Innovation Park

Jump Start Collins Building

SCHEMATIC DESIGN STUDY | CO-WORKING/FAB LAB FACILITY FOR START-UP BUSINESSES | 5.25. 2017

ALW

Architects Lewis + Whitlock

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Purpose

The Leon County R&D Authority/ Innovation Park commissioned Architects Lewis + Whitlock to complete a study of the Collins Building. This study consists of a building assessment and schematic design study to convert the Collins Building (at Innovation Park) into a co-working / fabrication lab facility for start-up businesses. The study explores the existing conditions of the building, with regard to layout, general systems condition, parking and accessibility. The study contains a space summary and conceptual plan developed in coordination with LCRDA representatives, as well as a cost projection for recommended renovations.

History and General Description

The Collins Building was an office facility developed for the Department of Natural Resources, Mines Reclamation and Marketing Extension Service, which was designed by Clemons Rutherford Associates, Inc. in 1985-6. The building is a long span steel framed structure on a concrete foundation. The one story structure floor is accessible through various personnel entrances around the building. The building was retrofitted with an ancillary storage bay on the north façade of the building bringing the total gross area of the building to 25,800 square feet. The site has 107 parking spaces, which includes 4 accessible spaces.

Existing Conditions
*The following statements are derived from field observations

The building façade appears to have been maintained in fair condition with no apparent issues needing immediate attention. The building is wrapped in a painted masonry block and stucco finish in overall good condition. Some components of the roof are in fair condition (metal panels), while other components are in need of repair or replacement (flashing at penetrations and fasteners). There are reported current leaks, as well as signs of water infiltration in the past.

There is a ventilated open plenum space above the ceiling. This is contributing to poor insulation and high humidity within the occupied space.

Fenestrations consist of insulated aluminum windows and a combination of hollow metal and aluminum storefront entrance doors. Windows are in fair condition throughout the building and do not appear to be leaking or fogged. All fenestrations appear to be intact and useful in their current condition, though some oxidation was observed on both frames and panels.

The grounds are well maintained with large open spaces as well as mature trees and landscaping. Sidewalks are in good condition with generally level entrances to the building. Parking surfaces and markings are in fair condition.

Interiors:
Office space interiors consist of:
- Carpet throughout which is in fair to poor condition.
- Wood doors in hollow metal frames with knob hardware, in fair condition.
- 2'x4' Acoustic ceiling tiles in suspended metal track at 8' AFF. The tiles are generally in poor condition. Most of the track is in fair condition, some is rusted or damaged.
- Partitions of painted gypsum over metal studs and vinyl base. Paint is in poor condition, gypsum is in fair condition.

Restroom spaces consist of:
- Ceramic tile in good condition.
- Wood doors in hollow metal frames with knob hardware, in fair condition.
- Gypsum ceilings at 8' AFF. The ceilings are generally in good condition.
- Partitions of painted gypsum over metal studs and cove tile base. Paint is in poor condition, gypsum is in fair condition.
- Millwork and vanities are aged laminate, generally serviceable if not attractive.
- Toilet partitions and accessories are generally in good condition.

Laboratory spaces consist of:
- VCT in poor condition.
- Wood doors in hollow metal frames with knob hardware, in fair to poor condition.
- 2'x4' Acoustic ceiling tiles in suspended metal track at 9' AFF. The tiles are generally in poor condition. Most of the track is in fair condition, some is rusted or damaged.
- Partitions of painted gypsum over metal studs and vinyl base. Paint is in poor condition, gypsum is in fair condition.
- Millwork is oak boxes with epoxy resin counter tops, which are generally serviceable.
- There is assorted lab equipment including fume hoods. The fume hoods are not compliant with current code. Status of additional equipment is not known.

There are secondary spaces including janitor's closets and a break room. These spaces are in keeping with the rest of the building.

There is also a test kitchen in the southwest corner of the building which is leased by the Florida Department of Agriculture. This area has been renovated within the last few years and is in good condition. Further analysis of this area is not within the scope of the present survey.

The building appears to have adequate egress pathways in addition to no fare or life safety issues related to architectural features.

Structural Investigation
The building is a conventional pre-engineered metal building system constructed of tapered rigid frames supporting light framed purlins, and a metal roof. The roof structure supports suspended acoustic tiles, mechanical batt insulation at the roof and ceiling level. The exterior walls are constructed of a single wythe of painted eight-inch-thick reinforced masonry. The construction documents show these exterior walls on a shallow strip footing independent of the building slab.

The site investigation was conducted on February 28, 2017. There were no major structural deficiencies observed. The only notable observed deficiencies were minor non-structural maintenance issues as follows:

1. Roof leaks were observed at random locations around the perimeter of the building which are resulting in damage to the ceiling finishes. It may be possible some of this moisture is coming through the walls as well. There were no signs that this moisture is doing substantial damage to the structure.
2. The building soffits are damaged in several locations consisting of light corrosion or missing/ disconnected soffit panels and closure strips.
3. Oxidation of the exterior steel doors on the south side of the building.
4. Leaves clogging the gutters and downspouts.
5. Trees originally placed close to the building have matured and are growing into the building structure. This will result in wear on the exterior finishes.

A code review of the 2014 Florida Building Code - Existing Building Edition was conducted to determine the structural implications of a renovation. The renovation was assumed to be a level 2 alteration of over 50% of the interior space and possibly re-roofing the existing structure. Two conditions that could trigger a requirement to have the existing building evaluated certified to meet the wind provisions of the current code are as follows:

1. The change in occupancy increases the risk category of the structure. Occupancies that would increase the risk category would be assembly areas in typical church or lecture hall or a modification to emergency response facility.
2. Modifications to the exterior building that increase the wind profile resulting in more than a 5% stress increase in wind load resisting components. An increase in wind profile could be the result of adding additional height to parapets or additions to the building that are not structurally stable independent of support from the existing structure.

To complete the wind certification, the existing tapered building frames and other roof components would have to be field measured and evaluated by a structural engineer to determine if they have sufficient capacity to meet the current wind provisions. Typically, these pre-engineered tapered frame structures are cost effective for construction because they are designed to the minimum design standard leaving little additional capacity for supplementary loading. It is likely that the existing frame structure will require reinforcing to meet an increased risk category in the most current wind provisions.

A similar requirement is in place for adding addition weight to the roof structure. Section 807.4 of the FBC Existing Building Code requires any existing structural members supporting additional gravity loads must be evaluated to demonstrate that they have capacity to support the new loads unless the stress increase due to the additional loading is limited to 5%. For this building, it is estimated that an increase of approximately one pound per square foot (PSF) of additional roofing load would increase the stresses by 5% in the existing members. If the exiting roof is to be re-roofed with a system that overlays the existing roof system and weighs more than 1 PSF, an engineering evaluation of the existing structure will be required.

In conclusion, if the new occupancy is similar to the current occupancy and the exterior facade is left unaltered the structure will likely not be required to the current wind load previsions of the building code. If a new roof is put on above the existing roof and/or additional weight is suspended from the roof structure that exceeds one pound per square foot the structure will have to be evaluated by a structural engineer.

See Appendix for Photo Essay.

MEP Investigation

Methodology and Assumptions:

- Construction documents developed by Clemons, Rutherford & Associates, Inc. dated October 31, 1986, with renovations dated October 18, 1989 were provided to H2Engineering by the owner representative. These documents were used in conjunction with field observations to develop this existing conditions description.

HVAC:

- HVAC systems serving the facility consist of several split system heat pumps ranging in size from approximately two to 5 tons. The majority, if not all, of the systems were replaced in or about 2011 and appear to be in sound working order with at least half of their expected useful life remaining. Outdoor condensing units are located at ground level around the perimeter of the building. Indoor air handling units are suspended above the lay-in ceilings. A preliminary understanding of the HVAC zoning is attached as Exhibit A.
- The existing laboratory fume hoods do not meet current environmental health and safety standards and untreated make-up air is supplied at the face of the hood. This method tends to present containment difficulties and can often contribute to higher space relative humidity leading to poor indoor air quality. If the space use includes laboratory fume hood applications, we recommend new hoods and exhaust fans be provided and any make-up air introduced to the space be treated either by the HVAC systems or more likely a dedicated outdoor air system to ensure proper humidity control and improved indoor air quality. The approach will depend on demand and amount and size of desired hoods.
- One matter of concern somewhat related to HVAC is that the existing facility is designed with a ventilated space above the lay-in ceiling system. In the humid environment of Tallahassee, this scheme does little to prevent moisture migration from the ventilated space into the occupied space, contributing higher levels of relative humidity in the occupied space and chances of mold growth. Evidence of this condition was observed in the bowing of the ceiling tiles, a tell-tell sign of high levels of moisture within the ceiling system.

Plumbing:

- The plumbing systems capacities seem to be adequate to serve the facility, however ADA and cosmetic upgrades should be considered.

Electrical:

- The existing electrical service is 277/480 volt, 3 phase, 4 wire with a 600 amp main under one electric meter. The service size is adequate for the current business occupancy. There is no emergency generator or emergency distribution system serving the building.
- The lighting is mostly 2 x 4 fluorescent recessed troffers. Emergency lighting is powered with battery power at individual lighting units. All lighting controls are manual and do would not meet current FBC energy code require-

ments for automatic controls.

Low Voltage Systems:

- The data wiring is free-wired above the existing lay-in ceiling. Server rooms do not appear to meet the current server room shutdown code requirements.
- There is no central fire alarm system. If the occupancy remains under 300 a fire alarm system is not required however it may be desired. The existing air handling units have their required smoke detectors. Code required monitoring of these detectors appear to be provided.

Accessibility Summary

By renovating the Collins Building, many systems, including handicap accessibly, need to be updated to meet current standards. The Florida Building Code Accessibility 202.4.2 states that in choosing which accessible elements to provide, priority should be given to those elements that will prove the greatest access in which the highest priority is an accessible route to the entrance. In addition FBC-A 206.2.1 states that buildings require an accessible route to public streets and sidewalks. This should not pose a problem to the Collins Building because of its location on the site. It is a relatively level site.

The existing bathrooms require modification to meet current accessibility standards. There are no bathroom stalls that are large enough to provide the required turning radius in addition to missing a handicap accessible sink. To alleviate the deficiency in accessible stalls it could require relocation of toilets, adding handicap accessible lavatories, and reconfiguring various stall partitions in addition to cropping a portion of exiting countertop. New finishes and fully accessible fixtures and accessories in addition to all new flooring in the restrooms should be replaced as part of the renovation.

New dual-level drinking fountains need to be included in the renovation of Collins to satisfy the fountain count as required by the Florida Building Code. Also the aging built-in cabinetry in the break rooms and the new break rooms need to meet accessibility standards for handicap access. In addition, most interior personnel doors lack ADA hardware.

Analysis and Conclusion

Analysis of the information AL+W has gathered relative to the Collins Building has led to the following general recommendations for improvements to the Collins Building and space planning considerations for proposed business incubator occupancy.

The following items comprise the base cost estimate for renovations:

Site:

1. Provide accessible drive for deliveries to North entrance

Building:

1. Paint exterior.
2. Provide enlarged entrances at north and east for equipment and material access.
3. Install new roof. Cost saving option is to repair existing roof by replacing fasteners, flashings, etc.
4. Restroom renovation is necessary to meet accessibility standards
5. Renovate Wet Lab Facility. Include millwork, plumbing, fume hoods, and gas piping in addition to partitions lighting and controls, HVAC, and finishes.
6. Build-out for offices, meeting room, and collision space. Includes partitions lighting and controls, HVAC, and finishes.
7. Provide fire sprinkler system as required by building code.
8. The existing HVAC system will be retrofitted and supplemented as needed to provide for revised occupancy.
9. The existing electrical system will be retrofitted and supplemented as needed to provide for revised oc-

Schematic Design Summary

The JumpStart program will be a mixed-use incubator (Stage 2 companies) occupying 23,000 SF of the Collins Building, located in Innovation Park. Also occupying this building is the Florida Kitchen, leased through 2022. JumpStart plans to create partnerships with both Innovation Park and the FAMU-FSU College of Engineering to share resources. Engineering students may also be utilized for space management/ equipment maintenance. Many start-ups will begin in wet lab and move into product development – assemblage/ office space. All finishes to be replaced. A professional look is to be achieved while designing the maker's space around the concept of "garage/ tinkering" with an open lounge/ collaboration space. Leasable space is to be maximized.

The south entrance provides a professional atmosphere to greet visitors. It includes a reception area with seating. The space is flanked by the facility managers office and provides a view into the collision space at the heart of the facility. It provides direct access to the large meeting room at the west end of the building.

The north entrance will be enhanced to provide for materials and equipment to enter the building as well as being the primary entrance for tenants and staff.

There are +/-14 offices that may be leased or utilized by staff. Most are concentrated just west of the south entrance, some are situated in proximity to the wet lab.

The wet lab space is anchored near its current location on the north side of the building to minimize relocation of systems. It is divided into three large labs (500SF) and three smaller labs (150-200 SF). One of the large spaces will be fitted out for shared use. The remainder will be provided with the basic requirements for leased lab space.

The collision space occurs in the center of the facility at the intersection of the two main axis of circulation. This area is a dynamic space with a variety of microenvironments to facilitate interaction and sharing in relaxed and playful settings. There is table and bar and sofa seating, with a small kitchen and vending area. There is a display wall and marker boards to carry the theme of innovation into the space.

The eastern end of the building is dedicated to maker space, incubator bays and work area. The intent is to maintain an open connection while providing for necessary fire separations. The incubator bays will vary in size from 1,000 square feet to a few hundred square feet. They are grouped according to the intensity of manufacturing that is anticipated in the HVAC, electrical and plumbing designs. Large aisles are intended to provide circulation for a forklift to maneuver. They are separated by gypsum partitions

There is an open office area at the far east of the building to add to the usable work areas available. There is also a small conference room for impromptu meetings and presentations.

The innovation lab is within the incubator area. It is a collection of shared spaces with metal, wood, electronics and technology shops. It is located on the south side and will have views into the collision space. Alternately it may be located on the north side of the building to facilitate delivery of material and the management of exhaust and dust collection.

MEP Schematic Narrative and Opinion of Probable Cost

Purpose and Objectives

- Architects Lewis + Whitlock contracted H2Engineering to support its conditions assessment and concept development efforts related to the Collins Building located at 2051 East Paul Dirac Drive, Tallahassee Florida. H2Engineering's focus is limited to the HVAC, plumbing and electrical systems within the building.
- The following commentary will outline our understanding of the programmatic needs and the demands on the existing MEP related infrastructure and will propose possible solutions or reasonable expectations of the MEP related requirements to support the desired program.

Methodology and Assumptions

- Construction documents developed by Clemons, Rutherford & Associates, Inc. dated October 31, 1986, with renovations dated October 18, 1989 were provided to H2Engineering by the owner representative. A site inspection was conducted on February 28, 2017 by Ryan Chewning, P.E. and Mike O'Neil. The following narrative considers the observed conditions and interpretations derived from available resource information.

- Additionally, H2E has been provided with Space Planning Information developed by ALW dated April 17, 2017. Along with the Space Planning Information, H2E has been provided with three Schematic Concept Diagrams. Of which, concept A3 along with the above items and our developed understanding of the facility serve as the basis of the following commentary.

Fire Protection

- NFPA 45 is the standard that addresses the requirements for the protection of life and property through prevention and control of fires and explosions involving the use of chemicals in laboratory-scale operations. It is designed to control hazards and protect personnel from the toxic, corrosive, or other harmful effects of chemicals to which personnel might be exposed as a result of fire or explosion. Laboratory classifications are based on the quantitates for flammable and combustibles present in the space. The applicability of NFPA 45 should be addressed early in the project concept development. We also understand that occupancies will include “general industrial occupancy” (F-1 in Florida Building Code) and potentially separated Business and Assembly occupancies. An automatic fire sprinkler system is proposed for this project.

HVAC

- Existing HVAC systems serving the facility consist of several split system heat pumps ranging in size from approximately two to 5 tons. The majority, if not all, of the systems were replaced in or about 2011 and appear to be in sound working order with at least half of their expected useful life remaining. Outdoor condensing units are located at ground level around the perimeter of the building. Indoor air handling units are suspended above the lay-in ceilings. A preliminary understanding of the HVAC zoning has been provided in previous documents.
- It is reasonable to expect that the existing HVAC systems could serve the general office areas and core circulation spaces with minor modifications.
- The existing laboratory fume hoods do not meet current environmental health and safety standards and untreated make-up air is supplied at the face of the hood. This method tends to present containment difficulties and can often contribute to higher space relative humidity leading to poor indoor air quality. We recommend that the existing fume hood exhaust and make-up air systems be removed in their entirety and a modern, industry accepted system be provided for the wet laboratory spaces indicated in the current Schematic Concept Diagrams. We recommend new hoods and laboratory fume hood exhaust fans be provided and any make-up air introduced to the space be treated either by the HVAC systems or preferably a dedicated outdoor air system (DOAS) to ensure proper humidity control and improved indoor air quality. The approach will depend on demand and amount and size of desired hoods. A likely scenario would entail providing a packaged or split system DOAS unit to service the wet lab spaces and will require either outdoor unit installation with exterior mounted ducts up and into the above ceiling space or an indoor air handling unit in a dedicated machine room near the laboratory spaces.
- Similar to the wet lab spaces addressed above, the HVAC systems serving the other labs, fabrication areas and shop type spaces will be highly dependent on the activities taking place in those areas. Often, these spaces require collection and exhaust of hazardous fumes (soldering, welding, solvent based cleaning, etc.) or particulates from machining or wood working activities. Dedicated collection and exhaust systems with articulating arms should be employed in these areas and conditioned make-up should replace the exhausted air volume. There is the potential to apply the DOAS system mentioned above to pretreat the entire building outside air and distribute to the respective spaces based on a demand control system referencing the space pressures relative to adjacent spaces and the outdoors. The goal would be to maintain a slightly negative environment in the laboratory and shop spaces and lightly positive pressures in the general use and circulation spaces.
- Transfer of odors and particulates from one space to another will also be a concern. In this case, room air from contaminant generating spaces should not be recirculated. This often demands a dedicated HVAC system for those spaces or those spaces must be 100% exhausted without recirculation.
- While temperature control may be accomplished by the existing small split system units above the ceiling, the potential for high and very variable exhaust rates is anticipated to demand a more sophisticated approach.
- One matter of concern somewhat related to HVAC is that the existing facility is designed with a ventilated space above the lay-in ceiling system. In the humid environment of Tallahassee, this scheme does little to prevent

moisture migration from the ventilated space into the occupied space, contributing higher levels of relative humidity in the occupied space and chances of mold growth. Evidence of this condition was observed in the bowing of the ceiling tiles, a tell-tell sign of high levels of moisture within the ceiling system. Consideration should be given to improving the building envelop and closing the ventilated space above the ceiling.

Plumbing

- The building is served by a 2 ½" water service and a 4" sanitary main, both are fed from the north to utilities along E Paul Dirac Drive. The plumbing systems capacities seem to be adequate to serve the facility, however ADA and cosmetic upgrades should be considered.
- Caustic or corrosive drainage generated in the wet lab and other area should be captured and/or neutralized by point of use neutralization traps to reduce the need for large central acid waste drainage system and neutralization tanks.
- Natural gas is available from the local utility and can be extended for laboratory use as needed.
- Other piped systems including compressed air, vacuum and pure water can be generated at larger, shared central equipment and piped throughout the facility or smaller benchtop (or similar), loose equipment could be provided to generate these services only when and where needed.
- Emergency shower/eyewash safety stations should be located convenient to any activities that may present risk of contact hazard. In general, the ANSI standard provides that emergency equipment be installed within 10 seconds walking time from the location of a hazard (approximately 55 feet) and the path of travel from the hazard to the equipment should be free of obstructions and as straight as possible.

Low Voltage Systems

- The data wiring is free-wired above the existing lay-in ceiling. Server rooms do not appear to meet the current server room shutdown code requirements.
- There is no central fire alarm system. If the occupancy remains under 100 a fire alarm system is not required however it may be desired. The existing air handling units have their required smoke detectors. Code required monitoring of these detectors appears to be provided.

Electrical

- The existing electrical service is 277/480 volt, 3 phase, 4 wire with a 600 amp main under one electric meter. The service size is adequate for the current business occupancy however, since the building will become a general industrial occupancy with a significant increase of electrical equipment, the existing electrical service is anticipated to be inadequate. We propose a new free-standing exterior cubicle located near the existing pad mounted transformer on the south side of the building. This cubicle will have a meter, CTs, and two 600 amp main breakers. One breaker will sub-feed the existing main service and the other will serve a new 277/480 volt 600 amp panel to serve loads on the industrial side of the building.
- The new panel could feed the DOAS, fume hood exhaust fans and other large equipment loads in the manufacturing /assembly and innovation lab areas. A new 112.5 KVA transformer could feed two new 120/208 volt distribution panels to provide ample capacity and breaker spaces to serve the individual circuits in each of the leased spaces. The new 600 amp panel, step down transformer and distribution panels will be located in a new electrical room on the manufacturing side of the facility. The old meter will be removed and the building will remain under one service meter.
- There is no emergency generator or emergency distribution system serving the building nor is one recommended or proposed.
- Interior LED lighting is becoming industry standard and is recommended to increase energy efficiency and reduce the maintenance demands of lamp replacement. Industrial type light fixtures should be provided in the shop, manufacturing and assembly areas while architectural volumetric fixtures are proposed for the general office and circulation areas. Architectural feature lighting could be envisioned in the reception and gathering areas. Automatic lighting controls such as vacancy sensors will be required by code in areas where those controls would not pose a hazard. Emergency egress lighting could be provided with an emergency lighting battery in-

verter to further reduce maintenance demands when compared to individual battery powered fixtures.
- Another code driven energy reduction feature that will be required is plug load controls. Current energy code requires 50% of wall plugs in offices and computer labs to have automatic on/off controls.
- Along with other life safety components, a new fire alarm system is anticipated.
- Cabling and conduit systems for telecommunications will be necessary and the existing telephone room should be enlarged to accommodate the facility's new demands. An area wireless network is also anticipated.

MEP Opinion of Probable Cost
Please review all notes carefully. These notes and the cost figures are our Opinion of Probable Construction Cost and reflect our understanding of the referenced project.

- This is an "Order of Magnitude Opinion". It is concept based and is made without a detailed design developed.
- This cost opinion assumes open, competitive bidding.
- This cost opinion does not include general conditions, general contractor's overhead and profit, construction manager fees or professional services design fees.
- This cost opinion does not include inspection fees, permitting fees, etc.
- This cost opinion does not include removal of any hazardous materials.
- This cost opinion does not include general demolition.

Trade or Division	Cost in Dollars US
HVAC	$585,000
3-5 fume hoods and VAV lab exhaust system	
2 dust collection systems (wood and metal shops)	
DOAS for entire project area	
Repurpose existing DX systems as applicable	
Plumbing	$230,000
Lab piping systems (gas, compressed air, vacuum, pure water, acid drainage and neutralization)	
Existing restroom renovations	
New ADA restroom	
Fire Sprinklers	$115,000
New fire service, backflow, fire dept. connection	
Automatic wet pipe system throughout	
Electrical	$750,000
New 1200 amp service and upgraded distribution system	
LED lighting and automatic controls	
Fire alarm system	
Telecom raceways and cabling	

Space Summary

Space Name	Space No.	Net Space (NSF)	Net Space Total (NSF)	Net-Gross Factor	Gross Area (GSF)	Use	Notes
Reception	1	450	450	1.50	675	Admin	North Entrance - Seating area
Facility Manager	1	150	150	1.50	225	Admin	1-2 workstations
Student Office	1	150	150	1.50	225	Admin	Multiple workstations
Open Office	1	500	500	1.50	750	Leased Space	6-8 workstations
General Office	12	120	1,440	1.50	2,160	Leased Space	1 workstation
Rest Rooms	1	400	400	1.50	600	Admin	existing restrooms
Janitor	1	40	40	1.50	60	Storage	janitor equipment
Storage	1	80	80	1.50	120	Storage	various equipment
Mechanical Room	1	80	80	1.50	120	Mechanical Equipment	mechanical equipment
Copy Area	1	100	100	1.50	150	Admin/Shared	shared office equipment
Subtotal			**3,390**		**5,085**		
Space Summary | Collision / Meeting							
Collision Space	1	1,000	1,000	1.50	1,500	Admin	visibility, kitchen, seating
Storage (Meeting Room)	1	270	270	1.50	405	Storage	furniture storage, meeting room support
Meeting Room	1	1,150	1,150	1.50	1,725	Admin, Events, Lease	100 Occupants
Conference Room	1	200	200	1.50	300	Admin	4-6 people, impromptu meetings, adjaceny to leasable bays
Subtotal			**2,620**		**3,930**		
Space Summary | Innovation Lab							
Electronics Lab	1	445	445	1.40	623	Shared Lab/ Work Space	See equipment schedule
Tech Lab	1	500	500	1.40	700	Shared Lab/ Work Space	See equipment schedule
Wood Lab	1	600	600	1.40	840	Shared Lab/ Work Space	See equipment schedule
Metal Lab	1	600	600	1.40	840	Shared Lab/ Work Space	See equipment schedule
Subtotal			**2,145**		**3,003**		
Space Summary | Wet Lab							
Shared Lab Space	1	650	650	1.40	910	Shared	See equipment schedule
Leased Lab Bays	3	150	450	1.40	630	Lease	See equipment schedule
Subtotal			**1,100**		**1,540**		
Space Summary | Leased Bays							
Assembly (Dirty)	3	580	1,740	1.30	2,262	Lease	Large bay may be subdivided / requires independent HVAC
Assembly (Dirty)	3	770	2,310	1.30	3,003	Lease	Large bay may be subdivided / requires independent HVAC
Assembly (Dirty)	2	290	580	1.30	754	Lease	Large bay may be subdivided / requires independent HVAC
Assembly (Clean)	2	290	580	1.30	754	Lease	Large bay may be subdivided
Assembly (Clean)	1	580	580	1.30	754	Lease	Large bay may be subdivided
Assembly (Clean)	1	960	960	1.30	1,248	Lease	Large bay may be subdivided
Subtotal			**6,750**		**8,775**		
Space Summary | Leased Suite							
Dept. of Agriculture	1	1,970	1,970	1.00	1,970	Not Program Space	
Subtotal			**1,970**		**1,970**		
Total Planned Area			**17,975**		**24,303**		

Opinion of Cost

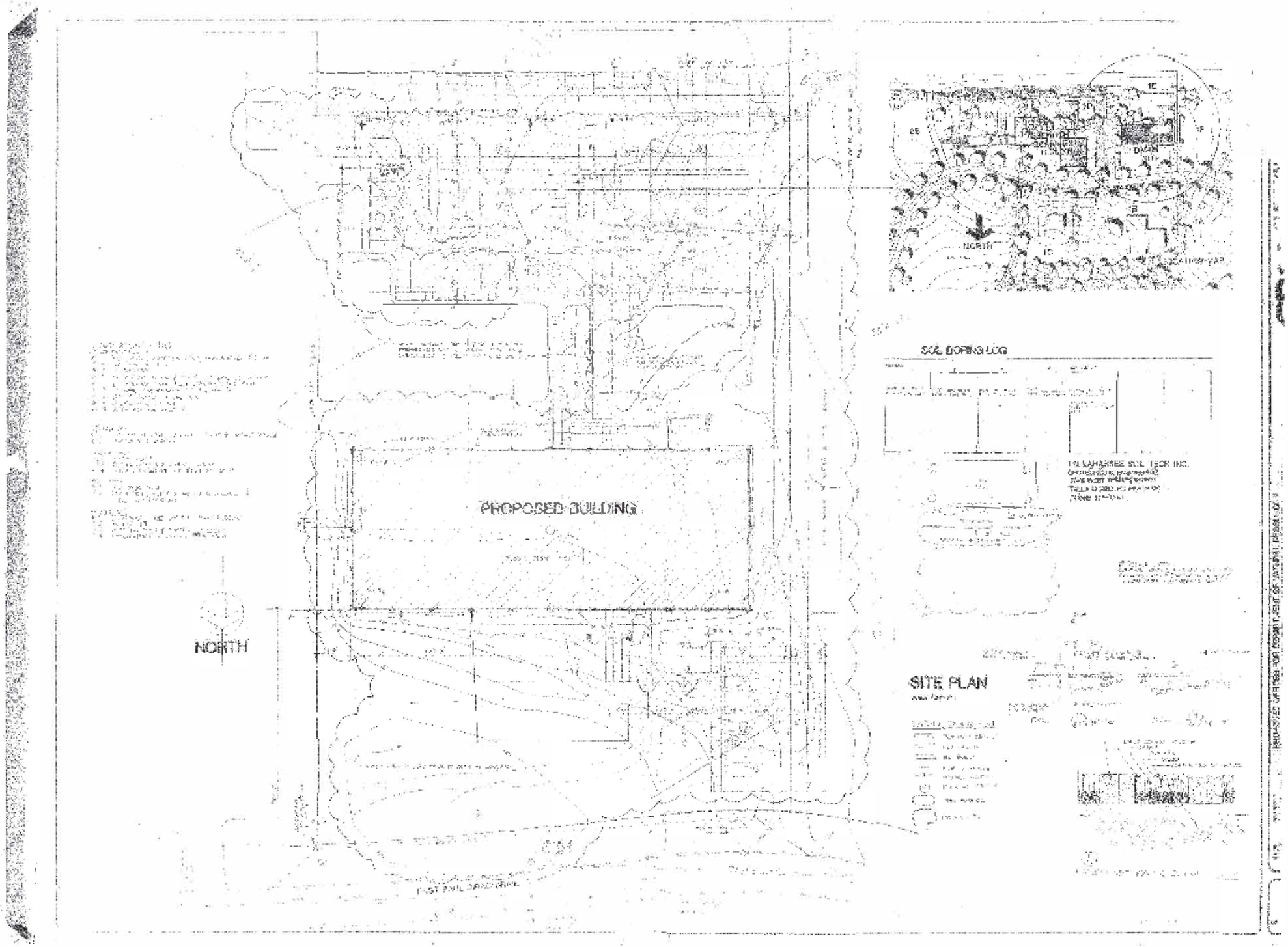
	UNIT COST	SF	TOTAL
General Conditions			
1 Demolition	8	22500	$180,000
2 Re-roof	12	25800	$309,600
3 Exterior Paint	2	7000	$14,000
Total			**$503,600**
Business Occupancy			
1 General Renovations	80	8000	$640,000
2 Restroom Renovations	250	575	$143,750
Total			**$783,750**
Includes: repartioning, standard finishes, millwork at kitchen/ reception (MEP included below)			
Industrial Occupancy			
1 General Renovations	50	12500	$625,000
Total			**$625,000**
Includes: repartioning, industrial finishes (MEP included below)			
Laboratory Space			
1 Laboratory Renovations	300	2200	$660,000
Total			**$660,000**
Includes: repartioning, laboratory finishes, millwork (MEP and fume hoods included below)			
Mechanical, Electrical, Plumbing, Fire Protection			
1 HVAC			$585,000
2 Electrical			$750,000
3 Plumbing			$230,000
4 Fire Sprinklers			$115,000
Total			**$1,680,000**
Modified HVAC, new main electrical service, lighting, plumbing as req'd, fire sprinkler system, fire alarm (See engineers report for specifics)			
Total Construction Cost			**$4,252,350**
Project Costs			
1 Professional Fees			$297,665
2 Furnishings			$300,000
3 Equipment			$1,000,000
4 Continency (10%)			$425,235
Total Project Cost			**$6,275,250**

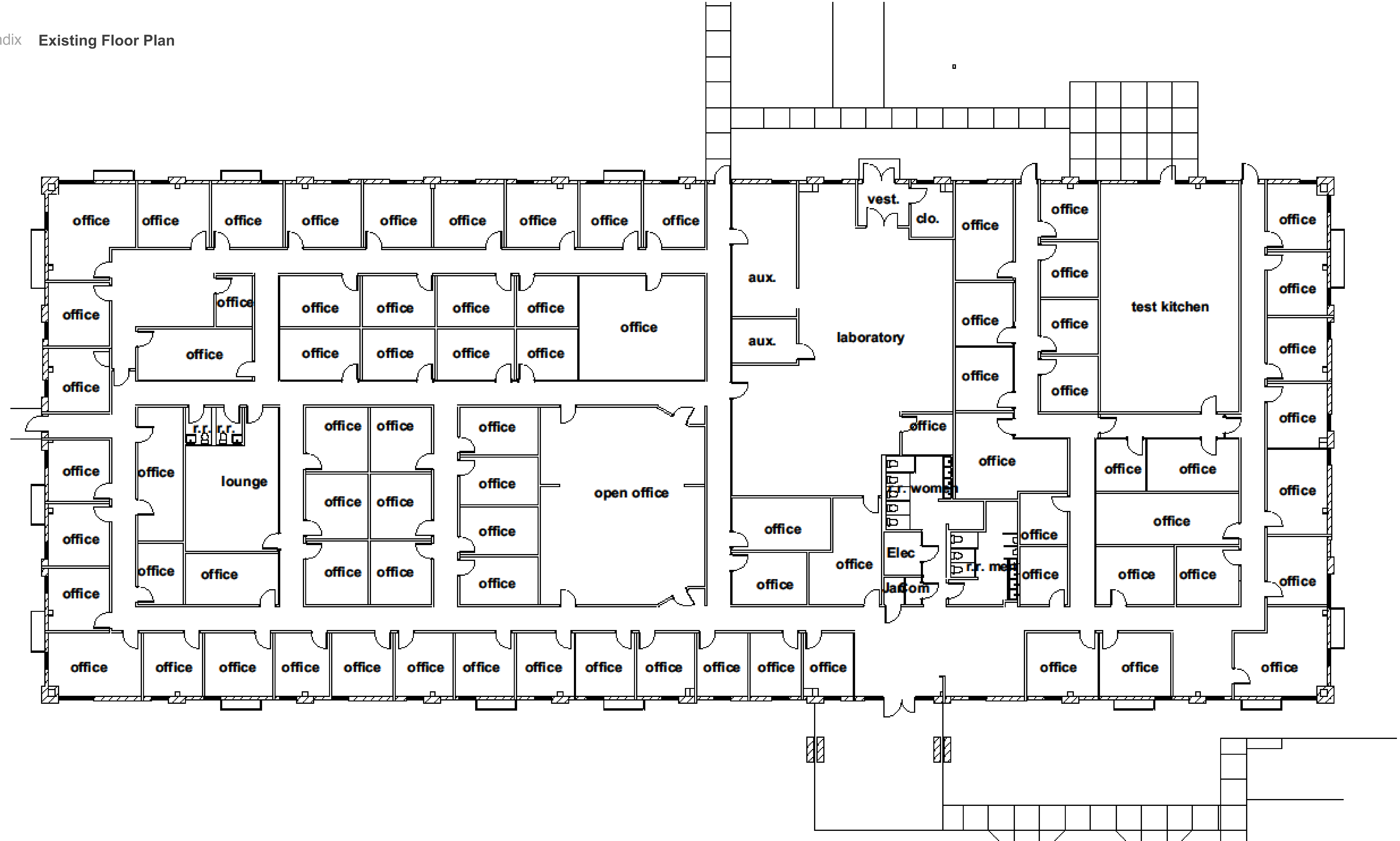
CONCEPT A

Jump Start Schematic Concept Diagram

Architects Lewis + Whitlock

Existing Site Plan





Collins Bldg | Tallahassee, FL

Architects | Lewis + Whitlock

May 20, 2017

Scale: 1/16 inch = 1 feet

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CONCEPT B

LEGEND

- WET LAB 2300 SF
- LIGHT ASSEMBLY 3200 SF
- INNOVATION LAB 2200 SF
- OFFICE 14 (12 LEASABLE)
- MEETING 1200 SF
- STORAGE / RR

Jump Start Schematic Concept Diagram

Architects Lewis + Whitlock

CONCEPT C

Jump Start Schematic Concept Diagram

Architects Lewis + Whitlock

Building Code Summary
Occupancy Class Overall: Factory 1, “F-1”
Accessory uses Business “B”, Assembly “A3” (Assembly, Offices, Laboratories, Testing and Research)
Total Building Area: +/- 25,800 GSF
Total Area of Renovation: +/- 25,800 GSF (Entire Building)
Construction Type: Type II-B (Non-Sprinklered Steel Structure with Steel Roof)

307.7 High-hazard Group H-5.
Semiconductor fabrication facilities and comparable research and development areas in which hazardous production materials (HPM) are used and the aggregate quantity of materials is in excess of those listed in Tables 307.1(1) and 307.1(2) shall be classified as Group H-5. Such facilities and areas shall be designed and constructed in accordance with Section 415.10.

FLORIDA BUILDING CODE - BUILDING Fifth Edition	Allowed/ Required	Provided
Occupancy Class: Factory (F-1), Business (B)		
single story building		
Building Area		
Ground Floor Area = +/- 25,800 sf		
Total Building Area on Lot = +/- **25,800 sf**		
Occupant Loads		
Assumed Occupancy		
Assembly - 1:7 * 1,280 SF	183	
Business and Industrial - 1:100 * 24,520 SF	246	
TOTAL	**429**	
Construction Type: Type II B		
Unprotected / Unsprinklered		
Table 503		
Factory/Industrial (F-1)		
Allowable Building Area / per floor	15,500SF	**see most rest. req.*
Allowable No. of Stories	2	**see most rest. req.*
Allowable Building Height	55'	**see most rest. req.*

Business (B)		
Allowable Building Area / per floor	19,000SF	**see most rest. req.*
Allowable No. of Stories	3	**see most rest. req.*
Allowable Building Height	55'	**see most rest. req.*
***Most Restrictive Requirements for F-1 and B**		
Allowable Building Area / per floor (F-1)	15,500SF	***see area modification*
Allowable No. of Stories (F-1), not adjusted	2	1
Allowable Building Height (F-1), not adjusted	55'	22'
****Area Modification Increase** (S506.2) Factory frontage increases) (15,500 x 150%)	23,250 SF	
****Area Modification Increase** (S506.3) (Automatic sprinkler increase) (23,250 x 400%)	93,000 SF	<93,000 SF
****Area Modification Increase Allowed**		
Table 508.4 Required Separation of Occupancies		
Factory/Industrial (F-1) and Business (B) (unsprinklered)	No require-ment	No requirement
Assembly (A-2) and Business (B) (unsprinklered)	2 hour	2 hour
*2-hr allowed when less than 3,000 sf per s415.6		
Table 601: Fire Resistance Rating for Building Elements (Type II B un-pro.)		
Structural Frame	0hr	0hr.
Bearing Walls Exterior (see table 602) ("x" distance <= 5')	2hr	2hr.
Bearing Walls Exterior (see table 602) ("x" distance >= 30')	0hr	0hr.
Bearing Walls Interior	0hr	0hr.
Nonbearing Interior Walls and Partitions	0hr	0hr.
Floor Construction	0hr	0hr.
Roof Construction	0hr	0hr.
Table 706.4		
Fire Wall Fire-Resistance Rating (between buildings) F-1 / B 3 hour wall allowed	3 hour	3 hour wall
Table 803.9		
Factory / Industrial (F-1)		
Classification of Finishes: Vertical Exits and Exit Passageways	B	B,A
Classification of Finishes: Exit Access Corridors and other Exit ways	C	C,B,A
Classification of Finishes: Rooms and enclosed Spaces	C	C,B,A
Assembly (A-2)		
Classification of Finishes: Vertical Exits and Exit Passageways	A	A
Classification of Finishes: Exit Access Corridors and other Exit ways	A	A
Classification of Finishes: Rooms and enclosed Spaces	B	B,A
Business (B)		
Classification of Finishes: Vertical Exits and Exit Passageways	*A	B,A
Classification of Finishes: Exit Access Corridors and other Exit ways	B	B,A

Classification of Finishes: Rooms and enclosed Spaces	C	C,B,A
*Class B allowed when less than 3 stories in height and unsprinklered per exception 'b'		
OCCUPANT LOAD CALCULATIONS:		
Table 1004.1.1 OCCUPANT LOAD		
See Life Safety Building Information On Sheet LS1.1	**Total**	**286**
Common Path of Travel (S 1014.3) - Unsprinklered **(B)**	75'-0"	<75'-0"
Common Path of Travel (S 1014.3) - Unsprinklered **(F)**	75'-0"	<75'-0"
Common Path of Travel (S 1014.3) - Unsprinklered **(A)**	75'-0"	<20'-0"
Maximum Travel Distance (Table 1016.1) - Unsprinklered **(F-1)**	200'-0"	65'-0"
Maximum Travel Distance (Table 1016.1) - Unsprinklered **(B,A)**	200'-0"	65'-0"
Minimum Corridor Aisle Width (Section 1018.2, exception 4)	44"	≥44"
Provide smoke partitions at corridors in unsprinkled building >30 persons	n/a	n/a
Maximum Dead End Corridor (Sec. 1018.4) - Unsprinklered **(M, B, F-2, A)**	20'-0"	< 20'-0"
Minimum Number of Exits Required (Table 1021.1) - First Floor	n/a	n/a
Table 1018.1 CORRIDOR FIRE RESISTANCE RATING		
A,B,F corridor, occupant load >30 - Unsprinklered (no rating if sprinklered)	1hr	1hr
Section 903 AUTOMATIC SPRINKLER SYSTEMS		
Occupancy A-2, shall be provided with an automatic sprinkler system if the fire area exceeds 100 occupants or 5,000 sf		
Occupancy F-1, shall be provided with an automatic sprinkler system if the building contains a Group F-1 fire area that exceeds 12,000 sf	11,999	8,224 = <12,000
Section 907 FIRE ALARM AND DETECTION SYSTEMS		
Occupancy F (Factory), shall be provided if occupancy of building exceeds 500 persons above or below the level of exit discharge	499 persons	0 persons
Occupancy B (Business), shall be provided if occupancy of building exceeds 500 persons	499 persons	<499 persons
Table 1015.1 SPACES WITH ONE EXIT		
Occupancy A, B, E, F, M, U, R-2, R-3 with a maximum of 49 occupants	yes	yes
Plumbing Fixture Requirements - Florida Plumbing Code 2014 - Table 403.1		
WC - Assembly 1/125 * 183 occupants	2	
Lavatories - Assembly 1/200 * 183 occupants	1	
WC Industrial 1/100 * 245 occupants	3	
Lavatories Industrial 1/100 * 245 occupants	3	
411.1 Emergency Showers and Eyewash (ISEA Z358.1)		
Occupancy A, B, E, F, M, U, R-2, R-3 with a maximum of 49 occupants	yes	yes

Florida Fire Prevention Code – 5th Edition

Florida Fire Prevention Code - 5th Edition	Required	Provided
Occupancy Classification: Mixed Occupancy (6.1.14.3): Assembly / Industrial / Business		
Multiple Tenant Building		
Hazard Classification (6.2.2.3): **Ordinary Hazard**		
Building Area		
Building Floor Area = +/- 25,800 sf		
Total Building Area = +/- **25,800 sf**		
Separation of Occupancies (Table 6.1.14.4.1)		
Assembly and Business	*1 hr	
Business and Industrial (Gen Purpose)	*2 hr	
Assembly and Industrial (Gen Purpose)	2 hr	2 hr
*6.1.14.1.3 incidental occupancy areas can be considered part of the predominant occupancy (Business, Industrial and Storage).		
Occupant Load Classification (Table 7.3.1.2)		
See Occupancy Plan on drawings for breakdown on occupant load(s)		
TOTAL OCCUPANT LOAD	see drawings	**see drawings**
Chapter 40 - Industrial Occupancies		
40.1.2.1.1 General Industrial Occupancy	Class B	Class B
36.2.4.2 - A single means of egress is allowed for common path distances per 40.2.4.1.1		
36.2.4.3 - A single means of egress is allowed for Class C Mercantile, provided travel distance does not exceed 50'		
Maximum Common Path of Travel (S40.2.5.1)	50'	<50'
Maximum Dead End Corridor (S40.2.5.1)	50'	≤50'
Maximum Travel Distance to Exits (S40.2.6.1) (unsprinklered) (ordinary hazard)	200'	<200'
40 - Interior Finishes		
Wall and Ceiling finish	Class A or B or C	Class A or B or C
Floor finish	Class I or II	Class I or II
Chapter 39 - Existing Business Occupancies		
Classification of Hazards (S39.1.5)	ordinary hazard	n/a
Minimum corridor width (S39.2.3.2) (>50 Occupants)	≥44"	≥44"
Maximum dead end corridor (S39.2.5.2.1) (unsprinklered)	20'	≤20'
Maximum common path of travel (S39.2.5.3.1) unsprinklered)	75'	≤75'
Maximum travel distance (S39.2.6.3) (unsprinklered)	200'	86'

39.3.3 - Interior Finishes		
Exits and exit access corridors - wall and ceiling finish	Class A or B	Class A or B
all other wall and ceiling finishes	Class A, B or C	Class A, B or C
Exits and exit access corridors - floor finish	Class I or II	Class I or II
Chapter 40 - Industrial Occupancies		
40.1.3 Incidental high hazard operations protected in accordance with section 8.7 and 40.3.2 in occupancies containing low or ordinary hazard contents shall not be the basis for high hazard industrial occupancy classification.	General Industrial	General Industrial
Table 40.2.5		
Dead-end Corridor (General Industrial) (unsprinklered)	20' max	≤ 20'
Common Path of Travel (General Industrial) (unsprinklered)	50' max	≤ 50'
Table 40.2.5.2.1 Equipment Access		
Min. horizontal dimension of any walkway, landing or platform	22"	22" max.
Min. stair or ramp width	22"	22" max.
Min. tread depth	10"	10"
Max. riser height	9"	≤ 9"
Max. head room	6'-8"	≥ 6'-8"
Table 40.2.6		
Max. Travel Distance (General Industrial) (unsprinklered)	200'	≤ 200'
Classification of Hazards (S40.1.5)	ordinary hazard	ordinary hazard
40.3.3 - Interior Finishes		
Exits and exit access corridors - wall and ceiling finish	Class A or B	Class A or B
all other wall and ceiling finishes	Class A, B or C	Class A, B or C
Exits and exit access corridors - floor finish	Class I or II	Class I or II

NFPA 45 – 2015

NFPA 45 - 2015 Standards for Laboratories using Chemicals	Required	Provided
Chapter 5		
Fire Separation (Table 5.1.1)		
Laboratory Unit A (high hazard)	*2 hr	
Laboratory Unit D (low hazard)	None Reqd	
Chapter 6 Fire Protection		
6.1.1 Automatic Fire Sprinklers shall be required for all new laboratories		
Laboratory Unit A (high hazard) NFPA 13 (Group 2)	Req'd	
Laboratory Unit D (low hazard) NFPA 13 (Group 1)	Req'd	
Chapter 9 Flammable and Combustible Liquids		
Laboratory Hazard Classification - Based on quantities of hazardous materials per Chapter 9		

Existing Structural Conditions Photo Essay

Moisture damage on interior of building

Typical damage to soffits in southwest building corner

Tree overgrowth in the Southwest building corner

Trees growing into the exterior walls on southern elevation

Oxidation of exterior steel doors on the South elevation

Leaves filling gutters and downspouts

Collins Building Assessment
Tallahassee, Florida

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Site Photos

North Entrance

South Entrance

South Facade

North Facade

North Entrance

East Facade

Existing Roof Penetrations

Existing Lab Space

Existing Exit Door

Existing Restroom

Block Wall and Typical Fenestration

Existing Water Damage

ALW

Architects Lewis + Whitlock