



TU TOWSON
UNIVERSITY.

401 WASHINGTON AVE RENOVATION PROGRAM

11.10.2022 (DRAFT)



401 WASHINGTON AVE RENOVATION PROGRAM AT TOWSON UNIVERSITY

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SECTION 1

PROJECT OVERVIEW

1.1 INTRODUCTION

Founded in 1866, Towson University is recognized among the nation's best regional public universities, offering more than 100 bachelors', masters and doctoral degree programs in the liberal arts and sciences, and applied professional fields. With more than 20,800 students, Towson University is the second-largest public university in Maryland. As a metropolitan university, Towson combines research-based learning with practical application. Our many interdisciplinary partnerships with public and private organizations throughout Maryland provide opportunities for research, internships, and jobs. Located in suburban Towson, eight miles north of Baltimore, the campus is comprised of 329 acres, 55 buildings, over 6 million square feet of space, 5,910 on campus beds, and approximately 7,600 parking spaces.

Towson University is nationally recognized for quality and value, focused on teaching and committed to providing a broad range of opportunities for undergraduate and graduate education. By Carnegie Classification, Towson University is a Master (Comprehensive) University I. Towson University has achieved national prominence as a premier metropolitan comprehensive university by offering a wide range of excellent graduate and undergraduate degree programs and by increasing its regional and national reputation through its focus on student learning and its innovative programs and pedagogies, faculty creativity and scholarship, applied and sponsored research, community service, and cultural outreach to business, education and health care professions.

Located in downtown Towson Maryland, just north of the campus, the 401 Washington Avenue office building was acquired by Towson University in 2021 to supplement the administrative space needs of the university. The primary university users of the building include the Office of Technology Services, Division of Strategic Partnerships and Applied Research, and University Advancement. Generally, these users are non-public facing administrative support services. Additionally, a small portion of the building includes non-Towson University users, including retail tenants on the ground floor and Baltimore County services on the 5th floor. These tenants will be vacating the building as part of the renovation.

Built in 1970, the thirteen story, 130,800 GSF office building has seen minimal infrastructure investment with many of the existing mechanical systems original to the building. As identified in a 2018 Building Conditions Assessment, building and life safety codes compliance, accessibility requirements, structural components, exterior enclosures, and existing mechanical, plumbing, electrical, and fire protection systems were evaluated. It is the intent of this effort to address several deficient aspects as identified in that study and to approach this effort as a multi-phase, occupied building project, with an initial construction budget of \$50 million. The first phase construction budget is \$26 million. It is anticipated that multiple floors will be "shelled" for future improvements.

The proposed schedule includes nine months for design, three months for bidding, and three years of phased construction. Project delivery method will be Construction Manager at risk.

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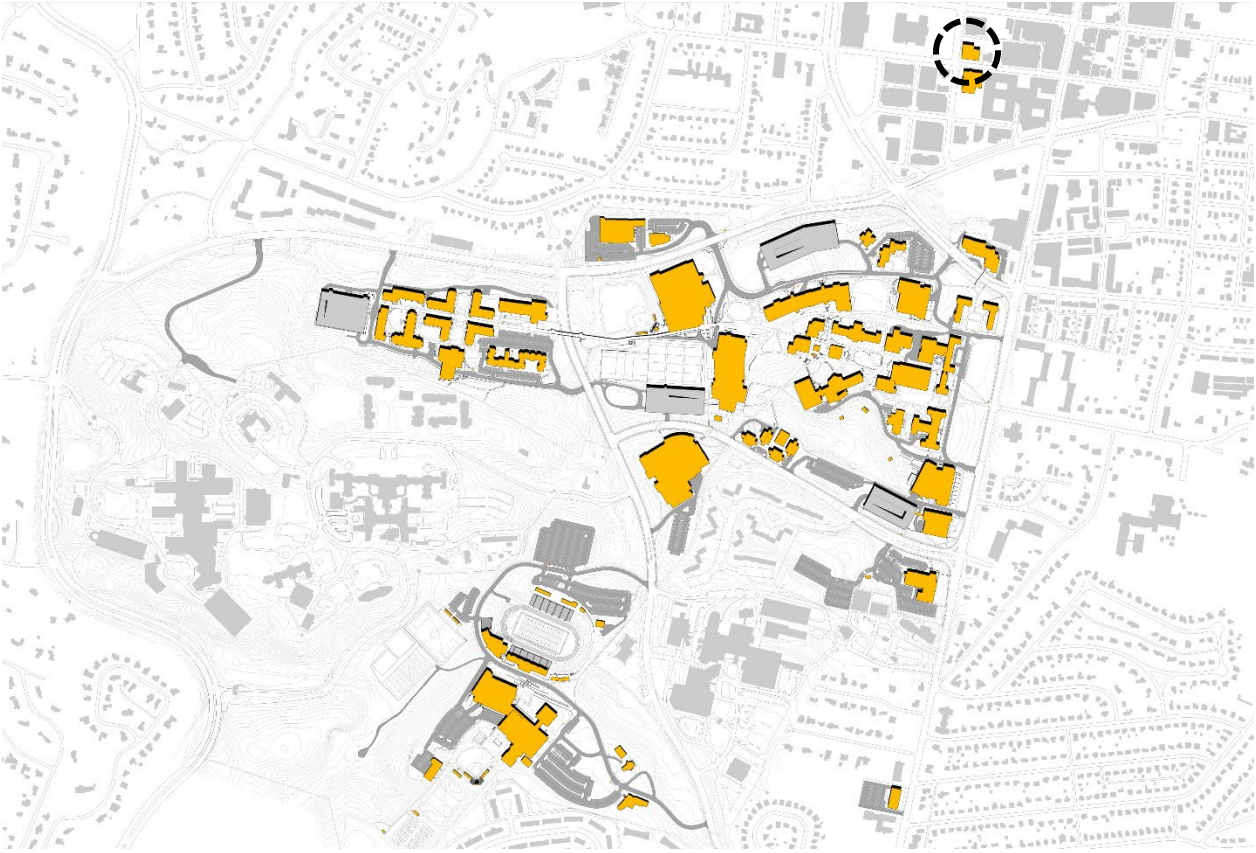


Figure 1.1 – Location Map



Figure 1.2 – 401 Washington Avenue

SECTION 2

INSTRUCTIONS TO THE CONSULTANT

2.1 INTRODUCTION

Towson University requires innovation to provide the best economy in facility design, construction, and operation. The consultant will be responsible for recommending project phasing and alternatives to achieve cost efficiencies within established budget within each design phase. These recommendations should provide creative design solutions and should not result in reductions to the defined project scope of work or technical requirements.

2.2 ROLES AND RESPONSIBILITIES

Towson University (TU), the University of Maryland Baltimore Service Center (UMB), the consultant (A/E) and the Construction Manager (CM) shall be called the "Project Team". It is the TU's intent that the "Project Team" shall work from the beginning of this project through all phases of design and cost estimating and that the A/E shall provide leadership to the Project Team during the design phase.

TU shall designate a Project Manager who shall be the university's point of contact during the Design Phases. This representative shall be the primary channel of communication to TU and shall act as the university's liaison with the Project Team.

TU shall review all project documents at each design submittal (i.e. Schematic Design, Design Development, etc.); such review, however, will be made to insure that the intent of the Program and the Project Design Standards are maintained and that the university's comments have been incorporated as requested. The A/E is solely responsible for the content, accuracy, and coordination of all documents.

TU shall be the principle reviewer and decision-making authority within the Project Team. In the event of any disagreement or dispute between any members of the Project Team regarding the project, the university shall be the final decision-making authority.

TU is committed to a "Partnering" approach to the successful design and construction of its projects. The university defines partnering as collaboration among professionals (TU, UMB, CM, A/E, and Trade Contractors) to maximize the success of a project while understanding and respecting the responsibilities and expertise of each team member. In light of this approach, TU may elect to conduct "Partnering" sessions on this project; a final determination will be made with the awarded A/E and CM firms.

2.3 GENERAL OVERVIEW

The consultant (A/E) should be comprised of professionals including architect(s), engineering disciplines, and specialists that will provide specialized studies, architectural and engineering design, energy and life-cycle cost analyses, and the preparation of appropriate plans and specifications for each aspect of the work as described in this section and the complete program document.

The specific programmatic requirements and design criteria provided in this program are as complete and accurate as possible at this point in the project. It will be the responsibility of the A/E to conform to the requirements and criteria throughout the design process. Any changes to the program requirements must be requested of and approved by TU in writing.

2.4 CONSULTANT (ARCHITECTURAL/ENGINEERING) SERVICES & SCOPE OF WORK

The consultant will be required to work with a project management team comprised of representatives from TU's Department of Facilities Management, UMB, building occupants, and users, and others as required. It is expected that the project management team would interact directly with the consultant and be active in the review, resolution, and approval of all design work. The consultant services shall be provided in the following stages in accordance with *The University's Procedure Manual for Professional Architecture/Engineering Services of University of Maryland Projects*, *Towson University's Design Guidelines and Construction Standards (TUDGCS)*, *Supplemental Requirements to the Procedure Manual for Professional Architectural/Engineering Services of University of Maryland Projects*.

- Review of existing condition, program verification;
- Building condition assessments as noted;
- Schematic design;
- Design development;
- Construction documents: 50%, 95% 100% submittal;
- Construction phasing coordination;
- Bidding of construction contract;
- Construction administration, including participation in commissioning;
- Completion and acceptance of project; and
- Post-construction (Record Drawings, Guarantee Period and LEED certification)
- Cost estimating at SDs, DDs, and with condition assessments.

As a minimum, the following disciplines are expected for the consultant's team/staff:

- Architect (LEED accredited)
- Mechanical (HVAC, HVAC Controls, and Plumbing) Engineer
- Electrical Engineer
- Structural Engineer
- Fire Protection Engineer
- Independent Cost Estimator
- Interior Designer

TU intends to separately engage the services of a Construction Management (CM) at-risk firm. TU also plans to secure the services of an independent Commissioning Agent for the project with the consultant participating in the commissioning activities during design, construction, and the post-construction period. A copy of the scope of work for developing a Commissioning Plan will be provided to the chosen A/E at the pre-fee negotiation meeting.

The consultant's scope of services shall be divided into specific phases including the General Design Requirements, Schematic Design Phase, and Design Development Phase in accordance with the *Procedure Manual for Professional Architecture/Engineering Services of University of*

Maryland Projects. It should also implement the building energy design standards pursuant to "Energy, Building Commissioning, and Maintenance Management Specifications" in this section.

While there are several renovation elements of the building that need to be addressed as identified by the 2018 Building Condition Assessment, the university has developed the scope of work to address the highest selected priorities

- Architectural
- Plumbing
- Mechanical
- Electrical

The scope of work for the A/E involves not only general requirements but also code and building system requirements.

1. General Requirements
 - a. Design of the renovations. The facility design should address all the guidelines and comply with all requirements outlined in Sections 3, 4, and 5 of this program. The facility design must be within the allocated budget and have add/alternates that can be added or deleted as the budget permits.
2. Scope of Work
 - a. Architectural
 1. Exterior:
 - a. Envelope: Design for options to re clad the tower façade and replace existing glazing system to address current environmental deficiencies.
 2. Interior:
 - a. Reconfigure restrooms throughout for ADA code compliance and renovate. Provide countertops, accessories, toilet partitions, wall, and floor finishes.
 - b. Reconsider the existing closed office layout to an open office configuration with supporting office services as indicated by the program.
 - c. Develop a schedule of built-in and moveable equipment, furniture, window treatments, and finishes for spaces as well as signage as noted in their respective space sheets in Section 4 of the program.
 - d. Locate a stand-alone electrical room per floor.
 3. Move Management:
 - a. Project will involve phasing of the renovations within an occupied building. Preferred phasing will involve multiple floor renovation per phase.
 - b. Plumbing
 1. Add ADA accessible fixtures to all restrooms and breakrooms
 2. Plumbing supply service:
 - a. Separate the main supply line service and fire pump service
 - b. Replace the check-valve and strainer assembly in the 4" main service to a code compliant booster pumps with a double-check type backflow preventer.
 - c. Replace the booster pumps and associated valves and piping
 - c. Mechanical
 1. Ventilation system
 - a. Replace fans and associated ductwork
 - b. Address proximity of intake to cooling tower
 - c. Address proximity of the relief fans motor closure to the mechanical screen wall

- d. Address missing toilet exhaust fan configuration
- e. Address missing fire damper
- f. Address absence of stairwell pressurization
- g. Provide code compliant exhaust and ventilation system
2. Space HVAC systems
 - a. Replace central air handling units
 - b. Replace perimeter water source heat pump fan coil units
 - c. Replace lower-level HVAC system
 - d. Replace first floor commercial space code compliance
3. Ductwork
 - a. Replace throughout due to exceeding useful service life
4. Piping
 - a. Replace piping as needed
- d. Electrical
 1. Power Distribution System
 - a. Electrical closets: Create dedicated electrical closet separate from janitor closet.
 - b. Panel directories: Update electrical equipment with proper labels and updated directories
 - c. Receptacles: Provide Additional receptacles at water fountains and roof HVAC equipment
 - d. Disconnecting services: Replace switches for mechanical equipment
 2. Lighting
 - a. Interior lighting: Evaluate existing lighting levels to compare with lighting standards Replace all lighting fixtures in corridors, lobbies, and other public areas with energy efficient LED fixtures and provided control per the current energy code requirements.
 - b. Exterior lighting: Replace all lighting fixtures with energy efficient LED fixtures
 3. Emergency Lighting and Exit signs:
 - a. Provide new emergency lighting: per life safety code
 - b. Replace "Exit Signs": per energy codes

The consultant shall submit to the university eight (8) copies of all drawings and specifications for review and approval at each phase of design. Each design submission should consist of two (2) full-size drawing sets and six (6) half-size sets unless otherwise stipulated in writing by the university. During the project, the consultant may be required to submit draft electronic drawings as needed to support other campus initiatives. Following TU's acceptance of the final design drawings and specifications, the consultant shall provide the university with:

- One hard copy and an electronic file of the specifications on the most current version of Microsoft Word;
- One electronic copy of drawing files in the most current version of AutoCAD/Revit comprising Architectural, Mechanical, Electrical, Plumbing, and any specialty consultant's drawings and details, and
- One electronic PDF copy of all narrative, drawings, and specifications.

Provide estimates and projections of all capital costs associated with the construction of the facility such as cost of new construction, equipment installation, utility extensions and site

development at each submission (i.e., schematic and design development). All estimates shall be prepared and presented in CSI Division and DGS formats. Lump sums will not be acceptable. The selected consultant's independent estimator shall provide complete estimates concurrent with the submission of all design phases. The consultant will not proceed to the next design phase until the cost estimates are reconciled to the available budget and the construction management firm's estimates.

Identify and include methods of installation and connection with building utility services as well as the provision of necessary clearances for convenient, safe use and maintenance of equipment in the interior design documents. These documents shall be fully coordinated with architectural, mechanical, electrical, structural, plumbing (i.e., building systems) and all other pertinent documents.

Prepare all documentation and obtain approval of all permits and licenses as required, including but not limited to: State Fire Marshal's approvals for building fire protection and fire apparatus accessibility, Maryland Department of Environment (MDE) registration of new boilers and hot water boilers, and new electric and natural gas service connections with the local utility.

Incorporate the design of energy management, security, and safety into the facility. The building automation controls, security, and fire protection systems shall conform to those defined and adopted as standard systems by the university.

The consultant shall perform a lightning protection analysis. The consultant shall design a lightning protection system comprised of solid copper, nickel plated, air terminals located around the perimeter of the roof, flat copper conductor cables and copper coated steel ground rods. This system should be installed by a certified lightning protection installer, be in full compliance with ANSI/UL 96 and ANSI/SFPA 7658 or latest editions, and have a UL Master Label when completed.

In the construction specifications, the consultant shall address the requirements of the contractor to provide detailed and comprehensive operations and maintenance manuals for all equipment and systems in an organized format. The selected consultant shall also stipulate the requirement for attic stock or spare parts allowances, e.g. carpet tiles, paint, plumbing fixtures, filters for air handling equipment, etc. *Towson University's Design Guidelines and Construction Standards (TUDGCS)* should be referenced for the items and information required.

During the first twelve months of the Post Construction Stage, extended consultant services will be required to review record documents and participate in any commissioning activities that extend beyond the occupancy date. The consultant shall include/provide at least two full team walk-through inspections at mutually established milestones and at one and two year intervals for warranty work.

The university will engage the services of an independent commissioning agent during the design commissioning of the project. The selected consultant will be responsible for coordinating design services with the commissioning agent.

3. Building Requirements

- The building shall feature materials and systems that are aesthetically pleasing and environmentally friendly with quality interiors.

- Energy-efficient design in accordance with the 2012 International Energy Conservation Code. The consultants shall create energy-efficient design for 12-month climate control for the building in general and each space specifically, as well as safety and functional flexibility.
- Electrical System: The consultant shall design an electrical distribution system to include conduit, conductors, sub-panel, switches, lighting, and emergency generators. Lighting levels shall be in accordance with the TUDGCS, specific requirements of this program, and the 2012 International Energy Conservation Code. Building electric meters are required as per TUDGCS.
- Building Systems: All systems such as mechanical, electrical, plumbing, etc. shall adhere to Towson University's campus standards or be selected and designed based on a life-cycle evaluation and sound engineering best practices. Building electric, gas, and water meters shall be metered.

4. Code Requirements

- Building Code: The consultant shall be responsible for developing the specifications and drawings to meet or exceed the requirements and regulations of the building code of the State of Maryland that impact the project, which includes the latest editions of the International Building Code (IBC) for Basic Building, Mechanical, and Energy Conservation Codes, the National Electrical Code, and ASHRAE standards, whether or not it is so defined or listed in the final construction documents. The consultant shall coordinate approval of all plans with the State of Maryland Fire Marshal. Early submissions of design documents or early review meeting(s) may be required.
- Persons with Disabilities: The consultant shall be responsive to federal and university requirements for barrier-free design according to all applicable laws, rules, regulations and codes in the preparation of all plans and specifications.
- Energy Consumption: The consultant shall follow design criteria and performance standards in accordance with the International Energy Conservation Code in the preparation of all energy analysis and calculations as well as plans and specifications.

5. Energy and Maintenance Management Requirements

- During all phases of design, construction and commissioning, the consultant shall comply with the requirements of this subsection to provide a safe, reliable, and economical building. To accomplish this, the consultant shall provide the required services to meet the building requirements over the life-cycle of the building.
- The consultant shall employ at his/her expense (either in his/her own work force or as a consultant) competent registered engineers and architects for structural, mechanical, electrical, energy analysis and design work, and for any other major design portion of the work.
- The consultant shall submit for approval to the university the name of an individual (either in his/her own work force or as a consultant) that will act as the Energy Analyst for the university's project. The Energy Analyst should have proven experience in energy design analysis and should be a registered engineer or architect. The role of the Energy Analyst will be to:

- Coordinate disciplines within the consultant team to achieve the maximum potential energy efficient design
- Review architectural, mechanical, and lighting submittals for compliance to energy guidelines prior to submission to TU
- Serve as the primary contact point on energy-related matters with TU's Department of Facilities Management
- Develop a building energy consumption model, perform energy analysis, and assist TU in establishing a desired, achievable energy budget
- Participate in the commissioning process
- Testing, Adjustment and Balancing
 - The consultant shall incorporate the requirements of ANSI/ASHRAE 111-2013 (or its most current approved version) practices for measurement, testing, adjusting, and balancing of building heating, ventilation, air conditioning (HVAC), and refrigeration systems, into the construction specifications.
- Maintenance Management
 - The consultant shall develop an equipment numbering scheme that is approved by the university and use this numbering scheme to identify the equipment on drawings, submittals, nameplates, and maintenance management forms. The consultant will include these comments in the specifications.

2.5 INFORMATION TO BE COLLECTED/DEVELOPED BY THE CONSULTANT

The consultant shall collect all required information from TU, local jurisdictions, and utilities owners and operators. Contracting with required support services, e.g. a surveyor, geo-technical services, etc., will be the responsibility of the consultant.

- Existing building plans, utility plans, and Building Condition Assessment: Documents will be given to the consultant by the university. However, no assurances are given that these records are complete or accurate. It shall be the responsibility of the consultant to establish the precise location of all underground utilities and/or services in the construction area and show them in detail on the design drawings.
- Field Investigation Requirements: Existing drawings, whether "as built" or construction drawings, should only be used as a guide/reference tool and under no circumstances be construed as accurate. The selected consultant is required to examine existing drawings, order test borings, test pits, ground penetrating radar tests, infrared tests, electrical load tests and any other means necessary to ensure accuracy for the design.
- Outages: All outages anticipated during any investigative work (utilities, roadways, parking, etc.) must be coordinated through the Department of Facilities Management. Once the best window of opportunity for an outage has been established, a minimum of ten (10) workdays advance notice is required prior to all outages.

SECTION 3

BUILDING DESIGN CRITERIA

3.1 INTRODUCTION

The primary criterion governing design shall be one that produces an optimal solution to the stated requirements within budgetary limitations. A functional, pleasing, energy efficient, sustainable, and economical facility, both internally and externally, is a major goal in the design and completion of this project. Building design solutions must address the functions and spaces detailed in this program, site environmental opportunities and constraints, energy conservation, safety and security, and life-cycle costs. In addition, the facility should be designed and constructed to be flexible in its initial use, as well as for future space changes, alterations or building additions.

The current edition of *Towson University's Design Guidelines and Construction Standards (TUDGCS)* is hereby made a part of this document. The consultant should become familiar with the *TUDGCS* and use it as a reference and base for project design. Where a conflict arises between the consultant's requirements for design and the *TUDGCS*, the consultant is obligated to resolve the conflict with input from and approval by the university. The following sections detail considerations that must be incorporated into the final project design.

3.2 ABATEMENT

The consultant is responsible for coordinating their renovation design with the university's Environmental Health and Safety Department for anticipated possible remediation of all known and uncovered hazardous materials within the project boundary. Potential locations of hazardous materials are but not limited to:

- Window caulking.
- Asbestos containing pipe fittings/pipe insulation inside walls.
- Fire doors with potential asbestos containing materials.
- Wall cavities with potential asbestos containing materials.

3.3 EXTERIOR ARCHITECTURAL ELEMENTS

The existing exterior wall enclosures include glazed aluminum storefront infill between concrete structural columns on the ground floor with precast concrete panels with vertical strip aluminum windows on the tower. The existing components of the façade have exceeded their expected live expectancies and do not meet modern expectations for energy conservation, maintenance, and code compliance. The walls are lightly insulated. The exterior window and storefront framing are single glazed and do not appear to be thermally broken.

Exterior improvements shall be compatible and complementary to the architectural style and character of the surrounding downtown Towson context. The project shall:

- The design team shall design a complete comprehensive renovation and/or replacement of the exterior walls and envelope. Solutions should address issues with moisture and air infiltration, increasing insulation to improve R values and energy efficiency, addressing

any condensation issues, building aesthetics, and providing a new maintenance free exterior.

- Replace all exterior doors and storefront assemblies.

3.4 INTERIOR SPACE

The space created by this project shall be aesthetically pleasing yet provide for future adaptation and change while remaining cost effective. The internal appearance of the facilities shall present the best possible environmental quality. Selection of space, configuration, materials, etc. should achieve these ends. The materials selected shall not become contaminants or degrade Indoor Air Quality (IAQ). In addition, the interior design of the building must provide future flexibility/capability

Circulation

Circulation patterns within the structures must be easily understood and shall be appropriately sized. Careful attention shall be given to the circulation patterns in the overall design. In addition, the relative sizes of the horizontal circulation elements (lobbies and corridors) shall be based on projected loads and capacity appropriate to those areas directly served, foster the movement of persons from one area to another, and comply with *NFPA* requirements. Those elements shall be designed with due consideration to the ratio of net assignable square feet to gross square feet.

The main entrance to the building must immediately convey a sense of the building and its activities to those who enter, be they first time visitors or persons well acquainted with the building. The space must be warm and inviting and should indicate a sense of direction to various spaces. The primary occupant traffic entrances to the building shall have airlock vestibules.

Materials and Finishes

Materials and finishes shall be selected to meet the following criteria: aesthetic considerations, durability, acoustical requirements, ease of maintenance and conservation of energy. In addition, all materials and finishes are to be 100% non-asbestos containing and all paint is to be lead-free (<0.5%). All materials, including design details, shall be analyzed for their effect on durability and ease of maintenance, and attention shall be given to areas of high traffic (corridors and entrances, for example) and other special use functions. Special care shall be taken at building entrances to provide for the removal of dirt and sand including properly designed built-in walk-off areas.

Architectural finishes are critically important in this facility. Maintainability and durability are of the highest concern. Floor-wall joints must be designed to allow easy cleaning. Doors shall be sealed against pests and vermin, and all penetrations of pipe, conduit, etc. shall be sealed in accordance with *NFPA* requirements. The building materials shall be selected using low VOC components to minimize contaminant sources and not contribute to degradation of IAQ, per LEED.

Finally, the facility, by its nature and heavy use, will incur a certain amount of abuse from the movement of equipment and persons. Measures should be taken to protect the building surfaces and corners from occupant damage. The selected consultant must work closely with the university's maintenance staff to benefit from their knowledge and experience in the maintainability of various surfaces and systems. Care in the design of the building will ensure significant life cycle cost savings.

Floor Surfaces

Surface materials shall be selected to respond to the maintenance, functional and acoustic needs of the spaces. Materials shall generally be long lasting and easy-to-clean. The ease of maintaining floor coverings is a primary consideration, and durable materials shall be specified for high-use areas. During design, all specified floor coverings shall be accompanied with maintenance requirements. Refer to Section 5 for more information.

Floor surface materials, binders, and glues shall be specified to minimize the out-gassing of contaminants that reduce IAQ. TU's EHS will provide the selected consultant with specifications for inclusion in the Construction Documents.

Properly designed built-in walk off mats must be provided for all public entrances. Mats should be long enough to permit ten steps and wide enough to protect against the entire traffic flow for that area. In general, a properly designed and maintained entrance matting system of 18-20 feet of depth will effectively retain 90 to 95 percent of tracked dirt, moisture, and debris.

Acoustical Properties

Consideration must be given to the acoustical properties of each functional space in the project. Each space in this project shall be designed to provide optimal hearing conditions within the space, with consideration given to the preclusion of unwanted sounds from entering the space. Spaces that will contain noise-generating sources shall be designed away from spaces requiring quiet or shall be adequately isolated acoustically in accordance with *TUDGCS*, LEED or best practices. Consideration shall be given to the transmission of sound through a ceiling or floor, through the mechanical system, or over a partition that does not extend to the structure deck above. Meeting and gathering spaces require special care, particularly considering reverberation. Consideration shall be given to sculptured ceilings, acoustical flooring, non-parallel walls that cover in the direction of the source of sound and other techniques that will avoid the necessity of adding sound-absorbing materials after the facility is completed.

The consultant is responsible for determining anticipated noise levels generated by equipment and occupants of the building and specifying sound transmission coefficients (STCs) of walls, floors and other elements of enclosure needed to maintain acceptable noise levels in accordance with the *TUDGCS* and LEED. The university requires an STC rating at or above 40 and an IIC rating at or above 58 for all rooms.

Lighting Design

Quality of light is as important as quantity of light. The design of lighting systems shall include detailed consideration of the normal tasks performed in the space, reflectance of all surfaces, special lighting effects, normal sight lines and zone control of larger areas.

Point-by-point lighting analysis shall be performed and fixtures and controls designed to meet the requirements of the International Energy Conservation Code. In general, the use of natural light is required to supplement the building's electrical lighting system. Interior and exterior lighting should be provided with fixture selections based on high efficiency, long life, vandal resistance, aesthetics and the appropriateness of the specific lighting application. Exterior and interior lighting shall be per University standards.

Sanitation, Maintenance, Services, and Storage

The location of toilets, custodial closets, maintenance services/storage, drinking fountains, trash receptacles, bulletin boards and exhibits, etc. must be convenient. The various comfort and convenience functions must be accommodated in locations that depend on the design scheme and code requirements. Accessible toilet facilities for men and women shall be provided in each area of the facility and comply with *OSHA* and National Sanitation Foundation requirements/recommendations. Chilled water drinking fountains should be conveniently located in corridors. Custodial closets shall be provided and shall be sized to accommodate the equipment required for the space served as described in Section 5. Custodial closets shall have easy-to-clean surfaces, a floor-mounted service sink, mop hooks, shelves for supplies and other items as may be required. The number of custodial closets and their requirements shall be coordinated with TU's Facilities Management Department. In public spaces, provide functional, as well as aesthetically compatible built-in trash and recycling receptacles as described in Section 5.

University Design Standards

Items such as door and lock hardware, security devices, toilet fixtures and accessories, telecommunication types and devices, and mechanical equipment are part of an overall design standard. The consultant shall make certain that all items specified comply with current or projected standards as set forth in the *TUDGCS*, Code and LEED.

3.5 FIRE AND LIFE SAFETY

The consultant must investigate all potential fire and life safety problem areas, including those that may be generated by the program requirements. Below is a partial list of requirements:

- All fire equipment is to be clearly visible and graphically designated.
- All materials used in the building are to be selected with regard to flammability contents and the types of gasses produced by combustion.
- Emergency access and egress routes are to be clearly identified and physically apparent to the building occupants.
- Ventilation systems are to comply with the standards set by the American Conference of Governmental Industrial Hygienists and all other applicable codes and standards, e.g., ASHRAE 62.1.
- Where emergency egress routes do not exist to grade, provide for areas of refuge assistance.

TU's Department of Environmental Health and Safety (EHS) is responsible for inspection and evaluation of safety-related problems on the campus. This department is staffed with professionals trained in various aspects of fire, life safety, hazardous materials, and occupational safety and biohazards. Campus criteria for installation of fire alarm systems, extinguisher cabinets, sprinkler systems, fire lanes and ventilation are as set forth in the *TUDGCS* and various code.

All fire and life safety alarm system designs must be approved by the TU Environmental Health and Safety c/o Fire Safety Manager prior to installation.

3.6 FURNITURE AND EQUIPMENT

The spaces in this project are described in terms of square feet of space required for the function. Linear dimensions are not generally given to avoid undue restrictions on architectural design. It must be recognized, however, that the shape of a given space will influence the way in which it can be used. Therefore, the consultant shall complete a layout for all furniture and equipment at the Design Development phase to demonstrate and insure that the proposed space configuration is adequate and supports the function of the space. Mechanical, electrical, and other equipment and systems that will encroach on these architectural spaces must also be taken into account. Except for furniture in public areas and as noted under Sections 2 and 5 of this program, the selection of movable furniture and equipment is not the responsibility of the consultant, but of the university. However, the consultant is required to provide a layout to demonstrate space functionality. The consultant must coordinate task lighting design, telecommunications and equipment layouts to meet the requirements of the Energy Design Guidelines.

An equipment list for each proposed space of the program is included on the detailed space sheets contained in the Space Requirements section of this program. The consultant is responsible for providing a design that will accommodate this equipment. The consultant will be required to provide floor plans that illustrate how all of this equipment will be accommodated and how and where utilities will be provided to it. Items identified as “built-in” are items which the consultant is to include in the contract documents. The consultant is to specify manufacturer, style, sizes, finishes, color, and location of this equipment as well as require that the construction contractor provides this equipment and any necessary utilities or services as part of their contract. The consultant shall consider ergonomic factors in the selection of furniture and development of equipment layouts. The *TUDGCS* should be utilized for instruction space design criteria and guidelines.

TU will give direction to the consultant during the Schematic Design phase as to which furniture, fixtures and equipment will be considered "In Construction Contract" versus those that will be purchased and installed separately as moveable furniture, fixtures and equipment.

For each space, the consultant shall label design drawings with the net assignable square feet designed and the net assignable square feet programmed. Below the label of each space designation on the drawings, the consultant shall indicate the net assignable square feet designed and the assignable square feet programmed. These figures shall be carried through the approval of Construction Documents phase. The consultant shall add to the summaries approved with design development a listing of spaces in the Construction Documents, in order that a comparison can be made of the area of each programmed space through each stage of design.

3.7 ACCESSIBILITY AND ADA REGULATIONS

The design shall provide for the convenient usage of the facility by individuals with disabilities. Design pertaining to use of the facilities by individuals with disabilities shall conform to the ADA regulations. The selected consultant shall consider both physical and programmatic concerns during design. ADA access via prox card and other electronic means is necessary. It is important that the selected consultant have a clear understanding of each programmed use of the space and the design impact on people with disabilities. Elevators, restrooms, entrances, doorways, connecting corridors, and all other aspects of the building, including furniture and equipment for offices and meeting, gathering, lounging, and eating spaces must provide for convenient use by

people with disabilities. Special consideration should be given to travel both horizontally and vertically to allow multiple accessible means of travel between levels. Note especially the requirements to accommodate the visually and aurally disabled.

With regard to elevator design, the selected consultant shall also comply with the State of Maryland requirements noting that the more stringent requirements must be satisfied.

3.8 SYSTEMS MAINTENANCE AND LIFE CYCLE STUDIES

Maintenance costs associated with new construction must be a consideration in the design of systems. Life-cycle studies have shown that the cost of maintaining a building over its normal life exceeds the capital cost of constructing that facility. The consultant is expected to play a major role in minimizing maintenance problems by obtaining input from TU in locating facilities, designing, and laying out building systems, selecting equipment and finish materials, and designing other areas that directly affect annual maintenance costs. TU will approve the systems design and equipment and material selection. Considering the project's available resources (budget, space, etc.), the consultant will recommend the best available equipment, but not equipment soon to be obsolete.

The consultant will be responsible for ensuring accessibility to equipment for its maintenance, repair, removal, and replacement with minimal effort.

3.9 MECHANICAL AND PLUMBING DESIGN CRITERIA

The consultant shall coordinate the design of all elements of the building to meet the requirements of function, energy, and aesthetics. The design shall comply with all applicable codes, standards, good engineering practices and the *TUDGCS*. During the early part of design (Pre-Schematics), input from all of the members of the design team is required regarding structural types, daylighting, equipment location, and building materials to be selected so that they flow smoothly into the other design phases of the project and not create roadblocks that would interfere with the International Energy Conservation Code compliance or LEED Certification. Where more than one solution to a design problem may seem appropriate, the consultant must perform life-cycle cost and operating comparisons to determine the optimal solution.

In general, the work must be designed to provide maximum reliability. This may require the use of standard equipment or alternate modes of operation for critical systems or equipment. The requirement for reliability also includes the avoidance of systems or equipment for which there is inadequate history of satisfactory performance. In addition, the work must be designed to be readily maintainable. Adequate clearances for servicing must be provided for all operating equipment. No operating equipment shall be located above ceilings unless specifically designed for above ceiling applications. Unless otherwise mentioned in this program, all spaces within the building are to be air conditioned. Air intakes should not be located near areas prone to vehicle exhaust collection such as the loading dock or be accessible to unauthorized persons to avoid introduction of noxious gases or other substances into the building's air intake system. Mechanical systems shall provide temperature control year-round for both heating and cooling, be integrated with the university's standard Building Automation System (BAS) and incorporate energy saving capabilities.

Considering the purpose of the buildings, water conserving designs and fixtures are very important. The consultant shall employ, low-flow faucets, low-flow toilets, waterless urinals, and automated faucet controls for all public water fixtures. Consultant should follow recommendations provided by LEED on water efficiency.

The University recently completed a combined mechanical and roofing project to upgrade/replace several of the aging mechanical systems servicing the building. New equipment includes:

- Condensing Boiler: Patterson-Kelley Firetube Boiler(s), Model SOLIS - SL-2000
- Cooling Tower Evapco Closed Circuit Cooler, Model ESW4 12-46P18-LF
- Cooling Tower Controller: 1-40HP (200/208/230VAC), 1-150HP (460VAC), 3-Phase Input
- HVAC Pumps: Armstrong Centrifugal Pump(s), Model 4030 - 8x6x13
- Expansion Tank: Armstrong Expansion Tank(s), Model AX-180V

3.10 ENERGY CRITERIA

Electrical systems shall comply with all applicable codes, standards, and good engineering practices and the TUDGCS. The building shall be designed with provisions for lighting, emergency, receptacle, and HVAC power and life safety.

Energy Efficiency

The building should be designed for maximum energy efficiency to achieve LEED BD+C and optimize energy performance points. The design of building and energy systems should help circulate air and contribute to evenness of temperature, insulation, windows, and doors should help retain heat and cooling throughout the buildings and maintain occupancy comfort. HVAC equipment and boilers should be sized appropriately for projected use and load. Fully electric HVAC systems such as Heat Pumps/VRF shall be studied and modeled in addition to conventional Chiller/VAV/Boiler systems. Energy Star or other energy efficient boilers, equipment, and lighting fixtures should be used in all cases. Enhanced Commissioning will be performed to ensure that energy systems function as intended.

The buildings should achieve LEED BD+C. Controllability of Systems, Thermal Comfort. The building's heating and cooling systems should be operable, individually, and centrally. Each room should have some level of temperature control with the ability to schedule heat and cooling delivery (Usually +/- a few degrees.). The building also needs to have a central HVAC control connected to the university's building's automation system that can override the individual controls so that temperature setbacks and power shut offs can be implemented during non-occupancy hours.

The buildings should achieve LEED BD+C. Controllability of Systems, Lighting. High efficiency LED lighting to be installed in all cases. Daylight sensors to be installed in all areas exposed to daylight. Motion sensors to be installed in all areas. (Large mechanical rooms with obstructions are only exception)

Building Monitoring

The ability to monitor energy and water consumption in the building is very important. The consultants shall design and recommend real-time energy meters for electricity, chilled water, domestic water, steam, and natural gas. All metering to be connected to TU's BAS (Automated

Logic). All electric metering to be connected and programmed to TU's BAS and TU's central Square D Powerlogic Software (PME). All metering to be specified per TU Design Standards.

To reduce ozone depletion and support compliance with the Montreal Protocol, the building should either use no refrigerants; or utilize heating, ventilating, air conditioning and refrigeration that minimize the emission of compounds that contribute to ozone depletion and global climate change. Consultants should consult LEED BD+C Enhanced Refrigeration Management for guidelines.

Renewable Energy

The consultant shall be responsible for studying and recommending renewable energy systems to supplement grid-supplied electricity for the building including but not limited to geothermal, solar hot water and solar photovoltaic systems. The consultant should provide the university with the energy and carbon savings of each system, the cost of installation and maintenance, and the payback. Innovative financing systems such as power purchase agreements and RECs should be investigated.

To verify that the project's energy-related systems are installed, calibrated, and perform according to the owner's project requirements, basis of design and construction documents, the project shall meet the specifications of LEED BD+C, Fundamental Commissioning of Building Energy Systems. TU intends to separately engage the services of a Construction Management (CM) at-risk firm and an independent Commissioning Agent for the project with the consultant participating in the commissioning activities during design, construction, and the post construction period. A copy of the scope of work for developing a Commissioning Plan will be provided to the chosen consultant at the pre-fee negotiation meeting.

The design shall comply with all applicable codes, standards, and good engineering practices and the *TUDGCS*. The building shall be designed with provisions for lighting, emergency, receptacle and HVAC power and life safety.

3.11 TELECOMMUNICATIONS

The consultant's responsibility shall include:

- A building distribution hub room needs to be established in the basement or lower floor of the building addition (minimum of 100 square feet), to include appropriate power for required equipment and adequate air conditioning to keep the room at an average temperature of 70 degrees. The room dimensions and layout for core distribution hub room is defined within Towson University's *Cabling Standards Document*. One additional hub room, vertically stacked and aligned with basement hub room, is required for each floor in the building.
- All points of the building should be reachable from the building distribution hub room such that cable lengths for data applications do not exceed 90 meters from the hub room patch panel to any data jack.
- Design a vertical riser system from the building distribution hub room to all floors to include new core holes between floors. The vertical riser system needs to be in public accessible areas and not in student rooms.

- Design, test, and document a horizontal cabling system for data, voice and video from the hub room per floor plans. J-hooks are acceptable for support of horizontal cabling. Horizontal cabling needs to connect to vertical riser system. Data ports in each room should be on a one per bed basis with one voice cable per room. Utilize Cat6 (terminated on patch panels) for data and Cat6 (terminated on 110 blocks) for voice.
- Design, install, configure, test and document all hub room data racks, wire management, 110 punch down blocks and video RF taps necessary to terminate data, voice and video in the hub room.
- Wireless network coverage needs to be extended to all interior areas of the building, as well as to the adjacent exterior site.
- Install, configure, test and document a complete data electronics solution. The data electronics list will be provided by Towson University as a bill of materials. Location and placement of data equipment within hub rooms is specified in Towson University's *Cabling Standards Document*.
- Design of security cameras and all necessary infrastructure. Locations to be coordinated with Towson University's Office of Public Safety and HRL.
- Towson University's *Cabling Standards Document* is a fully detailed, comprehensive document detailing all aspects of data, voice, and video design, installation, configuration, and documentation. The selected consultant is required to review this document for every aspect of this phase of the project. These specifications have been developed to insure that all renovations and new construction can be easily integrated into the current campus systems and will be easily managed long after this project is completed.

3.12 SIGNAGE AND GRAPHICS

Communication of building information through signage and graphics is essential. It is the consultant's responsibility to design an identification and directional system to communicate information essential to the operation of the new facility. The interior/exterior graphic system is to assist individuals moving to and within the facility. In accordance with ADA requirements, particular attention must be given to the needs of individuals with disabilities to access the building from parking areas and walkways and to move freely throughout the building.

The graphic system must be consistent with TUDGCS and include:

- Interior signage with a room numbering system to be used for sign fabrication at 50% construction documents. Apply TU's signage standards with TU signage consultant, Takeform.
- Wayfinding will be organized to easily move visitors and staff to specific areas of the building.
- The consultant will coordinate all interior and exterior signage graphics including directional and identification with Towson University standards. All signs types will be per Towson University standard specifications.
- The consultant will develop a room numbering system in accordance with Towson University standards during the Schematic Design Phase and subsequent design phases for review and approval by the University.

3.13 OPERATION, MAINTENANCE, INSTRUCTIONAL MANUALS, AND SPARE PARTS

Five copies of suitable manuals must be furnished with the equipment and systems designed and constructed. The following are minimum requirements:

- Manufacturer's catalog descriptions of specific equipment items.
- Manufacturer's operating and maintenance instructions.
- Wiring diagrams for inter- and intra- connections of components.
- Schematics and location drawings of components and systems with "troubleshooting" guidance.
- Component breakout lists for ordering replacement parts, etc.

Operations and Maintenance Manuals shall be provided to the TU Department of Facilities Management two weeks in advance of any testing or commissioning of any equipment.

SECTION 4 SPACE REQUIREMENTS

4.1 INTRODUCTION

The total facility space needs for the renovated 401 Washington Ave Building project is 130,800 GSF. The consultant is required to study design options that will maximize net assignable space to achieve the highest possible level of building efficiency. A summary of programmed space needs by function is provided in Table 4.1.

At time of move-in for many of the TU departments currently located within 401, the existing floor layout, which served multiple tenants per floor prior to TU acquisition, was used to limit initial investment to the building. It is the intent of this effort to group and consolidate the TU departments into more efficient spaces. This should result in the “shelling” of multiple floors for future tenant build-out. When possible, “shell” floors should be grouped together.

4.2 DESIRED SPACE RELATIONSHIPS

Understanding relationships among and between functions, organizational units and spaces programmed as part of this project is very important. The detailed space sheets within this section, serve as design guidance and direction to the consultant regarding the functional and spatial relationships that must be achieved in the new facility.

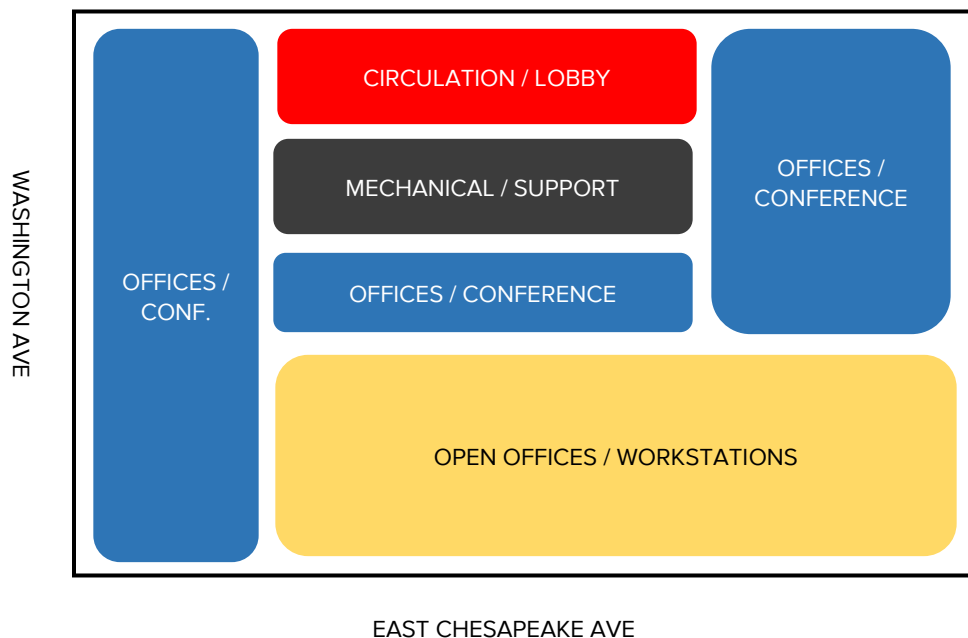


Figure 4.1 - Floor Adjacency Diagram (Typical)

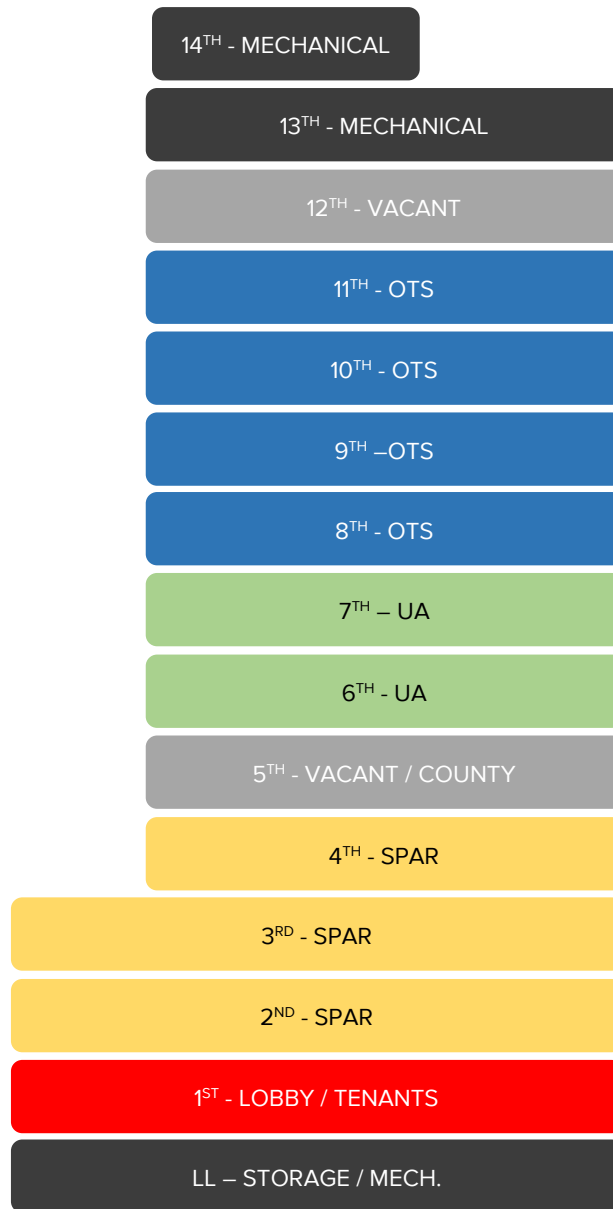


Figure 4.2 - General Stacking Diagram (Existing)

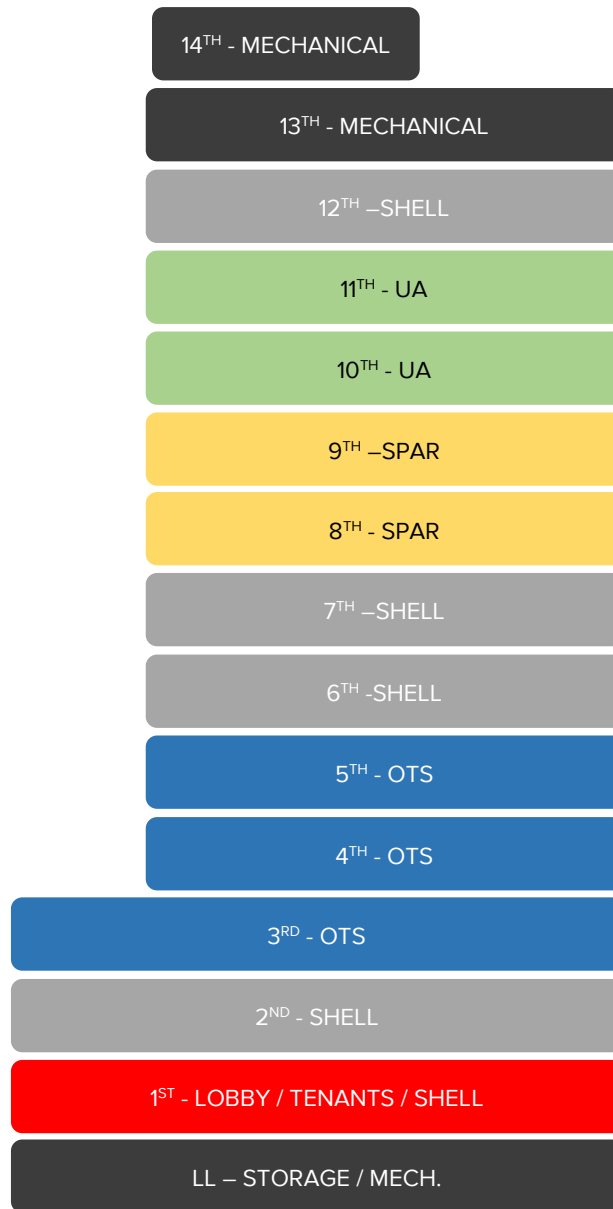


Figure 4.3 - General Stacking Diagram (Goal)

4.3 SPACE REQUIREMENTS

The combination of Table 4.1 and the detailed space sheets within this section are intended to serve as a comprehensive listing and description of spaces and their parameters to be designed in the new facility. The detailed space sheets provide the name of each space, the expected occupancy or capacity, the programmed square footage, the major activities to be accommodated, spatial relationship to other spaces, special design characteristics, and the type of furniture and equipment required.

User Organization Notes

- Division of Strategic Partnerships and Applied Research (SPAR):
 - Group One (Outreach Teams): Office of Partnerships and Outreach, Continuing and Professional Studies, TU Incubator, and Non-profit Collaborative.
 - Group Two (contract Teams): Regional Economic Institute (RESI), Center for GIS (CGIS), IT Services, and Organization and Leadership Development (O&LD).
 - Group Three (Executive / Administrative Teams): Vice President's Office, Administration, and Finance
- Office of Technology Services (OTS):
 - Groups shall be collocated as follows:
 - Group One: The Digital Experience Technology (DET) and the Enterprise Applications & Analytics (EAA)
 - Group Two: Enterprise and Infrastructure Services (EIS)
 - Group Three: Office of CIO, OTS Finance Team, Office of Information Technology (OIS), and Project Management Office (PMO))
 - Public access to each floor / space should be limited to OneCard access.
 - Preference to utilize flexible furniture in an open office concept to allow for various purposes and promote collaborative culture.
- University Advancement (UA):
 - Groups shall be co-located as follows:
 - Group One: Vice President's Office
 - Group Two: Alumni Relations Office
 - Should be located closets to elevators / suite entry points
 - Group Three: Development Office
 - Includes:
 - Associate Vice President
 - Major Gifts
 - Advancement Services
 - Annual Fund
 - Group Four: Promotions and Events Office
 - Group Five: TU Foundation Office

Building Service Requirements

In addition to the functional spaces listed in Space Program Summary, the building shall accommodate the following typical building service room for floors 2-12 which are assigned to GSF (Gross Square Footage).

- Renovate existing men's and women's restrooms and add at least one gender neutral restroom per floor. All restrooms to be code compliant.

401 WASHINGTON AVE
RENOVATION PROGRAM (DRAFT)

- Include one common breakroom with built-in cabinets w/sink, microwave, space for coffee, full size refrigerator, and seating for six persons for floors 2-12.
- Include one common copy / supply room for floors 2-12.
- Renovate (common) circulation, including the building lobby, floor elevator lobbies and egress routes, including stairs, as required for life safety code compliance and the safe and convenient service of the occupants.
- Renovate janitor's closet on each floor.
- Separate electrical room from janitor's closet on each floor
- Modify existing mechanical equipment room(s) as necessary, and as needed to accommodate the new building mechanical system. Locate rooms and equipment for least transfer of operating noise to the remainder of the building.
- Fire Command Center as required.
- Existing ground floor tenant suite 102 shall be delivered as a conditioned, "shell" space, for future tenant.
- All hallways, lounges, and suites are to be carpeted. Main lobby, reception area, elevator area, and ground floor circulation to be ceramic tile.
- Provide university standard window treatments at all windows

401 WASHINGTON AVE
 RENOVATION PROGRAM (DRAFT)

Table 4.4

ID	Department/Space Category	Group	HEGIS	Qty	Capacity	SF Per Unit	Subtotal NASF
DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)							
1.1	Vice President Office	3	310	1	1	250	250
1.2	Assist. / Assoc. Vice President Office	T	310	3	1	225	675
		1		1			
		3		2			
1.3	Director Office	T	310	10	1	150	1,500
		1		6			
		2		4			
1.4	Staff Office	T	310	28	1	120	3,360
		1		12			
		2		10			
		3		6			
1.5	Admin. Assistant Workstation	T	310	2	1	90	180
		1		1			
		3		1			
1.6	Office Service Storage	T	315	4	NA	200	800
1.7	Waiting Area	3	315	1	6	120	120
1.8	Conference Room - Large	T	350	1	30	750	750
1.9	Conference Room – Medium	T	350	2	12	300	600
		1		1			
		2		1			
1.10	Conference Room - Small	T	350	4	8	240	960
1.11	Lounge	T	650	1	NA	200	200
1.12	Meeting Room - Small	T	680	2	10	300	600
1.13	Meeting Room - Medium	T	680	1	30	750	750

Subtotal NASF 10,645

Table 4.4 (Continued)

ID	Department/Space Category	Group	HEGIS	Qty	Capacity	SF Per Unit	Subtotal NASF
OFFICE OF TECHNOLOGY SERVICES (OTS)							
2.1	Assist. / Assoc. Vice President Office	-	310	4	1	225	900
2.2	Director Office	-	310	6	1	150	900
2.3	Staff Office	-	310	30	1	120	3,600
2.4	Staff Workstation	-	310	40	1	80	3,200
2.5	Office Service Storage	-	315	8	NA	200	1,600
2.6	EIS Engineering Lab and Storage	-	315	1	6	500	500
2.7	EIS Operations Center	-	315	1	4	500	500
2.8	OIS Operations Center	-	315	1	6	400	400
2.9	Conference Room - Large	-	350	1	30	750	750
2.10	Conference Room - Medium	-	350	4	12	300	1,200
2.11	Conference Room - Small	-	350	10	8	240	2,400
Subtotal NASF							15,950

Table 4.4 (Continued)

ID	Department/Space Category	Group	HEGIS	Qty	Capacity	SF Per Unit	Subtotal NASF
UNIVERSITY ADVANCEMENT (UA)							
3.1	Vice President Office	T	310	2	1	250	500
		1		1			
		5		1			
3..2	Assist. / Assoc. Vice President Office	T	310	7	1	225	1,575
		1		1			
		2		4			
		3		2			
		4		1			
3.3	Director Office	T	310	12	1	150	1,800
		2		2			
		3		8			
		4		2			
3.4	Staff Office	T	310	14	1	120	1,680
		2		3			
		3		7			
		4		2			
		5		2			
3.5	Staff Workstation	T	310	10	1	80	800
		2		2			
		3		8			
		4		0			
		5		0			
3.6	Admin. Assistant Workstation	T	310	2	1	90	180
		1		1			
		3		1			
3.7	Office Service Storage	T	315	4	NA	200	800
3.8	Conference Room - Large	T	350	1	30	750	750
3.9	Conference Room - Medium	T	350	1	12	300	300
3.10	Conference Room – Small	T	350	2	8	240	480
Subtotal NASF							8,865

Table 4.4 (Continued)

ID	Department/Space Category	Group	HEGIS	Qty	Capacity	SF Per Unit	Subtotal NASF
SUPPORT							
4.1	IT / Data Room	T	710	12	NA	200	800
4.2	Custodial Closet	T	710	12	NA	80	980
4.3	Lactation Room	T	710	1	NA	0	60
Subtotal NASF							1,820
Total NASF							37,280

SECTION 5

5.1 ROOM DATA SHEETS

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.1
SPACE:	Vice President Office
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	310
CAPACITY:	1
AREA:	250 NASF
NO. REQUIRED:	1
TOTAL AREA:	250 NASF
FUNCTION:	Acoustically isolated, individual office with desk and filing storage with separate table for meeting with six chairs
RELATIONSHIP:	Close proximity to Administrative Assistant / Waiting Area
EQUIPMENT:	
Movable:	U-shaped desk and task chair Meeting table Guest chair(s) Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access Digital monitor mounted to wall

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID: 1.2
SPACE: Associate or Assistant Vice President Office
DEPARTMENT: Strategic Partnerships and Applied Research
SPACE USE CODE: 310
CAPACITY: 1
AREA: 225 NASF
NO. REQUIRED: 3
TOTAL AREA: 675 NASF

FUNCTION: Acoustically isolated, individual office with desk and filing storage with separate table for meeting with six chairs

RELATIONSHIP: Close proximity to Administrative Assistant / Waiting Area

EQUIPMENT:
Movable: U-shaped desk and task chair
Meeting table
Guest chair(s)
Lockable storage
File storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access
Digital monitor mounted to wall

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID: 1.3
SPACE: Director Office
DEPARTMENT: Strategic Partnerships and Applied Research
SPACE USE CODE: 310
CAPACITY: 1
AREA: 150 NASF
NO. REQUIRED: 10
TOTAL AREA: 1,500 NASF

FUNCTION: Acoustically isolated, individual office with desk and filing storage with separate table for meeting with four chairs

RELATIONSHIP: -

EQUIPMENT:
Movable: TU standard desk and task chair
Meeting table
Guest chair(s)
Lockable storage
File storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID: 1.4
SPACE: Staff Office
DEPARTMENT: Strategic Partnerships and Applied Research
SPACE USE CODE: 310
CAPACITY: 1
AREA: 120 NASF
NO. REQUIRED: 28
TOTAL AREA: 3.360 NASF

FUNCTION: Acoustically isolated, individual office with desk and filing storage with guest seating for two

RELATIONSHIP: -

EQUIPMENT:
Movable: TU standard desk and task chair
Guest chair(s)
Lockable storage
File storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.5
SPACE:	Administrative Assistant Workstation
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	310
CAPACITY:	1
AREA:	90 NASF
NO. REQUIRED:	2
TOTAL AREA:	180 NASF
FUNCTION:	Open office space with workstation and filing storage
RELATIONSHIP:	Located within Group 1 and 3, adjacent to supervisor and waiting area where applicable
EQUIPMENT:	
Movable:	Systems furniture Desk and task chair Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID: 1.6
SPACE: Office Service Storage
DEPARTMENT: Strategic Partnerships and Applied Research
SPACE USE CODE: 315
CAPACITY: 0
AREA: 200 NASF
NO. REQUIRED: 4
TOTAL AREA: 800 NASF

FUNCTION: Storage / file room for department. May include shared printer / copier.

RELATIONSHIP: Located evenly throughout department adjacent to groups.

EQUIPMENT:
Movable: Storage shelving
Lockable storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.7
SPACE:	Waiting Area
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	315
CAPACITY:	6
AREA:	120 NASF
NO. REQUIRED:	1
TOTAL AREA:	120 NASF
FUNCTION:	Space for lounge seating to serve as a receiving / waiting area.
RELATIONSHIP:	At department suite entrance off main circulation in close proximity to Administrative Assistant workstation.
EQUIPMENT:	
Movable:	Waiting Chairs
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID: 1.8
SPACE: Conference Room – Large
DEPARTMENT: Strategic Partnerships and Applied Research
SPACE USE CODE: 350
CAPACITY: 30
AREA: 750 NASF
NO. REQUIRED: 1
TOTAL AREA: 750 NASF

FUNCTION: Room with central table for meetings and informal gatherings

RELATIONSHIP: -

EQUIPMENT:
Built-ins: Glass board(s)
Movable: Table(s) on casters
Castered chair (30)
AV credenza

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access
AV presentation system
Scheduling Panel
Acoustically sensitive

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.9
SPACE:	Conference Room – Medium
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	350
CAPACITY:	12
AREA:	300 NASF
NO. REQUIRED:	2
TOTAL AREA:	600 NASF
FUNCTION:	Room with central table for meetings and informal gatherings
RELATIONSHIP:	Distributed throughout each department
EQUIPMENT:	
Built-ins:	Glass board(s)
Movable:	Table(s) on casters Castered chair (12) AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV presentation system Scheduling Panel Acoustically sensitive

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.10
SPACE:	Conference Room – Small
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	350
CAPACITY:	8
AREA:	240 NASF
NO. REQUIRED:	4
TOTAL AREA:	960 NASF
FUNCTION:	Room with central table for meetings and informal gatherings
RELATIONSHIP:	Distributed throughout each department
EQUIPMENT:	
Built-ins:	Glass board(s)
Movable:	Table(s) on casters Castered chair (8) AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV presentation system Scheduling Panel Acoustically sensitive

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.11
SPACE:	Lounge
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	650
CAPACITY:	10
AREA:	200 NASF
NO. REQUIRED:	1
TOTAL AREA:	200 NASF
FUNCTION:	Open space that should incorporate various arrangements of lounge furniture.
RELATIONSHIP:	Located adjacent to Meeting Rooms
EQUIPMENT:	
Movable:	Variety of tables and seating
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access Acoustically sensitive

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.12
SPACE:	Meeting Room - Small
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	680
CAPACITY:	10
AREA:	300 NASF
NO. REQUIRED:	2
TOTAL AREA:	600 NASF
FUNCTION:	Flexible learning environment with moveable tables for collaborative learning
RELATIONSHIP:	Proximity to floor lobby and Continuing and Professional Studies Group
EQUIPMENT:	
Built in:	Glass board(s)
Movable:	Tables on casters Castered chairs TU standard teaching station AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV Presentation system Instructor's station Scheduling panel Acoustically sensitive

DIVISION OF STRATEGIC PARTNERSHIPS AND APPLIED RESEARCH (SPAR)

ID:	1.14
SPACE:	Meeting Room - Medium
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	680
CAPACITY:	30
AREA:	750 NASF
NO. REQUIRED:	1
TOTAL AREA:	750 NASF
FUNCTION:	Flexible learning environment with moveable tables for collaborative learning
RELATIONSHIP:	Proximity to floor lobby and Continuing and Professional Studies Group
EQUIPMENT:	
Built in:	Glass board(s)
Movable:	Tables on casters Castered chairs TU standard teaching station AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV Presentation system Instructor's station Scheduling panel Acoustically sensitive

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID:	2.1
SPACE:	Associate or Assistant Vice President Office
DEPARTMENT:	Office of Technology Services
SPACE USE CODE:	310
CAPACITY:	1
AREA:	225 NASF
NO. REQUIRED:	4
TOTAL AREA:	900 NASF
FUNCTION:	Acoustically isolated, individual office with desk and filing storage with separate table for meeting with six chairs
RELATIONSHIP:	Close proximity to Administrative Assistant / Waiting Area
EQUIPMENT:	
Movable:	U-shaped desk and task chair Meeting table Guest chair(s) Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access Digital monitor mounted to wall

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID: 2.2
SPACE: Director Office
DEPARTMENT: Office of Technology Services
SPACE USE CODE: 310
CAPACITY: 1
AREA: 150 NASF
NO. REQUIRED: 6
TOTAL AREA: 900 NASF

FUNCTION: Acoustically isolated, individual office with desk and filing storage with separate table for meeting with four chairs

RELATIONSHIP: -

EQUIPMENT:
Movable: TU standard desk and task chair
Meeting table
Guest chair(s)
Lockable storage
File storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID:	2.3
SPACE:	Staff Office
DEPARTMENT:	Office of Technology Services
SPACE USE CODE:	310
CAPACITY:	1
AREA:	120 NASF
NO. REQUIRED:	30
TOTAL AREA:	3,600 NASF
FUNCTION:	Acoustically isolated, individual office with desk and filing storage with guest seating for two
RELATIONSHIP:	-
EQUIPMENT:	
Movable:	TU standard desk and task chair Guest chairs(s) Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID: 2.4
SPACE: Staff Workstation
DEPARTMENT: Office of Technology Services
SPACE USE CODE: 310
CAPACITY: 1
AREA: 80 NASF
NO. REQUIRED: 40
TOTAL AREA: 3,200 NASF

FUNCTION: Open office space with workstation and filing storage

RELATIONSHIP: -

EQUIPMENT:
Movable: Systems furniture
L-shaped desk and task chair
Lockable storage
File storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID: 2.5
SPACE: Office Service Storage
DEPARTMENT: Office of Technology Services
SPACE USE CODE: 315
CAPACITY: 0
AREA: 200 NASF
NO. REQUIRED: 8
TOTAL AREA: 1,600 NASF

FUNCTION: Storage / file room for department. May include shared printer / copier.

RELATIONSHIP: Located evenly throughout department adjacent to groups.

EQUIPMENT:
Movable: Storage shelving
Lockable storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID: 2.6
SPACE: EIS Engineering Lab and Storage
DEPARTMENT: Office of Technology Services
SPACE USE CODE: 315
CAPACITY: 6
AREA: 500 NASF
NO. REQUIRED: 1
TOTAL AREA: 500 NASF

FUNCTION: Workstations and storage for technicians

RELATIONSHIP: Central to EIS department

EQUIPMENT:
Built-ins: Work counter
Movable: Height adjustable benchtops (6)
Adjustable height task chair (6)
Storage cabinets (3)

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID:	2.7
SPACE:	EIS Operations Center
DEPARTMENT:	Office of Technology Services
SPACE USE CODE:	315
CAPACITY:	4
AREA:	500 NASF
NO. REQUIRED:	1
TOTAL AREA:	500 NASF
FUNCTION:	Workstations and meeting spaces for workgroup
RELATIONSHIP:	Central to EIS department
EQUIPMENT:	
Built-ins:	Work counter
Movable:	Systems furniture (4) Task chair (10) Meeting table
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID: 2.8
SPACE: OIS Operations Center
DEPARTMENT: Office of Technology Services
SPACE USE CODE: 315
CAPACITY: 6
AREA: 400 NASF
NO. REQUIRED: 1
TOTAL AREA: 400 NASF

FUNCTION: Workstations and collaboration table for workgroup

RELATIONSHIP: Central to OIS department

EQUIPMENT:
Built-ins: Work counter
Movable: Height adjustable benchtops (6)
Adjustable height task chair (6)

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID: 2.9
SPACE: Conference Room – Large
DEPARTMENT: Office of Technology Services
SPACE USE CODE: 350
CAPACITY: 30
AREA: 750 NASF
NO. REQUIRED: 1
TOTAL AREA: 750 NASF

FUNCTION: Room with central table for meetings and informal gatherings

RELATIONSHIP: -

EQUIPMENT:
Built-ins: Glass board(s)
Movable: Table(s) on casters
Castered chair (30)
AV credenza

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access
AV presentation system
Scheduling Panel
Acoustically sensitive

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID:	2.10
SPACE:	Conference Room – Medium
DEPARTMENT:	Office of Technology Services
SPACE USE CODE:	350
CAPACITY:	12
AREA:	300 NASF
NO. REQUIRED:	4
TOTAL AREA:	1,200 NASF
FUNCTION:	Room with central table for meetings and informal gatherings
RELATIONSHIP:	Distributed throughout each department
EQUIPMENT:	
Built-ins:	Glass board(s)
Movable:	Table(s) on casters Castered chair (12) AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV presentation system Scheduling Panel Acoustically sensitive

OFFICE OF TECHNOLOGY SERVICES (OTS)

ID:	2.11
SPACE:	Conference Room – Small
DEPARTMENT:	Office of Technology Services
SPACE USE CODE:	350
CAPACITY:	8
AREA:	240 NASF
NO. REQUIRED:	10
TOTAL AREA:	2,400 NASF
FUNCTION:	Room with central table for meetings and informal gatherings
RELATIONSHIP:	Distributed throughout each department
EQUIPMENT:	
Built-ins:	Glass board(s)
Movable:	Table(s) on casters Castered chair (8) AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV presentation system Scheduling Panel Acoustically sensitive

UNIVERSITY ADVANCEMENT (UA)

ID:	3.1
SPACE:	Vice President Office
DEPARTMENT:	University Advancement
SPACE USE CODE:	310
CAPACITY:	1
AREA:	250 NASF
NO. REQUIRED:	2
TOTAL AREA:	500 NASF
FUNCTION:	Acoustically isolated, individual office with desk and filing storage with separate table for meeting with four chairs
RELATIONSHIP:	Close proximity to Administrative Assistant / Waiting Area
EQUIPMENT:	
Movable:	U-shaped desk and task chair Meeting table Guest chair (6) Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access Digital monitor mounted to wall

UNIVERSITY ADVANCEMENT (UA)

ID:	3.2
SPACE:	Associate or Assistant Vice President Office
DEPARTMENT:	University Advancement
SPACE USE CODE:	310
CAPACITY:	1
AREA:	225 NASF
NO. REQUIRED:	7
TOTAL AREA:	1,575 NASF
FUNCTION:	Acoustically isolated, individual office with desk and filing storage with separate table for meeting with six chairs
RELATIONSHIP:	Close proximity to department
EQUIPMENT:	
Movable:	U-shaped desk and task chair Meeting table Guest chair(s) Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access Digital monitor mounted to wall

UNIVERSITY ADVANCEMENT (UA)

ID: 3.3
SPACE: Director Office
DEPARTMENT: University Advancement
SPACE USE CODE: 310
CAPACITY: 1
AREA: 150 NASF
NO. REQUIRED: 12
TOTAL AREA: 1,800 NASF

FUNCTION: Acoustically isolated, individual office with desk and filing storage with separate table for meeting with four chairs

RELATIONSHIP: -

EQUIPMENT:
Movable: TU standard desk and task chair
Meeting table
Guest chair(s)
Lockable storage
File storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

UNIVERSITY ADVANCEMENT (UA)

ID:	3.4
SPACE:	Staff Office
DEPARTMENT:	University Advancement
SPACE USE CODE:	310
CAPACITY:	1
AREA:	120 NASF
NO. REQUIRED:	14
TOTAL AREA:	1,680 NASF
FUNCTION:	Acoustically isolated, individual office with desk and filing storage with guest seating for two
RELATIONSHIP:	-
EQUIPMENT:	
Movable:	TU standard desk and task chair Guest chairs(s) Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access

UNIVERSITY ADVANCEMENT (UA)

ID: 3.5
SPACE: Staff Workstation
DEPARTMENT: University Advancement
SPACE USE CODE: 310
CAPACITY: 1
AREA: 80 NASF
NO. REQUIRED: 10
TOTAL AREA: 800 NASF

FUNCTION: Open office space with workstation and filing storage

RELATIONSHIP: -

EQUIPMENT:
Movable: Systems furniture
L-shaped desk and task chair
Lockable storage
File storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

UNIVERSITY ADVANCEMENT (UA)

ID:	3.6
SPACE:	Administrative Assistant Workstation
DEPARTMENT:	Strategic Partnerships and Applied Research
SPACE USE CODE:	310
CAPACITY:	1
AREA:	90 NASF
NO. REQUIRED:	2
TOTAL AREA:	180 NASF
FUNCTION:	Open office space with workstation and filing storage
RELATIONSHIP:	Located adjacent to supervisor and waiting area where applicable
EQUIPMENT:	
Movable:	Systems furniture Desk and task chair Lockable storage File storage
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access

UNIVERSITY ADVANCEMENT (UA)

ID: 3.7
SPACE: Office Service Storage
DEPARTMENT: University Advancement
SPACE USE CODE: 315
CAPACITY: 0
AREA: 200 NASF
NO. REQUIRED: 4
TOTAL AREA: 800 NASF

FUNCTION: Storage / file room for department. May include shared printer / copier.

RELATIONSHIP: Located evenly throughout department adjacent to groups.

EQUIPMENT:
Movable: Storage shelving
Lockable storage

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access

UNIVERSITY ADVANCEMENT (UA)

ID: 3.8
SPACE: Conference Room – Large
DEPARTMENT: University Advancement
SPACE USE CODE: 350
CAPACITY: 30
AREA: 750 NASF
NO. REQUIRED: 1
TOTAL AREA: 750 NASF

FUNCTION: Room with central table for meetings and informal gatherings

RELATIONSHIP: -

EQUIPMENT:
Built-ins: Glass board(s)
Movable: Table(s) on casters
Castered chair (30)
AV credenza

UTILITIES: Outlets to support space as per building code

SPECIAL REQUIREMENTS: Wireless internet access
AV presentation system
Scheduling Panel
Acoustically sensitive

UNIVERSITY ADVANCEMENT (UA)

ID:	3.9
SPACE:	Conference Room – Medium
DEPARTMENT:	University Advancement
SPACE USE CODE:	350
CAPACITY:	12
AREA:	300 NASF
NO. REQUIRED:	1
TOTAL AREA:	300 NASF
FUNCTION:	Room with central table for meetings and informal gatherings
RELATIONSHIP:	Distributed throughout each department
EQUIPMENT:	
Built-ins:	Glass board(s)
Movable:	Table(s) on casters Castered chair (12) AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV presentation system Scheduling Panel Acoustically sensitive

UNIVERSITY ADVANCEMENT (UA)

ID:	3.10
SPACE:	Conference Room – Small
DEPARTMENT:	University Advancement
SPACE USE CODE:	350
CAPACITY:	8
AREA:	240 NASF
NO. REQUIRED:	2
TOTAL AREA:	480 NASF
FUNCTION:	Room with central table for meetings and informal gatherings
RELATIONSHIP:	Distributed throughout each department
EQUIPMENT:	
Built-ins:	Glass board(s)
Movable:	Table(s) on casters ⁴ Castered chair (8) AV credenza
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Wireless internet access AV presentation system Scheduling Panel Acoustically sensitive

SUPPORT

ID:	4.1
SPACE:	ID/Data Rooms (IDF)
DEPARTMENT:	-
SPACE USE CODE:	710
CAPACITY:	0
AREA:	200 NASF
NO. REQUIRED:	12
TOTAL AREA:	2,400 NASF
FUNCTION:	Houses equipment for the building's computer and technology operations
RELATIONSHIP:	Somewhat central to each floor plan, stacked.
EQUIPMENT:	-
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Tech/UPS Power

SUPPORT

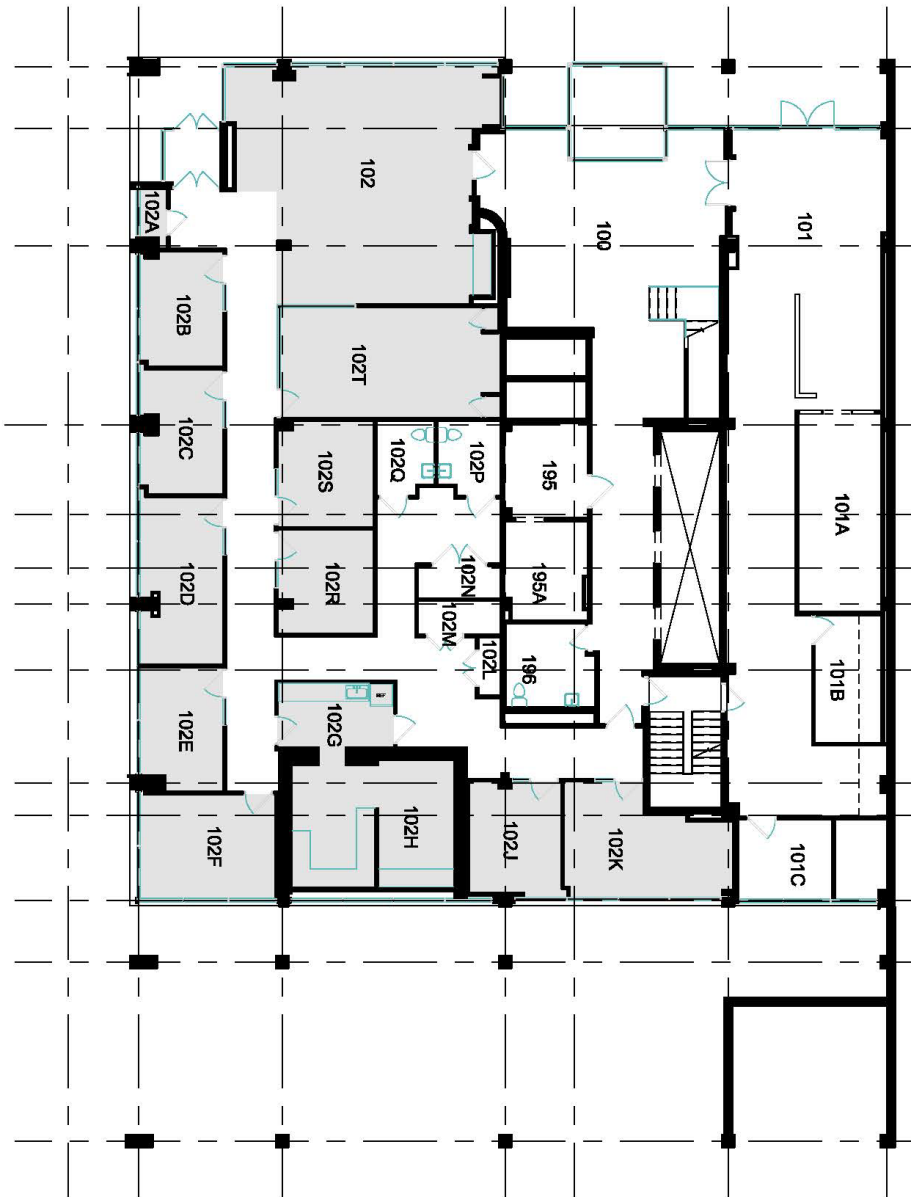
ID:	4.2
SPACE:	Custodial Closet
DEPARTMENT:	-
SPACE USE CODE:	710
CAPACITY:	0
AREA:	80 NASF
NO. REQUIRED:	1
TOTAL AREA:	960 NASF
FUNCTION:	Small space per floor to store and manage the routine maintenance of the building
RELATIONSHIP:	Located on each floor
EQUIPMENT:	Mop and broom holder
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	Sink Hose bib Floor drain Hot/cold water

SUPPORT

ID:	4.3
SPACE:	Lactation Room
DEPARTMENT:	-
SPACE USE CODE:	710
CAPACITY:	1
AREA:	60 NASF
NO. REQUIRED:	1
TOTAL AREA:	60 NASF
FUNCTION:	Private room for nursing mothers.
RELATIONSHIP:	-
EQUIPMENT:	Lounge chair
UTILITIES:	Outlets to support space as per building code
SPECIAL REQUIREMENTS:	ADA accommodation

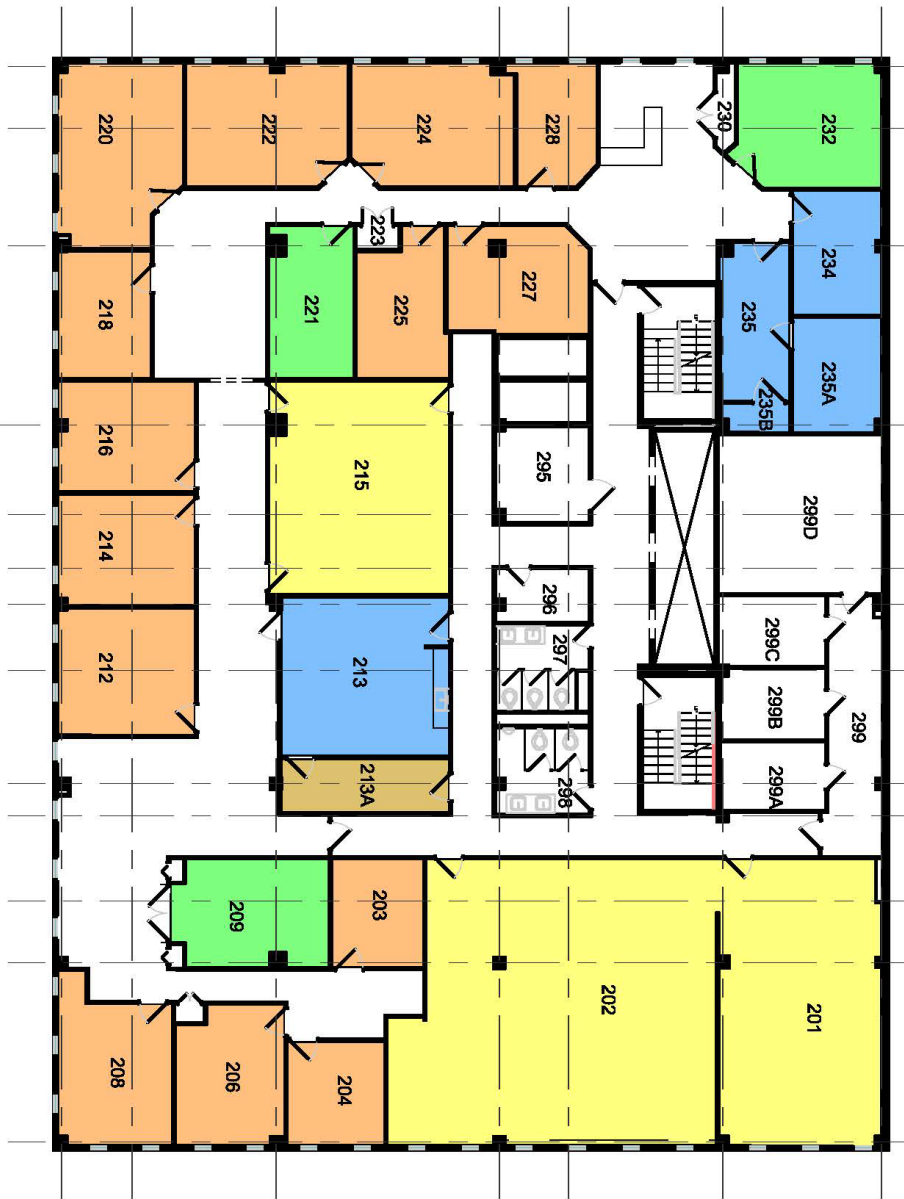
APPENDIX

A.1 BUILDING SPACE MANAGEMENT FLOOR PLANS



KEY
090 OTHER

401 WASHINGTON
FIRST FLOOR



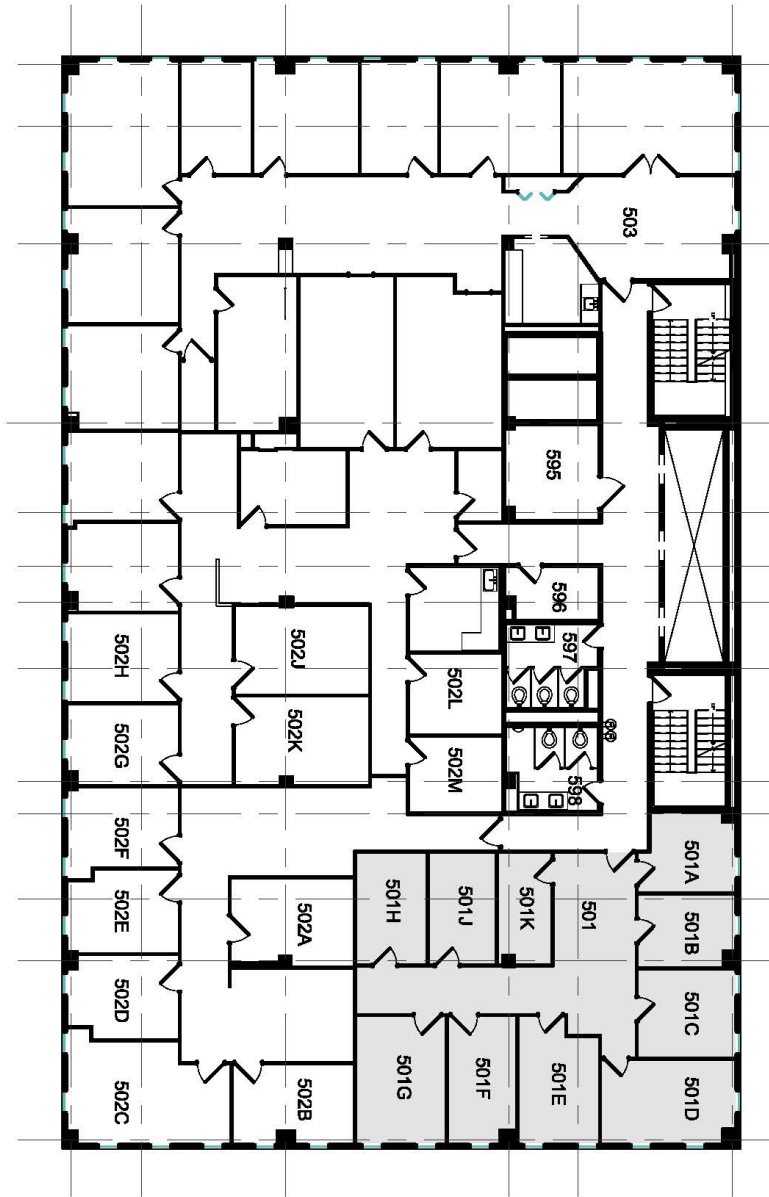
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 - 315 OFFICE SUPPORT
 - 350 CONFERENCE
 - 655 LOUNGE SERVICE
 - 680 MEETING

401 WASHINGTON
SECOND FLOOR



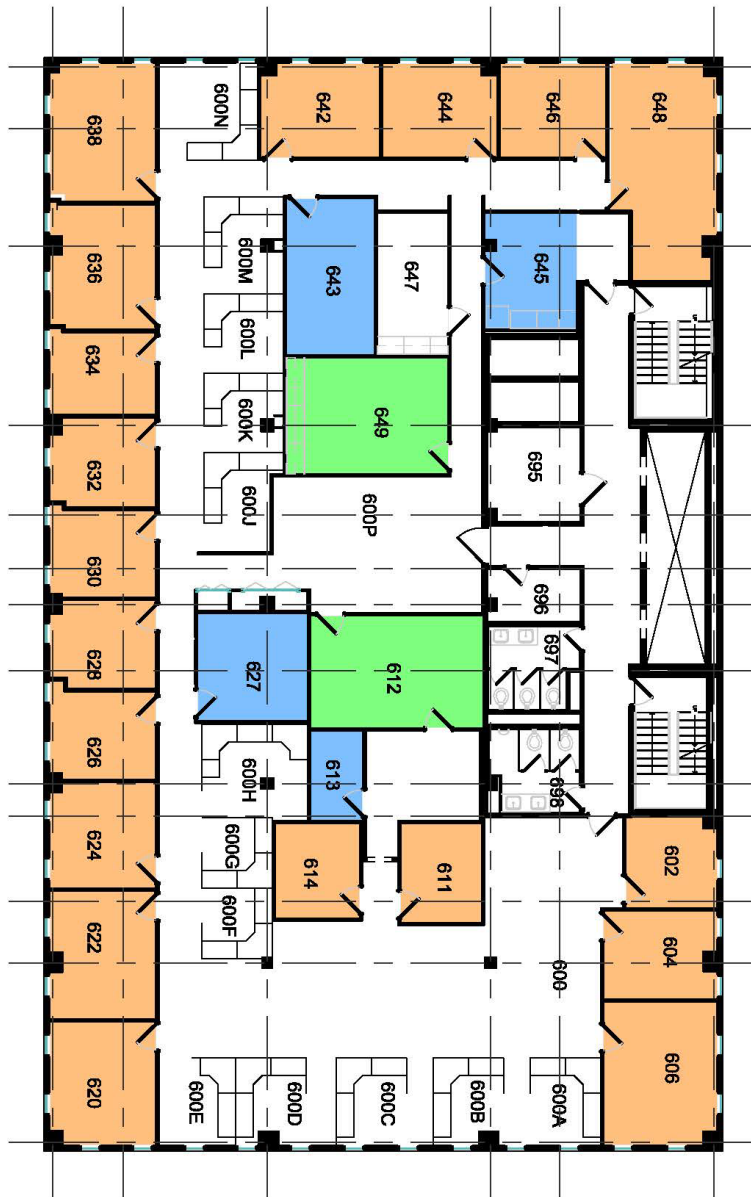
- KEY
- 310 OFFICE
 - 315 OFFICE SUPPORT
 - 350 CONFERENCE

401 WASHINGTON
FOURTH FLOOR



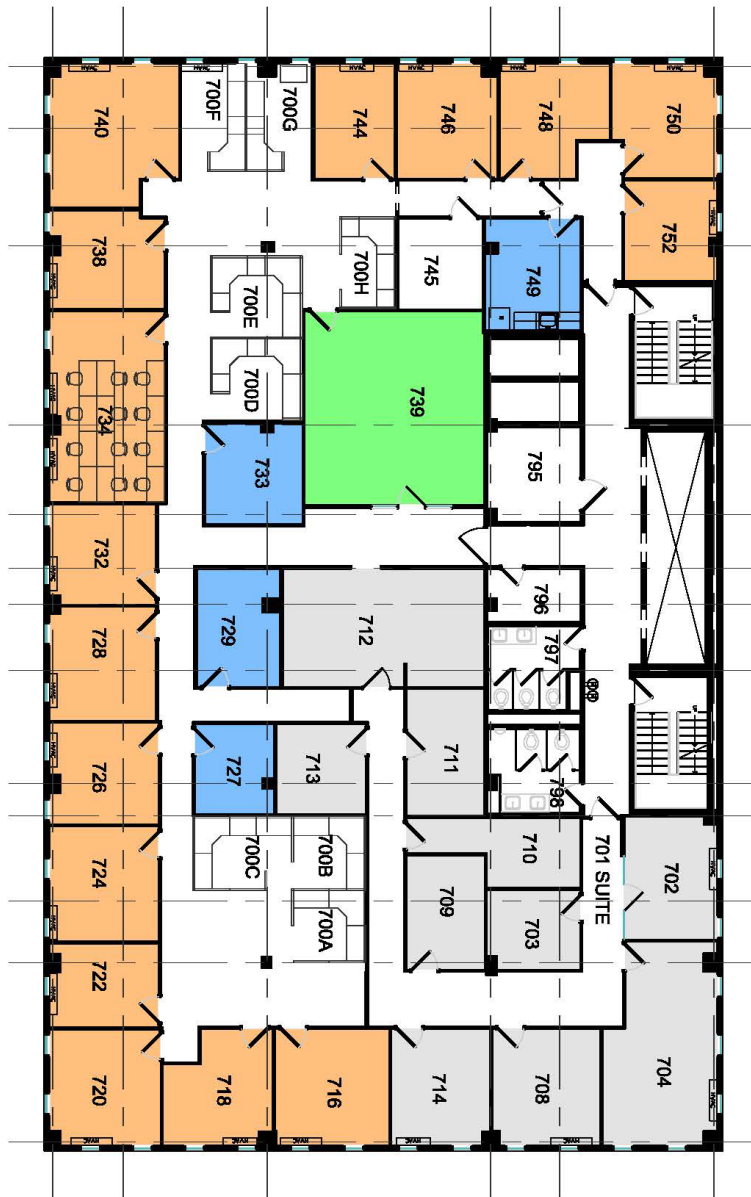
401 WASHINGTON
FIFTH FLOOR

KEY
090 OTHER



- KEY
- 310 OFFICE
 - 315 OFFICE SUPPORT
 - 350 CONFERENCE

401 WASHINGTON
SIXTH FLOOR



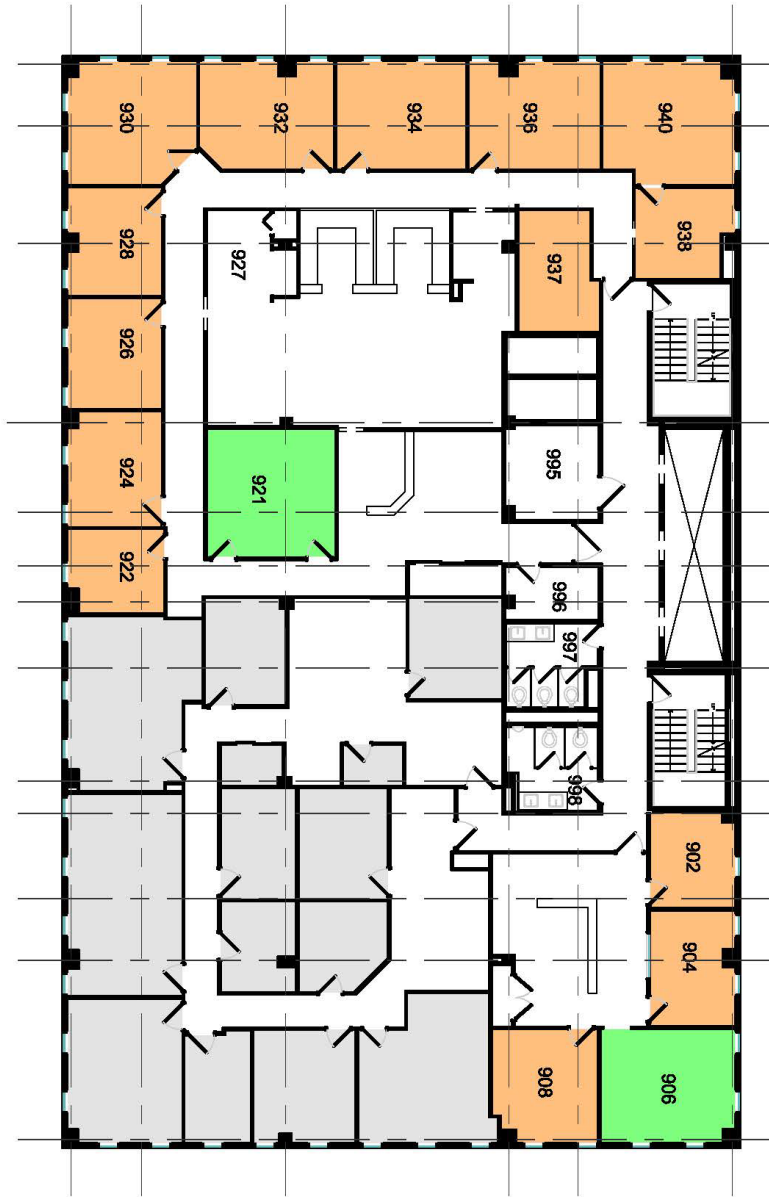
- KEY**
- 310 OFFICE
 - 315 OFFICE SUPPORT
 - 350 CONFERENCE
 - 090 OTHERS

401 WASHINGTON
SEVENTH FLOOR



- KEY
- 310 OFFICE
 - 315 OFFICE SUPPORT
 - 350 CONFERENCE

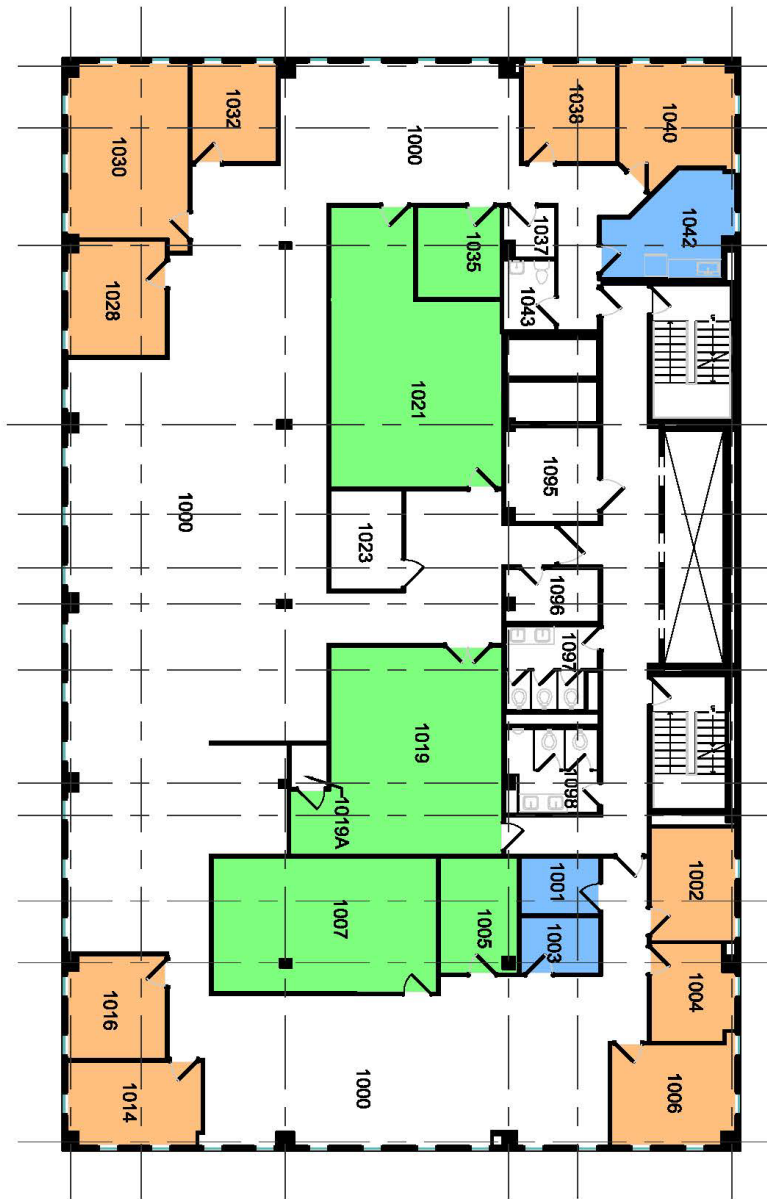
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EIGHTH FLOOR



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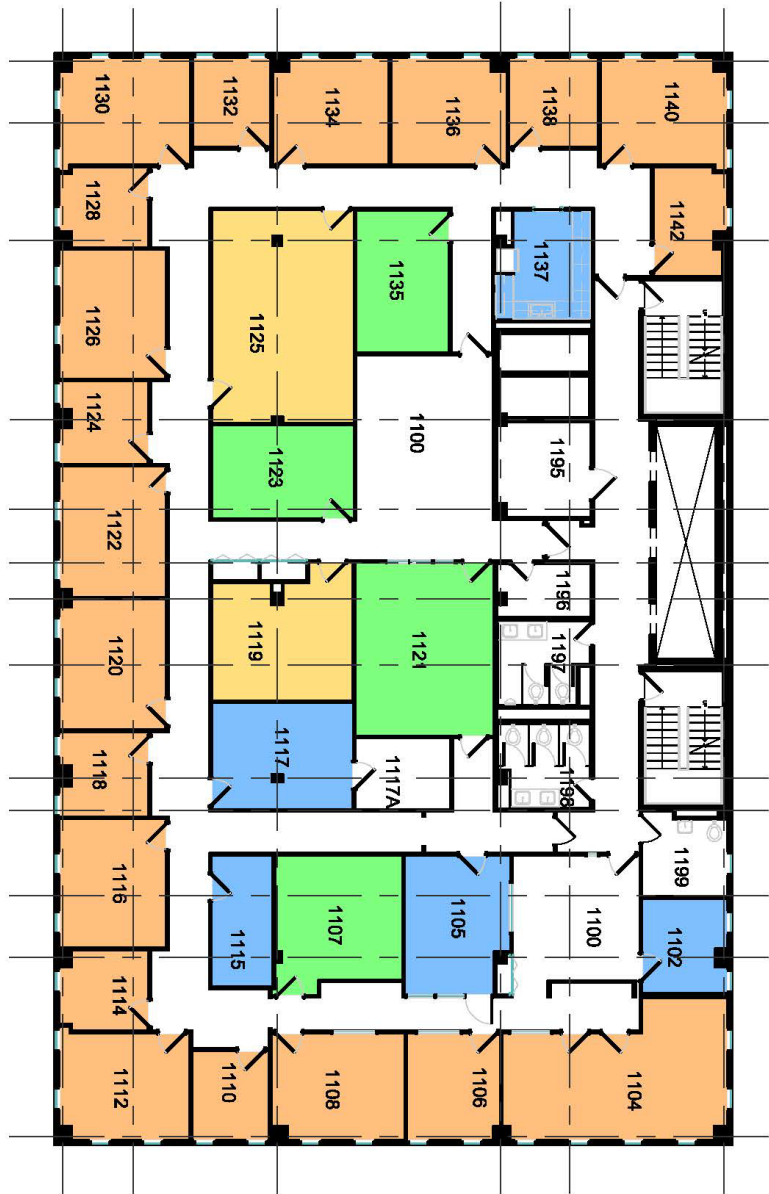
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Blue	315 OFFICE SUPPORT
Green	350 CONFERENCE
Grey	090 OTHERS

401 WASHINGTON
NINTH FLOOR



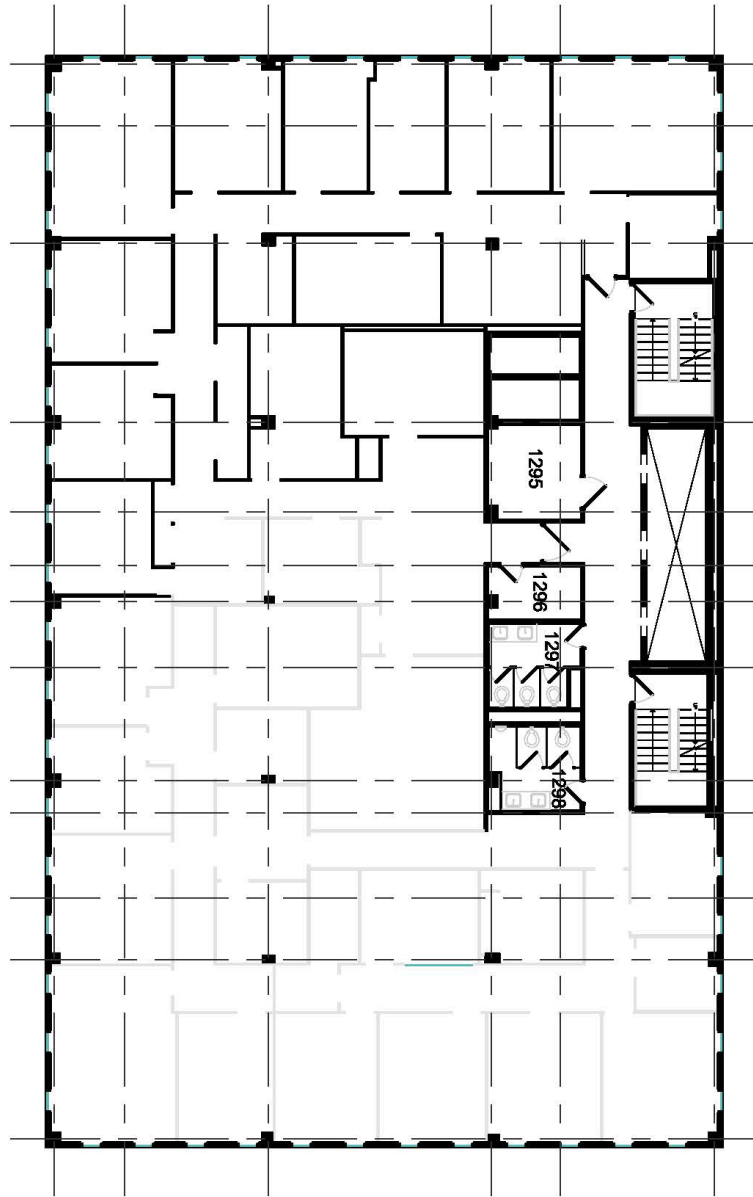
- KEY
- 310 OFFICE
 - 315 OFFICE SUPPORT
 - 350 CONFERENCE
 - 680 MEETING

401 WASHINGTON
TENTH FLOOR



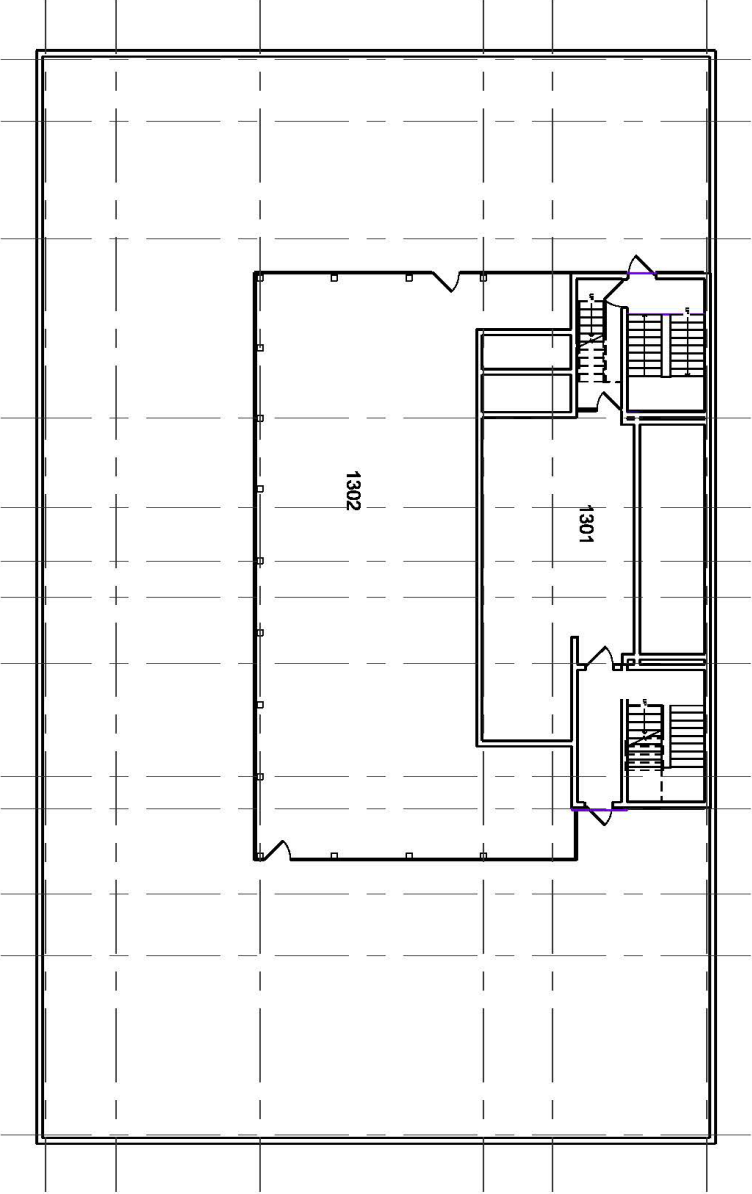
- KEY**
- 310 OFFICE
 - 315 OFFICE SUPPORT
 - 350 CONFERENCE
 - 680 MEETING

401 WASHINGTON
ELEVENTH FLOOR



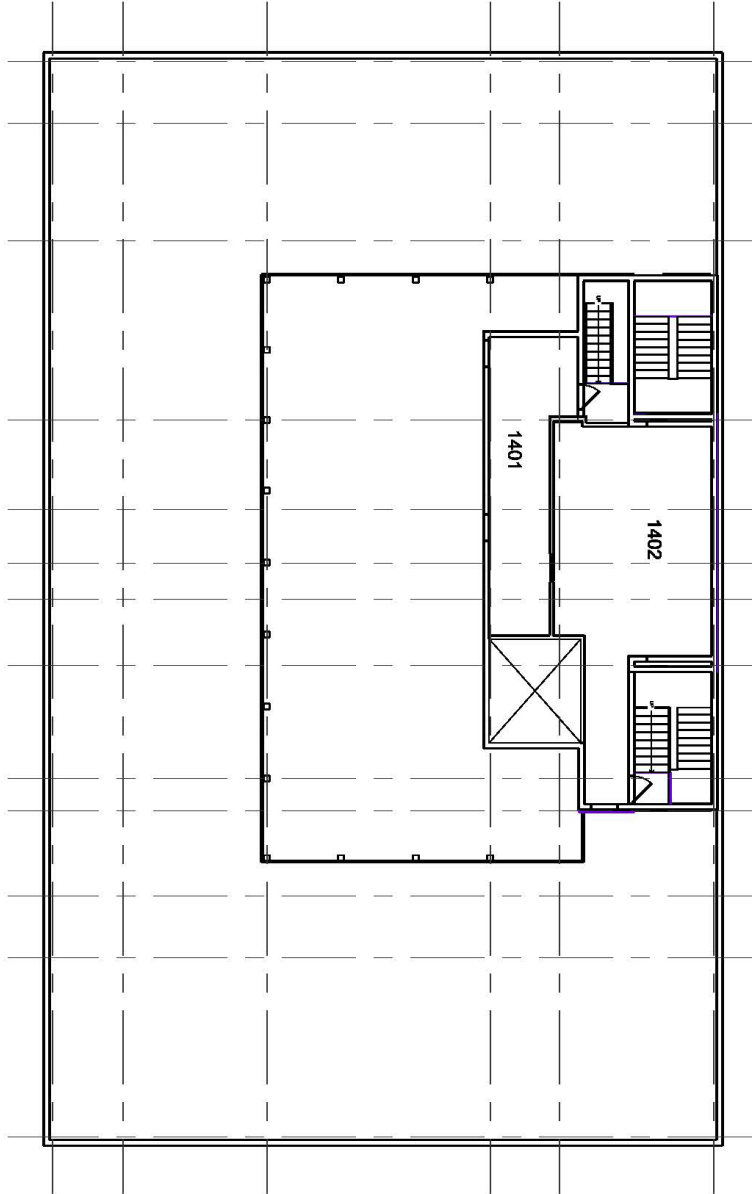
KEY

401 WASHINGTON
TWELFTH FLOOR



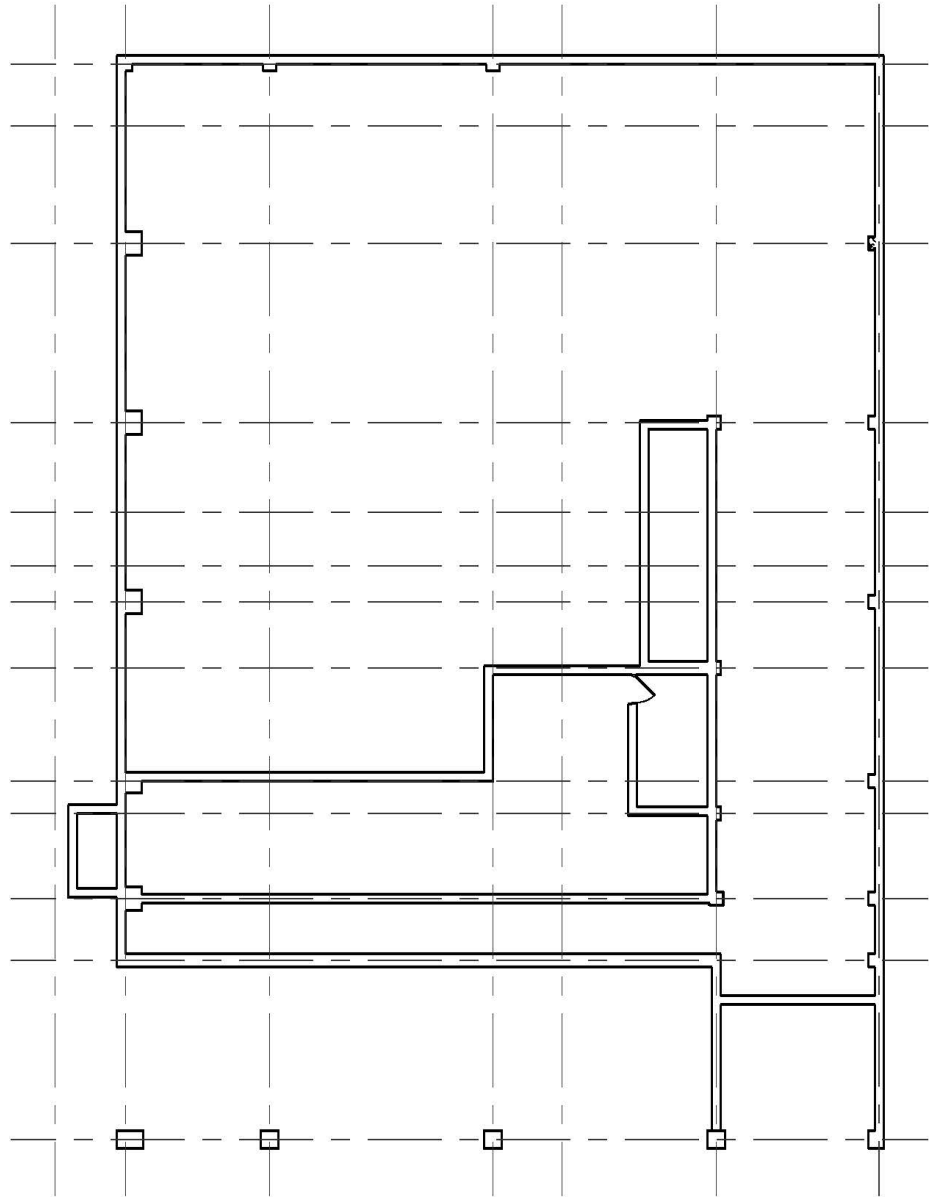
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THIRTEENTH FLOOR

KEY _____



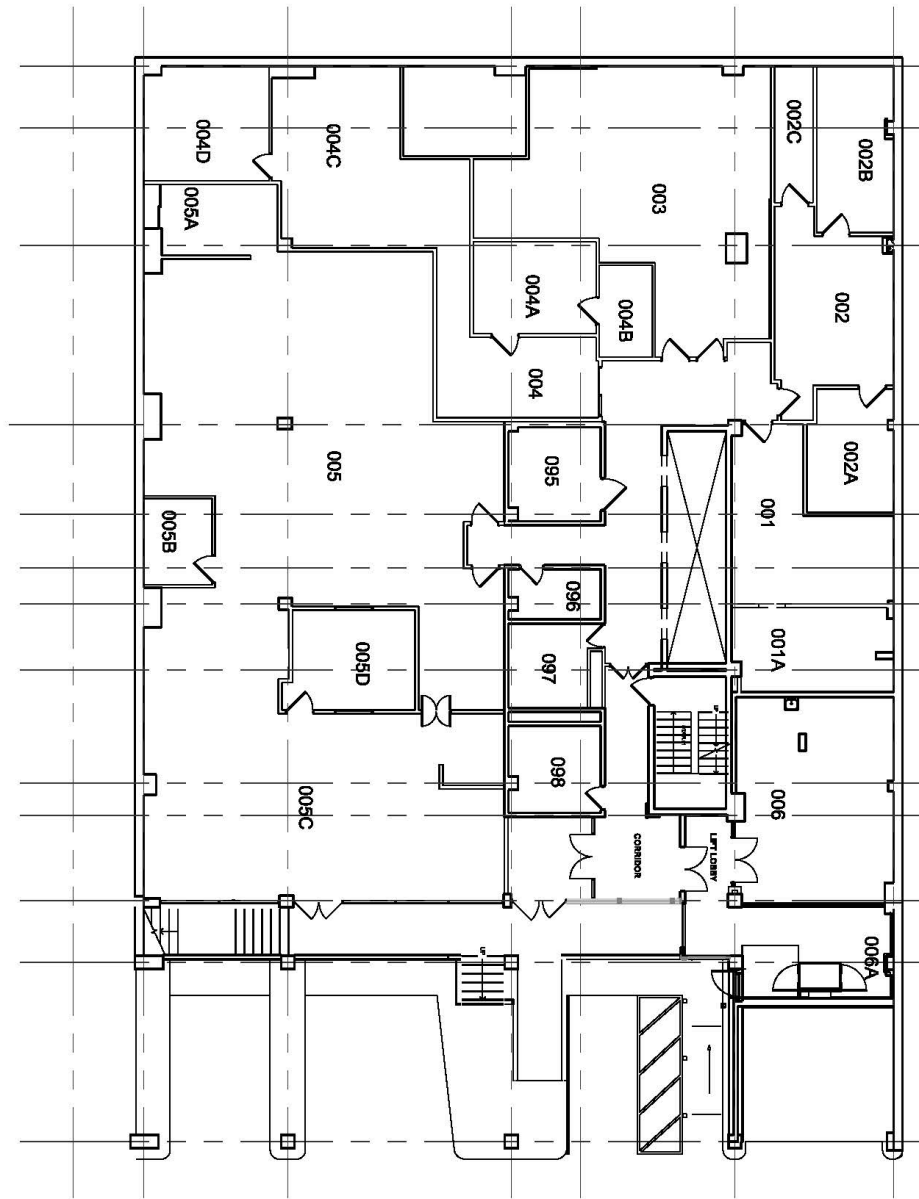
401 WASHINGTON
FOURTEENTH FLOOR

KEY _____



401 WASHINGTON
BASEMENT

KEY



KEY

401 WASHINGTON
LOWER LEVEL