

02 October 2006

FACILITY STUDY • SU 2004/17
Facilities Detailed Project Planning Document

HUBER ARTS CENTER
**SHIPPENSBURG
UNIVERSITY**

SHIPPENSBURG CUMBERLAND COUNTY PENNSYLVANIA
Architect's Project No. PP5929



1.00 PURPOSE AND GOAL

Shippensburg University faces the necessity of making decisions regarding the continued use of Huber Arts Center as the major facility for the future of the Art Department on campus. This Study will address the original building and the Annex presently used by the Art Department (Stewart Hall is not part of this Study), with respect to requirements to comply with the Americans with Disabilities Act (ADA) and other code compliance, aesthetic upgrading, interior environmental improvements, technology enhancements, and upgrades to building systems/maintenance standards to extend the useful life of the facility for 35 years. Included in the scope of the renovations are the necessary improvements to meet educational requirements for the proposed academic curriculum. The Art Department contribution to the campus is significant and appears to fulfill the goals of a sound liberal arts education in the visual arts. The current educational program however is not accredited. Accreditation to award the Bachelor of Arts degree is a University goal. To assist the University in understanding their needs for accreditation, Cole H. Welter, M.F.A., Ph.D., from James Madison University and Orville M. Winsand, Professor of Arts, Emeritus, Carnegie Mellon University. In addition to not having sufficient instructional time under direct supervision of a faculty member, the facility is in need of extensive renovation, repair, and expansion. However, the consultant's report does not represent the National Association of Schools of Arts and Design (NASAD) Commission on Accreditation and comments are purely advisory in nature.

The University commissioned **EI Associates** to prepare a study aimed at assembling data in order that it could make some decisions concerning the direction of alteration and addition work required to update Huber Arts Center.

This Study constitutes a representation of the conditions, which were investigated during the field survey and review of related construction documents. The intent of the survey and review was to allow for the analysis and recommendations for a **design solution**, required commitment of improvement funds for a **project budget**, and possible time line for a **project schedule**. This document serves as the facility's detailed project-planning document, as required by the State System of Higher Education (SSHE).

The goal of this report is to provide the University with the necessary information so that it can provide a facility, which meets current standards of quality, guarantees access for the physically challenged, and operates as efficiently as possible. The goal is to develop a comprehensive scope for the renovations, to be funded through the Commonwealth budget.

2.00 RECOMMENDATIONS

2.1 DESCRIPTION OF SELECTED OPTION

2.1.1 REQUIREMENT FOR PROJECT (Academic program mission support)

This Study addresses the original three-story facility built in 1931 as the campus library, as part of the old academic quad. The building has undergone minor renovations over the years and the Annex (a one story wing) was added in 1961. This addition increased the building to 24,206 gross sq. ft. (19,352 gsf + 4,854 gsf). The building has served as the library until 1970, when it was converted to the arts center and occupied by the Art Department of the College of Arts and Science.

The ground floor opens to the north facing York Drive and provides the handicapped accessible entrance to the building and elevator. The first floor opens to the south facing Shearer Hall across the mall. This main entrance to the original building is accessed via an eight-riser monumental set of steps. The Annex has its own entrance on the north side and interior access to the ground floor of the Huber Arts Center. Despite the Annex being attached to the original building, only the electrical and plumbing systems are connected to the main building. The existing toilet room is drained to a sewer manhole on the north side of the facility. The Annex has its own heating, ventilation, and air conditioning system.

According to the **University Facilities Master Plan**, the area north of the building including the Faculty Office Building is to be removed, as well as York Drive and the service drives to this building and Kriner Dining Hall. This area is to be replaced with a large new parking area located between Huber Arts Center, Wright Hall, and Lackhove Hall, providing parking for all of the academic buildings, as well as adjacent residential halls. The Master Plan also proposed removal and conversion of Dauphin Drive to a pedestrian mall, as well as some upgrades to the circulation pathways between Huber Arts Center and Shearer Hall leading to the rear of Old Main. These elements are to be considered in the planning and design of the Huber Arts Center with a limited dimension from the building and only included in this project to the extent funds are available.

The building has received minor alterations over the years; however, after almost 45 years of continuous use since the Annex was built, the majority of the building and equipment are in their original condition. The building roof was replaced in 2003, and the building's exterior masonry was repaired and repointed recently.

The scope of the proposed work is to modernize and replace the existing building systems for a 35-year life. Most functions and room uses currently located in the original building are anticipated to be renovated including enlarged, conversion to new use, or relocated within the existing building or to an addition. This relocation is due to the limits of the existing structure to accommodate the larger program area and/or the relationship

in the overall organization of the facility. A large addition (Scheme A) is proposed to accommodate the relocation and new studios are needed due to the proposed program of space needs. The size of the addition will be limited due to funding allocation and allowable increase in area beyond the existing building area. If additional funds came be raised to supplement the State funding the addition could be increased in size to include additional studio spaces (Scheme B).

In addition to spatial shortfalls, including insufficient space for adequate teaching and laboratory equipment, the accreditation reviews also reported the need for student gallery or presentation space and support areas.

Shippensburg University falls under the requirements of the International Building Code (IBC 2006) with drawing review, permitting, and inspecting by the Pennsylvania Department of Labor and Industry.

The existing facility was designed as a library and by all appearances little was done to accommodate the functional change to the art program. The functionality of the existing art laboratories does not meet modern standards, both in terms of size or amenities. Paulien Associates of Denver, Colorado was retained to review the existing classrooms and laboratories from a utilization point as well as functioning standpoint. Paulien found that the existing lab size (SF) for the visual arts program was about half of what was actually required.

Utility Services :

Electric – GPU Energy provides power to the University substation from which it is distributed via University 12 kv lines.

Natural gas – Penn Fuel supplies to the University meter from which it is distributed via University lines.

Water – Shippensburg Borough Authority supplies to the University meters from which it is distributed via University lines.

Sewage – University collection system delivers to Shippensburg Borough Authority line via metered manhole.

Steam – distributed from University steam plant.

Temporary connection to utilities by the Construction Contractors will be permitted.

2.1.2 NATURE OF THE PROJECT (Describe the basic characteristics and summary of the project.)

Among the various facility's deficiencies, this project will correct the following:

- Correct the functional and spatial deficiencies of the existing labs.
- Provide minimum space standards for accreditation.
- Correct ADA deficiencies in lecture room, elevator, and toilet rooms, as well as address access and egress to the building, and all occupied spaces.
- Create toilet facilities on each floor are a standard requirement.
- Paint interior and exterior.
- Remove and replace asbestos containing products.
- Renovation of floor and wall finishes (special attention to groundwater infiltration through ground floor walls on south side of building).
- Replace exterior window system and exterior doors (higher energy-efficiency).
- Replace all acoustical tile ceiling systems.
- Replace entire plumbing system.
- Install new automatic sprinkler system.
- Install "clean" electrical power for computers and electronic equipment.
- Install state-of-the-art data, telecommunication, CATV, and A/V cabling (the facility is connected to the campus fiber optics backbone, but not CATV).
- Replace the HVAC systems in the buildings with a central system that feeds the entire combined facility. The systems shall provide good temperature and humidity control (including new temperature control system).
- Provide new chillers, pumps, and controls.
- Replace insufficient building lighting to reduce energy cost and improve classroom, offices, and corridor light levels (consider multiple level switching and task lighting, and meet current building code energy requirements).
- Replace and upgrade the electrical distribution system, upgrade electrical panels, emergency generator to include connection of circulating pumps.
- Reconfigure lecture room and studio classrooms to modern standards (heating, ventilation, ceilings, AV, lighting, sound, acoustical treatment, etc.) and size.
- Provide an addition to accommodate adequate studio space for the over-flow studio, student's currently housed in Stewart Hall, and growing program needs.
- Repair/replace concrete sidewalks, patios, and steps.
- Provide parking to accommodate visitors, students, faculty, and staff using this facility and others in the vicinity in view of the campus plan envisioned in the Facilities Master Plan. Also improve unloading/loading service area.
- Replace interior doors and hardware.
- Replace fire alarm, intrusion detection, and master clock systems.
- Provide a telecommunications backbone pathway from the MCT building to the Huber Arts Center.
- Provide ventilation and exhaust systems to meet current IAQ standards and OSHA requirements for dust, fumes, and vapors.

2.1.3 SPECIAL FEATURES (Describe any special engineering and architectural features to be considered during design or construction; include technical support.)

The Professional must have capabilities in the following areas: hazardous materials remediation to include, but not limited to; asbestos; radon; PCBs and lead-based paint; indoor air quality enhancement; classroom and studio design; environmental sustainability; ADA compliance; roofing; windows; doors; flooring; wall and ceiling finishes, including acoustic treatment, toilet compartments, fire protection systems, elevator, air compressors, vacuum pumps, circulating pumps, heating, ventilation, air conditioning, automatic temperature control, humidity, plumbing piping and fixtures, electrical distribution, emergency generator, lighting, fire alarm, clock correction, sound systems, presentation systems, security systems, data network, and access control systems.

The Professional is required to have, on staff or as a sub-consultant, at least one Registered Communications Distribution Designer to work closely with the University representatives in developing network topology alternatives and concepts for data, voice, cable television (CATV), and closed circuit television (CCTV). The Professional will develop the following to achieve an installation that will meet or exceed all appropriate Category 6 compliance issues, as well as all applicable EIA/TIA standards including, but not limited to, 568A/569 and 606 standards as they apply to all telecommunications voice and data installations:

- Construction documents for furnishing and installing all necessary conduit, cable hooks, surface metal raceway, wiring troughs, ladder trays, and any other equipment necessary to provide a clear pathway for the installation of the data, CATV, CCTV, and fiber optic cabling.
- Separate construction documents for: furnishing, installing, and terminating category 6 data/telephone cable, CATV cabling, and all other low voltage data/telephone/CATV cabling into the raceways and pathways provided; furnishing and installing the CATV head-end and distribution equipment into the racks provided; furnishing and installing all data, telephone, and CATV outlets; and furnishing and installing CCTV equipment. The CCTV is to be used for security purposes in corridors and common spaces.
- Electronic equipment lists, which will include applicable costs as separate line items from the estimated construction cost in applicable submittals. The University will procure and install the data network electronics equipment.
- Special Exhaust Systems:
Ventilation and Indoor Air Quality issues require special systems in ceramics, painting, wood, and welding areas at a minimum.

2.1.4 FUTURE OR ADJACENCY CONSIDERATIONS (Describe how adjoining structures will influence project.)

The vehicular and pedestrian traffic circulation on campus is slated to be modified according to the University Facilities Master Plan. To the extent that the area immediately around Huber Arts Center is affected by those proposed modifications, the limit of the extent of the work to be part of the Huber Arts Center must be defined, so that the transition beyond the limit of scope can be documented.

To provide the most flexibility and consistency with planned improvement (walks, malls, plazas, terraces, plantings, exterior lighting, and parking lot design), it is recommended that the limits of the scope not go beyond the building addition by more than 20 feet, except for the area between the Huber Arts Center and the proposed new parking lot, which would replace York Road to the north. This would be the side used by service vehicles to the building and access will be from the proposed new parking lot. Service to Kriner Dining Hall is beyond the scope of this Study. Dauphin Drive is also planned to be removed and converted to a pedestrian mall leading to the modern quad. The sidewalks between Huber Arts Center and Dauphin Drive will also be modified according to the University Facilities Master Plan.

2.1.5 SPECIAL SERVICES (Describe any special professional services anticipated (e.g., site selection, environmental study, O&M plan, life cycle plan)).

Shippensburg University seeks an energy and resource efficient approach to designing, constructing, renovating, operating, and maintaining a facility that is crucial to our mission. Our approach includes: reducing the University's energy consumption and costs; minimizing the quantities of waste construction and demolition materials going to landfills; improving indoor air quality; and maximizing the use of sustainable materials and resources.

The Professional shall follow the key strategies and technologies used in Building Green in Pennsylvania "What is a Green Building? Fundamental Principles of Green Building and Sustainable Site Design," as a guide for the type of passive green design the University desires.

The University requires the Construction Contractor, under the supervision of the Professional, to provide operation and maintenance manuals for all equipment components and systems in hard copy and PDF format. The University also requires the Construction Contractors to provide formal training on the operation and maintenance of all mechanical, electrical, and fire protection systems provided, and provide the University a videotape of the training for future reference.

2.1.6 REQUIRED TESTS (Describe required testing, e.g., structural, subsurface, historical, environmental.)

Testing to be done for hazardous materials fall into five categories (flammable, corrosive, reactive, toxic, and contains VOCs). This would include, but not be limited to, lead paint, mercury, vinyl chloride, PCBs, etc.

Also required is subsurface investigation for foundation and structural design for the proposed addition and testing for current levels of Radon (tests have been conducted in the past by the University and occupied areas within the building were found to be within allowable limits.

Bedrock underlying the Huber Arts Center includes the Rockdale Run formation of the Ordovician Age. The carbonate bedrock at the site is moderately solution-prone, highly calcareous, and weathers differently to produce a pinnacled or sawtooth top of rock profile. Therefore, very pronounced rock pinnacles would be anticipated in this region. Common features associated with karst terrain include caves, internal drainage, lack of surface streams, solution channels, and topographic features such as sinkholes. These features are the result of the dissolution of soluble bedrock, such as limestone or dolomite, over geologic time by groundwater and/or infiltration of surface water. Caissons or micropiles may be required for additions.

A water flow test should be performed to determine the adequacy of the water system to provide flow and pressure to the proposed sprinkler system.

It does not appear that any testing is required for historical or environmental concerns.

2.2 SUMMARY BUDGET COST ESTIMATE – SCHEME A

As a result of the analysis described in the previous section, the following list summarizes the proposed alterations to Huber Arts Center:

ADA STANDARDS

1.	Provide elevator ADA upgrades including stand-by power.....	\$15,700.00
2.	Upgrade exterior signage.....	\$2,000.00
3.	Upgrade interior signage.....	\$3,500.00
4.	Upgrade toilet facilities.....	Part of Addition
5.	Install new water coolers.....	Part of Addition
6.	Replace all doors less than 36in. wide and install new hardware.....	\$34,775.00
7.	Lower fire extinguishers.....	\$10,000.00
8.	Create area of refuge.....	\$25,000.00
9.	Install new fire alarm system.....	\$27,000.00
10.	Install chair lift for access to upper level of lecture room.....	\$25,000.00
11.	Revise locations of various control devices (telephones, light switches, fire alarm pull stations).....	\$10,000.00
12.	Revise the locations of fire alarm signaling appliances.....	\$2,500.00
13.	Revise the locations of temperature control devices.....	\$4,000.00
	Total	\$159,475.00

2003 IBC COMPLIANCE

14.	Install an automatic fire suppression system with fire pump.....	\$120,000.00
	Apply for variance at Industrial Board.....	\$0.00
15.	Interior finishes, flame-spread.....	N/A
16.	Upgrade new generator and emergency power distribution system.....	\$55,000.00
17.	Upgrade railing system in stair tower.....	\$12,500.00
18.	Upgrade interior safety glass.....	\$4,500.00
19.	Install backflow preventor valve.....	\$5,000.00
20.	Replace fire alarm system.....	See ADA Item No. 9 and 12
21.	Upgrade ventilation systems.....	See Performance Upgrade Item No. 45
22.	Upgrade exhaust systems.....	See Performance Upgrade Item No. 45
23.	Install new emergency lighting system.....	See Item No. 16
24.	Replace existing lighting fixtures to comply with code efficiency requirement.....	\$125,000.00
25.	Provide additional toilet rooms to meet current code compliance.....	Part of Addition
	Total	\$322,000.00

AESTHETIC UPGRADES

26.	Install new exterior doors, frames, and hardware (original building).....	\$22,500.00
27.	Install new exterior doors, frames, and hardware (1961 addition).....	\$12,500.00

28.	Install new aluminum frames with thermal breaks (original building).....	\$120,000.00
29.	Install new aluminum frames with thermal breaks, insulated glass, and insulated panels (1961 addition)	\$45,000.00
30.	Repair the around the parapet and limestone cornice (original building).....	\$12,000.00
31.	Clean all stone trim, cut out deteriorated joints, and re-caulk (original building).	\$15,000.00
32.	Replace existing ceiling system (original building).....	\$55,000.00
33.	Replace existing ceiling system (1961 addition)	\$13,500.00
34.	Replace existing flooring with new VCT flooring (1961 addition).....	\$26,500.00
35.	Replace existing flooring with new VCT flooring (original building).	\$55,000.00
36.	Replace existing chalkboards with new markerboards, repair tackboards.	\$9,000.00
37.	Replace existing concrete steps at Dauphin Drive.....	\$17,000.00
38.	Replace all damaged sections of existing sidewalk along Dauphin Drive and around building.....	\$14,250.00
39.	Replace existing plumbing fixtures.	Part of Addition
40.	Replace deteriorated exterior lighting fixtures.	\$6,500.00
41.	Elevator cab is showing signs of wear. Upgrade floor, wall, and ceiling finishes, as well as lighting fixtures.	\$12,500.00
42.	Replace lecture room seating and projection screens.....	\$28,500.00
43.	Paint exterior and entire interior of original building	\$35,500.00
	Total	\$500,250.00

PERFORMANCE UPGRADES

44.	Replace plumbing system.....	\$50,000.00
45.	Replace HVAC system and provide special exhaust systems	\$450,000.00
46.	Replace temperature control system	\$100,000.00
47.	Revise campus communication and security	\$30,000.00
48.	Replace electrical service and panels.....	\$240,000.00
49.	Provide new lighting scheme	See Item No. 24
50.	Provide new intercom/clock system.....	\$15,000.00
51.	Provide additional electrical outlets.....	\$34,000.00
52.	Provide additional switches for multiple lighting levels	\$13,000.00
	Total	\$932,000.00

HAZARDOUS MATERIALS

53.	Asbestos abatement/removal in the original building	\$136,000.00
54.	Asbestos abatement/removal in the Annex.....	\$88,000.00
55.	Lead paint or other hazardous materials abatement (lump sum allowance).....	\$10,000.00
56.	Install new radon removal exhaust system	N/A
	Total	\$234,000.00

EDUCATIONAL UPGRADES AND PROGRAM REQUIREMENTS

57.	Provide new telecom/data systems in existing building.....	\$70,000.00
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57.	Communications pathway from Huber Arts Center to MCT.....	\$125,000.00
58.	Provide new furniture and equipment for arts program	N/A
59.	Provide alternation/renovation per proposed arts program	\$98,100.00
60.	Provide Campus parking lot.....	N/A
61.	Redesign new service area at north side of building (connect to new parking lot).....	\$35,000.00
62.	Redesign pedestrian circulation pathways on west side (limited extent)	\$37,000.00
63.	Redesign pedestrian circulation pathways on south side (limited extent).....	\$25,000.00
	Provide pedestrian lighting matching campus standards	\$15,000.00
64.	Provide pavilion (outdoor classroom).....	\$14,250.00
65.	Provide visual screening, surface treatment and utilities.....	\$10,500.00
66.	Provide new addition per proposed arts program	\$3,208,350.00
67.	Demolish Annex in lieu of renovation.....	-\$30,000.00
	Total	\$3,608,200.00
SUBTOTAL		\$5,755,925.00
Design Contingency		\$100,000.00
TOTAL CONSTRUCTION ESTIMATE.....		<u>\$5,855,925.00</u>

The construction costs are estimates based upon the current market and adjustments will need to be made to the estimates in order to accommodate any inflation on a yearly basis. These estimates do not include soft costs (i.e., bond and legal fees, architectural/engineering fees, movable equipment, etc.).

Escalation to Bid Award Date June 2008

24 months x 0.9% per month = \$1,265,000.00

TOTAL PROBABLE CONSTRUCTION ESTIMATE..... **\$7,120,925.00**

DGS Design + Construction Contingency (20% of Construction Allocation)= \$1,425,000.00

TOTAL PROBABLE PROJECT ESTIMATE **\$8,546,000.00**

2.2 SUMMARY BUDGET COST ESTIMATE – SCHEME B

As a result of the analysis described in the previous section, the following list summarizes the proposed alterations and addition to Huber Arts Center if additional funds become available:

SUBTOTAL from SCHEME A	\$5,755,925.00
ONE ADITIONAL NEW FLOOR LEVEL (7,218 SF x \$222.25/SF)	\$1,604,075.00
Design Contingency	\$125,000.00
TOTAL CONSTRUCTION ESTIMATE	<u>\$7,485,000.00</u>

The construction costs are estimates based upon the current market and adjustments will need to be made to the estimates in order to accommodate any inflation on a yearly basis. These estimates do not include soft costs (i.e., bond and legal fees, architectural/engineering fees, movable equipment, etc.).

Escalation to Bid Award Date June 2008

24 months x 0.9% per month =	<u>\$1,617,000.00</u>
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TOTAL PROBABLE CONSTRUCTION ESTIMATE	<u>\$9,102,000.00</u>
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DGS Design + Construction Contingency (20% of Construction Allocation)=	<u>\$1,820,400.00</u>
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TOTAL PROBABLE PROJECT ESTIMATE	<u>\$10,922,000.00</u>
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2.3 PHASING PLAN

If the University wishes to consider renovating the building while it is occupied, the following information should be considered:

- Construct new addition first and relocate several of the current studios into this area to allow renovations by floor level.
- New construction will require relocation of current programs in the Annex.
- Sequence the phasing so that major new mechanical systems are in place, so that once a floor level has been renovated, new mechanical equipment would be functional.
- Section activities will create noise and dust, which can be disruptive to the educational program.
- Appropriate egress from building for emergencies must be maintained.
- The complexity of the asbestos abatement, associated with the fireproofing of the structural members, further compounds the phased activities.
- The construction cost will be approximately 10% higher due to phasing the renovations.
- Due to all of the disadvantages of phased construction in an occupied building, the University should consider relocating the faculty and classrooms to other facilities and not use the building during the renovations.

Construction Issues:

Due to the extent of renovations and the size of the addition, the complexity of construction will be compounded by the fact that the building is occupied by students and faculty/staff. This is further compounded by all the activities associated with this function (i.e., delivery and dismissal of students, visitors, deliveries, etc.). Due to the size of the addition and the limited size of the existing site, staging area for construction activities is almost nonexistent. This will require remote staging of certain materials at nearby locations. The University may wish to consider vacating building during construction.

2.4 DRAWING LIST

SCHEME A

Proposed Partial Campus Plan
Proposed Site Plan
Proposed Ground Floor Plan
Proposed First Floor Plan
Proposed Second Floor Plan

SCHEME B

Proposed Ground Floor Plan
Proposed First Floor Plan
Proposed Second Floor Plan

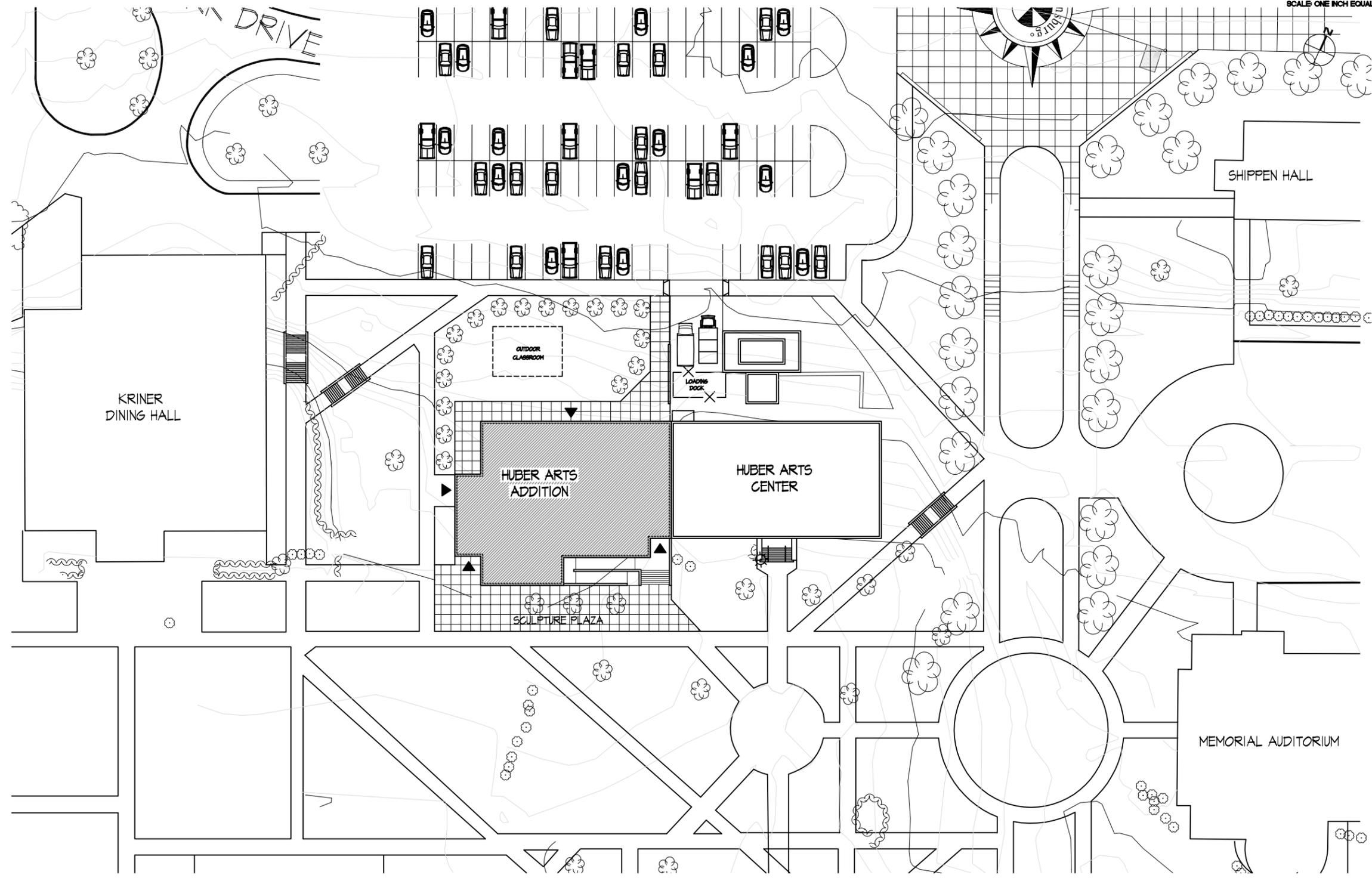
Existing Partial Campus Plan
Existing Site Plan
Existing Ground Floor Plan
Existing First Floor Plan
Existing Second Floor Plan
Existing Exterior Elevations

3.00 PROPOSED SCHEME A



Shippensburg
University

0 20 40 80
SCALE ONE INCH EQUALS TWENTY FEET



PROPOSED SITE PLAN

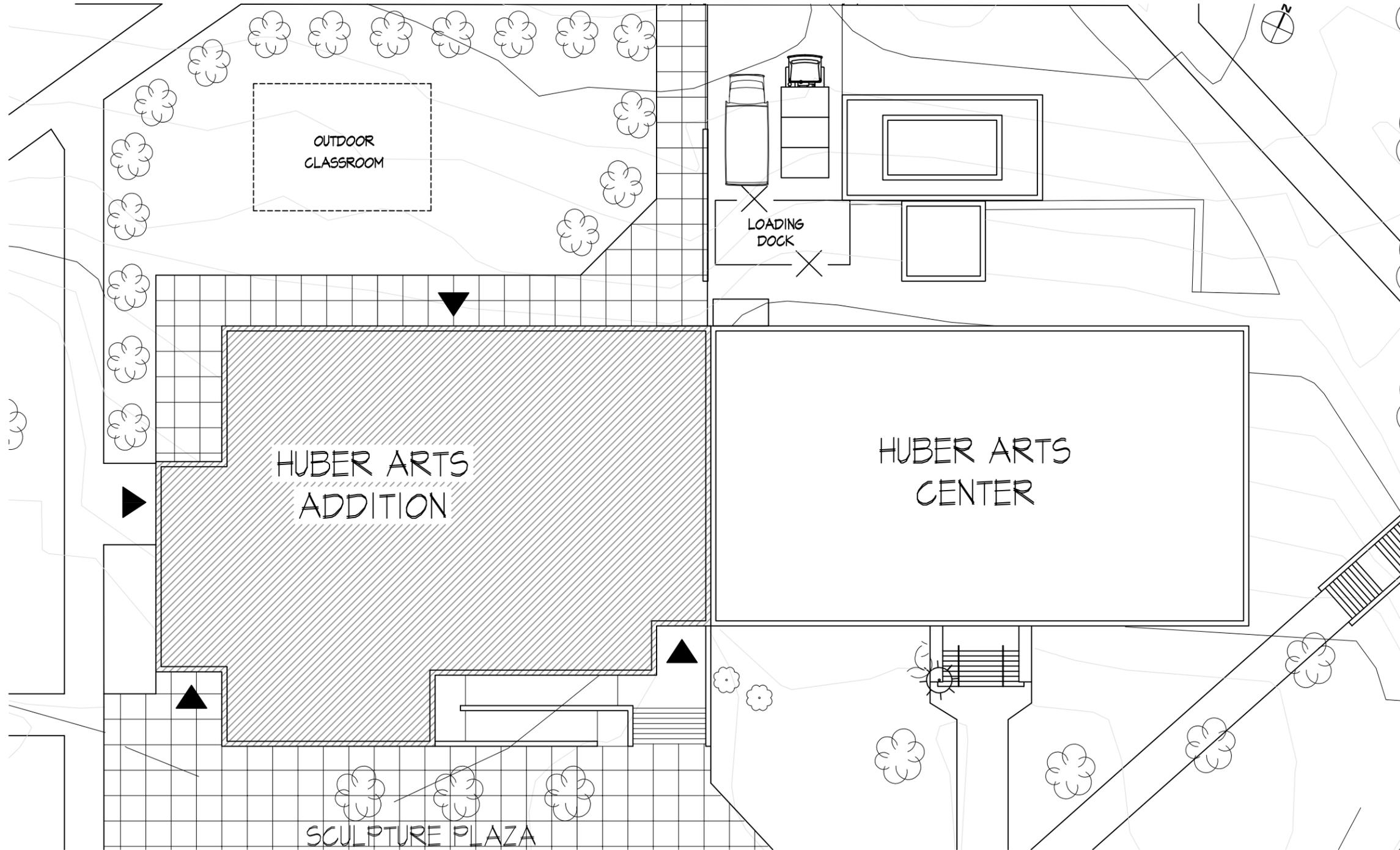
HUBER ARTS CENTER FACILITY STUDY

FOR
SHIPPENSBURG UNIVERSITY

COMMONWEALTH of PENNSYLVANIA - STATE SYSTEM of HIGHER EDUCATION
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PROPOSED PARTIAL CAMPUS PLAN
SCHEME A OR B

HUBER ARTS CENTER FACILITY STUDY

FOR
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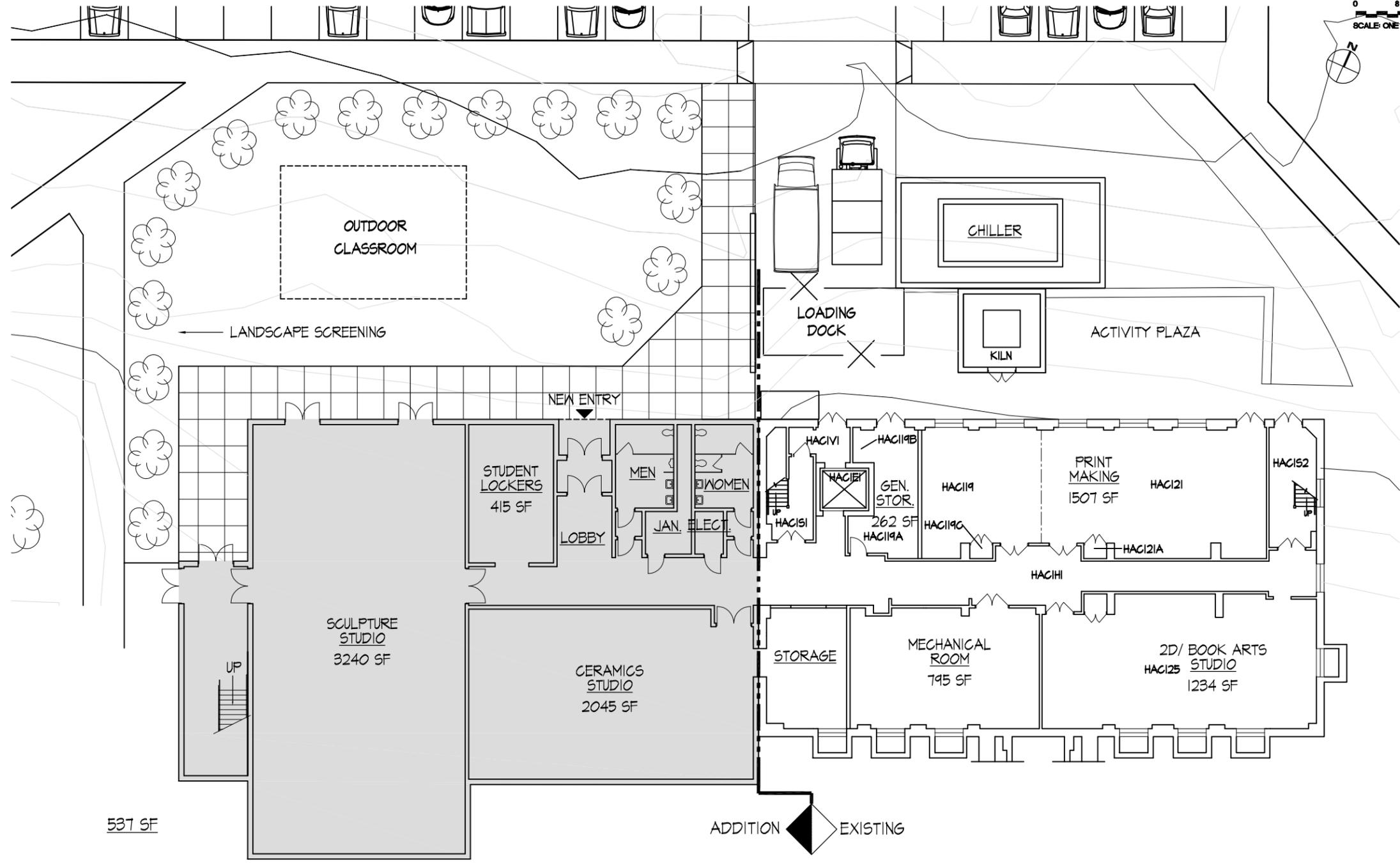
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PROPOSED GROUND FLOOR PLAN



PROPOSED GROUND FLOOR PLAN
SCHEME A

HUBER ARTS CENTER FACILITY STUDY

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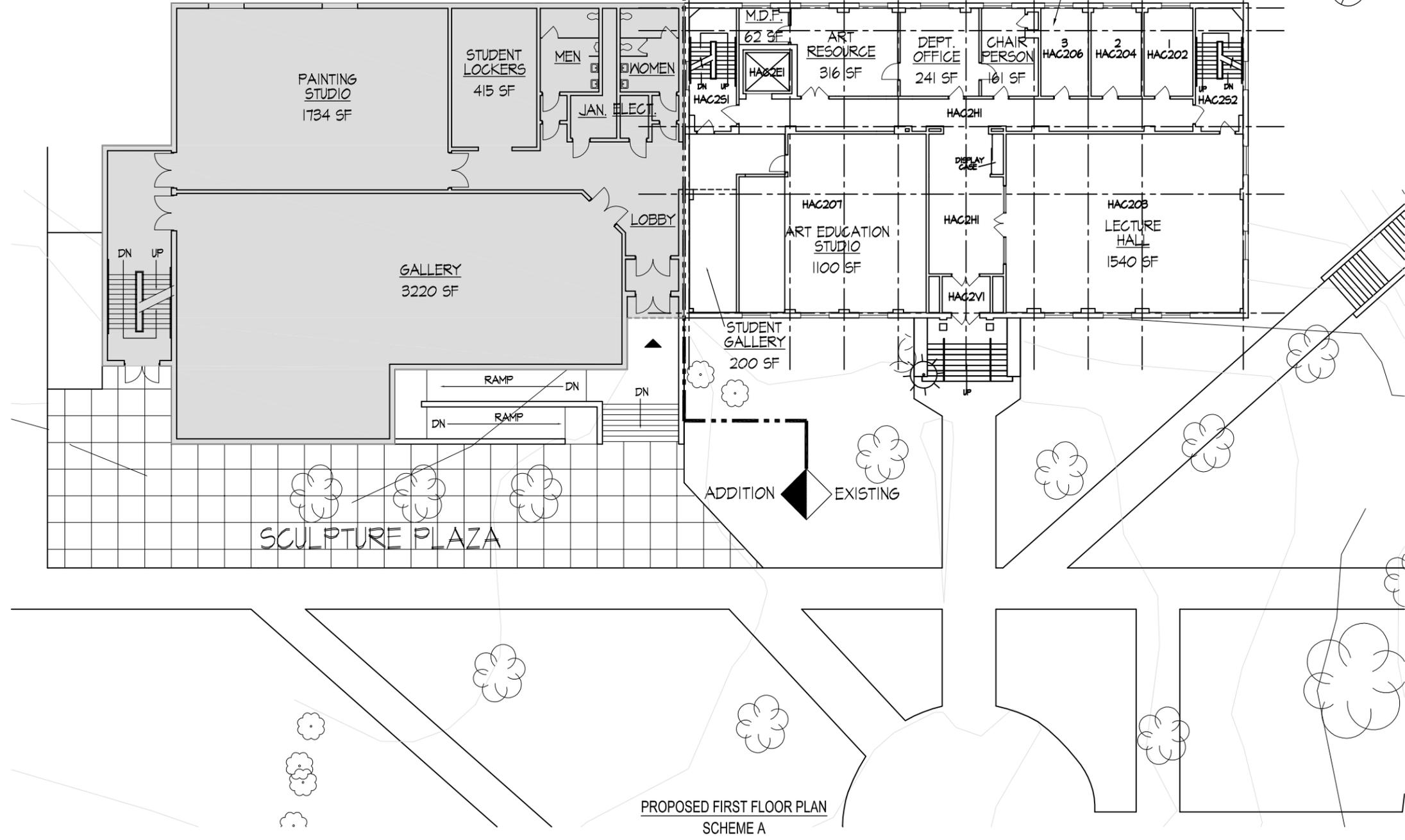


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PROPOSED FIRST FLOOR PLAN



7218 GSF ADDITION



PROPOSED FIRST FLOOR PLAN
SCHEME A

HUBER ARTS CENTER FACILITY STUDY

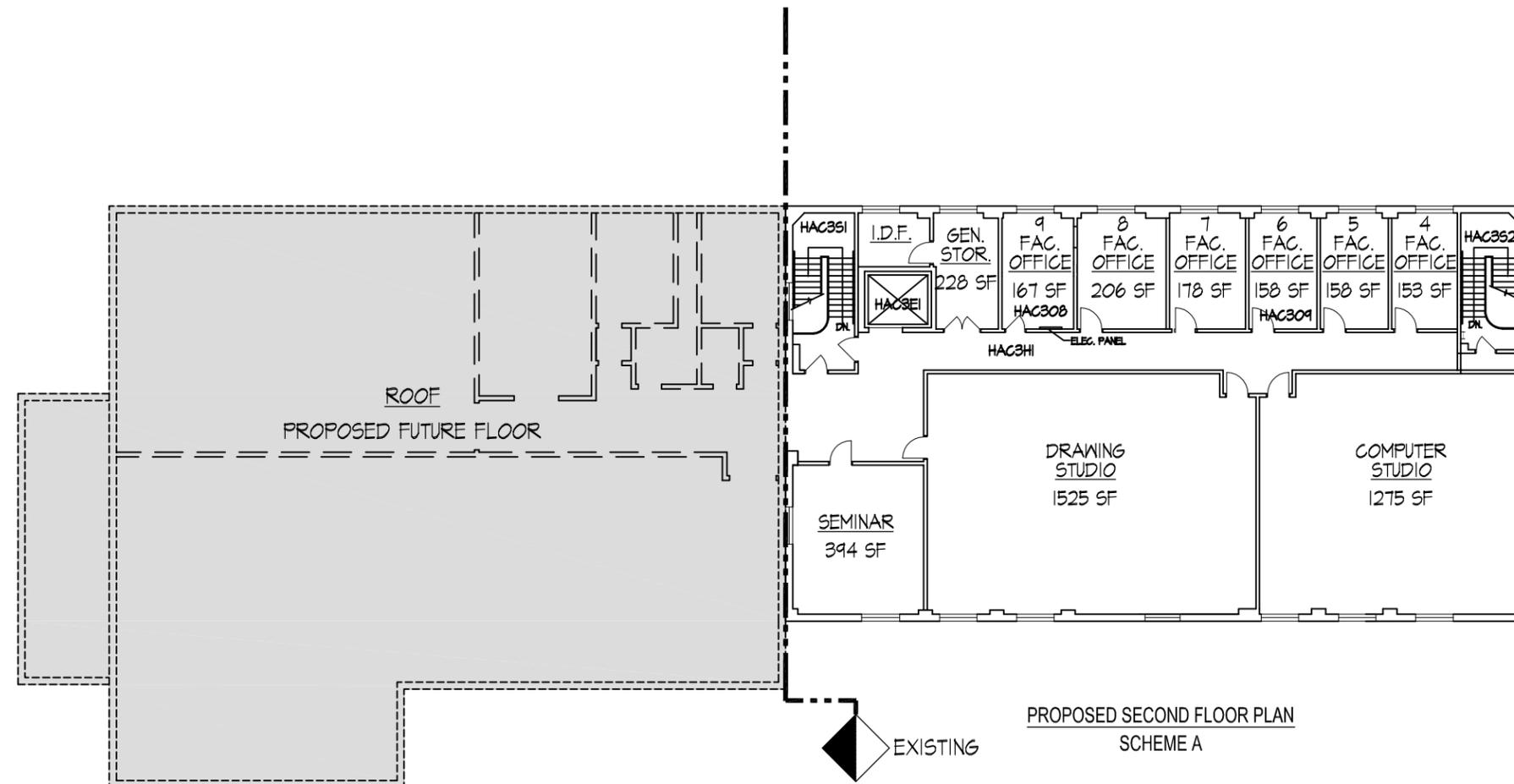
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PROPOSED SECOND FLOOR PLAN



HUBER ARTS CENTER FACILITY STUDY

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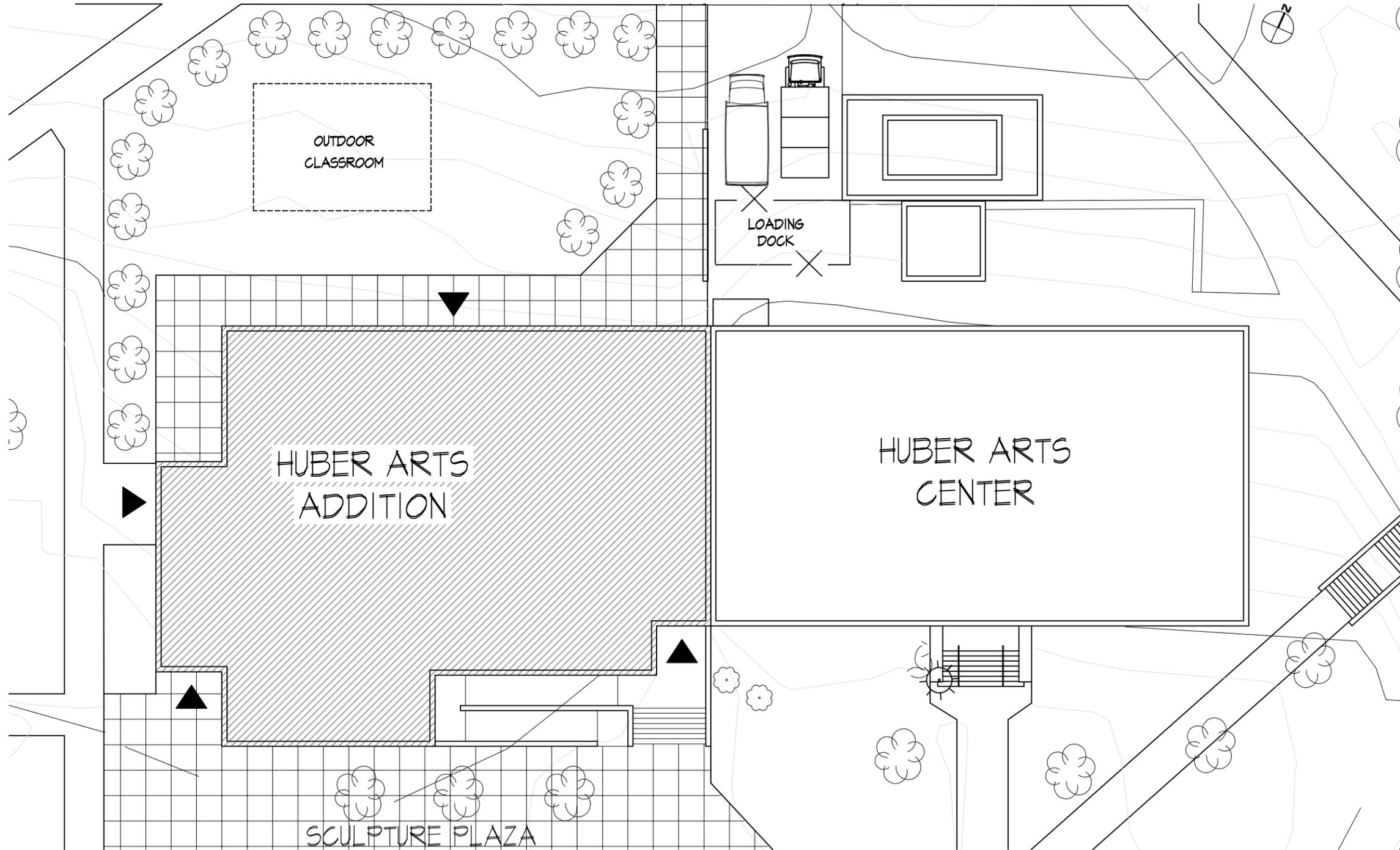


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3.00 PROPOSED SCHEME B



Shippensburg
University



PROPOSED PARTIAL CAMPUS PLAN
SCHEME A OR B

HUBER ARTS CENTER FACILITY STUDY

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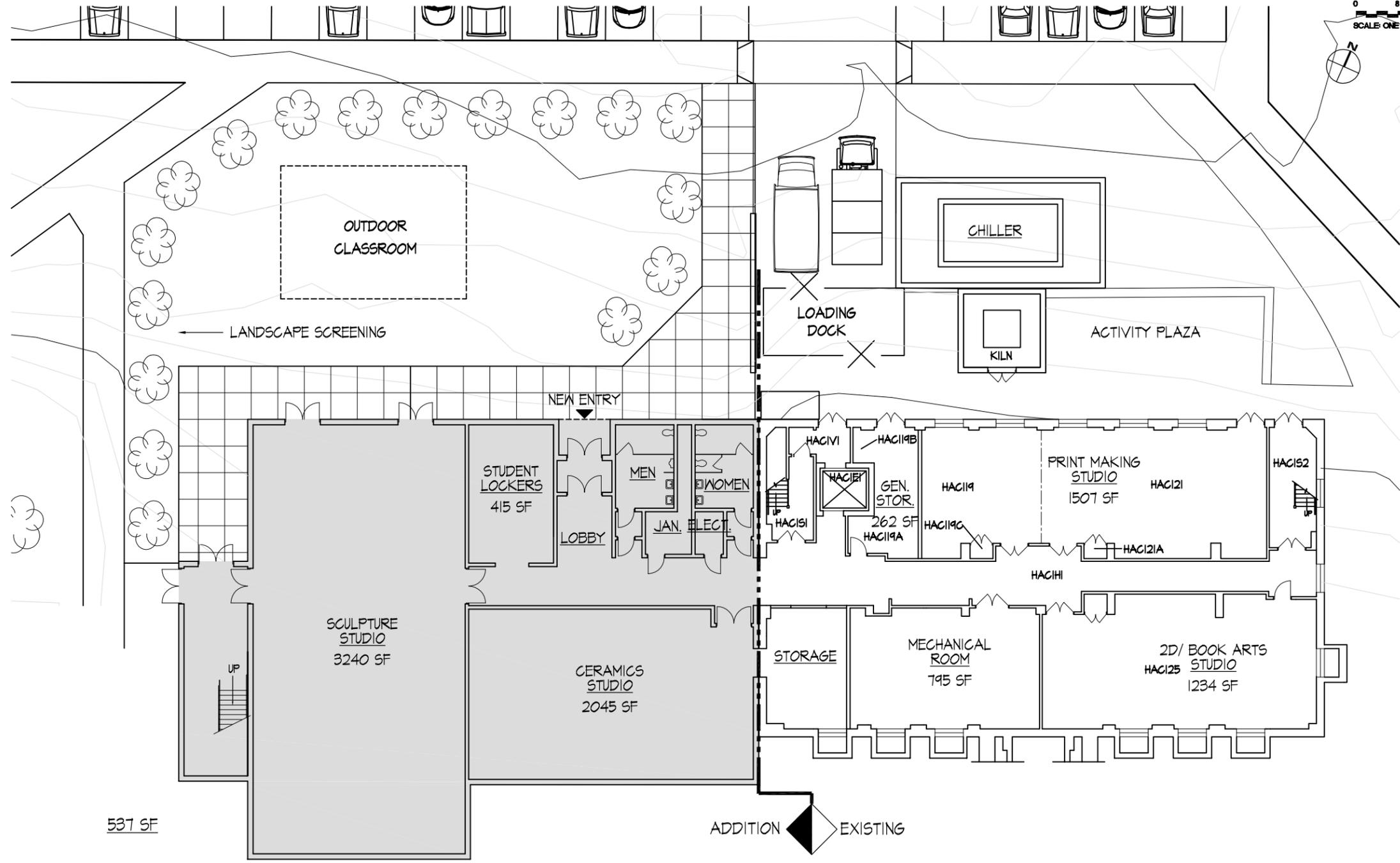
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PROPOSED GROUND FLOOR PLAN



PROPOSED GROUND FLOOR PLAN
SCHEME B

HUBER ARTS CENTER FACILITY STUDY

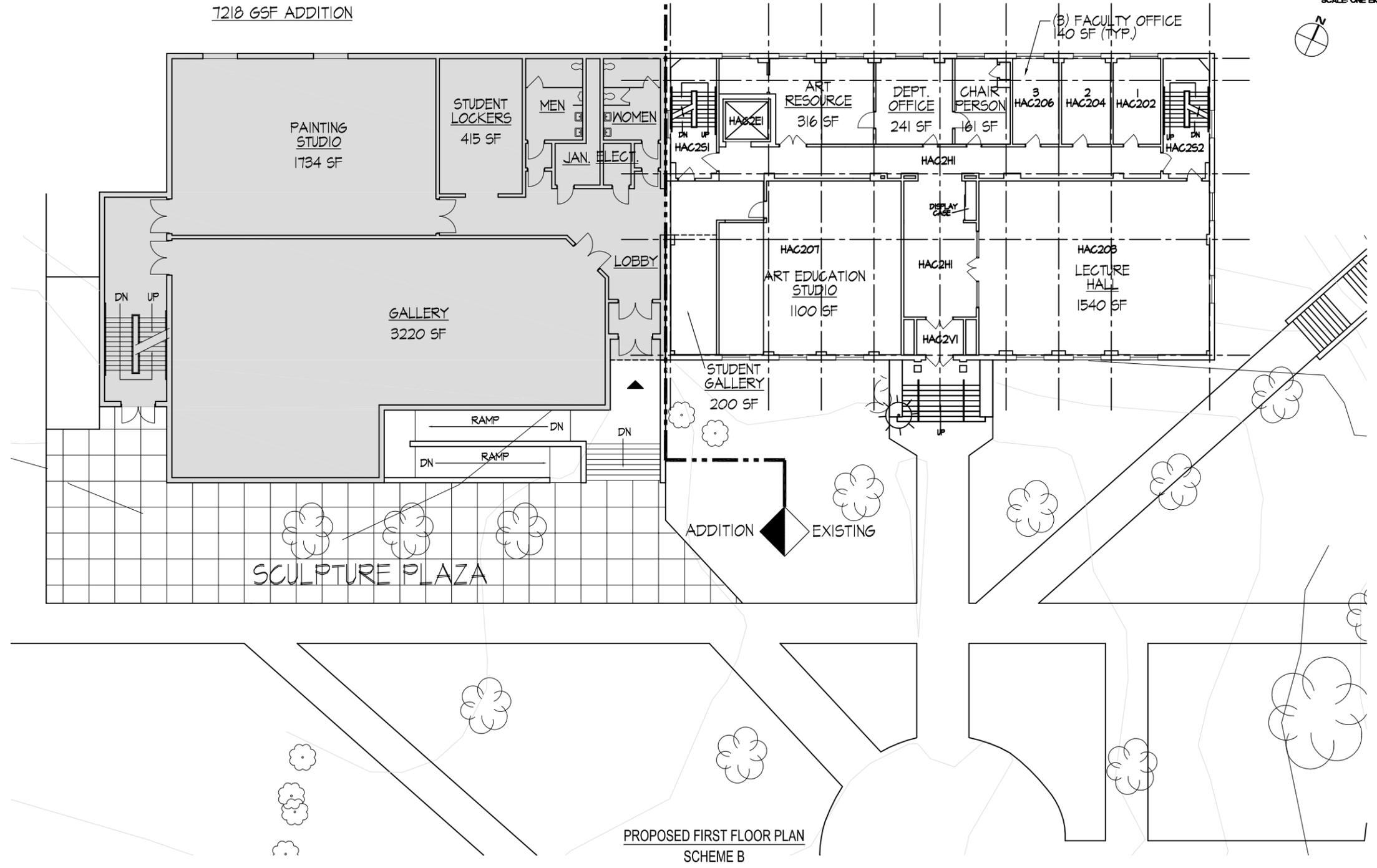
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PROPOSED FIRST FLOOR PLAN



PROPOSED FIRST FLOOR PLAN
SCHEME B

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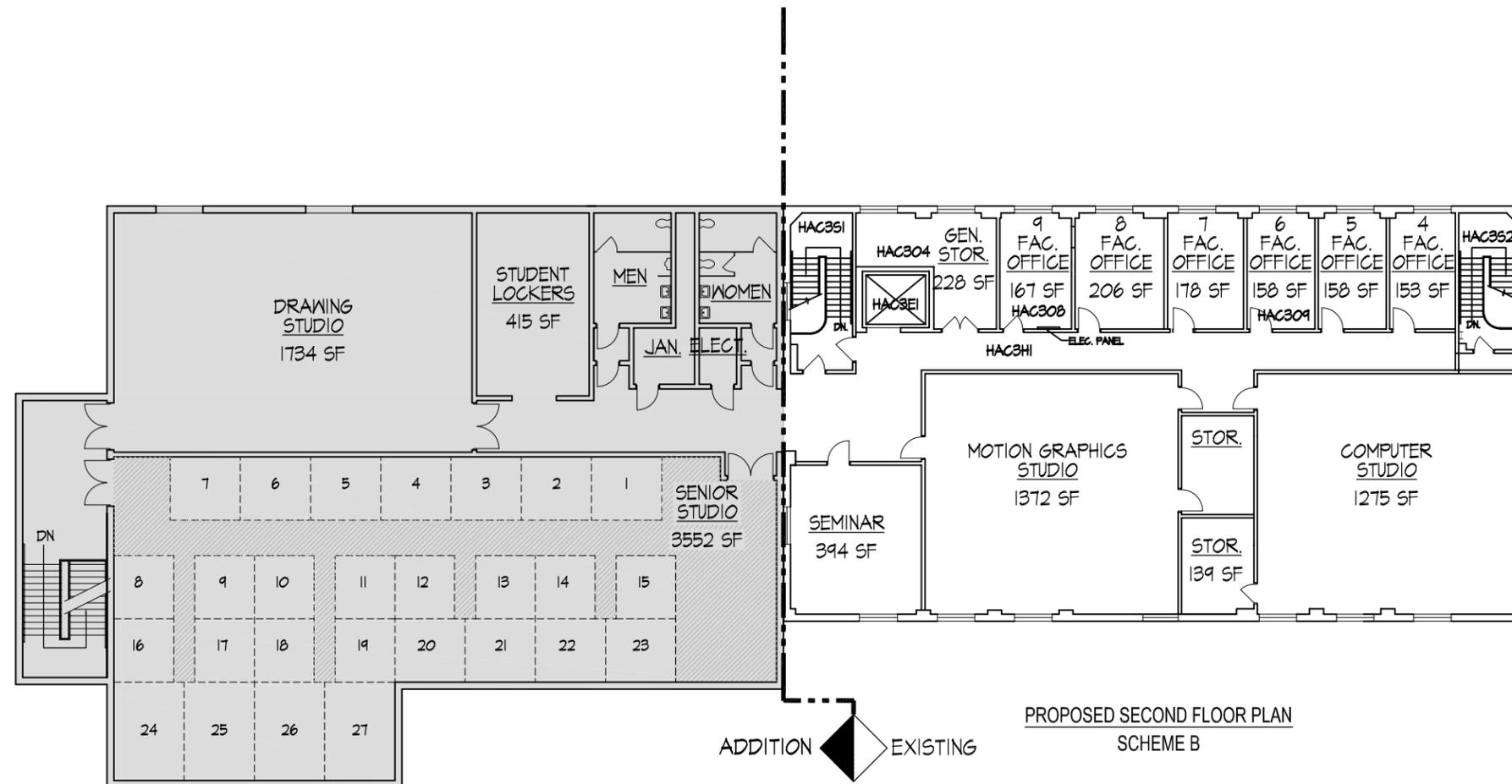
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PROPOSED SECOND FLOOR PLAN



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SCHEME B

ADDITION  EXISTING

HUBER ARTS CENTER FACILITY STUDY

FOR
SHIPPENSBURG UNIVERSITY

COMMONWEALTH of PENNSYLVANIA - STATE SYSTEM of HIGHER EDUCATION
PROJECT NO. SU 2004/17



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4.00 EVALUATION OF EXISTING FACILITY

Huber Arts Center is comprised of concrete floors, metal roof deck, and masonry walls. This meets the construction-type requirements for noncombustible construction, per Pennsylvania Department of Labor and Industry Code and is Type IIB/Noncombustible Construction, per 2003 International Building Code. This construction type requires zero-hour fire rating on structural frame, bearing walls, floor, and roof construction. The allowable height and building areas are four-stories (50') and 23,000 sq. ft. per floor for B Use Group; two-stories (30') and 9,500 sq. ft. for A-3 Use Group; and four-stories (50') and 26,000 sq. ft. for S-2 Use Group. These use group can be separated or nonseparated and an analysis will be required to determine final code compliance on height and area limits. These can be increased by the extent of open building perimeter and the installation of an automatic sprinkler system protection. The Use Group classifications are as follows:

<u>2003 International Building Code</u>	<u>Mixed Use Group:</u>
	Business (B)
	Storage (S-2)
	Assembly (A.3)

There are two separate HVAC systems that serve the facility. The original building utilizes a four-pipe HVAC system with hot and chilled water. Hot water is generated by steam to hot water converters with the steam coming from the University central plant. Chilled water is generated by a Trane Cold Generator with a remote condenser. The pumping system is a simplex system with no backups available. The pipe systems feed unit ventilators, fan coils and air handlers throughout the facility. All systems do operate, but have exceeded their typical useful life expectancy and should be replaced.

The Annex Building is served by Space Pack HVAC units that provide high-velocity air to the rooms. These units are working, but do not meet current requirements for ventilation. Hot water is utilized to provide heat to the Annex via convectors, wall fin, etc. The pump for this system is located in the main building mechanical room.

The ventilation systems in the building are in need of complete upgrade. This includes toilet rooms, mechanical rooms, welding shops, kiln areas, spray booths, pottery/ceramic areas, etc.

The Automatic Temperature Control System was recently upgraded in the facility. Any and all new components shall be interfaced with the Intercon Automation System in place on the University campus.

The plumbing systems, throughout, are in fair condition, but should be upgraded as part of any renovation project. Some fixtures were noted to be damaged and in need of replacement. The plumbing systems do not meet current ADA requirements. The main water service (3" line) does not have any method of backflow prevention installed in the incoming main. The domestic hot water supply system was reported to not work well and should be upgraded.

The facility does not have an automatic sprinkler system. The stairs do have standpipes with hose connection valves. These systems should be upgraded to meet current requirements.

The electrical service to the building consists of a 12,470-volt, 3-phase underground primary circuit to an outdoor pad-mounted oil filled transformer feeding a 1200-amp, 120/208-volt, 3-phase, 4-wire indoor switchboard. Except for a few recently added panels the panels are past their serviceable life.

The existing generator is only a few years old and is sized to carry the emergency lighting load only (rated at 7 KW) and located in the mechanical room. The building has a fire alarm system, intrusion detection system, master clock system, and emergency lighting. Most of these systems are old, difficult to maintain, not in compliance with current codes, and in need of replacement. The fire alarm system is not compatible with the campus-wide system.

The electrical system has not kept up with program changes and additions. As a result, some areas have receptacles and electrical connections, which are not used or are buried behind shelving and cabinets. Other areas have inadequate provisions for the equipment being used, resulting in excessive use of extension cords and electrical installations, which do not meet code requirements.

There have been minor alterations over the years to the electrical system; however, the majority of the building is in its original condition and now requires upgrading due to deterioration because of heavy usage, program changes, and age.

The building is wired for data, but the current installation does not meet current University standards for materials, installation practice, or location of jacks. The existing building does not have CATV and CCTV systems for video program distribution and security. The current art gallery security system does not meet Insurance Institute standards.

There have been minor alterations over the years; however, the majority of the building is in its original condition, which now requires attention, due to deterioration under heavy usage.

Per the Facilities Manual of the State System of Higher Education, the building condition is in Category **Code #4, Remolding-C**. (Requires major remodeling of the building. Last major remodeling was more than 35 years ago.)

The following information is an item-by-item review of the facility's overall condition, list of deficiencies with respect to current codes and ordinances, typical standards, suggested need for replacement due to unsafe conditions or systems failures, and program updates.

ADA COMPLIANCE

Alterations, like new construction, require full compliance with the code. An alteration is a change, which affects, or could affect, the usability of the building or facility. It also includes “elements,” such as door handles and faucet controls. If alterations are made to an area that contains a primary function, a path of travel to that area should be made accessible. The ADA addresses the issue of accessible design for large assembly areas, with the intent of integrating wheelchair seating with regular seating. That is, individuals in wheelchairs should have a line of sight compatible to the general student body. Too often, wheelchair areas are confined to the back or to the front.

1. The building has access for disabled persons at one level from the exterior. There is access to the other levels provided by an elevator. In a four-story building, the elevator shall be part of an accessible means of egress complying with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Stand-by power shall be provided in accordance with Section 2702 and 3003.
2. Provide proper signage to identify handicapped entries, including directions to handicapped entries at non-handicapped entries.
3. Current interior signage, which identifies permanent rooms and provides direction to, or information about, a functional space is not in compliance with size, type, finish, and mounting type.
4. The existing toilet rooms do not comply with disabled persons' standards.
 - A. The toilet rooms and related fixtures shall be replaced to be ADA compliant.
 - B. New plumbing fixtures shall be installed. Fixtures shall be of high quality and shall include hands-free electronic faucets and flush valves.
5. The existing water coolers do not comply with disabled persons' standards.
 - A. Water coolers need to be replaced with lead-free units that comply with all ADA requirements.
6. The interior doors and doorknob sets do not comply with ADA standards for proper clear width and hardware.
7. The existing fire extinguishers do not meet ADA standards for mounting height.
8. Areas of Rescue Assistance are not required in alterations or existing conditions by ADA; however, the Pennsylvania Department of Labor and Industry requires them if the building is not equipped with an automatic sprinkler system.

9. Fire alarm system should be installed with mounting height requirements.
10. Lecture room to provide ADA seating at a variety of locations with the room.
11. Various control devices (telephones, fire alarm pull stations, light switches) are not accessible for physically challenged employees or users, and do not meet ADA standards for mounting height. The locations of the fire alarm signaling appliances do not meet ADA requirements.
12. Fire alarm system should be installed to comply with visual and audible level requirements.
13. Temperature control devices should be mounted at ADA height.

IBC 2003 COMPLIANCE

Deficiencies cited in this report clearly fall into the category of items in conflict with current codes, if you were going to construct the building today. Building codes evolved from what was once acceptable, but now may be in conflict with current status. No condition was identified which would cause State or local regulatory officials to close the facility. Nonconformance with today's standards is not cause for facility closure. The existing building, or portion thereof, which does not comply with requirements of the International Building Code (IBC) for new construction should not be altered or repaired in such a manner that results in the building being less safe or sanitary than such building is currently.

IBC-SECTION 302 REPAIRS

302.1 Scope. Repairs, as defined in Chapter 2, include the patching or restoration of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment, or fixtures in good or sound condition.

302.2 Application. Repairs shall comply with the provisions of Chapter 4 (not make building less conforming than before repair was undertaken).

IBC-SECTION 303 ALTERATION-LEVEL 1

303.1 Scope. Level 1 alterations include the removal and replacement, or the covering, of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.

303.2 Application. Level 1 alterations shall comply with the provisions of Chapter 5.

IBC-SECTION 304 ALTERATION-LEVEL 2

304.1 Scope. Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

304.2 **Application.** Level 2 alterations shall comply with the provisions of Chapter 5 for Level 1 alterations, as well as the provisions of Chapter 6.

IBC-SECTION 305 ALTERATION-LEVEL 3

305.1 **Scope.** Level 3 alterations apply where the work area exceeds 50 percent of the aggregate area of the building.

305.2 **Application.** Level 5 alterations shall comply with the provisions of Chapters 5 and 6 for Level 1 and 2 alterations, respectively, as well as the provisions of Chapter 7.

Other codes used in the evaluation for compliance are the National Plumbing and Electrical Codes.

14. The partition separating the classrooms, offices, etc. from the lobby/exit corridor must be a one-hour noncombustible partition with C-labeled doors. This can be reduced to zero hours if an automatic sprinkler system is provided.
 - A. Upgrade the water service to feed the new sprinkler system. The system shall be sized to handle the entire facility, including all sprinkler coverage, as well as standpipes in the stairways. The 2003 IBC code requires 100 psi at all standpipes; therefore, a fire pump will be required. This, however, should be verified by the Professional designing the system.
 - B. File for a variance to one-hour fire rating since building was approved with non-rated corridor.
15. The interior finish shall be a minimum of Class B or a flame-spread rating of 26-75 per 2003 IBC and would allow a Class 3 or a flame-spread rating of 76-200 for places of assembly with capacities of less than 300 persons.
 - A. Without testing the materials used for finishes within the facility, they must be judged to be conformant by today's standards/codes.
16. The emergency generator is not sized to operator all the equipment and systems per the University standards.
 - A. The existing emergency generator is rated at 7 KW and is located in the mechanical room. The generator needs to be replaced with a new unit capable of carrying the hot water circulating pumps, elevator, and the existing emergency loads. Replace the existing generator and transfer switch. Determine the power requirements for the mechanical system pumps, elevator equipment, and other equipment the University desires to put on the emergency power system, and select a new generator size.

- Provide separate transfer switches and distribution panelboards for legally required loads and stand-by loads.
- B. Provide emergency lighting in lavatories, and around kilns and machinery for safety, security, and convenience.
17. The existing railing system in the stair towers does not comply with current IBC Codes.
- A. Guardrails are required to be a minimum of 42" high.
- B. Handrails are required to be installed between 34" and 38" high and shall be uniform in height.
- C. The dimension between balusters has to be smaller than 4".
18. The existing interior glazing in doors, partitions, etc. does not comply with current code for safety glass.
19. The existing water service is not equipped with a backflow prevention valve.
20. The fire alarm system consists of a zoned system with manual pull stations and audible indicating appliances. The system is monitored by the campus central station; however, it is not addressable nor is it ADA-compliant.
- A. Replace the existing fire alarm system with a Siemens MXL addressable fire alarm system to match the existing campus fire alarm system upgrades. Provide a manual and automatic fire alarm system in accordance with the codes cited elsewhere in this document and University requirements for protection of critical infrastructure and high value equipment.
21. The ventilation systems do not meet current airflow requirements.
22. The existing exhaust systems do not comply with current code.
23. An emergency lighting system is required to illuminate general exiting and illuminate exit signs at discharge doors throughout the building.
24. The International Energy Code places strict limits and the amount of energy consumed for lighting.
25. The 2003 International Plumbing Code indicates the minimum number of plumbing fixtures at one water closet per 25 occupants for first 50 and then 1 per 50 occupants for the remainder exceeding 50, one lavatory per 40 occupants for the first 50 and then 1 per 80 occupants for the remainder exceeding 50, and one drinking fountain per 100 occupants. The ground floor is proposed to have 5 studio/shops (approximately 120 occupants). A total of 120 maximum occupants, or 60 females/60 males, requiring three water closets and two lavatory in each toilet

room. The first floor is proposed of two studio/labs, art gallery, one lecture room, four faculty offices, and department office. A total of 150 maximum occupants, or 75 females/75 males, requiring three water closets and two lavatories per toilet room. This would be the same number required if a second floor would be built. The number of drinking fountains required is two for each floor.

AESTHETIC UPGRADES

The facility does require on-going maintenance attention at the current level or better. Preventative maintenance and repair will have a major effect on the appearance, while protecting the physical soundness of the facility. Most of the material and components are original, exceeding 30 years of age.

26. On the exterior of the original building, some of the existing doors are original and showing signs of deterioration.
27. On the exterior of the Annex, some of the existing doors are original and showing signs of deterioration.
28. The existing windows are aluminum, with single glazing. They are not original to the building, in fair condition, but are **not energy-efficient**.
29. The existing windows are aluminum, with single glazing. They are original to the building, in fair condition, but are **not energy-efficient** (includes stone-front system in Annex).
30. The drainage around the parapet and limestone cornice around the original building is in poor condition and is a continuous source of leaks.
31. There is minor deterioration of the exterior brick/stone trim.
32. The ceiling systems in corridors, studios/ labs/ classrooms and offices are lay-in acoustical tile with damage, staining, and warping. Due to the extent of work above the ceiling system, consider replacing all ceiling systems.
33. The ceiling systems in the Annex in the corridors, studios/ labs/ classrooms and offices are lay-in acoustical tile with damage, staining, and warping. Due to the extent of work above the ceiling system, consider replacing all ceiling systems.
34. The floor covering in the Annex are original and showing signs of deterioration.
35. The floor covering in the original building is showing signs of damage and also will need to be replaced due to abatement.
36. The chalkboards and tackboards are in fair condition.

37. The existing exterior steps at Dauphin Drive are in poor condition.
38. The existing sidewalks around building are in poor condition.
39. Some of the toilet fixtures and trim are showing damage and should be replaced.
40. The exterior light fixtures are showing signs of deterioration.
41. Elevator cab is showing signs of wear. Upgrade floor, wall, and ceiling finishes, as well as lighting.
42. Lecture room is original and showing signs of wear. Upgrade seating and audio/visual equipment and sound enhancement. Technology improvements are discussed under the Educational Upgrades found later in this Study.
43. The exterior and interior finishes need painted.

PERFORMANCE UPGRADES

Beyond Code compliance, aesthetic quality, and nature of the environment, is the performance of the facility. Since the installation of many of the building's component systems, there have been advancements in technology. The design requirements for learning and teaching are at a different standard today, and there is a need to improve the efficiency, where possible, and correct any deficiency.

44. The plumbing system is basically original to the facility and in need of replacement. Lead joints are likely in the system based on its current age.
 - A. The domestic water line appears to be 3" in size and should be adequate for the renovated building. The piping and related valves should be replaced with new.
 - B. The existing domestic water system does not adequately serve the facility. The system should be replaced with a new electric water heater and pumped recirculation system.
 - C. All sanitary piping should be replaced. The existing below slab sanitary piping should be examined to determine if reuse is possible. All other piping should be replaced.
 - D. A new fire service should be provided, as required, to feed the sprinkler system and refeed the existing standpipes.
45. Much of the existing HVAC system is original to the building and **in fair to poor condition** and should be replaced in its entirety.

- A. New variable speed pumps shall be installed for both the hot water and chilled water systems. Duplex systems shall be provided to allow for system backup. Each pump shall have an independent VFD.
 - B. The steam to hot water converters, piping, valves, and controls shall all be upgraded.
 - C. The condensate return pumps and tanks shall be replaced.
 - D. Based on the age of the piping system, we recommend that all the pipes be replaced as part of the renovation.
 - E. The valves throughout the facility are in poor condition and, in many cases, no longer work. All valves should be replaced as part of the new piping system.
 - F. The systems shall be replaced with a new four-pipe VAV system. Fan-powered boxes shall be used for all classroom areas with non-fan-powered boxes being used for the office areas. Electric reheat should be considered, so that the main plant can be de-energized in the summer months. The main air handlers shall be served with both hot and chilled water. Airflow monitoring should be provided to verify and control ventilation rates.
 - G. The mechanical room shall be provided with a code-compliant ventilation system.
 - H. The corridors should be provided with HVAC system elements to improve total indoor environmental control.
 - I. Exhaust systems should be replaced with updated code-compliant systems in toilet rooms, as well as all studios. Ventilation and Indoor Air Quality issues require special systems in ceramics, painting, wood, and welding areas at a minimum.
 - J. Ductwork should be constructed of sheet metal in accordance with the requirements of SMACNA.
46. The existing facility is **air-conditioned**; however, many components need replaced.
- A. The DDC system shall be extended to serve all new system components and allow for energy saving functions. The system shall be web based and shall interface with the system in place on the University campus.
 - B. The chiller system shall be replaced.
 - C. Computer rooms should be provided with independent cooling systems to allow for 24-hour year-round cooling. Some of the units currently have these installed. They should be maintained or replaced as required.

47. The existing building does not comply with the University standards with regards to security. Provide appropriate electronic security for the Kauffman Gallery.
48. The existing electric service and panels are antiquated and need replaced.
- A. The existing switchgear, which is the main electrical service, is located in the Mechanical Room. The switchgear is 40 years old and obsolete. Additional branch breakers to serve new loads cannot be added. Replace the secondary distribution switchboard.
 - B. Existing electrical panels are 40 years old and obsolete, except for a few recently added panels, and are past their serviceable life. Existing electrical panelboards do not have space for additional circuits to serve instructional needs and are not isolated from equipment, which produces "dirty power." Replace all secondary feeders and branch panelboards, except feeders and panelboards which were installed in the last ten years. Provide separate panelboards for circuits which power computers to provide a clean power system.

The 2003 International Energy Code places strict limits on the amount of energy consumed for lighting. Although many existing lighting fixtures have been retrofitted with new ballasts and lamps, overall lighting fixture efficiency and room lighting levels were not evaluated. Lighting efficiency should be evaluated throughout the building and consideration given to replacing existing lighting fixtures to comply with code efficiency requirements.

49. The current lighting scheme in the classrooms, faculty offices, etc. consists of lay-in, industrial and surface-mounted types of fluorescent fixtures. The systems are **insufficient** for current educational standards.
- A. Provide automatic lighting controls in accordance with energy code requirements.
 - B. Provide new track lighting in the studios, student display areas, and gallery.
 - C. Existing lighting is not energy-efficient and does not meet current lighting standards. Replace fixtures as appropriate with new high efficiently T-5 lighting.
50. The existing program bell systems for the building are **obsolete** and **non-operational**.
- A. Provide a new master clock system and secondary clocks in each studio/classroom, laboratory classroom, lecture hall, office, faculty office, and telecommunications closet. Provide secondary clocks in corridors and lobbies.
51. The existing studios, classrooms, offices, etc. have **insufficient** outlets for current educational technology requirements.

- A. Receptacles at many locations do not serve instructional and student needs. In addition to receptacles provided for computers and smart classroom equipment, provide at least one general purpose receptacle on each wall of each studio/classroom and lab where they do not currently exist. Provide receptacles or power connection adjacent to classroom and lab equipment.
52. The existing instructional spaces are not current wired to support instructional technology.
- A. Provide an additional switch and wiring, as required, to allow the existing luminaries in the front one-third of each classroom to be switched separately from the luminaries in the rear two-thirds of the classroom. Where feasible, provide additional switches to allow two levels of lighting in the front and rear zones of each classroom utilizing the existing or new luminaries.

HAZARDOUS MATERIALS

Volz Environmental Services, Inc. was retained by the Department of General Services (DGS) to provide inspection and management plan services for asbestos-containing building materials in Huber Arts Center (#009) of Installation #00957. The building inspection was conducted on February 6 and 7, 1996, by Mr. Dean Lamborn and Mr. Rich Hansen. Each individual is a Pennsylvania Department of Labor and Industry-certified Building Inspector and Management Planner. Mr. George Bender, also a Pennsylvania Department of Labor and Industry-certified Building Inspector and Management Planner, was responsible for the preparation of this management plan.

Material that has a total asbestos content of 1% or less is considered to be a non-asbestos-containing material.

An asbestos Operations & Maintenance (O&M) program can be defined as a formulated plan of training, cleaning, work practices, and surveillance to maintain asbestos-containing materials in good condition. This type of program will have initial start-up costs and continuous implementation costs until all asbestos-containing materials are abated from the facility.

This management plan is a document that identifies commonly occurring asbestos-containing building materials found within this building. It details the location and condition of the material and also gives recommendations for response actions. This plan must be updated during periodic surveys or when the condition of an asbestos-containing material changes due to a response action, damage, or maintenance activity.

- 53. A number of asbestos-containing materials (ACM) were identified during the course of the survey (thermal, surfacing, and miscellaneous). In the original building, they are as follows:

MATERIAL	LOCATION	QUANTITY	ACTION
12" x 12" brown floor tile	003	3,614 s.f.	O&M

MATERIAL	LOCATION	QUANTITY	ACTION
12" x 12" white floor tile	004	3,874 s.f.	O&M
Adhesive under floor tile	005	7,488 s.f.	O&M
Sheet Flooring - beige	006	745 s.f.	O&M
Sheet Flooring – light green	007	1,000 s.f.	O&M
Adhesive under sheet flooring	008	1,745 s.f.	O&M
Glazing (window sealant)	010	54 each	O&M
Firedoor	011	11 each	O&M
Cement Board (tabletops)	012	190 s. f.	O&M
Joint/Valve Insulation 4"	013	5 each	O&M
Joint/Valve Insulation 2"	014	1 each	O&M
Pipe insulation 4"	015	60 l.f.	Remove/O&M
Pipe insulation 3.5"	016	30 l.f.	Remove/Repair/O&M
Pipe insulation 4"	017	10 l.f.	Remove/O&M
Joint/Valve Insulation 3.5"	020	8 each	Remove/O&M
Pipe insulation 5"		32 l.f.	Remove/O&M
Pipe insulation 4.5"		62 l.f.	O&M
Pipe insulation 3"		133 l.f.	O&M
Pipe insulation 5.5"		35 l.f.	O&M
Pipe insulation 3"		9 l.f.	O&M
Joint/Valve insulation 4"		3 each	O&M
Joint/Valve insulation 3"		12 each	O&M
12" x 12" W/B floor tile		2,676 s.f.	O&M
Adhesive under floor tile		283 s.f.	O&M
Cement Board (fume hood & tabletops)		68 s. f.	O&M
Pipe insulation 10"		16 l.f.	O&M
Joint/Valve Insulation 6"		3 each	O&M
Joint/Valve Insulation 5.5"		1 each	O&M
Pipe insulation 3.5"		3 l.f.	O&M
Tank insulation		78 s.f.	O&M
Pipe insulation 7"		7 l.f.	O&M
Joint/Valve 7"		1 each	O&M
Pipe insulation 4.5"		3 l.f.	O&M
Pipe insulation 6"		10 l.f.	O&M
Pipe insulation 5"		24 l.f.	O&M
Joint/Valve insulation 5"		1 each	O&M
Joint/Valve insulation 6"		1 each	O&M
Gray gasket		50 each	O&M

MATERIAL	LOCATION	QUANTITY	ACTION
9" x 9" floor tile		73 s.f.	O&M
Roofing tar		3000 s.f.	O&M
Black roofing paper		3000 s.f.	O&M
Joint/Valve insulation 2.5"		2 each	O&M
Sheet flooring - brown		860 s.f.	O&M
Pipe insulation 4"		3 l.f.	Removal
Pipe insulation 3.5"		23 l.f.	Removal
Pipe insulation 4"		10 l.f.	Removal
Joint/Valve insulation 3.5"		14 each	Removal
Pipe insulation 5"		28 l.f.	Removal
Pipe insulation 3.5"		1 l.f.	Removal
Pipe insulation 11"		1 l.f.	Removal
Pipe insulation 3.5"		1 l.f.	Repair
Pipe insulation 3"		9 l.f.	Repair
Pipe insulation 5.5"		16 l.f.	Repair
Pipe insulation 3"		1 l.f.	Repair
Pipe insulation 10"		1 l.f.	Repair

RESPONSE ACTION OPERATIONS AND MAINTENANCE

The Vinyl Floor Tile (12" x 12" Beige/Brown) identified as Homogeneous Area #003 contains approximately 5% chrysotile asbestos. It is located in Functional Spaces #1, #3, #4, #5, #8, #9, and #10. There is approximately 3,614 square feet of vinyl floor tile that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Vinyl Floor Tile (12" x 12" White/Gray) identified as Homogeneous Area #004 contains approximately 5% chrysotile asbestos. It is located in Functional Spaces #1, #2, #4, #14, and #15. There is approximately 3874 square feet of vinyl floor tile that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Adhesive (Black – under various colors of 12" x 12" Floor tile) identified as Homogeneous Area 005 contains approximately 8% chrysotile asbestos. It is located in Functional Spaces #1, #2, #3, #4, #5, #8, #9, #10, #14, and #15. There is approximately 7488 square feet of adhesive that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Sheet Flooring (Beige Squares/Mosaic Pattern) identified as Homogeneous Area #006 contains approximately 20% chrysotile asbestos. It is located in Functional Space #1, and #4. There is approximately 745 square feet of sheet flooring that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Sheet Flooring (Light Green Squares/Mosaic Pattern) identified as Homogeneous Area #007 contains approximately 20% chrysotile asbestos. It is located in Functional Spaces #1. There is approximately 1000 square feet of sheet flooring that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Adhesive (Brown – under sheet flooring) identified as Homogeneous Area #008 contains approximately 4% chrysotile asbestos. It is located in Functional Spaces #1 and #4. There is approximately 1745 square feet of adhesive that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Glazing (Window Sealant) identified as Homogeneous Area #010 contains approximately 5% chrysotile asbestos. It is located in Functional Spaces #1, #2, #3, #4, #6, #7, #8, #13, and #15. There are approximately 54 each of caulking that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Fire doors identified as Homogeneous Area #011 were assumed to contain asbestos. They are located in Functional Spaces #6 and #8. There are approximately 11 each of fire doors that are in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Cement Board (Tabletops) identified as Homogeneous Area #012 contains approximately 30% chrysotile asbestos. It is located in Functional Space #1. There is approximately 190 square feet of cement board that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Valve Insulation (on Fiberglass Line / 4" Diameter) identified as Homogeneous Area #013 contains approximately 17% chrysotile asbestos. It is located in Functional Spaces #3 and #6. There are approximately 5 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Valve Insulation (on Fiberglass Line / 2" Diameter) identified as Homogeneous Area #014 contains approximately 20% chrysotile asbestos. It is located in Functional Space #6. There is approximately 1 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Pipe Insulation (Layered Paper /4.5" Diameter - Brown) identified as Homogeneous Area #023 contains approximately 8% chrysotile asbestos. It is located in Functional Spaces #1, #6, and #7. There is approximately 62 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Value Insulation (on Layered Paper Line / 4" Diameter) identified as Homogeneous Area #027 contains approximately 40% chrysotile and 8% crocidolite asbestos, respectively. It is located in Functional Spaces #1 and #6. There are approximately 3 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Value Insulation (on Cal/Mag Line / 3" Diameter) identified as Homogeneous Area #028 contains approximately 40% amosite and 12% crocidolite asbestos, respectively. It is located in Functional Spaces #1, #2, and #6. There are approximately 12 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Vinyl Floor Tile (12" x 12" White/Brown) identified as Homogeneous Area #029 contains approximately 7% chrysotile asbestos. It is located in Functional Spaces #1, #2, #3, and #4. There is approximately 2676 square feet of vinyl floor tile that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Adhesive (Black – under 12" x 12" Gray/Brown Floor Tile) identified as Homogeneous Area #032 contains approximately 5% chrysotile asbestos. It is located in Functional Space #1. There is approximately 283 square feet of adhesive that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Cement Board (Fume Hood and Table Top) identified as Homogeneous Area #033 contains approximately 35% chrysotile asbestos. It is located in Functional Space #1. There is approximately 68 square feet of cement board that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Valve Insulation (on Cal/Mag Line / 6" Diameter) identified as Homogeneous Area #035 contains approximately 40% chrysotile asbestos. It is located in Functional Space #6. There are approximately 3 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Value Insulation (on Cal/Mag Line / 5.5" Diameter) identified as Homogeneous Area #036 contains approximately 25% chrysotile asbestos. It is located in Functional Space #6. There is approximately 1 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Tank Insulation (Cal/Mag) identified as Homogeneous Area #038 contains approximately 15% chrysotile and 35% amosite asbestos, respectively. It is located in Functional Space #6. There is approximately 78 square feet of tank insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Pipe Insulation (Cal/Mag / 7" Diameter) identified as Homogeneous Area #039 contains approximately 35% amosite asbestos. It is located in Functional Space #6. There is approximately 7 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Value Insulation (on Cal/Mag Line / 7" Diameter) identified as Homogeneous Area #040 contains approximately 20% amosite asbestos. It is located in Functional Space #6. There is

approximately 1 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Pipe Insulation (Cal/Mag / 4.5" Diameter) identified as Homogeneous Area #042 contains approximately 30% chrysotile asbestos. It is located in Functional Space #6. There is approximately 3 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Pipe Insulation (Layered Paper /6" Diameter - Brown) identified as Homogeneous Area #044 contains approximately 8% chrysotile asbestos. It is located in Functional Space #6. There is approximately 10 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Pipe Insulation (Layered Paper /5" Diameter - Brown) identified as Homogeneous Area #045 contains approximately 12% chrysotile asbestos. It is located in Functional Spaces #2 and #6. There is approximately 24 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Valve Insulation (on Layered Paper Line / 5" Diameter) identified as Homogeneous Area #046 contains approximately 40% chrysotile and 2% crocidolite asbestos, respectively. It is located in Functional Space #6. There is approximately 1 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Valve Insulation (on Layered Paper Line / 6" Diameter) identified as Homogeneous Area #048 contains approximately 40% chrysotile and 5% crocidolite asbestos, respectively. It is located in Functional Spaces #6. There is approximately 1 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Gasket (Gray) identified as Homogeneous Area #049 contains approximately 65% chrysotile asbestos. It is located in Functional Space #6. There are approximately 50 each of gaskets in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Vinyl Floor Tile (9" x 9" Gray) identified as Homogeneous Area #052 contains approximately 8% chrysotile asbestos. It is located in Functional Space #6. There is approximately 73 square feet of vinyl floor tile that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Roofing Material (Tar) identified as Homogeneous Area #056 was assumed to contain asbestos. It is located in Functional Space #17. There is approximately 3000 square feet of roofing material in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Roofing Material (Black Paper) identified as Homogeneous Area #057 was assumed to contain asbestos. It is located in Functional Space #17. There is approximately 3000 square feet of roofing

material in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Joint/Valve Insulation (on Fiberglass Line / 2.5" Diameter) identified as Homogeneous Area #058 contains approximately 12% chrysotile asbestos. It is located in Functional Space #3. There are approximately 2 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Sheet Flooring (Brown) identified as Homogeneous Area #059 contains approximately 5% chrysotile asbestos. It is located in Functional Spaces #3 and #12. There is approximately 860 square feet of sheet flooring that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

RESPONSE ACTION REMOVAL

The Pipe Insulation (Layered Paper /4" Diameter - Brown) identified as Homogeneous Area #015 contains approximately 10% chrysotile asbestos. It is located in Functional Spaces #1, #3, #6, and #7. There is approximately 60 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 3 linear feet of pipe insulation that is significantly damaged. The recommended response action for this material is removing.

The Pipe Insulation (Cal/Mag /3.5" Diameter) identified as Homogeneous Area #016 contains approximately 25% chrysotile asbestos. It is located in Functional Spaces #1, #2, #3, #6, and #7. There is approximately 30 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 1 linear feet of pipe insulation that is damaged. The recommended response action for this material is repair. There is approximately 23 linear feet of pipe insulation that is significantly damaged. The recommended response action for this material is removing.

The Pipe Insulation (Cal/Mag /4" Diameter) identified as Homogeneous Area #017 contains approximately 20% chrysotile asbestos. It is located in Functional Spaces #3, #6, and #7. There is approximately 10 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 10 linear feet of pipe insulation that is significantly damaged. The recommended response action for this material is removing.

The Joint/Value Insulation (on Cal/Mag Line / 3.5" Diameter) identified as Homogeneous Area #020 contains approximately 30% chrysotile and 3% crocidolite asbestos respectively. It is located in Functional Spaces #2, #3, and #6. There are approximately 8 each of joint/valve insulation in good, non-friable condition. The recommended response action for this material is operations and maintenance. There are approximately 14 each of joint/valve insulation that is in a significantly damaged condition. The recommended response action for this material is removing.

The Pipe Insulation (Cal/Mag /5" Diameter) identified as Homogeneous Area #021 contains approximately 30% amosite asbestos. It is located in Functional Spaces #3, #6, #7, and #8. There is approximately 32 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 28 linear feet of pipe insulation that is significantly damaged. The recommended response action for this material is removing.

The Pipe Insulation (Aircell /3.5" Diameter) identified as Homogeneous Area #037 contains approximately 80% chrysotile asbestos. It is located in Functional Space #6. There is approximately 3 linear feet of pipe insulation which is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 1 linear feet of pipe insulation in a significantly damaged condition. The recommended response for this material is removing.

The Pipe Insulation (Layered Paper /11" Diameter) identified as Homogeneous Area #047 contains approximately 80% chrysotile asbestos. It is located in Functional Space #6. There is approximately 1 linear feet of pipe insulation that is in a significantly damaged condition. The recommended response action for this material remove.

RESPONSE ACTION REPAIR

The Pipe Insulation (Cal/Mag /3" Diameter) identified as Homogeneous Area #024 contains approximately 30% chrysotile and 5% amosite asbestos respectively. It is located in Functional Spaces #1, #2, and #6. There is approximately 133 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 9 linear feet of pipe insulation that is damaged. The recommended response action for this material is repair.

The Pipe Insulation (Cal/Mag /5.5" Diameter) identified as Homogeneous Area #025 contains approximately 8% chrysotile and 30% amosite asbestos, respectively. It is located in Functional Spaces #1, #6, and #7. There is approximately 35 linear feet of pipe insulation that is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 16 linear feet of pipe insulation that is damaged. The recommended response action for this material is repair.

The Pipe Insulation (Aircell /3" Diameter) identified as Homogeneous Area #026 contains approximately 80% chrysotile asbestos. It is located in Functional Space #7. There is approximately 9 linear feet of pipe insulation which is in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 1 linear feet of pipe insulation that is in a damaged condition. The recommended response action for this material is repair.

The Pipe Insulation (Cal/Mag /10" Diameter) identified as Homogeneous Area #034 contains approximately 35% chrysotile asbestos. It is located in Functional Space #6. There is approximately 16 linear feet of pipe insulation which is in a good, non-friable condition. The recommended response

action for this material is operations and maintenance. There is approximately 1 linear feet of pipe insulation that is damaged. The recommended response action for this material is repair.

At Reed Operations Center a previous Asbestos Assessment Report, dated September 15, 1986, and conducted by Spotts, Stevens, and McCoy, Inc. was referenced for previously identified ACM in Building #010. Sprayed Ceiling was identified as an ACM in this report. A number of asbestos-containing materials were identified during the course of this survey. Brief descriptions, locations, quantities, and recommended response.

54. A number of asbestos-containing materials (ACM) were identified during the course of the survey (thermal, surfacing, and miscellaneous). In the annex they are as follows:

MATERIAL	LOCATION	QUANTITY	ACTION
Troweled applied	001	447 s.f.	No Action
9" x 9" beige floor tile	003	10 s.f.	No Action
Window caulking	006	25 each	O&M
Window sealant	007	25 each	O&M
Fire doors	008	2 each	O&M
Cloth flex connector	011	1 each	O&M
Pipe Insulation	013	20 l.f.	O&M
Troweled applied	002	3,710 s.f.	O&M
9" x 9" beige floor tile	004	3,899 s.f.	O&M
Adhesive under floor tile	005	3,909 s.f.	No Action
Gypsum wallboard	009	1,117 s.f.	No Action
Joint compound	010	1,117 s.f.	No Action
Friable wall panel	012	150 s.f.	No Action
Troweled applied		12 s.f.	Repair

RESPONSE ACTION OPERATIONS AND MAINTENANCE

The Vinyl Floor Tile (9" x 9" Beige) identified as Homogeneous Area #003 contains approximately 6% chrysotile asbestos. It is located in Functional Spaces #1, #2, #3, #5, #6, #7 and #8. There is approximately 3899 square feet of vinyl floor tile in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Caulking (Window Sealant) identified as Homogeneous Area #006 contains approximately 4% chrysotile asbestos. It is located in Functional Spaces #1, #2, and #8. There is approximately 25 each

of caulking in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Glazing (Window Sealant) identified as Homogeneous Area #007 contains approximately 4% chrysotile asbestos. It is located in Functional Spaces #1, #2 and #8. There is approximately 25 each of glazing in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Fire Doors identified as Homogeneous Area #008 were assumed to contain asbestos. They are located in Functional Spaces #3 and #8. There is approximately 2 each of fire doors in good, non-friable condition. The recommended response action for this material is operations and maintenance.

The Cloth (Flex Connection) identified as Homogeneous Area #011 contains approximately 95% chrysotile asbestos. It is located in Functional Space #9. There is approximately 1 each of cloth in good condition. The recommended response action for this material is operations and maintenance.

The Pipe Insulation (Tape / Black) identified as Homogeneous Area #013 contains approximately 8% chrysotile asbestos. It is located in Functional Space #9. There is approximately 20 linear feet of pipe insulation in a good, non-friable condition. The recommended response action for this material is operations and maintenance.

RESPONSE ACTION REPAIR

The Troweled-Applied (Soft, Textured) identified as Homogeneous Area #001 contains approximately 37% chrysotile asbestos. It is located in Functional Spaces #1, #2, #3, #5, #6, and #8. There is approximately 3710 square feet of troweled-applied in a good, non-friable condition. The recommended response action for this material is operations and maintenance. There is approximately 12 square feet of troweled-applied in a damaged condition. The recommended response action for this material is repair.

The University will need to work with an asbestos consultant in determining whether to abate selected areas where construction occurs versus total asbestos abatement.

55. Lead paint or other hazardous materials have not been investigated in this facility for this report; however, there is a probability they exist; therefore, the University may wish to have a separate consultant test certain products to determine whether lead paint does exist.
 - A. The University may desire to test areas of the building where modifications during renovation occur versus a total lead paint abatement program.
56. The University may want to test for radon levels on the Ground Floor level. If levels are found not acceptable a removal exhaust system shall be installed. This may include underground-perforated piping in stone, improvement of vapor barriers, vertical piping, and exhaust fans.

EDUCATIONAL UPGRADES AND PROGRAM REQUIREMENTS

Meetings and a tour of the facility were held with staff from the Art Department to discuss the potential for alterations and upgrading, and to explore possible changes in developing the program.

As mentioned earlier in this study, the Art Department had a report completed by Cole H. Welter, M.F.A., Ph.D. (Bachelor of Arts – four years: Art; K-12 certification, dated 1 December 2005) regarding his opinion as to compliance with NASAD accreditation standards. References will be made in this section from that report. There was also a similar report done by Orville M. Winsand, Professor of Art, Emeritus, Carnegie Mellon University, dated 6 February 2001. Both reports found similar concerns with the existing facilities and program. Further, Paulien & Associates were retained to coordinate with EI Associates in determining space needs for the Art Department and to develop options for space alignment to gain efficiencies and adjacencies that produce the highest and best use of space to fulfill the vision of the University.

The Department of Art is one of 15 departments in the College of Arts and Sciences, the Department is currently comprised of the Chairperson and six faculty members and considered a small department when compared to most NASAD institutions.

The University currently offers a Bachelor of Arts (B.A.) degree and a B.A. in art education, K-12. Students in the regular B.A. program can chose concentrations in ceramics, drawing, painting, printmaking, art history, sculpture, and computer design.

The following is the summary of the collective thoughts, observations, and concerns of the administrators, supervisors, and key staff for the design requirements for the Department to fit into the existing physical plant. Space programming standards, sometimes called design standards or design guidelines, are quite specific planning formulas by which one designs the exact sizes of individual rooms usually in the context of capital project planning.

A few standard industry sources are the basis for this planning:

- H. D. Bareither's and U. L. Schillinger's University and Space Planning.
- Higher Education Facilities Planning and Management Manuals, published by Western Interstate Commission for Higher Education (WICHE).
- Space Planning Guidelines for Institutions at Higher Education, published by the Council of Educational Facility Planners International (CEFPI).
- Pennsylvania System of Higher Education.

Ideally, any NASAD accredited program would have access to both a dedicated student gallery space and substantial 2D and 3D display areas located throughout the art facility and in close proximity to teaching studios. Specialized, planned and dedicated areas for the display of student work are a necessary component in any accredited program's curriculum to provide a forum/venue for teaching presentation skills, as well as faculty efforts to promote critical discussion both inside and outside of regular studio class hours. With regards to the issue of providing specialized studio spaces for any particular discipline (sculpture, ceramics, fiber arts, printmaking, photography, etc.) NASAD does not

specify a minimum number of studio disciplines to be taught, or the mix of disciplines that will be taught. NASAD does look at the relationship of breadth and depth of studio offerings in correlation to how those opportunities are made available to the students in the program. The range of studio offerings made available to it's students must be relatively broad, encompassing the traditional art processes as well as the more current technological disciplines. In the more "traditional" categories, Art Ed students would be well-served by opportunities to study a range of 2D and 3D media, including painting, drawing, printmaking, sculpture and ceramics. In the second category, Art Ed students would benefit from exposure to digital media, which today may include working with photo-based images. Many states art certification standards dictate that certain skills are covered in the student's education, and in all instances the graduates will be in competition with Art Ed students from other schools. Art Ed graduates who are deficient by lack of opportunity to study a particular studio process such as printmaking or photography will be at a distinct disadvantage in securing their first teaching position.

In order to offer a high quality visual arts curriculum, Shippensburg University will need to invest in facilities and equipment to support studio art courses. The following information highlight the program data and includes academic office space, classroom, teaching laboratory, and other support space in developing the renovation and addition project:

PROPOSED PROGRAM SUMMARY

	Space/Type/Category	No. Stations	SF Per Station	IDEAL Total ASF	Scheme A	Scheme B
	ART DEPARTMENT					
1	Drawing Studio	1	1475	1475	1606	1734
2	Painting Studio	1	1835	1835	1734	1734
3	Sculpture/3D Studio	1	3240	3240	3240	3240
4	Ceramics Studio	1	2045	2045	2045	2045
5	Printmaking Studio	1	1530	1530	1507	1507
6	Book Arts/2D Studio	1	1280	1280	1234	1234
7	Photography Studio	0	1220	0	N/A	N/A
8	Computer Art Studio	1	1205	1205	1275	1414
9	Motion Graphic/Animation	1	1095	1095	N/A	1372
10	Art Education	1	1170	1170	1100	1100
11	Art Appreciation/Lecture	1	1440	1440	1482	1482
12	Senior Studios	1	3380	3380	N/A	3552
13	Art Resource Area	0	300	0	316	316
14	Art Lab Services	0	725	0	N/A	N/A
15	Student Gallery/Activity	1	200	200	200	200
16	Kauffman Art Gallery	1	3220	3220	3220	3220
17	Department Office	1	275	275	241	241
18	Faculty Office	9	115	1035	1464	1464
	Chairperson Office	1	140	140	161	161
19	Student Portfolio/ Equipment Storage	3	400	1200	1245	1245
20	Seminar/Conference	1	400	400	394	394
21	Gang Toilet	6	165	990	990	990
22	Janitor Closet	3	65	195	195	195
23	Electrical Room	3	40	120	120	120
24	General Storage	1	220	220	262	262
25	General Storage	1	220	220	228	228
26	Mechanical Room	1	770	770	795	795
*TOTAL PROGRAM AREA (1)			28,680	25,054	31,245	31,254
*Does not include: circulation, structural, or other non-assignable spaces.						

1. Drawing Studio

Learning to draw is the most basic of all artistic skills. The student's foundation year requires two courses in drawing. Students can continue their studies through a course in figure drawings and independent studies. This space provides drawing space for a typical enrollment of 24 students in both still and live modeling classes. Individual workstations, as well as a dedicated section for model stand and still-life set-ups. Fully one third of the studio area should be devoted to model and other content set-ups to allow sufficient space and distance in viewing (each student should be six to twelve feet from the subject). An efficient and adjustable lighting system consisting of both spot and flood lights. A small particle removal ventilation system is required as the studio activity generates harmful charcoal and graphite dust. A spray booth complete with exhaust is required for the handling of highly volatile fixative solutions. Storage space for large flat files, closed cabinets for material and supplies, prop storage, sink area for both clean up and working with wet media (ink), student project storage, dressing area, and student personal equipment and portfolio storage.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
DRAWING STUDIO				
Main lab space	24	40	960	Program currently offered in Room 207 shared with Painting. Current area is 1498 sq. ft.
Raw material storage			80	
Project storage			120	
Prop storage			120	
Flat storage			60	Scheme A = 1606 sq. ft. Scheme B = 1734 sq. ft.
Easel and table storage			80	
Sink and cabinetry			30	
Dressing room			25	
Portfolio/pack storage			0	
Total Square Feet			1475	

2. Painting Studio

The primary purpose of this space is to provide studio space for the production of student work using oil paints on canvas and other similar media with a typical enrollment of 24 students. A second function is the storage of color palettes and student work in progress. A variety of classes are held in this space and include but not limited to hands on making of arts objects, visual presentations, demonstrations, and critique sessions. Usual hours of use will be from 8 AM through 12 midnight. Water sources should be available through out the space in the form of sinks. Ventilation should be dedicated to eliminate organic vapors emanating from the use of solvents such as turpentine. Extra storage in the form of open racks should be provided and areas for the storage of fresh and waste hazardous chemicals, student project storage, dressing area, and student personal equipment and portfolio storage. Color corrected lighting is essential.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
PAINTING STUDIO				
Main lab space	24	60	1440	Program currently offered in Room 207 shared with Drawing. Current area is 1498 sq. ft. Scheme A = 1734 sq. ft. Scheme B = 1734 sq. ft.
Raw material storage			80	
Project storage			120	
Canvas storage			120	
Still life			30	
Sink and cabinetry			15	
Dressing room			30	
Portfolio/pack storage			0	
Total Square Feet			1835	

3. Sculpture/3D Studio

The field of sculpture today is open and wide-ranging. Sculptors now create works that range from coin-sized metallic art to pieces that incorporate actual craters and other natural landforms. While some sculptors work with traditional materials such as wood, metal, and stone, others incorporate light, sound, and video into their work. The typical enrollment of 22 students are exposed to a sound, balance of all formal, technical, and intellectual aspects of art (studio production of sculpture using fabrication, casting, and carving). Comprehensive facilities include fully equipped wood and metal shops, a foundry, a plaster shop, spray booth, figure modeling studio, as well as an open studio for general use. A 220 volts electrical supply lines is needed for metals furnace, burnout kiln, hoist, crane and other heavy equipment. Gas supply is needed for the furnace and burnout kiln. Proper high temperature air extraction for the furnace, kiln, and welding stations is required. Provide sinks and water supply with extension hoses at varying points throughout the studio. An adequate casting pit or outdoor area for casting molten metals. Floor drainage through out the space and safety shower and eye-wash station are essential. Compressed air supply is needed (10-12 HP). Dust collection/air filtration system and overhead power cord units are required. Clean space for students to use computer stations. Overhead track and chain fall, half ton pallet jack, and all terrain skid loader type fork lift are other major equipment required in this studio. Extensive shelving for oversized objects and storage areas for tools and supplies, student project storage, student personal equipment storage, and raw material storage.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
SCULPTURE/3D STUDIO				
Main lab space	22	70	1540	Program currently offered in Room HAA 100, 102, 103, 104, and 105, which have been reconfigured over recent years. Total area is 1900 sq. ft. Room HAA 108 (230 sq. ft.) is shared with other programs. Scheme A = 3240 sq. ft. Scheme B = 3240 sq. ft.
Raw material storage			200	
Project storage			120	
Welding area/metal area	3	80	240	
Foundry			120	
Wood shop			900	
Sink and cabinetry			60	
Tool room			60	
Portfolio/pack storage			0	
Total Square Feet			3240	

4. Ceramics Studio

The primary purpose of this space is to provide a studio for a typical enrollment of 22 students for the production of work using clay both by hand building and by throwing on a wheel. A second function of the studio is the storage of the chemicals required in the preparation of glazes and the final ready to use glaze formulations. A variety of classes are held here included but not limited to hands on making of arts objects, demonstrations, visual presentations and critique sessions.

Proper high temperature air extraction system required for kiln room. A spray booth complete with exhaust as required for handling of glazes. Proper exhaust from the general studio area is required. Compressed air supply is required for the glaze spray booth. Heavy-duty shelving in damp room is required (shelving 24-inches deep. Floor drainage in this studio is required. Sink and water supply with extension hoses at varying points throughout the studio and chemical storage shelving are required for glazed compounds. Electric supply for potter's wheels. Access to a loading dock, access to kiln room, and general access to outdoor area is essential. Outside area should also house RAKU kilns. The purpose of the damp room is the storage of ceramic work in progress. The work must be kept damp to ensure completion over extended periods of time. In addition, there needs to be storage for wet clay, which must be kept wet and ready to use at all times. Temperature and humidity control needs to be separate from the main studio area. In addition, there should be a pug mill room for the preparation of different clay bodies from dry raw material. This room will require exhaust hood, extensive shelving for oversized and overweight objects, water, and electric to run the mill.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
CERAMICS STUDIO				
Main lab space	22	50	1100	Program currently offered in Room 119 used for glazing and Room 121 used for wheel and hand building. Current area is 1,760 sq. ft. Scheme A = 2045 sq. ft. Scheme B = 2045 sq. ft.
Clay storage	4	22	90	
Clay recycling			75	
Prep room			60	
Student lockers	3	20	60	
Glazing room			140	
Drying area			200	
Damp box area			70	
Project storage			100	
Kilns	1	150	150	
Total Square Feet			2045	

5. Printmaking Studio

The primary purpose of this space is to provide a studio area for a typical enrollment of 24 students. The major graphic media explored include traditional and contemporary methods in relief processes, etching (INPADLIO), lithography (stone, metal plate, and offset), water based silk screen printing, nonsilver photographic print making and paper making. This studio contains presses for printing handset type and polymer plates. The integration of nontoxic printmaking processes and inks should be explored. Ventilation and storage of flammable and toxic chemicals. Storage for inks and flat files for student work. A chemical shower and eyewash station. Clean space for students to use computer station. Water accessibility in the form of several large deep sinks. Extensive shelving for oversized objects and storage area for tools and supplies, student project storage, and student personal equipment storage.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
2D/PRINTMAKING STUDIO				
Main lab space	20	60	1200	Program currently offered in Room 309. Current area is 1,175 sq. ft. Scheme A = 1507 sq. ft. Scheme B = 1507 sq. ft.
Raw material storage			80	
Project storage			120	
Sink and cabinetry	2	15	30	
Display area			100	
Portfolio/pack storage			0	
Total Square Feet			1530	

6. Book Arts/2D Studio

This space provides studio space for a typical enrollment of 24 students to create both traditional and contemporary books. The program emphasizes the development of skills related to designing and creating books, incorporating both type and imagery. Students learn to make beautifully crafted bindings and book structures. Book Arts can be combined with printmaking, papermaking, photography, digital imaging, letterpress, drawing, and printing to make this a very exciting and flexible medium. Students have access to a variety of materials, such as: cloth, handmade paper, metals, and board. The bookbinding area houses numerous book presses, sewing frames, padding equipment, two board shears, and guillotine paper cutters.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
Book Arts/2D Studio				
Main lab space	24	40	960	Program currently offered in Room 125. Room also used for art education. Current area is 1050 sq. ft. Scheme A = 1234 sq. ft. Scheme B = 1234 sq. ft.
Display area	1	100	100	
Material storage	1	100	100	
Computer area	2	30	60	
Sink and cabinetry	1	60	60	
Portfolio/pack storage			0	
Total Square Feet			1280	

7. Photography Studio

The primary purpose of this space is to prepare students for a wide range of careers in photography by producing a solid grounding in traditional photography and digital imaging (taught primarily in our new computer labs). Students receive in-depth training in craft and ideas functional to photographic imaging. Technical exercises emphasize electronic imaging, as well as traditional black and white, and color processes. The curriculum covers both the descriptive photography and more experimental manipulated image making. The typical enrollment is 24 students. This space is to provide for lecture and display, and should provide lighting studio space that can be isolated from the lecture space. The studio environment is equipped with four shooting bays, a white sweep, a white cyc bay; strobe and tungster lighting equipment and accessories. In addition, there should be two gang dark rooms and two computer areas; one dedicated to video, and the other for general use.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
Photography Studio				
Main lab space	24	30	720	Program does not currently exist. Scheme A = N/A Scheme B = N/A
Lighting studio			80	
Dark room	2	150	300	
Computer area	2	30	60	
Sink and cabinetry			60	
Portfolio/pack storage			0	
Total Square Feet			1220	

8. Computer Art Studio – (Golden Apple Mac Lab)

The purpose of this space is to provide computer stations and peripheral equipment, such as printers and scanners for graphic design students. This is a Mac computer lab where students become skilled in page composition, computer illustration, computer painting, digital manipulation, and book design. This lab is designed for a typical enrollment of 24 students. Advances in digital technologies have established the computer as an essential tool for creative work. This studio should be equipped with upgraded Mac computers to serve the 24 students simultaneously with two spares. Scanners and both color and black and white printers, LCD projector and screen. The studio should have proper temperature and humidity control. Area for sink and supply and equipment storage area for student portfolio and backpack storage and a display wall.

The University presently offers six courses leading to a certificate in Graphic Design.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
COMPUTER ART STUDIO				
STUDIO				
Main lab space	24	35	840	Program currently offered in Room 307. "Golden Apple Mac Lab". Current area is 1,165 sq. ft.
Supply/equipment storage			125	
Project storage			120	
Display area			120	
Sink and cabinetry			0	Scheme A = 1275 sq. ft. Scheme B = 1414 sq. ft.
Portfolio/pack storage			0	
Total Square Feet			1205	

8. Motion Graphic/Animation Studio

This program in the Arts Department prepares students to work in computer, traditional, stop motion, and experimental animation. The basic principals of animation can be applied to all forms of image and object manipulation. The studio is equipped with 3D CAD (computer aided design) software with which digital models may be created. Scanning is used to create digital 3D models from physical objects. The studio is a unique facility built to support high resolution digital imaging and digital video. The studio has 16 Apple/Macintosh G5 computers equipped with two GBS of ram, dual high capacity hard drives, dual color calibrated display monitors for each CPU. Each station has a FireWire flatbed scanner and there are a number of Polaroid, Nikon, and Malta film scanners. There are a number of output devices, including color laser printers, film recorder, wide-format digital ink jet printers. The studio also has two Pro-Tools XP systems, digital video decks, and a sign Video Firewire 12 point patchbay . The lab is managed by an Apple G50SX server and an XRAID server with more than 5.6 terabytes of storage to facilitate the requirements of the modern digital work flow. The room needs proper ventilation and humidity control, multiple levels of lighting, and sink with cabinetry for supplies and equipment. There should also be storage for projects, student portfolios, and backpacks.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
MOTION GRAPHICS ANIMATION STUDIO				
Main lab space	16	40	640	Program does not currently exist. Scheme A = N/A Scheme B = 1372 sq. ft.
Supply/equipment storage			125	
Project storage			120	
Display area			120	
Sink and cabinetry			60	
Editing Room			30	
Portfolio/pack storage			0	
Total Square Feet			1095	

10. Art Education Studio

The primary purpose of this space is to provide studio space for the students in Art Education. The typical enrollment of 28 students would be exposed to a broad range of experience complimentary to the pursuit of art and teaching in public and private schools for the K-12 educational curriculum. This studio provides training in facilities and management approaches to the field of Art Education as follows:

- Skills necessary to design an art classroom environment in which safe and effective art instruction can take place with consideration for space utilization, storage of materials, equipment, and student work.
- Training in health and safety issues in the school and classroom setting, including: knowledge of developmental approach and safe art materials and tools, as well as their storage, cleaning, use, and disposal.
- Knowledge of emergency procedures when a student is hurt in the art room. Training in classroom budget management and the acquisition of financial, human, and material resources, which include fund raising and grant writing.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
ART EDUCATION STUDIO				
Main lab space	28	35	980	Program currently offered in Room 125. Room also used for book art/crafts. Current area is 1,050 sq. ft.
Raw material storage			50	
Project storage			50	
Flat storage			60	
Sink and cabinetry	2	15	30	Scheme A = 1100 sq. ft. Scheme B = 1100 sq. ft.
Portfolio/pack storage			0	
Total Square Feet			1170	

11. Art Appreciation/Lecture Room

The primary purpose of this space is to enable students to attain knowledge of the history of Art. The Department is interested in both students who choose Art as their profession and those who recognize the cultural advantages and personal enjoyment in understanding Art. The room will be used for large assembly and should contain a small platform for presentations. The lighting and acoustics must be designed to accommodate a variety of activities (room to support functions in Kauffman Art Gallery). The lecture hall should seat 60 students and include two 10 ft. screens, CRT video/data projection devices, audio and video recording with playback, internet connection, enhanced audio system, and PA system with wireless microphones.

The room should also allow hands-on experiences, supported with storage units for material and equipment, as well as clean-up areas and work areas.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
ART APPRECIATION				
Area for 60 students	60	20	1200	Program currently offered in Room 301. Current area is 1810 sq. ft. Adjacent Room 305 used for storage is 160 sq. ft. Scheme A = 1540 sq. ft. Scheme B = 1540 sq. ft.
Entry vestibule			80	
Storage			100	
Sink and cabinetry	4	15	60	
Portfolio/pack storage			0	
Total Square Feet			1440	

12. Senior Studios

The primary purpose of this space is to accommodate 26 individual work studios. Students are assigned a studio area based on space requirements at their work and class standing. These side-by-side studios create an intensely creative, productive, and friendly environment. Area needs to be flexible with portable walls, ventilation system, and utility connections. In addition, a general support area is required for material and equipment storage, clean-up area, and seating area.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
Senior Studios				
Student studio	26	120	3120	Program currently does not exist. Scheme A = N/A Scheme B = 3552 sq. ft.
Display area			80	
Seating area	2	80	160	
Computer area	2	30	60	
Sink and cabinetry	4	15	60	
Portfolio/pack storage			0	
Total Square Feet			3480	

13. Art Resource Area

No strong program in art can exist without adequate library, slide, and resource facilities. This space will house and provide access to the slide collection, as well as provide a slide viewing area for students. The space will also be used as the Department's library, slide storage, casework, and computer station with capability of generating and displaying information. In addition, slide scanners, CD and DVD burners, and digital copy stand. This resource area should be in close proximity to the Department office's main entrance, lobby, and gallery.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
ART RESOURCE AREA				
Main research area			220	Space currently does not exist.
Computer area	2	30	60	
Entry area			20	Scheme A = 316 sq. ft. Scheme B = 316 sq. ft.
			60	
Total Square Feet			300	

14. Art Lab Service

This space services all areas of the Art Department. It is used as additional instructional space for the three dimensional design classes, as it contains a variety of stationary power tools, such as: drill press, sanders, handsaw, coping saw, table saw, plate cutting, joiner, and planer, as well as four large tables as workstations. A large-volume, permanently-installed, ventilation and sawdust removal system is in place. The space also contains a fully stocked tool room for hand tools and a chemical storage cabinet for lubricating and cutting oils, waxes, varnishes, and paints. The space serves as a general workshop area where all minor repairs to Art Department equipment are performed. It services art faculty in the construction of specific items, such as: stretchers and frames for painting, shelving, and crates for the storage and transportation of artwork. It also provides faculty access to power tools for both metal and wood. Faculty uses this space for an extension of its studios in the making of artwork, as part of personal development and for teaching purposes. All art students have access to the space, under supervision, in enabling them to construct any apparatus within their scope for use in their art classes. This area should have 24-inch deep shelving for oversized objects, and should provide sufficient storage for materials, supplies, teaching resources, completed work, and work in-progress for the operation of the Art Department.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
ART LAB SERVICES				
Main lab space	8	40	320	Program currently does not exist. Scheme A = N/A Scheme B = N/A
Wood equipment area			120	
Wood equipment area			100	
Prep area			60	
Project material storage			125	
Total Square Feet			725	

15. Student Gallery/Activity Area

The Student Gallery should be located on the main floor near the Kaufman Gallery. It is a smaller, more intimate space. This Gallery serves as an extension of the studio learning experience. Throughout the year, students present their work for short exhibitions. This space will require permanent and adjustable lighting, moveable display pylons, and nearby storage. There should be other locations on campus for students to display their finished art work.

- Areas capable of seating small groups (formal and informal).
- Area to be flexible, with the ability to be subdivided.
- Several nearby lockable storage cabinets.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
STUDENT GALLERY				
Main gallery space	0	0	200	Program currently does not exist.
				Scheme A = 200 sq. ft.
Total Square Feet			200	Scheme B = 200 sq. ft.

16. Kaufman Art Gallery

A growing trend on university campuses across the county has been to invest in new and expanded art galleries that serve multiple functions including the production and display of art and as a meeting and gathering space for the campus and the community. The University needs a space that can serve as a venue for displaying art created by: traveling exhibits of artwork; local professional artists; exhibit of faculty work, provide exhibition opportunities for students. The mission is to present art that is traditional, contemporary and courageous offering thought-provoking programs that push the envelope of art and design. The gallery space should be located in a prominent spot within the campus and the space should be planned with the possibility of expanding as art offerings on campus expand. The space will require permanent and adjustable lighting, moveable display pylons, and seating elements. The gallery will need the following support spaces: storage area for artwork in the process of being installed or taken down as well as storage for artwork that is the property of the permanent collection of the University, the storage of mechanical apparatus needed in the preparation and installation of the artwork, and work / office area. The space should have 24-inch deep shelving for oversized objects. The space should have adequate temperature and humidity control. Consider establishing other less formal display and exhibition areas for student artwork throughout the building, outside the building, and other location on campus.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
KAUFMAN ART GALLERY				
Main gallery space			2000	Program currently offered in Kaufman Gallery, Room 203. Current area is 1,540 sq. ft. Scheme A = 3220 sq. ft. Scheme B = 3220 sq. ft.
Prep/processing			400	
Archival storage			500	
Workroom			200	
Office			120	
Total Square Feet			3220	

17. Department Office

This space provides for the housing of all pertinent files relating to students and personnel, as well as departmental supplies. Office to have a walk-in reception area for students, parents, and visitors separate from the actual office area used by the secretary. Secretary's Office and Reception Area must have as many windows as possible. Adjoining student work area to assist secretary also contains student and faculty mailboxes. Work Room Area has storage for general supplies, old records, and copy machine. Chairperson office to have access from secretary's area and also from the corridor.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
DEPARTMENT OFFICE				
Main Office Area	2	50	100	Program currently offered in Room 210 and 211 used for Department Office Current area is 390 sq. ft. 211A is toilet room 20 sq. ft. 213 is kitchen/lounge 75 sq. ft.
Waiting Area				
Student Assistant station				
Workroom			100	
File Storage Room			75	
Total Square Feet			275	

18. Faculty Office

The office must accommodate the following furnishings: a desk, and comfortable chair, space for computer terminal and printer, 12 lin. ft. of base storage cabinets with shelving above to the ceiling, a marker board and two side chairs, some type of space for files with top tabs, a wastebasket, and recycling bin.

Natural lighting is required in the office and artificial lighting by means of fluorescent lamps fixtures.

Computer outlets are to have surge suppression. The climate control in the office will be maintained for year-around use. Room temperature will be in the comfort zone, as described in ANSI/ASHRAE 55-1992. Outdoor air will be maintained to meet ANSI/ASRAE 62-1989; Table 2.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
FACULTY OFFICE				
Office	9	115	1035	Program currently offered in Rooms HAA 101, 202, 204, 206, and 304. These five rooms vary in size and do not provide for all staff.
Chairperson Office	1	140	140	
Total Square Feet			1175	

19. Student Portfolio/Equipment Storage

- Areas should be to accommodate student portfolio and equipment storage. There should also be locker units for coat and other personal storage.
- There should be one of these areas on each floor of the building at a central location.
- A display area or bulletin board nearby would be beneficial for presenting information to the students and from the students
- The acoustics and lighting must be designed to accommodate the activities and student loads in these areas.
- Natural light would be beneficial in these areas.
- Provide an outside area for smoking at a convenient location, but not at or near the entrance, or wherever smoke could enter the building.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
STUDENT PORTFOLIO/EQUIPMENT STORAGE				
Student locker area	2/3	300	600/900	Area currently does not exist.
Project storage	2/3	100	200/300	
Total Square Feet			800/1200	Scheme A = 1200 sq. ft. Scheme B = 1200 sq. ft.

20. Seminar/Conference Room

The purpose of this space is to provide meeting space to conduct Departmental meetings. The space also serves the University in instructional activities and groupings, social activities, and a variety of group meetings. The room should be flexible and capable of several seating configurations. Activities will include meetings, video/data presentations, demonstrations, visiting speaker lectures, and small group instruction. Room should be equipped with moveable tables and chairs, storage units, markerboard, video/data projector, screen, and connection to the internet. This space should be fairly central within the facility.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
SEMINAR/CONFERENCE				
Main room	1	400	400	Area currently does not exist.
Total Square Feet			400	Scheme A = 394 sq. ft. Scheme B = 394 sq. ft.

21. Gang Toilet

The existing building has gang toilets on the ground floor. The renovation/addition project proposes to provide gang toilets for students, faculty, and visitors on each floor level. Current international plumbing code requires a minimum number of fixtures as follows:

One water closet for each 25 occupants for the first 50 and one per 50 occupants for the remainder, exceeding 50.

One lavatory for the first 40 occupants and one for 80 occupants for the remainder, exceeding 80.

Proposed gang toilets would accommodate 100 occupants per floor.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
Gang Toilet	4/6	165	660/990	
Total Square Feet			660/990	Scheme A = 660 sq. ft. Scheme B = 990 sq. ft.

22. Janitor Closet

Custodial and maintenance requirements include the day-to-day functions and the immediate and long-range measures taken to keep the physical plant operational. Operational functions require adequate facilities from which to work and provide storage of supplies.

Custodial storage closets should be provided throughout the facility near toilet rooms and student locker areas. Closets should be provided for each 10,000 sq. ft. and be sized to accommodate the equipment required for the finishes in the spaces to be served.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
Janitor Closet	2/3	65	130/195	
				Scheme A =130 sq. ft. Scheme B =195 sq. ft.
Total Square Feet			130/195	

23. Electrical Room

Provide an electrical room on each floor. All electrical circuit boxes will be lockable and shielded properly. Safety systems in studios and computer rooms will include electrical kill switches. Only high quality electrical equipment including transformers, breakers, switches, etc. will be used. Separate vertical route will be provided for electronic telecommunication systems (voice, video, data).

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
Electrical Room	2/3	40	80/120	
Total Square Feet			80/120	Scheme A = 80 sq. ft. Scheme B = 120 sq. ft.

24. General Storage

A modern educational facility is a complex facility with major mechanical, plumbing, electrical, and communications/security systems. These require daily cleaning, checking, operation, and maintenance duties. The cleaning and operations will require many kinds of equipment and large quantities of supplies. Along with a need for storage, will be a required point of delivery and pickup easily approached by truck (including recycle storage areas).

Central building storage should be adjacent to vehicular service entrance. Exterior dumpster areas should be shielded from view.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
General Storage	1	220	220	
Total Square Feet			220	Scheme A = 220 sq. ft. Scheme B = 220 sq. ft.

25. General Storage

There is a need for storage near the Department Office, Kauffman Art Gallery, and Student Gallery, and Lecture Hall. This storage will accommodate the miscellaneous equipment and materials that support the variety of events and activities that occur during the year at each of these areas.

In many instances throughout this document, storage spaces are identified and included. However, as the design professional has the opportunity to provide additional storage areas within the specific design, this should be done.

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
General Storage	1	220	220	
Total Square Feet			220	Scheme A = 228 sq. ft. Scheme B = 228 sq. ft.

26. Mechanical Room

The nature of the mechanical systems and utilities in a building can have a profound effect on the educational program carried out in the structure. Key components when designing such systems are: management, maintenance, flexibility, and productivity. With this in mind, the suggestions listed below are offered:

- All utilities should be installed in such a manner that they are easily accessible for routine maintenance.
- Open or suspended ceilings shall be utilized to manage future changes in the relocation of utilities.
- Mechanical areas must be provided as required to meet building equipment needs and safety codes (building codes are a minimum standard).

Space/Type/ Category	No. Stations	SF Per Station	Total ASF	Remarks
Mechanical Room	1	770	770	
				Scheme A =770 sq. ft.
				Scheme B = 770 sq. ft.
Total Square Feet			770	

MAIN DISTRIBUTION FRAME (MDF) ROOM

Provide a central location for all electronic equipment to serve the distribution of voice, video and data. The location should allow good vertical distribution and use the following guidelines:

The telecommunication rooms shall house racks, voice termination fields and required cable routing hardware. Racks shall be placed in a manner that will allow a minimum of 3 feet of clearance from the front and rear mounting surfaces. If one mounting rail of the rack is placed against a wall, the mounting rail shall be no closer than 6" to the wall to allow room for vertical management. Where there is more than one rack, the racks shall be ganged with vertical management hardware to provide interbay management. Ganged rack frames will be placed in a manner that will allow a minimum of 3 feet of clearance from the front and rear mounting surfaces and on one side of the ganged assembly.

The number of Communications Rooms will depend on the number of end user locations and the distance from any given location to the Communications Room. The maximum distance between the faceplate and the Communications Room termination is 295 feet.

- Minimum communications room size is 11' x 17'
- Minimum of two 4" sleeves from the communications room to the horizontal infrastructure (more as required by NEC fill requirements).
- Four 20 amp, 110 volt, circuits with isolated grounds. Each circuit will terminate in a quad outlet (location to be determined). One 110 volt circuit terminated with a twist-lock receptacle.
- Environmentally conditioned (air conditioning)
- No ceiling is to be installed
- Non static asphalt tile floor
- Four 2 bulb fluorescent light fixtures (location to be determined by CNS)
- Grounding bus detail rated at 100 amps with a minimum of 5 termination points entrance to be secured with a mortised combination lock.
- Tie into building fire detection/prevention system
- Both vertical and horizontal penetrations are to be fire stopped
- If the building has an emergency generator (2) 20 amp, 110 volt circuits should be connected to it, one with a twist-lock receptacle and one with a 3-prong standard outlet
- Racks shall be securely attached to the concrete floor using 3/8" hardware
- All racks shall be grounded to the telecommunications ground bus bar

- All station cables in the MDF side shall be terminated on the RACK INSTALLED distribution system with the appropriate number of Krone High Band Kit using 8 pair blocks (Part Number 6468 2 060-00). Consisting of 12 8 pair high bank blocks and an equal number of 105 hinged label holders (Part Number 6089 2 015-01) using paper label sheets (Part Number 6631 3 100-03) housed in a DRONE TYPE 105 MOUNTING BRACKET 21 position (6) PER RACK KRONE PART Number 665 2 450-21/2
- Cross connecting all Telephone and Data services (station, MDF, IDFs) shall be the responsibility of the cabling vendor. The University's project coordinator will provide vendor with cross connect information. All cross connects shall be labeled in accordance with the University's labeling sequence and be permanent, non-fading and machine printed
- The facility shall be equipped with a Telecommunications Bonding Backbone (TBB). This backbone shall be used to ground all telecommunications cable shields, equipment, racks, cabinets, raceways, and other associated hardware that has the potential for acting as a current carrying conductor. The TBB shall be installed independent of the buildings electrical and building ground and shall be designed in accordance with the recommendations contained in the ANSII/TIA/EIA-607-A Telecommunications Bonding and Grounding Standards.

PROPOSED ROOM LIST - HUBER ARTS CENTER -

Category Code	Category Name	Scheme A Proposed NSF			Scheme B Proposed NSF			Floor Level	Remarks
		No.	Area	Total	No.	Area	Total		
210	Sculpture Studio	1	3240	3240	1	3240	3240	Ground	Addition
210	Ceramics Studio	1	2045	2045	1	2045	2045	Ground	Addition
XX	Women Toilet	1	165	165	1	165	165	Ground	Addition
XX	Men Toilet	1	165	165	1	165	165	Ground	Addition
YY	Electrical Room	1	43	43	1	43	43	Ground	Addition
XX	Janitor	1	113	113	1	113	113	Ground	Addition
WW	Lobby	1	137	137	1	137	137	Ground	Addition
700	Student Lockers	1	415	415	1	415	415	Ground	Addition
WW	Stairs 1	1	472	472	1	472	472	Ground	Addition
WW	Entrance Vestibule	1	62	62	1	62	62	Ground	Addition
WW	Corridor	1	504	504	1	504	504	Ground	Addition
YY	Mechanical Room	1	795	795	1	795	795	Ground	Expand Existing
210	2D Studio Book Art	1	1234	1234	1	1234	1234	Ground	Alteration
210	Printmaking Studio	1	1507	1507	1	1507	1507	Ground	Renovation
XX	General Storage	1	262	262	1	262	262	Ground	Renovation
WW	Stairs 2	1	196	196	1	196	196	Ground	Renovation
WW	Corridor	1	928	928	1	928	928	Ground	Renovation
WW	Elevator	1	74	74	1	74	74	Ground	Renovation
WW	Stairs 3	1	152	152	1	152	152	Ground	Renovation

Category Code	Category Name	Scheme A Proposed NSF			Scheme B Proposed NSF			Floor Level	Remarks
		No.	Area	Total	No.	Area	Total		
620	Gallery	1	3220	3220	1	3220	3220	First	Addition
WW	Lobby	1	155	155	1	155	155	First	Addition
WW	Vestibule	1	60	60	1	60	60	First	Addition
XX	Women Toilet	1	165	165	1	165	165	First	Addition
XX	Men Toilet	1	165	165	1	165	165	First	Addition
YY	Electrical Room	1	43	43	1	43	43	First	Addition
XX	Janitor	1	113	113	1	113	113	First	Addition
700	Student Lockers	1	415	415	1	415	415	First	Addition
210	Painting Studio	1	1734	1734	1	1734	1734	First	Addition
WW	Stairs 1	1	472	472	1	472	472	First	Addition
620	Student Gallery	1	200	200	1	200	200	First	Alteration
210	Art Education Studio	1	1100	1100	1	1100	1100	First	Alteration
WW	Lobby	1	357	357	1	357	357	First	Renovation
WW	Vestibule	1	60	60	1	60	60	First	Renovation
110	Lecture Hall	1	1540	1540	1	1540	1540	First	Renovation
WW	Corridor	1	667	667	1	667	667	First	Renovation
WW	Stairs 2	1	196	196	1	196	196	First	Renovation
305	Faculty Office	3	140	420	3	140	420	First	Renovation

Category Code	Category Name	Scheme A Proposed NSF			Scheme B Proposed NSF			Floor Level	Remarks
		No.	Area	Total	No.	Area	Total		
305	Chairperson Office	1	161	161	1	161	161	First	Renovation
320	Department Office	1	241	241	1	241	241	First	Renovation
620	Art Resource	1	316	316	1	316	316	First	Alteration
XX	MDF	1	62	62	1	62	62	First	Renovation
WW	Elevator	1	74	74	1	74	74	First	Renovation
WW	Stairs 3	1	152	152	1	152	152	First	Renovation
210	Senior Studio				1	3552	3552	Second	Addition
WW	Corridor				1	423	423	Second	Addition
XX	Women Toilet				1	165	165	Second	Addition
XX	Men Toilet				1	165	165	Second	Addition
YY	Electrical Room				1	43	43	Second	Addition
XX	Janitor				1	113	113	Second	Addition
700	Student Lockers				1	415	415	Second	Addition
210	Drawing Studio				1	1734	1734	Second	Addition
WW	Stairs 1				1	472	472	Second	Addition

Category Code	Category Name	Scheme A Proposed NSF			Scheme B Proposed NSF			Floor Level	Remarks
		No.	Area	Total	No.	Area	Total		
XX	Seminar	1	394	394	1	394	394	Second	Alteration
210	Drawing Studio	1	1525	1525				Second	Alteration
210	Motion Graphic Studio				1	1372	1372	Second	Alteration
210	Computer Studio	1	1275	1275	1	1275	1275	Second	Renovation
WW	Stairs 2	1	196	196	1	196	196	Second	Renovation
WW	Corridor	1	705	705	1	705	705	Second	Renovation
305	Faculty Office	3	158	474	3	158	474	Second	Alteration
305	Faculty Office	1	178	178	1	178	178	Second	Alteration
305	Faculty Office	1	206	206	1	206	206	Second	Alteration
305	Faculty Office	1	167	167	1	167	167	Second	Alteration
XX	General Storage	1	228	228	1	228	228	Second	Alteration
XX	IDF	1	77	77	1	77	77	Second	Alteration
WW	Elevator	1	74	74	1	74	74	Second	Renovation
WW	Stairs 3	1	152	152	1	152	152	Second	Renovation

Category Code	Category Name	Existing	Scheme A	Scheme B
110/115	Classroom	1,991 sf	1,540 sf	1,540 sf
210/220	Teaching Labs	9,245 sf	13,660 sf	18,793 sf
300	Office/Conf. Rms.	1,945 sf	1,847 sf	1,847 sf
620	Exhibition	1,540 sf	3,736 sf	3,756 sf
650/660	Lounge/ Merchandising	75 sf	---	--
700		---	830 sf	1,245 sf
WW	Circulation	5,160 sf	5,845 sf	6,740 sf
XX	Building Systems	853 sf	1,909 sf	2,352 sf
YY	Mechanical	565 sf	911sf	924 sf
ZZ	Structural	2,832 sf	3,932 sf	4,753 sf
Ground Floor GSF		11,478 sf	14,104 sf	14,104 sf
First Floor GSF		6,364 sf	13,852 sf	13,852 sf
Second Floor GSF		6,364 sf	6,254 sf	13,994 sf
Total NSF		21,374 sf	30,278 sf	37,197 sf
Total GSF		24,206 sf	34,210 sf	41,950 sf
Total Assignable SF		14,796 sf	21,613 sf	27,181 sf
Total Non-Assignable SF		6,578 sf	8,665 sf	10,016 sf
Total Structural Area		2,832 sf	3,932 sf	4,753 sf
Gross SF Factor		1.64	1.58	1.54
Assignable SF Percentage		61.13%	63.18%	64.48%

Technology will place the following long-range goals on the facility:

Microcomputers located in every individual classroom and faculty office/staff location.

Networking with state, national, and international databases.

Building design efforts will need to consider improved air conditioning and massive utility system upgrades.

-
57. Campus communication is another area of concern.
- A. In each telecommunications closet provide backboards, equipment racks and enclosures, wire management, power conditioning, dedicated panelboards, receptacles and lighting in accordance with University Standards.
 - B. Provide a vertical pathway consisting of not less than three 4" conduits from each telecommunications closet to the closet on the floor above. Identify or provide a pathway from the telecommunications closet on the lowest level for the MCT building for backbone cabling.
 - C. Provide horizontal pathways on each level of the building consisting of cable trays, conduits, conduit sleeves and cable supports from the telecommunications closet to each space containing telecommunications equipment or jacks.
 - D. Provide fiber optic and copper backbone and workstation cabling in accordance with University standards.
 - E. In each corridor provide one or more receptacles and data jacks mounted in the ceiling cavity as necessary to serve wireless hubs for computers in offices and faculty offices and common areas.
 - F. In each space designated as an office or faculty office provide data, voice and television distribution jacks in accordance with University standards. Provide a minimum of one duplex receptacle on each of three walls and one quad receptacle on the wall closest to the desk.
 - G. In each space designated as a studio/lab or classroom, provide two dedicated duplex receptacles and two data jacks to support charging station/ hubs for notebook computers.
 - H. In each space designated as a (smart) classroom provide the receptacles and communications cabling and jacks necessary to support a smart podium, ceiling mounted LCD projector and plasma screen (at designated locations only) in accordance with University standards. At the front of the space provide jacks for data, voice and television distribution. (Note: each smart podium will contain a computer, VCR and CD player.)

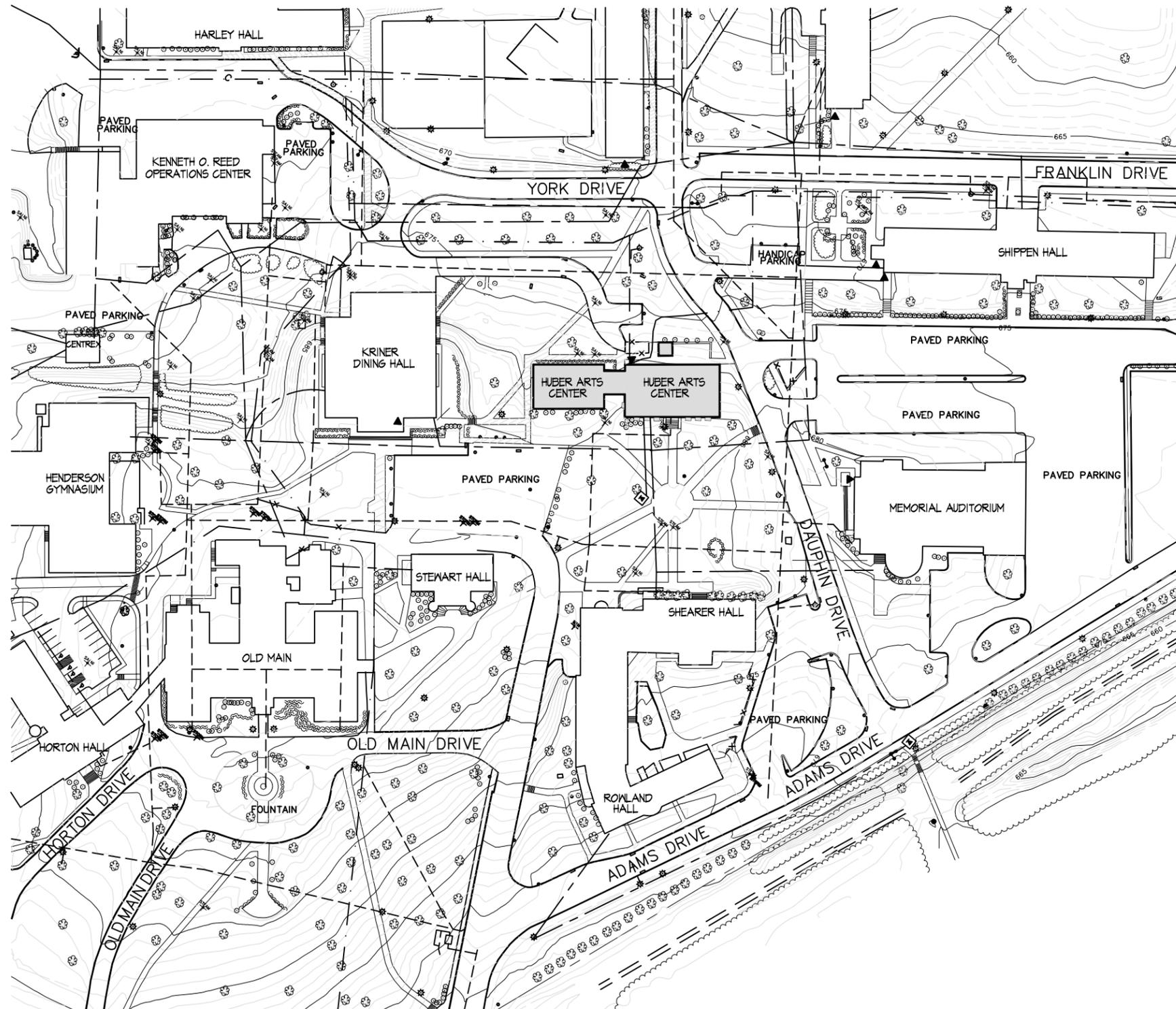
- I. In each space designated as a computer lab, provide one duplex receptacle and two data jacks at each student workstation. Provide three duplex receptacles and six data jacks at designated locations for scanners, printer and other peripheral equipment.
 - J. In each space designated as a computer classroom, provide one duplex receptacle and two data jacks at each student workstation. Provide three duplex receptacles and six data jacks at designated locations for scanners, printer and other peripheral equipment. Provide communications cabling and jacks necessary to support a smart podium, ceiling mounted LCD projector and plasma screen (at designated locations only) in accordance with University standards. At the front of the space provide jacks for data, voice and television distribution. (Note: each smart podium will contain a computer, VCR and CD player).
 - K. At each lecture hall provided the receptacles and communications cabling and jacks necessary to support a smart podium, ceiling mounted LCD projector and plasma screen (at designated locations only) in accordance with University standards. At the front of the space Provide jacks for data, voice and television distribution. (Note: each smart podium will contain a computer, VCR and CD player). Provide a sound system with hearing assistance. Provide receptacles and data jacks in the ceiling cavity for two wireless hub antennas.
 - L. Provide card access on all doors accessing classrooms, labs, and lecture halls.
 - M. Extend a cable television trunk line from the MCT to the Huber Arts Building. Provide distribution equipment as required and TV jacks in all offices, teaching spaces and lobbies.
 - N. Provide communications pathways for wide area network, cable TV distribution, voice and fax pathways, fire alarm network, building management network and security network consisting of 6 ducts from Huber Arts Center to the MCT (two ducts to the nearest existing telecommunications manhole and other pathways as necessary).
58. Provide new furniture and loose equipment for the proposed arts program.
59. Provide general alternations/renovations per the proposed arts program per Scheme A (wall relocations).
60. Provide parking to accommodate visitors, students, faculty, and staff using this facility and others in the vicinity, per the campus plan envisioned in the Facilities Master Plan.
61. Redesign the service area between Huber Arts Center, Kriner Dining Hall and York Drive. The proposed new parking lot mentioned above would provide access to the redesigned service area. Final design will be a matter of schedule for the proposed campus parking lot and pedestrian circulation envisioned by the Facilities Master Plan.

62. Redesign pedestrian circulation pathways on west side of Huber Arts Center, per the concepts established in the Facilities Master Plan. Limit of work under the proposed Huber Arts Center should be set by a defined edge (25 - 50 feet beyond the building footprint).
63. Redesign the south end of Huber Arts Center to accommodate new addition, major student plaza, transition into academic quad, per the concepts established in the Facilities Master Plan. Limit of work under the proposed Huber Arts Center should be set by a defined edge (25 - 50 feet beyond the building footprint).
64. Furnishings and built-in equipment are antiquated and need to be replaced with modern items reflective of the proposed art program.
65. Reconfigure existing building to meet programmatic requirements to provide adequate studio, faculty, and support space, currently a recognized deficiency.
66. Provide additional space to meet programmatic requirements to provide adequate studio, and support space, currently a recognized deficiency.
67. Demolish existing Annex to allow for new multi-story addition.

5.00 EXISTING SITE PLANS



Shippensburg
University



0 50 100
SCALE: ONE INCH EQUALS FIFTY FEET



- ◀ HANDICAP ACCESSIBLE ENTRANCE
- TELECOMMUNICATIONS LINE
- - - GAS FIELD
- WATER LINE
- ⊕ STEAM
- ⊕ SANITARY
- ⊕ STORM

EXISTING PARTIAL CAMPUS PLAN

HUBER ARTS CENTER FACILITY STUDY

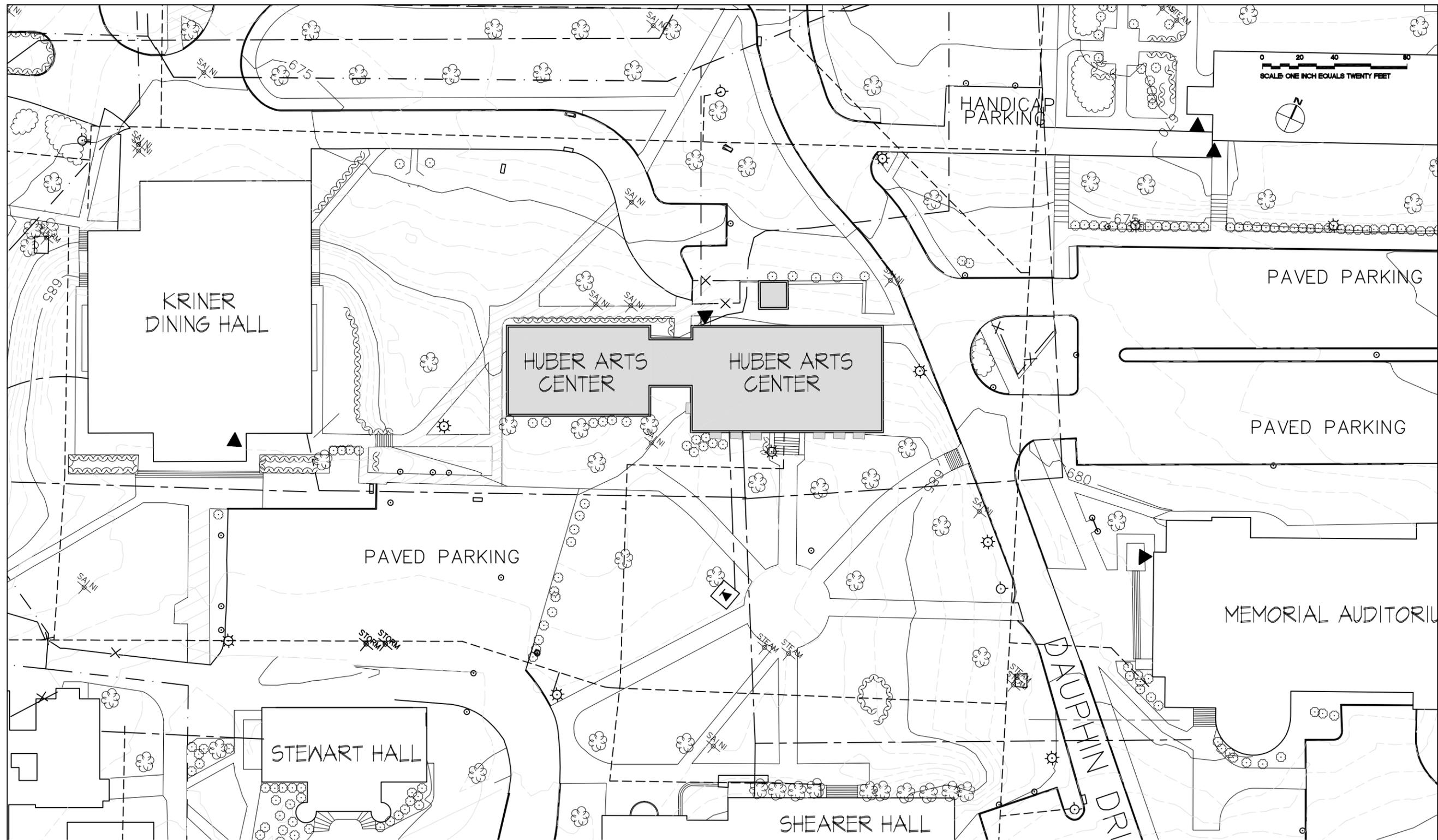
FOR
SHIPPENSBURG UNIVERSITY

COMMONWEALTH of PENNSYLVANIA - STATE SYSTEM of HIGHER EDUCATION

PROJECT NO. SU 2004/17



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0 20 40 80
SCALE: ONE INCH EQUALS TWENTY FEET



EXISTING SITE PLAN
HUBER ARTS CENTER FACILITY STUDY
 FOR
SHIPPENSBURG UNIVERSITY
 COMMONWEALTH of PENNSYLVANIA - STATE SYSTEM of HIGHER EDUCATION
 PROJECT NO. SU 2004/17

- ◀ HANDICAP ACCESSABLE ENTRANCE
- TELECOMMUNICATIONS LINE
- - - GAS FIELD
- WATER LINE
- ⊕ STEAM
- ⊕ SANITARY
- ⊕ STORM

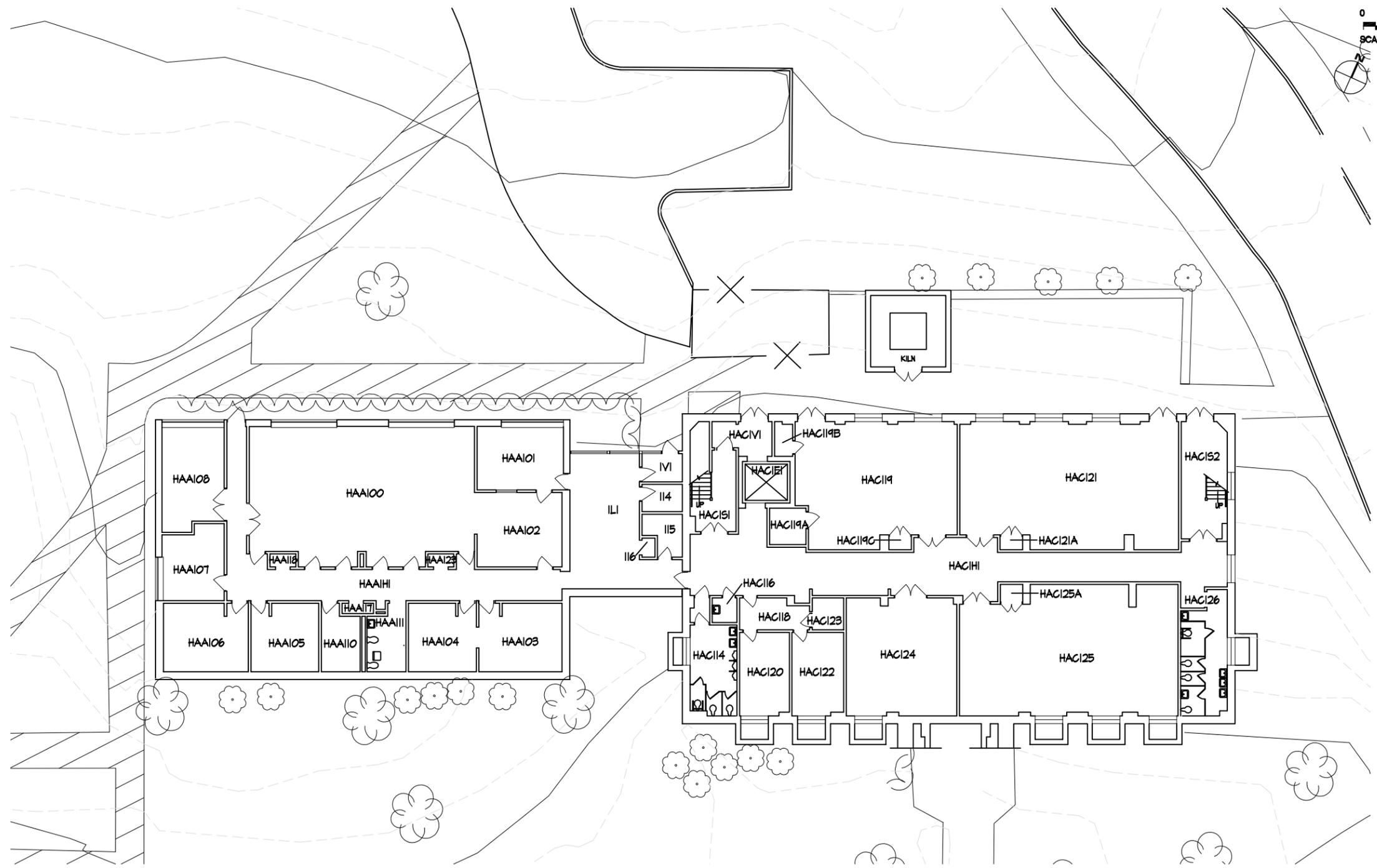


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6.00 EXISTING FLOOR PLANS



Shippensburg
University



ROOM LEGEND
(EXISTING)

HAA100	STUDIO- CLASS	1120 sf
HAA101	FACULTY OFFICE	200 sf
HAA102	WOOD SHOP A	230 sf
HAA103	WOOD SHOP B	210 sf
HAA104	STORAGE (WOOD/ CLAY)	170 sf
HAA105	STORAGE (RESEARCH)	170 sf
HAA106	FACULTY OFFICE	215 sf
HAA107	STUDIO (JEWELRY/ METAL WORKING)	165 sf
HAA108	STUDIO (WELDING/ METAL WORKING)	230 sf
HAA110	STORAGE (BUILDING)	89 sf
HAA111	CUSTODIAL (HAND WASH ROOM)	89 sf
114	CLOSET (STUDENT/ FACILITY)	43 sf
115	STORAGE (MDF/ TELEPHONE)	50 sf
116	DISPLAY	10 sf
HAA117	CLOSET	10 sf
HAA118	CLOSET	13 sf
HAA123	CLOSET	13 sf
HAA1H1	CORRIDOR	600 sf
1L1	LOBBY (SCUPTURE DISPLAY)	303 sf
1V1	VESTIBULE	44 sf
HAC114	MEN TOILET	180 sf
HAC116	JANITOR CLOSET	19 sf
HAC118	WAITING	80 sf
HAC119	STUDIO (CERAMICS)	730 sf
HAC119A	GLAZING ROOM	50 sf
HAC119B	STORAGE (GAS METER)	25 sf
HAC119C	CLOSET	10 sf
HAC120	FACULTY OFFICE	160 sf
HAC121	STUDIO (CERAMICS)	1000 sf
HAC121A	CLOSET	10 sf
HAC122	FACULTY OFFICE	160 sf
HAC123	STORAGE	38 sf
HAC124	MECHANICAL ROOM	480 sf
HAC125	STUDIO (COLOR AND 2D)	1010 sf
HAC125A	CLOSET	15 sf
HAC126	WOMEN TOILET	200 sf
HAC1S1	STAIR 'A'	155 sf
HAC1S2	STAIR 'B'	200 sf
HAC1V1	VESTIBULE	70 sf
HAC1H1	CORRIDOR	969 sf
HAC1E1	ELEVATOR	85 sf

EXISTING GROUND FLOOR PLAN

HUBER ARTS CENTER FACILITY STUDY

FOR
SHIPPENSBURG UNIVERSITY

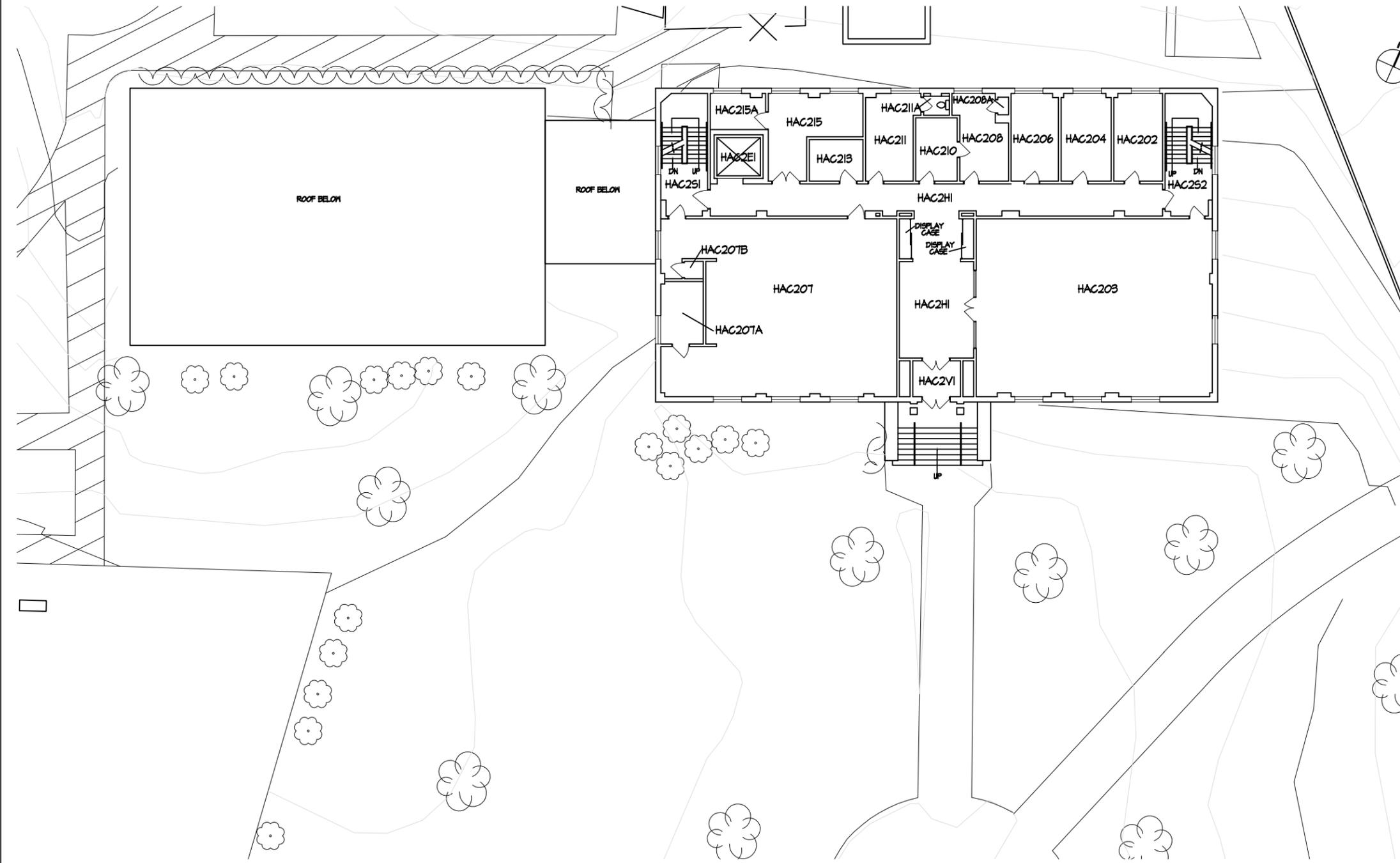
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0 8 16 32
 SCALE: ONE EIGHTH INCH EQUALS ONE FOOT



ROOM LEGEND

(EXISTING)		
HAC202	FACULTY OFFICE	150 sf
HAC203	GALLERY (UNIVERSITY ART GALLERY)	1490 sf
HAC204	FACULTY OFFICE	150 sf
HAC206	FACULTY OFFICE	150 sf
HAC207	STUDIO (DRAWING AND PAINTING)	1360 sf
HAC207A	STORAGE	95 sf
HAC207B	CHANGING ROOM	10 sf
HAC208	DEPARTMENT OFFICE	150 sf
HAC208A	CLOSET	8 sf
HAC210	DEPARTMENT SECRETARY OFFICE	90 sf
HAC211	STORAGE	150 sf
HAC211A	TOILET	20 sf
HAC213	LOUNGE (KITCHEN)	75 sf
HAC215	STORAGE (GALLERY STORAGE)	200 sf
HAC215A	STORAGE (ELEV. EQUIPMENT)	70 sf
HAC2H1	FOYER	880 sf
HAC2V1	VESTIBULE	70 sf
HAC2E1	ELEVATOR	85 sf
HAC2S1	STAIR 'A'	200 sf
HAC2S2	STAIR 'B'	200 sf

EXISTING FIRST FLOOR PLAN

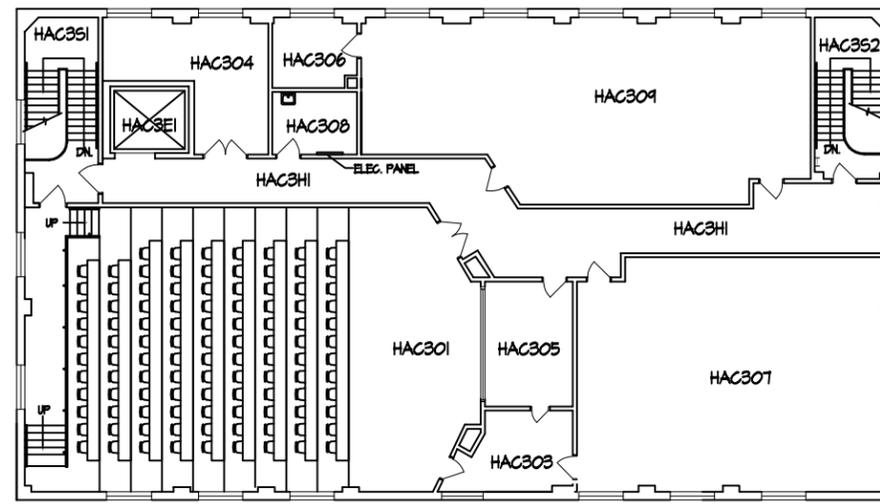
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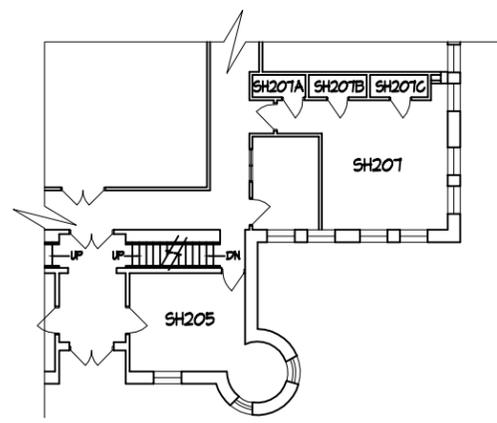
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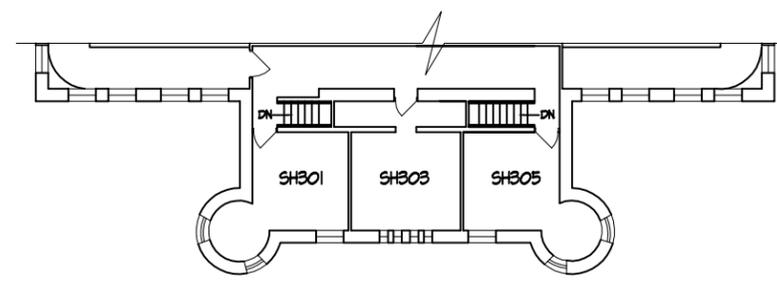
EXISTING SECOND FLOOR PLAN

ROOM LEGEND

(EXISTING)		
HAC301	CLASSROOM (LECTURE)	1810 sf
HAC303	LEARNING MATERIALS	125 sf
HAC304	FACULTY OFFICE	230 sf
HAC305	PROJECT ROOM	160 sf
HAC306	STORAGE	85 sf
HAC307	COMPUTER LABORATORY	1040 sf
HAC308	CUSTODIAL	80 sf
HAC309	STUDIO (PRINTMAKING)	1090 sf
HAC3H1	CORRIDOR	650 sf
HAC3E1	ELEVATOR	85 sf
HAC3S1	STAIR 'A'	200 sf
HAC3S2	STAIR 'B'	170 sf
STEWART HALL		
SH205	STUDIO	200 sf
SH207	STUDIO	260 sf
SH207A	CLOSET	18 sf
SH207B	CLOSET	19 sf
SH207C	CLOSET	19 sf
SH301	STUDIO	173 sf
SH303	STUDIO	155 sf
SH305	STUDIO	173 sf



STEWART HALL- EXISTING PARTIAL FIRST FLOOR PLAN



STEWART HALL- EXISTING PARTIAL SECOND FLOOR PLAN

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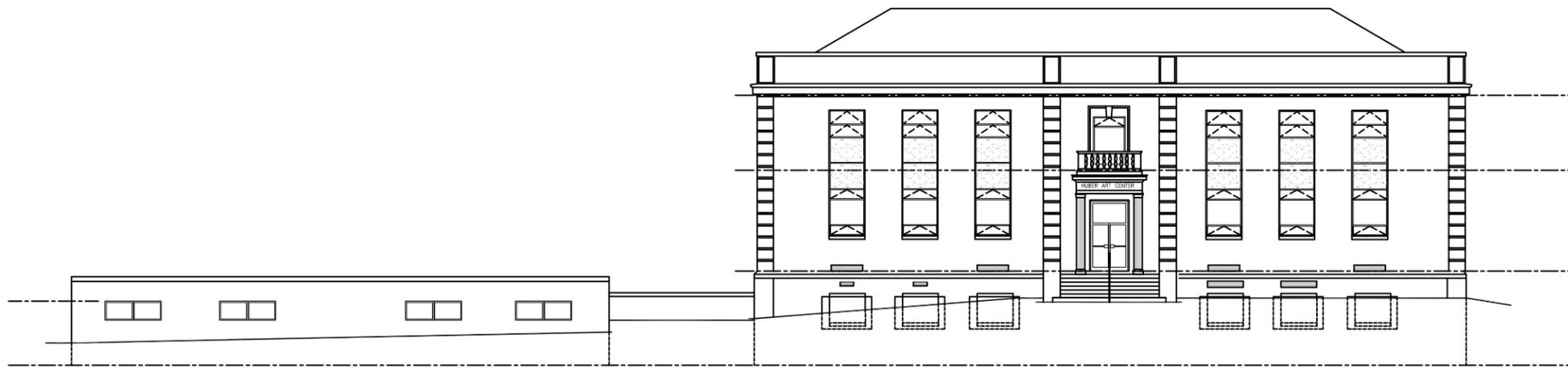


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EXISTING EXTERIOR ELEVATIONS

0 8 16 32

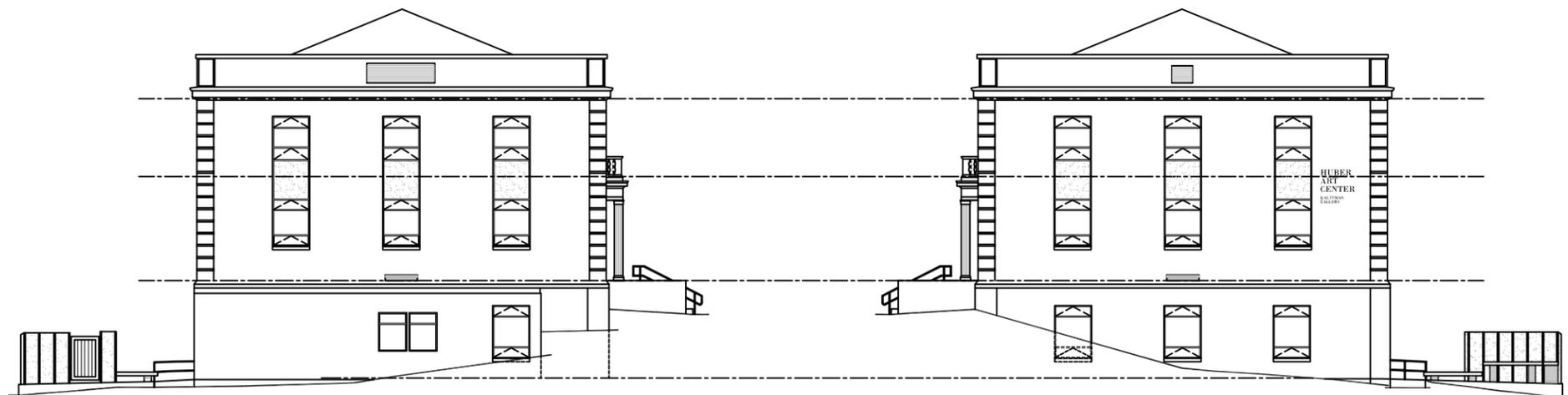
SCALE: ONE EIGHTH INCH EQUALS ONE FOOT



SOUTH ELEVATION



NORTH ELEVATION



WEST ELEVATION

EAST ELEVATION

HUBER ARTS CENTER FACILITY STUDY

FOR

SHIPPENSBURG UNIVERSITY

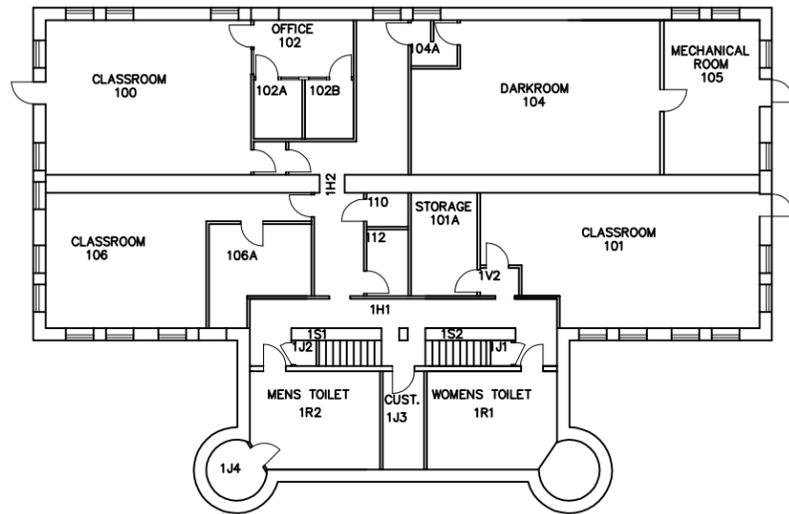
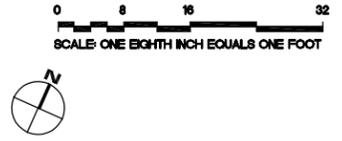
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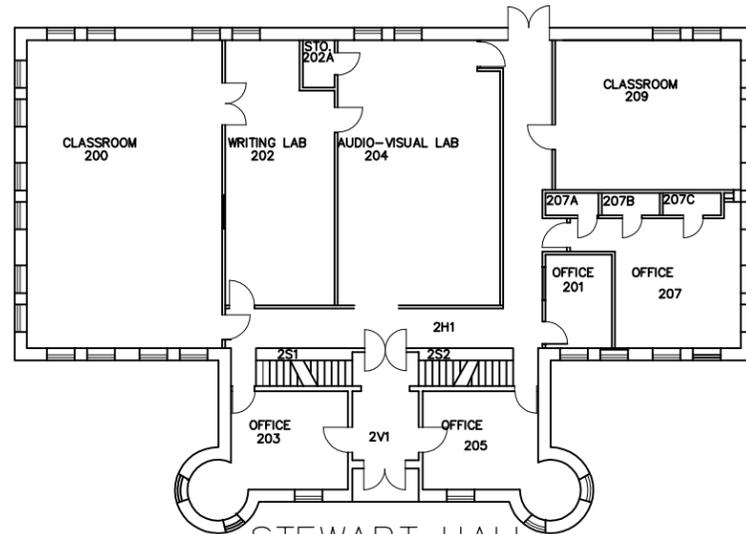


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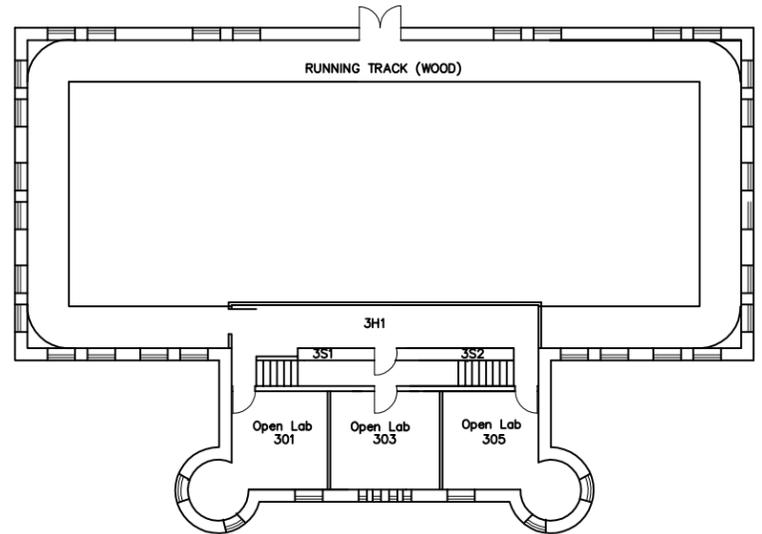
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STEWART HALL
BASEMENT FLOOR PLAN



STEWART HALL
FIRST FLOOR PLAN



STEWART HALL
SECOND FLOOR PLAN

HUBER ARTS CENTER FACILITY STUDY

FOR
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7.00 DESIGN CRITERIA/STANDARDS

ADA STANDARDS

As part of the upgrading and alteration of Huber Arts Center, the University's requirements for ADA compliance should reflect the overall integration of people who may wish to participate in activities within these facilities, and who may be on staff servicing these facilities. The University may wish to review its policy, procedure, and practice, with regard to staff at this facility. The physically challenged patron should have the ability to gain entry and be routed to seating easily for learning experiences. The required number of seats for the disabled should be located around parameters to allow for a maximum of seating location choices. There should be a minimum of travel time required between the large group lecture room, classrooms, office areas, restrooms, self-service water fountains, and public telephones.

1. The elevator jack shaft is single wall and does not meet all the requirements for ADA compliance.

 Provide elevator upgrades including ADA compliance with connection to stand-by power.
 Estimated cost \$15,700.00

2. Provide proper signage to identify handicapped entry.

 Provide exterior signage with the use of international symbols to meet the needs of both people with disabilities and patrons from all parts of the country and the world. Graphics and lettering should effectively communicate location and the purpose of the space. Often, existing signs are not visibly useful for mapping one's way throughout a facility with independence.
 Estimated cost..... \$2,000.00

3. Interior signage, together with the use of international symbols, must meet the needs of both people with disabilities and patrons from all parts of the country and the world. Graphics and lettering should effectively communicate location and the purpose of the space. Often, existing signs are not visibly useful for mapping one's way throughout a facility with independence.

 Upgrade signage to comply with ADA Standards.
 Estimated cost..... \$3,500.00

4. The existing toilet facilities do not meet current disabled persons codes.

 Upgrade toilet rooms to meet ADA standards.
 Estimated cost..... Part of Addition

5. The existing water coolers do not meet current disabled persons codes.
 Install new water coolers on each floor to meet ADA standards.
 Estimated cost..... Part of Addition

6. All doors, which will be used by the disabled, shall be minimum of 36 in. in width and have lever-type hardware. All hardware should be operable with one hand, taking into consideration the grip and grasp-strength of the individual.
 Replace all doors less than 36 in. wide and install new hardware.
 Estimated cost..... \$34,775.00

7. The existing fire extinguishers do not meet current disabled persons codes.
 Lower fire extinguishers to meet ADA standards.
 Estimated cost..... \$10,000.00

8. The current disabled persons code requires an area of refuge on the upper floor levels in new construction, which the University wishes to meet in existing structures.
 If sprinklers are not installed, upgrade stair towers to meet ADA standards with intercom system and internally illuminated signs.
 Estimated cost..... \$25,000.00

9. Fire alarm system is not addressable, nor is it ADA compliant.
 Install new fire alarm system to meet ADA standards and extend conduit to provide new boxes and wiring to lower devices.
 Estimated cost..... \$27,000.00

10. The lecture room (upper level) is not accessible by handicapped uses, either faculty or students.
 Install chairlift for access to upper level.
 Estimated cost..... \$25,000.00

11. Various control devices (telephones, fire alarm pull stations, light switches) are not accessible for physically challenged users and do not meet ADA standards for mounting heights.
 Relocate devices to proper mounting heights.
 Estimated cost..... \$10,000.00

12. The locations of fire alarm signaling appliances do not meet ADA requirements.
 Relocate devices to proper mounting heights.
 Estimated cost..... \$2,500.00

13. The locations of temperature control devices do not meet ADA requirements.
- Relocate devices to proper mounting heights.
 Estimated cost..... \$4,000.00

IBC 2005 COMPLIANCE

14. The current IBC Codes, require walls between classrooms, offices, and other rooms to be separated from corridors by a one-hour fire-rated wall. Replace all corridor doors with fire-rated doors, frames, and hardware. Close all openings with one-hour fire-rated construction and provide fire dampers in ductwork passing through these walls. Instead install an automatic fire suppression system or obtain a variance from Industrial Board of the Department of Labor and Industry.

Install an automatic fire suppression system with fire pump.
 Estimated cost.....\$120,000.00

Apply for variance at Industrial Board. (or install automatic fire suppression system)
 Estimated cost..... \$0.00

15. To be assured of optimum safety, interior finishes deemed not to comply with current flame spread standards should be removed.

Without testing, all finishes judged to comply.
 Estimated cost..... N/A

16. The capacity of existing emergency generator does not meet University standards.

Upgrade system to comply with code, including new generator and emergency power distribution system.
 Estimated cost..... \$55,000.00

17. The stair tower railing systems do not meet the current IBC code.

Upgrade railing system to comply with code.
 Estimated cost..... \$12,500.00

18. The interior glazing does not appear to meet safety glass standards.

Upgrade all glass to meet standards.
 Estimated cost..... \$4,500.00

19. The existing water service is not equipped with a backflow prevention valve.
Install a new backflow prevention valve on the water service (check for new fire service).
Estimated cost..... \$5,000.00
20. Fire alarm system is not addressable nor is it ADA compliant.
Replace the existing fire alarm system with a Siemens MXL addressable fire alarm system to match the existing campus system upgrades.
Estimated cost..... See Item No. 9 and 12
21. The ventilation systems does not meet current airflow requirements.
Replace and upgrade the existing ventilation system to meet current airflow requirements.
Estimated cost..... See Performance Upgrade Item
22. The existing exhaust systems does not comply with current code.
Replace and upgrade the existing exhaust system to comply with current code requirements.
Estimated cost..... See Performance Upgrade Item
23. The existing emergency lighting system is required to illuminate general exiting and illuminate exit signs are required at discharge doors throughout the building. Also consider providing power to the elevator as a means of handicapped access during a power failure. .
Replace the existing generator with a new unit capable of carrying the hot water circulating pumps, elevator, and total emergency lighting load. Also replace the transfer switch and distribution panel boards for legally required loads and stand-by loads. Provide emergency lighting in toilet rooms and around kilns and machinery for safety, security, and convenience. Provide a dedicated space to house the generator and transfer switches as required by the National Electrical Code.
Estimated cost..... See Item No. 16
24. The International Energy Code places strict limits and the amount of energy consumed for lighting.
Replace the existing lighting fixtures to comply with code efficiency requirements. Provide motion sensor in each classroom and office to turn the lighting off when the space is not occupied.
Estimated cost.....\$125,000.00

25. The International Plumbing Code requires additional toilet facilities in the building
 Provide additional toilet facilities at each floor level to meet code.

Estimated cost..... Part of Addition

AESTHETIC UPGRADES

The facility should be enhanced by finishes and designs that exemplify the “state-of-the-art” in public educational accommodations. Finishes of walls should reduce reverberation and echo in event areas, and should add to the focal points. Carpet should support comfortable mobility, without creating resistance to equipment supports (i.e., crutches, canes, wheelchairs, moving AV equipment). Hard floor surfaces should be slip-resistant (0.6 coefficient wet/dry). Ceilings should maximize reflectance. Color contrasts between different surfaces should be distinct between floors, walls, and ceilings. Color should guide the eye from dark to light, to the focal points of events. The lightest areas in the lecture hall should be where speakers, presentations, projected images, and events are positioned. Material selection should also consider durability and maintenance.

26. In regard to the appearance of the facility, it is showing its age and needs to be addressed. Some of the existing exterior doors on the original building are original and are showing signs of deterioration.

Remove existing and replace with new doors, frames, and hardware.
 Estimated cost..... \$22,500.00

27. The existing doors and entrance frames on the 1961 addition are in fair to poor condition.

Remove existing and replace with new doors, frames, and hardware.
 Estimated cost..... \$12,500.00

28. The windows in the original building are single glazed aluminum frames and are not energy efficient.

Replace with new aluminum, frames with thermal breaks and insulated glass.
 Estimated cost.....\$120,000.00

29. The windows and panels in the 1960 addition are single glazed aluminum frames in poor condition.

Replace with new aluminum frames with thermal breaks, insulated glass and insulated panels.
 Estimated cost..... \$45,000.00

30. The drainage around the parapet and limestone cornice around the original building is in poor condition and is a continuous source of leaks.
- Repair areas around parapet and limestone cornice around the original building.
 Estimated cost..... \$12,000.00
31. The stone trim on the original building is showing signs of deterioration.
- Clean all stone trim and brickwork, cut out deteriorated joints and re-caulk.
 Estimated cost..... \$15,000.00
32. Corridor ceilings in original building are in poor condition and there is major work above all ceilings.
- Replace all ceiling tile in the building for a unified appearance.
 Estimated cost..... \$55,000.00
33. The existing ceilings throughout the 1961 addition are in poor condition.
 Remove existing ceilings and replace with new.
 Estimated cost..... \$13,500.00
34. The existing floors in 1961 addition are original and showing signs of deterioration.
- Remove existing and replace with new VCT flooring.
 Estimated cost..... \$26,500.00
35. The floor covering in the original building are original and showing signs of deterioration.
- Remove existing (cost for abatement shown elsewhere) and install new flooring material.
 Estimated cost..... \$55,000.00
36. The chalkboards and tackboards in the classrooms are in fair condition.
- Remove existing chalkboards and replace with new marker boards and repair tackboards.
 Estimated cost..... \$9,000.00
37. The existing concrete steps at Dauphin Drive are deteriorated and in poor condition.
- Remove existing concrete steps and replace with new.
 Estimated cost..... \$17,000.00
38. The existing sidewalks around building are deteriorated and in poor condition.
- Remove existing deteriorated areas and replace with new concrete.
 Estimated cost..... \$14,250.00

39. The existing plumbing fixtures and trim are showing signs of their age.
 Remove existing plumbing fixtures and trim and replace with new.
 Estimated cost..... Part of Addition
40. The existing exterior light fixtures are showing signs of their age.
 Remove existing exterior light fixtures and replace with new.
 Estimated cost..... \$6,500.00
41. Elevator cab is showing signs of wear.
 Upgrade floor, wall, and ceiling finishes, as well as lighting.
 Estimated cost..... \$12,500.00
42. Lecture room is original and showing signs of wear. Upgrade seating and audio/visual equipment and sound enhancement. Technology improvements are discussed under the Educational Upgrades found later in this Study.
 Remove existing seating and projection screens and provide new.
 Estimated cost..... \$28,500.00
43. The exterior and interior finishes need painted.
 Paint all exterior elements and the entire interior of the original building.
 Estimated cost..... \$35,500.00

PERFORMANCE UPGRADES

An increase in the performance characteristics of several of the buildings' component systems, due to age and condition of existing system or a need to improve efficiency, causes the following upgrades:

44. The existing water piping distribution system is original and needs to be replaced (existing below slab sanitary piping should be tested to determined any reuse). Lead joints are likely in the system based on its age.
 Remove existing and install new piping, valves, water heater and pumped recirculation system.
 Estimated cost..... \$50,000.00
45. The heating and ventilating system is in fair to poor condition and showing signs of deterioration.
 Remove existing equipment, piping, ductwork, and install new system to comply with the latest ASHRAE Standard ventilation requirements and IBC Building Energy Code.

- New variable speed pumps shall be installed for both the hot water and chilled water systems. Duplex systems shall be provided to allow for system backup. Each pump shall have an independent VFD.
- The steam to hot water converters, piping, valves, and controls shall all be upgraded.
- The condensate return pumps and tanks shall be replaced.
- Based on the age of the piping system, we recommend that all the pipes be replaced as part of the renovation.
- The valves throughout the facility are in poor condition and in many cases no longer work. All valves should be replaced as part of the new piping system .
- The systems shall be replaced with a new four pipe VAV system. Fan powered boxes shall be used for all classroom areas with non-fan powered boxes being used for the office areas. Electric reheat should be considered so that the main plant can be de-energized in the summer months. The main air handlers shall be served with both hot and chilled water. Airflow monitoring should be provided to verify and control ventilation rates.
- The mechanical room shall be provided with a code compliant ventilation system.
- The corridors should be provided with HVAC.
- Exhaust systems should be replaced with updated code compliant systems. Ventilation and Indoor Air Quality issues require special systems in ceramics, painting, wood, and welding areas at a minimum.
- Ductwork should be constructed of sheet metal in accordance with the requirements of SMACNA.
- The chiller system shall be replaced.
- Computer rooms should be provided with independent cooling systems to allow for 24 hour year round cooling. Some of the units currently have these installed. They should be maintained or replaced as required.

Estimated cost..... 450,000.00

46. The existing temperature control system is antiquated.

- Remove existing control system and install new DDC system and chiller and cooler tower equipment. The DDC system shall be extended to serve all new system components and allow for energy saving functions. The system shall be web based and shall interface with the system in place on the University campus.

Estimated cost.....\$100,000.00

47. The existing building does not comply with the University standards with regards to security.

Provide card access on the appropriate exterior doors and interior doors and other intrusion detection and camera system per University (include exterior security phone system).

Estimated cost.....\$30,000.00

48. The existing electric service and panels are not sufficient for current or future educational requirements (additional branch breakers to serve new loads cannot be added).

- Replace the secondary distribution switchboard and increase the capacity of the electrical service and panels to accommodate projected requirements. Replace all secondary feeders and branch panelboards except feeders and panelboards, which were installed in the last ten years. Provide separate panelboards for circuits which power computers to provide a clean power system.

Estimated cost.....\$240,000.00

49. The current lighting in the instructional spaces and faculty offices is insufficient for current needs.

- Provide automatic lighting controls in accordance with energy code requirements.
- Provide new track lighting in the gallery.
- Evaluate existing lighting and replace fixtures as appropriate.

Estimated cost.....See Item No. 24

Provide motion sensor in each classroom and office to turn the lighting off when the space is not occupied.

Estimated cost.....See Item No. 24

50. The existing intercom and program bell systems for the building are obsolete and nonoperational.

- Provide a new master clock system and secondary clocks in each classroom, laboratory classroom, lecture hall, office, faculty office and telecommunications closet. Provide secondary clocks in corridors and lobbies.

○

Estimated cost.....\$15,000.00

51. The existing classrooms, faculty offices, and other spaces have insufficient outlets for current educational/technology requirements.

Install additional outlets and related circuits. Receptacles at many locations do not serve instructional and student needs. In addition to receptacles provided for computers and smart classroom equipment, provide at least one general purpose receptacle on each wall of each classroom and lab where they do not currently exist. Provide receptacles or power connection adjacent to classroom and lab equipment.

Estimated cost.....\$34,000.00

52. Instructional spaces are not currently wired to support instructional technology at current University requirements.

Provide dedicated panelboards and receptacles for all computers and electronic equipment in accordance with University standards. Provide an additional switch and wiring as required to allow the existing luminaries in the front one-third of each classroom to be switched separately from the luminaries in the rear two-thirds of the classroom. Where feasible provide additional switches to allow two levels of lighting in the front and rear zones of each classroom utilizing the existing or new luminaries.

Estimated cost..... \$13,000.00

HAZARDOUS MATERIALS

53. The Design Professional will need to survey the building to determine the extent of asbestos abatement/removal. (Volz Environmental Services, Inc. estimated to remove all ACM was \$76,653.00 in 1996 and included individual cost information per item).

The original building has asbestos-containing materials.

Estimated cost.....\$136,000.00

54. The Design Professional will need to survey the building to determine the extent of asbestos abatement/removal. (Volz Environmental Services, Inc. estimated to remove all ACM was \$65,033.00 in 1996 and included individual cost information per item).

The annex has asbestos-containing materials.

Estimated cost..... \$88,000.00

55. Lead paint and other hazardous materials were not investigated in this study; therefore based upon the University's experience with similarly aged facilities; specific tests should be completed during Design Phase. The study phase includes a lump sum allowance.

Estimated cost..... \$10,000.00

56. The radon levels were not tested during this study. The University may want to test for radon levels. Install new radon removal exhaust system if required after testing.

Estimated cost..... N/A

EDUCATIONAL UPGRADES AND PROGRAM REQUIREMENTS

Due to the limited expanded educational program for the Huber Arts Center and the demand for building usage, classroom technology, and development of educational goals, the following suggested improvements are identified. (Numbers contained within parentheses are referenced on proposed plans that follow this text.):

Renovations:

Many of the existing spaces are undersized for many of the new STUDIOS and do not provide the opportunity for support areas, nor does the existing configuration allow for other expanded or new educational programs.

57. Building has been previously wired for technology, however, at this time of renovations these systems need to be reconfigured and expanded.

Estimated cost..... \$70,000.00

Huber Arts Center needs an underground communications pathway to MCT.

Estimated cost.....\$125,000.00

58. Furnishings and loose equipment are antiquated and need to be replaced with modern items reflective of the proposed art program.

New furnishings and loose equipment are not part of this study.

Estimated cost..... N/A

59. Reconfigure existing building to meet programmatic requirements to provide adequate studio, faculty, and support space, currently a recognized deficiency.

Wall reconfiguration per Scheme A of this study.

Estimated cost..... \$98,100.00

Site:

This expansion/renovation project may be the appropriate time to start to incorporate some of the concepts for parking, green space, pedestrian circulation, and other exterior improvements per the University Facilities Master Plan developed in September 1998, and updated in January 2002. Further the Art studio experiences to the outdoors needs to be upgraded with proper improvements over current facilities.

60. Provide parking to accommodate visitors, students, faculty, and staff using this facility and others in the vicinity, per the campus plan envisioned in the Facilities Master Plan.

The conversion of current York Drive and surrounding area for large Campus Parking Lot is not part of this study.

Estimated cost..... N/A

61. Redesign the service area between Huber Arts Center, Kriner Dining Hall and York Drive. The proposed new parking lot mentioned above would provide access to the redesigned service area. Final design will be a matter of schedule for the proposed campus parking lot and pedestrian circulation envisioned by the Facilities Master Plan in lieu of connection to York Drive.

Provide new service area and two parking spaces on north side of Huber Arts Center.

Estimated cost..... \$35,000.00

62. Redesign pedestrian circulation pathways on west side of Huber Arts Center, per the concepts established in the Facilities Master Plan. Limit of work under the proposed Huber Arts Center should be set by a defined edge (25 - 50 feet beyond the building footprint).

Redesign walks and landscaping improvement per the University Facilities Master Plan on west side of Huber Arts Center.

Estimated cost..... \$37,000.00

63. Redesign the south end of Huber Arts Center to accommodate new addition, major student plaza, transition into academic quad, per the concepts established in the Facilities Master Plan. Limit of work under the proposed Huber Arts Center should be set by a defined edge (25 - 50 feet beyond the building footprint).

Redesign entrance/sculpture plaza and pedestrian pathways per the proposed addition and the University Facilities Master Plan on south side of Huber Arts Center.

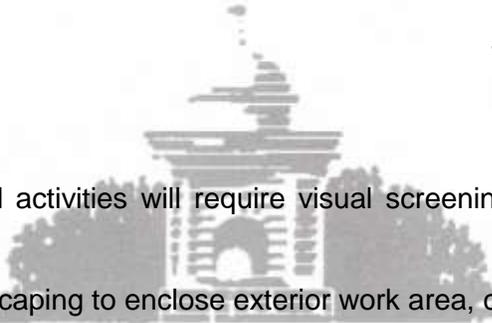
Estimated cost..... \$25,000.00

Provide pedestrian lighting matching campus standards.

Estimated cost..... \$15,000.00

64. Many of the activities in the studio can be enriched by exterior workspace. Provide exterior opportunities to work along the perimeter of the building as well as under a pavilion (outdoor classroom).

Estimated cost..... \$14,250.00



- 65. Outdoor classroom and activities will require visual screening, ground surface treatment and utilities.

Provide perimeter landscaping to enclose exterior work area, concrete paving, and new service Connections to area.

Estimated cost..... \$10,500.00

Addition:

- 66. Provide additional space to meet programmatic requirements to provide adequate studio, and support space, currently a recognized deficiency.

Provide student lounge in new addition.

Estimated cost (14,436 SF x \$222.25/SF)\$3,208,350.00

8.00 SUMMARY - SCHEDULE

The primary purpose of this document is to define the scope, describe, and fix all important aspects of the Project so all that remains is the formal step of Design Documents for bidding.

Outline of the following schedule suggests the start and completion dates of the proposed Huber Arts Center:

Submit RFPA to State System of Higher Education	28	Jul	2006
University Submit Final Facilities Detailed Project Planning Document	01	Aug	2006
DGS Start Selection Process for A & E Firm	01	Sep	2006
Start Design Phase	01	Dec	2006
Design Development/Contract Documents Completion	01	Dec	2007
Advertise for Bids	01	Feb	2008
Notice to Proceed/Start Construction	01	Jun	2008
Complete Construction/Occupancy (15 months)	01	Sep	2009

9.00 EXISTING PHOTOGRAPHS - HUBER ARTS CENTER



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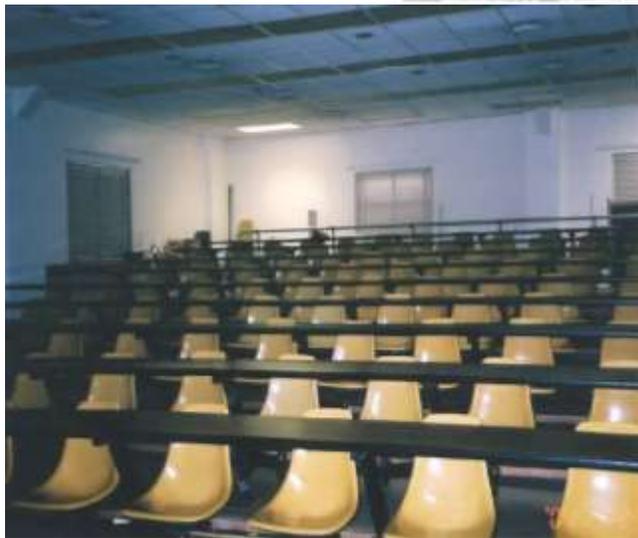
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11.00 APPENDIX