WITTICH HALL
FACILITY STUDY

river ARCHITECTS

DRAFT SUBMITTAL
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University of Wisconsin-La Crosse

Joe Gow
Chancellor

Heidi Mcpherson
Provost and Vice Chancellor for Academic Affairs

Robert Hetzel
Vice Chancellor for Administration and Finance

Scott Schumacher
Physical Plant Administration

State of Wisconsin – Department of Administration
Division of Facilities Development

Summer Strand
Division Administrator

Gil Funk
Director, Bureau of Architecture & Engineering

Terry Bay
Deputy Director

Dan Stephans
Project Management

University of Wisconsin-System Administration

Kate Sullivan
Director of Facilities Planning

Maura Donnelly
Senior Facilities Architect
Historic Preservation Officer

Document Prepared By:

River Architects, Inc.
Architectural Design & Planning

Paulien & Associates
Programming

OTIE
Structural Engineering

1.1 Background and Purpose

UW-La Crosse in conjunction with Pasture Consulting, authored a Preliminary Design Report, dated October 25, 2011, which evaluated the existing conditions of Wittich Hall, one the oldest buildings on campus. River Architects was selected in November of 2013 to assess the Pasture report with a focus on providing a facility condition assessment, code review, structural review, and conceptual planning solutions for relocating the College of Business Administration (CBA) from Wimberly Hall to Wittich Hall. The Pasture report provided programming information identifying the needs of the CBA. This information has since been re-evaluated by Paulien & Associates, who is providing programming and space needs consulting as part of an Academic Space Planning Study.

Wittich Hall, formally known as the Physical Education Building at the La Crosse Normal School, broke ground in December 1916 with completion in the early part of 1920, was the second building constructed on campus. Still standing, it remains one of three originally constructed facilities along with Graff Main Hall to the south and Morris Hall to the southwest. In September 1930, an addition was added to the south of Wittich Hall, which included an additional gymnasium and pool facility to better accommodate the growing needs of UW-La Crosse, which the Board of Regents selected for the specialized course in physical education.

Originally used as a facility for physical education instruction, Wittich Hall has undergone limited renovations over its lifetime and remains mostly intact with exception to removal of the pool originally located in the north wing.

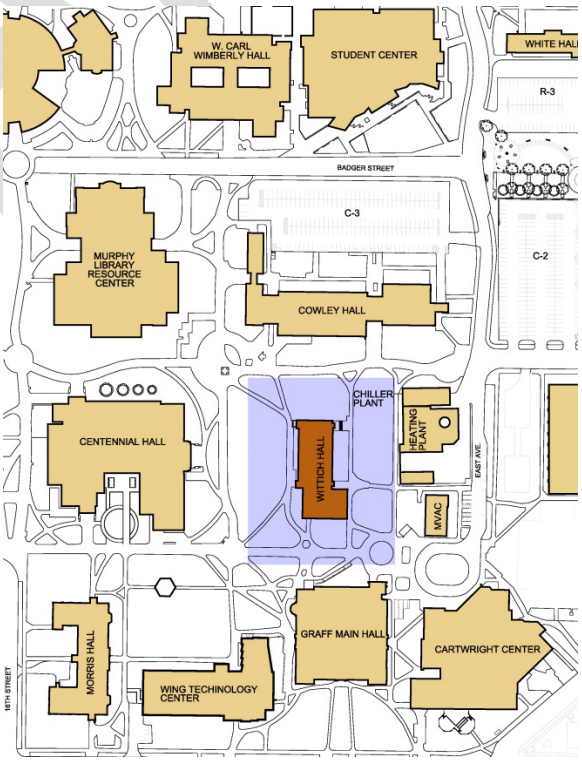
Wittich Hall was listed on the National Register of Historic Places in 1985 with State registration taking place in 1989.

While numerous small remodeling projects have adapted Wittich Hall to changing usage, upgraded some of its mechanical systems, and met evolving code regulations, there has not been a comprehensive restoration project to date.

1.2 Project Scope

The facility study being conducted for this project will evaluate the current conditions of Wittich Hall, with a primary focus on the following areas:

Site and Landscaping
Exterior Masonry
Exterior Windows
Exterior Doors
Roofs
Thermal Performance
Interior Walls, Floors, and Ceilings
Stairs
Restrooms
Elevators
Accessibility
Hazardous Materials
Structural Analysis
Existing Utilities
Existing Building Systems
Conceptual Analysis
Cost Analysis



Project Location (2014)

1.3 Methodology

River Architects conducted its on-site investigation in May of 2014.

Information for this report was obtained through the review of the original drawings, renovation as-built drawings, and visual observations. The existing building drawings were provided by UW-La Crosse for the use of this study.

The scope of this report does not include observation or testing of hazardous materials including but not limited to; asbestos, radon, PCB's, mold, or lead based paint. Information from the Wisconsin Asbestos and Lead Abatement Management System (WALMS) has been provided by UW-La Crosse and is included as an appendix to this report.

West Entrance (2014)

Existing Conditions

Overall, Wittich Hall appears to be in sound physical condition. The exterior and interior masonry walls show no signs of distress. Interior plaster is in relatively good condition with exception to areas where water infiltration from failed roof systems has occurred over the north gymnasium. Original windows, stairs, and finishes highlight the stability of the existing building.

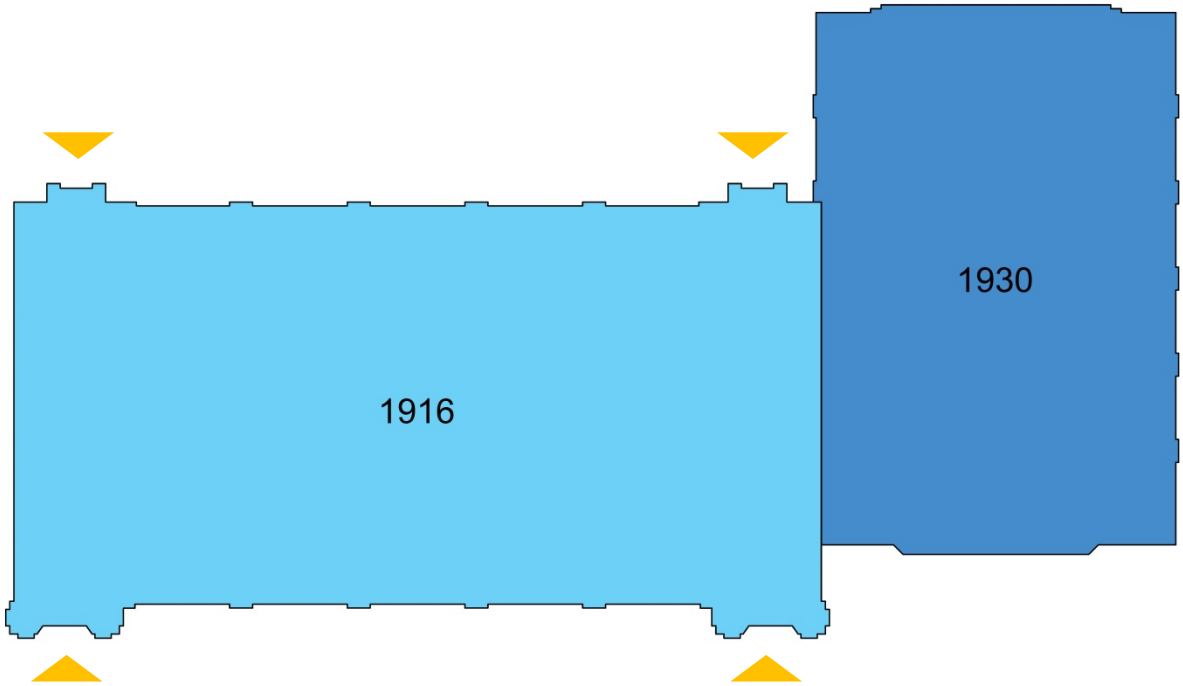
Summary of Findings

While the available drawings and photographs have guided this team into certain areas of focus, other areas or features have been or may be uncovered as the project moves forward and additional resources are explored. Prior discussions had been held with the Wisconsin Historical Society in an effort to identify the priorities from a historic restoration perspective. Items of significance previously indicated include _____.

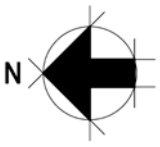
Upon review of the documents provided by UW-La Crosse, a summary of prior work conducted in Wittich Hall includes the following:

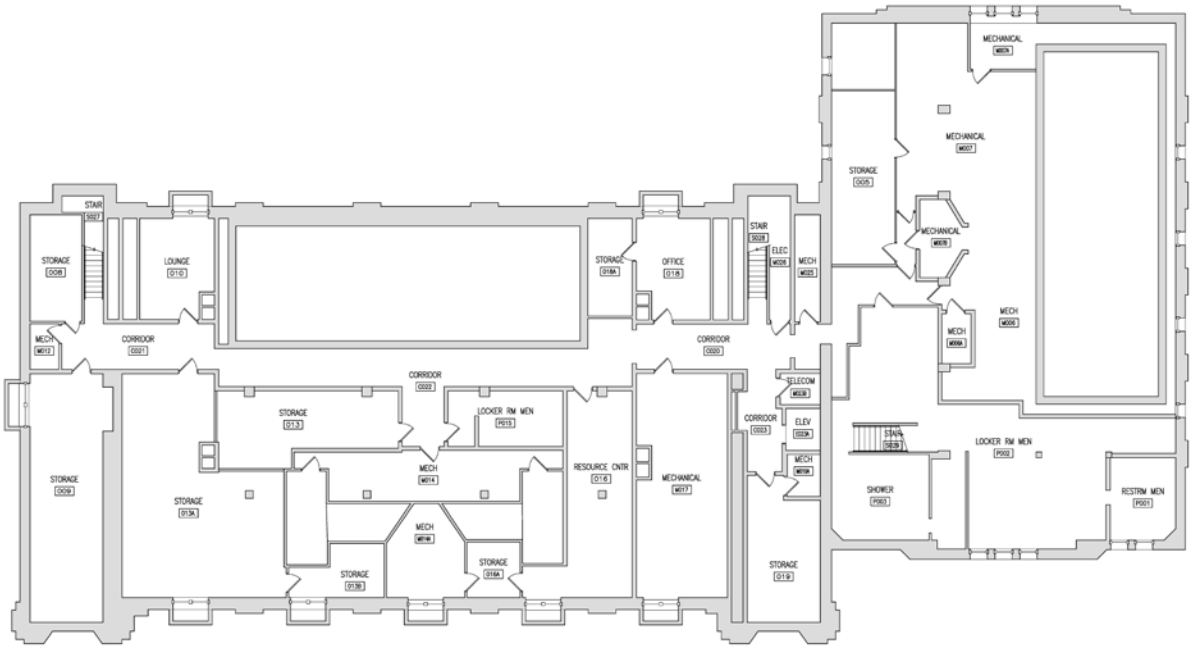
- 1970 Renovation
  - Window sash replacement in 1930 pool
  - 1916 pool filled in for offices at Level 1
  - 1930 skylights re-glazed
  - 1916 skylights closed
- 1974 Roof Repairs
  - 4 roof drains replaced at 1916 wing
- 1978 Accessibility Upgrades
  - Elevator added
  - East and west ramps added
  - Misc. locker room upgrades
- 1985 Roof Replacement
  - 1930 skylights replaced
  - New roof drains & overflow scuppers
- 1994 Multipurpose Room
  - Portion of level 1 locker room renovated for new multipurpose room
- 2004 Fire Alarm
  - Fire alarm system added throughout

1.4 Existing Drawings



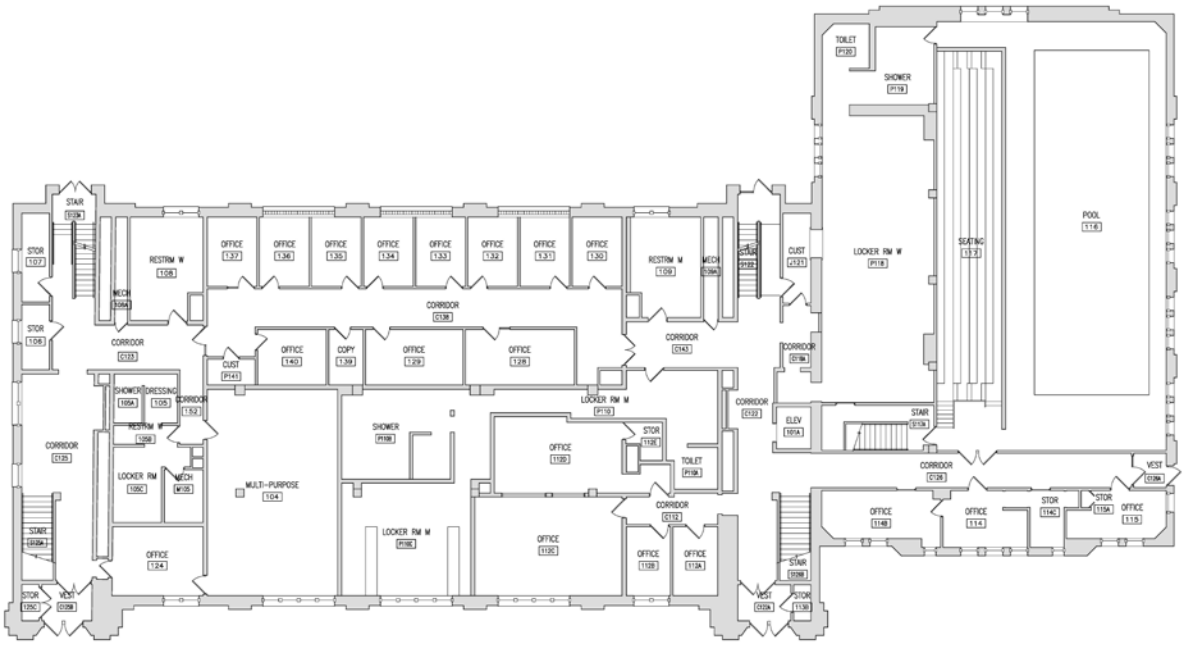
Key Plan





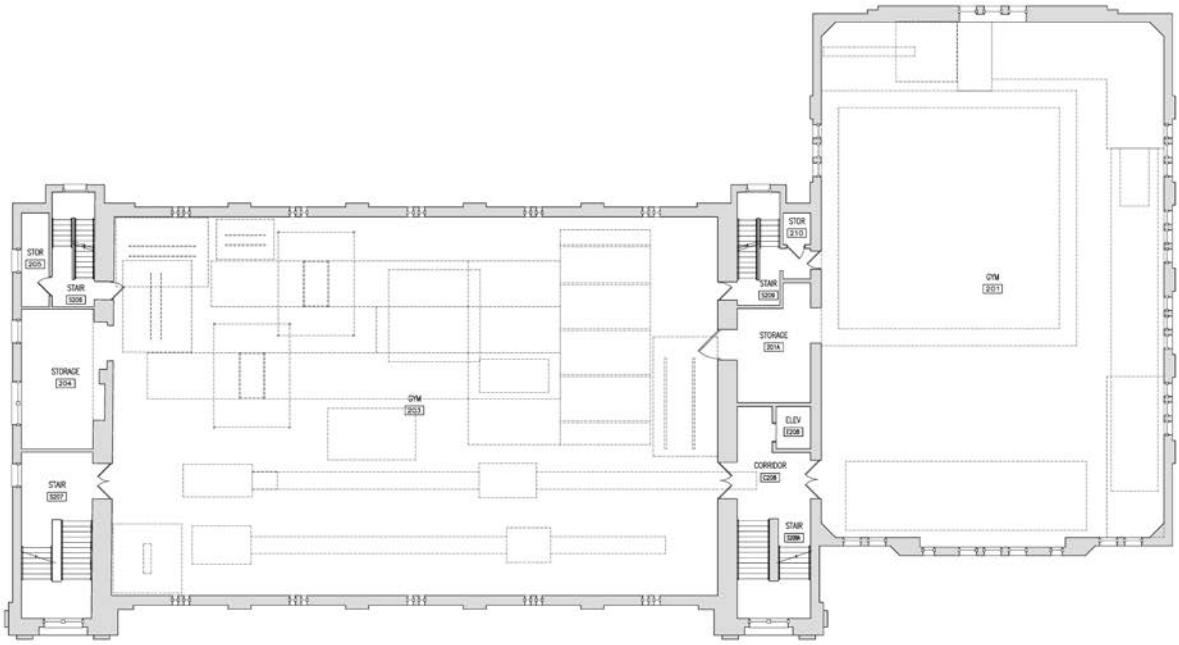
Floor Plan – Level 0

Wittich Halls lowest level lies beneath grade approximately 8'-0" below grade. Primarily made up of storage and mechanical areas, Level 0 also consists of a locker room and classroom, and various training rooms. Generally, the finishes of this lowest floor level are relatively utilitarian, consisting of painted concrete and tile walls, painted floors, etc. The original windows located along the north and west walls have been replaced with glass block. These windows utilize exterior concrete window wells to bring natural light into the building. The two primary stairs serving Level 0 are located along the east side of the building and are too narrow per today's code minimum.



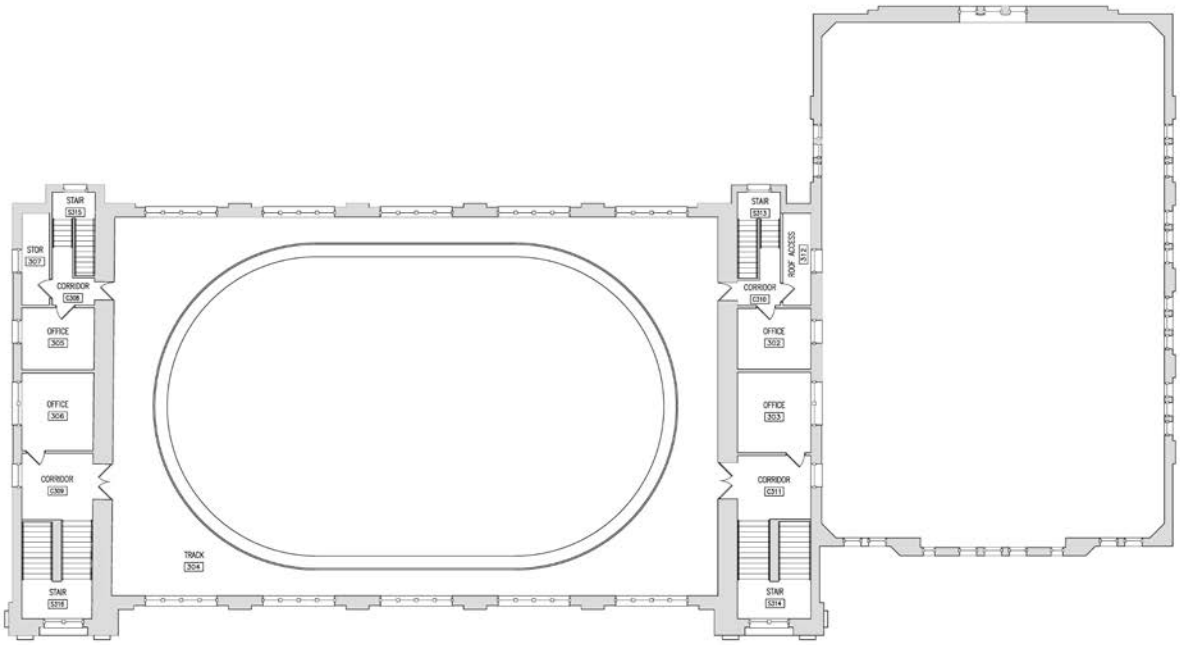
Floor Plan – Level 1

The first floor of Wittich Hall underwent a major renovation in 1970 when the 1916 pool was removed and replaced with offices. The men's locker room located along the west side of the building results in carpeting being provided in the corridor to the pool facility. Original staircases remain intact at all four entrances. Accessible ramps are located at the west and east entrances closest to the 1930 addition. An interior ramp was added in 1978 at the east entrance. Level 1 provides the only public restrooms. In order to access these restrooms, patrons are required to go through an office suite.



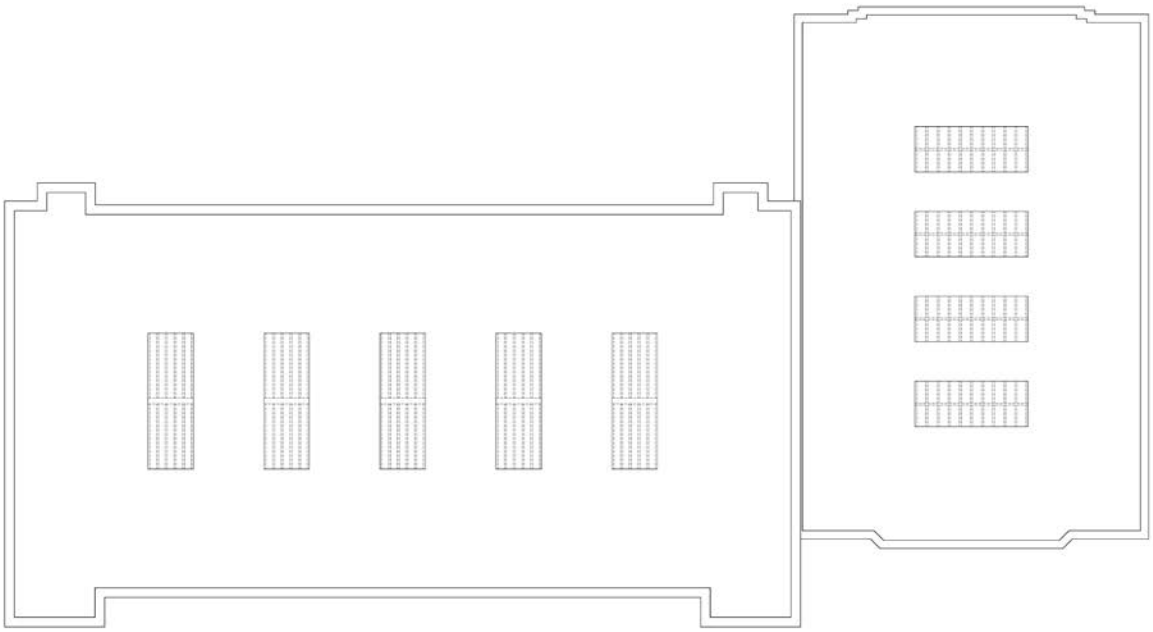
Floor Plan – Level 2

Level 2 of both the 1916 and 1930 wings include gymnasium spaces. The 1916 wing includes a suspended running track above this level. There are no restrooms located on Level 2 and the elevator stops at this floor level. Narrow windows can be found on the east and west elevations in the center of each structural bay.



Floor Plan – Level 3

Level 3 of Wittich Hall is a two-story space connected to Level 2 below. The original suspended running track remains intact. Infilled skylights can be found over both gymnasiums. The large windows in the 1916 wing have been filled in with glass block. There is no elevator access to Level 3, nor are there restrooms provided at Level 3. The four stair enclosures are non-rated and are open from Level 3 to Level 1.



Roof Plan

The roof replacement project from 1985 replaced the entire built-up roofing system with a fully-adhered system including 3 ¼" of insulation board on top of the roof structure. Roofing membrane was brought up to the underside of the parapet stone. The skylights located over the 1930 gymnasium were replaced.

West Elevation – 1930 Addition (2014)

Northeast Entrance – 1916 Wing (2014)

East Elevation – 1930 Addition (2014)

East Elevation – 1916 Wing (2014)

South Elevation – 1930 Addition (2014)

2.1 Location, Proximity & Campus Context

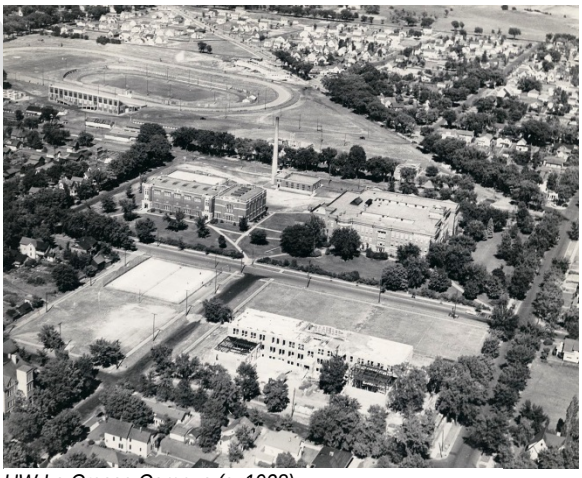
Wittich Hall is situated in the center of the UW-La Crosse campus. Located half a block west of East Avenue, there is no direct connection to a street. Wittich Hall is a key structure in the academic core of the university. Other nearby buildings include historic Graff Main Hall to the south, recently completed Centennial Hall to the west, and Cowley Hall to the north. The original heating plant, now the Archeology Center is located directly to the east of Wittich Hall.

Historically, Wittich Hall was bounded on two sides by street frontage. However, as the campus expanded, Pine Street and 17th Street were converted to pedestrian malls. The vacated 17th Street corridor is the primary pedestrian route on campus, linking the south end of the academic core to Wimberly Hall and the future Student Center to the north. At the centerpoint of this pedestrian mall is the Hoeschler Clock Tower, which sits just northwest of Wittich Hall.

The closest campus parking lots to Wittich Hall are Lot C-3, located due north of Cowley Hall and Lot C-2, located at Roger Harring Stadium at Veterans Memorial Field Sports Complex. Both lots provide disabled and metered parking, with the majority of the spaces primarily reserved for commuter passes.

The 2005 Campus Master Plan calls for a dramatic transformation to the area west of Wittich Hall over the next 20 years. Centennial Hall, constructed in 2011, is the newest academic facility to be constructed on the UW-La Crosse campus. A new pedestrian mall is planned for the area between Wittich Hall and Centennial Hall and will extend north to Badger Street. This plan creates a large green space west of Wittich Hall, which opens up the campus to the west entrances to the building and results in greater use of the historic main entries. It is envisioned that this new green space will be the "iconic green which will evoke a memorable impression of the institution." Wittich Hall plays a key role in this reorganization of space, with its historical facade anchoring the southeast end of the proposed new quad.

Hoeschler Clock Tower (2014)


UW-La Crosse Campus (c. 1938)

2.2 Site Utility Analysis

The existing Wittich Hall site is based on the typical La Crosse street grid pattern. Although the streets have been vacated on the west and north sides of the building, the existing utilities still follow the corresponding grid layout (storm, sanitary, water, and gas).

Topography and Storm Drainage: The topography surrounding Wittich Hall is primarily flat. However, Wittich Hall is raised higher than most buildings on the campus. Because of the historic relationship between the floor elevation of Wittich Hall and the site, the only accessible entrances are two ramps, one located on the west and another located on the east side of the building.

Storm: The existing campus utility plan identifies one storm drain connection from Wittich Hall to the existing sewer network. The storm service exits the building on the west side near the south entrance. Campus has verified that these connections are still in use and functioning.

The 2005 Campus Master Plan provides examples of sustainable design practices which includes reducing the quantity of stormwater runoff impacts. For renovations of existing buildings, one recommendation would be to disconnect roof drains wherever space allows and directing roof drainage and site runoff to bioretention areas. Landscape space constraints, the depth of existing storm connections to Wittich Hall, and other utility conflicts may make this strategy impractical for this site.

Water: There are currently three water services to Wittich Hall. Two 4" lines are located on the north end and one 4" line is located on the south end.

Sanitary: Two sanitary sewer lines serve Wittich Hall. One is located on the north end and the other on the south end of the building. Examination of these sanitary lines should be conducted in order to determine the condition and whether or not replacement is necessary.

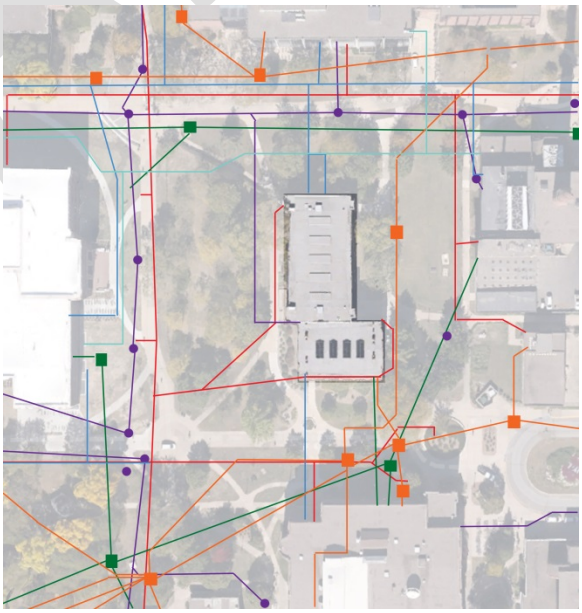
Service and Deliveries: Campus deliveries to Wittich Hall are primarily made at the entrances on the east, south, and west sides of the building. Campus mail deliveries are made using the two entrances on the west side of the building.

Steam: Steam service is currently located at the south end of the building and is connected to Graff Main Hall.

Chilled Water: There is currently no chilled water service to Wittich Hall.

Signal: The IT service enters the building at the far southeast corner and is routed to an MDF room located in the lower level.

Power: the power service enters the building at the far southeast corner.



Site Utility Plan (2014)

2.3 Landscape and Amenities

Continuous landscaping beds can be found around the perimeter of Wittich Hall. Plants, mulch, and decorative boulders are the primary makeup of these beds. There are currently two benches and two swings located along the west and south sides of the building. Multiple air conditioning units can also be found around the exterior of Wittich Hall.

Campus has expressed a desire for additional bike parking to be incorporated into the site design. Wittich Hall currently has two areas for bike parking. One on the east side and one on the west side. Each area includes parking for 12 bikes. Other close bike parking is located on the east side of Centennial Hall.

Area of Reflection (2014)

West Bike Parking (2014)

West Landscaping (2014)

3.1 Exterior Masonry

The original drawings from 1916 indicate that the exterior walls are comprised of multi-wythe brick masonry and structural wall tile.. The wall varies in thickness between 16" and 20". Limestone trim can be found at the window sill height of Level 1 as well as at the bottom of the parapet wall. Limestone copings are incorporated at the parapets.

There are no visual signs of cracking in the masonry. There are currently no control or soft joints in the masonry walls other than at the joint between the 1916 and 1930 wings. The mortar joints of the limestone trim appear to have been replaced with joint sealant. The masonry walls are finished on the interior with plaster.

According to the original drawings and on-site verification, there is currently no thermal insulation present in the exterior wall system.

The original plans do not indicate any flashing or weep holes in the base of the wall nor are they indicated above window and door openings.

Flashing above the steel angles over window and door openings appear to be non-existent according to the original drawings.

In general, considering the age of the building, the exterior walls are in very good condition. Upon visual inspection, no structural damage or instability can be found.

East Elevation – 1916 Wing (2014)

South Elevation – 1930 Wing (2014)

Recommendation: Exterior Masonry

It is recommended to thoroughly clean the brick and limestone along with pointing and repair of the mortar joints where needed. It is also recommended to remove and replace all caulked joints.

3.2 Exterior Windows

Based on field observations, it would appear that the majority of the windows in Wittich Hall are original. The exception being the glass block units in the upper floor of the 1916 gymnasium. The exterior finishes are deteriorating and as such the window frames and sashes are in need of repair or replacement.

Although the windows have little or no defects, they should be replaced with units of historical accuracy, improved thermal performance, and require as little maintenance as possible.

Storm windows currently cover a number of units as do screen windows.

The large windows located at the upper floor of the 1916 gymnasium have been replaced with glass block units. Historically these were tilt-out units.

Wittich Hall (unknown date)

Typical Window (2014)

Window Sill (2014)

Window Sill (2014)

Recommendation: Exterior Windows

Window replacement could be handled in two ways. First, a sash only replacement would provide modern-day, energy efficient glazing and could be done in a clad exterior – wood interior in order to provide a maintenance free exterior and historic interior. The existing wood brick molding would need to be covered or removed and replaced with metal of a similar profile. A second option would be to replace the entire window assembly. Since the interior woodwork is in good shape, this approach may not be the preferred option.

The aluminum windows currently located in the 1930 pool addition should be removed and replaced with units that match the historical character of the building.

Regardless of the approach, the windows should be restored to their original light color at the exterior.

Masonry openings should be cleaned thoroughly and new sealant be provided as required for a proper window installation.

Wittich Hall (unknown date)

Level 0 Window – 1916 Wing (2014)

Level 1 Pool Window – 1930 Wing (2014)

3.3 Exterior Doors

The primary entrance doors and transoms are of aluminum construction in an aluminum frame. The doors and transoms have been replaced with units containing insulated glass and are not historically accurate. Historic photos of these entrances depict wood doors with half-lite, arched glass panels.

The doors and frames are in good condition.

Recommendation: Exterior Doors

If historic restoration is desired, then these aluminum doors should be removed and replaced with a period appropriate door. Although it is unlikely that the university would want wood doors with a painted or stained exterior finish, aluminum-clad wood doors may be an appropriate option.

If historic restoration is not being sought, then these doors should remain in place. Inspection of all sealants and hardware functions is necessary.

Entrance Doors (2014)

3.4 Roofs

According to the 1985 roof replacement drawings, the existing roof consists of two layers of insulation for a total insulation thickness of 2 ¾" plus a ½" recovery board. The adhered sheet membrane roofing with hypalon coating was placed up the inside face of the parapet walls and terminated by a metal flashing. The roofing system also extends over the skylights of the 1916 wing.

The roof structure is sloped to the drains and there is currently thru-wall roof scuppers used for overflow.

Parapets are solid brick with a stone coping. The roofing membrane extends up the parapet wall a minimum of 8" and in some instances, extends to the underside of the stone coping.

Historical research along with on-site observations, indicate that the original skylight openings are still present. Evaluation of reinstating these skylights can be found in the Historic Structure Report.

Roof D (2014)

Roof Parapet (2014)

Recommendation: Roofs

Our recommendation is to remove all roofing materials down to the original wood decking, install an appropriate vapor barrier, roof deck insulation, and a fully adhered ethylene-propylene-diene-monomer (EPDM) membrane.

It is recommended to replace all metal flashing with stainless steel. Recommended flashing installation at the parapet would be to provide a through-wall flashing under the parapet coping rather than relying on sealant in a reglet joint. The original stone coping should be salvaged and reinstalled once the new flashing is in place.

Increasing the insulation thickness may pose a challenge as the vertical height available from the roof deck to the parapet is minimal in some locations.

Remove any mechanical units that are no longer needed.

3.5 Entrance Stairs

The exterior stairs located at the south, east, and west entrances appear to have been recently replaced. The stairs themselves are made of concrete and are in good condition.

The railings serving the northwest entrance are black in color and are installed to the top of concrete walls flanking each side of the stair.

The railings serving the southwest entrance are black in color and are installed to the top of concrete walls flanking each side of the stair. This entrance has an accessible ramp that was added in 1978.

The northeast stair is also constructed from concrete and has black pipe railings mounted to the top of concrete walls along each side of the stair.

The southeast stair, constructed of concrete, also includes an accessible ramp to the entrance.

A noticeable difference between the current configuration and the historic photographs is that the masonry seat walls along the sides of the west stairs have been removed.

Currently, there is no slip resistant treatment present at the four entrance stairs. The university has indicated that the concrete stairs can be hazardous in the winter season.

Recommendation: Entrance Stairs

Slip resistive nosings are recommended at all four entrance stairs. An abrasive nosing should be applied to the leading edge of each tread to provide slip resistance and visual distinction.

Northwest Entrance Stairs (2014)

Northwest Entrance Stairs (c. XXXX)

Northeast Entrance (2014)

4.1 Interior Walls

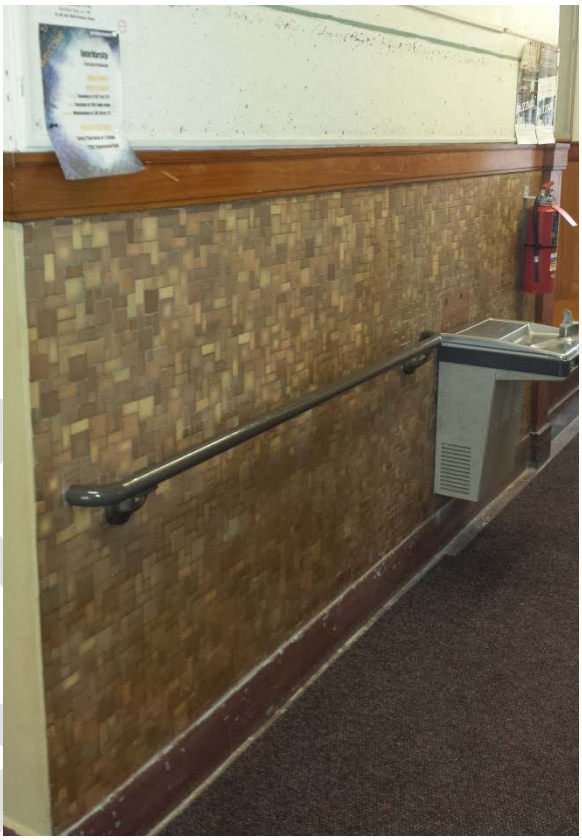
The original drawings of Wittich Hall indicate two wall types used in the building – brick and tile. The renovation project in 1970 introduced wood framed interior walls at the new office spaces.

All the original walls in the building were finished with plaster and overall, the plaster appears to be in good condition. There are areas where cracking is present in the walls beneath the large span roof trusses over the 1916 gymnasium. At this time it is not known if these cracks are structural related.

Moisture damage can be seen in each corner of the 1916 gymnasium near the ceiling where water infiltrated the roof and walls through failed roof drain systems.

Recommendation: Walls

Removal of the plaster finish is recommended at areas of deterioration. All interior walls should be carefully analyzed to determine if they are load bearing or not. The remodeling of this building will likely remove most of the existing interior walls.



Level 1 Interior Partition (2014)

Level 0 Interior Partition (2014)

4.2 Floors

There are numerous flooring types within Wittich Hall. First, terrazzo flooring can be found in the entrances and main corridors. The terrazzo in in fair condition but appears to have been painted. Floor tile can be found in a number of locations. Per the hazardous materials assessment provided by UW-La Crosse, the tile and adhesive is likely to be asbestos containing material and will require special treatment for removal.

Interior Corridor – 1930 Wing (2014)

Carpeting can be found in office and classroom spaces as well as in the hallway between the locker rooms and pool.

Per the original drawings, maple flooring is currently located in the gymnasium. A plywood floor is located at the suspended running track.

Recommendation: Floors

The floor tile and mastic located throughout the building contains asbestos and should be carefully removed prior to demolition.

Terrazzo flooring in the entrances and corridors should be cleaned and repaired as needed.

4.3 Ceilings

Various ceiling types and heights can be found in Wittich Hall. Original plaster ceilings can be found throughout the building. A wood picture molding can be found in a number of spaces. Suspended acoustical tile ceilings are located in the office spaces.

Water Damage at Gymnasium Ceiling – 1916 Wing (2014)

Recommendation: Ceilings

The project scope requires new building infrastructure (HVAC, Plumbing, and Electrical). As a result, it is recommended that all suspended ceilings be removed.

Verification will be needed in order to determine if the original plaster ceiling needs removal or not. Code requirements for floor separations should be considered before any removal of the plaster ceiling as well as acoustical separation.

Plaster damage located in the gymnasium should be repaired.

Gymnasium Roof Truss – 1916 Wing (2014)

Picture Rail Molding (2014)

4.4 Stairs

Currently, there are four stairs within Wittich Hall. The stairs are located at the primary entrances to the building and create lobby spaces due to their adjacency to one another.

The two stairs located along the west side of the 1916 wing are 58" wide and appear to be originally constructed with terrazzo treads and risers that have been painted. The paint has worn off on each tread. There is currently no slip resistance or visual strip at the stair treads. Metal railings are provided on each side of the stair and currently do not extend beyond the top or bottom riser.

The two stairs located along the east side of the 1916 wing are 33 ½"" wide and appear to be originally constructed with terrazzo treads and risers that have been painted. The paint has worn off on each tread. There is currently no slip resistance or visual strip at the stair treads. Metal railings are provided on each side of the stair and currently do not extend beyond the top or bottom riser.

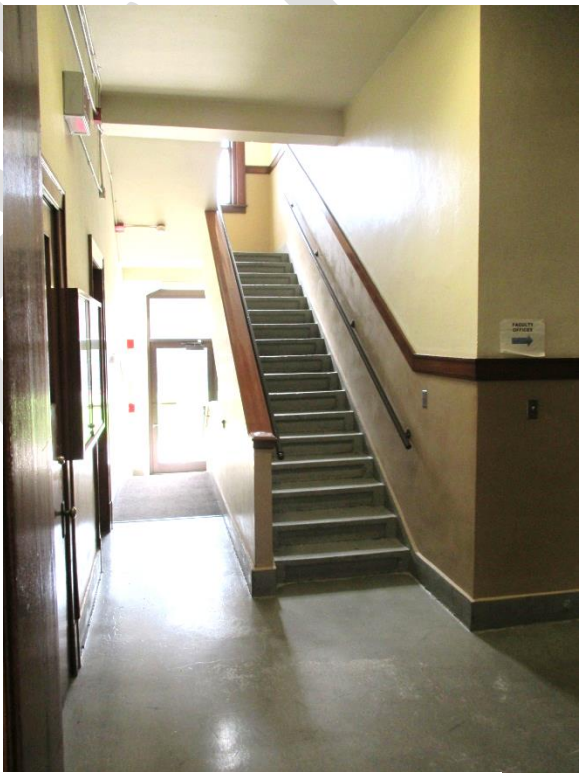
All four stairs have a partial height wall at Level 1 that is capped with wood.

All four stairs are open from Level 0 to Level 3 and none of the stairs are located within fire rated enclosures.

Recommendation: Stairs

It is recommended that the life-safety issues related to each stair be addressed. An abrasive nosing should be applied to the west stairs. It is also recommended that each of these stairs receive new handrails that meet current codes and standards. The two stairs along the east side of the building are too narrow to meet code and therefore cannot contribute to exiting requirements.

Northwest Interior Stair (2014)



Northeast Interior Stair (2014)

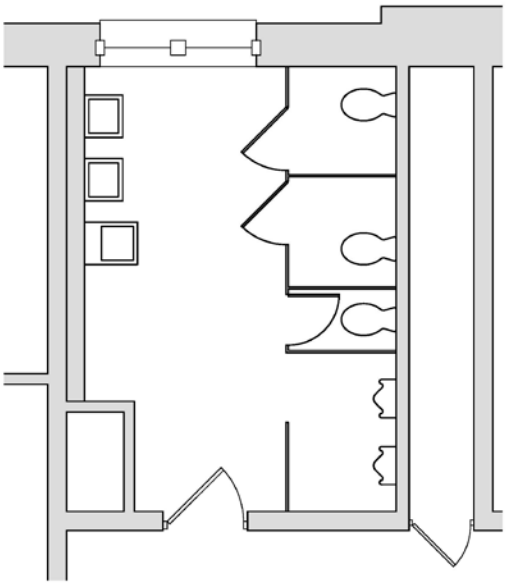
4.5 Restrooms

Public restrooms are located on Level 1 only. Restrooms associated with locker rooms are located on Levels 0 and 1. The restrooms on Level 1 were renovated in 1978 by adding grab bars. While the grab bar addition may have been sufficient in 1978, the size of the toilet stalls is still inadequate to today's codes and standards.

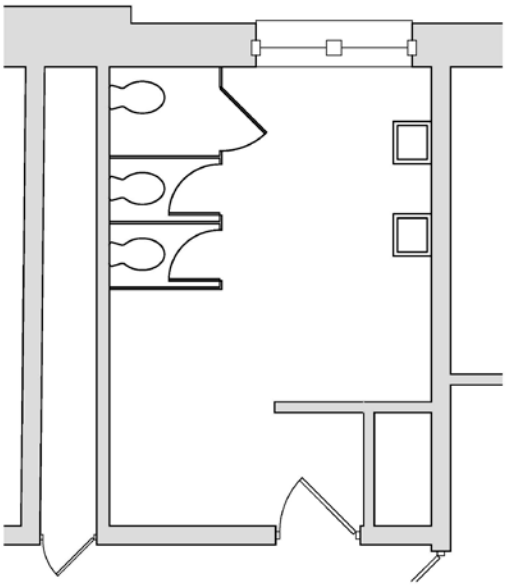
Recommendation: Restrooms

The restrooms should be increased in size to accommodate the number of building users and they should also meet current ADA regulations and standards.

Because ADA compliance goes beyond providing adequate area within the toilet stalls and takes into account everything from lavatory height to door hardware, it is recommended that the existing restrooms in Wittich Hall be completely renovated to accommodate these requirements.



Men's Restroom Plan (2014)



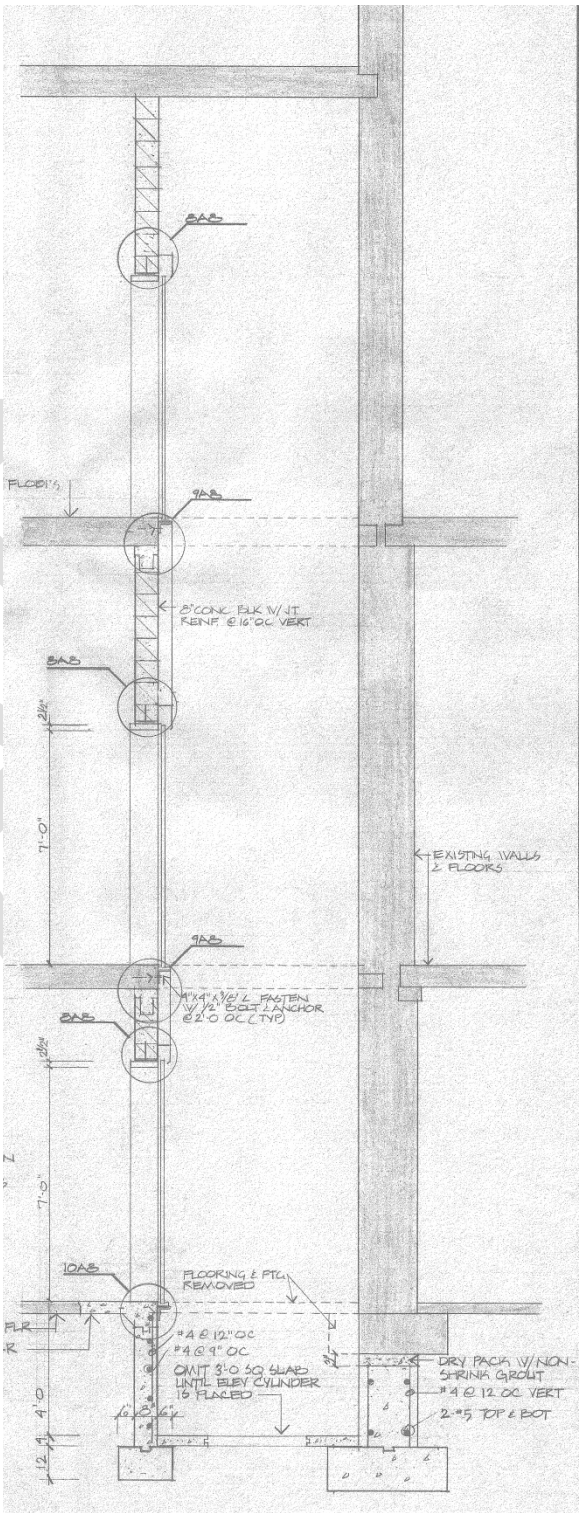
Women's Restroom Plan (2014)

4.6 Elevators

Wittich Hall currently has one elevator which was added in 1978. The hydraulic elevator serves Levels 0-2 only and has a capacity of 2,100 pounds. The cab size is roughly 70" x 51" and the door is 36" wide. An elevator equipment room is located on Level 0.

Recommendation: Elevator

The limited shaft size may determine if direct replacement is feasible. If the original elevator shaft is reutilized, the size may not accommodate a new elevator cab that permits gurney use for emergencies. Elevator access to Level 3 will be required, thus limiting the use of the existing elevator.



Elevator Construction Drawing (1978)

4.7 Accessibility

Wittich Hall's raised entrances create unique challenges in regards to building accessibility. Currently, the accessible entrances are located on the east and west sides of the building. The east entrance also includes an interior ramp that rises up to Level 1.

The west entrance is equipped with an automatic door operator. The button for this operator is located on the metal pipe railing on the exterior ramp. The east entrance is also equipped with an automatic door operator. The button for this operator is located on the building, just north of the entrance door.

Looking beyond accessible routes, Wittich Hall also has other accessibility deficiencies including non-compliant door hardware, room signage, doorway maneuvering clearances, handrail heights and extensions, and lacks areas of rescue assistance. There is currently no accessible means to Level 3.

Recommendation: Accessibility

Wittich Hall, in its current configuration, has an accessible entrance and path of travel but not to all levels. At a minimum, accessible restrooms should be provided throughout the building. Accessible door hardware (lever style) should also be provided throughout the building. All room signage should be replaced with ADA compliant signage that includes braille. A new elevator serving all floors is required.

5.1 Structural Evaluation – Overview

Wittich Hall is located on the University of Wisconsin, LaCrosse campus. The building was originally built in 1916 as the Physical Education Building. The building measures approximately 140 feet by 69 feet. The structure is a combination of concrete and steel framing. Foundations are concrete spread footings and continuous wall footings.

In 1930, an addition was made to the original building. This addition housed the swimming pool and gymnasium. This addition measures approximately 63 feet by 93 feet. The structure is a combination of concrete and steel framing. Foundations are concrete spread footings and continuous wall footings.

In 1970, a remodel was done and as part of the scope of that project, the pool in the original building was filled with dry sand and a concrete slab was poured over the top.

From the existing plans, the ground floor slab on grade appears to be 3" at the original building and 4" in the addition with a 1" cement finish. Reinforcement was not specified in either set of plans.

In the original building, the first floor framing consisted of a concrete pan joist with a clay tile form and 2" concrete slab with an approximate 3" cinder concrete topping. The depth of the clay tile varies from 4" to 6". The concrete joists are supported on bearing walls and concrete beams and columns. The second floor framing consisted of a concrete pan joist with a clay tile form and 2" concrete slab with an approximate 3" cinder concrete topping. The depth of the clay tile varies from 6" to 10". The concrete joists are supported on bearing walls and concrete beams and columns. The third floor framing consisted mostly of 5" solid concrete slab and concrete beams for the upper part of the gymnasium including the running track and seating area. There are no interior supports for this framing and all the load is transferred to the exterior load bearing walls. The center of this floor is open to the main gymnasium floor below. The floor at each end of the gymnasium is of a concrete pan joist with a 6" clay tile form and 2" concrete slab with an approximate 3" cinder concrete topping. The concrete joists are supported on bearing walls and concrete beams and columns. The roof over the gymnasium is framed with steel trusses and a concrete pan joist system with 7" clay tile and a 2 ½" concrete slab. The roof on either side of the gymnasium is a concrete pan joist with 4" tile and a 2" concrete slab.

1930 Gymnasium Roof Structure (2014)

In the addition, the first floor framing consisted of a concrete pan joist with a clay tile form and 2" concrete slab. The depth of the clay tile varies from 3" to 8". The concrete joists are supported on bearing walls and concrete beams and columns. The pool is a cast concrete structure with a 16" thick walls and an 8" concrete slab on grade. There is also a cast in place concrete seating area supported by concrete beams and columns. The second floor framing consisted of a concrete pan joist with a clay tile form and 2" concrete slab. The depth of the clay tile varies from 6" to 8". The concrete joists are supported on bearing walls and concrete beams and columns. The beams over the pool area are steel beams enclosed in 1 1/2" of concrete and nested with ¼" diameter bars. The beam sizes at approximately 24" deep and weigh 141 pounds per foot. The roof over the gymnasium is framed with steel trusses and steel channels and decking.

The outside facade for both buildings consists of brick masonry and cut stone.

5.2 Structural Evaluation – Building Condition

The exterior façade is in very good shape. Both the brick and cut stone are generally in very good condition. The mortar associated with the brick and the cut stone is also in very good condition. There appeared no problems caused by excessive or differential settlement.

No distress on the exterior walls was detected. No signs of settlement for the building were detected.

There was no sign of lateral force distress such as cracks in the interior plaster for either building, except in the gymnasium of the 1930 addition. In addition to the cracks, there were some signs of water damage at the roof but did not seem to be causing any structural concerns. While there were some cracks on all the terrazzo floors, they are minor cracks which had no structural impact. These cracks are expected for a building of this age.

5.3 Loading

There were no design loads indicated, nor were there any allowable or presumptive soil bearing pressure indicated on the original drawings or the 1930 addition drawings.

Although no loads were indicated in the either set of drawings, an approximation of the design loads in those days can be obtained in the following tables, which were included in a Structural Engineers' Handbook published by McGraw-Hill in 1918.

From the historic load tables – Schneider and Chicago City, it can be surmised that the following loadings are appropriate during the time of design of the building.

1.	Office	50 psf
2.	Assembly areas	100 psf
3.	Gymnasiums	100 psf
3.	Class rooms	50 psf
4.	Wind Pressure	20 psf

For snow loading at the time of the original design, snow loads were determined based on the latitude of the building location and slope of the roof. For slopes of 4" or less per foot, a snow load of 30 psf was required and if the slope was greater than 4" per foot, a snow load of 20 psf was required.

1916 Gymnasium Roof Structure (2014)

5.4 Proposed Floor Systems

The new floor framing in both buildings will need to be shallow due to existing floor to floor heights and light weight to limit the amount of new loading applied to the existing structures. The use of steel beams and columns with steel joists with a form deck and concrete topping would accommodate both design requirements. The grid system for the new columns will need to align with existing columns or bearing walls as much as possible. If large opening spaces below do not allow for efficient column transfers, new columns and footings will need to be installed. The location of these columns can be placed in existing or new partition walls.

5.5. Summary

In summary, the building is in a very good structural condition. Further, in view of the historical design loads, which are comparable to the current code, the building is suitable for its intended future use as envisioned by the design team.

6.1 Code Compliance

Any work performed at Wittich Hall will be required to comply with the Wisconsin State Building Code which includes the International Building Code and International Existing Building Code as adapted by the State Code. The currently applicable versions of these codes are the 2011 State Code and the 2009 International Codes. In addition to the Wisconsin Building Code there are requirements for any building projects governed by the Department of Facilities Development.

The following assessment of Code requirements is based upon the Conceptual Analysis included within this document. Given the extent of the work to be performed the majority of compliance is based on the requirements of the International Building Code with only minimal allowances granted by the International Existing Building Code.

6.2 Use and Occupancy

The existing building is classified as a mixed occupancy combination of Assembly (A-3 Gymnasium/Lecture Halls and A-4 Swimming Pools) and Business (B Education above 12th Grade). The Rehabilitation of the building does not change the occupancy type but simply removes the A-4 usage from the facility. Other code requirements are based on the revised occupancy classifications of A-3 and B.

6.3 Special Detailed Requirements

The Concept for the Rehabilitation of Wittich Hall includes unenclosed openings between two floors. These are classified as Atriums. The inclusion of any atrium in a building will require the building to have a sprinkler system installed throughout. If an atrium does not connect more than 2 stories a smoke control system is not required for the atrium. This also includes where multiple atriums connecting adjacent floors result in more than 2 stories being connected, even when the openings are not stacked. An atrium that does not connect more than 3 stories does not require additional separation from the adjacent areas on the connected floors.

6.4 General Building Heights and Areas

The existing building is an approximately 16,000 square foot per floor, masonry building which is classified as Type IIIB Construction by the Building Code. The Occupancy Classification (See 7.2) in combination with this Construction Classification dictates the allowable square footage per floor of a building. The various Occupancy classifications are not separated by fire resistance rated construction which means that the restrictions of the more stringent occupancy are to be met. Because it does not have a sprinkler system installed the area of the building would be limited to 16,625 square feet per floor with modifications allowed due to fire separation.

The need for a sprinkler system to be installed is governed by another section and is required for the Rehabilitation project. With the installation of a sprinkler system in the building the allowable square footage per floor is 35,625 square feet.

6.5 Construction Types and Fire Separation

The construction of the existing building is masonry and as such is a Type IIIB. Structural members in this type of construction are not required by virtue of the construction to be rated with the exception of exterior bearing walls are to be 2 hour fire resistance rated. The fire separation distance of this building from adjacent buildings is greater than 30 feet for the entire perimeter of the building, therefore, there are no additional requirements for exterior structural elements to be fire resistance rated.

6.6 Fire Resistance Rated Construction

Also based on the separation distance from Wittich Hall to other buildings is the percentage of the exterior wall that is allowed to be comprised of openings (ie: windows and doors). With the distance greater than 30 feet there is no limit to the amount of openings allowed in this facility. These openings are not required to be rated or protected at this separation distance, even in bearing walls, unless required by other sections.

Vertical shafts within the building, not classified as atriums, are required to be separated from other areas of the building by fire-resistant construction.

This includes stair shafts, mechanical or plumbing chases, and any other openings between floors. If 3 or fewer stories are connected by the opening then the fire resistance rating is to be 1 hour. Openings between 4 or more stories require a fire resistance rating of 2 hours. In existing building situations where there is a minimal amount of alteration work done on a given floor then the rating for these vertical openings may be reduced, this does not apply to this project. If the shaft enclosures does not continue to the underside of the roof sheathing or deck a cap of equivalent fire rated construction to the shaft may be constructed.

Openings in these shaft enclosures are required to be 1 ½ hour rated in the 2 hour rated construction shafts. In the 1 hour rated shaft construction where the opening is used for egress the openings are also to be 1 hour rated, where the opening is used for other purposes then the openings may be ¾ hour fire resistance rated.

Exterior walls of these vertical enclosures, in general, are not required to be rated. However, where the non-rated exterior wall of the enclosure is within 10 feet horizontally of an adjacent wall located at an angle less than 180 degrees then the adjacent wall and openings must be constructed with a minimum of 1 hour fire resistance rating. An alternate to rating the adjacent wall is to continue the required rating of the enclosure for the affected area of the exterior wall and openings of the enclosure.

6.7 Sprinkler System Requirements

As an existing building alteration any floor with a work area greater than 50% which would require a sprinkler system in accordance with the International Building Code will require a sprinkler system to be installed in the work area. A sprinkler system is required for an Assembly A-3 facility where the area exceeds 12,000 square feet or has an occupant load of 300 people or more. Because of the extent of work with this Rehabilitation and the size of the project a sprinkler system is required to be installed throughout the building. Concealed spaces which are not accessible in existing buildings do not require the installation of the sprinkler system

6.8 Occupant Load

The occupant load of rooms is based on the intended use of each space. The Building Code assigns a square footage per person value to each use which may be altered by the intended program for the space. The following outlines the occupant loads for each room and floor within the building:

Room	# of Occupants
Lower Level	
SBDC Break-Out #1	15
SBDC Break-Out #2	15
SBDC Break-Out #3	15
Building Support	1
Executive Training	35
Gathering Space	50
Counseling #1	1
Counseling #2	1
Counseling #3	1
Conference Room	30
Assistant to Outreach	1
Outreach Manager	1
Assistant to Director	1
Director	1
Work Room	1
Reception/Waiting	4
Library	3
International Center	5
Mechanical Room	8
Building Support	1
	190
First Story	
Dean's Conference Room	35
Student Investment	25
Break-Out #1	20
Break-Out #2	20
Break-Out#3	15
Work Room	5
Reception	4
Students	2
Development Officer	1
International Director	1
Dean's Assistant	1
Assistant to the Dean	1
MBA Director	1
Associate Dean	1
Dean	1
Mail Room	1
Open Study/Vending	60

Research Methods	4
Tutor #1	4
Tutor #2	4
Tutor #3	4
Open Study (IGR)	6
Group Study #1	12
Group Study #2	12
Group Study #3	12
Student Tax	1
Student Organization #1	1
Student Organization #2	1
Student Organization #3	1
	256
Second Story	
Collaborative Learning	15
Faculty Offices x20	20
Ad Hoc Offices x4	4
Reception/Waiting	10
Work Room	1
Collaborative Learning	30
Shared Lounge	20
35 Seat Caseroom	40
25 Seat Caseroom	30
25 Seat Caseroom	30
Collaborative Learning/Vending	60
	260
Third Story	
Collaborative Learning	15
Faculty Offices x35	35
Visiting Faculty Offices x2	2
Graduate Assistants	6
Work Room	1
Reception/Waiting	8
Collaborative Learning	16
	83
Building Total	789

These occupant loads inform the calculations and requirements for egress widths, number of exits, plumbing fixture counts, and other code compliancy decisions.

6.9 Egress

Any space or area serving 50 or more occupants requires 2 means of egress, doors shall swing in the direction of egress, and panic hardware will be provided. Spaces or areas, including buildings as a whole, which have more than 500 occupants, require 3 means of egress. Based on the occupancy loads each floor of the building will require 2 means of egress. All doors, other than exterior egress doors, throughout the building are to be a minimum of 32 inches clear. All egress stairs are to be a minimum of 44 inches in width. Existing stairs that are not a part of the egress path do not need to meet the width requirements where technically infeasible. The building as a whole requires 3 means of egress with a combined width of 157.8 inches. If 3 means of egress are provided then each of these is to be a minimum 52.6 inches. If additional doors are provided the minimum width may be reduced.

Two means of egress from a space, where 2 or more are required, shall be separated from each other in a building provided with a sprinkler by a minimum distance equal to 1/3 of the space being egressed.

Stairs are to have a handrail on each side. Where handrails are not continuous they are to have an extension beyond the top riser of 12 inches and shall continue to slope for the distance of one tread beyond the bottom riser and shall return to the wall, guard or walking surface. The handrail shall be mounted between 34 and 38 inches above the stair tread nosings.

Ramps, where provided, are to be a maximum of 1:12 slope. The maximum continuous rise of any ramp shall be 30 inches. Means of egress ramps are to be 44 inches in width with handrails on both sides when the rise is greater than 6 inches. Landings will be provided at the top and bottom of the ramp and shall have a length of minimum 60 inches.

Guards of 42 inches in height shall be provided at any change in elevation of 30 or more inches. The guard will prevent passage of a 4 inch sphere.

Means of egress shall be illuminated at all times that the space served by the means of egress is occupied. Exit signage shall designate the means of egress travel path.

The common path of egress travel to an exit is not to be longer than 75 feet. Exits, or exit access elements such as enclosed stairs, shall be located so that the path of travel does not exceed 250 feet from any point in the building.

A mechanical room larger than 500 sf with a furnace, boiler, or incinerator with any fuel-fired equipment

exceeds 400,000 Btu input, shall have 2 means of egress. One of these may be a fixed ladder or alternating tread device. The exits must be separated by a distance of a minimum of ½ the diagonal overall measurement of the room. Doors shall swing in the direction of travel.

6.10 Accessibility

Any element of the building which is touched by alteration is to be made accessible to the fullest extent possible. Primary function areas and the route to them are to be accessible. This route is to include toilet facilities and drinking fountains serving the function. The cost of providing an accessible route is not required to exceed 20 percent of the costs of the alteration affecting primary functions of the building.

If possible, 60% of the entrances are to be accessible. The existing building has a raised main level which presents challenges to meeting this requirement. There are 4 entrances to the building with the south door qualified as an exit not entrance. There are previously constructed ramps at the two southern-most entrances to the building. As existing accessible paths that are not intended to be part of the alteration they may remain in their current configuration regardless of whether they are compliant with the current requirements for accessible ramps. A third accessible entrance to the building should be provided if possible to meet the 60% requirement.

As means of egress from the building, 2 of the exterior exits are required to be accessible. The 2 existing ramped egress paths meet this requirement. However, the south egress from the building is also a required to be accessible since it is one of 2 required means of egress from the adjacent space. Therefore, the exterior will require either a ramp or an exterior area of assisted rescue.

Once within the building there should be an accessible route to all floors, stairs to qualify as accessible are to be 44 inches in width with the installation of a sprinkler system throughout the building. Although the Wisconsin Building Code does not require areas of refuge for this project, it is a DFD requirement to provide them. The second floor requires a total of 2 areas of refuge, each of the other floors with egress by stair require one area of refuge each. Each area of refuge space is to be 30 x48 inches and not impede on the means of egress width. If an element in the building, ie: toilet room, stair, etc., is not accessible signage shall be provided directing occupants to equal elements which are accessible.

Each toilet room in the building shall be accessible and provide a minimum of one of each type of fixture, element, control, or dispenser which is accessible. In assembly occupancies, such as this, where more than 6 fixtures, combined men's and women's, are required then at least one accessible family or assisted-use toilet room is required. Drinking fountains shall be provided at both the standing height and wheelchair accessible height.

Other elements along accessible routes and in primary use spaces, including door hardware, signage, counter heights, are all required to meet accessible guidelines.

6.11 Plumbing Fixtures

The number of plumbing fixtures is based on the occupant load for each intended purpose within the building. For Wittich Hall the occupant load is split between the Assembly and Business and the breakdown of the occupants as it translates to a plumbing fixture count is as follows:

Assembly (A-3) = 591 occupants

Men's	1:125	3 fixtures
Women's	1:65	5 fixtures
Lavatory	1:200	3 fixtures
Drinking Fountain	1:500	2 fixtures

Business (B) = 198 occupants

Men's	1:25/50	3 fixtures
Women's	1:25/50	3 fixtures
Lavatory	1:40/80	4 fixtures
Drinking Fountain	1:100	2 fixtures

Total Fixture Count for Building

Men's	6 fixtures
Women's	8 fixtures
Lavatory	7 fixtures
Drinking Fountain	4 fixtures

In accordance with the Wisconsin Building code, if fixtures above the required number for men in the assembly occupancy are provided then twice the

number of additional fixtures are to be provided for women. Family or assisted use fixtures may be included in the fixture count for either gender of the assembly fixture count.

7.1 Space & Concept Analysis

Paulien & Associates performed a review the past programming effort by UW-La Crosse with Pasture Consulting (2011). The space allocation program from that study was used as the basis for this component of the Wittich Hall facility study. A work session was held with the Dean and Associate Dean of the College to discuss the Pasture Consulting space allocation and it continued relevance to the College. No major changes to the program were discussed at this work session and the primary focus of the original space program was confirmed. No additional work sessions were held with faculty or staff of the College.

The consultant has performed several UW System pre-design studies and using the original space allocation from the Pasture report as a base, made several adjustments based on solid planning principles. These adjustments include the following:

- Adjusted the ASF for office, workrooms and other office facilities to reflect recent UW System guidelines.
- Added an ASF for suite circulation as access to office and support space in facility renovations usually requires additional ASF to accomplish.
- Reallocated some "instructional" space to student space for clarity.
- Made the assumption that most SBDC meeting rooms can be used as a College resource.
- Reviewed the projected quantity of offices per the conversation with the Dean to verify this component.
- Assume that the CoBA will continue to use classrooms in Centennial Hall as the primary lecture environment with only two case room configured classrooms in the space program for Wittich Hall.

The following table shows the comparison of the Pasture space allocation program with the Paulien & Associates review of that program.

Preliminary Design Report

Revised/Reviewed Space Tab

Space Description	Reviewed Total ASF
Dean's Office	2,767
SBDC	5,269
Office & Service	12,749
Academic Space	2,550
Study Space	3,480
Other Academic Space	1,920
Total:	28,735
Grand Total from Report:	28,240
Difference Over Report:	495

The overall difference from the original Pasture space allocation program and the reviewed program by Paulien & Associates shows only a 495 ASF discrepancy. Unless a major omission occurred in the initial program the outcome of that effort appears to be within the range the consultant would expect for this project.

The College of Business Administration is one of three colleges at the University of Wisconsin-La Crosse. The CBA consists of six academic departments and one non-academic department which is the Small Business Development Center. The college has seven academic programs including an International Business major. The following tables show the reviewed space allocation program by space typology. The Small Business Development Center (SBDC) at the University of Wisconsin-La Crosse is part of a statewide network of SBDCs working with business owners and entrepreneurs to facilitate business growth and improvement, and to launch successful new companies. Through no-cost consulting, low-cost entrepreneurial education, and strategic facilitation, SBDC experts serve as resources for small and emerging mid-size companies. Spaces allocated as Study Space are those that provide additional resources for learning and collaboration outside of the classroom. These include break out rooms, group study rooms, open study lounges, and tutoring spaces. Building support space has not been identified in the current programming effort but will include spaces such as IT and custodial closets, building storage, equipment storage, and loading/delivery storage.

College of Business Administration - Program Summary

Ref No.	Functional Area	TOTAL AREA
1	Dean's Office	2,767
2	Small Business Development Center	5,269
3	Office & Service	12,749
4	Academic Space	2,550
5	Study Space	3,480
6	Other Academic Department Space	1,920
	TOTAL UNIT ASF	**28,735**

1 - Dean's Office

Ref No.	Functional Area	No. of Occupants	ASF per Occupant	ASF per Space	No. of Spaces	Total ASF	TOTAL AREA
	Office						**895**
	Dean	1	135	135	1	135	
	Associate Dean	1	120	120	1	120	
	MBA Director	1	120	120	1	120	
	Assistant to Dean	1	120	120	1	120	
	Dean's Assistant	1	100	100	1	100	
	International Director	1	120	120	1	120	
	Development Officer	1	120	120	1	120	
	Student Workers	1	30	30	2	60	
	Office Support						**1,872**
	Reception	4	25	100	1	100	
	Work Room	1	240	240	1	240	
	Mail Room	1	100	100	1	100	
	File Storage	1	240	240	1	240	
	Conference Room	20	35	700	1	700	
	Conference Room	8	30	240	1	240	
	Suite Circulation @ 10%				1	252	
					TOTAL UNIT ASF		**2,767**

2 - Small Business Development Center

Ref No.	Functional Area	No. of Occupants	ASF per Occupant	ASF per Space	No. of Spaces	Total ASF	TOTAL AREA
	Office						**900**
	Director's Office	1	135	135	1	135	
	Assistant to Director	1	120	120	1	120	
	Outreach Manager	1	120	120	1	120	
	Assistant to Outreach Manager	1	120	120	1	120	
	Counselor	1	135	135	3	405	
	Office Support						**540**
	Library/Materials	1	200	200	1	200	
	Reception	4	25	100	1	100	
	Work Room	1	240	240	1	240	
	Open Laboratory						**3,829**
	Executive Training Room	30	35	1,050	1	1,050	
	Breakout Rooms	10	25	250	3	750	
	Conference Room	20	30	600	1	600	
	International Center	1	200	200	1	200	
	Gathering Space	50	15	750	1	750	
	Suite Circulation @ 10%				1	479	
						TOTAL UNIT ASF	**5,269**

3 - Office & Service

Ref No.	Functional Area	No. of Occupants	ASF per Occupant	ASF per Space	No. of Spaces	Total ASF	TOTAL AREA
	Office						**9,360**
	Faculty & IAS	1	120	120	55	6,600	
	Ad Hoc	1	120	120	6	720	
	Visiting Scholars	1	120	120	2	240	
	Grad Assistants	1	80	80	6	480	
	Growth Faculty	1	120	120	6	720	
	Emeriti	1	120	120	1	120	
	ADA	1	80	80	6	480	
	Office Support						**3,389**
	Reception/Waiting	3	30	90	4	360	
	Files/Storage	1	120	120	4	480	
	Shared Workrooms	1	120	120	4	480	
	Shared Lounge	1	400	400	1	400	
	Student IT Worker	1	110	110	1	110	
	IT Storage	1	100	100	4	400	
	Suite Circulation @ 10%				1	1,159	
						TOTAL UNIT ASF	**12,749**

4 - Academic Space

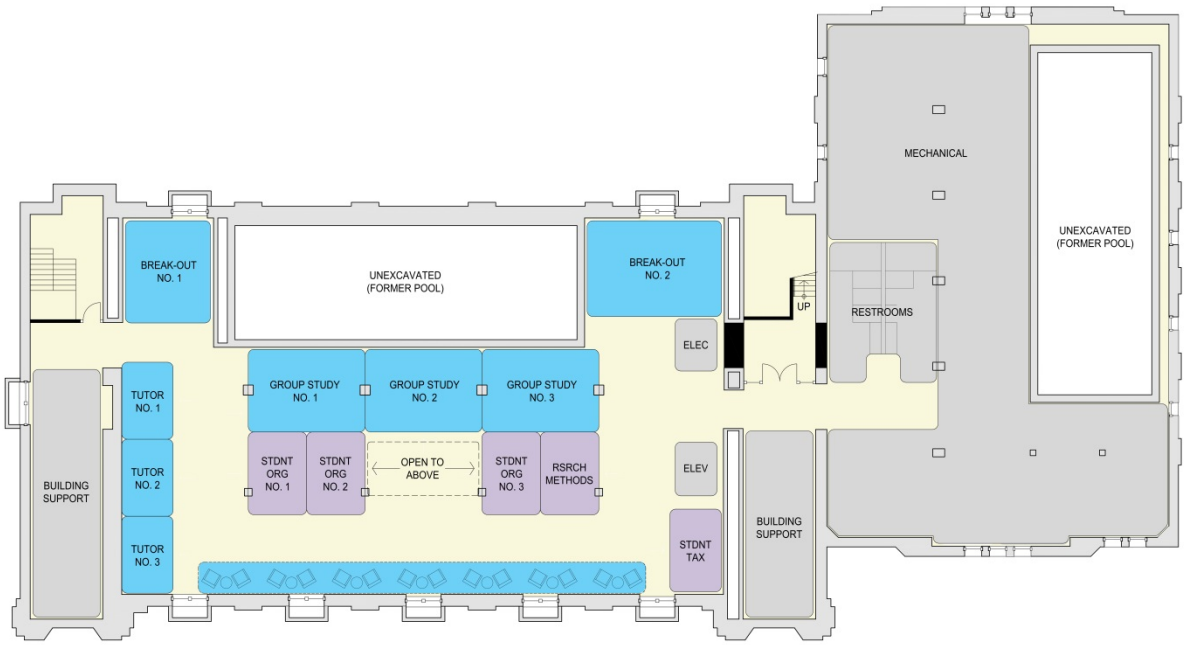
Ref No.	Functional Area	No. of Occupants	ASF per Occupant	ASF per Space	No. of Spaces	Total ASF	TOTAL AREA
	Academic Space						**2,550**
	Business Advisery Counsel	25	30	750	1	750	
	Case Room	25	30	750	1	750	
	Case Room	35	30	1,050	1	1,050	
						TOTAL UNIT ASF	**2,550**

5 - Study Space

Ref No.	Functional Area	No. of Occupants	ASF per Occupant	ASF per Space	No. of Spaces	Total ASF	TOTAL AREA
	Study Space						**3,480**
	Break Out Rooms	10	30	300	3	900	
	Independent Group Rooms	6	30	180	6	1,080	
	Study Lounges	20	30	600	2	1,200	
	Tutoring/Learning	1	100	100	3	300	
						TOTAL UNIT ASF	**3,480**

6 - Other Academic Department Space

Ref No.	Functional Area	No. of Occupants	ASF per Occupant	ASF per Space	No. of Spaces	Total ASF	TOTAL AREA
	Other Academic Department Space						**1,920**
	Research Methods	4	30	120	1	120	
	Student Investment	1	600	600	1	600	
	Student Tax Association	1	200	200	1	200	
	Various Student Organizations	1	200	200	3	600	
	Vending/Lounge	1	200	200	2	400	
						TOTAL UNIT ASF	**1,920**



Conceptual Floor Plan – Level 0

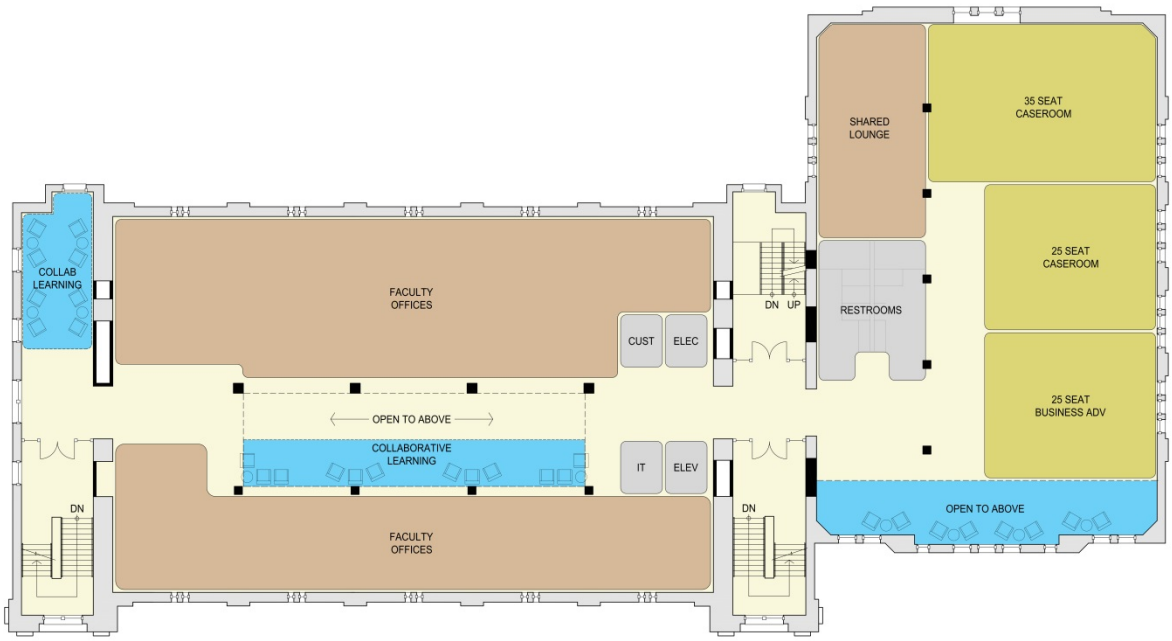
The majority of Level 0 is be primarily used for student activities including collaborative learning spaces, break-out rooms, group studies, tutoring, and student organizations.

While Level 0 is currently serviced by two existing stairs, these stairs will require reconfiguration in order to work with the floors above. These two stairs will require rated enclosures which are shown here to be done using a fire-rated glazed assembly in order to maintain an unobstructed view of the stair. Offices located along the west façade will utilize the existing windows and window wells for natural daylight.

LEGEND	
DEAN'S OFFICE	
SMALL BUSINESS DEVELOPMENT CENTER	
OFFICE & SERVICE	
ACADEMIC SPACE	
STUDY SPACE	
OTHER ACADEMIC DEPT. SPACE	

Conceptual Floor Plan – Level 1

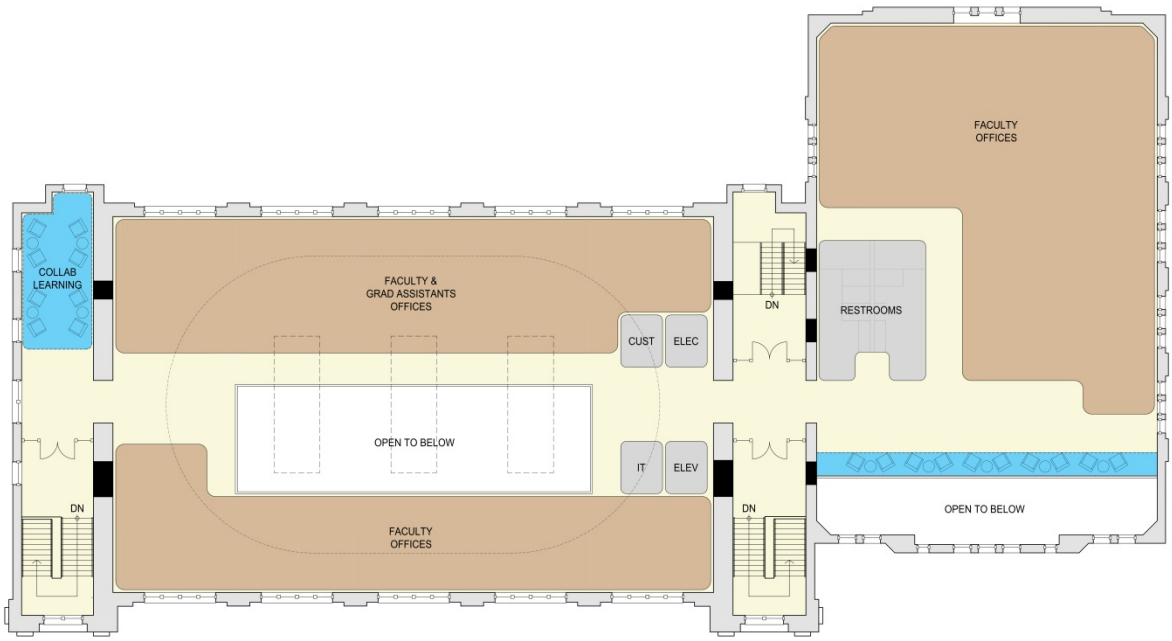
A proposed layout provided for Level 1 locates the Dean's Office directly off of the main entrances along the west side of the building. Level 1 is currently serviced by four existing stairs, two of which will require reconfiguration in order to work with the floors above. These four stairs will require rated enclosures which are shown here to be done using fire-rated glazed assemblies in order to maintain an unobstructed view of the stair and capture as much daylight as possible through the exterior doors and windows. Offices located along the west façade will utilize the existing windows for natural daylight. It is highly recommended to use transoms or sidelites at these office doors in an effort to bring natural light into the interior spaces. The conceptual layout places the Small Business Development Center on Level 1 of Wittich Hall.



Conceptual Floor Plan – Level 2

The conceptual layout provided for Level 2 begins to locate departmental spaces along the east and west perimeter walls while also incorporating academic space along the south wall. An opening above recalls the original two-story gymnasium spaces and provides collaborative learning opportunities outside of the classroom setting. The floor opening in the center would be open to the roof, where the original skylights will be reinstated. These open study areas can incorporate portable lounge furniture that could be reconfigured for small group work. A restroom core stacks with the levels above and below as do the elevator, IT, custodial, and electrical closets. The slot windows located along the east and west walls offer limited views to the exterior from the private offices and as a result, windows, transoms, or sidelites should be provided at the interior walls of the offices to take advantage of the natural light drawing in from the skylights above.

LEGEND	
DEAN'S OFFICE	
SMALL BUSINESS DEVELOPMENT CENTER	
OFFICE & SERVICE	
ACADEMIC SPACE	
STUDY SPACE	
OTHER ACADEMIC DEPT. SPACE	



Conceptual Floor Plan – Level 3

A proposed layout provided for Level 4 locates the remaining departmental offices on the upper-most floor. Unlike Level 2, large windows are located along the west and east facades that will provide an abundance of daylight for the private offices located along the perimeter. Openings in the floor to the level below will create connectivity between the floor levels and will allow daylight to filter down into the interior spaces. Similar to other floor levels, a restroom core stacks with the levels below as do the elevator, IT, custodial, and electrical closets.

LEGEND	
DEAN'S OFFICE	
SMALL BUSINESS DEVELOPMENT CENTER	
OFFICE & SERVICE	
ACADEMIC SPACE	
STUDY SPACE	
OTHER ACADEMIC DEPT. SPACE	

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Conceptual Rendering – Level 3 (2014)

Conceptual Rendering – Level 2 (2014)

8.1 Summary and Recommendations

Wittich Hall's unique history, location on campus, and overall condition will provide a solid foundation for continuous use of the structure well into the future.

Overall, Wittich Hall is in great condition as it nears its 100 years of existence. The compressed floor-to-floor height of 13 feet 4 inches will require creative design strategies in order to transform this recreational facility into a high quality and functional learning center. The masonry and concrete construction materials have withstood the test of time and can provide a solid backbone for years to come.

Wittich Hall still maintains its original exterior appearance with minor modifications to the doors and windows while the interior has retained its historic integrity throughout much of the building. Wittich Hall has undergone limited renovations over the past 100 years to adapt to the needs of the campus. While this report doesn't focus on the historic spaces or features within Wittich Hall, careful attention must be given to these elements in any major renovation project.

Wittich Hall requires minimal work at its exterior. Although the windows are of original construction, their performance and maintenance requirements make them ideal candidates for replacement. Masonry cleaning and pointing should be provided at all facades of the building with repairs needed at various limestone accents. Wittich Hall's interior, while in good condition, will be undergoing a complete transformation in order to provide the appropriate space and state-of-the-art features requested by the campus as part of this project. Complete removal of suspended ceiling systems will be required in order to integrate a new energy efficient infrastructure.

Enhancement to the buildings thermal performance can be achieved through the use of more energy efficient windows as well as providing additional insulation to the existing roof structure. It is highly recommended to not provide insulation at the exterior walls for this may compromise the integrity of the solid masonry construction, therefore every effort must be made to provide a complete thermal evaluation of the existing building in conjunction with the selection of the building's new mechanical and electrical systems. This approach will provide a more energy efficient and sustainable structure.

The buildings mechanical, electrical, and plumbing systems are inadequate and obsolete and should be replaced. A fire suppression system and complete cooling system should be incorporated into the design.

River Architects recommends that sustainable design principals be utilized in all aspects of the renovation of Wittich Hall while carefully integrating the historical features as much as possible. Use of energy efficient technologies and practices, recycling of existing building materials, thoughtful waste management practices, and considerate design and specification of sustainable materials, are all key aspects that can contribute to the overall success of the renovation project and provide a sustainable and energy efficient structure for the future of UW-La Crosse.