Kansas State University

Thompson Hall

Thompson Hall Feasibility Study

PROGRAM

2023 10 19

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Introduction/Statement of Need

In order to further support current board initiatives of improved space utilization and consolidation the university is proposing the relocation of the department of Geology to existing space on main campus to allow for the renovation and re-purposing of Thompson hall. Thompson hall has a significant amount of deferred maintenance and renovating the building would allow the the university to bring the building into code and ADA compliance. This would also assist the university in a long term goal of vacating another campus building with high deferred maintenance thus reducing our overall campus foot print.

Site Map

Project Description

Thompson Hall will be renovated to accommodate new uses compatible with this location on campus. Many historic and original items will be retained, and the overall building layout will remain similar to its current condition. The selective renovation will bring the building into code and ADA compliance, address HVAC and exterior envelope improvements, and provide for a healthy work environment.

The office of Engineering Extension has been identified as a good use for the lower level. Once renovated, the lower level will be able to accommodate the unique needs of this department including a laboratory for Radon testing, a significant amount of storage for outreach programs with easy access in and out, and office functions. In addition, it is desirable to have proximity to two meeting spaces on the first and second level to serve training and workshops hosted by this department.

The office of Information Technology has been identified for levels one and two. Their needs for training and meeting space include the flexibility to share training rooms identified on first and second floors. Remaining needs for this department include flexible office space, small and medium meeting rooms, and general office support.

Existing Building Conditions Summary

Thompson Hall is located at 1428 Anderson Avenue. This 2-story structure plus a basement and an attic was originally constructed in 1921 and contains 25,041 gross square feet (not including the attic). The building is not fire sprinklered. The substructure is cast in place concrete perimeter foundation walls and interior columns with spread footings, and a cast in place concrete slab. The main structure is a composite system of concrete beams and slabs, and concrete-encased steel beams, bearing on concrete-encased steel columns and masonry bearing walls. All floor slabs including the attic are concrete. The roof structure is comprised of dimensional wood rafters on wood purlins and posts.

Originally constructed as a home economics and cafeteria facility, the building was converted to the geology department offices and instructional labs and classrooms in 1956. Display cabinets, wood lab casework, built-in storage, and tiered flooring for two lecture halls were added. The tiered flooring was constructed with wood framing. Subsequent renovations in 1997 added a new women’s restroom on the first floor and an elevator.

Basement walls are in fair condition. There are several areas that have damage from water infiltration; specifically at the northeast and northwest portions of the basement which are below the exterior stair and entrance terraces above. Deterioration of the underside of the first floor slab (basement ceiling) is significant in these areas.

The exterior masonry is in relatively good condition. There are a few areas where damage is noticeable particularly at the low roof balustrades on the east and west entries.

Windows are aluminum framed double hung units, with insulated glazing, and not original to the building. These units have divided lite inserts in some of the sashes, and other sashes have been removed to accommodate window air conditioners. There are no reported window leak problems, but these units are showing age.

The hydraulic elevator has not been upgraded since 1997 and has a CMU shaft and concrete pit and top, ventilation through the roof, and a sump pump.

Restrooms in the basement and second floor pre-date the 1997 women's room on the first floor. These rooms have toilet partitions constructed of painted wood, and interior finishes are painted plaster and resilient floor tile. First floor restrooms have not been significantly changed since 1997, and were constructed with metal stud walls, type X gypsum board, and ceramic tile finishes. First-generation ADA requirements appear to have been utilized in this renovation.

Interior finishes include original stained and painted woodwork, trim, and doors, and painted plaster walls. Some walls in the basement are not plastered. Walls/trim and doors in generally fair condition but are a combination of styles with some newer compliant door hardware and some older styles, some with retrofitted hardware. Ceilings are a mixture of older ACT ceilings and painted plaster. Some areas in the basement are open to structure.

Flooring at the second floor is original wood, in good but worn condition. Flooring at the first floor is VCT, most likely from the 1997 renovations. The basement has a mixture of painted concrete, older VAT flooring, and some 1997-era VCT.

The existing HVAC systems consist of several split system fan coil units and window air conditioning units. There are 6 dx fan coil units located in the building with remote air-cooled condensing units. These units are in good condition. The window air conditioning units vary in age and condition. The building is not currently connected to the campus chilled water system. Steam is provided to the building from the campus steam system and heat is provided through perimeter radiators.

Deficiencies:

- The dx fan coil units are difficult to maintain.
- Window air conditioning units do not provide consistent temperature or good humidity control.
- The system is not as energy efficient as the campus chilled water system.
- The steam entrance room has multiple steam leaks and pipe insulation has degraded.
- Limited control of the units does not provide visibility to campus facilities to monitor the building systems.

The existing plumbing system consists of a 2" domestic water service entrance. The piping is a combination of black steel and copper. Various replacements of the piping have been done over time. Domestic hot water is generated by a steam to hot water convertor in the basement. The sanitary piping consists of steel and PVC piping. Some of the sanitary piping has been replaced. Plumbing fixtures are flush-valve type but are still high-flow. All fixtures are manually operated (no automatic sensor control).

Deficiencies:

- The piping and insulation has degraded over time. Facilities has repaired many areas, but failures will continue to occur.
- The sanitary piping below grade was noted by Facilities to be in disrepair. They are aware of potential failures.
- Plumbing fixtures do not meet the current water efficiency standards and do not have automatic sensors to assist with cleanliness and water savings.

There are two existing electrical services to include a 1200 amp 208/3 service and a 600 amp 208/3 service. Both sets of gear are in good condition. Most of the distributed panelboards have been replaced over time and are in good condition. It appears that most of the panelboards have adequate spare capacity for potential renovations.

The existing lighting in the building consists of suspended pendants and lay-in fixtures. It appears that all light sources are fluorescent. Manual controls are installed throughout for on/off control. Emergency egress lighting is standard bug-eye fixtures with batter backup.

Deficiencies:

- Fluorescent lamps are not as energy efficient as LED lighting.
- There are no automatic lighting controls to capture energy savings and meet current code.
- Egress lighting may not be sufficient for current code.

The fire alarm system includes a combination of smoke detectors, pull stations and audible/visual notification devices. The head end system appears to be in good condition. The building does not have a fire sprinkler system.

Recommendations

Water infiltration and deterioration of masonry and concrete in the basement is a critical repair. Shingle roofing, and the capsheet at the flat roofing areas will be replaced. Exterior wood trim at soffits will be painted. Sheet metal trim at gutters and downspouts will be repaired. Windows will remain but be cleaned and have exterior sealant replaced. New sashes will be provided where window units are removed. Stone balustrades and copings on the northwest and northeast low roofs will be repaired and made watertight.

Restrooms should be renovated to provide ADA compliant facilities throughout the building. Anticipate at least one single-user toilet/lavatory, a personal health room with a sink for lactation support or medical needs, and men's/women's stalls and lavatories on each floor. Drinking fountains and services sinks at each floor are also recommended.

The elevator should be modernized to comply with current elevator code requirements, and the northwest exterior entrance ramp reconstructed to be more accommodating of accessibility needs. An exterior ramp should be added at the basement level south entrance to facilitate movement of equipment and supplies.

Original historic interior doors and walls should be preserved to the extent possible when planning the new room uses. Wood trim and built-ins that are in good condition can be retained. The tiered flooring in the first floor lecture hall should be removed and returned to a flat floor lecture hall. VAT flooring will require abatement, and VCT flooring should be removed. Existing ACT ceilings should be removed. Painted wood partition walls should be removed.

Where possible existing wood and concrete flooring should be refinished. Carpet tile should be provided in office and meeting spaces. Porcelain tile should be provided in new restrooms. Existing plaster ceilings should be retained where possible.

HVAC

- Remove all existing window air conditioning units and split system units.

- Provide extension from the current campus chilled water loop into the building. Add service entrance pumps and extend chilled water up through the building.
- Replace the existing steam service entrance piping and valves. Provide a new steam to hot water heat exchanger. Provide new hot water pumps and distribution up through the building.
- Provide new floor mount air handling units (fan coil units for smaller spaces) to provide conditioning to each zone. Units to have both hot water and chilled water coils. Duct distribution overhead to new ceiling diffusers.
- Provide new dedicated outside air units for each floor/wing of the building. Outside air to be ducted in from wall or roof louvers. Outside air to be ducted to each new air handling unit.

PLUMBING

- Replace all original or degraded domestic water piping with new copper piping to the renovated restrooms and sinks.
- Replace the existing steam to hot water exchanger with a new unit and storage tank. Replace the existing recirculating loop where necessary.
- Replace all original or degraded sanitary piping to include the main 4” line under the lower level slab.
- Replace all restroom fixtures with new low-flow fixture and touchless flush valves and faucets.

POWER

- Replace existing circuitry and devices in the remodeled spaces to meet the new floorplan layouts.

LIGHTING

- Replace all existing lighting with new LED fixtures.
- Upgrade lighting control to meet current code (vacancy sensors, etc.).
- Upgrade/replace egress lighting to ensure code minimum values are met. Areas to include egress at exit doors.

FIRE PROTECTION

- Depending on the final code footprint, the fire alarm devices may need to be upgraded/replaced or a fire sprinkler system added.

Space Projection / Numeric Program

The following table lists the proposed rooms to be included in the renovated Thompson Hall.

	Space Name	PROPOSED Quan	NSF ea.	Total	Notes
Engineering Extension Admin & Shared Resources					
	Director's Office	1	160	160	includes small meeting area
	Office Manager Office	1	110	110	acoustic privacy
	Support Staff Workstation	1	120	120	Includes work area for student assistant
	Small Meeting Rooms	2	120	240	meeting for 4 people, floor to ceiling white boards, audio/video enabled
	Kitchenette	1	120	120	private room to serve Training events in Large or Medium Shared Training room. Supplies for food that is brought in, including a dishwasher. Will need a cart for moving dishes if not on same floor. Microwave, Fridge, Coffee, Sink
	Workroom/Mailroom	1	120	120	supplies and assembly for test kits, 3 printers, laminator, office supplies. Can be an open workstation or alcove
	Storage	1	30	30	Supply storage
	Coat Closet	1	30	30	
	SUBTOTAL EEX Administration & Shared			930	
Engingeering Extension Pollution Prevention					
	Director Office	1	140	140	includes visitor seating for two
	Staff Offices	2	110	220	
	Staff Workstations	2	80	160	
	SUBTOTAL EEX PPI			520	
Engineering Extension Radon Program					
	Director Office	1	140	140	includes visitor seating for two
	Administrative Workstation	1	80	80	
	Radon Test Lab	1	220	220	Biosafety cabinet, direct exhaust to exterior, plan for expansion to two stations in the future. Compressed air, ventilation, normal power
	Compressor Closet	1	80	80	acoustically separate
	Staff Offices	2	110	220	
	Staff Workstations	2	80	160	
	SUBTOTAL EEX Radon			900	
Engineering Extension KS Energy Program					
	Director Office	1	140	140	includes visitor seating for two
	Staff Offices	2	110	220	
	Staff Workstations	2	80	160	
	Equipment/Outreach Storage	1	250	250	Outreach Materials
	Equipment/Outreach Storage	1	160	160	wind tunnels, supplies, bicycles, etc.
	SUBTOTAL EEX KEP			930	

	Space Name	PROPOSED Quan	NSF ea.	Total	Notes
Information Technology Business Office					
	Reception/Waiting Area	1	200	200	Office Manager Workstation, waiting for 2-3 visitors
	CTO Office	1	240	240	includes small meeting for 6
	Executive Assistant Office	1	110	110	
	Business Manager Office	1	110	110	
	Contracts Administrator Office	1	110	110	
	Accountant III Office	1	110	110	
	Accountant I Workstation	1	49	49	
	SUBTOTAL Business Office			929	
Information Technology Application Services					
	Deputy CTO Office	1	160	160	includes meeting area for 4
	Enterprise Data Architect workstation	1	64	64	
	Director of Faculty and Student Tech Office	1	140	140	
	Director of Data Operations Office	1	140	140	
	Assistant Director Offices	2	110	220	
	Data Operations Workstations	5	64	320	7 positions currently. 2 are remote
	Director of Project Management Office	1	140	140	
	Project Management Workstations	4	64	256	8 positions currently. 4 need dedicated workstations. This area is growing
	Director of Application Services Office	1	140	140	
	Assistant Director Offices	4	110	440	
	Application Services Workstations	17	64	1088	21 positions currently. 4 are remote
	SUBTOTAL Application Services			3108	
Information Technology Infrastructure Team					
	Deputy CTO Office	1	160	160	includes meeting area for 4
	Support Specialist II Workstation	1	64	64	
	Infrastructure Team Workstations	3	64	192	
	Director SIOC Office	1	140	140	
	SIOC Workstations	3	64	192	
	Secure Storage	1	64	64	includes a large safe with capacity for at least 5 CPUs
	SUBTOTAL Infrastructure Team			812	
Information Technology Shared Resources					
	Hoteling workstations	15	36	540	for outside consultants as well as the fully remote people who come in on certain days
	Small Meeting Rooms	3	120	360	meeting for 4 people, floor to ceiling white boards, audio/video enabled
	Medium Meeting Room	1	660	660	20-25 people, floor to ceiling white boards, audio/video enabled
	Break Room	1	120	120	place to sit and eat not needed, include ice maker, coffee, fridge, microwave, sink
	Workroom	1	120	120	mailboxes, copier, office supplies
	Lockers or Storage area for Hoteling	1	120	120	Can be an alcove with moveable lockers or built ins
	SUBTOTAL IT Shared			1920	

	Space Name		PROPOSED Quan	NSF ea.	Total		Notes
Building Support and Shared Resources							
	Large Training Room		1	1293	1293		Training Room Setup for 70 people. Audio/Video enabled. Lots of whiteboards
	Medium Training Room		1	809	809		Training Room Setup for 20 - 25 people. Audio/video enabled. Lots of whiteboards
	Furniture Storage		1	120	120		Podia, Tables, Chairs, Mobile Whiteboards, etc. to serve shared Training room spaces
	SUBTOTAL Support				2222		
SUBTOTALS							
	Engineering Extension Admin & Shared Resources				930		
	Engingeering Extension Pollution Prevention				520		
	Engineering Extension Radon Program				900		
	Engineering Extension KS Energy Program				930		3280
	Information Technology Business Office				929		
	Information Technology Application Services				3108		
	Information Technology Infrastructure Team				812		
	Information Technology Shared Resources				1920		6769
	Building Support and Shared Resources				2222		
	TOTAL NSF				12271		

Budget

Estimate of Project Costs	
Construction	
(Construction Cost, etc.)	$5,873,911 - $6,944,131
Design Fees	
(Architect, Engineer, other Consultants)	$705,000
FF&E	
(Furniture, A/V, equipment, etc.)	$400,000
Contingency	
(%)	$875,000
Miscellaneous Costs	
(Administrative fees, internal labor, etc.)	$75,869
Total	$7,929,780 - $9,000,000

Funding

The project will be funded with a combination of Capital Renewal funds and University Funds.

A range in construction costs has been provided to account for applicable code review and to account for unknown design factors that may escalate costs.

Maintenance

Main Annual costs of operations, maintenance and utilities are estimated as follows:

Description	Cost/sqft	Total
Operations and Maintenance	$3.23 x 25,041 SF	$80,882.43
Utilities	$3.50 x 25,041 SF	$87,643.50
Total Annual Cost		$168,525.93

Timeline/Schedule

Board of Regents Program Approval: November 2023

Design Team Selection: February 2024

Design Phase: March 2024 – September 2024

Construction Documents and Project Approval to bid: October 2024 – February 2025

Bidding and Construction: tbd

Occupancy: tbd

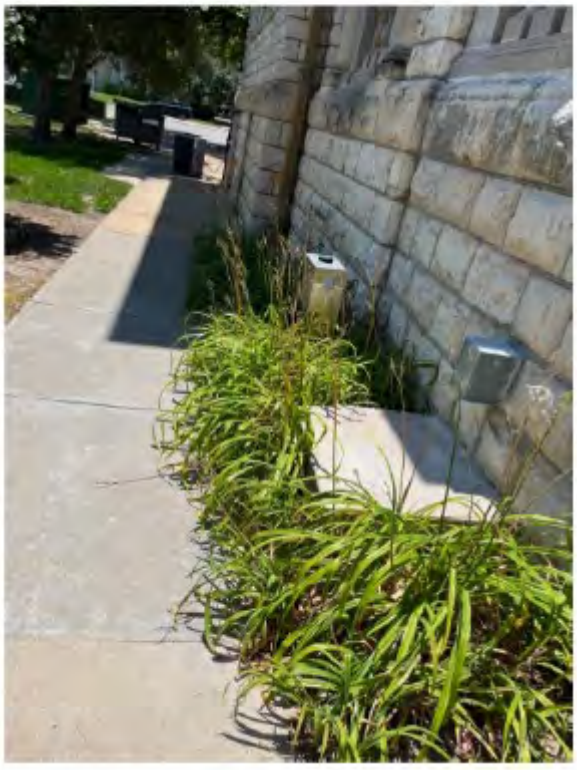
*chilled water infrastructure and basement water infiltration improvements schedule:

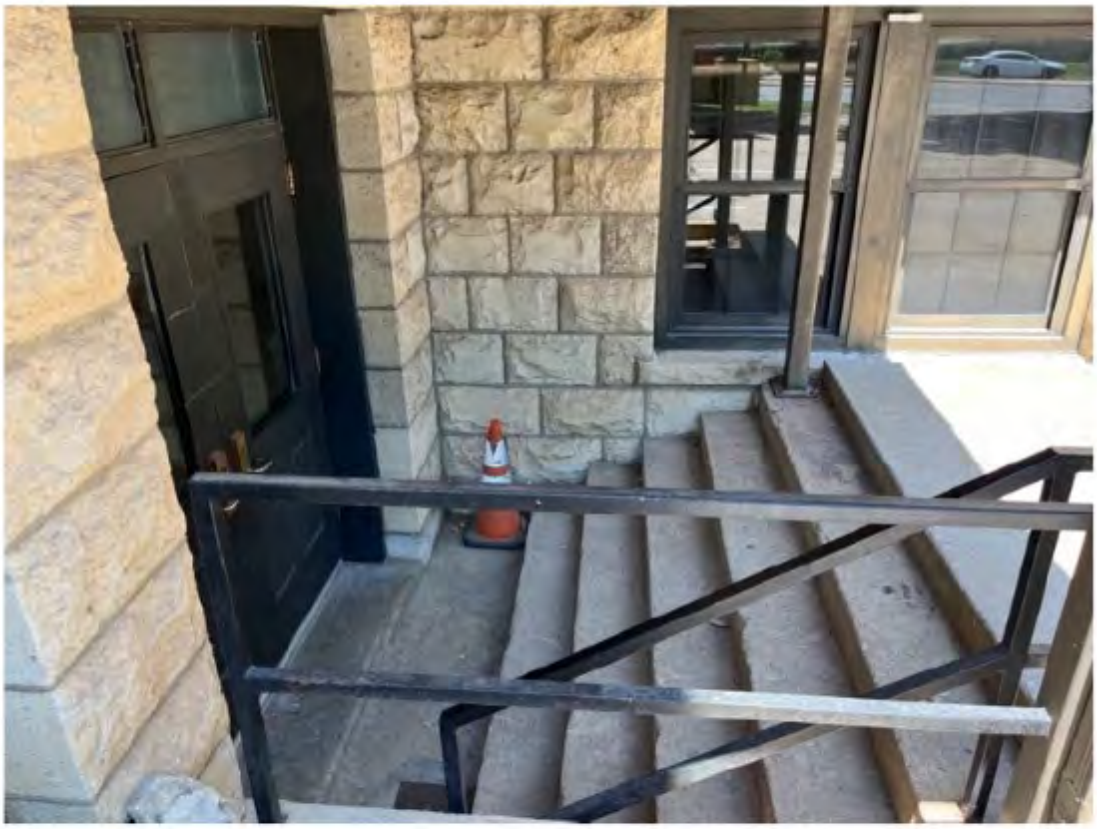
Design and Documents: March 2024 – April 2024

Bidding & Construction: May 2024 – September 2024

APPENDIX

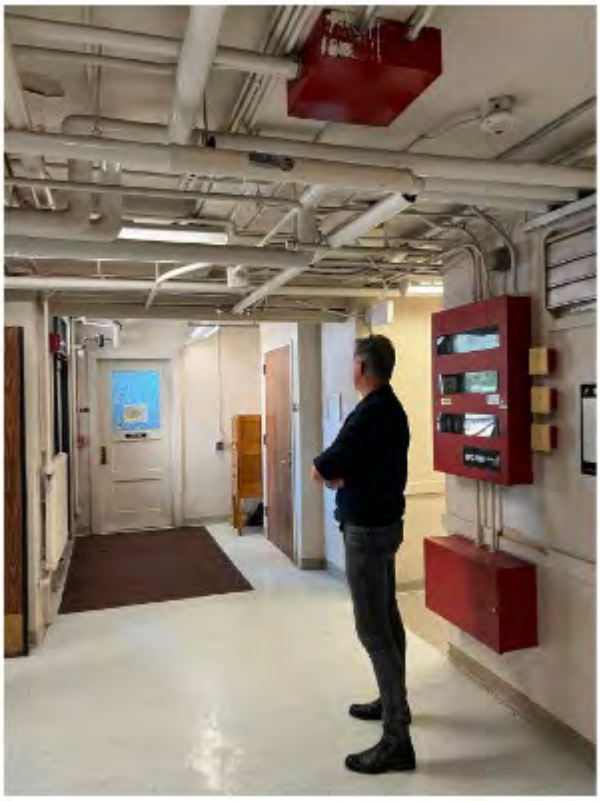
Existing Conditions Photos
Existing Building Floor Plans
Chilled Water Line Route Diagram
Concept Plans and Room Descriptions

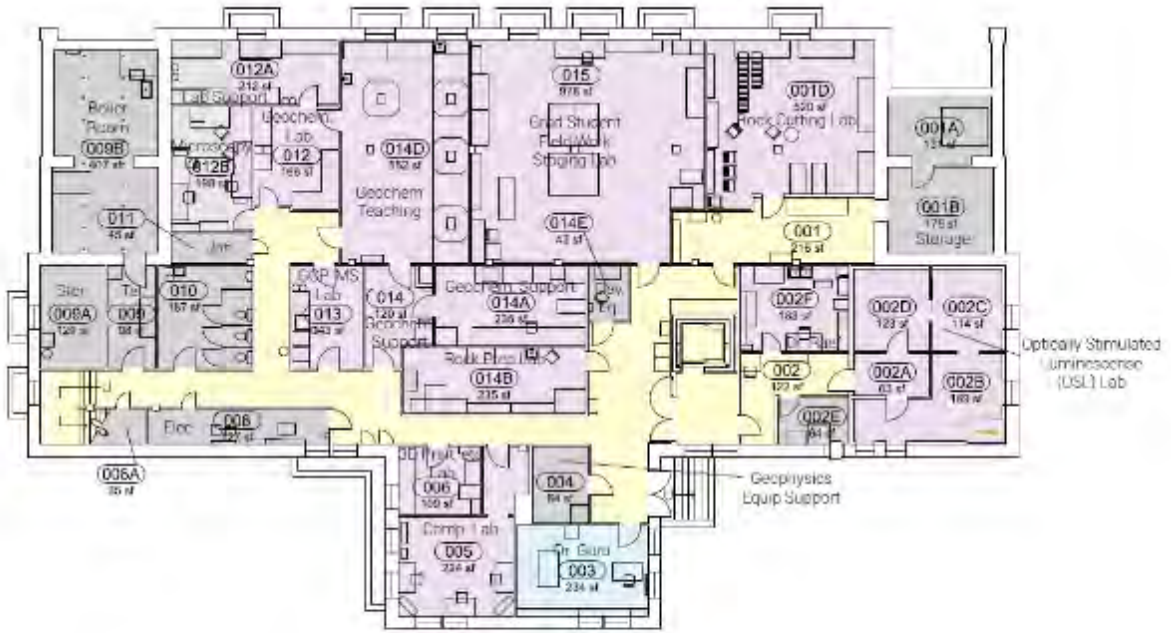





PERMIT REQUIRED


DEPARTMENT
OF
GEOLOGY
Office Closed
108





CIRCULATION
SUPPORT
ACADEMIC HOME
CLASSROOM
LABS
OFFICES
ADMINISTRATION

THOMPSON HALL

BASEMENT

BUILDING ABBREVIATION	BUILDING NUMBER
T	00106
GSF: 59341	BUILT / RENOVATED: 1963, 1988
UPDATED: 2019	FILE NAME:

KANSAS STATE UNIVERSITY

PLANNING & FACILITIES MANAGEMENT
DURSTINE HALL
MANHATTAN, KS, 66506
785.532.5777

2023 10 19

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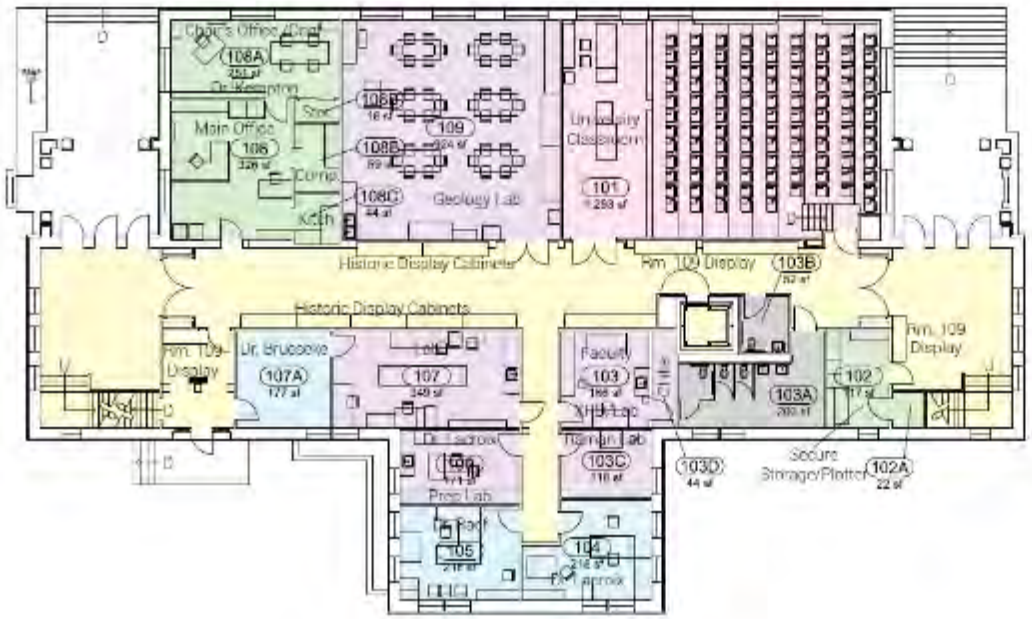
KSU Thompson Hall Program



CIRCULATION
SUPPORT
ACADEMIC HOME
CLASSROOM
LABS
OFFICES
ADMINISTRATION

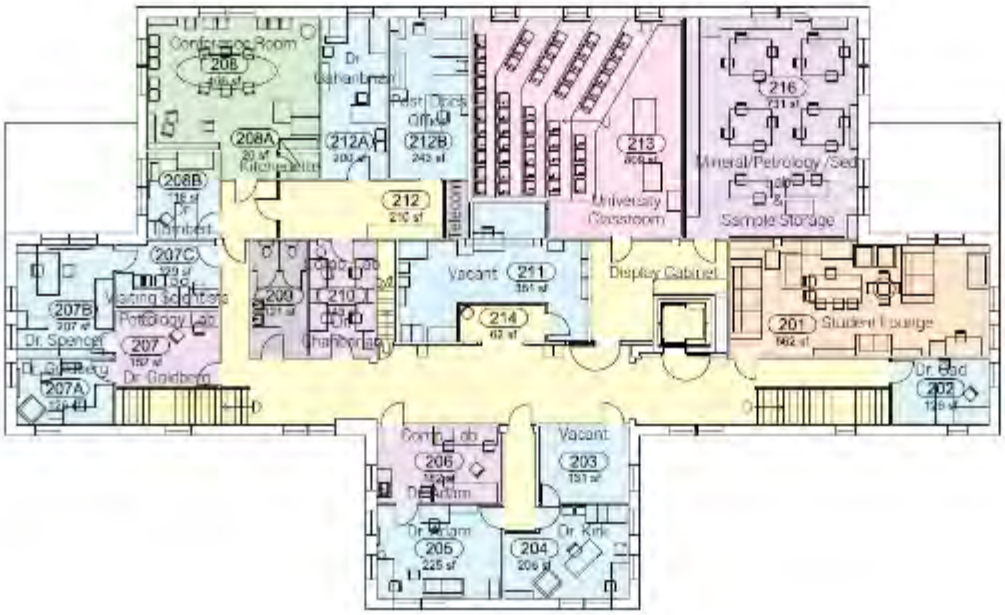
THOMPSON HALL

FIRST

BUILDING ABBREVIATIONS	BUILDING NUMBER
T	00106
DATE: 2023	BUILT / RENOVATED: 1958, 1998
UPDATED: 2023	FILE NAME:

KANSAS STATE UNIVERSITY

PLANNING & FACILITIES MANAGEMENT
SEATON HALL
MANHATTAN, KS 66506
785.532.6571



CIRCULATION
SUPPORT
ACADEMIC HOME
CLASSROOM
LABS
OFFICES
ADMINISTRATION

THOMPSON HALL

SECOND

BUILDING ABBREVIATION:	BUILDING NUMBER:
T	00106
GSF: 20081	BUILT / RENOVATED: 1965 1998
UPDATED: 2019	FILE NAME:

KANSAS STATE UNIVERSITY

PLANNING & FACILITIES MANAGEMENT
DURLAND HALL
MANHATTAN, KS, 66506
785.532.6077

2023 10 19

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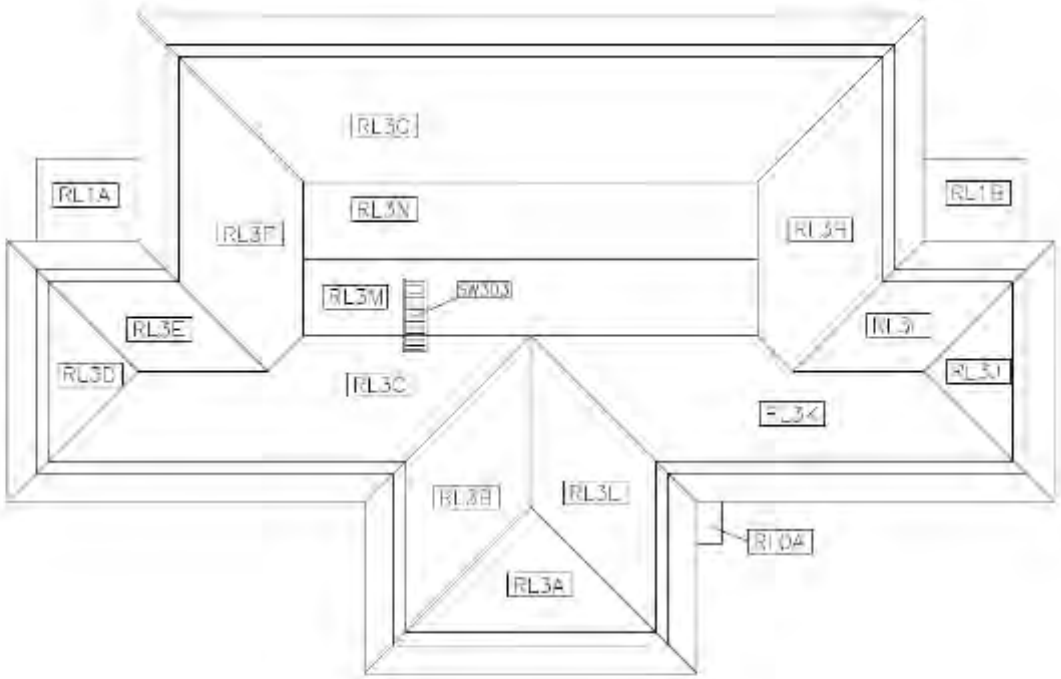
KSU Thompson Hall Program



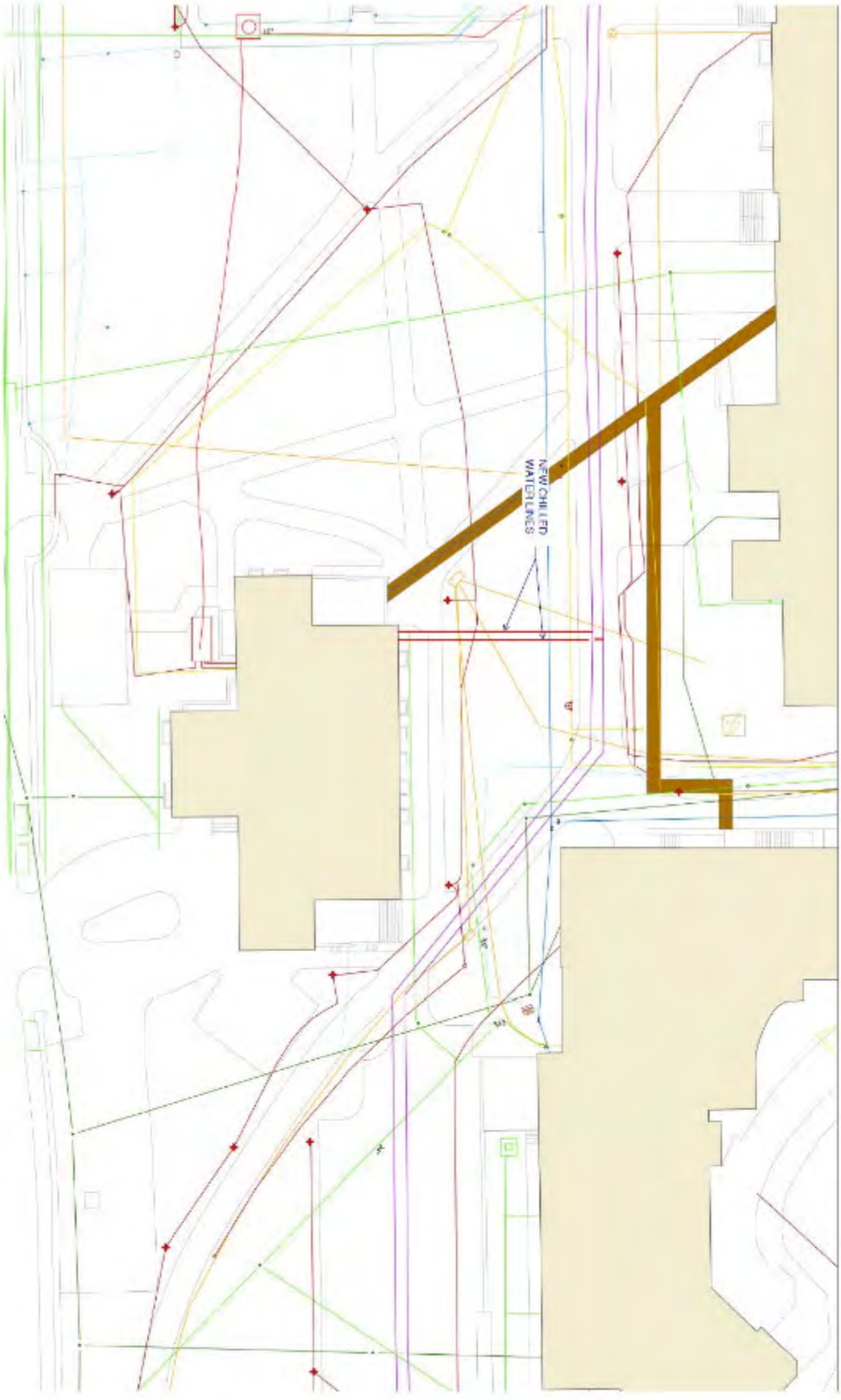
THOMPSON HALL

ROOF

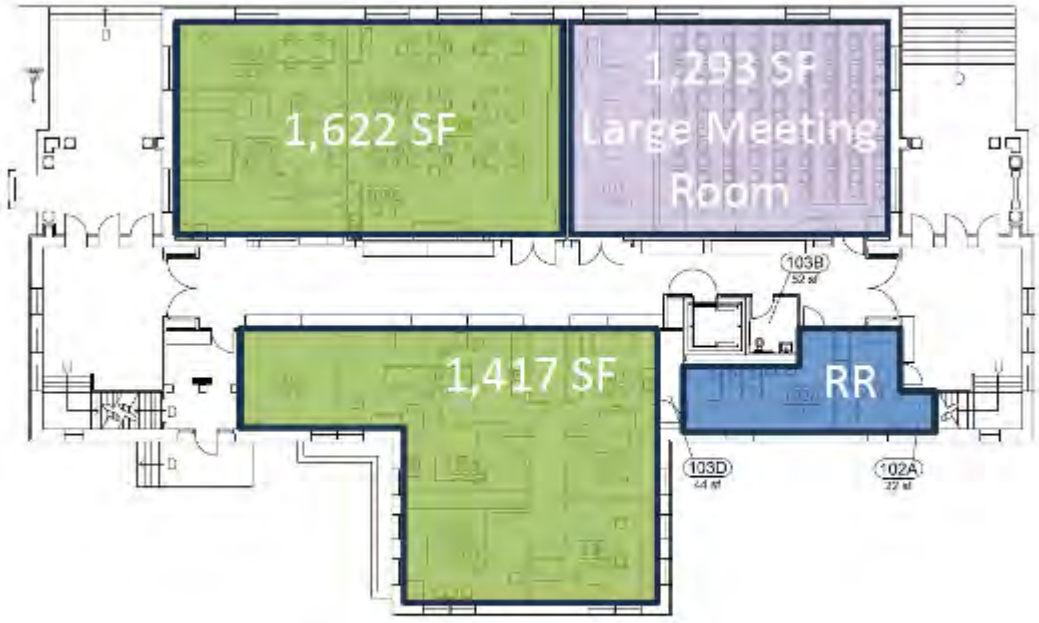
BUILDING ABBREVIATION	BUILDING NUMBER
T	00106
DSF 2004	RVT / RENOVATED 1953 1998
UPDATED 2019	FILE NAME

KANSAS STATE UNIVERSITY

PLANNING & FACILITIES MANAGEMENT
DURLAND HALL
MANHATTAN, KS 66506
785.532.0577


NEW CHILLED
WATER LINES

Basement Available nsf = 4,500



First Floor Available nsf = 4,332

Second Floor Available nsf = 5,256