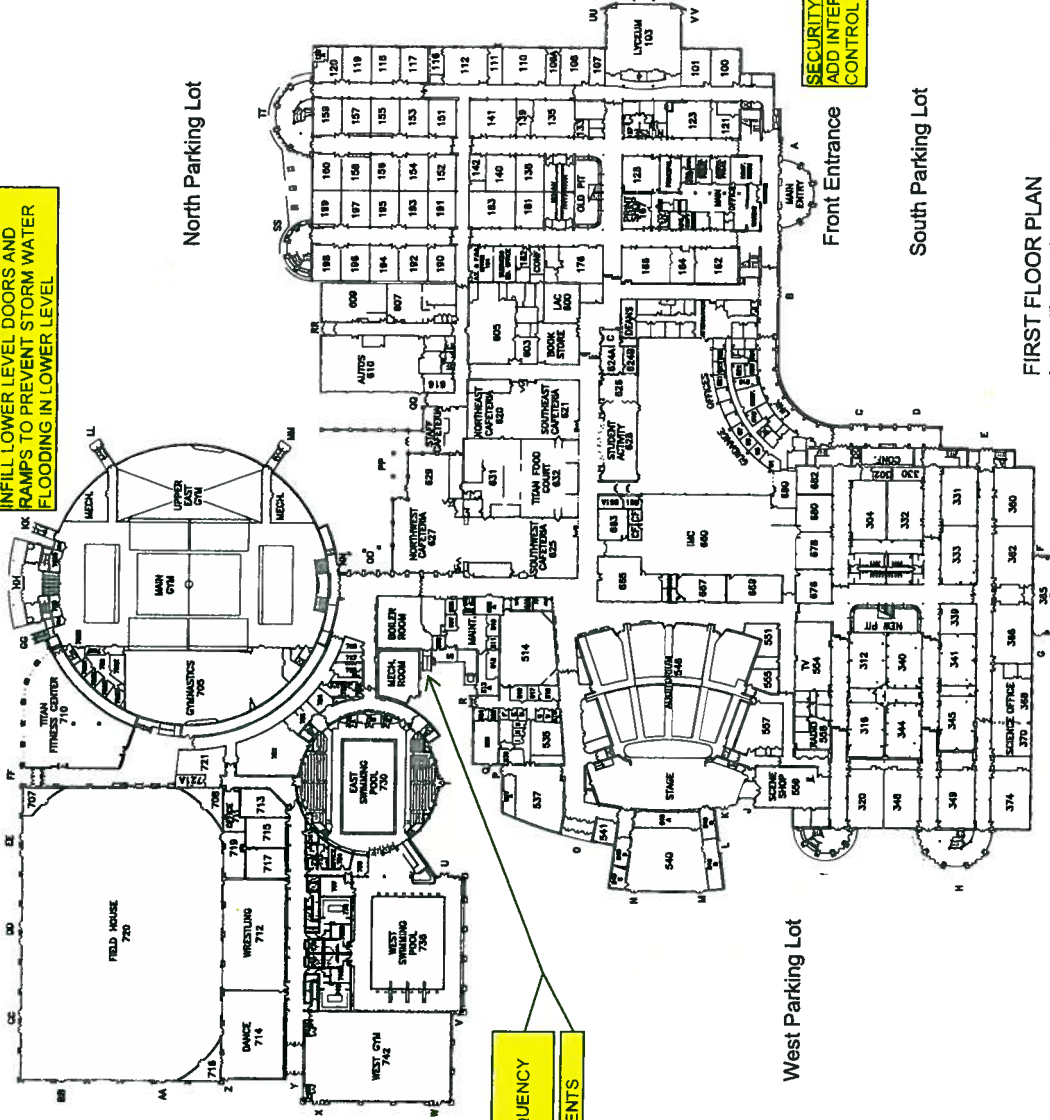


Second Floor Plan



**STORM WATER CONTROL.  
INFILL LOWER LEVEL DOORS AND  
RAMPS TO PREVENT STORM WATER  
FLOODING IN LOWER LEVEL**

North Parking Lot



**10 YEAR CHILLER REBUILD,  
IN MAINTENANCE AND FREQUENCY  
DRIVE CHANGE-OUTS  
WATER HEATER REPLACEMENTS**

West Parking Lot

**SECURITY VESTIBULE.  
ADD INTERIOR CHECK-IN AND ACCESS  
CONTROL AT MAIN ENTRANCE**

Front Entrance

South Parking Lot



FIRST FLOOR PLAN



**GLENBROOK HIGH SCHOOL DISTRICT 225**

Glenbrook South High School-First Floor Plan