

UNIVERSITY OF WISCONSIN – LA CROSSE
PERFORMANCE HALL

Feasibility Study

DFDM Project No. 1612J

river ARCHITECTS

April 26, 2018

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Performance Hall

Feasibility Study

UW-La Crosse

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Executive Summary

OVERVIEW

Located in the southwest corner of the UW-La Crosse campus at the corner of 16th and Vine Streets is the 45-year-old Center for the Arts facility. Constructed in 1972, Center for the Arts co-locates the two primary performing arts venues on campus. The 429-seat Toland Theatre is a fully equipped playhouse that provides space for drama performances while the 285-seat Annett Recital Hall is used for orchestra and choral performances and academic instruction. Due to the size constraints and acoustical properties of these existing spaces, UW-La Crosse has held many of its annual performances at other venues in La Crosse and surrounding communities. Larger performances are being held at Viterbo University's Main Theatre through a lease agreement, while many of the smaller concerts are held at local churches, high schools, etc. Most of these spaces however are multipurpose venues tailored towards theatrical productions and are not ideal for orchestra or choral events. Due to these contributing factors, UW-La Crosse has had to limit the types of performances that the University would like to conduct, thus inhibiting the students' ability to demonstrate their musical talents.



Center for the Arts (2007)

The purpose and goal of this Feasibility Study is to provide a viable option for the construction of a new 1,000-seat concert hall venue and its necessary support spaces. This study reaffirms the need for additional performance space as identified in the 2005 Campus Master Plan and provides a program and design option to meet the increased needs of the campus.

PROJECT LOCATION

While the work conducted in the 2005 Campus Master Plan illustrated a possible addition to Center for the Arts, the original intent of this study was to provide a design concept that located the new concert hall in the parking lot (C-10) directly south of Center for the Arts. It became apparent very early in the development of the design concept, that the C-10 site was going to pose numerous challenges with parking and circulation and would require additional area to meet the program requirements, thus increasing costs. As a result, the Executive Committee requested this study to evaluate a possible building addition to the north of Center for the Arts.

The proposed location of the new concert hall provides better adjacencies to existing spaces within Center for the Arts, thus reducing the amount of new construction needed and lowering project costs. By using the green space directly north of Center for the Arts, parking lot C-10 remains fully functional and provides future opportunity for possible campus expansion or a future parking structure.

The siting of the north addition does lend itself to design challenges in terms of entrance location, service/loading dock location, and connection to the existing lobby space which is at a raised elevation. A recent addition to the south side of Center for the Arts provides an accessible entry point off of Vine Street and serves as the primary public entrance to the building.



Campus Master Plan (2005)

ANALYSIS OF NEED

Because of the inadequacies with Toland Theatre and Annett Recital Hall, the music department has been forced to take their performances off-campus to larger venues. These off-campus facilities do not meet the acoustic demands that the music department requires, thus limiting the types and sizes of performances that can be held. UW-La Crosse has determined through diligent examination of other local venues, that the appropriate seating capacity for this concert hall should be approximately 1,000 seats. It has been determined through this Feasibility Study, that this project needs to provide approximately 32,422 assignable square feet or 56,595 gross square feet. This aligns with the space needs analysis that was conducted in January 2015 which identified a campus-wide deficit of 58,578 assignable square feet in assembly and exhibit spaces.

The program has been broken down in to four primary categories based on function; Front-of-House, Concert Hall, Back-of-House, and Rehearsal. A fifth category provides building support space for mechanical, electrical, plumbing, fire protection, and telecommunications rooms as well as unfinished basement space.

The Front-of-House provides the necessary lobby circulation at all three levels, along with ticketing, coat storage, and box office functions.

The Concert Hall is programmed as a three-level design scheme that provides seating for 500 on the main floor, 300 on the first balcony, and 200 at the second balcony. This breakdown of seating capacities will provide more opportunity for various sized performances. The performance platform is sized to accommodate 120 seated performers while a choral balcony located directly behind the platform will provide the opportunity for combined choral and orchestra performances. Control rooms and backstage circulation is also included in the Concert Hall function.

Back-of-House includes those functions needed to support student performers, guest performers, and concert hall support staff. Spaces include a Green Room, changing rooms, instrument and piano storage, lighting and audio storage, and chair and riser storage.

The Rehearsal space is referenced in this Feasibility Study although not included in the Building Program. When the new standalone facility was being planned for parking lot C-10, new rehearsal space was required. Since a rehearsal room currently exists in Center for the Arts and will be located adjacent to the new concert hall, there is no intention to replicate this space.

The following chart provides a summary of the building program.

Ref. No.	Functional Area	TOTAL
1	Front-of-House	8,584
2	Concert Hall	15,628
3	Back-of-House	5,330
4	Rehearsal	0
5	Building Support	2,880
TOTAL ASF		32,422
Efficiency Factor		24,173
TOTAL GSF		56,595

DESIGN METHODOLOGY

Conceptual design for this Feasibility Study focused on critical adjacencies, entrance locations, circulation, and primary arrival spaces. The traditional and time-tested “shoebox” concert hall design was used to provide superior acoustical performance. The three-story above grade structure has been conceptually designed following the design guidelines outlined in the Campus Master Plan and focuses the primary entrance to the east in order to serve the campus and take advantage of the views of the bluffs.

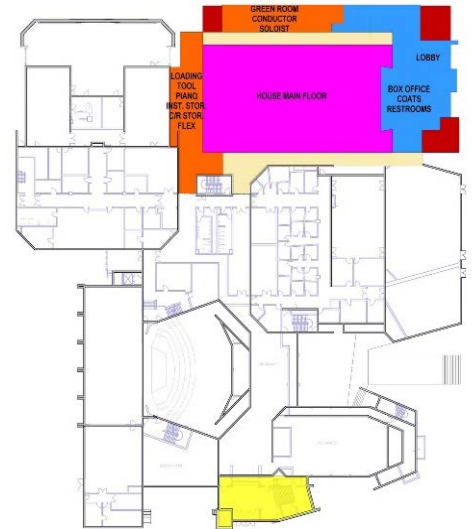
Three concepts were developed and presented to the Design and Executive Committees. The first two concepts (A1 and A2) positioned the concert hall to the north of the existing rehearsal space. The primary difference between the two is the position of the concert hall and lobby spaces. Concept Design Option A1 positioned the main lobby with an eastern orientation and connecting corridor to the existing Center for the Arts. Concept Design Option A2 pushed the concert hall to the north property setback line and tried to provide more of a lobby experience at the connection to the existing Center for the Arts. Concept Design Option B was developed and removed the existing rehearsal space in an effort to move the concert hall and lobby closer to the main lobby currently serving Toland Theatre and Annett Recital Hall.

Concept Design Option B was reviewed very closely and the removal and reconstruction of rehearsal space added additional cost that the Executive Committee felt could not be absorbed by this project. It was requested that the concept be documented within this report.

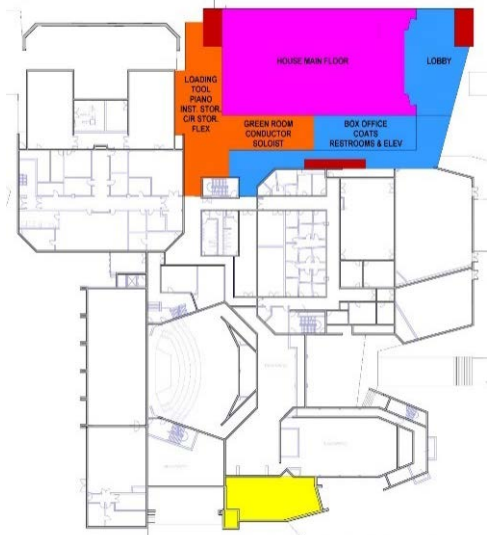
The Executive and Design Committee unanimously agreed that Concept Design Option A2 be pursued further for the completion of the Feasibility Study.

PROJECT BUDGET SUMMARY

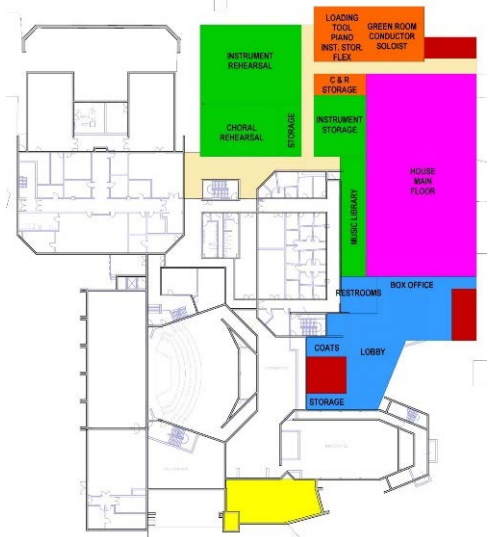
The project cost has been evaluated for this Feasibility Study through the comparative analysis of other relative performance venues bid and constructed over the last few years. At this stage, the estimated total project budget if constructed today would be approximately \$30,835,925. Acoustical treatments, sound isolated mechanical systems, lighting controls, site utility upgrades, and the amount of unfinished basement space will all play a role in the project cost. A detailed budget summary is included in this report for reference.



Concept Design Option A1



Concept Design Option A2



Concept Design Option B

Building Program

The building program and space tabulation for this Feasibility Study have been divided into five primary sub-categories based on function. These include Front-of-House, Concert Hall, Back-of-House, Rehearsal, and Building Support.

FRONT-OF-HOUSE

The spaces identified in this category are vital components in providing adequate circulation and support space to service the 1,000-seat concert hall. Spaces include lobbies, coat storage, box office and admissions, box office manager, house manager, usher's room, and general storage. Three adequately sized lobby spaces are necessary to provide proper and safe exiting along with reception area adjacent to the concert hall and corresponding balcony levels. The box office and box office manager space will provide a centralized location off the main floor lobby for tickets as well as a space for distributing assisted listening devices.

Ref. No.	Functional Area	No. of Occupants	ASF per Space	No. of Spaces	TOTAL AREA
1A	Entry Vestibule		160	1	160
1B	Lobby – Main Floor		4,000	1	4,000
1C	Lobby – First Balcony		1,800	1	1,800
1D	Lobby – Second Balcony		1,200	1	1,200
1E	Box Office/Will Call/Concierge		240	1	240
1F	Box Office Manager Office		150	1	150
1G	House Manager Office		150	1	150
1H	Usher's Room		192	1	192
1I	Coat Room		500	1	500
1J	Front-of-House Storage		64	3	192
TOTAL UNIT ASF					8,584

CONCERT HALL

The 1,000-seat concert hall features a platform adequate to serve 120 musicians as requested by UW-La Crosse. Main floor seating accommodates approximately 500 while the first level balcony is sized for 300 and the second level balcony is sized for 200. This variation in size will provide greater flexibility in space utilization in the event smaller performances are held in the concert hall. The acoustical details of the "shoebox" design will be critical in providing the proper reverberation characteristics required for the concert hall.

Ref. No.	Functional Area	No. of Occupants	ASF per Space	No. of Spaces	TOTAL AREA
2A	House – Main Floor	500	5,000	1	5,000
2B	House – First Balcony	300	3,300	1	3,300
2C	House – Second Balcony	200	2,200	1	2,200
2D	Vestibules		64	10	640
2E	Platform	120	2,160	1	2,160
2F	Backstage Circulation		1,920	1	1,920
2G	House Temporary Audio Mix		120	1	120
2H	Control Room – Recording		144	1	144
2I	Control Room – Lighting		144	1	144
2J	Follow Spot Catwalk		0	0	0
2K	House Catwalks		0	0	0
2L	Overstage Rigging Structure		0	0	0
TOTAL UNIT ASF					15,628

BACK-OF-HOUSE

Support spaces that are key functional components of the concert hall environment are commonly found to be located near or directly adjacent to the platform and loading area and are mainly used by performers, directors, and other performance-related personnel. Instrument storage, as well as the humidity-controlled piano storage are to be located directly adjacent to the platform to allow easy movement from storage to performance. A tool room, chair and riser storage, and flex space are also to be located near the platform in order to provide necessary support and maintenance facilities to help the function of the platform. A green room, soloist, conductor, and musician prep space will give performers proper facilities for dressing and warm-up prior to performances.

Ref. No.	Functional Area	No. of Occupants	ASF per Space	No. of Spaces	TOTAL AREA
3A	Green Room		750	1	750
3B	Star/Soloist Dressing Room		240	1	240
3C	Conductor's Dressing Room		240	1	240
3D	Musician Prep/Dressing		1,000	1	1,000
3E	Musician Changing Rooms		48	8	384
3F	Musician Restroom		64	4	256
3G	Flex Office (visiting staff)		150	1	150
3H	Loading Dock – Exterior		150	1	150
3I	Loading Area/Scenery Handling		400	1	400
3J	Trash/Recycling Area		150	1	150
3K	Piano Storage		200	1	200
3L	Musician Instrument Storage		300	1	300
3M	Musician Chair & Riser Storage		400	1	400
3N	Tool Room/Stage Storage		150	1	150
3O	Lighting Dimmer Room		160	1	160
3P	Lighting Storage		120	1	120
3Q	Audio Amps/Video Room		160	1	160
3R	Audio/Video Storage		120	1	120
				TOTAL UNIT ASF	5,330

REHEARSAL

Programming for new rehearsal space was included in this feasibility study for the purpose of providing new spaces for a building located on parking lot C-10. These spaces were necessary in order to limit the amount of movement of equipment from Center for the Arts to the new concert hall. Because the new concert hall location was determined to be included in an addition directly north of Center for the Arts, the existing rehearsal spaces will be sufficient and new space will not be required.

Ref. No.	Functional Area	No. of Occupants	ASF per Space	No. of Spaces	TOTAL AREA
4A	New Multi-Purpose/Rehearsal		3,400	0	0
4B	New Multi-Purpose Storage		400	0	0
4C	New Unisex Restrooms		100	0	0
				TOTAL UNIT ASF	0

BUILDING SUPPORT

Spaces have been identified to support the building and its functions. The majority of these spaces will be primarily used by custodial or maintenance staff while others are used by audience and/or faculty and staff of the School of Arts and Communication.

The faculty and staff currently using Center for the Arts have requested general building storage be provided for theater, music, art, etc.

Ref. No.	Functional Area	No. of Occupants	ASF per Space	No. of Spaces	TOTAL AREA
5A	Custodial		120	1	120
5B	Custodial Equipment		160	1	160
5C	Gender Neutral Restrooms		80	3	240
5D	Departmental Storage		2,000	1	2,000
5F	Electrical & IT		120	3	360
TOTAL UNIT ASF					2,880

PROGRAM SUMMARY

The adjacent space tabulation is a summary of all assignable and non-assignable spaces outlined within this Feasibility Study. It should be noted that the total area (GSF) depicted in the matrix includes all mechanical spaces.

Ref. No.	Functional Area	TOTAL
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Design Concept

OVERVIEW

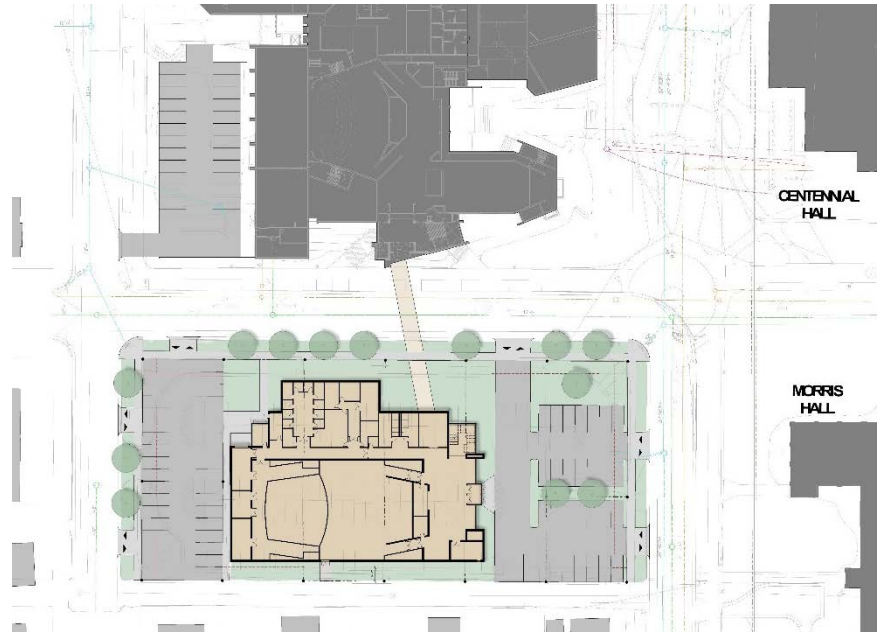
The conceptual design began with the programmatic requirements of the concert hall and its necessary adjacencies to the various support spaces. The platform, back-of-house support, lobbies, and the performer prep areas must all coincide with each other for the design to be successful.

The 1,000-seat concert hall is modeled after the time-tested "shoebox" design in order to provide the ideal acoustical experience for the performers and the audience. This massing was located on the site with careful evaluation of the overall context of the campus setting as well as that of the surrounding neighborhood.

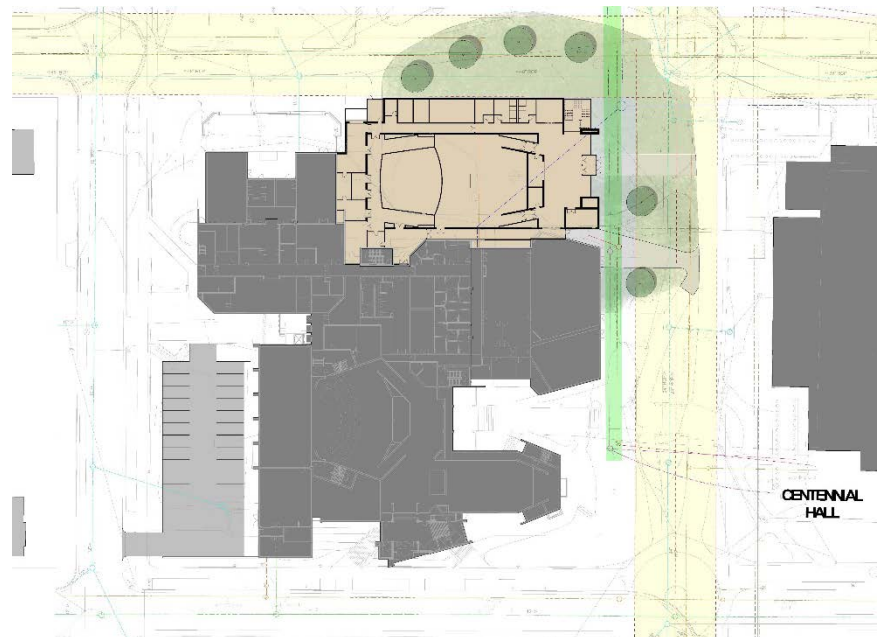
PROJECT SITE

UW-La Crosse envisioned the project being located south of Center for the Arts on parking lot C-10. Concepts were developed that looked at raising the building and providing parking below as a way to reduce the overall impact on the number of parking stalls that would be lost by using this site. Two additional concepts were developed, one which included new rehearsal space and one that did not. All three concepts that were developed for lot C-10 provided a connecting link that offered a tempered and safe means of transporting equipment between the new concert hall and existing Center for the Arts. All three concepts that emerged occupied nearly half of the existing parking lot and were unsuccessful in creating enough parking spaces in close proximity to address the large audiences that would be attending performances throughout the year.

That State of Wisconsin and UW-La Crosse requested the design team to evaluate the adequacy and efficiency of locating the concert hall in the green space directly north of Center for the Arts.



CONCEPT DESIGN - LOT C-10



CONCEPT DESIGN - NORTH SITE

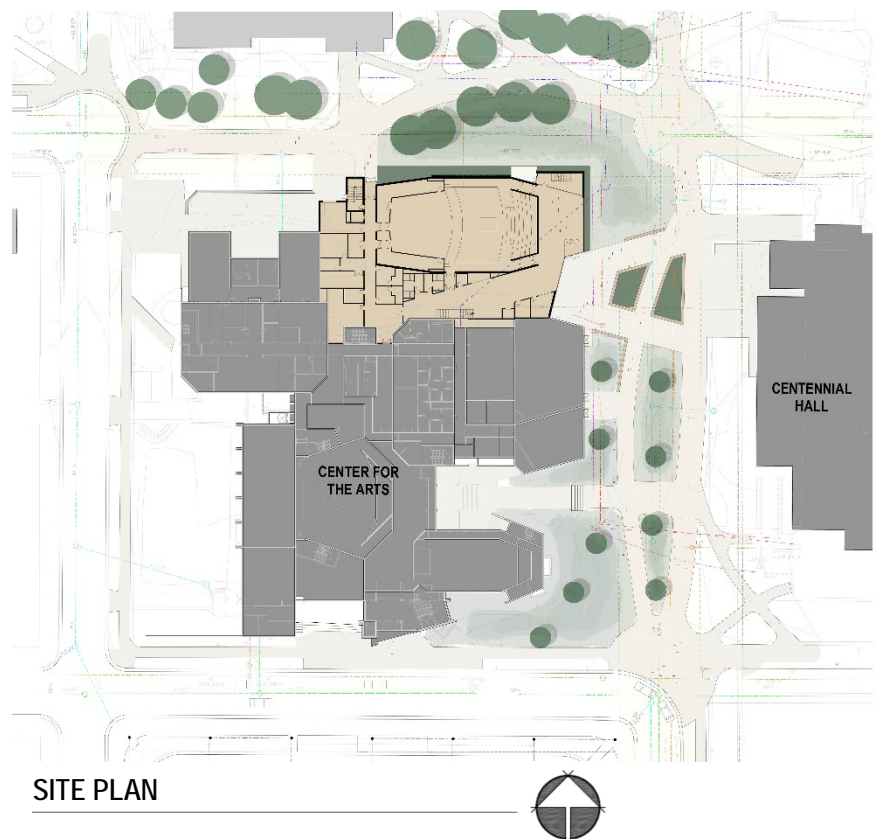
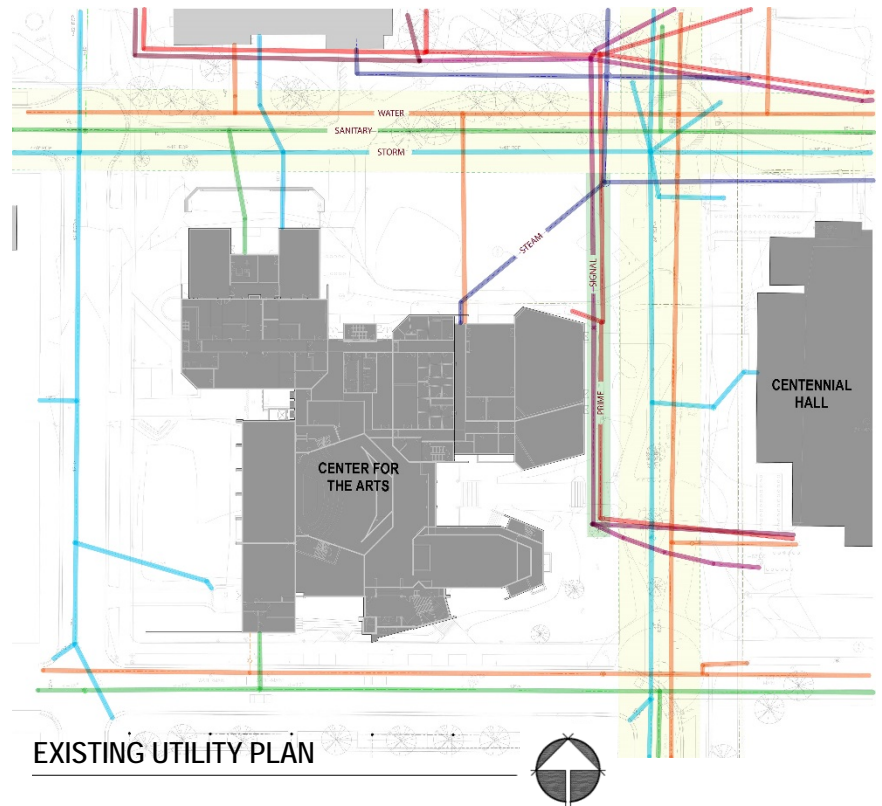
Without testing the fit, it was evident that parking would not be lost and the project cost could likely be less by using existing rehearsal space rather than building new.

A challenge with the site north of Center for the Arts that was quickly identified was the amount of utilities that are located in this area. Not only do all the major utilities that serve the building route through this green space, city storm and sanitary that were once located on the original street grid are also located in this area. Although the street is no longer in existence, the utilities are still owned and operated by the City of La Crosse and thus need to maintain a 60' right-of-way clearance. The centerlines of Pine Street and 16th Street were continued through to re-create the original city block that once formed the site.

Existing primary and signal lines along the east edge of the site, push the allowable footprint edge to align with the east wall of the existing rehearsal spaces. New steam and chilled water laterals will be required and sized to accommodate the entire Center for the Arts facility.

Concepts were developed that located the primary lobby at the east end of building addition in an effort to capture views to the east and also provide a visual connection to the vehicle drop-off at the corner of Vine and 16th Streets to the south.

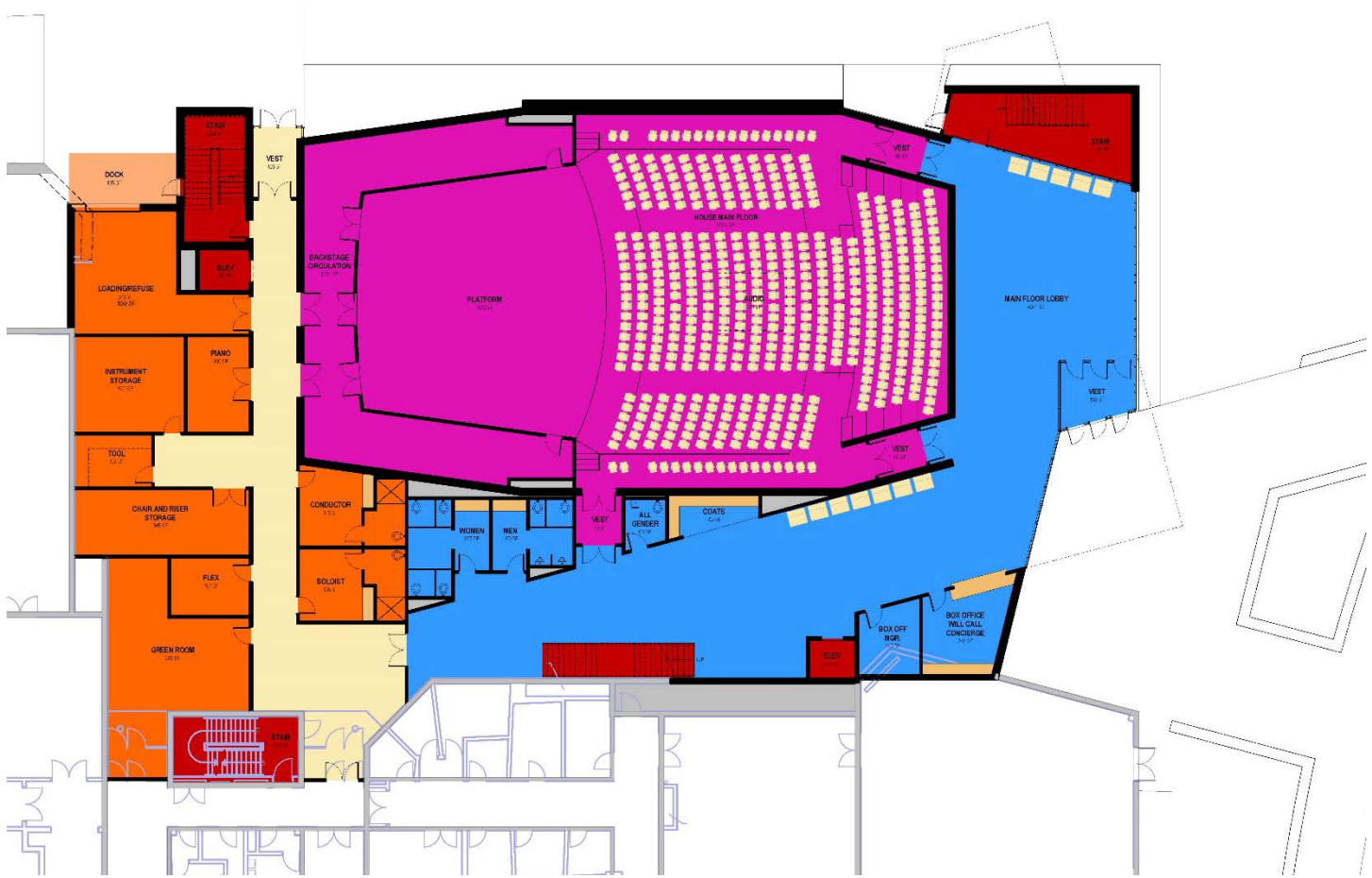
Early studies positioned the lobby in a more central location of the new addition resulting in a narrow corridor between the new concert hall and the existing building. In an effort to create a more continuous lobby setting from the new southern addition of Center for the Arts through the building to the new concert hall, angular massings were explored and resulted in a more active and spatially pleasing experience.



GROUND FLOOR

The easterly located entrance serves parking and pedestrians from both the south and the north. Audience members will be utilizing the parking ramp along La Crosse Street along with parking lot C-10 and on-street parking to the south.

Due to the locations of existing service entrances on the west side of the building along 15th Street, the loading area for the concert hall was located at the far northwest corner to accommodate the back-of-house function of loading and unloading both equipment and performers. Additional back-of-house functions include instrument storage, chair and riser storage, a green room, and soloist and conductor prep spaces. The design concept provides a private corridor which isolates all back-of-house functions and movement of performers and instruments to and from the existing rehearsal space.



GROUND LEVEL FLOOR PLAN

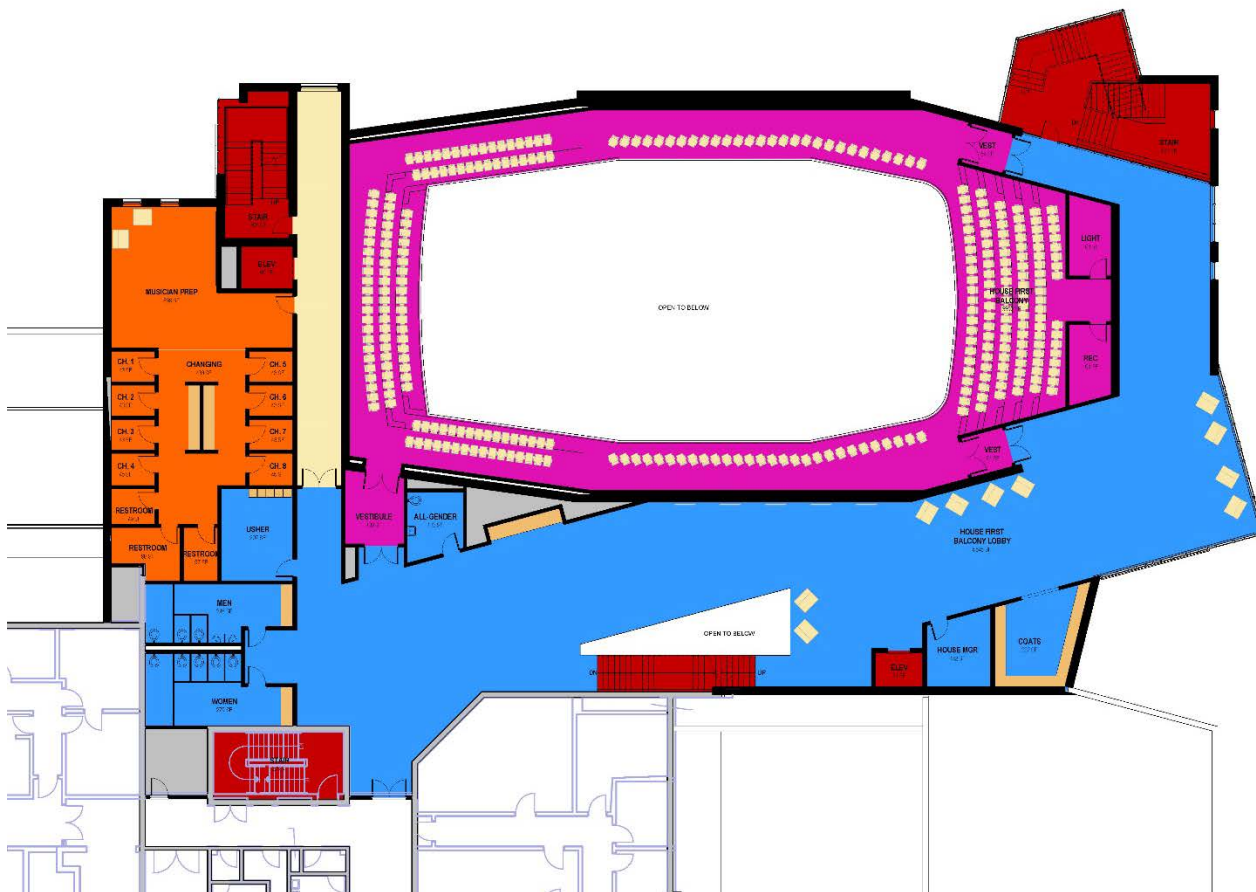
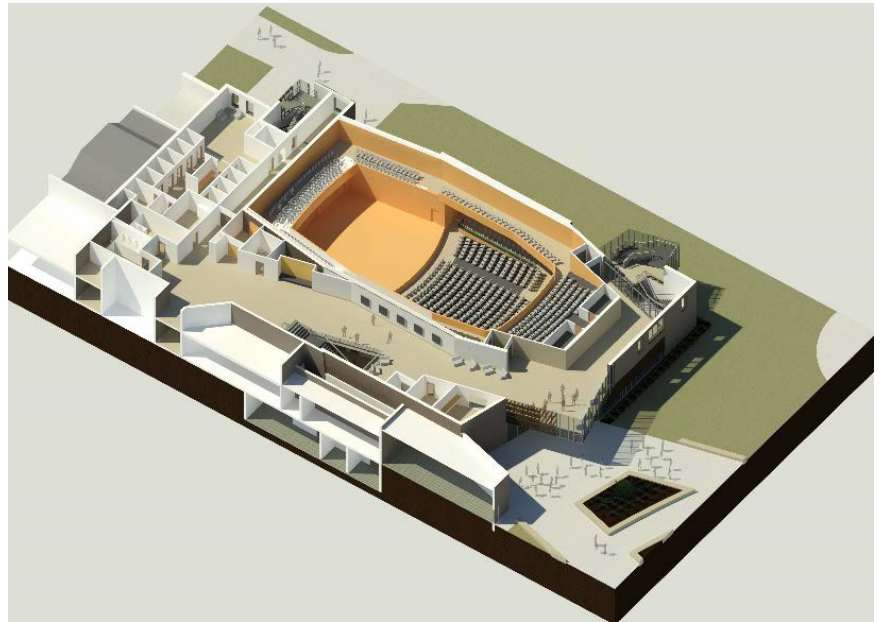


FIRST BALCONY

Located at the same floor elevation as the existing lobby, the first balcony level is designed so that there is a visual connection to the main floor below through an open stair.

Seating capacity for the first balcony is approximately 300, including the choral loft above and behind the platform. UW-La Crosse has requested three rows of seating directly behind the platform in order to deliver choral and orchestra performances simultaneously. When not in use by the choir, these seats would be available for audience seating.

Two support spaces are provided within the house for lighting and recording controls. A back-of-house musician prep space will provide private changing rooms along with an open area for performer warm-up.



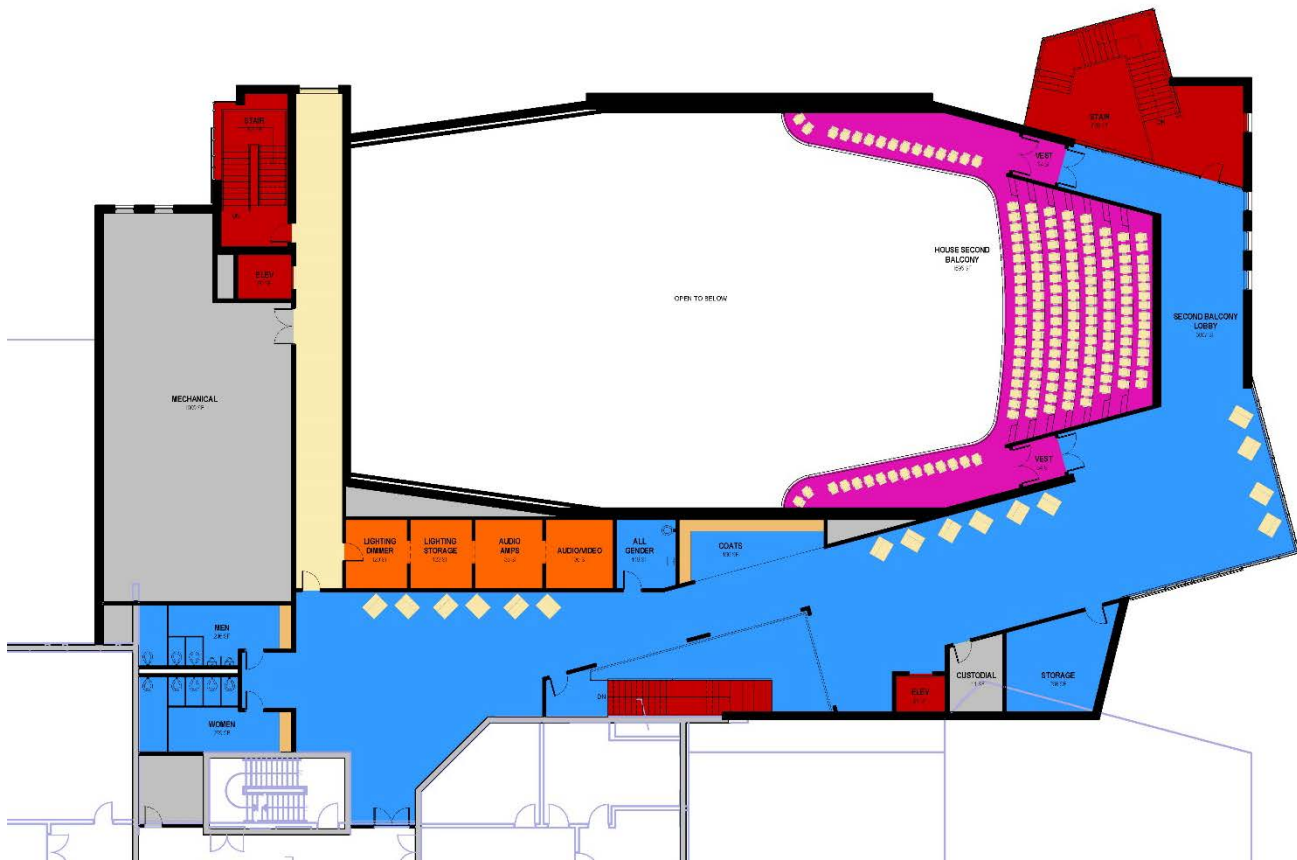
FIRST BALCONY FLOOR PLAN



SECOND BALCONY

Seating capacity for the second balcony is approximately 200. When smaller performances are taking place, both the first and second balconies could be closed to the audience.

Audio-visual and lighting work areas are to be located adjacent to the house and have direct access to the catwalk system above. This adjacency provides support staff with the ability to access the necessary tools and supplies for both setup and troubleshooting.



SECOND BALCONY FLOOR PLAN

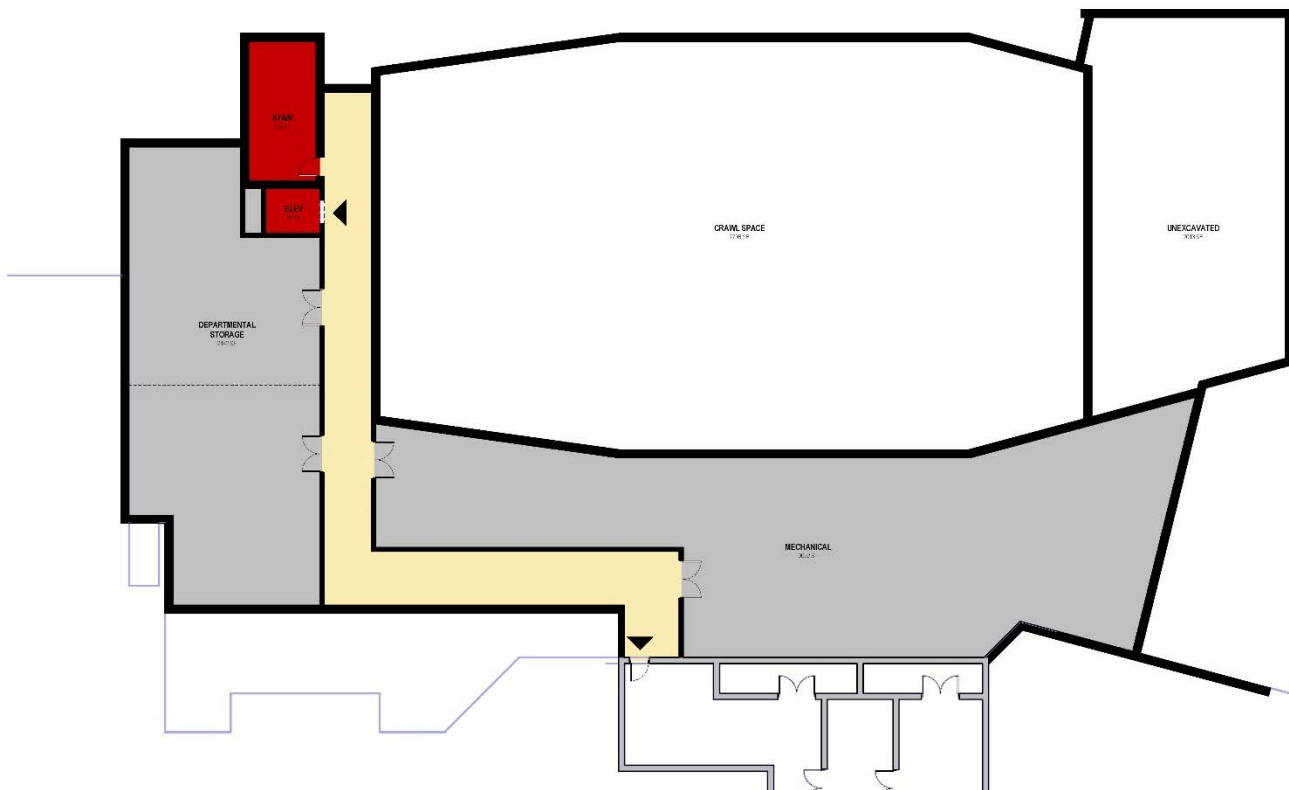


LOWER LEVEL

The existing sub-basement of Center for the Arts provides mechanical space and utility entrances. The concept design of the lower level locates a new mechanical room adjacent to the existing building for efficiency. New services will be up-sized to accommodate the additional heating and cooling loads of the concert hall and will need to be phased in a manner so as to not disrupt the existing building and its occupants.

A crawl space is provided under the house for underfloor air distribution and routing of systems. This approach isolates noise and vibration producing equipment that would be of concern for the performance characteristics of the concert hall. An elevator is strategically located near the loading area and will provide sufficient access to the lower level for storage and any future maintenance required.

An area has been indicated for general building storage. The faculty and staff of the School of Arts and Communication expressed a need for storage of theater equipment, props, supplies, etc. A small garage located in parking lot C-10 currently provides storage for this purpose but will likely be removed in the future.



LOWER LEVEL FLOOR PLAN



EXTERIOR

Built in 1972, Center for the Arts is a good example of brutalist architecture with its large monolithic massings and limited fenestrations. These forms were a direct result of the theater and music functions held within. The exterior expression of this conceptual design tries to use the angular forms of the existing building in different ways while creating a more transparent experience through the use of large expanses of glazed curtain wall systems. Brick masonry and architectural precast trim constitute the primary material palette while integrating terra cotta or some other weather-resistant material as a transparent sunscreen solution to allow views to the exterior while controlling the amount of sunlight penetration.

Although not depicted in the illustration of the north elevation, the design committee was in favor of the proposed idea to add articulating forms to the large wall mass through the use of recessed or extruded shapes in the terra cotta wall screening in an effort to bring art to the exterior experience.



EAST ELEVATION



NORTH ELEVATION



VIEW FROM SOUTHEAST



VIEW FROM NORTHEAST



AERIAL VIEW FROM SOUTHEAST



VIEW FROM NORTHEAST



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VIEW FROM NORTHWEST



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FIRST BALCONY LOBBY

Project Cost Estimate

OVERVIEW

One of the primary goals of this feasibility study was to understand the magnitude of the project from a cost perspective. There are a number of factors that influence the construction cost of a concert hall, including the amount and type of ancillary spaces.

METHODOLOGY

At this feasibility level, the estimate is based primarily on comparative analysis to other projects. Members of the design team have recent experience with the Confluence Project in Eau Claire while UW-Madison recently broke ground on a new 74,840 GSF music performance hall (DFDM No. 10F2J) which was also used for comparison. Both projects are regional examples of modern-day concert hall design. However, both projects vary from this project in a number of ways and were taken into consideration when using the cost data available.

A number of factors play a role in the cost of a performance hall such as this. These include acoustical treatments, sound isolation from mechanical systems, finishes, lighting controls, etc. Because of the site selection, there are resulting influences what will require modifications to the existing building along with utility upgrades.

CONCLUSION

The estimated total project budget if constructed today would be approximately \$30,835,925.

Item/Description	TOTAL
Construction (\$435/sf)	24,668,790
AE Fees (7%)	1,726,815
DFDM Management (4%)	986,750
Contingency (10%)	2,466,880
Equipment/FFE (3%)	740,000
Other Fees (1%)	246,690
TOTAL ESTIMATED PROJECT COST	\$30,835,925

Project Schedule

OVERVIEW

This feasibility study process was put into motion by UW-La Crosse and the State of Wisconsin on December 15, 2016, with a project kick-off meeting to review the overall project scope and required deliverable. A contract was issued on March 9, 2017, and the first planning session was held on April 5, 2017, with both the Design Committee and Executive Committee. Concept design work concluded in October 2017 with full approval of the overall design.

An executive summary was provided to UW-La Crosse Facilities Planning in December 2017 outlining the project scope and budget. This information was pivotal for inclusion into the University's 6-Year Capital Plan & Budget requests for UW-System.

It is unknown at this time as to when this project will be included in the State budget with approval to move forward.