Question #	Question		
Section 1	**Integrated Planning The project aligns campus facilities, technology, and academic planning, and shows coordinated campus priorities**	**Notes Related to the Question**	**Page # relative to the question**
1.1	Academic priorities: Targets institutional, regional, and state academic and facilities planning priorities.	*The 2016 CFP report prioritized the Library Building Renovation, behind College Services Renovation. We have since completed the College Services Phase one and two. We are also near completion of our 2022 updated CFP which has the Library Project as our number one priority.*	Page 8, 24-27
1.2	Addresses specific community or campus cultural needs.	*College goal 1: Achieve racial equity in educational outcomes by 2025. The centrally-located student resources in the library building - including access to the library services, OSD, the department of Equity and Inclusion, TRIO/SSS/Upward Bound, the Academy of Math and Science – all aim to serve Normandale's increasingly diverse student body. Project addresses the accessibility needs of the entire campus community.*	Pages 20-25
1.3	Includes space(s) to deliver programs that address continuing or emerging high demand fields.	*The project includes the Library, which serves all fields, including high-demand fields such as nursing, dental, & STEM through collections, instruction and study spaces. It also includes new classroom spaces serving several campus programs. It includes space for Equity and Inclusion department, which houses a new program, Sirtify, which educates Black male teachers to enter the field that has serious underrepresention today. Includes Academy of Math and Science, which supports students in STEM.*	Page 20-23
Section 2	**Enrollment, demographics, and academic program considerations. The project includes spaces that take into account student demographics around diversity, age, life experience, and exposure to higher education, or includes spaces that respond to programs serving workforce needs.**	**Notes Related to the Question**	**Page # relative to the question**
2.1a	Only for projects impacting Student Services programs: (1) of the following and uses the data to document how the Student Services-related program has been successful and needs a facilities project to continue/grow that success: 1. The college/university's Student Services model has recently been rethought or reorganized, and the proposed changes have been implemented in practice 2. The Student Services departments impacted by this project have recently increased the number of staff who directly interact in-person with students and cannot be housed within existing space 3. The college/university has demonstrated, taking into account student feedback, the student service modality that best meets the needs of their student population.	*The college implemented a new, conslidated student services hub in the College Services remodel. Similarly, this renovation co-locates student services to improve service delivery. Student services have expanded with an additional TRIO program and the addition of the Equity and Inclusion department (serving staff and students). The college recently added staff for the Sirtify program, which recruits and supports Black men into Elementary and Secondary Education pathways. This project addresses student survey requests for deep quiet space, private study and work spaces for individuals and groups, and space to participate in virtual classes.*	Pages 20-23, 27, 30, 56-57, 60, 63
2.1b	Only for projects impacting specific academic programs: Project Documentation provides the following, at a minimum, and uses the data and narrative to demonstrate academic program strength and success, as well as facilities needs, for those programs directly impacted by this project: 1. Five-year trend data for program enrollment and completion (growth data) -- percent change 2. Program-level student success outcomes disaggregated by race/ethnicity, first generation, and Pell Grant eligibility, with a narrative to demonstrate what actions have been and will be taken to address (reasonable and feasible) 3. Workforce need: Data on the job market related to the programs, including the rate of past and future growth in job demands and a metric on the saturation level	*The renovation of the library building includes six new workhorse academic classrooms on Normandale's campus, used by a variety of departments and accomodating the largest need in terms of classroom capacity on campus. Technology improvements to the academic classrooms will foster active learning and allow for continued adaption of hybrid learning modalities.*	*Pages 24-31*
2.2	Demonstrates need for in-person campus facilities (rooms for private consultation/counseling, labs, access to specialized equipment or technology, etc.)	*The renovation to the library building includes improving access to multiple student services, reducing barriers and increasing access for students as they navigate their degree on campus*	Page 24
2.3	Provides evidence of specialized program or student needs that support the need for renovation.	*Specialized programs served in this project include the Office for Students with Disabilities, Makeup Testing, TRIO/Student Support Services, Academy of Math and Science, and Sirtify. The project addresses student academic, accessibility, and service needs.*	Page 17-23, 33

2.4	Project demonstrates potential to improve enrollment and eliminates opportunity gaps.	The project houses Sirtify and Academy of Math and Science programs, which offer funding and supports to grow enrollment in these programs. This building project makes space for a new Equity and Inclusion department as well as student services and a Library that are focused on eliminating opportunity gaps based on race, abilities, and other circumstances.	Pages 21-24, 28, 63
Section 3	**Flexibility, adaptability, and accessibility The project scope describes features that promote adaptability of spaces to future program needs**	**Notes Related to the Question**	**Page # relative to the question**
3.1	Includes features that yield active learning spaces and help the campus transition from traditional classroom learning to collaborative, group learning methods.	*In the space detail of this pre-design we address collaborative, group, and active learning, and flexible classrooms.*	Pages 24, 26-27, 102-112
3.2	Project includes flexible and adaptable features, including room types and furnishings, that allow for cost effective adaptability for future programs.	*Project includes library space that can be used for instruction, meetings, or student collaboration. Furnishings and technology infrastructure will enable multiple configurations to meet needs into the future.*	*Pages 26, 60-63*
3.3	Project uses alternative approaches to providing traditional, enclosed offices for faculty or staff	*The renovated library will offer opportunites for renewed interaction between library staff and students with the creation of "on the floor" reference librarian office space. This facilitates research consultation by appointment or walk-up. Several faculty offices were removed from the building to meet other program needs.*	*Pages 62-63*
3.4	Campus follows a written academic scheduling policy and uses it to maximize current space utilization and ease of class scheduling for students.	*Much of this renovation work is within the confines of the Library itself. We do not use classroom scheduling software and policy for scheduling these spaces; however, we do have data related to space utilization of our Library.*	*Page 30-31*
Section 4	**Infrastructure, sustainability, and energy efficiency Project reduces energy consumption, reuses or revamps existing infrastructure, and promotes sustainability on campus**	**Notes Related to the Question**	**Page # relative to the question**
4.1	Project addresses "adjacent needs" in, or near to, the project area, such as HEAPR- like work (roofs, HVAC, ADA accessibility improvements, etc.) or COPE issues, and demonstrates how the campus will use these improvements to reduce overall operating expenses	*Throughout the existing conditions part of this pre design the design team identifies the issues with mechanical, plumbing, roofing, infrastructure, building envelope, and other issues that are HEAPR related. The report outlines how the project will reduce future operating costs and reduce deferred maintenance.*	*Pages 26, 32-46 & 88-100, 132*
Section 5	**Financial impact Project uses outside funding to minimize the financial impact on campus; project is financially viable for the campus; project accounts for and anticipates all project costs**	**Notes Related to the Question**	**Page # relative to the question**
5.1	Project accounts for special expenses relating to operations of new equipment or technology.	*The project in total (phase I & II) utilizes a variety of funding sources to be financially viable for the college. Operating expenses will decrease.*	*Pages 124-128, 132.*
Section 6	**Overall impressions of the proposed project**	**Notes Related to the Question**	**Page # relative to the question**
6.1	This project has been well thought out and well documented, fits within the Board's Capital Guidelines, and is worthy of inclusion on the Board's final Capital Budget Request list.		Pages 16-27, 60-63
6.2	The documentation clearly identifies the problem to be solved by the project and lays out a clear path to find the solution.		Pages 17-27, 32-55, 60-63
6.3	The documentation clearly demonstrates why this particular project is an urgent priority for the college/university: facilities need, academic program need, student success need, workforce impact, etc.	Accessibility, equity, and student service are at the core of the project. The existing conditions demonstrate the urgent need for improvement.	
6.4	Please provide additional comments, feedback, concerns, or praise about this project that could help the campus strengthen its project documentation.		

NORMANDALE COMMUNITY COLLEGE

LIBRARY BUILDING PRE-DESIGN

BDH HGA

100% SUBMITTAL • November 10, 2022

MINNESOTA STATE

NORMANDALE
COMMUNITY COLLEGE

October 25, 2022

Brian Yolitz
Associate Vice Chancellor for Facilities
30 E 7th Street, Suite 350
St. Paul, Minnesota 55101

Dear Associate Vice Chancellor Yolitz,

RE: Predesign submittal for the renovation of the Library Building at Normandale Community College

In accordance with Minnesota Statutes §16B.335, Subdivision 3, enclosed you will find the predesign submittal document for the Library Building renovation at Normandale Community College, 9700 France Avenue South, Bloomington, Minnesota. This predesign outlines Normandale Community College's capital budget request for the FY2024 state legislative session.

This project consists of the remodeling of 63,000 square feet of space and the addition of 4,190 square feet to house accessible, modernized student services programs, classrooms, and the Library; to integrate the new Equity and Inclusion department within the Human Resources and Equity Division; improve the organization and service provision of the ITS department; and update infrastructure and MEP systems. The total cost of this two-phase project is estimated to be approximately $32.8 million. This proposal seeks funding of approximately $14.8 million in a capital budget request to complete phase two.

Sincerely,

Joyce C. Ester

Joyce Ester, PhD
President

Normandale Community College
9700 France Avenue South
Bloomington, MN 55431-4399

www.normandale.edu
952.358.8200 Office
952.358.8101 Fax

November 10, 2022

Dr. Joyce Ester, President
Normandale Community College
9700 France Avenue South
Bloomington, Minnesota 55431

Re: Library Building Renovation
Phase I & II

Dear President Ester:

We are pleased to submit to you the Pre-design for Phase I and II Renovation of the Library Building. The attached document has been prepared in accordance with the Minnesota State Pre-design Guidelines and in collaboration with you, your staff and the Library Pre-Design Advisory Committee.

As proposed, Phase I shall be completed as a HEAPR project that addresses a range of issues within the lower level and central circulation core of the building. This includes increasing building accessibility; clarifying building wayfinding to increase access to student services; supplementing overall building infrastructure, including mechanical, electrical, and plumbing to increase energy efficiency, & sustainability; renovation of exterior envelope systems to increase efficiency and daylighting; and re-organize classroom and student services at the lower level to provide necessary modernizations to support each relevant department across over 32,000 square feet.

Phase II focuses on the main level and mezzanine areas of the building that house the current Library and its associated functions along with providing more student centered study spaces and overall learning resources throughout. Phase II is being submitted as a 2024 Capital Bonding Request for the completion of this final phase of work. Both Phases are presented after our team has met with Faculty, Staff, and students to inform all aspects of need and align with Normandale's Strategic Plan and Equity goals.

Thank you for the opportunity to work on this pivotal project that will impact all patrons of the Normandale Community College Campus. It has been a pleasure to engage with all those that participated and our team is excited to see the initial steps move into its next phases.

Sincerely,

Laura Schmidt

Laura Schmidt, AIA, CID, LEED AP
MN Registration #52168

I certify that this report was prepared by me or under my direct supervision and that I am a duly licensed architect under the laws of the State of Minnesota.

TABLE OF CONTENTS

MINNESOTA STATE

Normandale Community College
Predesign Project Data Form

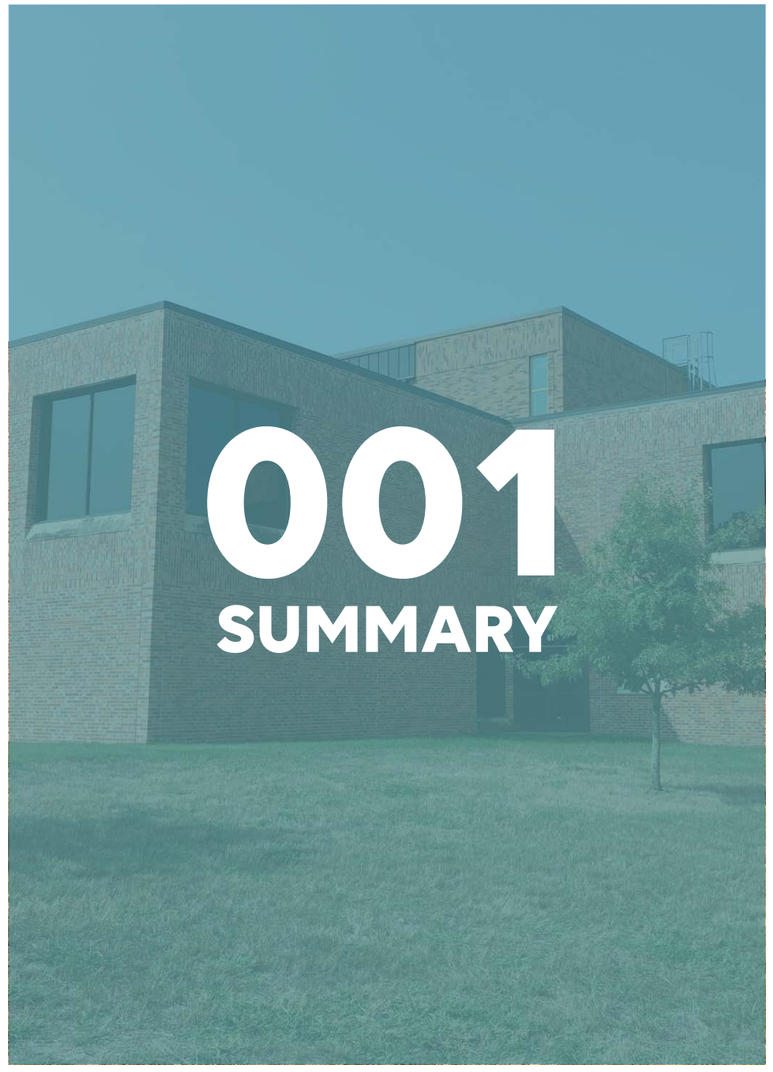
Provide this form at the beginning of Predesign Section 1.

Basic Information: 2024 State Appropriation Request	
Project Title:	Library Building Renovation – Phase II
Street address(es) of the building(s) affected by project, including county name:	9700 France Ave S, Bloomington, MN 55431, Hennepin County

Project Scope			
New GSF:	4,190sf	Renewed GSF:	
Renovated GSF:	29,635sf	Demolished GSF:	

Project Timeline (all dates are approximate and subject to change)	
Proposed design start date:	February 2022 (through DD); July 2024 (through CD's)
Proposed bid/procurement date:	December 2024
Proposed construction start date:	January 2025
Proposed occupancy date:	October 2025

Facilities Data			
Current Replacement Value (CRV) of the building(s) affected by project:	67' - $15.1m 79' – $13.2m	Backlog ($) removed by project:	67' - $4,6400 79' - $2,900
Current FCI of building(s)/area(s) affected by project:	67' - 0.34 79' - 0.26	Anticipated FCI resulting from this project:	0.04 (Both)
Anticipated campus-wide FCI resulting from this project:			
Number of classrooms and/or labs directly affected by this project:	3		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SUMMARY

EXECUTIVE SUMMARY

PROJECT SCOPE

The original Library Building built in 1967, and the flanking addition added in 1979 are proposed to be renovated in total across all 62,000sf over three levels. Project shall include complete re-organization of existing building program and occupants, modernization of building amenities and student services, along with complete upgrade of all building

PROJECT NEED

Wayfinding & Circulation Improvements
Limited Student Study Spaces
Accessibility
Outdated Finishes
MEP & Infrastructure Issues
Access to Student & Academic Support Services
Acoustic Challenges
Classroom Sizing
Lack of Technology
Lack of Daylight
Additional Student Study

PROJECT IMPACT

- Creating campus-wide, quality study space
- Increase Overall Student Academic Success
- Drive an update to library collections' management processes
- Develop Physical Resources To Support Library Staff Instruction And Interaction
- Provide a new home for the department of Equity & Inclusion and Academy of Math & Science
- Right-Sizing And Improving Academic Classrooms
- Consolidating Access To Student Services
- Re-alignment of Faculty Office Space to allow more student focused spaces
- Improve Student Services Technology Support Spaces

AFFECTED AREAS

Renovation	62,000sf
Renewal	62,000sf
Demolition	0
New	4,190SF

ALTERNATES

Several Alternates in regards to project scope inclusion, phasing and funding were explored to determine the most efficient and effective project delivery to realize the goals of the Campus balanced against the least disruptive to the current Building occupants and functions while maximizing project funds.

- Library Only Renovation
- Lower Level Renovation
- Single Project Delivery
- 3+ Phasing Options

PROJECT SCOPE

The Library Building consists of the original campus library constructed in 1967 and an addition in 1979. This building includes the college's library, seven classrooms, staff and support areas for IT, including a TV studio, and offices for faculty, human resources department, Information Technology Services, Office of Students with Disabilities, TRIO, Equity & Inclusion, and Make-up Testing Services.

The project is proposing complete renovation of the original building, and expansion of interior mezzanine floor plate that would increase square footage, re-locate major circulation paths, including extension of elevator to mechanical penthouse, and provide necessary building infrastructure to support building energy efficiency, sustainability, and revitalize the learning commons with an investment in the dated building.

PHASE I

Increased accessibility renovating all building restrooms, and supplementing count of available facilities at all floors. Relocation of main stair system and elevator, including extending elevator to penthouse for increased maintenance access. Clarifying building wayfinding to increase accessibility to building housed student services.

Supplementing MEP infrastructure to support existing systems for local building systems as well as campus-wide systems to increase energy efficiency, sustainability, and meet needs of today's academic programs and space requirements.

Exterior envelope renovations including replacement of existing window systems, and introduction of new glazing at existing wall locations throughout the building to increase daylighting.

Classroom re-organization and up-grades to provide right sized spaces, and modernizations necessary for current teaching and learning needs. Student service oriented departments are additionally consolidated to one centralized location to increase equity and provide locations for services not currently housed on campus.

PHASE II

Library renovation, including mezzanine extension, re-envisioning of current library and functions with focused on student centered study spaces and overall learning resources.

COSTS & FUNDING

PHASE I:

PROJECT COSTS BREAKDOWN

Construction Costs:	$14,825,000
Project Costs:	$ 3,175,000
Total Phase I Cost:	$18,000,000

FUNDING

GO HEAPR Conversion (18'):	$4,400,000
HEERF Funding:	$1,400,000
Campus Funding:	$12,200,000

PHASE II:

PROJECT COSTS BREAKDOWN

Construction Costs:	$9,860,000
Project Costs:	$2,365,000
Inflation:	$2,575,000
Total Phase II Cost:	$14,800,000

FUNDING 2024 Capital Bonding Request

Overall Project Cost: $32,800,000

PROJECT SCHEDULE

PROJECT TEAM PROCUREMENT:

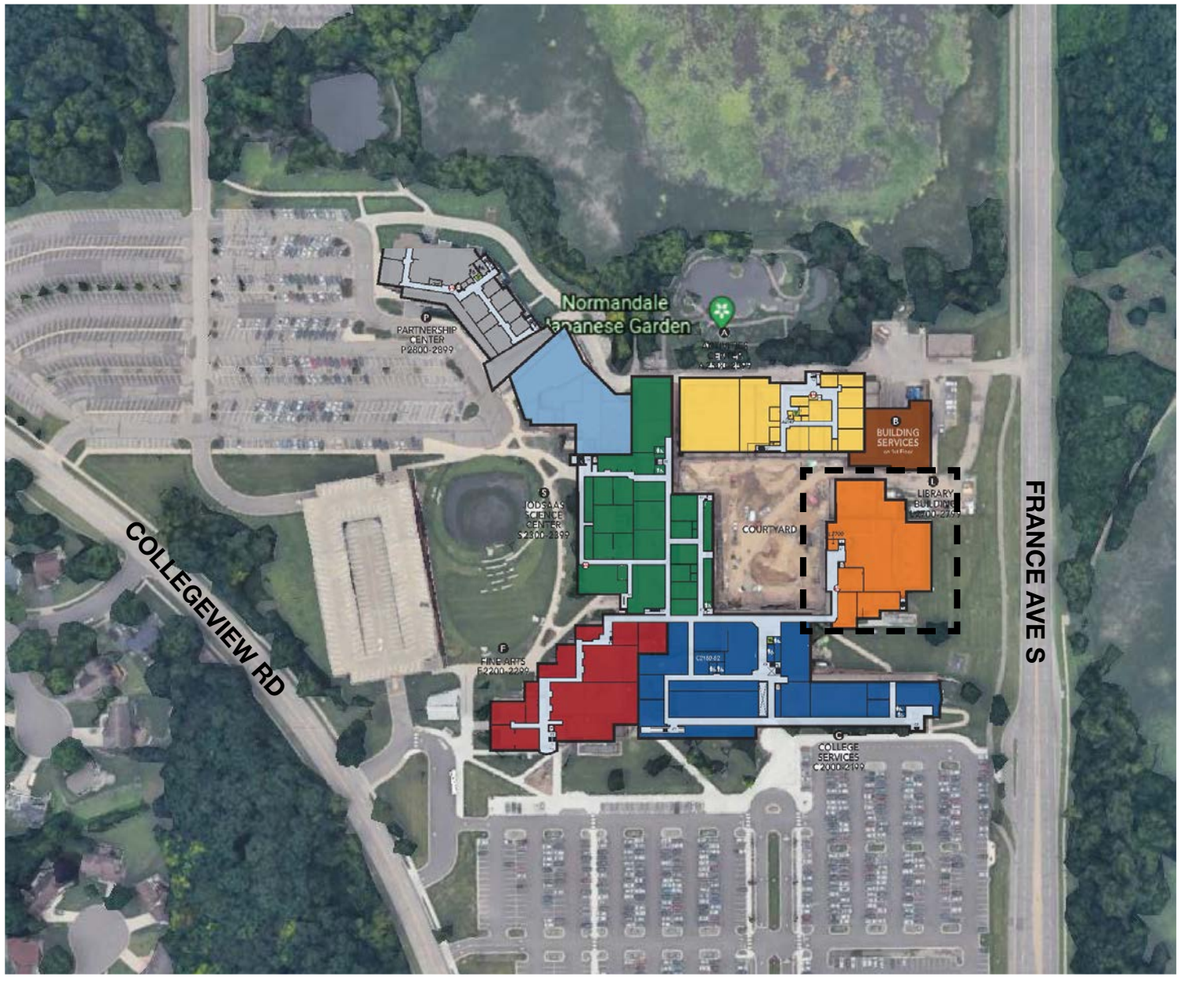
Designer Selection:	December 2022
Owner's Rep & CMA RFP:	December 2022
Contract Procurement:	January 2023

PHASE I:

Design Phase:	February-November 2023
Construction Start:	December 2023
Construction Completion:	August 2024
FFE / Move-in:	Sept- Oct 2024

PHASE II:

Capital Bond Funding:	July 2024
Construction Documents :	July- December 2024
Construction Start:	January 2025
Construction Completion:	August 2025
FFE / Move-In:	Sept- Oct 2025



Located at the East side of Normandale Community College, the Library Building was built in 1967 as part of the original four buildings on campus around the central courtyard. Growth of the campus required infill of the courtyard corners connecting all buildings in a continuous loop. A 1979 project connected the Library building to College Services at the south and Activities Building at the north. There is no adjacent parking or pedestrian grade access to the building other than from the east side of the courtyard. The main circulation patterns are at the main level from the south and the continuous below grade tunnel to the north and south. The Pre-Design will address issues throughout the entire footprint of the building across all three floors and the mechanical penthouse.

PROJECT STAKEHOLDERS

NORMANDALE COMMUNITY COLLEGE

Administrative Team

- Kristina Keller, Vice President of Academic Affairs/Provost
- Dara Hagen, Vice President of Student Affairs
- Jill Boldenow, Vice President of Administration
- Pat Buhl, Associate Vice President of Operations
- Tom McCluney, Assistant Facilities Manager

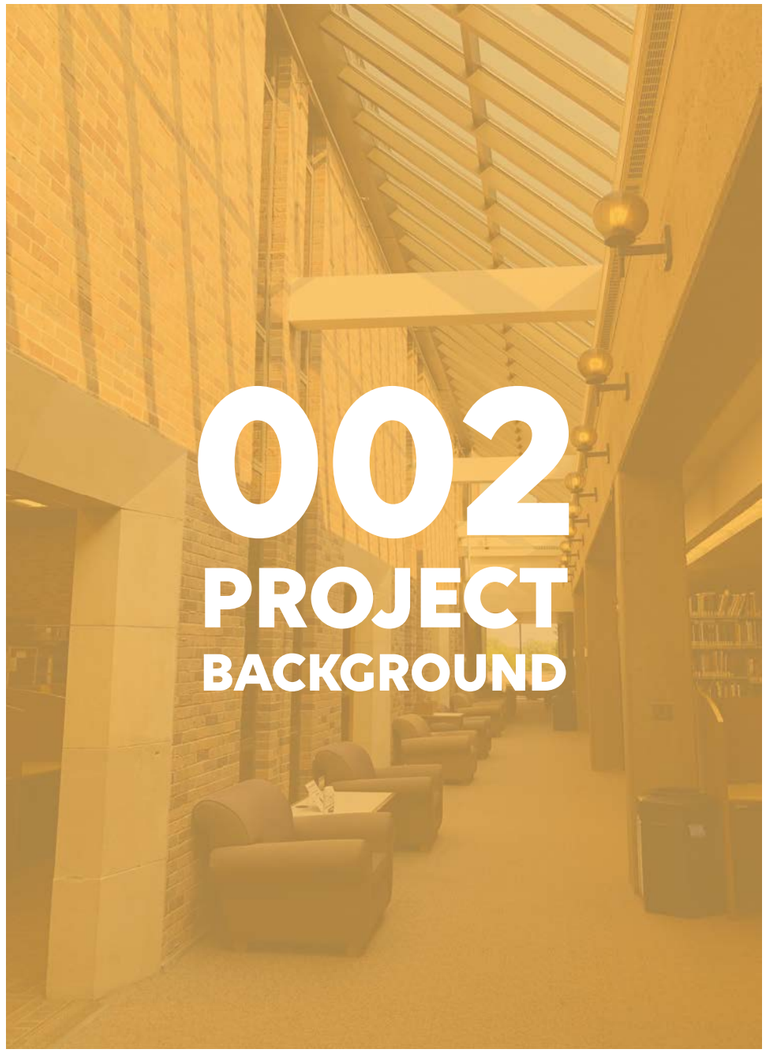
Library Advisory Team

- Jason Cardinal, Student Affairs Dean
- Maria Clark, Academy of Math and Science
- Joe Franklin, Library Manager
- Jeff Judge, Dean Humanities
- James Kircher, TRIO Student Support Services
- Jodee McCallum, Human Resources
- Libby Merrill, Library Faculty
- John Parker-Der Boghossian, Equity and Inclusion
- Anne-Marie Ryan-Guest, Instructor, Economics
- Jennifer Saunders, TRIO/ Upward Bound
- Debbie Tillman, Office of Students w/ Disabilities
- Stephen Winckelman, Information Technology Services

PRE-DESIGN TEAM

- Laura Schmidt, BDH- Architecture
- Rebecca Celis, HGA- Architecture
- Samantha Turnock Mendiola, HGA- Architecture
- Leighton Deer, HGA- Mechanical Engineering
- Sarah Jorczak, HGA- Structural Engineering
- Matthew Wagner, HGA- Electrical Engineering
- Brent Marlow, JE Dunn- Pre-Construction Planning
- Matthew Bosman, JE Dunn- Pre-Construction Planning

Thank you to all the additional members of the Normandale Community who provided feedback and important input at all phases of Pre-Design Planning!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PROJECT
BACKGROUND

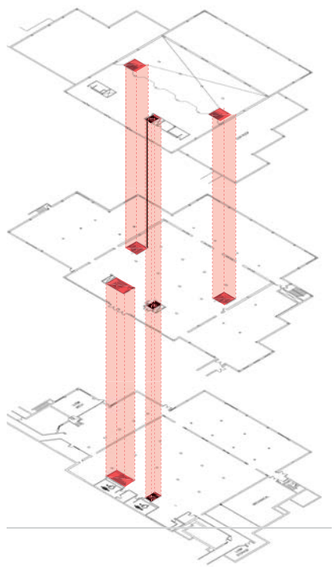
FACILITIES ISSUES

The Library Building provides the main study space on campus but has seen few improvements since an addition was added in 1979. The following key elements represent significant issues related to the current conditions of the building:

Wayfinding and Circulation

Navigating the Library building has always been an on-going obstacle for students in accessing the functions of the building. The Library is connected to the College Services building at the first and second floors on the south side, but is only connected to the north Activities Building at the lower level via pedestrian tunnel. The building has direct access to the courtyard at the west elevation on second floor. It is one of the only buildings without adjacency to outdoor pedestrian paths and parking requiring all patrons to access the building primarily from the south College Services. This limited access is amplified by the second level pedestrian 'loop' not being completed to the north to Activities Building. The non-continuous nature of the loop at the second level, which is the only entrance to the Library itself, requires patrons to intentionally seek out the library.

In addition, this is difficult as there is limited signage and no opportunity to view the contents of the library unless there was some level of prior awareness. The entrance is dimly lit, and its continually surrounded by solid walls. The hidden nature of the library was reflected candidly by the student population in the Design teams' feedback exercises, with a larger than expected number of students admitting they were unaware of where the library was and had never been there. The buildings' only elevator is original to the building and undersized for current needs, and accessibility requirements. It does not connect the penthouse to the other floors causing all maintenance access and equipment to be carried up a small mechanical access stair from the mezzanine level.



Acoustic Challenges

The main library space suffers from acoustical noise transfer between rooms on the mezzanine level to the main space. Classrooms and faculty offices on the lower level are not acoustically separated from one another and present significant challenges.

Acoustical problems affect all floors of the library in varying capacity. The main second floor library space is overlooked by the mezzanine with a two-level space, that is open, but also noise travels to all areas of both spaces incredibly effectively with the volume of hard surfaces and lack of sound absorbing materials. In addition, all walls within the lower level are only extended to the ceiling system connecting all spaces at these levels, within each construction era.

Limited Capacity for Student Study Spaces

Study rooms, originally designed as listening rooms, are too small for groups of students. With increase in volume of online classes, this has been the number one request of students on-campus. Supervision of the study rooms is a challenge given existing adjacencies to staff spaces, making them difficult to monitor and has caused on-going issues with students.

Classroom Sizing

There is a limited amount of larger classrooms on campus and the Library's larger classrooms are consistently scheduled, even with the inherited limitations, such as view point issues from structural columns, and limited teaching resources integrated.

Accessibility

The building has numerous accessibility concerns including the following:

- Aisle width between collections meets minimum ADA requirements of 36" clear but does not meet the recommended width of 42".
- Accessible restrooms are not available from within the library footprint. There is currently no gender-neutral restrooms available in the building.
- Vertical circulation via the existing elevator is problematic. The buildings' only elevator is original to the building and undersized for current needs, and accessibility requirements. Students must first request a key from staff and then leave the secured library space in order to access the elevator to the mezzanine level, and students must currently request permission to use the elevator to access the mezzanine where academic classrooms are located.

Lack of Technology

The Library was not designed for the advent of modern technology and lacks even basic access to power or data throughout the building. There has been no large-scale modifications to these systems in general which has additionally contributed to the ability to setup all spaces with additional integrated technology access and equipment.

Outdated Finishes

Finishes throughout the building are dated, worn, not comfortable, and generally not conducive to student studying or as supportive student amenity spaces.

FACILITIES ISSUES (CONT'D)

Lack of Daylight

The lower level of the building includes classrooms and faculty offices without access to daylight due to almost half of the building being below grade. At elevations where natural light is an option, there are still limited openings to the interior spaces. The lack of daylighting highly contributes to the character of the building being dark, and dingy. All Faculty, Staff, and students have commented across all engagement that the lack of daylighting is one of the most hindering aspects of the building for efficiency and long-term work environment.

Circulation Challenges

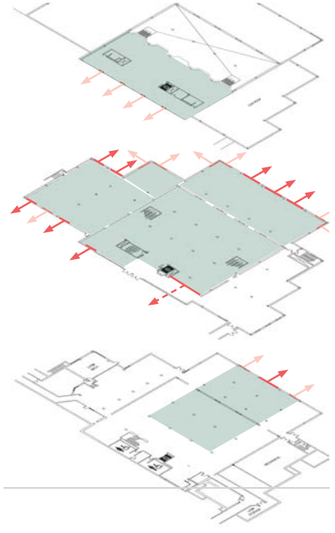
Currently multiple College departments, including OSD, Make-up Testing and TRIO/SSS/Upward Bound are all accessed through the library itself, making access to finding the departments challenging. Academy of Math & Science, along with Equity & Inclusion have no centralized home with the campus housing their offices wherever space allows, further limiting access to these services. This also limits the ability of these departments to serve students when the library is closed.

MEP Issues

» HVAC: Original air handling units are inefficient and cannot provide effective air turnover and tempering to the larger volume spaces. There is a range of temperatures, some rooms are very cold, while others are hot contributing to on-going and constant complaints to building maintenance staff by patrons causing dedication of resources. The building's heating and ventilation systems were designed as larger zones that do not allow the uses of each space to determine the temperature range.

» Electrical: Lighting is primarily fluorescent fixtures and most lack any effective controls for adjusting to time of day and daylighting levels. This is problematic for book studying and technology-based activities.

» Plumbing: The building is limited in its capability to expand its plumbing fixtures due to smaller building water supply. In addition, tempering of water to fixtures has been difficult and requires local heating in each location.



Envelope Issues

The existing exterior wall conditions all contain limited insulation, and the existing windows and glazing systems are well beyond their life expectancy, including a large skylight on the east elevation that leaks and allows in small insects seasonally.

AFFECTED PROGRAMS

A number of programs and departments, both student and faculty focused, are currently housed and/or being planned for relocation within the renovated library building. The following is a high-level description of each of those departments and programs.

LIBRARY SERVICES & COLLECTIONS

The eponymous department of the Building contains all staff and support for the Library Collections, and its core services, including Library instruction classes.

Adjacencies / Spatial Issues:

» Reference Desk / Circulation Desk within close proximity to main entrance and staff back of house area entrance.

» Offices toward the main collections area for cataloging and research.

User Needs:

» Centralized location for staff offices and workstations

» Break room // Print Station

» Dedicated Library Classroom

» Group Study and Deep quiet study areas for students

INFORMATION TECHNOLOGY SERVICES

ITS is responsible for campus-wide technology management to make different forms of technology easy, reliable, and accessible for students. Divided into multiple teams and units with different duties, the same goal of service is achieved with their diverse knowledge and experiences. The department operates a technology help desk that assists with on-demand issues, in addition to support of all campus network, and equipment, including all labs and teaching device assistance. Their role has become more prevalent with the pandemic and ever-evolving academic technological needs.

Adjacencies / Spatial Issues:

» Separate internal departments from each other with centralized small meeting space that feeds into larger total ITS group space.

» Each department needs access to local and large scale department storage

» Studio and audio controls rooms to remain within ITS

User Needs:

» Acoustics to meet with staff and students at desk areas

» Internal Department break room and mail area

FACULTY OFFICES

Currently over 35 faculty offices are housed within the Library Building, including Psychology, Reading, Sociology, Business, and Social Sciences. The on-going Comprehensive Facilities Plan is currently working through relocation of several departments and individual offices to locate all similar departments in the same proximity. The final program reflects the final Faculty offices that shall remain. Staff break room, and mail room will still be necessary within the building to support the balance offices.

Adjacencies / Spatial Issues:

» Building break room and mail room adjacent

» Accessible off main circulation paths for Wayfinding & Signage

User Needs:

» Adequate acoustics for meeting with students

» Daylighting

HUMAN RESOURCES

Human Resources is a faculty & staff based service department that is charged with finding, screening, recruiting, and training job applicants, and administering employee-benefit programs.

Adjacencies / Spatial Issues:

» Accessible off main circulation path

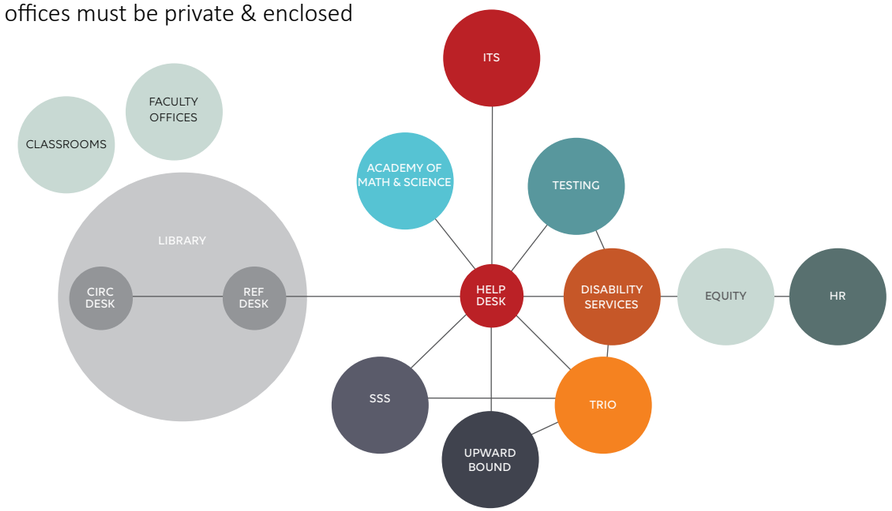
» Welcoming & Inviting; department sets standard for employee wellness

» Proximity to Equity & Inclusion

» Reception area with on-boarding stations & computer

User Needs:

» All offices must be private & enclosed



AFFECTED PROGRAMS

EQUITY & INCLUSION

As part of the Human Resources and Equity Division, the Equity and Inclusion department supports intentional equity work at the college by providing services and expertise, advocacy, resource mobilization and deployment, and capacity building to nurture equity-minded practitioners. This department includes Sirtify, a program that recruits and supports Black, African American, and African men into Elementary and Secondary Education pathways.

Adjacencies / Spatial Issues:

» Accessible off main circulation path
» Welcoming & Inviting
» Proximity to Human Resources
» Several offices have need for privacy & confidential conversations

User Needs:

• Acoustic isolation for neighboring rooms

ACADEMY OF MATH & SCIENCE

The Normandale Community College and Foundation established the program to support full-time students enrolled in science, technology, engineering and mathematics disciplines (STEM) and students in the Normandale Teacher Education program who intend to become a secondary STEM educator.

Adjacencies / Spatial Issues:

» Centralized department office
» Opportunity for department growth
» Accessible off main circulation path

User Needs:

» Natural daylight
» Acoustic isolation from neighboring rooms

MAKE-UP TESTING CENTER

The Make-up Testing Center provides for make-up testing, placement testing, proctoring and accommodating specialty testing needs as part of the Office for Students with Disabilities. OSD monitors the Center as part of their core services.

Adjacencies / Spatial Issues:

» Directly accessible from OSD offices for monitoring purposes
» Open group testing and individual private testing areas with Variety of testing station styles

User Needs:

» Enhanced handicapped accessible
» Acoustic isolation between all spaces
» Enhanced lighting capabilities; specifically dimming

OFFICE FOR STUDENTS WITH DISABILITIES

The Office for Students with Disabilities (OSD) is Normandale's program to provide accommodations for students with disabilities. The goal of the program is to offer students with documented disabilities equal access to Normandale courses, programs and events through appropriate and reasonable accommodations. The disability areas accommodated through the Office for Students with Disabilities include but are not limited to: learning disabilities, hearing and vision losses, physical and psychological disabilities, attention deficit disorders, brain injuries, Autism/Aspergers, and other health related disabilities.

Adjacencies / Spatial Issues:

» Accessible off main circulation path with department dedicated entrance
» Centralized to other student services within the building for referring students to neighboring departments and assistance.

User Needs:

» Enhanced user Accessibility considerations for all disabilities.
» Adjustable height furniture

TRIO / UPWARD BOUND

TRIO/Student Support Services Program helps students focus on academic and personal development to build strong foundations to stay in college, transfer and/or graduate. This department provides comprehensive academic support, integrated learning courses, learning communities, academic English enhancement and leadership development for low to moderate income, first generation college students and students with disabilities.

A part of the TRIO umbrella is the Upward Bound program, operating since 1992. Their core focus at NCC has been to assist high school students in preparation for higher education. Serving roughly 66 students from four partnering high schools: Richfield, Shakopee, Southwest and Washburn, members participate in a variety of activities ranging from tutoring to field trips to college visits, after school, on Saturdays and during the summer. Upward Bound (UB) is funded by a U.S. Department of Education grant program that has been helping students prepare for college and careers since 1965.

Adjacencies / Spatial Issues:

» Accessible off main circulation path with department dedicated entrance
» Proximity to OSD & Equity/Inclusion would be preferred.
» Separation from front of house reception/lounge and back of house office spaces

User Needs:

» Will never be remote; staff must be there in person
» Natural Daylighting

CAPITAL PLANNING ALIGNMENT

The renovation of the Library Building is in alignment with all four current Capital Budget guidelines as follows:

1. ***Update Academic Spaces.*** *The Board seeks strategic improvements and modernization of existing campus spaces to support current and emerging academic and student needs of a region and the state of Minnesota. The system's number one priority remains asset preservation to best support long term facility stewardship and financial sustainability.*

   The renovation of the library building includes six new workhorse academic classrooms on Normandale's campus, used by a variety of departments and accommodating the largest need in terms of classroom capacity on campus. Technology improvements to the academic classrooms will foster active learning and allow for continued adaption of hybrid learning modalities.

2. ***Ease Barriers to Student Success.*** *Improve opportunities for student success by updating support services, academic advising, and tutoring spaces and prioritize space that improves transferability between our colleges and universities and access to baccalaureate programming.*

   The renovation to the library building includes improving access to multiple student services, reducing barriers and increasing access for students as they navigate their degree on campus.

3. ***Prioritize Energy Efficiency and Renewable Energy Infrastructure.*** *Build for the future with flexible and adaptable spaces that prioritize energy efficiency and integrate renewable energy sources as a long-term strategy to enhance environmental and financial sustainability*

   Full replacement of the mechanical, electrical, and lighting systems of the building showcase the investment in this building to prioritize energy efficiency. See other sections of this document for more information on the impact of the MEP replacement in terms of deferred campus maintenance and alignment with longterm sustainability goals on Normandale's campus.

4. ***Limit New Square Footage.*** *Preserve and maintain the space we have by reinvesting in campus infrastructure and prioritizing renovation over adding new square footage; additional square footage should be considered only in unique situations where options for reutilization or replacement of existing space have been exhausted.*

   The renovation of the library building adds significant programming, including the department of Equity and Inclusion and increased space for student study, without adding new square footage to the building. The existing library has been rightsized to accommodate current needs while allowing for the expansion of other needed programs in the building.

COLLEGE STRATEGIC GOALS

The renovation of the library building is in alignment with Normandale's three strategic goals, as follows:

- **Goal 1: Achieve racial equity in educational outcomes by 2025;**
  The centrally-located student resources in the library building- including access to the library services, OSD, the department of Equity and Inclusion, TRIO/SSS/Upward Bound, the Academy of Math and Science – all aim to serve Normandale's increasingly diverse student body.

- **Goal 2: Achieve Associate Degree completion or baccalaureate transfer rate of 50% or better for degree seeking students by 2030**
  Key to completion of this goal is access to services that students need as they navigate their degree completion. All of the student-centered services in this renovation project are working to assist students with this degree completion rate.

- **Goal 3: Support and sustain a pervasive culture that is culturally competent and service oriented.**
  An important goal for this renovation project is to improve accessibility of the building and create access to services that are easier to find and navigate. Improving wayfinding and reducing both physical and perceived barriers to service will allow students to more easily access and benefit from the services offered in the building.

CAMPUS FACILITIES PLANNING

Campus Comprehensive Facilities Plan

The current Comprehensive Facilities Plan was completed in 2016, and is currently undergoing revisions to be completed later 2022. The 2016 report prioritized the Library Building Renovation, and potential for addition as its third project priority, behind College Services Renovation (completed 2021), and East Science Building Renovation.

Creating a more welcoming presence along France Avenue continues to be a primary goal of the renovation, by introducing more natural light along this façade and creating a central location for student services on campus. Bus drop off/entry has been accommodated with the renovation to the parking lot and is no longer a part of this Library renovation project.

The following goals were identified and are supported by the proposed project as discussed:

» Wayfinding & Internal Circulation

Improve connection between floors and building to building to assist in wayfinding and student access to building services.

» Flexible Learning Spaces

Accessibility, additional square footage, increased technology access and variable layouts will all contribute to more flexible classrooms to support a larger range of academic departments and curriculum.

» Increase Access to Student Services

Visibility to access Student Services, increase flow & organization of services to find the service to succeed,

» Increase Volume of Study Spaces

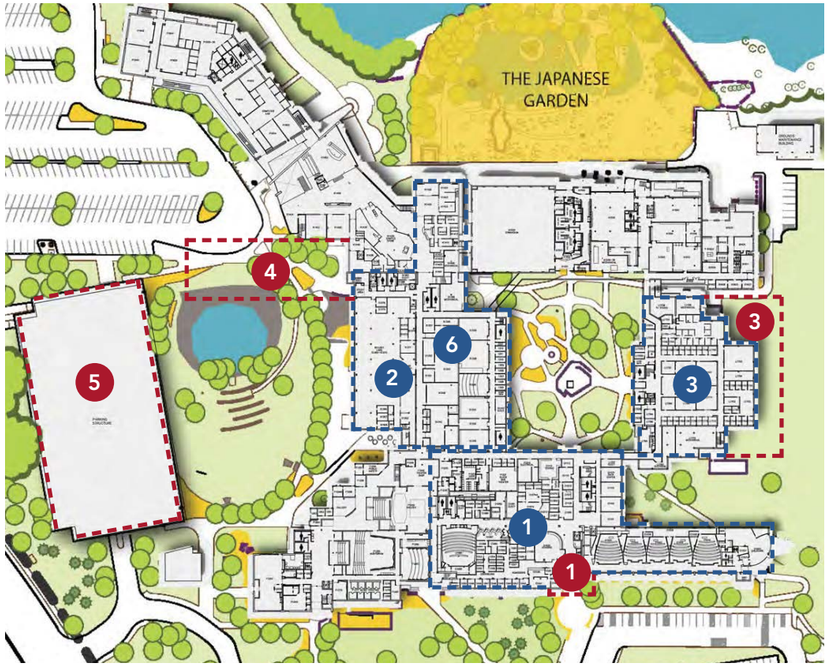
Library has the largest concentration of study and meeting spaces for students, but is still turning away students on a regular basis. Increase variety of quiet/individual study versus collaborative/group study is central to proposed project. Acoustic separation for different volumes of study space.

» Deferred Maintenance

- » Upgrade Infrastructure to support increased Technology
- » Complete Mechanical and electrical system upgrades
- » Overall reduction of backlog of Building by 83%

» Space Utilization

Reallocating square footage to provide additional large-sized classrooms will increase utilization to already higher utilized academic spaces.



Excerpts of Project goals from the 2016 CFP relevant to the current project include:

- *Creating a comprehensive Learning Commons – a full-service learning, research and collaboration space*
- *Adding individual study areas and "deep quiet" space with for students*
- *Adding collaborative group study areas with proper monitoring and sound control*
- *Making overall improvements to lighting, acoustics and aesthetics to create an inviting and interactive space*
- *Improving technology for classes, group collaboration and individual content creation*
- *Improving work space for the growing department of IT staff to better assist students and faculty with campus technology*
- *Addressing circulation both inside and outside the library to improve accessibility, security and a sense of connection*
- *Addressing circulation in the rest of the building to improve wayfinding and connection between floors and with adjacent buildings*
- *Replacing original air handling units that are inefficient and have approached the end of their useful life*
- *Upgrading lighting and lighting controls to improve energy efficiency*

CAMPUS MISSION

Any major capital project initiative must align with the mission of the College to provide continual and on-going support for years to come. Renovation of the Library Building is the heart of these facilities that can deliver opportunities in support of Normandale's mission.

Normandale's mission is to cultivate a welcoming college community, to foster every student's talents, and to build an equitable world.

Central to any campuses' community is that of the Library and Normandale is no different. Acting as a cornerstone for both student and Faculty, the resources and services housed within a welcoming, and modern facility represent the College's larger sense of community and its ability to support its students equally in that community. The current dated facility does not provide adequate resources and must be re-envisioned to remain relevant against the other services and facilities the campus currently offers, as well as against other College's.

An equitable learning environment for all students is achieved by providing increased study spaces, modern technological resources and assistance through any number of student-focused services housed within the building.

PARTNERSHIPS

The renovated library building solidifies the Library at Normandale as a community resource and part of the larger library ecosystem at Minnesota State. Existing partnerships exist and will be maintained with the following:

- MINITEX, a state-funded library organization located at the University of Minnesota Twin Cities. Their mission is to strengthen libraries, cultural institutions, and the communities they serve. Minitex serves Minnesota, Wisconsin, and North and South Dakota libraries of all types. Normandale's library currently participates in the Minitex system.

- MnPALS Library Consortium. The MnPALS Library Consortium, coordinated by the PALS office—itself a program of Minnesota State Colleges and Universities—facilitates library services in a cost-effective manner. In addition to all Minnesota State institution libraries, the consortium consists of selected private college libraries (including the members of the CLIC library consortium), all Minnesota State Government Agency libraries, and selected Special Libraries. (Note: MnPALS is the name of the library consortium; PALS is the name of the office whose staff supports the consortium.)

ENROLLMENT & DEMOGRAPHIC TRENDS

Despite the pandemic, Normandale's enrollment has remained relatively steady, with a decline of only 0.7% in 2020 and 3.7% in 2021. The high school enrollment has seen an increase due to the success of the Post-Secondary enrollment option on campus.

Enrollment

	Reported Metrics					One-Year Percent Change				
Enrollment	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Unduplicated Headcount	14083	13903	13588	13415	13363	-1.2%	-1.3%	-2.3%	-1.3%	-0.4%
Full Year Equivalent Students (FYE)	6772.72	6655.77	6600.60	6556.77	6313.27	0.1%	-1.7%	-0.8%	-0.7%	-3.7%
High School Undup Headcount	1340	1386	1423	1626	1748	-5.0%	3.4%	2.7%	14.3%	7.5%
High School FYE	855.10	903.97	910.40	1014.70	1038.47	1.2%	5.7%	0.7%	11.5%	2.3%

Demographically, 53% of Normandale students come from underrepresented backgrounds, an increase from 51% in 2017. The percentage of students of color have increased steadily since 2017, rising from 36% of students in 2017 to 41% in 2021:

ALL-NORMANDALE

Program data Sheet

Demographic Breakouts

Note: Percents are based on unduplicated headcounts.

Gender	2017	2018	2019	2020	2021
Female	53%	53%	54%	54%	55%
Male	43%	42%	42%	41%	39%
Unknown	5%	5%	5%	5%	6%
Total Count	**14083**	**13903**	**13588**	**13415**	**13363**

Age	2017	2018	2019	2020	2021
18 or less	20%	20%	22%	24%	25%
19 - 20	26%	26%	25%	26%	26%
21 - 24	26%	26%	26%	25%	24%
25 - 34	19%	19%	18%	17%	17%
35 - 44	5%	5%	5%	5%	5%
45 - 54	2%	2%	2%	2%	1%
55 or greater	1%	1%	1%	1%	1%
Unknown	1%	1%	1%	1%	1%
Total Count	**14083**	**13903**	**13588**	**13415**	**13363**

Race/Ethnicity	2017	2018	2019	2020	2021
Student Of Color	36%	37%	39%	40%	41%
White	57%	56%	54%	52%	50%
Nonresident Alien	1%	1%	1%	1%	1%
Unknown	6%	6%	6%	7%	7%
Total Count	**14083**	**13903**	**13588**	**13415**	**13363**

Demographic Group	2017	2018	2019	2020	2021
First Generation MN	18%	18%	20%	20%	20%
Pell Eligible	29%	31%	32%	31%	28%
Student Of Color	36%	37%	39%	40%	41%
Underrepresented	51%	53%	54%	54%	53%

As Normandale continues to invest and focus on its three strategic priorities, the College aims to continue to attract students from underrepresented demographic groups, focusing and prioritizing on retention and matriculation of students of color.

SCHEDULING

The busiest time on campus continues to be during primetime hours between 9 a.m. and 2 p.m. on campus.

Even before the pandemic, Normandale was increasing the number of online course offerings; this exploded during the 2021 academic year as visible in the following data. In addition, the college has increased f2f and hybrid courses each semester since returning to on-campus course delivery.

Section Breakdown

Sections	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Early Morning (7:00 AM-8:59 AM)	214	215	231	228	28	8%	8%	9%	9%	1%
Prime Time (9:00 AM-1:59 PM)	1165	1139	1100	1048	39	45%	45%	43%	41%	2%
Late Afternoon (2:00 PM-4:59 PM)	245	264	246	236	12	9%	10%	10%	9%	1%
Evenings	314	287	266	240	8	12%	11%	10%	9%	0%
Weekend	19	11	11	8	1	1%	0%	0%	0%	0%
Other	80	91	123	148	21	3%	4%	5%	6%	1%
Subtotal: In Person & Hybrid	**2037**	**2007**	**1977**	**1908**	**109**	**79%**	**78%**	**77%**	**75%**	**5%**
Online	544	551	593	651	2255	21%	22%	23%	25%	95%
Grand Total	**2581**	**2558**	**2570**	**2559**	**2365**	**100%**	**100%**	**100%**	**100%**	**100%**
Hybrid*	225	264	309	332	97	9%	10%	12%	13%	4%

*Hybrid sections are included in the Early Morning, Prime Time, Late Afternoon, Evening and Weekend counts.

The library's hours are currently as follows:

LIBRARY HOURS

Fall & Spring Semesters	
Monday - Thursday:	7:45 a.m. - 8:45 p.m.
Friday:	7:45 a.m. - 4:45 p.m.
Saturday:	9:00 a.m. - 3:45 p.m.
Sunday:	Closed

Being open later into the evenings on campus allows the library to complement core academic hours and become an extended study option for students seeking alternative study spaces. In addition, library service instruction and support is available for students outside of core class program hours.

The increase of online classes presents an opportunity for the library to host students who may otherwise struggle with finding a place to take online programming, especially if their home condition does not have adequate space and/or technology support. The creation of new enclosed study rooms with technology access provides an alternative on-site destination for online students to take coursework on campus.

SPACE UTILIZATION: EXISTING

Classrooms

Six classrooms at the lower level and one classroom at the Mezzanine are scheduled within the College's larger academic scheduling program. The classrooms range in size:

- » Small (485sf): 1735 & 1748
- » Medium (900-1000sf): 1747, 1774, 3701
- » Large (1300sf): 1753 & 1790

The larger classrooms have 'normal' utilization rates versus the mid-sized rooms are harder to accommodate classes with the limited student capacity, but still operate around the 60% utilization for a 'low' classroom.

Group Study Rooms

In addition to Classrooms being scheduled, students have the opportunity to schedule group study rooms via Library website. The length of time for scheduling is limited to 2 hours and are highly coveted during peak hours. These spaces do not work well for quiet individual study, but since the main floor of the Library is loud, students attempt to utilize as such.

Library is in process of on-line study room scheduling system.

ISSUES RESOLUTION SUMMARY

Circulation, Wayfinding & Signage

Circulation through the building is difficult to locate and move from floor to floor, which is further confused by lack of signage and unintuitive floor plans that require patrons to wander around to find their location.

» Circulation Clarity: Relocating the existing central public stairway along the main circulation paths at the first and second levels, and opening it up to be visible along both main paths will increase patron clarity and understanding on where to access vertical circulation points as well as connections to adjacent buildings.

» Elevator Relocation: The existing elevator has not been upgraded since original construction, and does not consistently function. The existing cab is too small to support larger sized equipment and general building maintenance, coupled with the lack of service elevator. The Facilities department houses the large volume of their campus supplies in the Library building and struggles to get these supplies efficiently to the storage area. In addition, the existing elevator does not extend to the mechanical penthouse, and is only accessible by ships ladder stair from the mezzanine level. Relocation of the elevator will push it along a more prominent circulation path, and allow it to extend to the penthouse, while not impeding on the existing penthouse footprint that would require extensive mechanical relocation.

» Signage Updating: The building at large lacks any cohesive and consistent signage for patrons. This has been a constant comment from students and their perceived inability to understand the circulation paths connecting the corridors internally, to other buildings and the other floors. Increased and graphically consistent signage would assist all patrons in accessing and efficiently utilizing the services of the building.

Technology Integration

The building completely lacks the level of electrical and network systems necessary to support modern technology in a higher education setting. The building will be completely retrofitted to accommodate all Faculty, Student and staff needs, particularly focusing on the student focused study areas, individual and group, to facilitate a range of mediums, and styles of learning, and research.

Security & Monitoring

There are currently limited to no security and monitoring capabilities due to the limitation of the existing electrical and technological infrastructure. This is necessary to ensure a safe environment is able to be maintained at all hours of operation, and shall be fully integrated into the final building systems.

Finishes & Furniture

All the existing furniture and finishes within the building have had no significant updates since building construction. Carrels, study stations, computer stations soft seating and other uncomfortable, dingy, and dirty. They do not promote an environment that students want to utilize for more than very short times.

Acoustics

Sound transfer was a constant issue brought up by every single group that our team met with. Within the main library space, there is no sound baffling and contains any excess of hard surfaces allowing sound transfer throughout the main floor and mezzanine of the Library. In addition, the lower level also experiences significant sound transfer between rooms due to the walls only extending to the bottom of the acoustic ceiling grid. Faculty and Staff report hearing exact conversations from rooms two over.
The open space within the larger Library 'living room' will require replacement of the existing ceiling along with further considerations to the sound attenuation of the space including all surrounding walls surfaces.

Accessibility

The building lacks the necessary accessibility compliance and more important universal design considerations that go beyond the required accessibility code. A focus of the building re-design will be to incorporate options for range of disabilities at every point of service throughout the library and associated student service points. This includes considerations at study and testing areas, accessing library collections, maneuvering through the general floor plan, in addition to expanding the limited restroom facilities to include gender neutral facilities, and mother's room.

Increased Energy Efficiency

» Project will replace 40-50 year old equipment and control systems which will reduce HVAC energy and operating costs by approximately 20% and improve indoor environmental quality by meeting code requirements for outdoor air ventilation, upgraded filtration systems and improved thermal and acoustic comfort.
» Lighting replacement and integration of lighting controls in conjunction with added daylighting will greatly reduce the energy needs of the existing building.
» Exterior wall systems and glazing will be replaced to provide higher insulating values, thereby reducing the energy to maintain constant temperatures throughout the seasons.

ISSUES RESOLUTION SUMMARY CON'TD

Envelope Investment

» Window/curtainwall systems are past their life requiring replacement. The perimeter conditions will also be replaced including increasing the sill height to accommodate masonry & window sill flashing, which is currently taking on water at several locations. The window heads shall have flashing systems installed to mitigate some masonry deterioration at several conditions.

» Skylight Replacement at the second level east elevation roof is necessary due to the age of the system and on-going issues that include insect infiltration that has affected significantly affected the main library areas, requiring on-going facilities maintenance.

Deferred Maintenance Reduction

All of the above work will result in a reduction of the existing deferred maintenance backlog by almost 85% of the scheduled renewal costs.

BUILDING SUMMARY

CODE INFORMATION

OCCUPANCIES - EXISTING	'B'- Business / 'A-3'- LIbrary
OCCUPANCIES - PROPOSED	Same
TYPE OF PRIMARY SPACES	Library Collections & Stacks, Study Rooms- Group & Individual, Classrooms, Offices and Conference Rooms.
CONSTRUCTION TYPE	Type IIA

BUILDING SIZE (GSF)

TOTAL BUILDING AREA	62,385SF (1ST: 28,185sf / 2ND: 27,645sf / Mezzanine: 6,150sf)
SPACE EFFICIENCY (%)	80% programmed spaces

EXISTING SYSTEMS

ROOFING	Built-up Asphalt (BUR) with pre-finished cap flashing
EXTERIOR WALL TYPES	Masonry veneer over CMU back-up with 2' insulation, and air space
INTERIOR WALL TYPES	Plaster and steel studs
CONVEYING SYSTEMS	One Elevator from Lower Level to Mezzanine; non-accessible and unable to be use for maintenance conveying to the penthouse at the roof level.
LIFE EXPECTANCY OF BUILDING AND SYSTEM	With no large scale renovations since the addition, all building systems, including MEP, which are discussed further, are past their life expectancy in addition to being unable to support a modern academic facility of this scale.
TECHNOLOGY SYSTEMS	There is limited technology integration into the existing building, which is really the major determining factor to the utilization of the building. The limitations present constant and on-going struggle with out large scale modifications to address limited integration.
SUSTAINABILITY/ALTERNATIVE ENERGY SYSTEMS	Updates to the mechanical, and electrical systems of the building, that are on par with current energy codes and standards, will provide a significant savings to the College from the energy reduction. As discussed further, automated lighting controls, efficient fixtures and more
FF&E NOTES	LIBRARY: All existing library stacks are included for replacement. The current shelving does not comply with accessibility requirements and will need to be reduced in height and configuration.

CODE SUMMARY

Building Codes
- 2020 Minnesota State Building Code
- International Building Code Mandatory Chapters 2 through 33 and 35
- Minnesota Rules Chapters 1300 through 1370,
- 2020 Minnesota Conservation Code for Existing Buildings
- Chapters 1 through 6 of the 2000 Guidelines for the Rehabilitation of Existing Buildings (GREB); Appendices 2, 3 and 4 of GREB are deleted
- 2020 Minnesota Fire Code

Accessibility Standards
- 2020 Minnesota Accessibility Code
- 2018 International Building Code, Chapter 11
- 2009 ANSI A-117.1

Mechanical Codes
- 2020 Minnesota Mechanical & Fuel Gas Code
- NSI/ ASHRAE Standard 62.2-2016 and ANSI/ ASHRAE Standard 154-2016
- Minnesota Rules Chapter 1346: Minnesota Mechanical Code

Plumbing Code
- 2020 Minnesota Plumbing Code
- Minnesota Rules Chapter 4715: Minnesota Plumbing Code

Electrical Code
- Minnesota Rules Chapter 1315: Adoption of the National Electrical Code

Energy Code & Sustainability
- 2020 Minnesota Energy Code
- ANSI/ASHRAE/IES Standard 90.1-2016
- Minnesota Sustainable Building Guidelines (B3), v3.2

BUILDING METRICS

Library is split into 2 constructions & maintenance tracking logs. The current values are highlighted as follows:

1967 LIBRARY

Current backlog ($): $5,260,084.55
Current renewal ($): $2,241,880.83
Current FCI: **0.34**
Current CRV: $15.1M

1979 ADDITION

Current backlog ($): $3,442,217.09
Current renewal ($): $2,789,866.87
Current FCI: **0.26**
Current CRV: $13.2M

System Description	Building (Original /Addition)	Yr Installed	Renewal Yr	Replacement $	Current Backlog	Proposed Scope of Work %	Scope of Work Backlog Removal	10 Yr Renewal	Proposed Scope of Work %	Scope of Work Renewal Removal
Building Exteriors (Hard)	Addition	1989	2021	$ 352,457.25	$ 352,457.25	100.00%	**$ 352,457.25**			
Roofing - MnSCU Standard	Addition	2000	2042	$ 10,993.30			$ -	$ 10,993.30	0.00%	$ -
Roofing - MnSCU Standard	Addition	2006	2048	$ 208,872.88			$ -	$ 208,872.88	0.00%	$ -
Interior Finishes	Addition	2009	2020	$ 484,540.58	$ 484,540.58	100.00%	**$ 484,540.58**			
Elevators	Addition	2008	2020	$ 367,115.85	$ 367,115.85	100.00%	**$ 367,115.85**			
Plumbing Fixtures	Addition	2009	2041	$ 161,542.90				$ 161,542.90	100.00%	$ 161,542.90
Plumbing Rough-In	Addition	1979	2031	$ 469,943.00				$ 469,943.00	100.00%	$ 469,943.00
HVAC - Equipment	Addition	2014	2020	$ 1,074,994.58	$ 1,074,994.58	50.00%	**$ 537,497.29**			
HVAC - Distribution	Addition	1979	2031	$ 998,628.84				$ 998,628.84	100.00%	$ 998,628.84
HVAC - Controls	Addition	1999	2021	$ 884,080.16	$ 884,080.16	100.00%	**$ 884,080.16**			
Fire Protection Systmes	Addition	2004	2046	$ 161,542.90				$ 161,542.90	100.00%	$ 161,542.90
Electrical Equipment	Addition	2009	2041	**$ 631,485.89**				$ 631,485.89	100.00%	$ 631,485.89
Fire Detection Systems	Addition	2015	2037	**$ 146,857.16**				$ 146,857.16	100.00%	$ 146,857.16
Built-In Equipment	Addition	2004	Assume all e	$ 279,028.67	$ 279,028.67	100.00%	**$ 279,028.67**			
				$ 6,232,083.96	**$ 3,442,217.09**		**$ 2,904,719.80**	$ 2,789,866.87		**$ 2,570,000.69**
Building Exteriors (Hard)	Library Building	1997	2020	$ 140,808.02	$ 140,808.02	100.00%	**$ 140,808.02**			
Building Exteriors (Hard)	Library Building	1997	2029	$ 261,500.62				$ 261,500.62	50.00%	**$ 130,750.31**
Roofing - Built Up, Membrane, Cedar	Library Building	2017	2042	$ 907,557.21				$ 907,557.21	10.00%	**$ 90,755.72**
Interior Finishes	Library Building	2007	2020	$ 553,073.74	$ 553,073.74	100.00%	**$ 553,073.74**			
Elevators	Library Building	2008	2020	$ 150,865.75	$ 150,865.75	100.00%	**$ 150,865.75**			
Plumbing Fixtures	Library Building	1997	EXIST	$ 184,391.45	$ 184,391.45	100.00%	**$ 184,391.45**			
Plumbing Rough-In	Library Building	1970	2022	$ 536,411.52	$ 536,411.52	100.00%	**$ 536,411.52**			
HVAC - Equipment	Library Building	2002	2020	$ 1,227,041.27	$ 1,227,041.27	50.00%	**$ 613,520.64**			
HVAC - Distribution	Library Building	1970	2022	$ 1,139,874.43	$ 1,139,874.43	100.00%	**$ 1,139,874.43**			
HVAC - Controls	Library Building	2007	2020	$ 1,009,124.06	$ 1,009,124.06	100.00%	**$ 1,009,124.06**			
Fire Protection Systems	Library Building	2004	2046	$ 184,391.45				$ 184,391.45	100.00%	**$ 184,391.45**
Electrical Equipment	Library Building	1997	2029	$ 720,802.96				$ 720,802.96	100.00%	**$ 720,802.96**
Fire Detection Systems	Library Building	2015	2037	$ 167,628.59				$ 167,628.59	100.00%	**$ 167,628.59**
Built-In Equipment	Library Building	1997	2024	$ 318,494.31	$ 318,494.31	100.00%	**$ 318,494.31**			
				$7,501,965.38	**$5,260,084.55**		**$ 4,646,563.92**	$2,241,880.83		**$1,294,329.03**
			Sub-Total	**$13,734,049.34**		**Sub-Total**	**$ 7,551,283.72**		**Sub-Total**	**$ 3,864,329.72**

BUILDING METRICS

Due to the current building maintenance numbers, each phase and its resultant FCI shall be assessed on a cost of maintenance backlog and renewal work removed by the respective phases per square foot. The following summarizes the documented Facilities Conditions numbers after each phase:

	1967 Building	1979 Addition	Sub-Total / Flr
First Flr	11,790	16,375	28,165
Second Flr	11,790	16,375	28,165
Mezzanine	6,065	--	6,065
SF / Yr	**29,645**	**32,750**	**62,395**

1967 LIBRARY

From the backlog reduction of $4.64M, the cost / SF of reduction for the original building is approximately $156.75/sf. The renewal cost reduction is $1.3M yielding $43.67/sf.

1979 ADDITION

From the backlog reduction of $2.9M, the cost / SF of reduction for the addition building is approximately $88.75/sf. The renewal cost reduction is $2.57M yielding $78.47/sf.

PHASE I

- 16,385sf of Original 1967 Building Renovated
- 16,375sf of 1979 Addition Renovated
- Backlog Removal / Updated FCI after Phase I Completion:
  - » 1967 Original: $2.568M = 0.18 FCI
  - » 1979 Addition: $1.452M = 0.15 FCI

PHASE II

- 13,260sf of Original 1967 Building Renovated
- 16,375sf of 1979 Addition Renovated
- 4,190sf Added at Mezzanine Level
- Backlog Removal / Updated FCI after Phase II Completion:
  - » 1967 Original: $4.64M = 0.04 FCI
  - » 1979 Addition: $2.90M = 0.04 FCI

EXISTING BUILDING - GENERAL

The original Library Building was built in 1967 in similar construction time frame with the other core campus buildings - College Services (south), Science (west), and Activities (north) along central campus courtyard. As the College grew, built condition accommodated the growth with infill between these buildings, including the Library Building. An 1979 addition almost completely surrounds the square Library Building on the north, east and south elevations.

EXTERIOR ENVELOPE

Wall Construction: The 1967 building construction contains an 8" CMU back-up wall with 2" insulation, 3/4" air space, and face brick veneer with 39" high vertical running bond accent band. The penthouse construction deviates slightly with no insulation for overall wall depth just over 1'-0". Foundation is poured concrete in min of 12" depths. The 1979 building is of similar wall construction, but is 8"-12" CMU foundation.

Both concrete roof deck construction is flat, except for the penthouse which is tapered to the perimeter drainage.

CIRCULATION

Existing circulation within the building and to other buildings has been an issue since construction. The following highlights some of the issues and current conditions:

- Circulation tower north of main entrance at west from second floor Library Lobby extending to first floor.
- Southeast stair tower adjacent to Mechanical room will remain in place.
- Mezzanine Stair Accent flanks north and south ends of the east elevation within the Library; both are scheduled to be removed to allow for mezzanine expansion.
- Mechanical penthouse access stair at south end of mezzanine floor.
- Elevator extends from first floor to Mezzanine, additionally not continuing to Penthouse.

INTERIOR ENVIRONMENT

- Interior partitions within 1967 building have walls to ceiling and do not extend past ceiling causing significant acoustical issues.
- Existing 1967 building shell limits modification to existing floor plan and ability to provide necessary MEP systems at both sides of wall construction.
- The volume of existing hard surfaces makes sound attenuation throughout the building difficult to retrofit.

RESTROOMS & FACILITIES

The existing restrooms facilities within the building are not based on current code required minimums. In addition, no facilities are provide at the main level, requiring students to access lower level restrooms or adjacent building locations with the mezzanine's facilities not being accessible beyond standard academic hours.

- 9 Water Closets: 6 Men's / 6 Women's within first floor; 2 Men's / 2 Women's within Mezzanine floor; one unisex at Library Staff accessed areas. There are no gender neutral or family assisted restrooms available.
- 4 Lavatories: 3 Men's / 3 Women's within first floor; 1 Men's / 1 Women's within second floor and 1 at Library Staff area.
- Drinking Fountains: 2 at First floor; 1- within Second floor (main lobby); 1 Mezzanine

ACCESSIBILITY

Significant hurdles are present within the Library building due to existing accessibility issues. Both main restrooms banks on the first floor and mezzanine level have been modified to be accessible as possible, but still contain non-compliant conditions.

There is not a continuous accessible route that accesses all building resources and areas.

All furniture, including computer stations, study carrels, and soft seating is not accessible or provide accessible options.

ACOUSTICS

Acoustics throughout the existing building are problematic and was cited repeatedly as a major issue to the use and flexibility of the various spaces. Within the main Library space, the open mezzanine and the abundance of hard surfaces contribute to the overall sound transfer that prevents a lot of students utilizing the space from quiet or deep study.

In addition, the entire lower level demising walls were constructed to the acoustical ceiling grid with no separation at the head condition. The construction and lack of insulation prohibits the use of the majority of lower level spaces for study or private uses of the departments and faculty offices is currently houses.

STRUCTURAL SYSTEMS

The existing building structural systems and materials as described are based solely on the existing building structural drawings as listed below:

DRAWING SET	YEAR	DESIGN FIRM
Normandale Community College Phase 5	1979	ATSR
Southwest Metropolitan State Junior College	1967	Ellerbe Architects

Existing Building Systems

The foundation system supporting each of the three buildings where the library renovation will be performed is shallow depth spread footings ranging in size from 5’-0” x 5’-0” up to 13’-4” x 13’-4” deep with an allowable bearing pressure ranging from 2,500psf to 3,000psf depending on location within footprint of the buildings.

Datums for the first floor and second floors across the existing buildings is consistent. The original 1967 library has an addition third floor and a mechanical penthouse. According to the existing structural drawings the project datums are as follows: first level at 825’-8”, second level at 839’-0”, third level / low roof at 852’4”, high roof at 865’-8” and penthouse roof at 875 ‘ 2 ½” . The existing structural drawings indicate a 4” slab on grade in both buildings, except for the lower-level mechanical electrical room in the 1979 addition which has a 5” slab on grade.

The structural framing in the 1967 building consists of 17” total depth pan and joist concrete framing spanning in the East-West direction with 28” deep girders spanning from concrete column to concrete column in the North-South direction on the 2nd and 3rd floors. The pan joist slab is 3” thick with 14” deep joist stems below. The roof structure the Western half of the building is comprised of 4 ½” one way slab spanning in the North-South direction supported by 28” deep concrete beams spanning in the East-West direction to concrete columns. The Eastern half of the roof structure is framed with long span open web joist spanning in the East West direction supported by concrete perimeter beams spanning in the North-South direction to columns. Concrete building columns vary in size from 14”x 20” up to 20” x 20”.

The first-floor framing in the South and West portions of the 1979 addition is comprised of a 19” total depth pan and joist concrete framing system. The pan joist slab is 3” thick with 16” deep joist stems below. The northern addition pan and joist system is 20 ½” in total depth with a 4 ½” slab depth and 16” deep stems. The pan joist framing spans to concrete girders that vary in width but are the same depth as the joist system. The floor framing system is supported on 16” x 16” cast in place concrete columns. The roof framing over the 1979 addition is precast double tees bearing on cast in place concrete beams that span to concrete building columns.

STRUCTURAL SYSTEMS

The apparent existing lateral systems are concrete moment frames within both building. A ½” expansion joints exist between the 1967 and 1979 buildings.

Visible inspection of the exposed elements of the existing building structure do not appear to be in good condition.

Structural Systems Design Criteria:

BUILDING RISK CATEGORY: III

FLOOR LIVE LOADS:

40 PSF	Classroom
50 PSF	Office
60 PSF	Lecture Hall / Assembly Fixed Seating / Library Reading
80 PSF	Corridors Above First Floor
100 PSF	Lobby, Stairs and Corridors, Public Assembly
125 PSF	Mechanical Equipment Room
150 PSF	Library Stack Rooms

*(Existing building program and legacy UBC codes have similar floor Live Loads)

SNOW LOADS:

Ground Snow Load: 50 psf

Snow Exposure Factor: 1.0

Snow Thermal Factor = 1.1 at heated areas

Snow Importance Factor = 1.1

Flat Roof Snow Load = 40 psf

WIND DESIGN DATA:

Ultimate Design Wind Speed (3 second gust, Vult) = 120 MPH

Nominal Design Wind Speed (3 second gust, Vasd) = 89 MPH

Wind Importance Factor: 1.0

Wind Exposure Category: B

Internal Pressure Coefficient: 0.18

SEISMIC DESIGN DATA:

Seismic is not a design requirement in Minnesota Building Code.

MECHANICAL SYSTEMS

The existing building Mechanical systems and materials as described are based on what could be gathered from available existing documentation as well as project site assessments. Pertinent information is listed below:

DRAWING SET	YEAR	DESIGN FIRM
Southwest Metropolitan State Junior College	1967	Ellerbe
Normandale Community College Phase 5*	1979	ATSR
Library AHU/VAV Remodel	2009	Steen Engineering
Lower Level Library Building Renovation	2011	292 Design / EDI Engineering

*Mechanical drawings from the 1979 set could not be found by the team nor Normandale staff.

HVAC

There Library is served by Air Handling Units (AHUs) that provide central heating, cooling and ventilation through distributed air systems and terminal units.

AHU-10 and AHU-11 are original to the 1967 building, are located in the Library penthouse and placed in service in 1967. These units serve the original library building on the 1st floor, 2nd floor and 3rd floor. These units have variable frequency drives, but operate in a constant volume operation with location reheat coils (original) that provide local temperature control.

AHU-206, AHU-207, and AHU-208 are original to the 1979 Library addition, located in the first level mechanical room L1726 and placed in service in 1979. These units serve the IT services and TV Studio area in the 1st floor library addition and serve northern portions of the 2nd floor library addition. These units have variable frequency drives, but operate in a constant volume operation with location reheat coils (original) that provide local temperature control.

AHU-15 was installed in 2009 and is located in the first level mechanical room L45 sharing space with the Library main electrical service and placed in service in 2010. This units serves the Office of Disability Services, HR and the southern portions of the 2nd floor library addition. The unit has variable frequency drives, and operates with variable flow control with variable air volume terminal units (VAV boxes).

Air Handling System Summary Information

	Location	Unit Type	Serves	Airflow (CFM)	Installed Date
AHU-206	L1726	Constant Volume	Studio - 1979 Library Addition	~2,000	1979
AHU-207	L1726	Multi Zone	IT - 1979 Library Addition	~3,000	1979
AHU-208	L1726	Variable Volume	1st Floor Library - 1979 Library Addition	~8,000	1979
AHU-15	L1772	Variable Volume	HR and Disability Services Offices	TBD	2009
AHU-10	L3707	Constant Volume	Library, Hallway, Group Study	17,000	1967
AHU-11	L3707	Constant Volume	Library, Hallway, Group Study	17,000	1967

Air Handling Unit Noted Issues

1. Five of the six air handling units AHU- 206, 207, 208 and AHU-10, 11 do not meet minimum MN code and ASHRAE 62 ventilation requirements based on date of unit installations, inspection of outdoor air intakes and conversations with facilities staff.
2. Five of the six air handling units AHU- 206, 207, 208 and AHU-10, 11 do not support improved filtration systems to respond to industry recommendations for pandemic response.
3. Minimum MN code and ASHRAE 62 ventilation requirements based on date of unit installations, inspection of outdoor air intakes and conversations with facilities staff.

Note: Plans are underway to replace AHU- 206, 207, 208 and AHU-10, 11 next summer with new air handling units and digital controls. The new air handling units have been designed to have the appropriate heating, cooling and ventilation to serve the modern library project.

Heating hot water and chilled water is provided from the campus hot water and chilled water system. Both systems appear to be adequate to serve existing building and ventilation heating demands as no issues with capacity have been observed nor noted by facilities management.

MECHANICAL SYSTEMS (CON'TD)

A combination of fin tube radiation, unit heaters and reheat coils provide perimeter heating needs. The components are original to the date of construction and appear to be adequately function (though are past their typical useful life. Fin tube radiation at the existing skylights have had issues with entrained air that have caused challenges with maintaining proper heat at the skylights.

Existing mechanical system controls are pneumatically driven controls. There have been a few digital monitoring points that have allowed the facilities staff to better monitor systems, however those digital components are limited with some small portions that have been upgraded to DDC controls.

PLUMBING

Existing plumbing fixtures are primarily original to the building construction, and while functioning, are past useful life.

Existing domestic water systems appear to be adequately functioning with adequate water quality and pressure, but piping is original and could have some potential issues with failures/leaks due to it's age.

Sanitary waste and vent piping appear to be adequate. Underground piping has not been noted as an issue. It is recommended that the sanitary piping main serving the library be scoped / video'd soon to ensure that there are no issues with pipe integrity.

FIRE PROTECTION

Fire protection systems have been observed throughout the project though not each space has been confirmed. It appears as if the fire protection system is original to the building installation, and while appropriate for the time of construction, do no meet current fire protection code requirements.

ELECTRICAL SYSTEMS

The existing building Electrical systems and materials as described are based on the existing building electrical drawings as listed below:

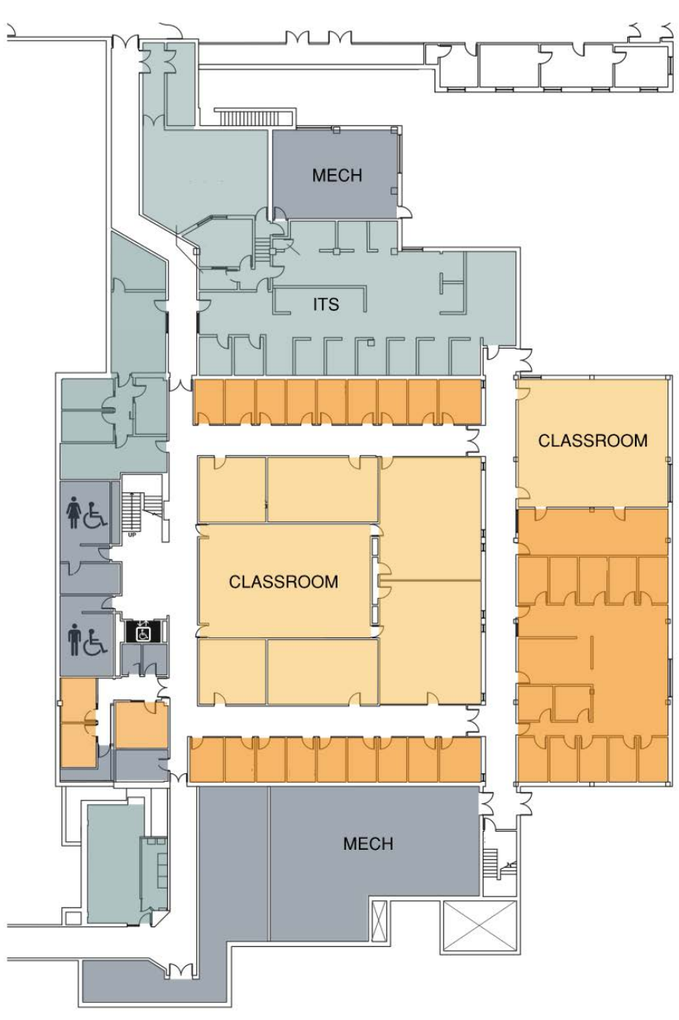
DRAWING SET	YEAR	DESIGN FIRM
Normandale Community College Phase 5	1979	ATSR
Southwest Metropolitan State Junior College	1967	Ellerbe
DYNAX Arc Flash Drawings	2011	DYNAX

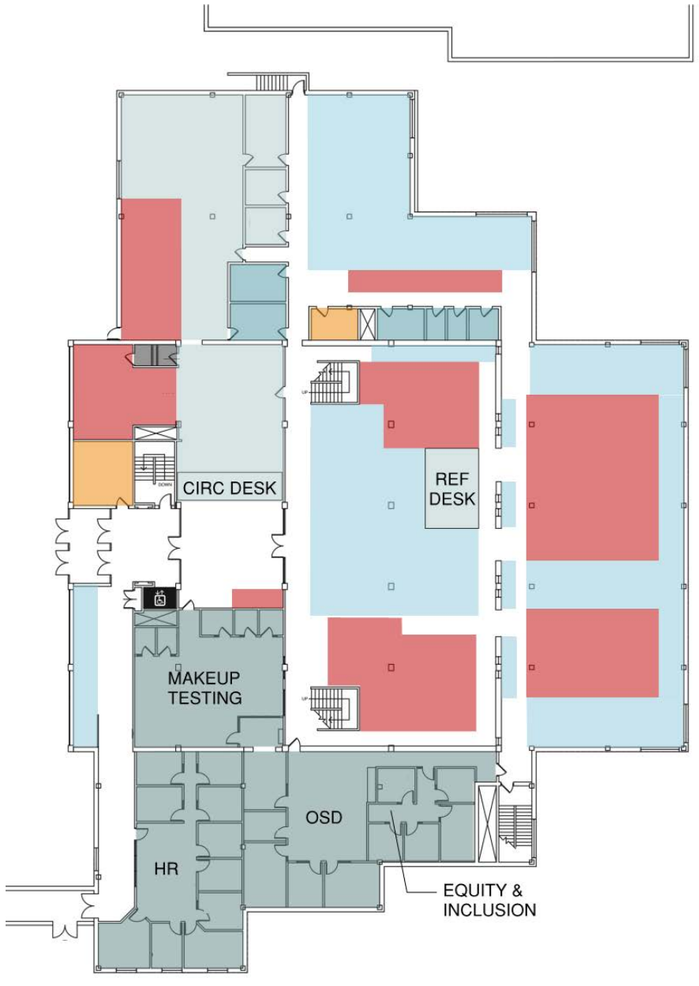
The library main substation serves as the low voltage substation for the library as well as the high voltage service point for the entire campus. There is a high voltage main disconnect, high voltage metering, and a single high voltage switch which isolates the transformer and low voltage sections of the library switchgear. The rest of the campus is tapped off of the high voltage switchgear, and there are no disconnects in the high voltage section which can isolate these feeds.

The normal power high voltage and low voltage equipment is dated approximately 1979, and is around 42 years old. Most electrical equipment is located in either small electrical closets or mechanical spaces, though there are panels that are located in the library space proper and are accessible to the public. The existing library low voltage substation transformer is a 750 kVA 13.8kV to 480V transformer. The library transformer was replaced in 2003. There is a 250 kw generator outside the library which feeds emergency power distribution located in the library as well as other buildings in the campus.

The existing fire alarm is an extension of the campus fire alarm system. The existing security system is an extension of the campus security system. There are two telecom racks located in a break room area serving the library.

FLOOR PLANS & SPACE USAGE





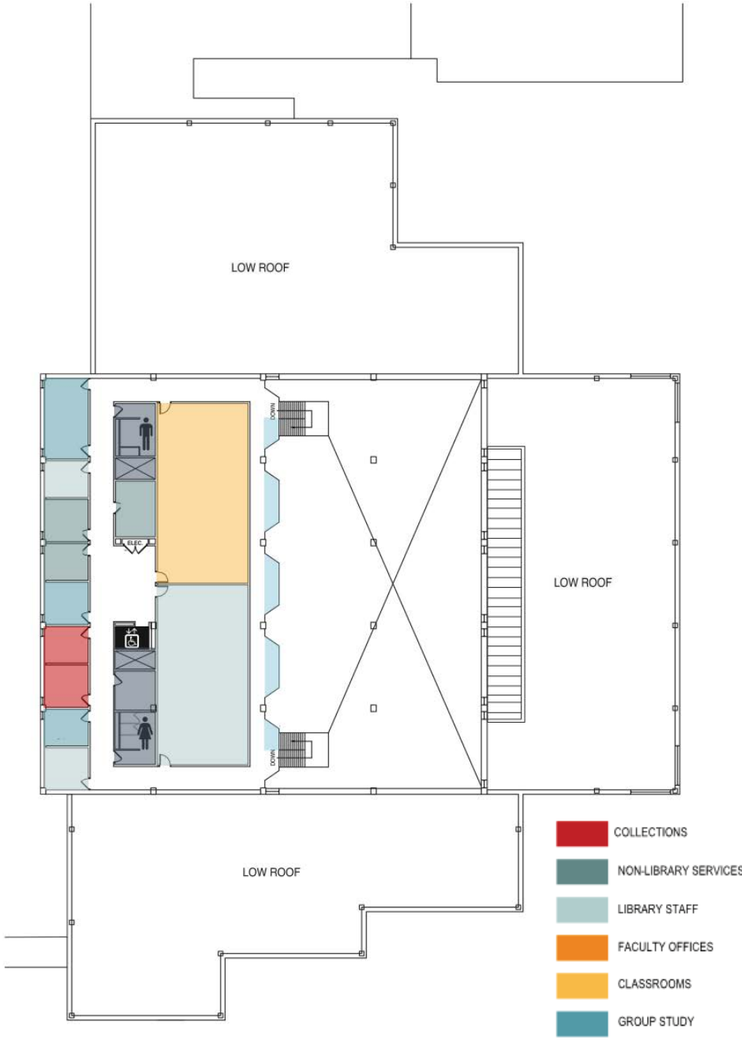


PHOTO DOCUMENTATION

1 & 2- View from Main building entrance at west from courtyard. The low ceiling and limited lighting along with little to no signage prompt patrons that the Library is through the main doors, or any other services that are accessed through the single main entrance (OSD, Make-up Testing, etc.).

3. View south from main west entrance to College Services. Corridor along side of Library is solid wall with no signage and does not allow any hint of the activities behind the solid wall. The limited study space at the west elevation glazing is constantly full and does not adequately support the

4. Circulation Desk at main entrance is frequently congested and lacks any direction or signage at to services, and staff assistance.

5. View from inside doors of Library to Make-Up Testing entrance door. Other than above the door, there is no signage prompting patrons to service. In addition, collections gates at Library entrance were noted as metal detectors during engagement with students suggesting that they were not trusted, which was perceived as unwelcoming.

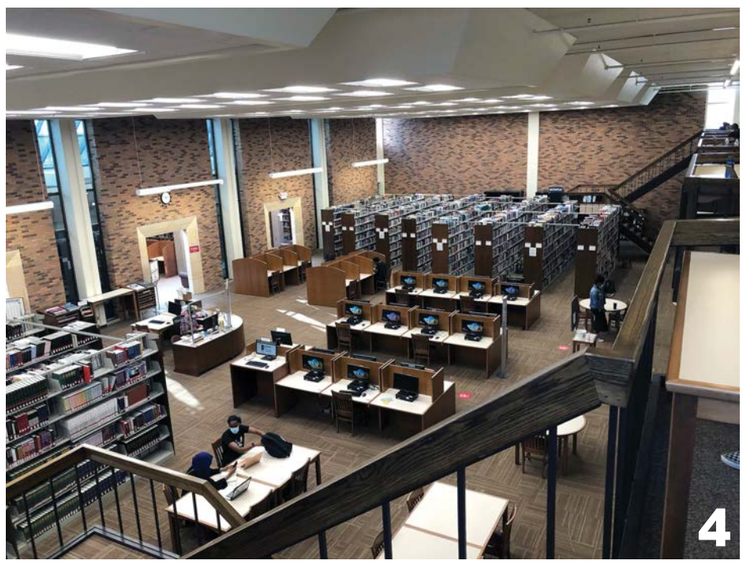
6. View of Library staff workstations and reserves collections behind the circulation desk.

PHOTO DOCUMENTATION

1. View inside Library looking to entrance of Office for Students with Disabilities with limited signage, no glazing and unobtrusive entrance causing significant hurdles for students seeking their services.

2. View of existing student study space within the Library. Dated study seating and finishes, along with acoustic issues prevent most students from utilizing the space for more than a very short term study space and is much less utilized than the individual group study spaces.

3. View of open study spaces at the north side of the Library Building. Existing furniture, lack of daylighting, fluorescent fixtures and no acoustics prevent students from utilizing the space.

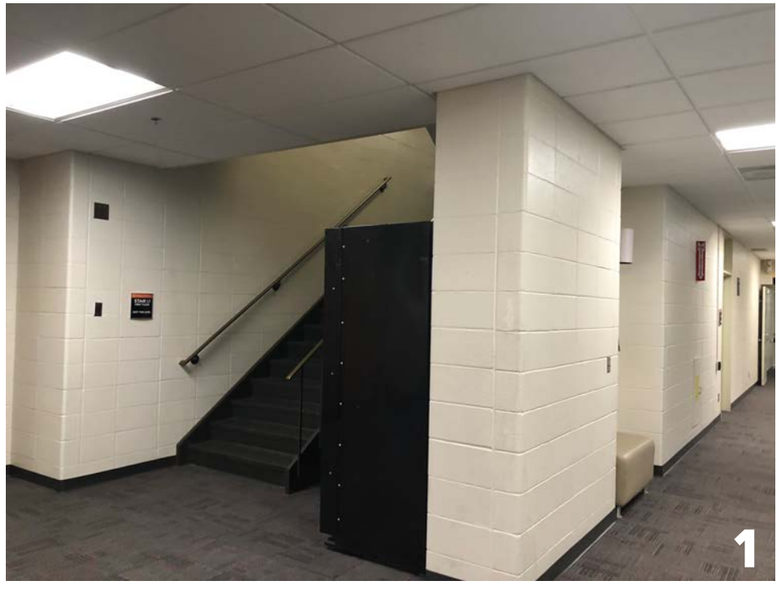


4. View of main Library collections floor in 1967 building from mezzanine level. Acoustic issues in this space are the most prevalent with sound traveling from the upper level study spaces down onto the main floor and from the main floor tunneling to the back areas of the mezzanine. General aesthetic of the space is dated and reflects a Library of 40 years ago and not a modern facility.

5. Library Staff ‘breakroom’ within acquisitions and weeding stacks at north side of Library area. Besides being a make-shift space, food smells and lack of storage causes issues for the staff.

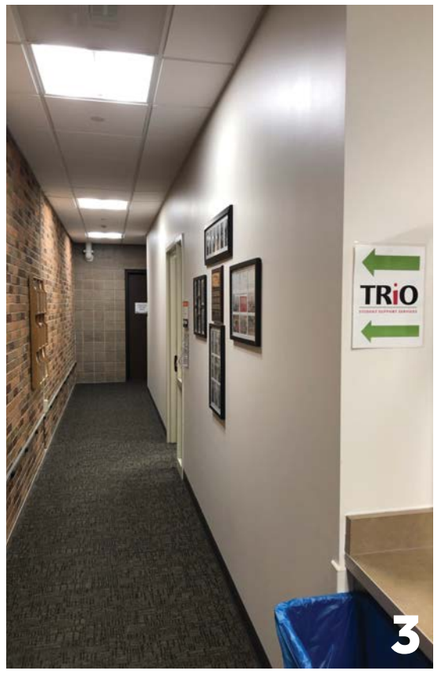
6. Acquisitions and weeding shelves within the LIbrary back of house are underutilized and empty.

PHOTO DOCUMENTATION



1. Main vertical circulation at the western side of the building is surrounded by walls on all floors further confusing students as to where the stair leads and what is at other levels.

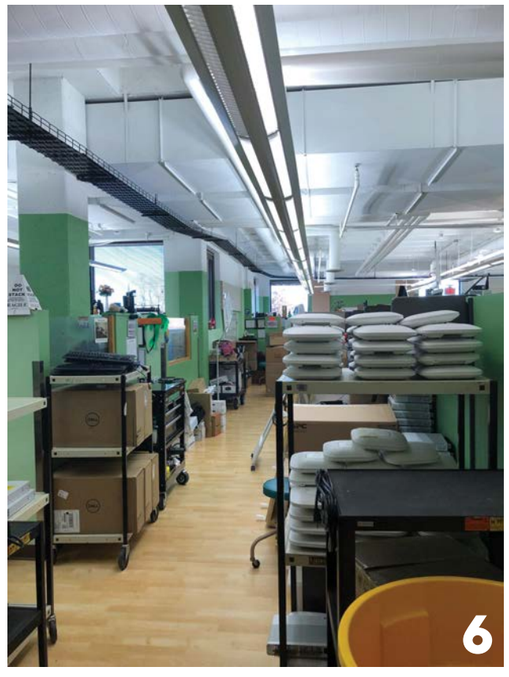
2. View of typical corridor at lower level to Faculty offices and classrooms. Narrow and dimly lit, corridors lack any direction or wayfinding abilities.



3. Entrance to TRIO offices is accessed through Office for Students with Disabilities. Other than the signage at photo right, there is no way to determine where the offices are.

4. Classroom at lower level being used as a converted office space due to awkward size and shape.

5. View of Make-up Testing area. The only space that has been renovated within the 20 years, it still lacks some accessibility considerations to support neighboring department, OSD.



6. Main space of Information Technology Systems (ITS). The space is in adaquately laid out for services, demo, and maintenance of equipment to support staff and students. Lack of storage causes most equipment to sit within the open ‘corridors’ of the workstations and offices.

CAMPUS LEADERSHIP ENGAGEMENT

Each group that currently resides within the Library took part in an all department workshop that focused on series of exercises to understand need and

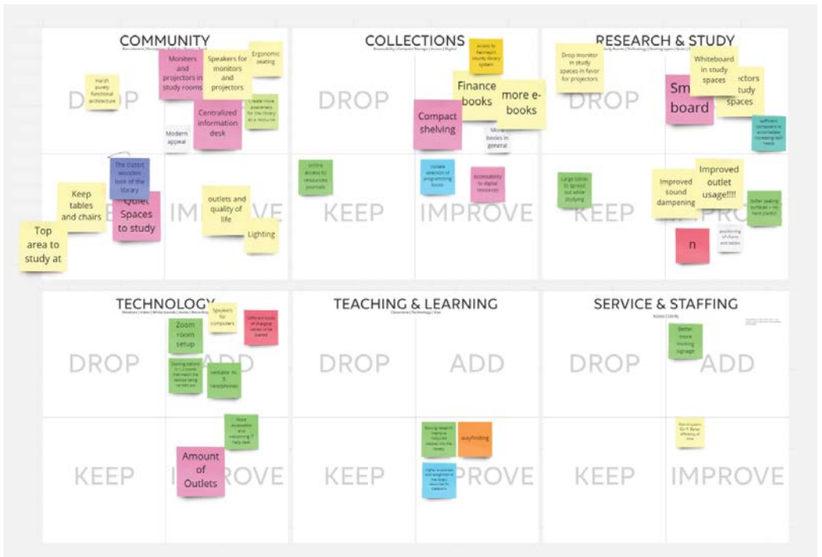
- Campus Leadership Meetings: 10/28, 11/4, 11/18, 12/9, 1/6, 1/20, 2/3, 2/24
- Library Advisory Meetings: 12/10, 1/11, 2/9, 2/25
- Departments:
  - 11/18: ITS
  - 11/18: Human Resources and Equity & Inclusion
  - 11/18: Office for Students with Disabilities
  - 11/19: Library Staff
  - 11/23: TRIO, Upward Bound, and Student
  - 11/30: Facilities & Maintenance

STUDENT ENGAGEMENT

The Design Team met with various students groups, and engaged the larger population in several ways to inform the student based amenities and needs of the Library Building and its services.

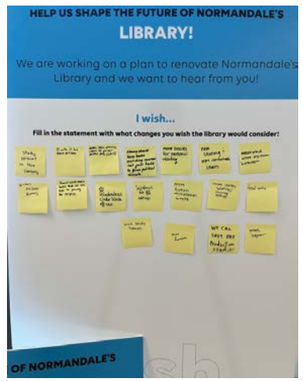
Student Senate & Phi Theta Kappa

On November 11, 2021, the Design Team led the group of Student Senate and Phi Theta Kappa members in a series of visioning questions and exercises that resulted in the following feedback.



Tabling Exercise

The week prior to Spring 2022 semester start, the Design Team, in conjunction with the CFP team, set out a series of boards designed to solicit student feedback on the Library Building planning with students writing on post-its based on generic lead-ins such as, “What if?”, “I Like....”, and ‘I Want....”



Student Survey

An annual student survey is solicited at the end of the Fall semester. With both the Library Pre-Design and larger Comprehensive Facilities Plan in process, there was great opportunity to understand the current needs of the students. The following data highlights the relevant findings for the Library building and its current functions.

- What is one physical space you have seen at another school that you wish was at Normandale?
  - » 18% responded “more Study spaces’ second only to fitness/exercise spaces
- Please give us your thoughts on the following campus amenities/ facilities:
  - » Library 7% needs updating (largest percentage of that response on campus)
- In regards to Study Spaces & Online Class Participation Spaces
  - » 19% need more spaces like this (largest percentage of response on campus).

LOCAL JURISDICTIONS

Due to the nature of the project, the Design team has not yet met with local Authorities having jurisdiction.


003
PROJECT
DESCRIPTION

BASIS FOR PROJECT

As a campus resource for all students, faculty and staff at Normandale Community College, the full renovation to the Library Building will meet a variety of current needs on campus for students, faculty, staff and the broader community. The renovation is not intended to benefit one department or discipline but rather develop as a centralized resource that provides greater access to key services on campus to all campus constituents. Key drivers are as follows:

Creating Campus-Wide, Quality Study Space

The number one request we heard from students through our engagement exercises in the predesign was a request for study space on campus. As a commuter campus, students needs access to quality space to study between classes. With the increase of hybrid learning, increasingly students need access a place where they can take online classes and receive quality access to wi-fi. The predesign program doubles the number of seats for student study in the library building and introduces the following elements to provide flexibility in student study types:

- Dedicated two to six-person student study rooms to promote group interaction and collaboration. The library is the only building on campus to offer enclosed, acoustically-private, technology-enhanced study rooms for student use.
- “Deep-quiet” study space. We heard repeatedly the need for students to have access to spaces on campus where they can focus in an acoustically appropriate environment.
- Open study space with access to wi-fi and charging. The predesign preserves the open study space within the collections and on the mezzanine, improving access to daylight and views and electrical infrastructure.

Increasing Overall Student Academic Success

A more welcoming, accessible, and easy-to-find library will increase the number of students who access and use the library’s resources, contributing to student retention and academic success. This effect has been noted by Normandale’s 2021 Library Department Academic Program Review as follows:

> *“Both the Library’s physical and online collections support the college’s mission to advance individuals’ intellectual, career, and personal development by contributing to student success. For example, compared to Normandale’s overall success rate, students who borrowed from the Library in fall 2019 were more likely to succeed in their classes that semester (+5.6 percentage points). Students who used the Library’s online database collections in fall 2020 were even more likely to succeed (+10.8 percentage points). While the college’s overall student success rate went down by almost 2 points in fall 2020 compared with the previous fall, the success rate for students who used library databases from off campus remained steady at 83%.*
>
> *In particular, the Library’s physical collections support the college’s equity goals—especially the goal to eliminate the educational equity gap by 2025. Analysis of fall 2019 circulation data shows that students who borrow from the Library are more likely to be from historically underrepresented groups and more likely to succeed in their courses. Compared to the Normandale student body as a whole, students who borrow from the Library are significantly more likely to be eligible for Pell grants (+15.3 percentage points), more likely to be students of color (+15.2 percentage points), and more likely to be first-generation college students (+8.0 percentage points). Disaggregating the students of color category by reported race or ethnicity shows that nearly all the disproportionate library borrowing by students of color is accounted for by the high library use rates of Black and African American students. Library borrowing by Black or African American students accounted for 31.7% of all loans in fall 2019—14.9 percentage points higher than their student body percentage in that same semester. As a whole, students who borrowed from the Library in fall 2019 were also more likely to succeed in their classes that semester (+5.6 percentage points).”*

BASIS FOR PROJECT (CON'TD)

Driving an update to library collections' management processes

The predesign program reflects a decrease in the overall linear footage of space for collections in the library by 6%. The library staff has already begun a program to review current collections' management practices and strategize methodologies to update the collections prior to moving back into the renovated space. This includes reducing the amount of space in the library for underutilized collections, including periodicals. They are also working with the Office for Students with Disabilities to increase access to collections to all students and accommodate students' needs.

Developing Physical Resources To Support Library Staff Instruction And Interaction

The renovated library will offer opportunities for renewed interaction between library staff and students through a renovation of the reference and circulation desks; creation of "on the floor" reference librarian office space; and the dedication of a first-floor classroom for library instruction. This includes:

- Partnering with faculty in course-integrated library instruction, including co-creation of lesson plans to reenforce key course concepts
- Individual student instruction at the reference desk and in research consultation appointments
- Providing personal instruction for an increasing number of English-language learners

Providing a new home for the department of Equity & Inclusion and Academy of Math & Science

The renovation to the Library Building allows for a new department home to be created for the Department of Equity and Inclusion, which has previously not existed on campus. Located adjacent to the Human Resources department, this administrative department will be open and visible to all students, faculty and staff at Normandale.

Right-Sizing And Improving Academic Classrooms

Analysis of utilization of the library classrooms suggests that the need is for larger classrooms that can support larger class sizes. The predesign prioritizes the inclusion of six classrooms in the renovated space, including four large classrooms and two medium classrooms. The classrooms will be outfitted with updated technology for current pedagogy as well as acoustically improved from the existing condition.

Consolidating One-Stop Access To Student Services

In the wake of the completion of the renovation to the College Services building, which consolidated access to student financial aid, registration, and billing, the renovation to the library allows for a variety of student services to be co-located in an easy-to-find, centrally located area. This includes the following:

» Office for Students with Disabilities, which will no longer have an office entrance within the footprint of the library itself but will instead have its own, easy-to-find entrance.

» Make-up Testing is centrally located near the new student service center and the OSD office.

» Trio/SSS/Upward Bound/Academy of Math and Science will be co-located to provide greater connections between their shared departments and cross-department collaboration.

» ITS Helpdesk will receive a new central "storefront" adjacent to the other student services to assist with ease of access to needed help.

Relocation of Faculty Office Space

The program reduces the amount of space designated to faculty officing in the library building, limiting the planned program to one academic department (psychology.) The concurrent CFP on campus is taking a greater look at officing on campus to absorb the reallocation of faculty offices that will no longer be housed in the library building.

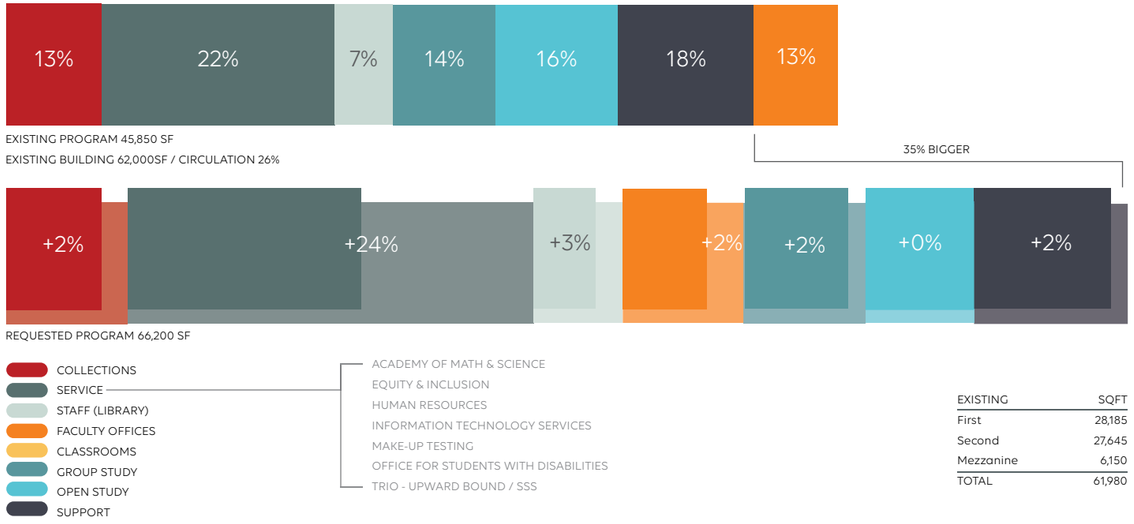
PROJECT IMPACT

PROGRAM DEVELOPMENT

The design team met with each department within the building to identify space needs. The end result was a growth representing an increase of 35% to net square footage, a total growth that was beyond the capacity of the existing building.

Working with the Admin Leadership Team and the Advisory Group, the design team revised the program to reflect updated priorities to right-size the program for the building. This process included a consolidation of lounge/break spaces; right-sizing of classrooms and faculty offices; promoting flexible spaces; reducing the linear footage of space for collections in the library and removal of non-accessed collections; and discussion of potential for implementing remote working policies for each department past the pandemic.

The following graphic was used to illustrate the building space availability compared to the program requests to help all departments understand the deficiency. The final program reduction that was used to provide design options and layouts is as follows.



EXISTING	SQFT
First	28,185
Second	27,645
Mezzanine	6,150
TOTAL	61,980

DESIGN DRIVERS

The design team developed multiple test fit schemes, illustrated on the following pages, to understand potential adjacencies of program areas and how they might best fit within the renovated building.

The following design drivers were used as a framework to weigh the potential options against one another and drive home the key factors of success for the renovation:

WELCOMING
Glass Entry
Accessible

WELLNESS
Daylight Access

CLARITY
Single Elevator Access
Open Stair

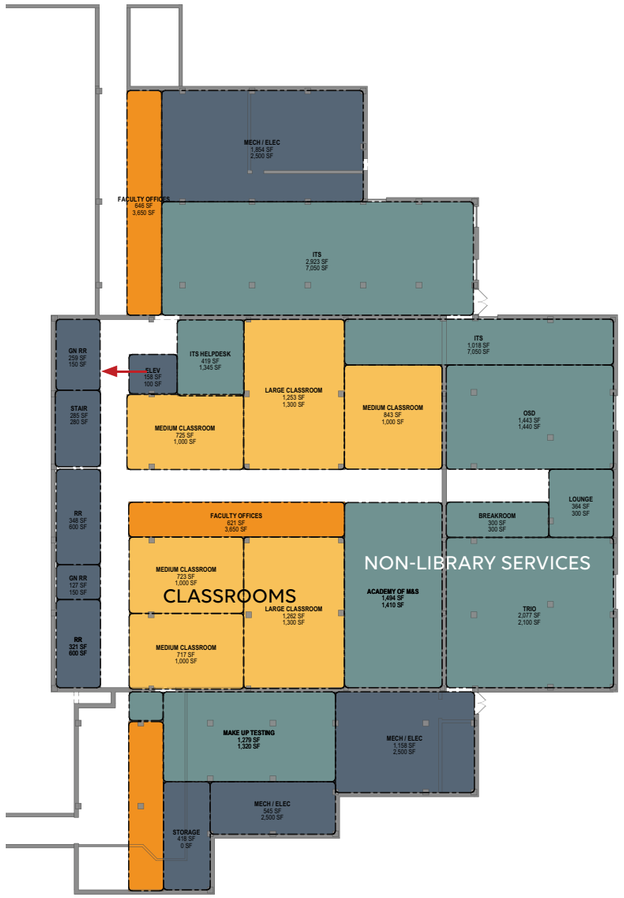
EFFICIENCY
Single Elevator Access

INCLUSIVE DESIGN
Gender Neutral Restrooms
Single Elevator Access
Accessible Stacks

FLEXIBILITY
Quiet/Open/Group Study Zones

OPTION A - LOWER LEVEL NON-LIBRARY SERVICES

In this option, all classrooms and as many non-Library service were placed in the lower level.



A // LEVEL 01

A // LEVEL 02

A // MEZZANINE

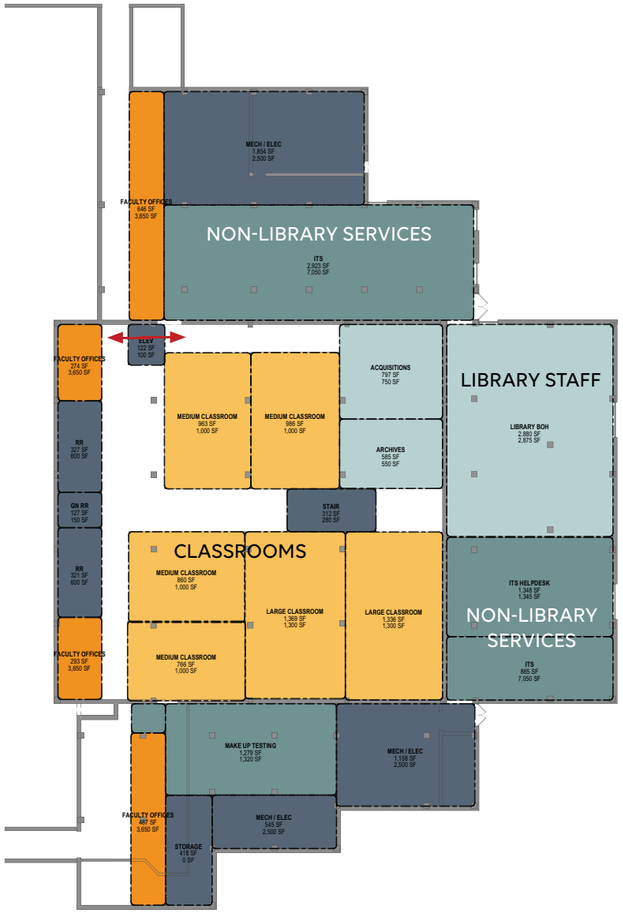
COLLECTIONS
NON-LIBRARY SERVICES
LIBRARY STAFF
FACULTY OFFICES
CLASSROOMS
GROUP STUDY
OPEN STUDY
SUPPORT

A // SCHEDULE

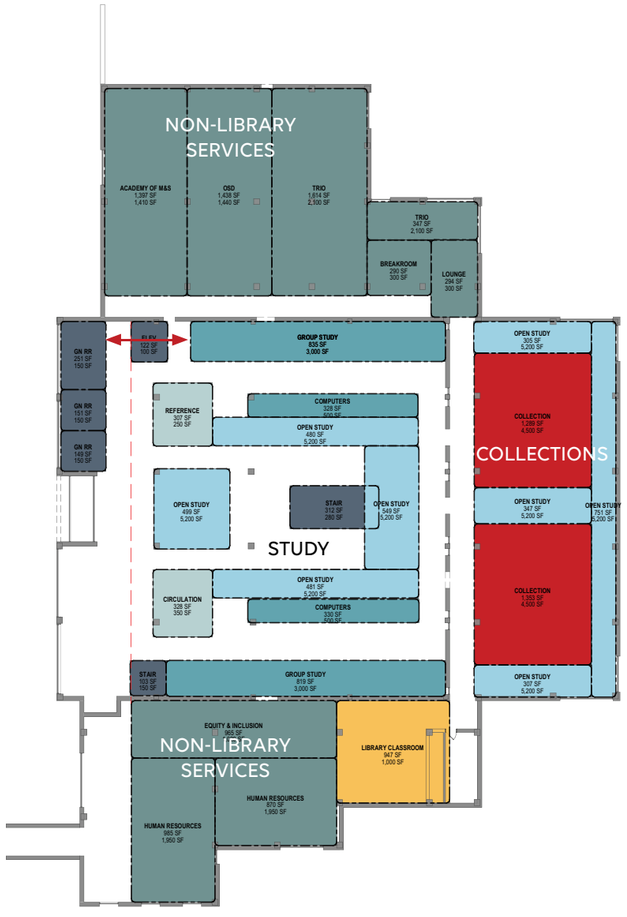
Fill Color	Space Name	Actual Area	Planned Area
CLASSROOMS	LARGE CLASSROOM	1,253 SF	1,300 SF
CLASSROOMS	LARGE CLASSROOM	1,262 SF	1,300 SF
CLASSROOMS	LIBRARY CLASSROOM	947 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	717 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	723 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	725 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	843 SF	1,000 SF
		6,470 SF	7,600 SF
COLLECTIONS	COLLECTION	674 SF	4,500 SF
COLLECTIONS	COLLECTION	976 SF	4,500 SF
COLLECTIONS	COLLECTION	1,151 SF	4,500 SF
COLLECTIONS	COLLECTION	1,732 SF	4,500 SF
		4,833 SF	18,000 SF
FACULTY OFFICES	FACULTY OFFICES	487 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	621 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	648 SF	3,650 SF
		1,756 SF	10,950 SF
GROUP STUDY	COMPUTERS	498 SF	500 SF
GROUP STUDY	GROUP STUDY	276 SF	3,000 SF
GROUP STUDY	GROUP STUDY	296 SF	3,000 SF
GROUP STUDY	GROUP STUDY	309 SF	3,000 SF
GROUP STUDY	GROUP STUDY	322 SF	3,000 SF
GROUP STUDY	GROUP STUDY	424 SF	3,000 SF
GROUP STUDY	GROUP STUDY	710 SF	3,000 SF
GROUP STUDY	GROUP STUDY	1,342 SF	3,000 SF
		4,178 SF	21,500 SF
LIBRARY STAFF	ACQUISITIONS	691 SF	750 SF
LIBRARY STAFF	ARCHIVES	745 SF	550 SF
LIBRARY STAFF	CIRCULATION	350 SF	350 SF
LIBRARY STAFF	LIBRARY BOH	504 SF	2,875 SF
LIBRARY STAFF	LIBRARY BOH	2,492 SF	2,875 SF
LIBRARY STAFF	REFERENCE	247 SF	250 SF
		5,028 SF	7,650 SF
NON-LIBRARY SERVICES	ACADEMY OF M&S	1,494 SF	1,410 SF
NON-LIBRARY SERVICES	BREAKROOM	300 SF	300 SF
NON-LIBRARY SERVICES	EQUITY & INCLUSION	1,020 SF	1,000 SF
NON-LIBRARY SERVICES	HUMAN RESOURCES	870 SF	1,950 SF
NON-LIBRARY SERVICES	HUMAN RESOURCES	1,129 SF	1,950 SF
NON-LIBRARY SERVICES	ITS	1,018 SF	7,050 SF
NON-LIBRARY SERVICES	ITS	2,923 SF	7,050 SF
NON-LIBRARY SERVICES	ITS HELPDESK	419 SF	1,345 SF
NON-LIBRARY SERVICES	LOUNGE	364 SF	300 SF
NON-LIBRARY SERVICES	MAKE UP TESTING	81 SF	1,320 SF
NON-LIBRARY SERVICES	MAKE UP TESTING	1,279 SF	1,320 SF
NON-LIBRARY SERVICES	OSD	1,443 SF	1,440 SF
NON-LIBRARY SERVICES	TRIO	2,077 SF	2,100 SF
		14,410 SF	28,555 SF
OPEN STUDY	OPEN STUDY	402 SF	5,200 SF
OPEN STUDY	OPEN STUDY	406 SF	5,200 SF
OPEN STUDY	OPEN STUDY	438 SF	5,200 SF
OPEN STUDY	OPEN STUDY	622 SF	5,200 SF
OPEN STUDY	OPEN STUDY	697 SF	5,200 SF
OPEN STUDY	OPEN STUDY	903 SF	5,200 SF
OPEN STUDY	OPEN STUDY	972 SF	5,200 SF
OPEN STUDY	OPEN STUDY	1,203 SF	5,200 SF
OPEN STUDY	OPEN STUDY	1,208 SF	5,200 SF
		6,851 SF	46,800 SF
SUPPORT	ELEV	158 SF	100 SF
SUPPORT	GN RR	127 SF	150 SF
SUPPORT	GN RR	128 SF	150 SF
SUPPORT	MECH / ELEC	545 SF	2,500 SF
SUPPORT	MECH / ELEC	1,158 SF	2,500 SF
SUPPORT	MECH / ELEC	1,854 SF	2,500 SF
SUPPORT	RR	150 SF	150 SF
SUPPORT	RR	321 SF	600 SF
SUPPORT	RR	348 SF	600 SF
SUPPORT	STAIR	150 SF	280 SF
SUPPORT	STAIR	154 SF	280 SF
SUPPORT	STAIR	285 SF	280 SF
SUPPORT	STORAGE	418 SF	0 SF
		5,794 SF	10,090 SF

OPTION B - LIVING ROOM

With the 1967 original Library building envisioned as a Living Room on the main level, some Library Collections were moved to the mezzanine and all non-library services surround the living room. Library Staff preferred all collections on one level for numerous reasons and further structural investigation revealed structural challenges with potentially locating collections on the mezzanine level..



B // LEVEL 01



B // LEVEL 02

B // MEZZANINE

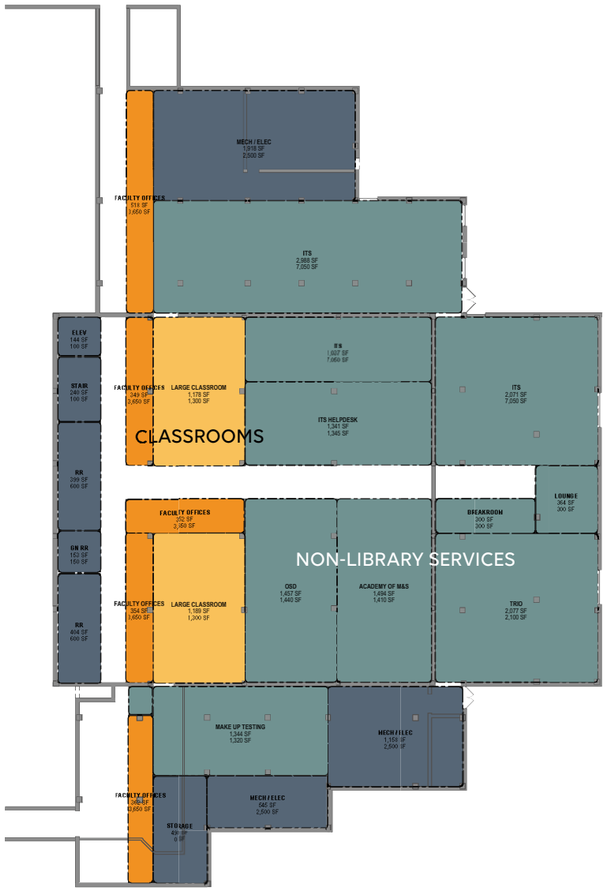
COLLECTIONS
NON-LIBRARY SERVICES
LIBRARY STAFF
FACULTY OFFICES
CLASSROOMS
GROUP STUDY
OPEN STUDY
SUPPORT

B // SCHEDULE

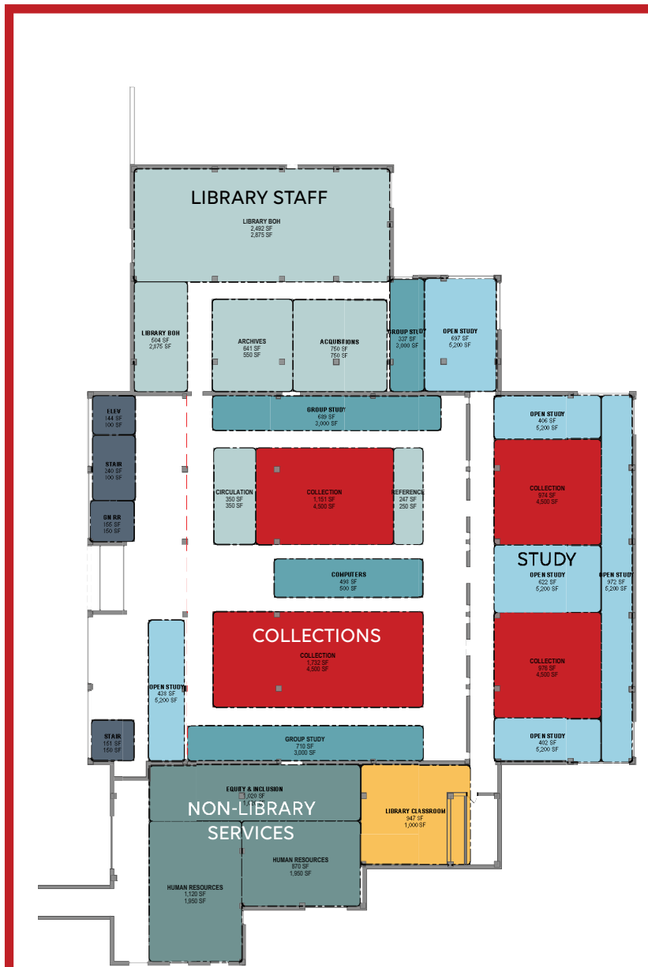
Fill Color	Space Name	Actual Area	Planned Area
	CLASSROOMS	LARGE CLASSROOM	1,344 SF	1,300 SF
	CLASSROOMS	LARGE CLASSROOM	1,369 SF	1,300 SF
	CLASSROOMS	LIBRARY CLASSROOM	947 SF	1,000 SF
	CLASSROOMS	MEDIUM CLASSROOM	696 SF	1,000 SF
	CLASSROOMS	MEDIUM CLASSROOM	766 SF	1,000 SF
	CLASSROOMS	MEDIUM CLASSROOM	860 SF	1,000 SF
	CLASSROOMS	MEDIUM CLASSROOM	877 SF	1,000 SF
			11,267 SF	12,000 SF
	COLLECTIONS	COLLECTION	1,289 SF	4,500 SF
	COLLECTIONS	COLLECTION	1,333 SF	4,500 SF
	COLLECTIONS	COLLECTION	1,874 SF	4,500 SF
			4,515 SF	13,500 SF
	FACULTY OFFICES	FACULTY OFFICES	174 SF	3,650 SF
	FACULTY OFFICES	FACULTY OFFICES	293 SF	3,650 SF
	FACULTY OFFICES	FACULTY OFFICES	487 SF	3,650 SF
	FACULTY OFFICES	FACULTY OFFICES	646 SF	3,650 SF
			1,601 SF	14,600 SF
	GROUP STUDY	COMPUTERS	328 SF	500 SF
	GROUP STUDY	COMPUTERS	330 SF	500 SF
	GROUP STUDY	GROUP STUDY	819 SF	3,000 SF
	GROUP STUDY	GROUP STUDY	911 SF	3,000 SF
	GROUP STUDY	GROUP STUDY	1,242 SF	3,000 SF
			3,629 SF	10,000 SF
	LIBRARY STAFF	ACQUISITIONS	750 SF	750 SF
	LIBRARY STAFF	ARCHIVES	576 SF	550 SF
	LIBRARY STAFF	CIRCULATION	328 SF	350 SF
	LIBRARY STAFF	LIBRARY BOH	2,880 SF	2,875 SF
	LIBRARY STAFF	REFERENCE	307 SF	250 SF
			4,842 SF	4,775 SF
	NON-LIBRARY SERVICES	ACADEMY OF M&S	1,397 SF	1,410 SF
	NON-LIBRARY SERVICES	BREAKROOM	290 SF	300 SF
	NON-LIBRARY SERVICES	EQUITY & INCLUSION	965 SF	1,020 SF
	NON-LIBRARY SERVICES	HUMAN RESOURCES	870 SF	1,950 SF
	NON-LIBRARY SERVICES	HUMAN RESOURCES	985 SF	1,950 SF
	NON-LIBRARY SERVICES	ITS	6,153 SF	7,050 SF
	NON-LIBRARY SERVICES	ITS	7,304 SF	7,050 SF
	NON-LIBRARY SERVICES	ITS HELPDESK	1,304 SF	1,345 SF
	NON-LIBRARY SERVICES	LOUNGE	294 SF	300 SF
	NON-LIBRARY SERVICES	MAKE UP TESTING	81 SF	1,320 SF
	NON-LIBRARY SERVICES	MAKE UP TESTING	1,279 SF	1,320 SF
	NON-LIBRARY SERVICES	OSD	1,438 SF	1,440 SF
	NON-LIBRARY SERVICES	TRIO	347 SF	2,100 SF
	NON-LIBRARY SERVICES	TRIO	1,614 SF	2,100 SF
			16,000 SF	30,655 SF
	OPEN STUDY	OPEN STUDY	305 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	307 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	347 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	480 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	481 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	489 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	548 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	751 SF	5,200 SF
	OPEN STUDY	OPEN STUDY	1,076 SF	5,200 SF
			5,304 SF	46,800 SF
	SUPPORT	ELEV	102 SF	100 SF
	SUPPORT	ELEV	122 SF	100 SF
	SUPPORT	GN RR	127 SF	150 SF
	SUPPORT	GN RR	149 SF	150 SF
	SUPPORT	GN RR	150 SF	150 SF
	SUPPORT	GN RR	151 SF	150 SF
	SUPPORT	MECH / ELEC	545 SF	2,500 SF
	SUPPORT	MECH / ELEC	1,198 SF	2,500 SF
	SUPPORT	MECH / ELEC	1,854 SF	2,500 SF
	SUPPORT	RR	150 SF	150 SF
	SUPPORT	RR	165 SF	150 SF
	SUPPORT	RR	321 SF	600 SF
	SUPPORT	RR	327 SF	600 SF
	SUPPORT	STAIR	103 SF	150 SF
	SUPPORT	STAIR	312 SF	280 SF
	SUPPORT	STORAGE	418 SF	0 SF
			6,154 SF	10,230 SF

OPTION C - ONE LEVEL LIBRARY

All classrooms and a large number of Faculty offices were placed on the mezzanine level which required the Library to have limited access within the library itself to the mezzanine.



C // LEVEL 01



C // LEVEL 02

C // MEZZANINE

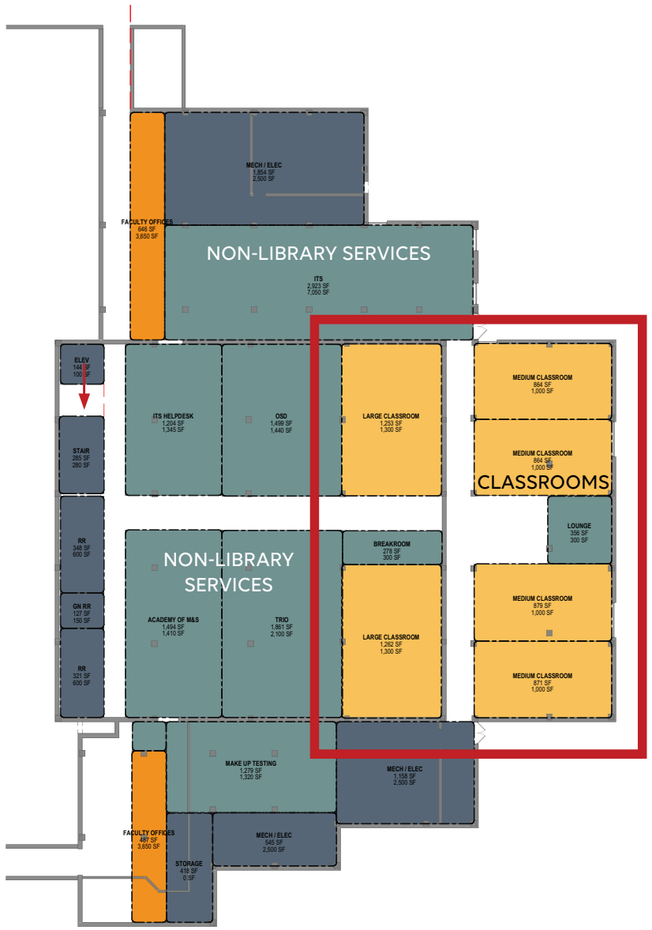
COLLECTIONS
NON-LIBRARY SERVICES
LIBRARY STAFF
FACULTY OFFICES
CLASSROOMS
GROUP STUDY
OPEN STUDY
SUPPORT

C // SCHEDULE

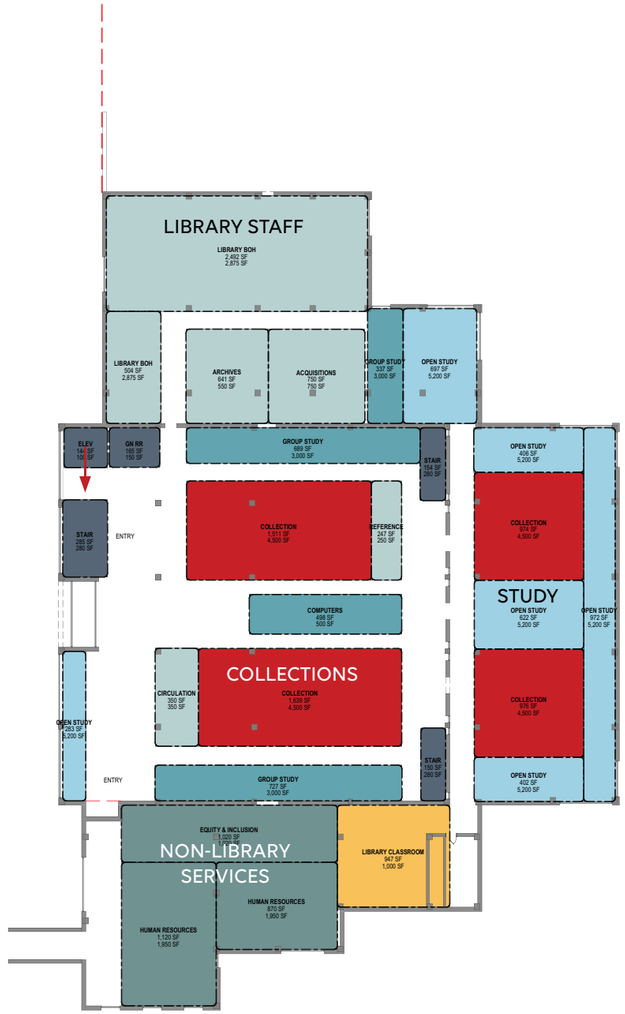
Fill Color	Space Name	Actual Area	Planned Area
CLASSROOMS	LARGE CLASSROOM	1,178 SF	1,300 SF
CLASSROOMS	LARGE CLASSROOM	1,189 SF	1,300 SF
CLASSROOMS	LIBRARY CLASSROOM	947 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	805 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	808 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	810 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	818 SF	1,000 SF
		10,661 SF	12,000 SF
COLLECTIONS	COLLECTION	974 SF	4,500 SF
COLLECTIONS	COLLECTION	876 SF	4,500 SF
COLLECTIONS	COLLECTION	1,151 SF	4,500 SF
COLLECTIONS	COLLECTION	1,732 SF	4,500 SF
		4,833 SF	18,000 SF
FACULTY OFFICES	FACULTY OFFICES	281 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	281 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	349 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	352 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	354 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	382 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	518 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	654 SF	3,650 SF
		3,151 SF	25,200 SF
GROUP STUDY	COMPUTERS	488 SF	500 SF
GROUP STUDY	GROUP STUDY	337 SF	3,000 SF
GROUP STUDY	GROUP STUDY	488 SF	3,000 SF
GROUP STUDY	GROUP STUDY	716 SF	3,000 SF
		1,829 SF	9,500 SF
LIBRARY STAFF	ACQUISITIONS	750 SF	750 SF
LIBRARY STAFF	ARCHIVES	641 SF	550 SF
LIBRARY STAFF	CIRCULATION	350 SF	350 SF
LIBRARY STAFF	LIBRARY BOH	504 SF	2,875 SF
LIBRARY STAFF	LIBRARY BOH	2,492 SF	2,875 SF
LIBRARY STAFF	REFERENCE	247 SF	250 SF
		4,983 SF	7,850 SF
NON-LIBRARY SERVICES	ACADEMY OF M&S	1,494 SF	1,410 SF
NON-LIBRARY SERVICES	BREAKROOM	300 SF	300 SF
NON-LIBRARY SERVICES	EQUITY & INCLUSION	1,020 SF	1,020 SF
NON-LIBRARY SERVICES	HUMAN RESOURCES	970 SF	1,950 SF
NON-LIBRARY SERVICES	HUMAN RESOURCES	1,120 SF	1,950 SF
NON-LIBRARY SERVICES	ITS	1,627 SF	7,050 SF
NON-LIBRARY SERVICES	ITS	1,921 SF	7,050 SF
NON-LIBRARY SERVICES	ITS	2,071 SF	7,050 SF
NON-LIBRARY SERVICES	ITS HELPDESK	1,341 SF	1,345 SF
NON-LIBRARY SERVICES	LOUNGE	364 SF	300 SF
NON-LIBRARY SERVICES	MAKE UP TESTING	59 SF	1,320 SF
NON-LIBRARY SERVICES	MAKE UP TESTING	1,344 SF	1,320 SF
NON-LIBRARY SERVICES	OSD	1,457 SF	1,440 SF
NON-LIBRARY SERVICES	TRIO	2,077 SF	2,100 SF
		17,544 SF	35,805 SF
OPEN STUDY	OPEN STUDY	402 SF	5,200 SF
OPEN STUDY	OPEN STUDY	406 SF	5,200 SF
OPEN STUDY	OPEN STUDY	429 SF	5,200 SF
OPEN STUDY	OPEN STUDY	622 SF	5,200 SF
OPEN STUDY	OPEN STUDY	697 SF	5,200 SF
OPEN STUDY	OPEN STUDY	972 SF	5,200 SF
		4,127 SF	31,200 SF
SUPPORT	ELEV	144 SF	100 SF
SUPPORT	GN RR	153 SF	150 SF
SUPPORT	GN RR	155 SF	150 SF
SUPPORT	MECH / ELEC	645 SF	2,500 SF
SUPPORT	MECH / ELEC	1,158 SF	2,500 SF
SUPPORT	MECH / ELEC	1,918 SF	2,500 SF
SUPPORT	RR	161 SF	150 SF
SUPPORT	RR	399 SF	600 SF
SUPPORT	RR	404 SF	600 SF
SUPPORT	STAIR	240 SF	100 SF
SUPPORT	STAIR	151 SF	150 SF
SUPPORT	STORAGE	488 SF	0 SF
		5,918 SF	9,500 SF

OPTION D - PRIORITIZING OF CLASSROOM NATURAL LIGHT

All classrooms were placed on the lower level prioritizing them to the east for large possibility for natural light introduction.



D // LEVEL 01



D // LEVEL 02

D // MEZZANINE

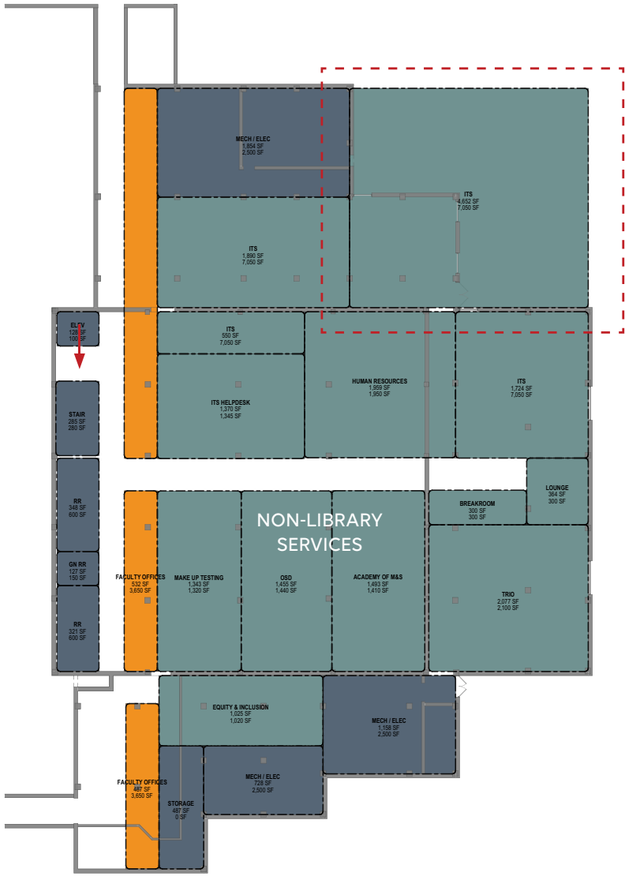
COLLECTIONS
NON-LIBRARY SERVICES
LIBRARY STAFF
FACULTY OFFICES
CLASSROOMS
GROUP STUDY
OPEN STUDY
SUPPORT

D // SCHEDULE

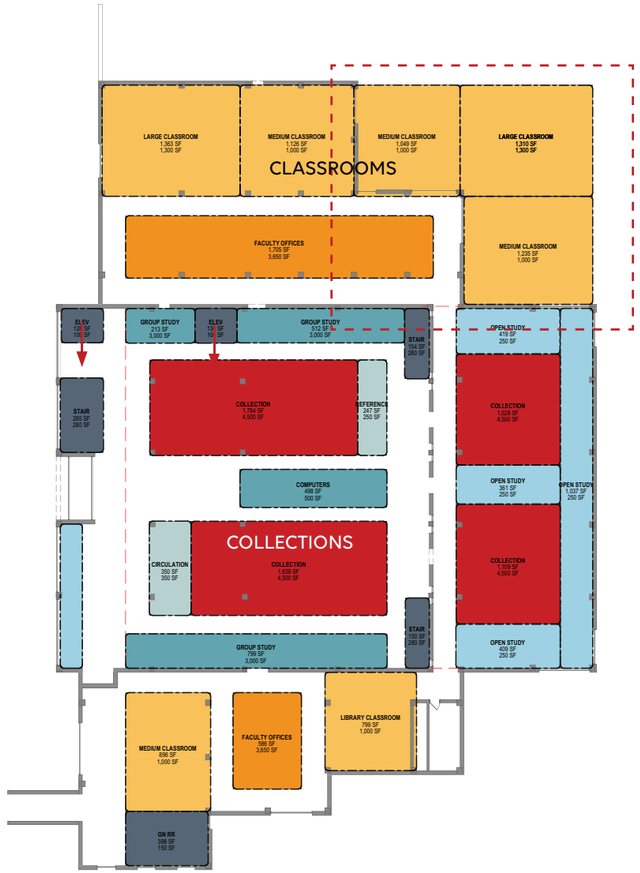
Fill Color	Space Name	Actual Area	Planned Area
CLASSROOMS	MEDIUM CLASSROOM	864 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	871 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	879 SF	1,000 SF
		6,939 SF	7,600 SF
COLLECTIONS	COLLECTION	974 SF	4,500 SF
COLLECTIONS	COLLECTION	976 SF	4,500 SF
COLLECTIONS	COLLECTION	1,511 SF	4,500 SF
COLLECTIONS	COLLECTION	1,839 SF	4,500 SF
		5,100 SF	18,000 SF
FACULTY OFFICES	FACULTY OFFICES	487 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	646 SF	3,650 SF
		1,134 SF	7,300 SF
GROUP STUDY	COMPUTERS	498 SF	500 SF
GROUP STUDY	GROUP STUDY	309 SF	3,000 SF
GROUP STUDY	GROUP STUDY	322 SF	3,000 SF
GROUP STUDY	GROUP STUDY	337 SF	3,000 SF
GROUP STUDY	GROUP STUDY	669 SF	3,000 SF
GROUP STUDY	GROUP STUDY	727 SF	3,000 SF
GROUP STUDY	GROUP STUDY	1,198 SF	3,000 SF
		4,081 SF	18,500 SF
LIBRARY STAFF	ACQUISITIONS	750 SF	750 SF
LIBRARY STAFF	ARCHIVES	641 SF	550 SF
LIBRARY STAFF	CIRCULATION	350 SF	350 SF
LIBRARY STAFF	LIBRARY BOH	504 SF	2,875 SF
LIBRARY STAFF	LIBRARY BOH	2,492 SF	2,875 SF
LIBRARY STAFF	REFERENCE	247 SF	250 SF
		4,984 SF	7,650 SF
NON-LIBRARY SERVICES	ACADEMY OF M&S	1,494 SF	1,410 SF
NON-LIBRARY SERVICES	BREAKROOM	278 SF	300 SF
NON-LIBRARY SERVICES	EQUITY & INCLUSION	1,020 SF	1,020 SF
NON-LIBRARY SERVICES	HUMAN RESOURCES	870 SF	1,950 SF
NON-LIBRARY SERVICES	HUMAN RESOURCES	1,120 SF	1,950 SF
NON-LIBRARY SERVICES	ITS	2,923 SF	7,050 SF
NON-LIBRARY SERVICES	ITS HELPDESK	1,204 SF	1,345 SF
NON-LIBRARY SERVICES	LOUNGE	356 SF	300 SF
NON-LIBRARY SERVICES	MAKE UP TESTING	81 SF	1,320 SF
NON-LIBRARY SERVICES	MAKE UP TESTING	1,279 SF	1,320 SF
NON-LIBRARY SERVICES	OSD	1,499 SF	1,440 SF
NON-LIBRARY SERVICES	TRIO	1,861 SF	2,100 SF
		13,665 SF	21,505 SF
OPEN STUDY	OPEN STUDY	283 SF	5,200 SF
OPEN STUDY	OPEN STUDY	406 SF	5,200 SF
OPEN STUDY	OPEN STUDY	406 SF	5,200 SF
OPEN STUDY	OPEN STUDY	622 SF	5,200 SF
OPEN STUDY	OPEN STUDY	697 SF	5,200 SF
OPEN STUDY	OPEN STUDY	903 SF	5,200 SF
OPEN STUDY	OPEN STUDY	972 SF	5,200 SF
OPEN STUDY	OPEN STUDY	1,203 SF	5,200 SF
OPEN STUDY	OPEN STUDY	1,208 SF	5,200 SF
		6,696 SF	46,800 SF
SUPPORT	ELEV	144 SF	100 SF
SUPPORT	GN RR	127 SF	150 SF
SUPPORT	GN RR	165 SF	150 SF
SUPPORT	MECH / ELEC	545 SF	2,500 SF
SUPPORT	MECH / ELEC	1,158 SF	2,500 SF
SUPPORT	MECH / ELEC	1,864 SF	2,500 SF
SUPPORT	RR	150 SF	150 SF
SUPPORT	RR	321 SF	600 SF
SUPPORT	RR	348 SF	600 SF
SUPPORT	STAIR	150 SF	280 SF
SUPPORT	STAIR	154 SF	280 SF
SUPPORT	STAIR	285 SF	280 SF
SUPPORT	STORAGE	419 SF	0 SF
		5,817 SF	10,090 SF

OPTION E - BUILDING ADDITION

An addition was introduced at the northwestern corner of the 1979 building. This allowed for more flexible placement of classrooms due to existing column constraints within the lower level, as well as ability to accommodate all program requests.



E // LEVEL 01



E // LEVEL 02

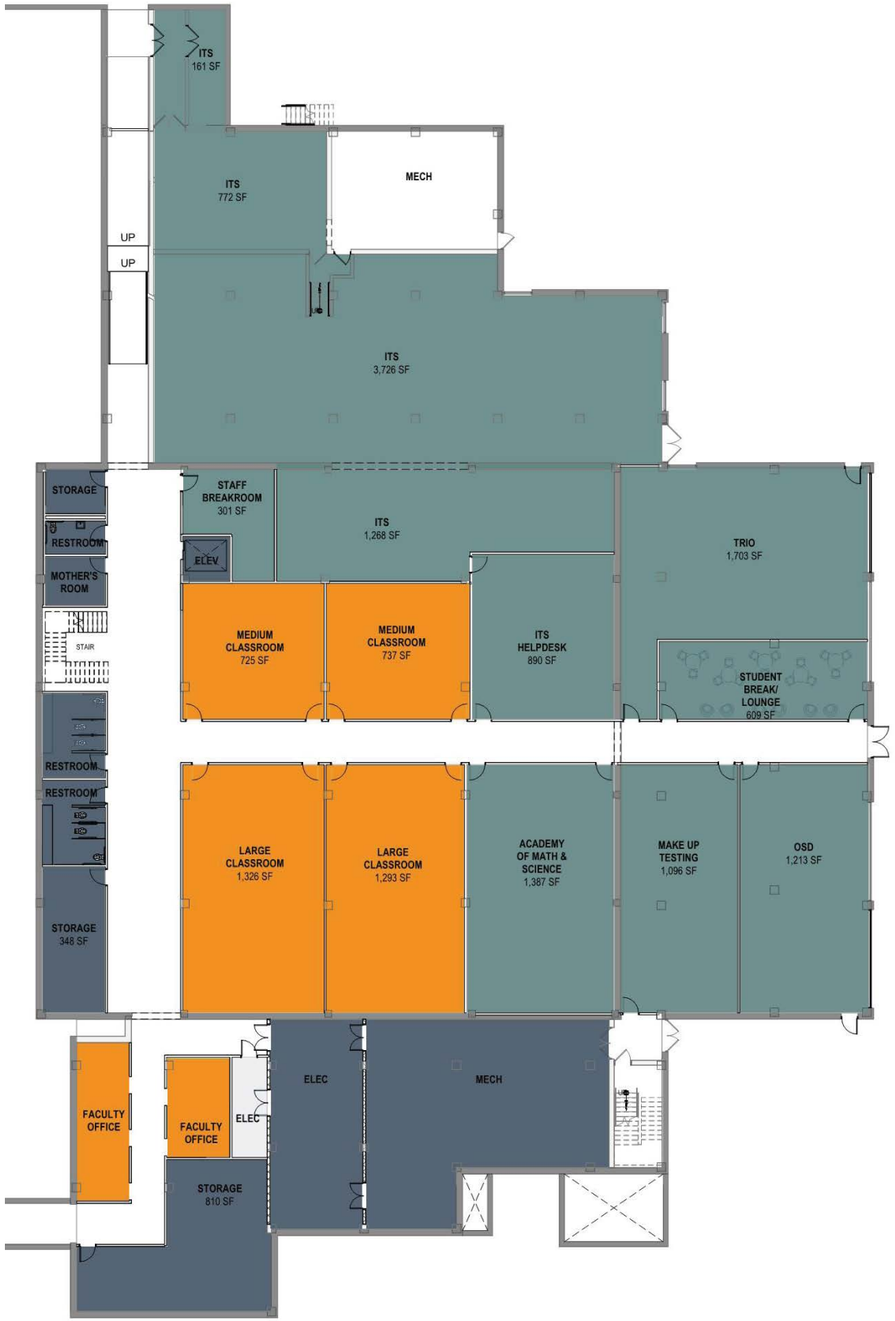
E // MEZZANINE

COLLECTIONS
NON-LIBRARY SERVICES
LIBRARY STAFF
FACULTY OFFICES
CLASSROOMS
GROUP STUDY
OPEN STUDY
SUPPORT

E // SCHEDULE

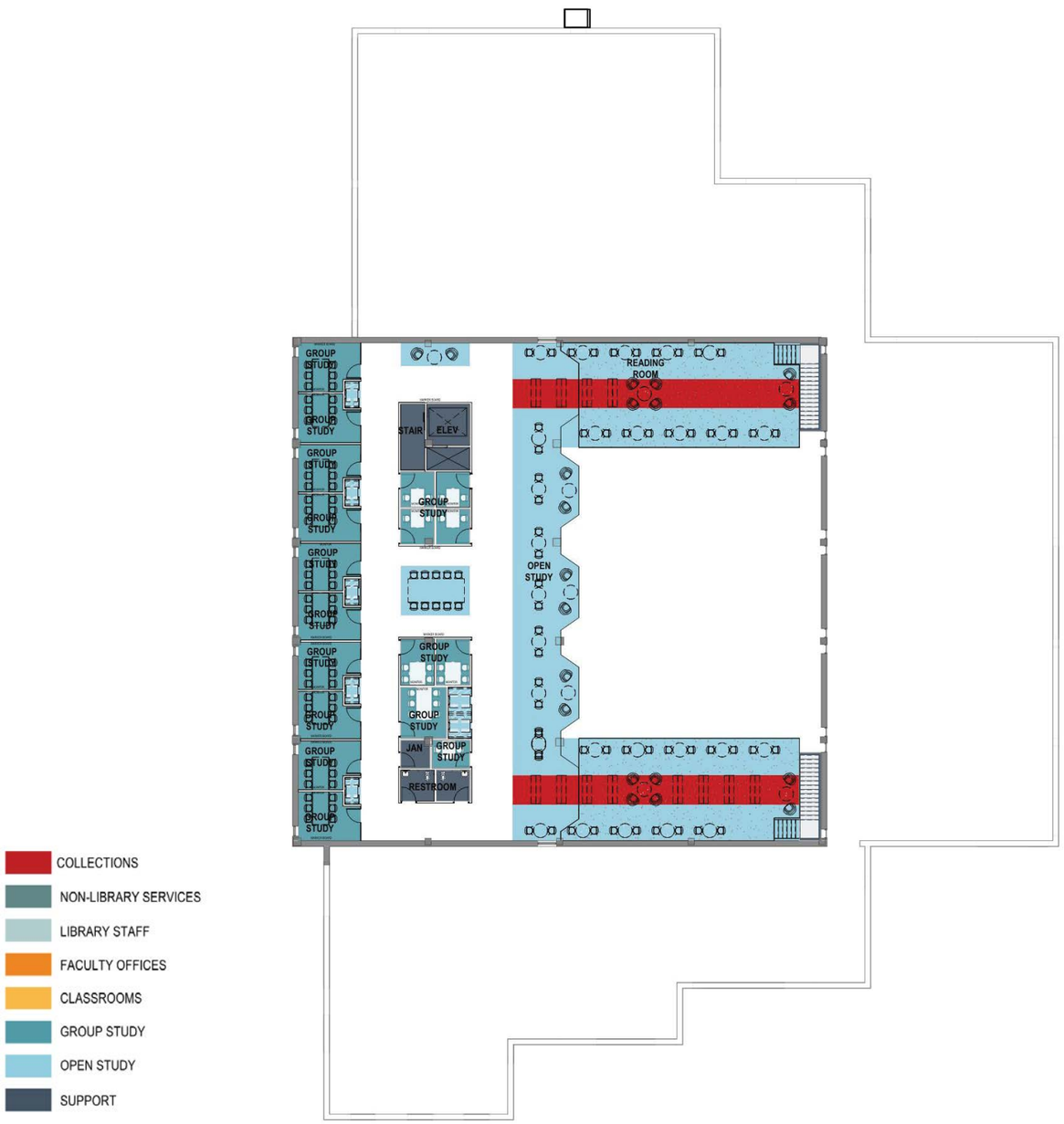
vw	Space Name	Actual Area	Planned Area
CLASSROOMS	LARGE CLASSROOM	1,310 SF	1,300 SF
CLASSROOMS	LARGE CLASSROOM	1,363 SF	1,300 SF
CLASSROOMS	LIBRARY CLASSROOM	799 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	896 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	1,049 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	1,126 SF	1,000 SF
CLASSROOMS	MEDIUM CLASSROOM	1,235 SF	1,000 SF
		7,778 SF	7,600 SF
COLLECTIONS	COLLECTION	1,028 SF	4,500 SF
COLLECTIONS	COLLECTION	1,109 SF	4,500 SF
COLLECTIONS	COLLECTION	1,639 SF	4,500 SF
COLLECTIONS	COLLECTION	1,764 SF	4,500 SF
		5,540 SF	18,000 SF
FACULTY OFFICES	FACULTY OFFICES	487 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	532 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	586 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	1,091 SF	3,650 SF
FACULTY OFFICES	FACULTY OFFICES	1,705 SF	3,650 SF
		4,402 SF	18,250 SF
GROUP STUDY	COMPUTERS	498 SF	500 SF
GROUP STUDY	GROUP STUDY	213 SF	3,000 SF
GROUP STUDY	GROUP STUDY	457 SF	3,000 SF
GROUP STUDY	GROUP STUDY	485 SF	3,000 SF
GROUP STUDY	GROUP STUDY	512 SF	3,000 SF
GROUP STUDY	GROUP STUDY	799 SF	3,000 SF
		2,966 SF	15,500 SF
LIBRARY STAFF	ACQUISITIONS	156 SF	750 SF
LIBRARY STAFF	ACQUISITIONS	626 SF	750 SF
LIBRARY STAFF	ARCHIVES	568 SF	550 SF
LIBRARY STAFF	CIRCULATION	350 SF	350 SF
LIBRARY STAFF	LIBRARY BOH	2,627 SF	2,675 SF
LIBRARY STAFF	REFERENCE	247 SF	250 SF
		4,773 SF	5,525 SF
NON-LIBRARY SERVICES	ACADEMY OF M&S	1,409 SF	1,410 SF
NON-LIBRARY SERVICES	BREAKROOM	300 SF	300 SF
NON-LIBRARY SERVICES	EQUITY & INCLUSION	1,025 SF	1,020 SF
NON-LIBRARY SERVICES	HUMAN RESOURCES	1,959 SF	1,950 SF
NON-LIBRARY SERVICES	ITS	550 SF	7,050 SF
NON-LIBRARY SERVICES	ITS	1,724 SF	7,050 SF
NON-LIBRARY SERVICES	ITS	1,890 SF	7,050 SF
NON-LIBRARY SERVICES	ITS	4,652 SF	7,050 SF
NON-LIBRARY SERVICES	ITS HELPDESK	1,370 SF	1,345 SF
NON-LIBRARY SERVICES	LOUNGE	364 SF	300 SF
NON-LIBRARY SERVICES	MAKE UP TESTING	1,343 SF	1,320 SF
NON-LIBRARY SERVICES	OSD	1,455 SF	1,440 SF
NON-LIBRARY SERVICES	TRIO	2,077 SF	2,100 SF
		20,201 SF	39,385 SF
OPEN STUDY	OPEN STUDY	361 SF	250 SF
OPEN STUDY	OPEN STUDY	409 SF	250 SF
OPEN STUDY	OPEN STUDY	419 SF	250 SF
OPEN STUDY	OPEN STUDY	1,037 SF	250 SF
OPEN STUDY	OPEN STUDY	283 SF	5,200 SF
OPEN STUDY	OPEN STUDY	703 SF	5,200 SF
OPEN STUDY	OPEN STUDY	722 SF	5,200 SF
OPEN STUDY	OPEN STUDY	1,227 SF	5,200 SF
		5,159 SF	21,800 SF
SUPPORT	ELEV	128 SF	100 SF
SUPPORT	ELEV	130 SF	100 SF
SUPPORT	GN RR	127 SF	150 SF
SUPPORT	GN RR	398 SF	150 SF
SUPPORT	MECH / ELEC	728 SF	2,500 SF
SUPPORT	MECH / ELEC	1,158 SF	2,500 SF
SUPPORT	MECH / ELEC	1,854 SF	2,500 SF
SUPPORT	RR	151 SF	150 SF
SUPPORT	RR	321 SF	600 SF
SUPPORT	RR	348 SF	600 SF
SUPPORT	STAIR	150 SF	280 SF
SUPPORT	STAIR	154 SF	280 SF
SUPPORT	STAIR	285 SF	280 SF
SUPPORT	STORAGE	487 SF	0 SF
		6,418 SF	10,190 SF

FIRST FLOOR PLAN

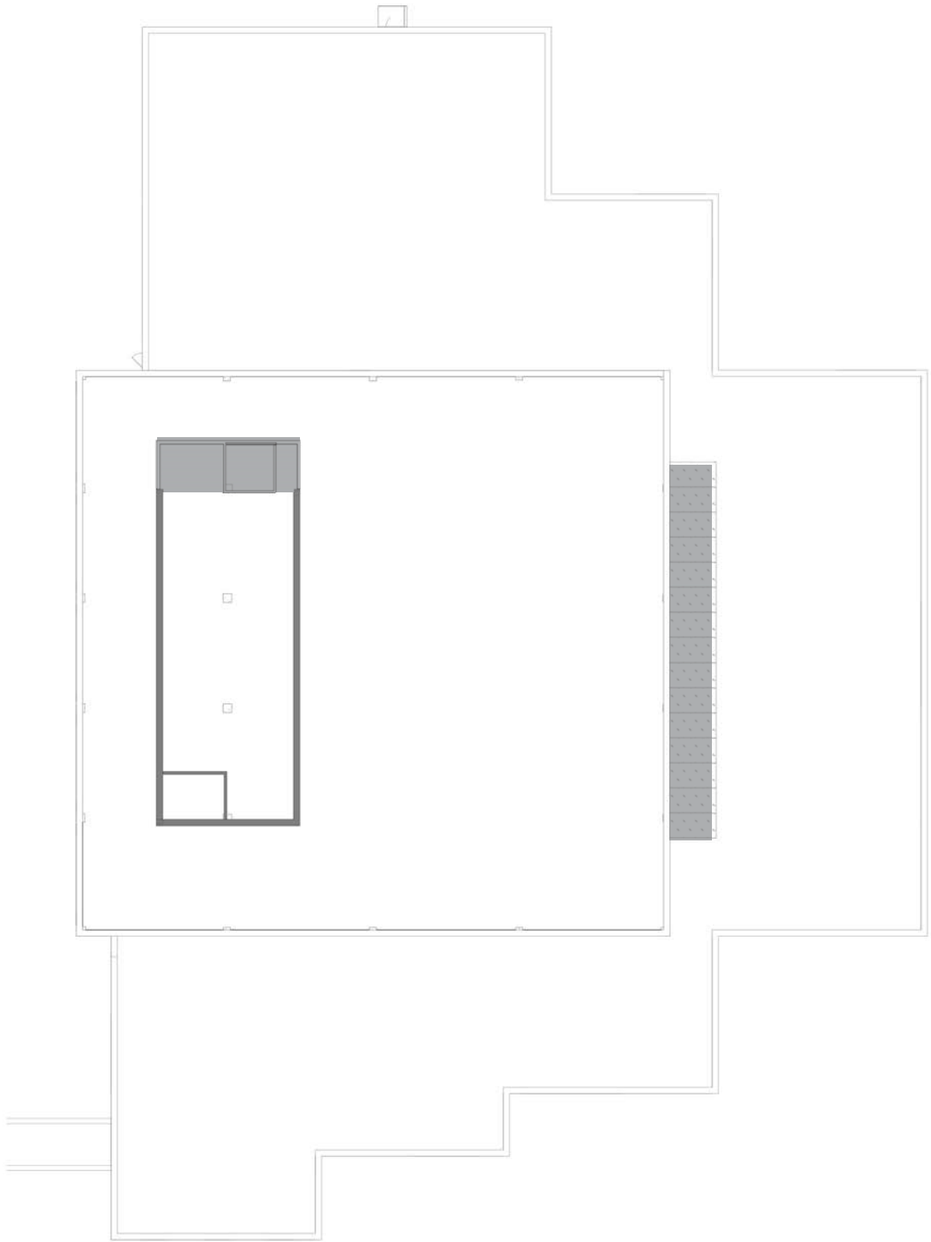


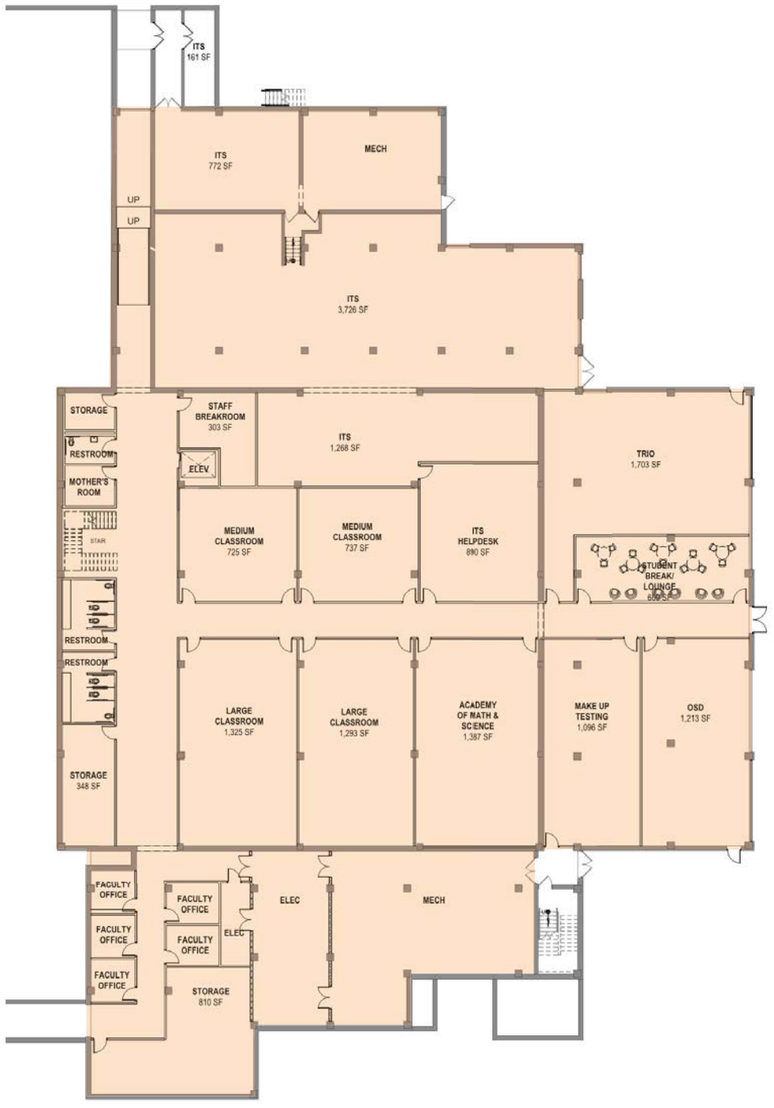
SECOND FLOOR PLAN

MEZZANINE FLOOR PLAN



ROOF PLAN



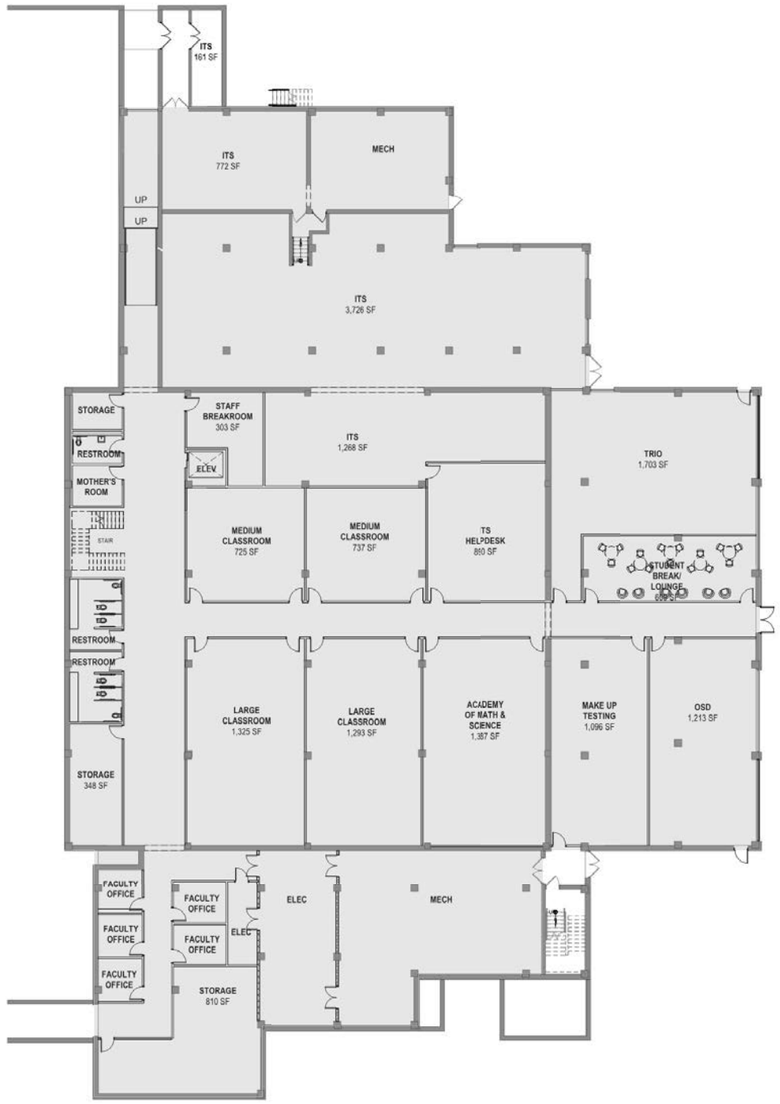


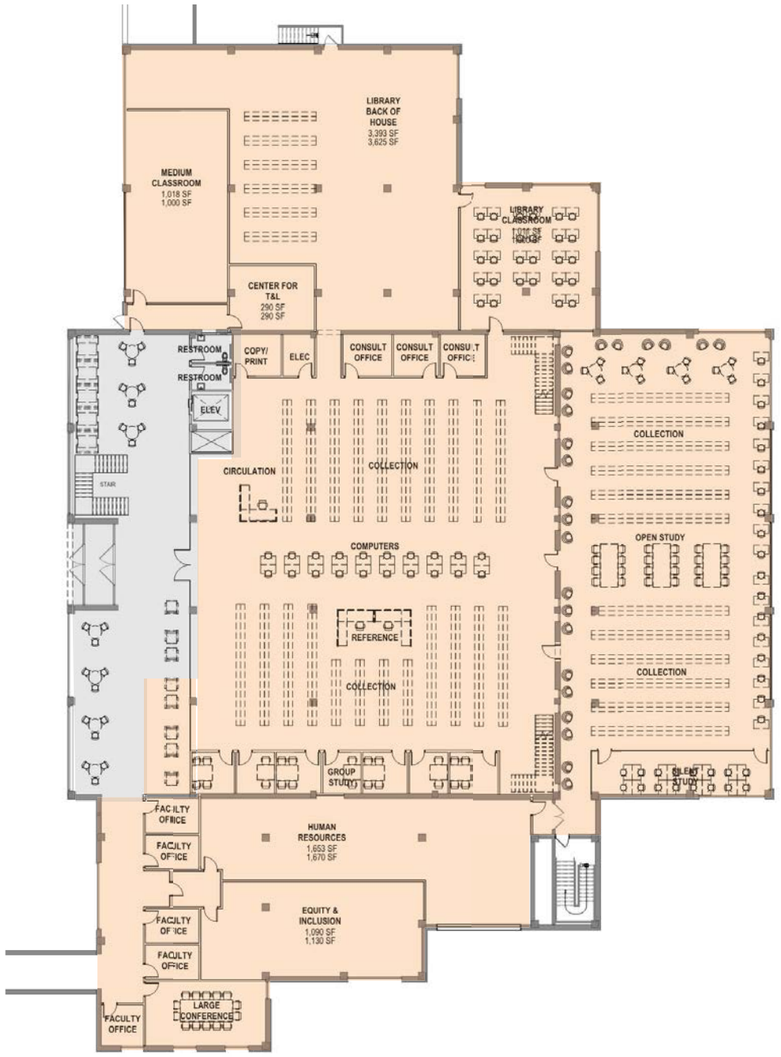
INCREASED ACCESSIBILITY & ACCESS

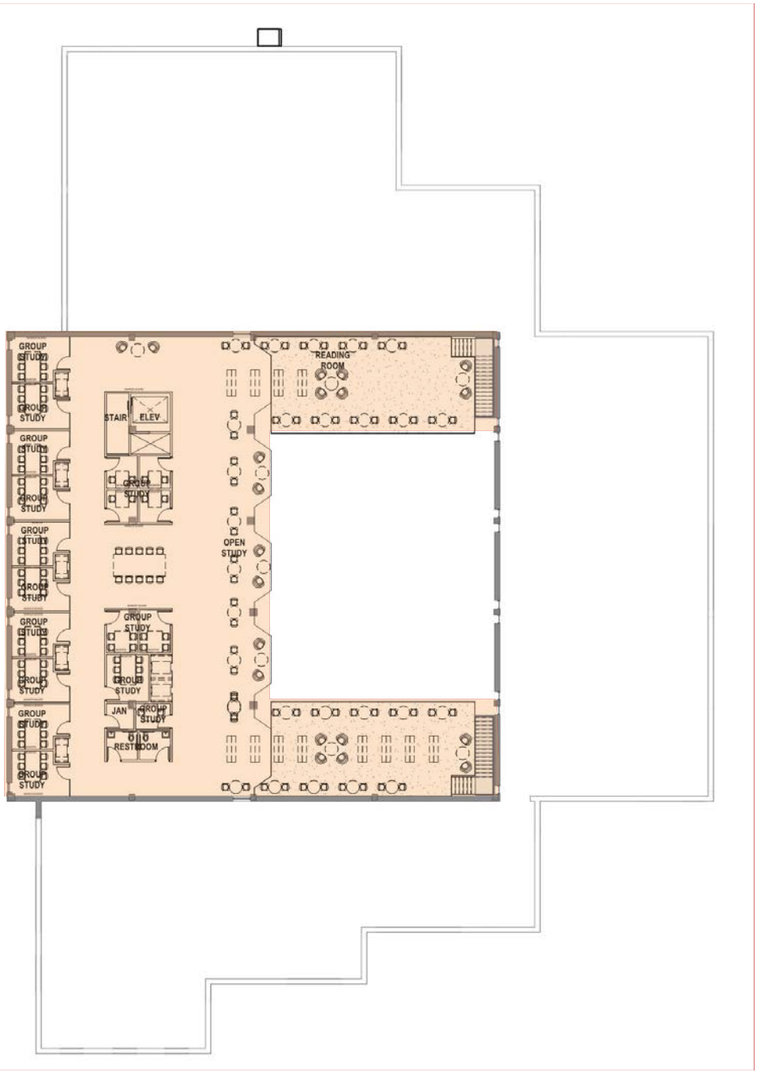
1. Restrooms renovation at lower level
2. Addition of (2) ada restrooms at main level
3. (2) Ada restrooms at mezzanine
4. Relocating main stair to west elevation to increase library visibility, building way-finding, and access to building supported student services
5. Elevator relocation for accessibility compliance
6. Penthouse addition to accommodate elevator extension to mechanical penthouse
7. New stair access to penthouse for increased maintenance access
8. Increased visibility & way-finding to main library entrance

MEP INFRASTRUCTURE

1. All within south end of lower level
2. Replacement and code updates for electrical switchgear & substation work
3. Emergency system distribution, transfer, & switch re-locate & upgrade
4. Central plant pumping and server system re-work
5. MEP system distribution and shaft relocation





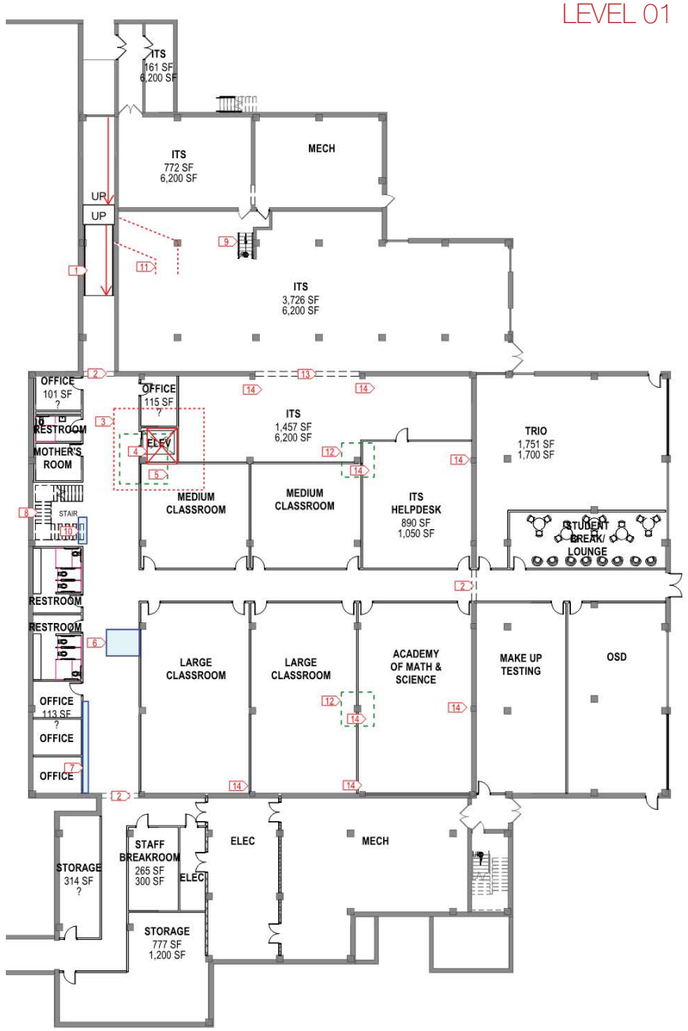


LIBRARY SERVICES

1. Complete Renovation of Second Level and Mezzanine encompassing the entire Library footprint, including expansion of all student study spaces, collections, and Library staff services.
2. Student & Faculty Services relocation, including Equity & Inclusion, Human Resources Department, and Faculty offices.
3. Expansion of Mezzanine Level Floor plate and Access Stair relocation

SCOPE OF WORK - STRUCTURAL

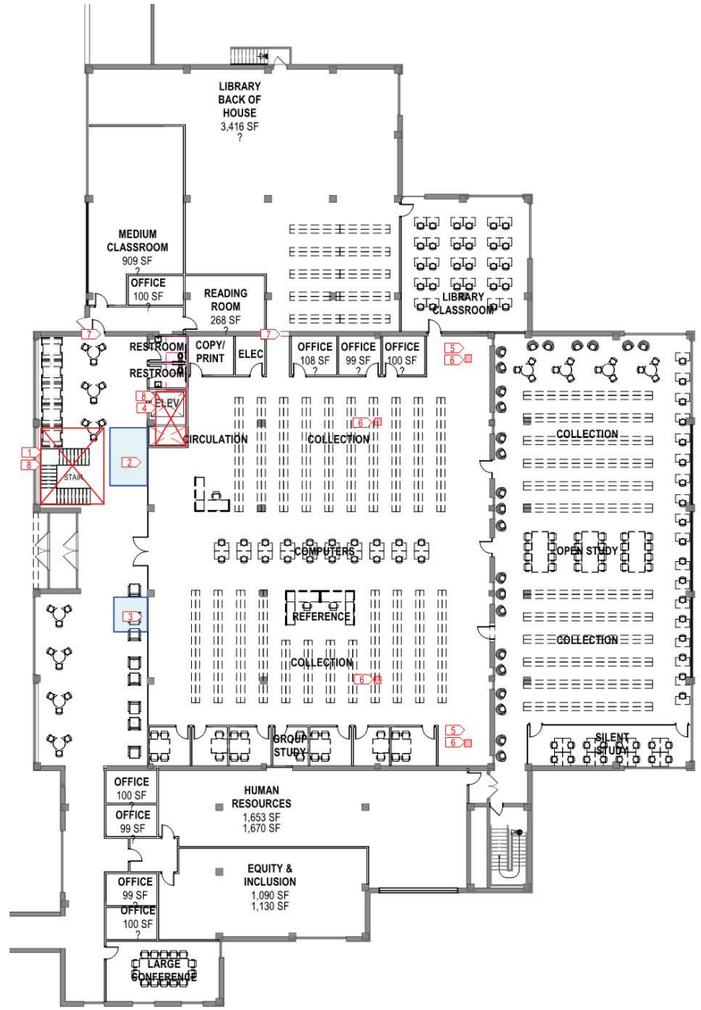
LEVEL 01



1. New 5” thick concrete ramp on grade w/ 8” concrete side walls. See arch for extents of ramp
2. Structural steel 12” deep wide flange shape lintel in existing 14” concrete wall. Shore existing pan joist concrete framing above during installation
3. Remove and replace to match existing slab on grade to allow for elevator pit installation. Drill and adhesive anchor rebar dowels into existing slab on grade
4. New 5’ deep elevator pit. 12” Thick elevator pit slab with 8” side walls.
5. Reinforce existing footing with helical piers prior to demo of ftg corner to accomodate elevator pit
6. Provide 5” concrete slab over polystyrene fill at abandoned elevator pit and sump pit. Drill and adhesive anchor dowels into exist slab on grade
7. Fill 4” slab on grade recess with 4” concrete. Provide bonding agent between existing concrete and new pour
8. New stair framed with structural steel and structural precast treads
9. New delegated design stair by structural steel supplier
10. Remove existing slab and replace with 8” thickened slab where structural steel stringers bear on slab on grade. Post install concrete anchors used to fasten stringers to new sog.
11. Provide 5” concrete slab over polystyrene fill at sloping downward ramp. Drill and adhesive anchor dowels into existing slab on grade
12. Reinforce existing footing with helical piers prior to installation of mezzanine expansion framing above
13. New structural steel 24” deep wshape lintel spanning column to column supporting the existing 14” concrete wall to remain above. Provide c12 channels at each end of lintel down to existing footing. Provide post installed concrete anchors from channel into existing column. Shore existing pan joist concrete framing above during installation
14. Columns from level 01 to underside of level 02 will need additional support. Assume channel shapes expansion anchored into existing concrete columns to support mezzanine expansion

1. New stair floor opening at level 02. Extent of pan joist concrete framing demolition to align with existing concrete beams spanning between existing columns to the north, south, and west. Existing concrete beam to along the west of the existing stair to remain.
2. Infill abandoned stair opening with structural steel beams and composite deck. Connection of steel beams to existing concrete framing to be post installed concrete anchor
3. Infill abandoned elevator and shaft opening with structural steel beams and composite deck. Connection of steel beams to existing concrete framing to be post installed concrete anchors
4. New opening in existing pan joist floor framing for new elevator and shaft. Maintain the girder framing in the north south direction on the west side of the opening. Provide a steel wide flange beam on the north and south sides of opening spanning from girder to girder and a steel channel expansion anchored into existing joists on the east of the new opening
5. Provide supplemental steel reinforcing within the depth of the existing pan joist concrete framing to recieve new column. Assume structural steel channels expansion anchored to each face of joist continous full length of joist
6. New column to support mezzanine above. See level 03 notes
7. New structural steel 12” deep wshape lintel with continuous 3/8” bottom plate supporting 4” brick wythe and 8” cmu wall. Shore existing pan joist concrete framing above during installation
8. Provide an allowance for non-destructive ground penetrating radar, gpr, investigation of existing rebar locations at new opening locations.

LEVEL 2

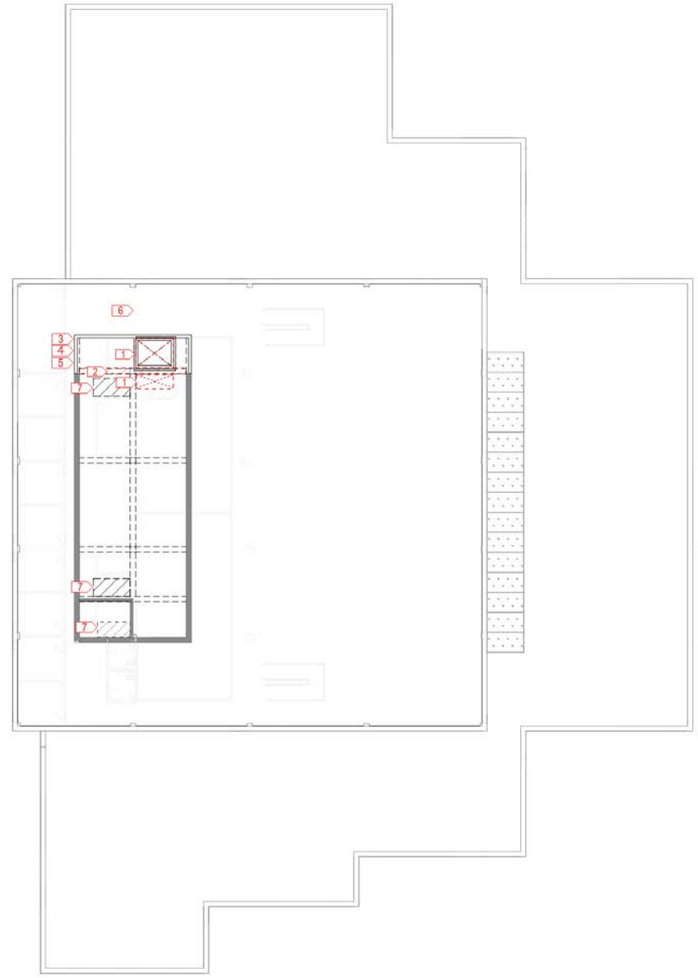


SCOPE OF WORK - STRUCTURAL

MEZZANINE

1. Infill abandoned elevator and shaft opening with structural steel beams and composite deck. Connection of steel beams to existing concrete framing to be post installed concrete anchors
2. Infill abandoned shaft opening with structural steel beams and composite deck. Connection of steel beams to existing concrete framing to be post installed concrete anchors
3. Demo cantilever slab back to concrete girder on grid 3
4. Floor framing options 4 1/2” normal wt concrete on metal deck over wide flange steel beams. Connection of steel beams to existing concrete framing to be post installed concrete anchors
5. Columns from level 01 to underside of level 02 will need additional support. Assume channel shapes expansion anchored into existing concrete columns
6. New structural column installed at level 01 to support mezzanine expansion anchored to level 01 concrete. Hss structural tube steel
7. New opening in existing pan joist floor framing for new elevator and shaft. Maintain the girder framing in the north south direction on the west side of the opening. Provide a steel wide flange beam on the north and south sides of opening spanning from girder to girder and a steel channel expansion anchored into existing joists on the east of the new opening
8. Provide an allowance for non-destructive ground penetrating radar, gpr, investigation of existing rebar locations at new opening locations and at new steel framing attachment to existing concrete locations.

ROOF / PENTHOUSE



1. New opening in one way concrete slab and beam framing for new elevator and shaft. Maintain the existing concrete girder framing in the north south direction on the west side of the elevator opening and the east west direction girder on the south side of the openings. Provide a steel wide flange beam on the east and west sides of openings spanning from roof beam to roof beam to support the cut slab edge
2. Shore penthouse roof structure during removal of existing 8” CMU load bearing exterior wall on grid e
3. Provide new 8” CMU reinforced and grouted @ 16” OC wall around the perimeter of the penthouse addition, height to match existing
4. Frame roof of penthouse addition with open web steel joists spanning east to west and bearing on the new 8” CMU exterior walls and 1 1/2” 20 GA roof deck
5. Provide an allowance for FRP reinforcing of existing concrete roof beams supporting new CMU exterior walls
6. Provide an allowance for non-destructive ground penetrating radar investigation of existing rebar locations within concrete framing north of grid ‘E’
7. Infill abandoned shaft (or stair) with composite deck. Provide structural steel angle around the perimeter of the opening connected to the existing concrete framing with post installed concrete anchors.

SCOPE OF WORK - PROPOSED MECHANICAL

DEMOLITION

- Demolition work shall be phased as required to allow existing buildings to remain in service and to allow construction of new spaces.
- Completely remove all existing mechanical systems except existing mechanical rooms. In existing mechanical rooms, new air handling units (installation in progress) and hydronic pumping systems will be moved and reused with some modification needed to associated distribution systems to connect to new building layout.

GENERAL REQUIREMENTS

- All new systems shall meet Minnesota State construction standards and guidelines.
- Systems and construction activities are required to meet MN's B3 guidelines that are current at the time of design and construction.

FIRE PROTECTION

- The building will be fully sprinklered based on NFPA 13 and the Minnesota Fire Code.
- Standpipes are not required. The highest occupied floor is less than 30 feet above the fire department access.
- A fire pump is not anticipated; other buildings in the area have adequate pressure to operate the sprinklers system.
- The existing fire service entrance piping on the west side of the lower level will need to be relocated as part of the project to a new lower level mechanical room location.

Hazard Classifications

» Ordinary Hazard – Classrooms, offices and corridors

» Ordinary Hazard 1 – Mechanical spaces

» Ordinary Hazard 2 – Storage spaces above 8'-0" up to 12'-0"

» Sprinkler system shall be hydraulically calculated for the occupied hazard(s)

» Special systems such as clean agent and dry systems – none.

» Sleeve fire rated walls with Schedule 40 black pipe to maintain fire rating.

Products

» Sprinkler-heads: Concealed-head types with custom color finish is select areas, white cover plates in areas with traditional ceilings, and chrome sidewall and upright heads in finished, non-ceiling areas. Brass upright heads in unfinished areas- Central, Viking, Reliable.

» Materials: Black steel ASTM A135 or A53, Schedule 40 pipe.

PLUMBING

- Continuous waste and vent to all plumbing fixtures and drains shall be provided. New fixture locations shall require new waste piping under the existing slab. Include provisions for removing existing slab and reinstalling new slab as part of waste piping work.
- Existing sanitary waste service shall be re-used. Include scoping of existing pipe main within scope of project.
- Floor drains shall be located in all renovated and new public toilet rooms and some additional floor drains in mechanical rooms are anticipated.
- The storm system will be continuous flow roof drains and overflow drains with interior piping. Overflow drains will be piped to the exterior wall and drop to discharge onto grade with splash blocks. All storm piping will be insulated.
- New elevator hoistway pit will have an area drain piped to a remote sump basin with pumped discharge to an indirect sanitary waste connection.
- Provide two (2) new high-efficiency hot water heaters – one in lower level mechanical room and one in penthouse mechanical room. Remove all remote water heaters. Provide an associated domestic hot water recirculating system (pump on timer and piping) for each water heater.
- Provide isolation valves at each group of fixtures in toilet rooms.

Products

» The domestic water piping shall be insulated with preformed fiberglass with reinforced foil vapor barrier jacket at insulation thickness prescribed in most current MN energy code.

» The sanitary waste and vent shall be cast iron, service weight, ASTM A74 or CISPI 301 with fittings and joints that are hub and spigot with compression gasket.

» The hot and cold water piping shall be copper, Type L, ASTM B88, hard drawn with wrought copper, brass or cast bronze fittings and screwed type joints with 95/5 solder and non-corrosive flux.

» Floor drains shall be coated cast iron, bottom caulked, drainage flange, weep holes, flashing collar with 6" round, medium duty, tractor type grate strainer, Josam 30000-9E or approved equal.

Plumbing Fixtures

» Public Toilet Area Water closets – Wall hung, elongated bowl- American Standard or Kohler, automatic flush at 1.28gpf.

» Urinals- Vitreous china, wall hung – American Standard or Kohler, automatic flush at .125 gpf.

» Public Toilet Area Lavatory – Vitreous china, wall hung- American Standard. Single levers sensor operated metering faucet at 0.5 gpm with mixing valve- Chicago. Insulated tailpiece and trap to meet ADA requirements.

» Service sinks – Floor mounted. Crushed stone and polyester resin construction. Mustee or Fiat. Double handle faucet with vacuum breaker, wall brace, pail hook and hose threaded spout- Chicago.

» Electric water coolers – Handicap accessible, with integral bottle fller. ANSI 117.1 and ARI Standard 1010-78 compliant – Elkay, Halsey Taylor, Haws, Oasis

» Kitchenette Sinks – Two Compartment, 18 gauge, stainless steel, counter mounted- Elkay. Lever handle faucet with gooseneck spout – Chicago.

SCOPE OF WORK - PROPOSED MECHANICAL

HVAC

- Ventilation and cooling for all spaces shall be provided by a new variable air volume (VAV) supply air system with hot water reheat VAV boxes for all zones.
- One VAV zone for every classroom or conference room, two offices per VAV zone.
- Duct supply air to each space to VAV box or air valves, all VAV boxes will have reheat coils.
- Return air to be ducted from each room to return main.
- The return fan VFD shall maintain differential of supply fan, less exhaust fan total, leaving the building slightly pressurized.
- Exhaust air from all toilets and janitor rooms shall be to a new exhaust fan in the penthouse.

Sound level design criteria will be:

- NC 35 for offices.
- NC 30 for conference rooms.
- NC 30 for the classrooms.
- NC 30 for the library

Products

- The new rectangular ductwork shall be galvanized steel per ASTM Specification A 93 59T and SMACNA standards. Round ductwork shall be manufactured of galvanized steel meeting ASTM-A653 and A924 by spiral lockseam. The spiral duct shall have locked seams so made as to eliminate any leakage under the pressure for which this system has been designed.
- Supply ductwork and return air ductwork shall be insulated with 1-1/2" nominal thickness (1-1/8" installed thick) 3/4 lb. density flexible fiber blanket.
- Flex duct for connections to diffusers or registers shall be made with factory pre-insulated duct with 1" thick, 3/4 lb. density fiberglass insulation; installed lengths of flexible ductwork shall be limited to 5' - 0" maximum lengths.
- Variable air volume (VAV) boxes with heating water reheat coils and DDC controls are will be installed to allow individual control of rooms (zones). The VAV boxes shall provide proper space conditioning during peak occupied periods and reduce the air output during low occupancy periods to reduce energy usage. Manufacturer: Titus DESV or approved equal
- Outside and exhaust air dampers will be very low leak. Return dampers will be low leak.

HYDRONIC SYSTEMS

Heating

- Heating source is from the central plant. Heating of the building envelope is through perimeter panel radiators in offices, conference rooms, the main library, skylights, lobbies and public spaces. Reheat coils in the air stream provides additional heat when needed.
- Provide new cabinet unit heaters in all vestibules and stairwells.
- Pipe hot water to hot water coil in AHU, reheat coils in VAV boxes, panel radiation and terminal units.
- Provide all new fin tube radiation at perimeter glazing in scope of project.
- Provide BTU meters on hot water heating piping mains that serve the Library.

Cooling

- Chilled water shall be served from the campus chilled water system. Existing Library air cooled chiller shall remain in place.
- Pipe chilled water to cooling coil in AHU; chilled water delta T to be 14 degrees.
- Provide BTU meters on chilled water piping mains that serve Library.
- Existing campus Data Center dry cooler shall remain.
- Relocate existing chilled water pumping stations for existing Library air cooled chiller and Data Center dry cooler. Provide all new piping, connections and valving for relocated pumping stations.
- Data Closets, Electrical Closets, AV Closets and Elevator Equipment Rooms will be served by ductless air conditioners. The Elevator Equipment Rooms will also have dedicated units.

HYDRONIC SYSTEMS (CONT'D)

AUTOMATIC CONTROL SYSTEMS (AMS)

- Direct digital control systems will be provided for control and monitoring of mechanical equipment and systems. The control system will include direct digital control panels with electronic sensors, equipment controls, metering of AHUs, electricity, CO2 sensors, and electronic valve and damper operators.
- The building's automatic control system will integrate with the existing Normandale N4 open-framework direct digital control system. Systems are currently serviced by UHL company and new work shall align with existing systems through UHL Company or a non-proprietary and open protocol Johnson Controls system.
- The building automaton system shall meet minimum requirements outlined in the Minnesota State Facilities Design Standards and interface with existing direct digital control system front end.
- All controls will be BACNet over IP and will comply with any current owner facility management guidelines.
- All controls will be open protocol (BACNet) on both the IP and MSTP levels.
- Operator interface for programming, control and monitoring will be through the existing control system with remote ethernet connection capability from a compatible web interface.
- System operating and maintenance, and energy conservation software, including trend logging capabilities that describe energy consumption and operating patterns will be provided.
- Off-site monitoring and secured control capability through internet connection will be provided.
- The control system for the building shall be connected connection to the College monitoring system according to College guidelines and protocols with approved cyber-security measures.

TEST & BALANCE / COMMISSIONING

- All ventilation and hydronic systems shall be performance tested and balanced to the design specifications.
- Balancing shall be done by an independent test and balance (TAB) contractor.
- HVAC systems shall be fully commissioned by an independent commissioning agent.

NORMAL POWER DISTRIBUTION SYSTEM

Existing Condition of Campus Electrical Distribution:

- The campus has two 13,800 volt primary feeder from Xcel Energy entering the campus along France Ave. These services terminate at a utility automatic through-over switch near the southeast corner of the Library building. A 13,8000V single service lateral enters the Library building and terminates at switchgear in the lower level. The utility meter is located in the Library switchgear. The 13,800V switchgear at the Library is the main service point for the campus, and Normandale Community College operates and owns a primary 13,800V distribution system to serve the campus. It is great that a campus of this size has two utility feeders to limit utility outages. However, there a several deficiencies and limitations of the current 13,800V campus system.
- The topology of the existing primary switchgear and feeders in the Library severely limits the ability for Normandale Community College to limit individual buildings from system faults or isolate buildings when a fault occurs. This means that several buildings would be impacted by a power outage due to either a system fault or planned preventative maintenance, as well as future construction projects.
- The existing switchgear in the Library building is reaching the end of its useful life and is recommended to be replaced in the next five years. The location of the switchgear does not meet current code required clearances and is co-located with mechanical equipment and mechanical piping. Equipment rated over 1,000V should be located in a separate room without mechanical equipment and limit access to authorized individuals.
- During the Comprehensive Facilities Planning process it was discovered that Normandale Community College does not have a comprehensive campus one-line diagram showing all of the medium voltage (>1,000V) distribution or a site plan showing how 13,800V feeders are routed throughout the campus and/or buildings. It is recommended that Normandale Community College hire a consultant, contractor, or both to create a one-line diagram and open up equipment to verify the existing routing conditions throughout the campus. This effort should be performed prior to the replacement of the existing service switchgear at the Library and any central utility plant projects.

- The normal power distribution system in the library consists of a 15 KV medium voltage switchgear connected to a 750kVA unit substation transformer with a 480V switchboard. The 15 kV medium voltage section also serves as the service disconnect for the entire campus. The load side of the service disconnect is tapped to feed the medium voltage service to two other buildings.
- The primary service switchgear shall be replaced with circuit breakers in a main-tie-main configuration and work with Xcel Energy to modify the two existing Xcel feeders to terminate directly at the new main-tie-main switchgear. This will allow the campus to have two services. Likely one service will remain an alternate backup service and will need to be coordinate with Xcel but allows for Normandale Community College the ability to create a loop topology between the unit substation on campus. To facilitate a primary 13,800V loop between unit substations at each building each unit substation would need to be evaluated to determine if the primary 13,800V switches can be modified to allow for a duplex switch.

NORMAL POWER DISTRIBUTION SYSTEM (CONT'D)

- The primary service switchgear shall be 13,800V 1200A Rated metal enclosed switchgear with draw-out vacuum breakers. The gear shall have a short circuit interrupting rating of 63kA
- A temporary 1 megawatt 13,800V generator will be provided to power the campus while the new primary switchgear is being connected to existing feeds. The generator should be connected to one of the utility feed connections in the new 13,800V switchgear.
- There will be a new medium voltage switch for the library itself, with one switch for the incoming feeder from the medium voltage double-ended service, one switch for the substation transformer, and one switch to feed another existing building medium voltage feeder.
- There will be a 13,800-volt 600A primary duplex to 277/480-volt, 3-phase, 4-wire secondary 750KVA dry type substation transformer, copper wound, cast coil with surge arrestors.
- The new main switchboard will be 1,200 amps, 480/277 volts, 3-phase, 4-wire with full neutral and copper bussing and located on the main level electrical room. The switchboard will contain multiple sections for expandability. Sections shall include a 1,200-amp LSIG draw-out main breaker, a surge protective device (SPD), customer power monitoring/metering, circuit breaker distribution sections and be provided with 25% spare spaces and capacity.
- An equipment ground bus will be provided in the main electrical room. Grounding electrode conductor will be connected to building water service, steel rebar encased in concrete footings, structural steel if available and auxiliary ground rods.
- The branch power distribution system will consist of copper feeders with a ground wire from the main switchboard to panels located throughout the building.
- 480/277-volt, 3-phase, 4-wire branch circuit panelboards will be located on the basement and first floor to serve the lighting loads.
- 480 volt, 3-phase to 208/120-volt, 3-phase, 4-wire step-down dry-type transformers to serve receptacle/miscellaneous loads.
- 208/120-volt, 3-phase, 4-wire, branch circuit panelboards with 100% neutrals will be located on the basement and first floors to serve the receptacle load.
- Circuit-breaker type branch circuit panelboards will be provided with main breakers, copper bus and 25% spare breakers. The panelboards will be dead front construction with a hinged door and a hinged cover. Circuit breakers will be bolt-on type.
- Equipment to be manufactured by ABB to match campus standards.

SCOPE OF WORK - PROPOSED ELECTRICAL

EMERGENCY POWER DISTRIBUTION SYSTEM

- The emergency power distribution system is existing and shall be relocated into new emergency power electric room. Provide new normal power feeders from new service.

LIGHTING

- Lobby lighting will consist of downlights with decorating pendants over key circulation or reception areas. Large 2 story space will between 1st floor and mezzanine will contain art lighting or sculptural pendant.
- Classroom lighting will consist of recessed linear lighting with wall wash at front of the large and medium classrooms. On lower level, lighting in circulation spaces, enclosed offices and break/lounge areas with lay-in ceilings will be 1x4 recessed lensed LED.
- Lighting in storage and utility spaces will be surface or suspended 4-foot lensed LED industrials.
- Exit lights will be LED type, white stencil lettering with red face.
- Emergency egress lighting will utilize selected lighting fixtures within the path of egress circuited to the emergency generator system for one foot-candle average in the paths of egress.
- All fixtures will have electronic dimmable drivers installed.
- Design light levels and lighting power density will be as follows:

Space Type	IESNA 10th Edition Handbook Light Level (FC)	IECC 2015 Lighting Density (W/SF)
Total Building – Library		1.19
Library Collections	30 at 3’-0”	1.71
Library BOH	30 at floor	0.63
Library Open Study	30 at 2’-6”	1.06
Classroom/Lecture	40 at 2’-6”	1.21
Lobby / Entry	15-20	0.9
Conference/Meeting/ Multipurpose	30	1.23
Corridor/Transition	10	0.66
Office – Enclosed	30	1.1
Restroom	20 at vanities, 10 general	0.98

- A lighting relay control panel will be located in the ceiling of the corridor on each floor to provide lighting control.

LIGHTING CONTROL SYSTEM

- A lighting control system will be provided to perform time schedule control. This control system will be fully addressable and will have the flexibility of grouping lighting into control groups to provide flexible and adjustable spaces. This control system will be provided with communications to the campus EMS system to allow time schedule on/off set points to be entered into the system.
- Daylight harvesting will be provided for all areas on the perimeter of the building. Control will be provided by photo sensors located in the space being controlled. Where scene control is indicated, provide three zones of lighting control and a minimum of four preset scenes.
- Dual technology occupancy sensor controls will be utilized where occupancy control is utilized.
- Lighting relay control panels to have a barrier and utilize UL924 relays to control egress lights.
- Provide a communication network between the lighting control devices, lighting control panels and a server-based software. System to have the capability to remotely monitor, set or control all lighting functions from the server-based software.
- Provide on-site factory system start up, programming, training and commissioning with follow up training.
- Lighting control will be accomplished with multiple control strategies and combinations of strategies as follows:

Space Type	Control Type				
	M	O	T	D	S
Classroom/Seminar	X	X		X	X
Conference/Meeting/Multipur-pose	X	X			X
Corridor/Transition		X	X	X	
Lobby		X	X	X	
Office – Enclosed	X	X	X	X	
Office – Open Plan	X	X	X	X	
Public Area Emergency Egress Lighting		X	X		
Control type: M=Manual switch(es), O=occupancy sensor(s), T=time schedule, D=daylight sensor(s), S=multi scene control(s)					

SCOPE OF WORK - PROPOSED ELECTRICAL

POWER

- Motor starters or thermally protected switches and disconnects shall be provided for all single-phase motors
- Variable frequency drives with integral disconnects and maintenance bypass shall be provided for all three-phase motors.
- The following specifications are generalizations and will be modified throughout the design development phase.
  - » Corridors: Receptacles every 25 feet throughout for housekeeping purposes.
  - » Storage, utility spaces: One receptacle at entrance door, 48” AFF
  - » Mechanical spaces: GFCI Receptacles spread throughout for maintenance purposes
  - » Outdoor: One receptacle at each entrance/exit from the building, with additional perimeter outlets to reduce the spacing to 100’-0” maximum.
  - » Typical single Occupant Office
    - . (1)Quad receptacle and (1)Duplex receptacle, remainder as NEC dictates.
  - » Conference rooms
    - . Poke-thru mounted at opposite ends of table with duplex receptacles.
    - . (4)receptacles (one on each wall)
    - . (1) receptacle at wall mounted display.
  - » Restrooms
    - . GFCI receptacle above counter tops
    - . Connection for Automatic Flush Valves for toilets, urinals and lavatories.
    - . Connection for electric water cooler
    - . Connection for hand dryers. Provide dedicated 120V circuit for each unit.
  - » Classrooms
    - . Provide duplex receptacles every 8’ of open wall space.
    - . Provide for three duplex receptacles for ceiling mounted projectors
    - . Provide (2) dedicated circuits for AV equipment within classrooms.
    - . Provide receptacles every 4’ along any millwork in classrooms.
    - . Provide poke-thru at lectern teaching stations.
    - . All Low-voltage connections for lectern shall be provided at wall.
  - » Public Gathering Areas
    - . Provide receptacles for every permanent grouping of seats.
    - . Provide receptacles for every 10’ of wall space
    - . Provide receptacle on ever column in public areas.
  - » Other potential power requirements
    - . Projection Screens
    - . For detailed listing of mechanical system equipment, refer to Mechanical Systems Narrative.

BRANCH CIRCUITRY

- Minimum size of conduit shall be 1/2”. Size shall be in accordance with the NEC. Branch circuit homeruns shall be minimum of 3/4” size. Branch circuit homeruns shall be defined as the conduit from the panelboards to the first outlet device. Provide maximum of 3 circuits per homerun.
- Conduit shall be type EMT, M/C cable will not be allowed.
- Branch circuits will be copper conductors, with separate neutral per phase.
- All devices will be provided with stainless steel plates.
- All branch and feeder circuits will include a copper grounding conductor.
- Acceptable device manufacturers will be Hubbell and Leviton and will be extra hard usage specification grade.

FIRE ALARM

- An existing voice evacuation fire alarm system will be extended throughout the building. System will include manual stations, smoke detectors, duct smoke detectors, heat detectors, connections to sprinkler system and HVAC equipment, audio/visual devices and visual devices. System will be designed to meet NFPA and the State of Minnesota Building Code. The existing building’s fire alarm system shall be reused. The following items will be included
- Manual pull stations will be installed at the following locations:
  - » Nearby building fire alarm control panel. Mounting heights shall be no lower than 36”AFF and no higher than 48”AFF and shall be within ADA accessible reach limits at all locations and within 5’ of exit doors.
- Heat and Smoke detection: Provide complete coverage heat and smoke detection in accordance with NFPA 72 including all local and state amendments –or- in the following locations:
  - » Mechanical rooms
  - » Storage rooms
  - » Electrical rooms
  - » Audio/Visual rack rooms
- Audio/visual and visual notification appliances in quantities and locations required to notify occupants in accordance with NFPA 72 and the ADA. Strobes shall be minimum 15 cd rating under UL 1971. Audible devices shall be speaker based. Basis of design ceiling speakers and ceiling speaker/strobes shall be an 8” speaker equivalent to Wheelock S8.
- Door Holders: Provide magnetic door holders for release of designated doors upon alarm signal. Coordinate with architectural for doors to be held open. Provide all required door hardware interfaces for unlocking doors and releasing held open doors.
- Elevators: Smoke and heat detectors needed to perform elevator recall function.
- Fire Protection: Connection to tamper and flow switches in quantities and locations determined by the fire protection contractor.

SCOPE OF WORK - PROPOSED ELECTRICAL

FIRE ALARM (CONT'D)

- HVAC Interface:
  - » Interface to accomplish control of HVAC units based on duct detector input, monitoring of power used for life-safety functions (shunt trip power, etc.)
  - » Interface to accomplish control of HVAC combination fire/smoke dampers. Dampers shall actuate upon detection of smoke by associate duct detector.
- Fire alarm system conduit and fire alarm j-box covers shall be painted red.
- System shall interface with Building BAS system for all controls and alarm signals.

VOICE & DATA RACEWAY SYSTEM

- Voice and data outlets will be provided in all program areas necessary to meet space program requirements.
- Conduit: A typical voice/data outlet will have a two-gang box with a single gang faceplate and a 3/4" conduit routed to an accessible ceiling location.
- Cable Tray: 4" deep X 12" wide, wire-mesh type, galvanized steel, NEMA 5C supported 5' on center, cable tray will be provided along all of the corridors.
- Security Raceway : A typical wall mounted camera will have a two-gang box and ¾" conduit routed to an accessible ceiling location. Conduit connections will be provided to Access Control system and electrified door hardware.

AUDIO VISUAL RACEWAY

- Audio Visual Raceway:
  - » A 12"x12"x4" master AV junction-box with conduit routed to an accessible ceiling location will be provided at AV equipment headend locations for routing of AV cabling.
  - » A 6-gang floor box with conduit routed to an accessible ceiling location will be provided at each teacher's station for routing of AV cabling.
  - » A typical wall mounted AV equipment location will have a two-gang box and 1-1/4" conduit routed to an accessible ceiling location.

VOICE & DATA

The typical voice/data outlet will be connected with Category 6 horizontal cabling that will be terminated on rack mounted patch panels in the nearest Telecom room.

Typically, voice and data outlets would be provided as described below:

- Typical single Occupant Office
  - » One wall mounted voice/data outlet with two jacks.
- Typical workstation
  - » One voice/data outlet with two jacks.
- Faculty Office Spaces
  - » One data outlet with one jack mounted on the ceiling for each 1,200 sq. ft. of floor space for a Wireless LAN Access Point.
- Conference rooms
  - » One voice/data outlet with two jacks on one of the walls.
  - » One voice/data outlet with two jacks in the floor box under the table.
  - » One data outlet with two jacks at Audio/Visual equipment headend locations.
  - » One data outlet with two jack mounted on the wall for a wall mounted display.
- Classrooms (35 to 40 Person)
  - » One voice/data outlet with eight jacks at each teacher's station.
  - » Two data outlets with one jack on each outlet mounted on the ceiling for a Wireless LAN Access Point.
  - » One data outlet with two jacks at Audio/Visual equipment headend locations.
  - » One data outlet with one jack mounted on the ceiling at each ceiling mounted projector.
- Public Gathering Areas
  - » One data outlet with one jack mounted on the ceiling for a Wireless LAN Access Point.
- Study Rooms
  - » One data outlet with two jacks on one of the walls.
  - » One data outlet with two jacks mounted on the wall for a wall mounted display.
- Corridors
  - » One data outlet with one jack mounted on ceilings at 30' intervals for Wireless LAN Access Points.

VOICE & DATA (CONT'D)

SECURITY SYSTEM

Existing Security systems will be extended to serve the areas covered by this project, with new head-end equipment provided in telecom rooms.

- Video Surveillance
  - » New Axis IP video surveillance cameras shall be connected to the existing campus Milestone xProtect Video Management System for recording and playback.
  - » Video surveillance cameras shall be typically provided at exterior doors, the ends of corridors and at corridor intersections, within computer labs, office waiting areas/reception desks, and outside of telecom rooms.
- Access Control
  - » New doors with card readers, monitoring, or remote lockdown functions shall be connected to the existing campus Genetec Synergis Cloud Link access control system. New access control panels shall be provided as needed.
  - » Card readers shall be typically provided at exterior doors, computer labs, classrooms, main doors into an office suite, electrical rooms, mechanical rooms, and telecom rooms.
  - » Remote lockdown functions shall be provided at exterior doors and cross corridor doors.
  - » Monitoring of exterior doors and all doors with card readers and remote lockdown functions shall be provided.

AUDIO VISUAL SYSTEMS

Audio/Visual systems shall be provided in classrooms and student learning areas to enhance the learning experience, as well as within conference rooms to facilitate meetings. These systems shall be designed for consistency and coordinated with campus audio/visual standards, where appropriate, to maximize compatibility with other systems and to simplify maintenance and support.

Audio/Visual Systems will be provided for the following room types to meet the needs of the students, faculty, ,staff and may vary depending on requirements of each room.

- Classrooms and Student Learning Areas
  - » Room Scheduling Screens outside each classroom entrance.
  - » Presentation System with Ceiling Mounted Projectors and Motorized Projection Screens. Teacher's Station PC, Wired Video inputs, Document Camera, and Touchscreen controller provided at Teachers Station.
  - » Audio Reinforcement System with Ceiling Speakers, Assistive Listening System, and Wireless Microphones.
  - » Lighting controls integrated onto AV system touchscreen controller.
  - » Zoom Room functionality to support remote learning or linking of multiple classrooms together. Zoom Room functionality is enabled via additional ceiling microphone arrays and cameras.
- Group Study Rooms
  - » Presentation System with a wall mounted Flat Panel Display with Integral Speakers and Video Inputs at the tabletop.
- Conference Rooms
  - » Room Scheduling Screens outside each conference room entrance.
  - » Presentation System with a wall mounted Flat Panel Display with Integral Speakers, Soundbar, or Ceiling Speakers and Video Inputs at the tabletop.
  - » Audio Conferencing may be provided via a Portable Conference Phone Unit for small Conference Rooms or an integrated Audio System with Microphones, Speakers, and a Touchscreen Controller.
  - » Video Conferencing with a Video Conferencing Camera and a Video Conferencing Codec or USB-AV Bridge to a software video conferencing application.
- Digital signage screens shall be provided in the following areas and connected to the existing digital signage system:
  - » Student Gathering/Study Areas
  - » Lounge Areas
  - » Office/Department Suite Reception Areas

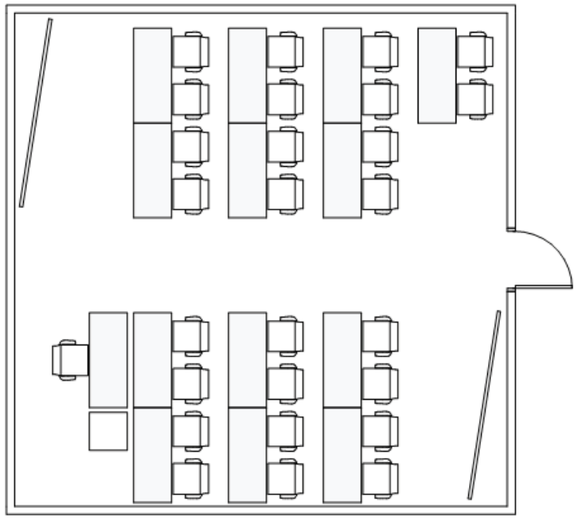
TEMPORARY RELOCATION & SWING SPACE

PHASE I

For the work of Phase I, the lower level will be relocated from the floor in its entirety as necessary for scope of work.

LOWER LEVEL

» IT Department: On 2nd floor, the north end of the existing Library addition, is under-utilized student workspace, and the existing Library Staff workspace. Both have under-utilized square footage. The College is working with the Library to allow the IT department to utilize this space as temporary relocation for their department while first floor is being renovated.



» Classrooms: All classrooms shall been re-located around campus for the currently scheduled classes.

» Faculty Offices: A large portion of the existing Faculty offices will be relocated to various areas of campus permanently, such as the Business & Social Sciences Department. The balance of the faculty offices will be re-located to temporary vacated spaces until the lower level is complete.

2ND LEVEL & MEZZANINE: The spaces being modified with Phase I work is limited at the second & mezzanine levels. At large, those spaces being affected will be able to continue as currently operating at a reduced size & capacity.

PHASE II

SECOND LEVEL: The remodeling of Phase I allowed several departments to be relocated to the basement and free up additional space. The following departments will be relocated outside the building:

» Library Collections: A downsized circulation desk will be located in the Kopp Student Center for on-demand collections. A reduced volume of the collections,

PROGRAM SUMMARY

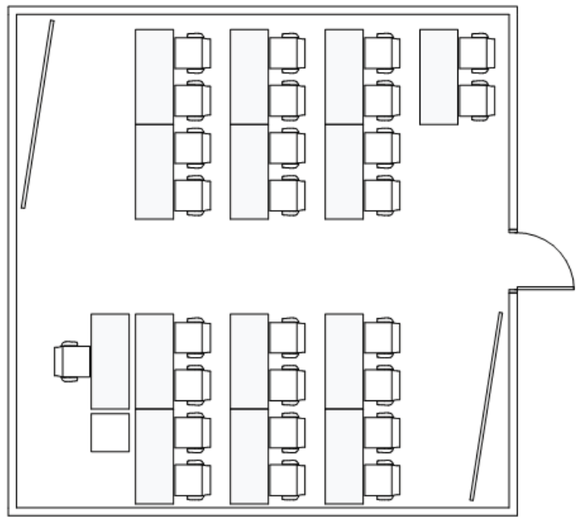
Service (Dept), Staff (Library), Study, Collection, Teaching/Learning, Support	Typ of Room	Departrment	Quantity	Existing Program (SF)	Updated Program
	COLLECTIONS			**5,947**	**5,360**
Collections	Acquisitions	Library		713	400
Collections	Stacks	Library		4,557	4,600
Collections	*Archive Stacks*	Library		220	240
Collections	**Music Collection**	**Library**		**350**	--
Collections	Picture Books	Library		107	120
	FACULTY OFFICES			**1,799**	**1,535**
Service (Dept)	Office (10)	Faculty	10	943	1,000
Service (Dept)	Office	Faculty		102	
Service (Dept)	Office	Faculty		202	
Service (Dept)	Office	Center for Teaching and Learning		289	295
Service (Dept)	Office	Partnership		100	120
Service (Dept)	Office	Partnership		163	120
	STAFF (LIBRARY)			**3,953**	**4,760**
Staff (Library)	Work Area	Library		1,255	1,250
Staff (Library)	Reference Desk	Library	1	255	350
Staff (Library)	**Large Collaboration**	**Library**		--	**300**
Staff (Library)	Classroom	Library	1	800	1,000
Staff (Library)	Circulation Desk	Library	1	350	350
Staff (Library)	Print Area - Staff	Library		50	70
Staff (Library)	Reserves	Library		40	50
Staff (Library)	Workstations (5)	Library		450	550
Staff (Library)	Office (7)	Library		753	840
	OPEN STUDY			5,449	**6,595**
Study & Research	Carrels	Library		2,039	2,075
Study & Research	Computer Stations (25)	Library	25	503	650
Study & Research	**Open Study**	**Library**		--	**500**
Study & Research	Open Study	Library		609	600
Study & Research	Open Study	Library		1,400	1,400
Study & Research	Print Area - Public	Library		55	120
Study & Research	Soft Seating	Library		843	850
Study & Research	**Soft Seating**	**Library**		--	**400**
	GROUP STUDY			1,106	**2,740**
Study & Research	Group Study - Lrg (3)	Library	3	528	650
Study & Research	**Group Study - Lrg (3)**	**Library**	**3**	--	**650**
Study & Research	Group Study - Md (4)	Library	4	426	450
Study & Research	**Group Study - Md (4)**	**Library**	**4**	--	**450**
Study & Research	Group Study - Sm (3)	Library	3	152	180
Study & Research	**Group Study - Sm (6)**	**Library**	**6**	--	**360**
	TEACHING & LEARNING			6,486	**6,800**
Teaching & Learning	Classroom	Classroom		919	1,000
Teaching & Learning	Classroom	Classroom		1,304	1,400
Teaching & Learning	Classroom	Classroom		889	1,000
Teaching & Learning	Classroom	Classroom		1,315	1,400
Teaching & Learning	Classroom	Classroom		983	1,000
Teaching & Learning	Classroom	Computer Room		1,076	1,000
	NON-LIBRARY SERVICES			**12,492**	**17,405**
	Academy of Math & Science			**0**	**1,410**
Service (Dept)	**Offices (2)**	**Academy - Math & Science**		--	**480**
Service (Dept)	**Offices (2)**	**Academy - Math & Science**		--	**480**
Service (Dept)	**Reception**	**Academy - Math & Science**		--	**150**
Service (Dept)	**Student Lounge**	**Academy - Math & Science**		--	**300**
	Equity & Inclusion			**0**	**1,130**
Service (Dept)	**Multi use space**	**Equity & Inclusion**		--	**300**
Service (Dept)	**Reception**	**Equity & Inclusion**		--	**200**
Service (Dept)	**Office (4)**	**Equity & Inclusion**		--	**480**
Service (Dept)	**Reflection/Prayer Room**	**Equity & Inclusion**		--	**150**
	Human Resources			1,518	**1,670**
Service (Dept)	Reception / Lounge	Human Resources		397	400
Service (Dept)	Office (9)	Human Resources		1,121	1,120
Service (Dept)	**Breakroom**	**Human Resources**		--	**150**
	Information Technology Services			**7,200**	**7,295**
Service (Dept)	Break Room	ITS		--	250
Service (Dept)	Mail Room	ITS			100
Service (Dept)	Offices (3) - Managers	ITS		--	360
Service (Dept)	Offices (2) - Supervisors	ITS		--	240
Service (Dept)	Wrkstn (1) - Admin Assistant	ITS		--	100
Service (Dept)	Vendor Collaboration Space	ITS		--	200
Service (Dept)	Meeting / Conf Room	ITS		--	400
Service (Dept)	Wrkstn (1) - Service Desk/LMS	ITS - Applications		--	100
Service (Dept)	**Wrkstn (1) - Advocate**	ITS - Applications		--	100
Service (Dept)	Wrkstn (5) - Support	ITS - Applications		--	500
Service (Dept)	**Wrkstn (1) - Support**	ITS - Applications		--	100
Service (Dept)	Wrkstn (1) - BA Staff	ITS - Applications		--	100
Service (Dept)	**Wrkstn (1) - BA Staff**	ITS - Applications		--	100
Service (Dept)	Sound Room	ITS - Ed Tech		60	60
Service (Dept)	Control Room	ITS - Ed Tech		158	150
Service (Dept)	Storage	ITS - Ed Tech		350	350
Service (Dept)	Storage	ITS - Ed Tech		166	350
Service (Dept)	Studio	ITS - Ed Tech		115	115
Service (Dept)	Offices (3)	ITS - Ed Tech		--	300
Service (Dept)	Wrkstn (4) - Support Staff	ITS - End Point Support		--	400
Service (Dept)	**Wrkstn (2) - Support Staff**	ITS - End Point Support		--	200
Service (Dept)	Storage - Secure Device	ITS - End Point Support		--	500
Service (Dept)	Device Imaging	ITS - End Point Support		--	480
Service (Dept)	Wrkstn (4) - Network / Server	ITS - Infrastructure		--	400
Service (Dept)	**Wrkstn (1) - Network/Server**	ITS - Infrastructure		--	100
Service (Dept)	Storage - Network Equip	ITS - Infrastructure		--	200
Service (Dept)	Service Desk	ITS - Service Desk		--	400
Service (Dept)	Storage - Equip Handout	ITS - Service Desk		--	180
Service (Dept)	Offices (4) - Exist	ITS - Service Desk		--	360
Service (Dept)	**Office (1) - Trainer/Comm Specialist**	ITS - Service Desk		--	100
	Make-up Testing			1,321	**1,330**
Service (Dept)	Testing Room - Open	Make-Up Testing		1,010	1,000
Service (Dept)	Testing Room - Individual	Make-Up Testing		211	210
Service (Dept)	Reception	Make-up Testing		100	120
	Office for Students with Disabilities			1,439	**1,470**
Service (Dept)	Reception	OSD		621	650
Service (Dept)	Office (5)	OSD		818	820
	TRIO / Upward Bound			**764**	**1,700**
Service (Dept)	Office (7)	TRIO / Upward Bound		764	790
Service (Dept)	**Reception**	**TRIO / Upward Bound**		--	**190**
Service (Dept)	**Interactive Training**	**TRIO / Upward Bound**		--	**300**
Service (Dept)	**Private room**	**TRIO / Upward Bound**		--	**120**
Service (Dept)	**Secured Storage**	**TRIO / Upward Bound**		--	**200**
Service (Dept)	**Student Storage**	**TRIO / Upward Bound**		--	**100**
Service (Dept)	**Technology Space**	**TRIO / Upward Bound**		--	
	Shared Non-Library			250	**1,400**
Service (Dept)	**Large meeting space**	**Student Senate**		--	**450**
Service (Dept)	**Break room**	**TRIO / Upward Bound**		--	**400**
Service (Dept)	**Lounge - Student**	**TRIO / Upward Bound**		--	**350**
Service (Dept)	Mailroom / Break Room	Faculty		250	200
	SUPPORT				**6,245**
Support	Electrical	Storage		9	20
Support	Electrical	Support		6	20
Support	IT / Data Closet	Support	3	--	90
Support	Janitor	Storage	3	115	120
Support	Mechanical	South Mech		1,931	2,000
Support	Mechanical	Elevator Room	1	46	50
Support	Mechanical	Maintenance		45	50
Support	Mechanical	North Mech (IT)		736	750
Support	Mechanical	Water Main / Sprinkler		62	50
Support	Mechanical	Riser Room		113	115
Support	Mother's Room	**Support**		124	120
Support	RR - Library	Support		28	**80**
Support	**RR - Gender Neutral**	**Support**	**2**	--	**130**
Support	RR - Mens	Support	4	400	500
Support	**RR - Men's**	**Support**	**2**	--	**250**
Support	RR - Womens	Support	4	400	500
Support	**RR - Women's**	**Support**	**2**	--	**250**
Support	Storage	Facilities		1,152	1,150
				SUB-TOTAL	**51,440**

CLASSROOM - MEDIUM

DESCRIPTION	PROPOSED SIZE (NSF)	1,000SF
	DEPARTMENT(S) SERVED	All Departments
	FUNCTION	Teaching & Learning Space
	QUANTITY	4
	CAPACITY	15 - 20 People
	CRITICAL ADJACENCIES	

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; special finish; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls
	ACOUSTICS	
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Voice and data at instructor station; wireless internet, A/V presentation system w/student pod active learning & lecture capture capabilities
	FFE	Moveable tables and movable chairs; instructor station (desk/podium), whiteboards

PLANS / LAYOUTS / DIAGRAMS

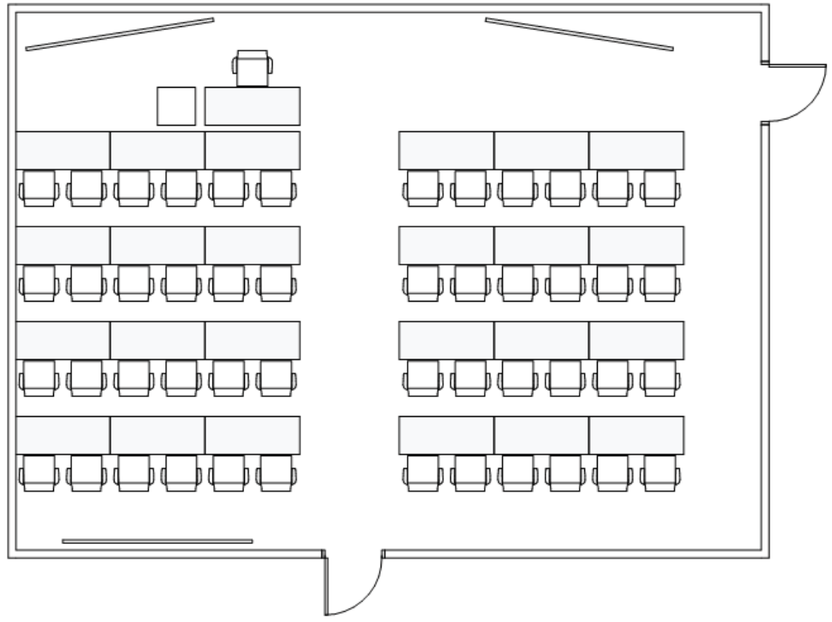


CLASSROOM - LARGE

DESCRIPTION	PROPOSED SIZE (NSF)	1,400SF
	DEPARTMENT(S) SERVED	All Departments
	FUNCTION	Teaching & Learning Space
	QUANTITY	2
	CAPACITY	25 - 30 People
	CRITICAL ADJACENCIES	

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; special finish; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls
	ACOUSTICS	
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Voice and data at instructor station; wireless internet, A/V presentation system w/student pod active learning & lecture capture capabilities
	FFE	Moveable tables and movable chairs; instructor station (desk/podium), whiteboards

PLANS / LAYOUTS / DIAGRAMS

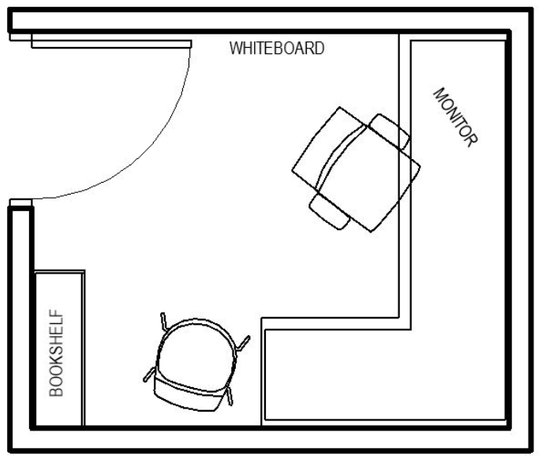


PRIVATE OFFICES

DESCRIPTION	PROPOSED SIZE (NSF)	100 - 120SF
	DEPARTMENT(S) SERVED	All Departments - Faculty, Human Resources, Student Services Depts
	FUNCTION	Professional Office
	QUANTITY	10
	CAPACITY	1 - 2
	CRITICAL ADJACENCIES	Teaching & Learning; Faculty Lounge;

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls, occupancy sensors, task lighting.
	ACOUSTICS	High level of sound control
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Voice and data at walls, wireless internet
	FFE	Worksurface and return with storage below, task chair, 1 guest chair, bookcase/shelves, whiteboard

PLANS / LAYOUTS / DIAGRAMS

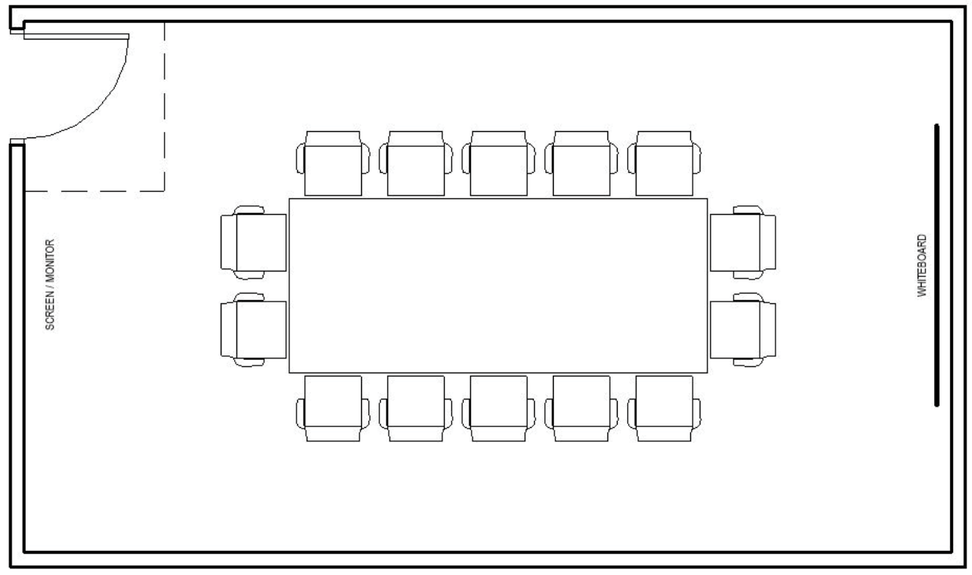


CONFERENCE ROOM / LARGE MEETING

DESCRIPTION	PROPOSED SIZE (NSF)	375-400SF
	DEPARTMENT(S) SERVED	Library Building Occupants; Building housed Student & Staff Departments
	FUNCTION	Professional Office
	QUANTITY	1
	CAPACITY	15 - 20
	CRITICAL ADJACENCIES	On Main building circulation path

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls, occupancy sensors, multi-level lighting.
	ACOUSTICS	High level of sound control
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Digital signage; interactive displays; Voice and data at walls; wireless internet; A/V system with flat panel display and audio conferencing
	FFE	Conference table, task chairs, whiteboard

PLANS / LAYOUTS / DIAGRAMS

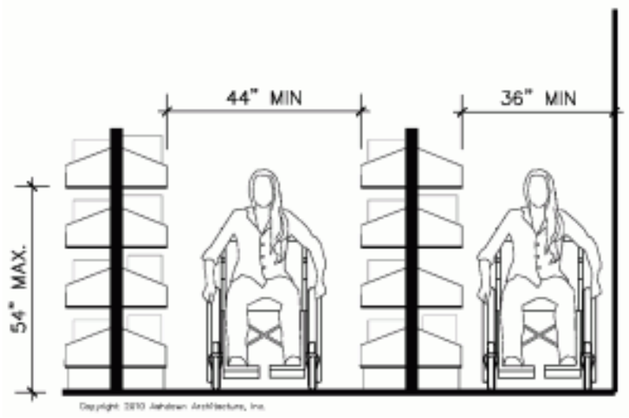


STACKS / COLLECTIONS

DESCRIPTION	PROPOSED SIZE (NSF)	N/A
	DEPARTMENT(S) SERVED	Library
	FUNCTION	Houses Library Collections & Student Resources
	QUANTITY	Throughout main library common spaces
	CAPACITY	--
	CRITICAL ADJACENCIES	--

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls, task lighting.
	ACOUSTICS	High level of sound control
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	
	FFE	Soft seating, carrels,

PLANS / LAYOUTS / DIAGRAMS

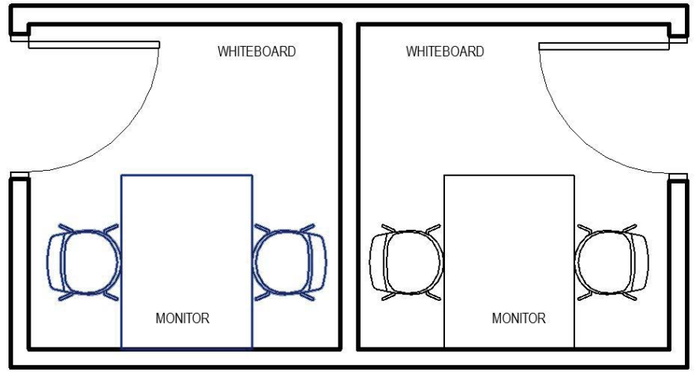


GROUP STUDY - SMALL

DESCRIPTION	PROPOSED SIZE (NSF)	375-400SF
	DEPARTMENT(S) SERVED	Library Building Occupants; Building housed Student & Staff Departments
	FUNCTION	Quiet Study & Student Meeting
	QUANTITY	9-12
	CAPACITY	1 - 2
	CRITICAL ADJACENCIES	Easily accessible off main Library Collections; Security monitoring ability

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls, occupancy sensors, multi-level lighting.
	ACOUSTICS	Sound control
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Voice and data at walls; wireless internet; A/V system with flat panel display and audio conferencing
	FFE	Conference table, task chairs, whiteboard

PLANS / LAYOUTS / DIAGRAMS

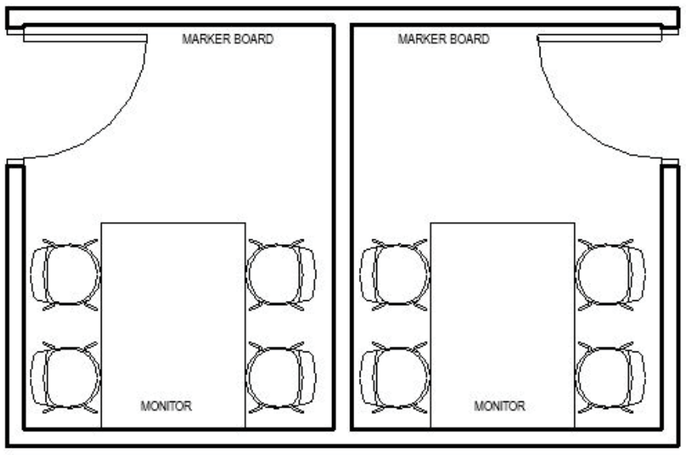


GROUP STUDY - MEDIUM

DESCRIPTION	PROPOSED SIZE (NSF)	250-300F
	DEPARTMENT(S) SERVED	Library Building Occupants; Building housed Student & Staff Departments
	FUNCTION	Dedicated Quiet Study & Student Meeting
	QUANTITY	6
	CAPACITY	4-5
	CRITICAL ADJACENCIES	Easily accessible off main Library Collections; Security monitoring ability

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls, occupancy sensors, multi-level lighting.
	ACOUSTICS	Sound control
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Voice and data at walls; wireless internet; A/V system with flat panel display and audio conferencing
	FFE	Conference table, task chairs, whiteboard

PLANS / LAYOUTS / DIAGRAMS

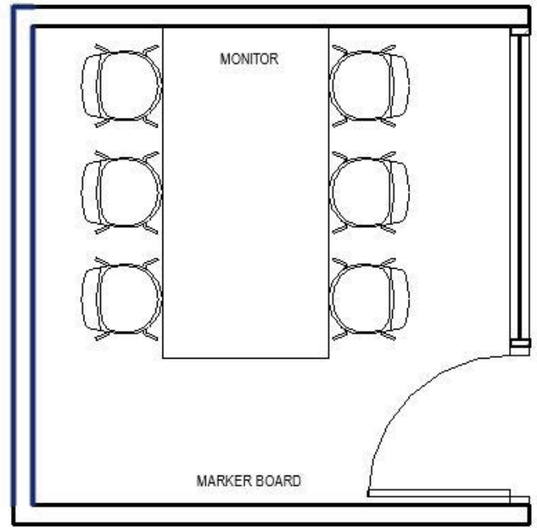


GROUP STUDY - LARGE

DESCRIPTION	PROPOSED SIZE (NSF)	250-300F
	DEPARTMENT(S) SERVED	Library Building Occupants; Building housed Student & Staff Departments
	FUNCTION	Dedicated Quiet Study & Student Meeting
	QUANTITY	6
	CAPACITY	7-8
	CRITICAL ADJACENCIES	Easily accessible off main Library Collections; Security monitoring ability

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls, occupancy sensors, multi-level lighting.
	ACOUSTICS	Sound control
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Voice and data at walls; wireless internet; A/V system with flat panel display and audio conferencing
	FFE	Conference table, task chairs, whiteboard

PLANS / LAYOUTS / DIAGRAMS

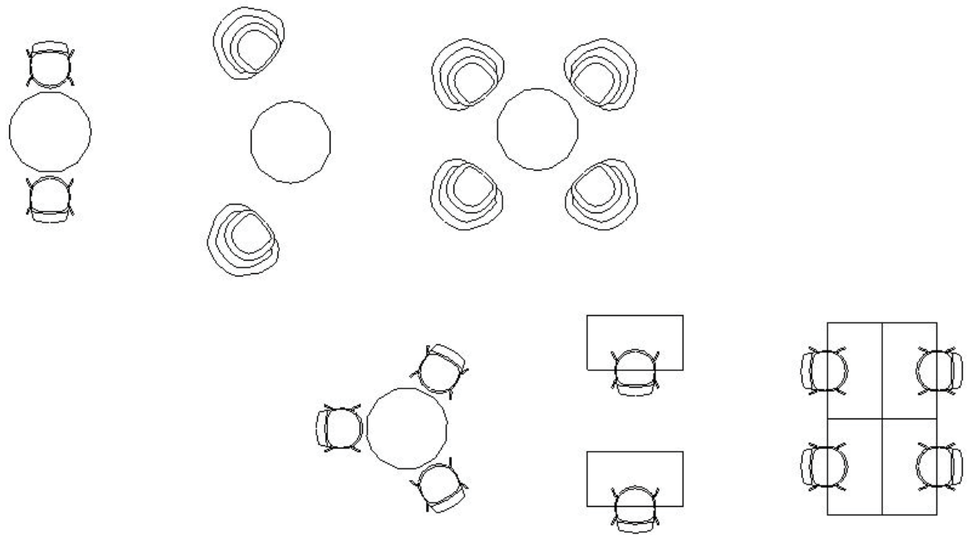


INDIVIDUAL / OPEN STUDY

DESCRIPTION	PROPOSED SIZE (NSF)	100-120F
	DEPARTMENT(S) SERVED	Library Building Occupants; Building housed Student & Staff Departments
	FUNCTION	Dedicated Quiet Study & Student Meeting
	QUANTITY	--
	CAPACITY	1-2
	CRITICAL ADJACENCIES	Easily accessible off main Library Collections; Security monitoring ability

SYSTEMS & FINISHES	FINISHES	Carpet Tile; Painted gypsum board; acoustical ceiling tile
	LIGHTING	Direct/indirect; accent fixtures; 50 f.c. daylighting sensors and lighting controls, occupancy sensors, multi-level lighting.
	ACOUSTICS	Sound control
	HVAC, PLUMBING, & ELECTRICAL	75°F and 50% relative humidity in summer; 72°F winter; overhead duct distribution; direct digital controls, 120V power at walls
	TECHNOLOGY	Voice and data at walls; wireless internet; A/V system with flat panel display and audio conferencing
	FFE	Conference table, task chairs, whiteboard

PLANS / LAYOUTS / DIAGRAMS



QUALITY ASSURANCE / QUALITY CONTROL

A range of quality assurance and control measures shall be utilized within the final Design team along with outside secondary reviews and consultants retained by the Project. All the additional team members outside the design team are accounted for within the in total project costs in subsequent funding section.

All measures are discussed below based on the project team member responsible for incorporation:

OWNER RETAINED
» Building Envelope Peer Review & Commissioning

» HVAC and Electrical Systems Commissioning, including peer review during design and inspections during construction.

DESIGN TEAM
» Building Information Modeling (BIM) for clash detection

» Building Envelope Analysis, performed during the design phase

CONTRACTOR
» Mock-ups of envelope component systems and pre-installation conferences

» Submittal of a quality control plan by the Contractor and subcontractors


004
SUSTAINABILITY
& ENERGY

RENOVATION GOALS

The complete renovation of the Library Building provides a range of opportunities to incorporate sustainable design practices and construction methods to achieve a reduction energy and promoted a clean environment for all.

Reduction Of Indoor Water Usage

» High efficiency plumbing fixtures & management of water use effectively.

Water Metering & Monitoring

» Manage the use of water within the building efficiently &identify opportunities for further reduction.

Energy Modeling & Building Commissioning

» In compliance with B3, modeling in conjunction with benchmarking to determine efficient strategies and management.

Increased Efficiency of Mechanical Systems

» Replacement of dated and inefficient systems coupled with increased controls and monitoring

Energy Load Reduction

» Incorporation of strategic daylighting coupled with complete lighting controls, monitoring, and occupancy sensors to achieve reduction in total building energy usage

Sustainable Building Materials & Resources

» Utilize materials and resources that support human, climate, and ecosystem health & complete transparency

Incorporation of Renewable Energy Sources

» Solar PhotoVoltaics, Geothermal, and Wind Energy were all assessed for incorporation into the final project.

Waste Management & Recycling Program

» Implemented at construction, the reduction of waste building-wide and further incorporation of recycling shall reduce building generated waste

B3 COMPLIANCE

The design of the site and the buildings will incorporate sustainable design principles and comply with the State of Minnesota's Sustainable Buildings 2030 Energy Standards (SB 2030) and Minnesota's B3 requirements. The development of an effective sustainability strategy for the proposed renovation will require diligent investigation of a variety of design opportunities. The renovated facility, through its existing East orientation, design, construction and operations will be a high performance, energy efficient and environmentally friendly building resulting in an operational cost savings for Normandale Community College.

ENERGY EFFICIENCY STRATEGIES

The strategies and goals listed below are guidelines. Those strategies most appropriate and afforded by the budget will be selected for development and use in the project.

Increased Efficiency of Mechanical Systems

The renovated library will be served by the existing building chillers and boilers that provide chilled water and heating water to the existing air handling units. The campus loop system will accommodate the changes by utilizing existing system capacities for heating and cooling, maintaining overall campus energy efficiency. As part of the renovation, the existing systems will be provided with new modulating equipment, new control systems and new control sequences that will enable the project to operate more energy efficiently – by being able to modulate systems to match heating, cooling and ventilating needs and doing so more energy efficiently.

Energy Load Reduction

There are many existing conditions that will limit the potential of energy load reduction, but the following strategies can still be implemented. Student spaces should be located to maximize daylighting for areas that are heavily used during the day. Updated electrical lighting should utilize efficient LED fixtures and controls such as occupancy and daylighting sensors to minimize unnecessary use. The electrical load will also be positively affected by the use of updated energy efficient equipment and appliances where possible.

RENEWABLE ENERGY

Minnesota Statutes 16B.32 Subd.1, On-site Alternative Renewable Energy Sources for State-Funded Buildings, requires new buildings to meet at least two percent of energy needs from renewable sources located on the building site. For these purposes, renewable energy is limited to wind and sun as power sources. Minnesota Statutes 16B.32 Subd.6, Heating and Cooling Systems for State Funded Buildings requires that, when practical, geothermal heating or cooling be considered for all new buildings constructed with state funds.

Alternative Energy Requirements & Analysis – Renewable Energy Screening

HGA has performed a feasibility evaluation of renewable energy technologies for the Normandale Community College Library. The evaluation was used to identify, assess, and optimize the technical and financial viability of the following renewable energy systems: 1) Solar PV and 2) Wind Power.

Energy Basis

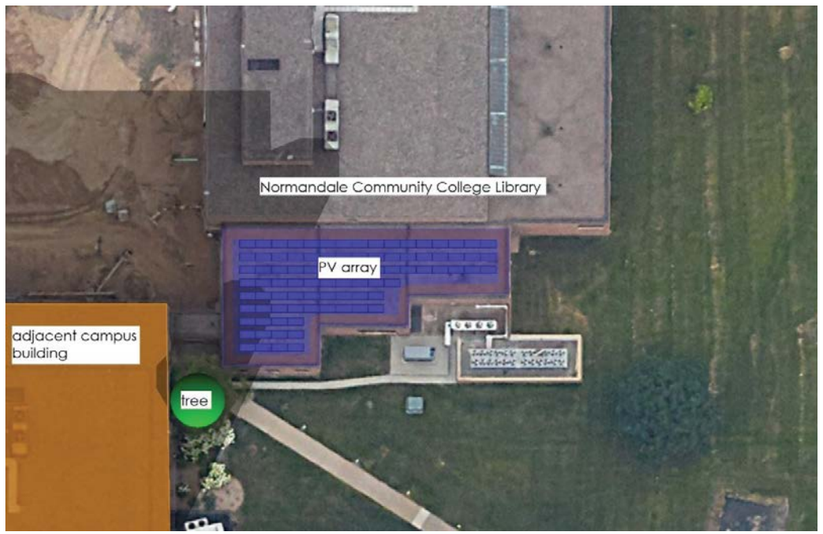
To arrive at the required two percent of total annual building energy consumption, this analysis references the ASHRAE energy use intensity (EUI) benchmark for existing buildings. Unfortunately, there is not submetering of utilities to determine the actual energy use of the building. As such, the overall campus energy use intensity and the benchmark for college/university buildings located in U.S. Climate Zone 6B to estimate a benchmark energy usage of 86 kBtu/sqft-yr. The renovation to the Library Building will bring improvements to the envelope, lighting, heating, cooling and ventilation systems. As a result, it is anticipated that the building will perform 20% better than the benchmark, resulting in an EUI of 68.8 kBtu/sqft-yr. At 65,600 square feet, total building annual energy consumption is estimated at 4,513 million BTUs. To meet the two-percent required by Minnesota Statutes, 90.2 million BTUs per year will need to be supplied by a renewable energy source. This report will examine the feasibility of providing this energy through a photovoltaic array or through the generation of hot water from solar thermal panels.

- Total Building Energy: 4,513,000 kBtu per year
- Total Building Energy (kWh): 1,322,712 kWh per year
- Target Renewable Energy Generation: 90,260 kBtu per year
- Target Renewable Energy Generation (kWh): 26,453 kWh per year

SOLAR ENERGY

Solar PV and wind energy were examined for their feasibility and cost effectiveness at the Normandale Community College Library site. Helioscope was used for the solar PV analysis which is a solar PV design tool with PV sizing, layout, and cost estimating features. This program was used to examine the roof's suitability for a PV installation and develop a schematic design of a PV array sized appropriately to generate two-percent or greater of the facility's energy requirements. The B3 guidelines Appendix E-2a: Levelized Cost of Energy Calculator for Pre-Deign was used to determine the cost effectiveness. Tax incentives and grants may be available to subsidize the capital cost and operation of renewable energy systems. Use of these incentives and grants are conditional based on the client and their tax status. Analysis of these grants and incentives are beyond the scope of this feasibility review.

The library rooftop is approximately 28,000 square feet, of which more than half is suitable for PV use. The south wing of the building with a rooftop area of approximately 4,500 square feet was identified as being the best location for a PV array and is more than large enough to cover generation requirements. Using Helioscope, a PV array in this location would generate an estimated 36,448 kWh per year. This is approximate 2.8% of the building's estimated annual energy consumption. Using an estimated installed cost of $77,150, an electricity cost of $0.126 per kWh, and annual maintenance cost of $11.06 per MWh, the simple payback for this PV system is 18.4 years. This system was determined to be cost effective using the Appendix E-2a: Levelized Cost of Energy Calculator.



WIND ENERGY

A wind turbine was the next renewable energy option considered for this site. Referencing the NREL Annual Average Wind Speed at 30 meters map provided in the Appendix E-2a: Levelized Cost of Energy Calculator, the area around Bloomington, Minnesota sees an average annual wind speed of 4.5 meters per second. Considering the wind speed and desired electricity production of approximately 27,000 kWh per year, a 20.2 kW peak turbine with an installed cost of $121,080 would be needed at this site, following the Appendix E-2a Levelized Cost of Energy Calculator. Estimated utility cost savings and maintenance costs were also calculated using this tool. Using an electricity cost of $0.126 per kWh and an estimated annual maintenance cost of $10.27 per MWh, the simple payback for this wind system is 38.7 years. This system was determined to be not cost effective for this site.

Additionally, wind generation at this site faces additional challenges from nearby vertical obstructions. Industry standard best practices state that wind turbine installations should be at least 30 feet above both any obstruction within a 500-foot radius, and the surrounding tree height . The library, nearby campus buildings, and trees reach heights of 40 feet or greater which would impact required wind turbine height and possibly raise costs beyond the preliminary estimates presented in the Appendix E-2a Levelized Cost of Energy Calculator. As such, Wind Energy systems are not recommended for the renovation of the Normandale Community College Library.

The results of the screening is highlighted in the following table.

System	Solar PV	Wind	Solar Thermal
Capacity	28.2 kWp	20.2 kWp	500 saft
Annual Avoided Energy	36,448 kWh	27,000 kWh	90,000 kBtu
% of Annual Load	2.8%	2%	2%
Annual Utility Cost Savings	$4,597.48	$3,402.00	$1,878
Annual maintenance Cost	$403.84	$277.29	$850
System Additional Cost	$77,150	$121,080	$41,000
Simple Payback	18.4 years	38.7 years	39.9 years

Wind energy Each renewable energy system analyzed provides approximately 2%.

[1]*Distributed Wind Energy Association Distributed Wind Model Zoning Ordinance - https://distributedwind.org/wp-content/uploads/2012/08/DWEA-DW-Model-Zoning-Ordinance-FINAL_Feb2014.pdf*

GEOTHERMAL

Geothermal / Ground Source Heat Pump Systems

Minnesota Statutes 16B.32 requires that, when practicable, geothermal and solar thermal heating or cooling is considered for all new buildings constructed with state funds. Solar thermal heating has been addressed above.
Geothermal / Ground Source Heat Pump systems use the stable temperature of the earth as a source of heat rejection in cooling and heat extraction in heating. For this application, geothermal / ground Source technology would use a closed-loop, vertical heat exchangers installed in the earth for heat rejection and heat rejection. These vertical heat exchangers are comprised a ~6" "well" filled with a HDPE pipe and a thermally enhanced concrete mix installed at a depth of between 150ft and 275ft. These vertical heat exchangers need to be spaced between 20 and 25ft apart for proper long-term heat rejection and extraction. Preliminary estimates indicate that the Library Renovation would require approximately 160 bore holes or 64,000 to 100,000 square feet of land. Average costs for a bore field (subject to change based on field testing) are $4,500 per bore hole or $720,000 for the total field.

Typically, GSHP reduce heating and cooling costs by 20% to 40% when compared to chillers and boilers. Cooling energy is estimated at 15% of total energy, or 198,400 kWh per year. If cooling energy is reduced by 40%, there would be an annual savings of 79,300 kWh or $10,000. Similarly, if heating accounts for 50% of total energy, or 22,600 therms of natural gas, a 40% reduction results in a savings of 9,030 therms of gas or $9,900 per year.
Total energy savings associated with GSHP is estimated at $19,900 per year resulting in a 36-year simple payback. Additional savings and an improved simple payback would be expected if we were replacing standalone systems, but because of the existing district heating and cooling plant, these savings cannot be realized in the analysis when compared to new systems.

As such, Solar Thermal and Geothermal heating and cooling are not recommended for the renovation of the Normandale Community College Library.

WASTE MANAGEMENT & RECYCLING

As part of final design, Design Team shall address overall project waste Management and material conservation by identifying opportunity to use the following strategies to reduce construction and building waste:

- Adaptive Reuse of existing or salvaged items
- Use of materials for 100 year buildings
- Specify prefabricated, or pre-assembled products to limit site waste
- Identify target percentages for materials to be diverted from disposal by various forms of reuse
- Waste Collection plan and integration into building plans at each level


005
FINANCIAL INFO:
CAPITAL
EXPENDITURES

SUMMARY OF PROJECT COSTS - PHASE I

	RANGE	INCLUDED %	SUB-TOTAL
Pre-Design Fees			$135,000
DESIGN FEES	6 - 12%	8%	$1,653,000
Schematic Design		--	$520,000
Design Development		--	$460,000
Construction Documents		30%	$300,000
Bid		3%	$8,000
Construction Administration		20%	$200,000
Reimbursables & Add Services			$135,000
Owner Design Consultants			$30,000
PROJECT MANAGEMENT		3.8%	$580,400
MinnState Program Management		0.8%	$42,200
Owner's Representative			$98,200
Construction Management	2-4%	3%	$375,000
Commissioning Agent			$65,000
CONSTRUCTION COSTS			$14,825,000
Temporary / Re-Location	3-4%	3%	$495,000
Construction Cost Estimate JE Dunn Provided	See following pages for Breakdown		$12,800,000
Contingency		10%	$1,280,000
Hazardous Abatement		1%	$125,000
Testing / Quality Assurance	1-4%	1%	$125,000
OCCUPANCY	4-10%	7%	$500,000
FFE		5%	$325,000
IT / Telecomm		2%	$100,000
Security		1%	$75,000
SUB-TOTAL			$17,693,400
Inflation Multiplier		1.75%	$306,600
TOTAL PROJECT COSTS			**$18,000,000**

NOTES:

- Design fees for Schematic Design & Design Development of the total project, both Phase I & II, are included within Phase I.
- Percentage for Art allocation is included within Phase II for the total project.

Normandale Library Improvements
Minneapolis, Minnesota
October 25, 2022
Concept Estimate

Phase 1 Renovation (Current Construction, No Escalation)
36,763 SF

Item	Description		Cost
1	General Conditions		1,241,105
2	Demolition		919,627
3	Excavation		93,460
4	Structure		606,549
5	Enclosure		62,627
6	Rough Carpentry		37,016
7	Finish Carpentry		67,285
8	Roofing and Sheet Metal		34,452
9	Moisture Protection		62,118
10	Doors and Hardware		224,241
11	Glass and Glazing		255,420
12	Interior Partitions		700,647
13	Stone and Tile		112,503
14	Ceilings and Acoustic		188,715
15	Flooring		443,698
16	Painting		166,262
17	Specialties		235,874
18	Equipment and Furnishings		16,989
19	Special Construction		0
20	Elevators		277,582
21	Fire Protection		209,617
22	Plumbing and HVAC Systems		2,601,404
23	Electrical		2,087,170
	Subtotal		10,644,363
	Permits, Bonds and Insurance	2.98%	336,441
	Fee	2.75%	301,972
	Subtotal		**$11,282,776**
	Alternate 1: Level 2 and 3 Windows		$988,000
	Alternate 2: Skylight Replacement		$413,000
	Total Construction Cost		**$12,683,776**

SUMMARY OF PROJECT COSTS - PHASE II

	RANGE	INCLUDED %	SUB-TOTAL
DESIGN FEES	6 - 12%	8%	$680,000
SD / DD		NA	(included in Phase I)
Construction Documents		30%	$317,000
Bid		3%	$8,000
Construction Administration		20%	$240,000
Reimbursables & Add Services		--	$100,000
Owner Design Consultants		--	$15,000
PROJECT MANAGEMENT		3.8%	$440,00
MinnState Program Management		0.8%	$40,000
Owner's Representative		--	$75,000
Construction Management	2-4%	3%	$265,000
Commissioning Agent		--	$60,000
CONSTRUCTION COSTS			$9,770,000
Temporary Re-Location	included in Phase I		NA
Construction Cost Estimate JE Dunn Provided	See following pages for Breakdown		$8,800,000
Construction Contingency		13%	$880,000
Hazardous Abatement		1%	$40,000
Testing / Quality Assurance	1-4%	1%	$50,000
ART		1%	$90,000
OCCUPANCY	4-10%	9%	$1,245,000
FFE		6%	$750,000
IT / Telecomm		2%	$330,000
Security		1%	$165,000
SUB-TOTAL			$12,225,000
Inflation Multiplier		20%	$2,443,000
Estimating Contingency			$132,000
TOTAL PROJECT COSTS			**$14,800,000**

Normandale Library Improvements
Minneapolis, Minnesota
October 25, 2022
Concept Estimate

Phase 2 Renovation (Current Construction, No Escalation)
34,138 SF

Item	Description		Cost
1	General Conditions	11.0%	959,801
2	Demolition		640,130
3	Excavation		0
4	Structure		680,624
5	Enclosure		0
6	Rough Carpentry		35,611
7	Finish Carpentry		53,451
8	Roofing and Sheet Metal		0
9	Moisture Protection		50,239
10	Doors and Hardware		116,523
11	Glass and Glazing		8,844
12	Interior Partitions		525,753
13	Stone and Tile		0
14	Ceilings and Acoustic		273,024
15	Flooring		281,239
16	Painting		169,945
17	Specialties		22,059
18	Equipment and Furnishings		83,015
19	Special Construction		0
20	Elevators		0
21	Fire Protection		191,456
22	Plumbing and HVAC Systems		2,314,362
23	Electrical		1,825,671
	Subtotal		8,231,747
	Permits, Bonds and Insurance	2.98%	260,184
	Fee	2.75%	233,528
	Total		**$8,725,460**

FUNDING SOURCES

Project funding will occur differently for each phase, based on timing and funds access. Phase I shall be financed out of the College's Revenue funding, as well as HEAPR Assets that were not fully utilized within the 2020 funding cycle for the College Services Building. Phase II will request a 2024 Capital Bonding request from the State. The breakdown for each Phase is as follows:

PHASE I

» GENERAL FUNDING: $12.2M
The College will fund the largest portion of the project out of general funding.

» HEAPR ASSETS- 2018 Request: $4.4M
The 2018 Capital Budget request for College Services Center Renovation that will be rolled over for HEAPR-based updates within Phase I.

» HEERF Project- 2022 Request $1.4M

» **Phase I - Sub-total:** **$18.0M**

PHASE II

» 2024 GO FUNDING REQUEST: **$14.8M**

BUDGET / SCHEDULE IMPACTS

Due to the nature of partial renovation for the total building and the need to remain operational for a majority of the building renovations, several products and materials are recommended to be procured by the General Contractor in an earlier package during the final design phases to ensure seamless transition from design to construction with no lag time as well as efficiency of construction phasing. These include, but are not limited to:

» Mechanical Systems equipment
» Electrical Infrastructure Equipment
» Exterior Curtainwall

COST COMPARISON

JE Dunn General Contractors referenced the recently completed College Services on campus for comparison of campus standard infrastructure, phasing and access considerations, campus operation considerations and similar finishes to incorporate the historic costs. In addition, JE Dunn utilizes LENS cost estimating software that is a proprietary technology program to reference thousands of projects with similar scale and scope. The historical costs are the basis of averaging actual construction costs, as well as potential market increases. This is tracked continually through the design and construction process for transparency to the Owner and Design team as to the evolving and more recently volatile cost swings to identify potential future issues.

HAZARDOUS MATERIALS ABATEMENT

There are portions of the existing library systems that have some asbestos that will need to be addressed as part of this project: 1) piping mud insulation on original 1967 straight runs of piping project and water proofing material located in mechanical rooms L1772 and L1979.

Noteworthy portions of Asbestos Survey by Legend Technical Services related to Library Building are as follows:

4.3 Thermal System Pipe Insulations

Two different variations of pipe insulations were observed within the building with one variation consisting of fiberglass insulation on the straight runs and mud insulation on the fittings (elbows, tees, valves, etc.). The second variation had foam insulation on the straight runs with mud on the fittings. Sampling results show that the mud on the fittings associated with the fiberglass straight run pipes were determined to be asbestos containing while the mud on the fittings associated with the foam straight run pipes were determined to be non-asbestos containing. These results are consistent with past sampling results performed by others. It appears that the asbestos fittings on fiberglass straight run pipes are limited to the original building and are present on all three floors in addition to the mezzanine level penthouse.

It is to be noted that asbestos containing mudded pipe fitting insulation may be present on piping that is concealed in wall chases, pipe chases, etc. If any hard packed, mudded fitting insulation is encountered in the original building, it should be treated as asbestos containing.

Page 2 of 4

4.4 Waterproofing Materials

Wall waterproofing materials located in Mechanical Rooms L1772 and L1797 were determined to be asbestos containing. The waterproofing material was most likely applied to the exterior walls of the original building. There is approximately 270 square feet in L1772 and 1,800 square feet in L1797.


006
FINANCIAL INFO:
ONGOING
OPERATIONS

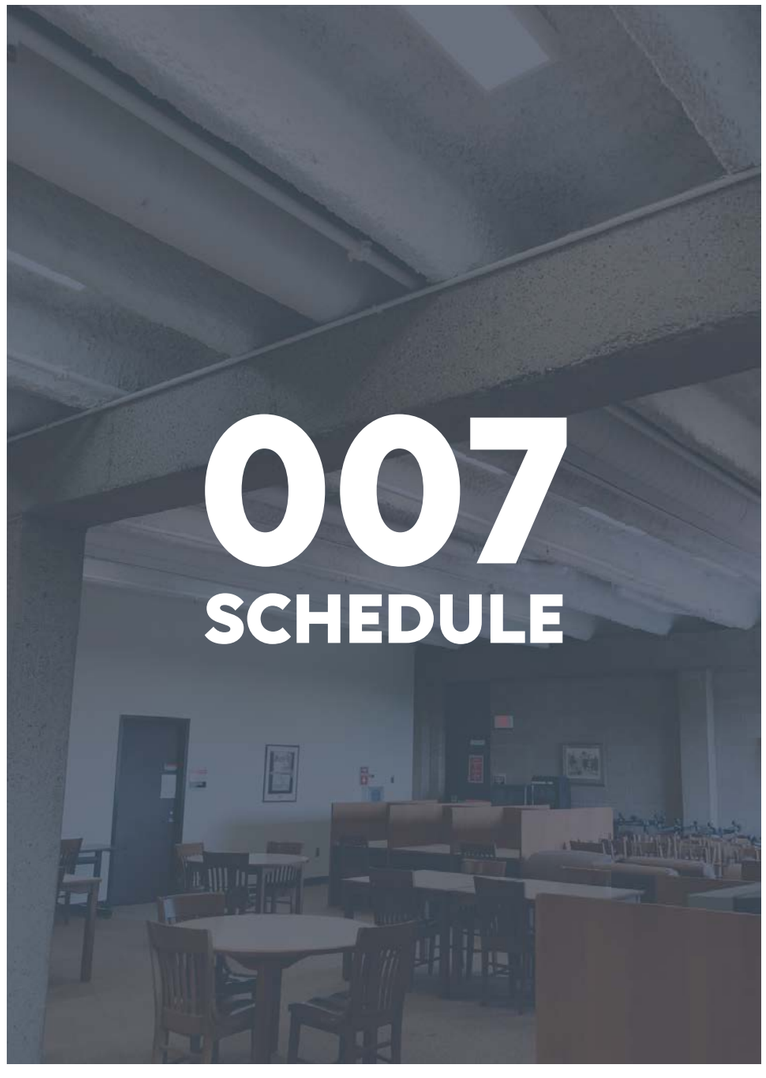
CAMPUS OPERATIONS

The Library Building Renovation project is expected to decrease the operating costs of Normandale Community College due to several factors:

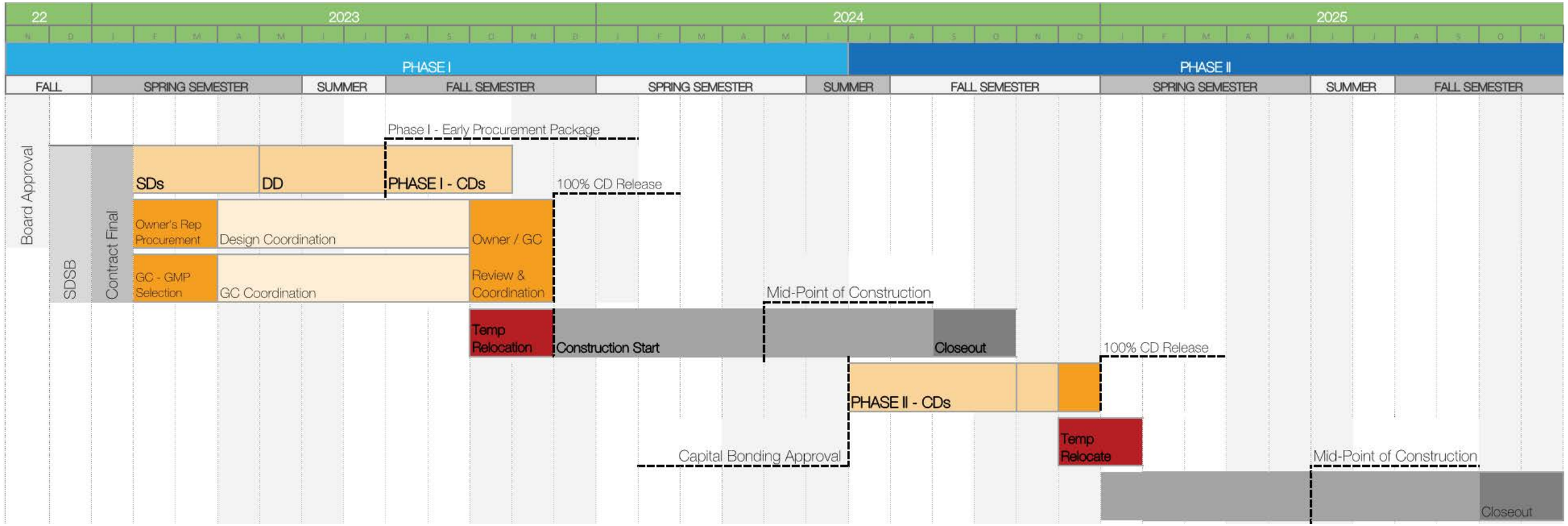
- The utility costs of the campus will remain level or be slightly reduced when older, inefficient mechanical and electrical equipment is replaced.
- Energy costs will be saved by providing automated controls systems, occupancy sensors, and other similar controls allowing reduction in energy needs during off-hours.
- The square footage of the building will remain the same and no additional custodial/maintenance staff will be hired.
- Maintenance costs will be decreased due to deferred maintenance items that will be replaced and/or retrofitted.
- Removing fixed furniture and tiered classrooms, improving the quality of foot material and creating a hub of office suites in lieu of segregated departments will improve the ability to maintain the spaces.
- Operation and maintenance costs are estimated to decrease $0.50-$1.00 per square foot.

ALTERNATIVE FUNDING

With the current project funding for Phase I secured, if Phase II were to not be approved within the requested funding cycle, the College could potentially utilize additional general funds to fund portions or the total scope of Phase II. The scope of Phase II in large does not qualify for HEAPR or other similar asset based funding.


007
SCHEDULE

PROJECT SCHEDULE SUMMARY



PHASE I

CONTRACT PROCUREMENT

Board Approval	November 2022
State Designer Selection	December 2022
Contract Procurement	January 2023
Owner's Representative	January-February 2023
Construction Manager @ Risk	January-February 2023

DESIGN PHASE

Schematic Design	February-April 2023
Design Development	May-July 2023
**SD / DD completed for Phase I & II scope of work*	
Early Procurement Package	August 2023
Construction Documents	August-October 2023 (Phases I only)

CONSTRUCTION PHASE

Construction	December 2023 - August 2023
FFE / Move-In / Closeout	September- October 2023

PHASE II

CONTRACT PROCUREMENT

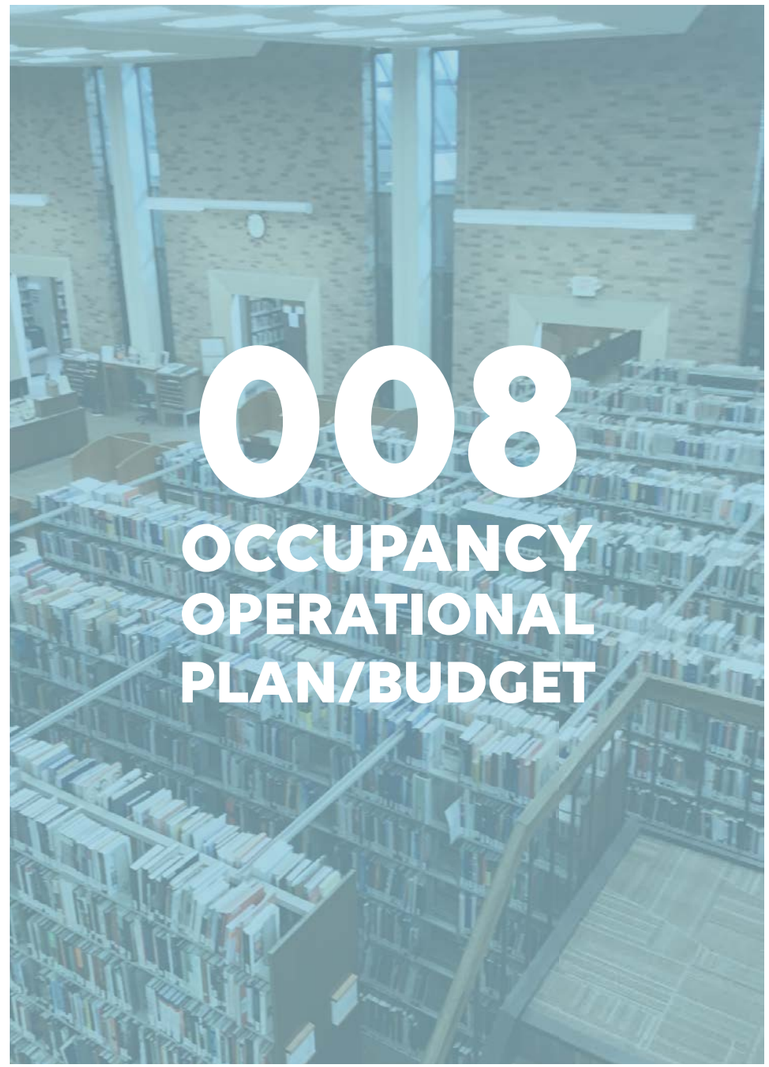
Bonding Approval	July 2024

DESIGN PHASE

Construction Documents	August-December 2024

CONSTRUCTION PHASE

Construction	January 2025 - September 2025
FFE / Move-In / Closeout	October-November 2025



008
OCCUPANCY OPERATIONAL PLAN/BUDGET

INFRASTRUCTURE NEEDS

As more comprehensively discussed within the proposed electrical scope of work, the total electrical and low-voltage systems within the building will be replaced and supplemented to support the technological needs of the building and its space uses.

INFORMATIONAL TECHNOLOGY PLAN

The currently on-going Campus Facilities Master Plan has been working with the College to determine the overall Informational Technology goals to build into a comprehensive plan for the campus that can be implemented with the forth-coming scheduled projects. One of the first projects to utilize the finalized plan will be the Library Building.

Historically, the College has been taking smaller initiatives as internal Facilities projects or within larger Capital projects where the most need is identified. With technology systems having a much shorter life space than the buildings and site framework being incorporated within, and the ever evolving new technologies for both facilities and academics, the College at large has a mix of technological generations and systems across the campus. The strategic planning being done for the Information Technology Plan seeks to better align the overall goals and systems of the campus going forward.

The overarching goal of the Library Building renovation is to promote equity amongst a diverse student population. This could not be better supported than providing the technology to support a high-quality education experience with the tools, on-campus work environments, and a range of educational opportunities for all students to succeed. Building a community to support this goal requires all aspects of technological systems to be addressed for a media-based information center such as the Library.

Upon formal completion of the Informational Technologies Plan, the current Library building project will address the following system locally to support the larger plan. These include:

- Wireless Communications, including complete coverage of 5G network across the total campus and considering use heavy areas, such as the Library.
- Audio Visual Systems to support Active Learning & Student Areas
- Voice & Data Systems
- Higher integration of power and ability to access system
- Integrated Lighting Controls

INFORMATIONAL TECHNOLOGY PLAN

With the ITS Department being housed within the Library Building, the building infrastructure will support the larger functions of the ITS department services'. These functions are a continuation of the services that were incorporated by the College Services Phase II project and its initial Pre-Design, completed by HGA.

- ***Computer Services:*** *Including software and operating systems, account management and security for various systems and managing computer related printing*
- ***Network Services:*** *Providing access to the Local Area Network (LAN), Wide Area Network (WAN) and the Internet. Managing and maintaining servers, switches, and storage area networks, data back-up and security for various servers and network systems*
- ***Technology Asset Management:*** *Managing and maintaining computer hardware, software and multimedia presentation hardware and systems and other technology hardware and systems*
- ***Classroom and facilities support:*** *Design, management, and maintenance of computer and multimedia classrooms and other presentation facilities*
- ***User Support & Training:*** *Providing faculty and staff help-desk services for all technology types, periodic technology training to end users and documentation for the operation of college's technology and systems.*
  - » *Active Learning: The ITS department supports the staff and its training of all technology for Active Learning classrooms and teaching/learning spaces within the Library. This is further supported by the Center for Teaching & Learning located within the Library program.*
- ***E-learning:*** *Supporting Normandale's e-learning platform, interactive television services and connectivity, satellite downlink and distribution services*
- ***Web & I-net Services:*** *Designing and managing Normandale's web and I-net sites, independent website hosting for faculty, web programming and web-enhanced services.*

009
APPENDIX

TABLE OF CONTENTS