

General Facility Repair and Maintenance Projects Pending

(All within 5 Year Forecast starting FY15)

Camp Randall Sports Center (Shell)

Project
Metal Roof coating
HVAC Upgrade - track/ice rink
Hazardous Materials abatement
Electric - lighting/controls
Electric - building service
Plumbing - locker/shower rooms
Fire Detection System
Fire Sprinkler System
Ice Rink Dehumidification
PROGRAMMATIC IMPROVEMENTS

Southeast Recreational Facility (SERF)

Project
Exterior Cladding & Roof Cap Rep
Elevator Replacement
North Entrance Upgrade
Emergency/Backup Generator Upg
Interior Finishes Repair
Air handler/Exhaust Repl & DDC
Lighting Controls, A/V & Clock
Pool Plumbing Equip Repl
PROGRAMMATIC IMPROVEMENTS

Gym-Natatorium

Project
Roof Areas 6, 8, 10, 16 Repl
Exterior Caulk/Tuck Point/etc.
Emergency/Backup Generator Repl
Electric Service & Distr (50%)
Hazardous Materials abatement
Freight Elevator Repl
Locker Rms - Plumbing & Partitions
HVAC Pool Area Upgrade
Building Air Management Upgrade
Interior Finishes Upgrade
Roof Areas 1-5,7,9,11-15,17 Repl
Pool Plumbing & Equipment Repl
PROGRAMMATIC IMPROVEMENTS

Nilsen Tennis Stadium

Project
Roof Area 1 Replacement
Roof Area 2-9 Replacement
Elevator Installed-ADA Accessibility
Locker Rms - Plumbing & Partitions
Building Air Management Upgrade
Electric - building service
Fire Sprinkler System
HVAC Upgrade
PROGRAMMATIC IMPROVEMENTS

UW-Madison Gym-Natorium – Deferred Maintenance to YR 2025
October 23, 2013

The Gym-Natorium, building #0031, was constructed in the mid-1960 in two phases. Unit I included a 60'x75' racing pool, poolside bleachers for 500 spectators, a 43'x50' diving pool, a 140'x41' gymnasium, classrooms, and offices. Unit II included eight gymnasiums, squash and racquetball courts, locker room facilities, classrooms and a library. Gym-Nat currently houses the Department of Kinesiology, physical education classes, and an athletics/fitness center for students, faculty, and staff.

The following information is provided to assist Recreational Sports Master Plan development. Recommendations are derived from multiple sources: FP&M master list of proposed maintenance projects, physical plant field inspections, identified occupant concerns, and replacement age/estimated cost based upon (DFD/UWSA commissioned) guidelines for Backlog of Maintenance & Repair (BMAR). Physical plant provides continuous, proactive maintenance; as such, the useful life of equipment may be extended and/or full replacement may not be required. Changes in programmatic functions may also affect facilities decisions.

RECOMMENDED FACILITIES REPLACEMENTS/IMPROVEMENTS

• Roof Areas 6, 8,10, and 16 Replacement	\$50K
• Exterior Caulk/ Tuck Pointing/Storefront Repair	\$280K
• Emergency/Backup Power Generator Upgrade	\$60K
• Electrical Service and Distribution (50%) Upgrade	\$945K
• Freight Elevator Replacement	\$275K
• Locker Rooms – Plumbing & Toilet Partitions Upgrade	\$260K
• HVAC – Pool Area Upgrade	\$500K
• Building Air Management Upgrade	\$100K
• Interior Finishes – Floors, Ceilings, Walls	\$600K
• Roof Areas #1-5, 7,9,11-15,17 Replacement	\$1.6M
• Pool Plumbing & Equipment Replacement	TBD
• Programmatic Improvements	<u>TBD</u>

TOTAL >\$4.7M

Note: Utilizing BMAR data information (only) deferred infrastructure scope is estimated >\$12M adjusted for inflation; the building would need to be vacated for this scope.

Gym-Natorium – Facilities Condition Assessment DRAFT

June 2013



BACKGROUND

The Gym-Natorium, building #0031, located at 2000 Observatory Drive, Madison, Wisconsin, was constructed in the mid-1960 in two phases. Unit I included a 60'x75' racing pool, poolside bleachers for 500 spectators, a 43'x50' diving pool, a 140'x41' gymnasium, classrooms, and offices. Unit II included a 250'x 300' structure that wraps around Unit I on the east, west and north sides. Unit II is two levels high containing eight gymnasiums, squash and racquetball courts, locker room facilities, classrooms and a library. Gym-Nat currently houses the Department of Kinesiology, physical education classes, and an athletics/fitness center for students, faculty, and staff. Request was made by campus administration to complete an informal facility condition assessment to assist discussions of master planning, building use, maintenance, and funding.

RECOMMENDED FACILITIES REPLACEMENTS/IMPROVEMENTS

- Roof Areas 6, 8,10, and 16 Replacement
- Exterior Caulking and Tuck Pointing Repair
- Window and Storefront Entrances Replacement
- Emergency/Backup Power Generator Upgrade
- Electrical Service and Distribution Upgrade
- Freight Elevator Replacement
- Locker Rooms – Shower Plumbing & Toilet Partitions Upgrade
- HVAC – Pool Area Upgrade
- Building Air Management Upgrade
- Programmatic Improvements (including services to pool equipment)

ANALYSIS OF EXISTING CONDITIONS

Building Envelope and Exterior:

There are seventeen (17) - BUR-type roof areas on this facility. A formal roof inspection was conducted in spring 2013. Roof areas 6, 8, 10, and 16 should be scheduled for replacement. The life expectancy of all other roof areas is 7-10 years. The southwest side of building exterior has a canopy above the main entrance 1000J with efflorescence indicating a potential roof issue. The southeast entrance 1100B canopy roof was replaced in 2008; however, it is leaking now (warranty issue).

The brick exterior planters need tuck pointing. Steps and sidewalk require patching and the railings are not code compliant. On the northwest side of building exterior, brick tuck pointing is needed. The concrete pad by the north entrance 1000T is cracked and heaving. The east entrance canopy needs a new roof and soffit. The southeast entrance steps have no railing and concrete is settling. Foundation slab was ground down (date unknown) to address trip hazard which has now exposed some of the structural re-bar.

The building windows are very drafty and failing; replacement should be assessed and scheduled in conjunction with building exterior caulking of all windows, all masonry, and all precast.

The doors at main entrance 1000J should be replaced as they are worn and the hardware is failing. The assisted entry is also in need of replacement. The north set of doors 1000T were replaced three years ago. The west and south east doors are in fair shape as they are not used very often. Exterior door 1100J frame is rusted and needs replacement.

Rooms B82 and B84 have chronic ground water infiltration. The EPS that was installed years ago has been disconnected for many years.

Heating Ventilating & Air Conditioning:

In general, the athletic/fitness areas have no air conditioning (cooling) capability. Only the offices and labs are served with cooling. Building usage diminishes during warm months.

Air handlers HV#3, HV#4, HV#5 are located above the pool area. The units are very inaccessible for servicing; when the units leak, the process water falls into the pool. Steam coils have been replaced in HV#3 and HV#4 in the last five years. HV#5 is located above the diving pool and needs a new steam coil. Maintenance access to the units is via a 60-step ship's ladder - very awkward to transport tools and materials. If changes are made, recommend locating new units behind the bleachers and extend ductwork around pool area.

The building air management controls (DDC) for this facility are a combination of patched pneumatic controllers and JCI Legacy equipment which is no longer supported by the vendor. There are no room level digital controls within building. The building functionality is not complicated programming. DDC's recommendation would be to upgrade the main head end controller and redo the control panels of existing equipment. This could be accomplished as one large project or accomplished in phases. There have (22)-individual units for exhaust, heating and pool systems. Currently, physical plant is working to upgrade HV4 (PM#178) in room 3150 as this unit is failing and some lab rooms are supplied by it. No room level controls will be added at this time.

Hazardous Materials:

Per WALMS data, there is a significant amount of asbestos-containing material (ACM) in this building due to the age of its construction. Floor tile and mastic, fire doors, pipe insulation, chalkboards, and sprayed on fire-proofing insulation contain ACM. The existing ACM is in good condition; monitor to insure good condition or containment. No issues at this time.

Electrical:

Building generator is a 1963 US Motors 30kw generator with a Hercules engine. The generator and transfer switch are obsolete and becoming problematic. Complete replacement is recommended. The emergency power in the building could be expanded allowing the removal of the battery EM lights that need constant testing and maintenance. Need a new ATS from the generator. The building wide arc flash study is needed.

Main Electrical Room B84 square D QMB Safety fused switches, the main is a 3000 amp 120/208 4 wire, loads out of this MDP are 1-600 amp to old main service, 4 - 600ampfused switches to panels PA PB PC PD, 10 – 200 amp fused switches to panels A B C D E H K R F, 2 - 100ampfused switches are spares, 4 - 60 amp fused switches pumps, 6 - 30 amp fused switches feed pumps and fans. The MDP should be upgraded to circuit breakers.

The main electrical meter does not have or offer communications back to the BAS replace with GE PQM11 meter. Mimic Bus labeling of the Medium voltage equipment and secondary MDP indicates internal bussing on the electrical gear.

The (old) main electrical room 1204 is still labeled as main service, it consists of a very old 600 amp disconnect switch feeding a 600 amp MDP with 1-300 amp breaker Panel B, 1-200 amp breaker panel C, 1-175 amp breaker Panel D. There are some sub-disconnects and small breaker panels taped off of this service – circuit tracing and rework is recommended.

All the distribution panels have no main breakers – you must go back to the main which means opening the circuit at a higher arc flash rating than at the distribution panel. Labeling of distribution panels needs upgrade to include to and from locations/room numbers.

There are two step-up transformers (208V => 480V) to serve recreational field lighting. Consider transforming at the main with a large transformer to serve all equipment to make them more energy efficient; add a smaller 208V transformer to feed loads at the lower voltage that can't be changed to 480V.

The basement area is in very poor shape. Conduits are deteriorating in the slab; controls for pumps and fans are rusting off the walls and are very old. VFD's might make the equipment more energy efficient. Electric motors are not premium efficiency rated.

The pool chemical area has a lot of unused equipment that has been abandoned in place. The new equipment has deteriorated due to ambient conditions and needs replacement with chemical resistant panels and pipe. The pools' recirculating and transfer pumps' control panels have bad disconnect switches with (bad) corrosion on the internal components of the panels. Caution: confirm disconnects open all phases!

All the VFD's in the building were installed in 2003; failures are anticipated in these drives within the next 2-5 years. The VFD's located above the pools are in a hot moist environment - not suited for electronics. The VFD's in the penthouse area have been installed with the line and load in the same pipe, the feeder wires are too small for the load and they have joints in a wire way in which all the load and line wires of all the drives are in.

Telecommunications:

Telecommunications capabilities were upgraded substantially in 2006 with new fiber, power to equipment rooms, and wireless. Data jack upgrades are substantially complete as part of the DoIT 21st Century Upgrade project.

Elevators:

The ADA lift elevator located in 1000C was installed in 2009 and is in good condition. The building freight elevator is a 1963 hydraulic elevator with single bottom jack and does not meet fire alarm recall standards. Complete replacement is recommended.

Plumbing:

Pool hose bibs are failing. The pipe in the wall is deteriorating and needs replacement; pipe twists in the wall. Women's and Men's locker room shower trees require excessive maintenance.

Interior Finishes:

The fire-rated doors located in main hallways are filled with ACM. As doors are damaged due to pedestrian traffic, the wood doors chip and expose ACM. Interior metal frames in main hallway 1000L are deteriorated. Integral smoke detectors on fire doors are failing. Gyms 1-4 panic and door hardware are worn and difficult to lock. See programmatic concerns for additional information.

Fire Detection and Fire Sprinkler Systems:

The fire detection and reporting system is a Siemens MXLV intelligent system. The building is not fire sprinklered.

Facility Manager Programmatic Comments:

Room 1065 is a multi-purpose room (not a gym) that was converted from (3)-racquetball courts. The room gets warm and air feels stagnant. The tongue and groove wood floor has been in filled where court walls were removed. The patches are adversely affected by humidity and seams are taped to protect occupants' feet during activities. Develop measures to provide a better environment for programmatic functions.

Racquetball courts have rough rear walls need repair and repainting or new protective covering similar to other walls. Physical plant recommends the installation of new light fixtures in the racquetball courts.

Pool bleachers are original construction needs updating for safety: Boards are very brittle with ~5LF spans between supports. Railings are not (current) code compliant. The upper bleachers are on an electrical track system. Pool acoustics are terrible.

Gyms #1, #2, #3, and #4 – plywood perimeter walls (original construction?) are pulling away from substructure. Exterior walls (behind plywood) have heating coils that leak. Consider moving drinking fountains out of the gym area to protect wood floors from sudden water leaks.

Cardio Room 1110 is too small and too hot for programmatic functions.

Men's locker room floor is concrete (no tile) and needs frequent repairs due to spalling. Locker room toilet partitions are original construction, rusted and worn; repair or replace.

UW-Madison Nielsen Tennis Stadium – Deferred Maintenance to YR 2025

October 23, 2013

The Nielsen Tennis Stadium, building #0038, was constructed in 1967. The building contains twelve tennis courts, six squash courts, players' lounges, seating for 1,500 spectators, locker and dressing rooms, a pro shop, and offices. In 1970 six outdoor courts were added on the north side of the building. The facility is open to students, faculty, staff and the general public in that priority order at very modest fees.

The following information is provided to assist Recreational Sports Master Plan development. Recommendations are derived from multiple sources: FP&M master list of proposed maintenance projects, physical plant field inspections, identified occupant concerns, and replacement age/estimated cost based upon (DFD/UWSA commissioned) guidelines for Backlog of Maintenance & Repair (BMAR). Physical plant provides continuous, proactive maintenance; as such, the useful life of equipment may be extended and/or full replacement may not be required. Changes in programmatic functions may also affect facilities decisions.

RECOMMENDED FACILITIES REPLACEMENTS/IMPROVEMENTS

• Roof Area #1 Replacement #13E3P	\$257,600 (DFD approved)
• Roof Areas #2-9 Replacement	\$1.6M
• Air Handler/Exhaust/Control Replacements	\$1.5M
• Store Front Entrances Replacement	\$200K
• Boilers & Furnace Repair/Replace	TBD
• Interior Finishes Repair-Floors/Ceilings	\$100K
• ADA Improvement – Passenger Elevator	<u>\$175K</u>
TOTAL	>\$3.9M

UW-Madison SERF – Deferred Maintenance to YR 2025

October 21, 2013

The Southeast Recreational Facility (SERF), building #0028, was constructed in 1982. Level B contains twelve racquetball courts, mechanical systems, and storage areas. Level 1 houses weight rooms, the upper part of the lower courts, and part of the pool tank. The 65 meter pool is on level 2 as well as locker rooms, offices, and the lobby. Level 3 contains two large gymnasiums, and the upper part of the pool area. Level 4 is a one-tenth mile running track suspended above the gymnasium area. In 1984, a large shelled space of level B was finished to provide extra weight-training facilities. An addition to the facility was constructed on the west end in 2003. SERF currently houses the Division of Recreational Sports, the Department of Kinesiology, physical education classes, and an athletics/fitness center for students, faculty, and staff.

The following information is provided to assist Recreational Sports Master Plan development. Recommendations are derived from multiple sources: FP&M master list of proposed maintenance projects, physical plant field inspections, identified occupant concerns, and replacement age/estimated cost based upon (DFD/UWSA commissioned) guidelines for Backlog of Maintenance & Repair (BMAR). Physical plant provides continuous, proactive maintenance; as such, the useful life of equipment may be extended and/or full replacement may not be required. Changes in programmatic functions may also affect facilities decisions.

RECOMMENDED FACILITIES REPLACEMENTS/IMPROVEMENTS

- | | |
|---|---------------|
| • Exterior Cladding and Roof Cap Repair | \$720K* |
| • Elevator Replacement | \$300K |
| • North Entrance Upgrade | \$150K |
| • Emergency/Backup Generator Upgrade | \$60K |
| • Interior Finishes Repair | \$165K |
| • Air Handler/Exhaust Replacement & DDC Upgrade | \$900K |
| • Lighting, Controls, Audio/Visual, & Clock Upgrade | \$560K |
| • Pool Plumbing Equipment Replacement | <u>\$850K</u> |

TOTAL \$3.7M

Note: The cost of exterior cladding and roof cap repairs does not include full replacement of the exterior cladding. A DFD study is underway to confirm required scope. If full replacement is needed, costs could increase fourfold.

Southeast Recreational Facility – Facilities Condition Assessment DRAFT

June 2013



BACKGROUND

The Southeast Recreational Facility (SERF), building #0028, located at 715 West Dayton Street, Madison, Wisconsin, was constructed in 1982 as a four level rectangle 300 by 100 feet, framed in steel with concrete block walls, sheathed in face brick and aluminum wall panels. Level B contains twelve racquetball courts, mechanical systems, and storage areas. Level 1 houses weight rooms, the upper part of the lower courts, and part of the pool tank. The 65 meter pool (the University's largest) is on level 2, and can be partitioned by moveable bulkheads for simultaneous multiple uses. Locker rooms, offices, and the lobby are also on level 2. Level 3 contains two large (113 by 100 foot) gymnasiums, and the upper part of the pool area. Level 4 is a one-tenth mile running track suspended above the gymnasium area. In 1984, a large shelled space of level B was finished to provide extra weight training facilities. An addition to the facility was constructed on the west end in 2003.

SERF currently houses the Division of Recreational Sports, the Department of Kinesiology, physical education classes, and an athletics/fitness center for students, faculty, and staff. Request was made by campus administration to complete an informal facility condition assessment to assist discussions of master planning, building use, maintenance, and funding.

RECOMMENDED FACILITIES REPLACEMENTS/IMPROVEMENTS

- Building Exterior Cladding and Roof Cap Repair
- Air Handler Replacements and Building Air Management Upgrade
- Emergency/Backup Generator Upgrade
- Elevator Upgrade
- Lighting, Lighting Controls & Clock Upgrade
- North Entrance Upgrade

ANALYSIS OF EXISTING CONDITIONS

Building Envelope and Exterior:

The SERF building currently has significant issues with snow and rain water leaking into the building and causing damage to the building interior. Leaks are mainly coming through openings in the roof and building envelope created by improper installation of the building siding and integral roof caps. The design of the building exterior promotes leakage through poor placement of caulk joints, gaps in the exterior wall panels, inadequate connections between the roof membranes and the roof caps, unsealed roof caps, and exterior wall cavities that are open to the weather. The building exterior has also developed significant staining from rust and dirt. Efforts have been made to clean the exterior with various methods but no method has proven to adequately remove the staining in a way that is practical or cost effective. The staining also reappears relatively soon after any cleaning. An All Agency Project Request (AAPR) has been submitted to UW System to correct issues of water leakage and deterioration of the building exterior related to the existing building siding and roof cap systems - totaling approximately 17,600 square feet.

The window on the north side of the facility between the main gyms has lost its seal. Investigate and repair or replace as needed.

Heating Ventilating & Air Conditioning:

There have been issues with the HVAC systems going positive and preventing the outside doors from closing. The biggest contributors to the positive building pressure problem are the systems serving the 3rd floor gyms, the locker rooms and laundry room.

- HV-1 & 2 and VA-1 & 2 serve 3rd floor gyms and greatly affect building pressure at 100% & MIN OA. Gyms are short on exhaust cfm. VA-1 & 2 fans have been sped up. Exhaust ducts in Room 430 are prone to plugging from lint / debris.
- HV-3 & 4 and VA-3 & 4 serve the locker rooms. Spaces are short on exhaust air. VA 3 & 4 have been sped up. HV 3 & 4 were slowed. HR coils are restrictive. Filters have been upgraded to 2" DP filters. There is a lot of lint in the system.
- HV-9 serves the Laundry Rm. HV-9 has no cooling coil. Its main purpose is to provide make-up air to the dryers as needed. There is no SA relief for the laundry room other than 3 clothes dryers used as needed. Space is extremely positive at 100% OA with no dryers in use.

In addition, air handler equipment located in proximity to pool equipment and/or pool environment are deteriorating. Air handler HV-7 is located in room 440 (above the pool); HV-10 is located in room 255 (pool equipment area).

The building air management controls (DDC) are currently run on JCI Legacy equipment no longer supported by the vendor. Room level control within building is minimal and point elevations have not been done to this date. SERF's control requirements required straight forward programming. Upgrade the main head end controller and maintain the existing AHU cards in place. The cards are non-supported

but have the potential to work for another 10-20 years. Recommend adding more room level devices for monitoring.

Hazardous Materials:

Due to the age of this facility, asbestos containing materials are minimal and assumed in ceramic tile mastic/grout, fire doors, and flexible duct connectors only.

Electrical:

Emergency power transfer switch # 1 is 30 years old with obsolete microprocessor cards for control; replacement should be scheduled. A building wide arc flash study is needed.

The main electrical meter does not have or offer communications back to the BAS. Mimic Bus labeling of the Medium voltage equipment and secondary MDP indicates internal bussing on the electrical gear.

Labeling of distribution panels needs upgrade to include to and from locations/room numbers...

The condensate duplex pumping receiver in room 155B is rusted and falling apart. Pool chemicals are mixed and stored in this room, so fiberglass, PVC or stainless wiring methods should be employed. Room 155 has a MCC that houses the motor starters for pool circulation pumps 1 and 2; after a power outage the pumps will not start back up in auto because of control wiring configurations that should be reworked.

Building light fixtures were upgraded for energy conservation in 2003 and in 2012. Electric Shop recommends replacing the light fixtures in the racquetball court areas. In the pool and gym areas, install new lighting contactors with low voltage controls.

Replace or upgrade the original clock system (original section of the facility).

Telecommunications:

Telecommunications capabilities were upgraded substantially in 2005 with new fiber, power to equipment rooms, and wireless. Data jack upgrades were completed in 2011 as part of the DoIT 21st Century Upgrade project.

Elevators:

The building elevator is 30 years old and should be modernized including controls, car operating panel, doors and hardware, door operator, signal equipment and COP, pumping unit and cab interior.

Plumbing:

There have been multiple leaks from floor drains above racquetball courts B2-B7. In room 155, leaks in the HW system have been reported.

Interior Finishes:

The main entrance is on the north side of the building. The metal door frames of the interior doors are rusted due to heavy pedestrian traffic on rainy and snowy days. The main floor is sealed concrete. Due to high traffic, the concrete floor continues to spall.

The acoustical tiles in the suspended ceilings of the racquetball courts and hallways are damaged and curling. Batt insulation, which is present above the suspended ceilings, has been damaged and removed in places as access was secured to address leaking cast iron floor drains. Some of the court ceilings have been replaced with a fiberglass tile. Recommend replacement of acoustical tiles throughout.

Fire Detection and Fire Sprinkler Systems:

A Simplex 4100 intelligent system provides fire detection and reporting. The facility is not sprinklered.

Facility Manager Programmatic Comments:

The issues related to the building exterior envelope have caused repeated damage to building interiors, especially at the 4th floor track level and in stairwell 100F.

In the racquetball courts, the tongue and groove wood floors require repairs on occasion due to settling/sinking.

In the pool area, the painted surfaces above the exposed HVAC ductwork is peeling.

The building stairways have limited air flow. The floors are concrete with metal treads. Due to heavy pedestrian traffic, moisture condenses on steps, railings, and walls creating a slip/fall safety concern.