Final Report
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Facility Assessment:

Michael V. DiSalle Government Center

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WHEATON SPRAGUE BUILDING ENVELOPE

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Executive Summary

SITE

The DiSalle complex covers one entire city block in downtown Toledo and is bound by Beech (north), Jackson (south), Huron (east), and Erie (west) street in Toledo, Ohio. The main entry plaza is on Jackson Street. A parking garage serving the facility is north of the building and has access via Beech Street. The site is paved with large granite pavers, concrete walkways, and stamped concrete paving. The areas to the east and west have well developed landscape areas with grass covered lawns, shrubbery, flowers, plants, mature trees, and low planters and modular precast concrete retaining walls.

Front Plaza

The front plaza on Jackson Street is composed of large, 2 to 3 inch thick rectangular granite slabs that form the plaza, steps, and accessible ramp. The plaza closes for the season in mid-October and site furniture is removed and the fountain is turned off.

The granite slabs forming the plaza, steps and ramp appeared to be in good condition. There are a few pieces of granite with minor cracks. There are elevation offsets between many slab pieces. These should be re-set, as needed with a bituminous setting method to eliminate lippage between slabs.

There is a plaza drain just west of the fountain that drains slowly which contributes to the puddles. This drain should be repaired or replaced.

Precast Concrete Planters: There are six precast concrete planter boxes located in front of the plaza along Jackson Street. These appear to serve as a security vehicular barrier. The planters are deteriorated and should be replaced with a permanent series of concrete bollards spaced far enough apart to allow pedestrian access but close enough together to prevent vehicular access.

East Site Areas

The granite slab plaza extends along the east side of the building and meets the granite wall cladding. There are minor areas of efflorescent along the base of the granite building wall. The efflorescence along the base of wall in the granite is unsightly but not likely to cause long term problems. The efflorescence should be removed by dry brushing with non-metallic brushes, followed by a brief water rinse. There are commercial deicing products on the market that do not contain efflorescence forming chemicals that should be considered.

The concrete walk to Huron Street had some deterioration along the side curb. The handrails along both sides do not have the extensions along the top and bottom as required by ADA. Sections of damaged concrete along the walkways should be replaced rather than patched. Not having handrail extensions at the top and bottom of the ramp is not a major accessibility issue and it is not economically nor technically feasible to add handrail extensions at the ramp.

West Side Areas

A concrete walk extends to Erie Street. The steps showed signs of slight settling. It is not evident what may have caused the settling but it is likely just a minor compaction issue. The concrete steps should be replaced along with the new ADA compliant handrails.

Landscape Areas

The east and west areas have mature trees, lawn areas and shrubbery. The pedestrian sidewalk along Jackson Street has flowering areas and young trees. All the landscaping appeared to be very well maintained and healthy.

PARKING GARAGE

The adjacent and connected elevated parking garage is a six story above ground structure composed of a pre-cast concrete post and beam structure with pre-cast concrete tee deck members.

There are three cast-in-place concrete stairs. Exit stairs are in the northwest and southeast corners. There is a central communicating stair.

Elevated concrete parking decks and garages in this particular climate zone are subjected to de-icing chemicals, and the associated degradations that are exacerbated by de-icing chemicals.

The central stair has cracking and spalling in several areas.

Certain repairs have been made over the past years to mitigate the effects of concrete cracking, concrete spall damages and concrete deterioration. Even though the elapsed time since recent repairs is relatively short, some of those repairs are not holding up well. It is recommended that a professional design firm that specializes in forensic analysis and design of repairs for concrete parking decks and garages to be engaged to thoroughly evaluate this particular structure and to provide a design for repairs and to provide construction administration during the repairs

BUILDING ENVELOPE

The tower, from the 3rd floor to the top of building is clad with a combination of nominally 5-inch thick by 5-foot wide by floor height APC panels with glazed punched opening aluminum windows that have a dark bronze anodic finish. The corner APC panels project outward in a manner to produce the look of a corner column feature. In the field of the wall, the APC panels are vertically interrupted every 30 feet with an inset continuous aluminum channel that serves as a restraint for the dedicated façade maintenance scaffold. The exterior face of the punched opening windows projects out beyond the exterior plane of the APC panels by about 1.5 inches. Window framing is thermally broken. The vertical extent of the APC panels is to a point about 42 inches above the main roof surface. A secondary (or back up) wall with the same vertical extent is constructed behind the APC panels, and appears to be composed of a concrete masonry unit (CMU) wall laid up in a running bond pattern. The CMU wall surface facing the main roof is painted. There were no cracks observed in the CMU back up wall. A formed aluminum coping cap encapsulates both walls, and is sloped toward the roof.

Water penetration has been reported and several large scale façade repair efforts have been conducted since the time of building occupancy. Water penetration defects continue to be noted. It is suspected that some quantity of concealed materials have been fully saturated by water during the occupancy of the building, however those conditions were concealed from observation.

Prior to a total replacement, the building maintenance staff should remove portions of the interior finishes to evaluate the underlying conditions, and potential for hidden defects. The results of that visual evaluation may assist in the decisions related to repair extents and timing/scheduling.

All existing weather sealants should be removed and replaced with new weather sealants. An aggressive primer needs to be applied prior to new weather sealant application. Adhesion and compatibility testing need to be performed initially, and periodically during the repair period as recommended by the sealant manufacturer. Prior to weather sealant application, cracks in the APC need to be repaired in a water tight manner with an epoxy based crack repair material.

Punched opening window perimeter sealants need to be removed, surfaces aggressively cleaned and primed, and weather sealants then replaced. Adhesion and compatibility

testing need to be performed initially, and periodically during the repair period as recommended by the sealant manufacturer.

Façade surfaces should be periodically cleaned to prevent staining and deterioration of finish surfaces.

The lower levels of the building facades are clad with a combination of kerf supported polished granite panels and pressure glazed monumental aluminum curtain walls that are over clad with polished stainless steel on the building exterior. The granite appears to be in good condition.

Glazed Aluminum Curtain Walls

The glazed aluminum curtain walls appear to be in good condition, however certain stainless steel cladding elements and support members are becoming dislocated and appear to be separating from the underlying aluminum framing. Some of those stainless steel pieces are quite large, and could pose a safety issue to pedestrians. These cladding elements and support members should be re-attached and secured as soon as possible.

The large glass lights are monolithic plate glass (both ½-inch thick and ¾-inch thick) and do not provide for insulating value. Replacement of the existing glass with insulating glass units should be considered for addressing energy efficiency.

Perimeter weather sealants should be removed and replaced at the time of repairing adjacent associated items as recommended above.

ROOF

The main roof is composed of a multiply cold applied built-up roofing system. The membrane has a white reflective coating. This roof system was installed in 2011. The roof is surrounded by a four foot high concrete masonry parapet, with a sheet metal coping. The joints in the coping have been covered with reinforced EPDM tape strips. Around the perimeter of the roof there is a 10-foot wide by 4-inch thick precast concrete runway slabs that form a path for the rolling façade access carriage and scaffold. There are extruded polystyrene insulation boards under the concrete to protect the roof membrane. The precast concrete runway slabs are jointed and separated with protection board strips. Areas in the corners of the building have a wider concrete runway to allow for turning the rolling scaffold. Roof areas slope to internal roof drains. There are no secondary or overflow drains.

This roof system appeared to be in excellent condition. Roof drainage appeared to be adequate and working properly. The roof flashing at the vertical parapet walls appear to be in good condition. The main roof should be routinely inspected at least twice a year (early spring and late fall) and after any notable weather events. Preventative repairs should be made when noted.

The upper penthouse roof membrane, with the recently applied white coating, may appear better than its actual condition. The white coating may conceal weathering and deterioration to the 8 to 10 year old EPDM membrane. There were reported problems in the center area of the roof during recent repairs and voids were noted under foot when walking the roof. Test cuts would need to be conducted to fully assess the overall roof assembly. The white elastomeric coating is delaminating in some areas and this should be expected to continue. Flashings appeared to be in good condition.

The penthouse roof and its insulation should be inspected as noted above. In addition, noted potential problem items should be documented, via photographs and inspection log as a means of establishing a date for replacement. Based on this assessment, the roof should be scheduled for replacement in the next five years.

The roof hatch to the penthouse is within six feet of the roof edge and should have a guardrail with a gate for fall protection. Several manufacturers produce roof hatch rails with swing gates that connect to existing hatch curbs that are OSHA complaint.

The door leading to the main roof leaks when it rains. The door should have a threshold, weatherstripping and a drip strip (at the head of the door frame).

FAÇADE ACCESS EQUIPMENT AND SYSTEMS

The portable building façade access equipment consists of a 30-foot long electrically powered scaffold with two wire rope sky climber hoists suspended by a rolling platform carriage with hydraulically operated out-rigging carriage masts. The access equipment is housed in an outdoor location and has four powered and manually steerable rolling casters for movement to placement locations on a continuous perimeter concrete runway. The carriage is fitted with permanent counterweights and does not have tie offs to the building structure which is not acceptable in modern designs or code requirements. In addition, the personnel safety line tie offs are currently made to the carriage which is not acceptable in modern designs or code requirements.

The portable façade access equipment is showing signs of deterioration from exterior exposure.

The entire façade access unit should be inspected, serviced as necessary, and certified for use in accordance with governing codes, ordinances and regulations. Signs of material distress at the mast connection and pivot points should be inspected by a professional engineer before the equipment is re-deployed.

INTERIORS

Public Spaces

There are two entries on the first floor. The main entry lobby is a clean, well lit, bright space. There is one security desk at the main entry and one security desk at the garage entry. The assembly spaces signage on the first floor are ADA compliant.

The lobby and assembly spaces appear to be in good condition and well maintained. The public hearing rooms and conference rooms are in good condition. There is a sundry shop on the first floor that is in acceptable condition. The café on the 13th floor has been recently renovated and appears to be updated and well maintained. Most of the signage in this building is not ADA compliant and there are many permanent rooms that are unsigned.

ADA compliant building signs should be updated at suites, 'permanent rooms' and stairs (with stair number, east/west) throughout the building. Consider updating the security desk on the garage side of the building, as it appears to be a bit more dated and less timeless than the main entry.

Windows

Lobby windows are aluminum storefront with chrome finish. Floors 3 through 22 are thermally broken aluminum framing with insulating glass. There is an aluminum storefront entrance located at the rear entry to the building from the parking garage. The Lobby entry consists of two revolving doors and a single ADA accessible door with ADA door operator and push paddle controls. An additional window lite in aluminum frame has been added in Third Floor Data Center. There is drapery throughout the building, with the exception of a few locations and the café.

Lobby glazing and frames are in good condition with no visible signs of leaking.

Revolving doors operate smoothly and seals are performing well.

The "EXIT" sign above one of the revolving doors is not illuminated.

ADA door is functioning properly.

Upper level aluminum frames and sills are generally in good shape with no broken panes of glass and no failed glazing seals. A few windows were previously marked with a taped "X" indicating that a repair was required. In many instances, the existing drapery track has been removed or relocated and the drywall soffit not repaired. There is evidence in several windows of glazing gaskets falling out of the frame and there are also several instances of missing rubber wall base at the floor. Many locations show evidence of water damage. Windows were resealed and repairs made to drywall jamb and head conditions. Many of the areas by the windows show paint blistering, bubbling and / or wrinkling. Most of the window treatments are drapery; they are difficult to operate and many times are soiled and damaged from the difficulty to operate

The café has perforated shades, which complement the architecture and brighten the interior, as they allow some light through.

All previous drywall repairs need to be evaluated for the quality of the repair and corrected to an acceptable level of finish. Drapes generally need to be replaced. Windows marked with the "X" need to be repaired. Replace all loose glazing gaskets. All window frames could use a thorough cleaning to remove dirt and stains. Replace all water stained ceiling tile. Replace all missing rubber base at the floor. Clean drapery at exterior windows or consider updating window treatment throughout to perforated shades.

Restrooms

The restrooms are finished with floor and wall tile, which were in acceptable condition and neutral finishes. Toilet partitions are ceiling hung painted metal. Automatic flush valves are on toilet fixtures. Some Men's rooms have waterless urinals. Sinks are wall hung with manual faucets. An ADA compliant sink is provided. Soap dispensers are also wall mounted units. Channel frame mirrors are located over the sinks. The toilet room signs are ADA compliant.

The Restrooms are generally in good condition. All toilet accessories are functioning. Mirrors are in good condition. Toilet partitions are in good condition with only a few instances of hardware that needs attention. Piping under the ADA sink is not protected. Interior vestibule door in Men's Room is not ADA compliant. An 18-inch maneuvering clearance is required on a front pull side front approach. There are two instances in Men's Room where mechanical grilles need repair.

Recommendation include providing under sink pipe protection at ADA sinks and replacing the mechanical grilles.

Install an automatic door operator at the restroom door that does not have the wheelchair maneuvering clearances.

Tenant Floors

Floors 3 through 22 are primarily office and open office environment with carpet tile floors, vinyl base, 2x4 ceiling tile and neutral painted walls. The elevator lobbies are very neutral with painted metal elevator doors and frames. The finishes appear to be in very good condition and well maintained. The elevator lobbies on each floor are consistent.

To brighten the spaces consider replacing ceiling tiles with smoother, whiter ones.

ELEVATORS

Elevators in this building consist of:

- 6 Low Rise Elevators
- 5 High Rise Elevators
- 1 Service (serves all landings)

All the elevators were modernized in the year 2002. This included new Controllers, Machines, Fixtures, and Rope Breaks. The elevators are up-to-date by code and in a reliable condition. The elevators should continue to be maintained using maintenance service agreements.

HVAC

Heating

The building's primary heating source is two gas-fired, low pressure, steam boilers. The boilers are wetback firetube design with 358 square feet of heating surface and 5,858 MBH or 6,040 pounds of steam per hour capacity each. The boilers are rated for 15 PSI steam and are normally operated at 8 PSI. The original boiler burners were equipped to fire natural gas or oil. They have been replaced with gas only burners with well burner controls. Combustion air is provided by a gravity intake (louver) mounted high in the exterior wall with a manual damper. The two boiler flues are manifolded and equipped with a draft controller. The boiler flue is routed up through a shaft adjacent to the Fan Rooms between the toilet exhaust shaft and Women's Toilet Room. Pressure relief valves (2) are installed on each boiler and the discharge is piped to outdoors. Stop valves and service valves are located to allow isolation and servicing of an individual boiler while maintaining the second boiler in service.

A package deaerator provides condensate collection, boiler feedwater heating and introduction of pre-treated makeup water. Water conditioning and chemical treatment is provided by a separate built-up system. Condensate collection and return at the basement floor level is provided by three floor mounted condensate receiver tanks with duplex pumps (CP-1, -2, and -3) and controls.

Steam is distributed throughout the building to all air handling units with heating coils and all unit heaters. The steam piping system is a two pipe system with piping to deliver steam to the loads and a second piping system to collect and drain steam condensate back to the boiler system. All condensate appears to be returned. All steam piping and coils include steam traps to maintain separation between the steam and condensate piping systems.

The main steam and condensate pipe risers are routed up through the building in the HVAC Fan Rooms. Thermal expansion joints are located in the risers at floors 6 and 18.

Based on service life, replacement of the boilers and ancillary equipment and controls should be planned. Note however, that this type of boiler in an office heating application that has received consistent, continued maintenance are often in service in excess of 40 years. Equipment such as this, if run to failure, will typically have increased maintenance costs, but in turn will provide a longer service life and deferred replacement costs over the published median service life data. At this facility, boiler replacement could be staged to allow maintaining partial heating capacity because there are two boilers.

Cooling

The building's primary cooling source is two electric driven, water cooled centrifugal water chillers equipped with variable frequency drives that were installed in 1999. The chillers are 485 tons capacity, refrigerant R-123.

The chilled water system is circulated with a primary-secondary pumping arrangement. The primary pumps circulate chilled water through the chiller loop and the secondary pumps circulate chilled water throughout the building. The primary and secondary chilled water pumps were also replaced in 1999. Both the primary and secondary pumps are package pumping systems consisting of three vertical split case, double suction pumps (one is standby) with VFD's and controller. The primary pumps are 950 GPM each at 35 feet of head (ft hd) with 15 HP premium efficient motors. The secondary pumps are 950 GPM each at 105 feet of head with 40 HP premium efficient motors. Some pipe and equipment insulation and jacketing on and around the pumps has been damaged.

The chilled water system makeup water, chemical treatment pot feeder and expansion tank are all located in the mechanical penthouse.

The chiller condenser water (CW) system includes a package pumping system with VFD's and controller, sidestream filter and blowdown tank located in the Chiller Room and two cooling towers and water treatment equipment located at the Penthouse. The pumps are three vertical split case, double suction pumps (one standby), 1425 GPM each at 105 ft hd with 60 HP premium efficient motors. The chiller (CH-1), primary and secondary chilled water pumps, condenser water (cooling tower) pumps, cooling tower fan motors and VFD's and the water side economizer plate and frame heat exchanger were replaced in 1999; currently at 14 years of service. The chillers have approximately 11 years of the ASHRAE median service life remaining.

The pumps have approximately 6 years of the ASHRAE median service life remaining. The plate and frame heat exchanger has 11-15 years of service life remaining.

The cooling towers are forced-draft, centrifugal fan, counterflow style with three fans each and vertical air discharge at the penthouse roof. The cooling towers are 60 HP each and are the original towers installed in 1981. The cooling tower pans and fan sections are constructed of corrosion resistant 304 stainless steel material. Tower basin freeze protection is provided by steam injection into the cold water basin. Condenser water makeup is provided at the cooling tower sump by a solenoid control valve that opens in response to the cooling tower sump water level as sensed in the stilling chamber installed on the sump. The same level sensor/transmitter appears to provide water level alarming also.

Cooling tower spray distribution parts were replaced in 2007. There is surface corrosion, discoloration and streaking of the tower casing consistent with leakage. There is also evidence of leakage onto ductwork, piping and equipment located under the cooling towers, as well as plastic sheeting in place to shed any leakage. Note that one tower was operating when the survey was done and there was no water leakage occurring at the time. There were a couple closure panels that isolate the cooling tower from the penthouse mechanical room that were not in place. Due to corrosion on the cooling tower casings and evidence of leakage, plan for casing panel repairs or panel replacement.

Chemical treatment equipment for the condenser water system is located in the mechanical penthouse. Equipment includes dual metering for monitoring makeup water usage and water deduct metering, flow-through sensors/analyzers and chemical metering pumps. Cooling tower overflow piping discharges on the floor of the penthouse. Condenser water blowdown is done manually at the blowdown tank and sump located in the basement chiller room.

All CHW and CW pumps have butterfly style isolation valves, discharge check valves and suction diffuser style strainers. The primary chilled water pump and the condenser water pump discharge manifolds are valved to provide additional manual isolation and/or pump selection control.

The chilled/condenser water system also includes a non-integrated waterside economizer to provide free cooling when outdoor ambient temperatures allow. A plate and frame heat

exchanger,132 sf, and three-way diverting valves in both the chilled and condenser water loops are located in the chiller room. The three-way valving isolates the chillers when the system is in economizer mode.

The chilled and condenser water piping is insulated with preformed fiberglass insulation with all-service jacket throughout the building. The chilled water piping located in the basement level Chiller Room is color coded and identified. Primary chilled water piping is dark blue and secondary chilled water piping is light blue. Condenser water piping is dark green. Chilled and condenser water piping beyond and above the basement level, is not color coded, only identified.

Outdoor Ventilation Air and Energy Recovery Unit

Outdoor air (OA) for the entire building is preconditioned with an energy recovery unit (ERU) using an energy wheel. The ERU is located in the Penthouse. The suction side of the energy wheel exhaust is connected to the exhaust air duct riser located in the shaft west of the tenant floor HVAC Fan Rooms. Air is being exhausted from the building's toilet rooms through a constant volume box located on each floor in the Fan Room. After passing through the energy wheel, the ERU exhaust fan (20,785 cubic feet per minute (CFM), 15 HP) discharges (via ductwork) through a dampered opening in the exhaust air areaway located on the west wall of the Penthouse. The ERU supply fan (20,000 CFM, 15 HP) pulls outdoor air through a similar dampered opening located in the areaway at the north wall of the Penthouse, then through the energy recovery wheel and then through a heating coil. The outdoor ventilation air supply fan discharge is ducted down through the same shaft as the exhaust air and through a similar constant volume box in each tenant floor Fan Room. OA dumps into the fan room and mixes with return air from the floor before returning to the air handling unit. Both the supply air and exhaust air branch ducts are fire dampered at each floor level. The ERU operates only during normal occupied hours.

The energy recovery wheel has been in service since 1983. There is limited service life data available for this type of equipment. New high efficiency fan motors with VFD's and seals were installed in 1999.

Damaged ERU internal insulation should be repaired.

A monitor and log energy recovery wheel performance to create a baseline for comparison to current wheel performance to determine when the wheel should be replaced.

Air Handling Units

The basement level is served by air handling units HV-1, HV-2, HV-3, MZ-2, FC-1

The First Floor is served by air handling units MZ-1, AC-1,MZ-25, MZ-4, AC-2, MZ-3, FC-2, FC-5

The soffit areas at the corners of the building are heated by two fan coil units FC-3 and FC-4 located on the second floor.

AHU's for stairwell and elevator shaft pressurization are located on the second floor: HV-4, HV-5.

Floors 3 through 22 are typical tenant occupied spaces and each floor has a dedicated AHU located in the Fan Room. The fan rooms are located in the center of the building between the elevator shafts and south of the toilet rooms.

The air handling equipment, except multizone unit (MZ), MZ-26 that serves the Restaurant, has been in service approximately 30 years and is beyond the ASHRAE median service life. However, the multizone AHU's serving the tenant floors had new motors, VFD's and controls installed in 1999. The chilled water coils have also been replaced. AHU casings at

the CHW coil location are showing signs of corrosion and deterioration. The cooling coil condensate drain pans also show signs of corrosion and deterioration.

Some of the MZ AHU filters are not dimensionally consistent with the filter frame dimensions requiring blank-off filler panels. Some of these blank-off panels have become dislodged and no longer performing the intended function. This allows a portion of the return air to bypass the air filters.

The service life of the AHU's has been extended due to the 1999 modifications and upgrades. Note however, that the corrosion of the tenant floor MZ AHU casings at the cooling coils and also cooling coil condensation pans should be addressed in the near future. Provide a permanent repair of all damaged casings at the cooling coils. Remove corrosion and provide a corrosion resistant finish and/or lining for the cooling coil supports and condensate drain pans.

Damaged insulation and vapor barrier jacketing should be repaired on AHU casings and insulation inside AHU's.

Properly sized air filters or appropriately sized closure panels that seal off filter frames and are more permanently fastened or clipped in place are recommended.

Air Distribution System

Each AHU system distributes the supply air through zone ductwork to variable air volume (VAV) terminal units and then to supply air devices. Steam heating coils are included in the two zones that serve the north and south perimeter zones. The heating zone ducts also have humidifiers (installed 1983), however none of them are active. Each VAV terminal is controlled by a separate thermostat. The VAV terminal regulates airflow in response to room temperature requirements. The VAV controls are the original pneumatic type.

VAV terminal unit repairs/replacements are made as failures occur. Failure typically occurs with the damper actuator. The pneumatic terminal unit controls are beyond the ASHRAE median service life and maintenance costs will continue to increase over time.

VAV terminal units should be replaced with current technology including direct digital controls (DDC).

Emergency Generator Exhaust

Engine exhaust (12") from the emergency power generator is routed from the generator to the exterior above the truck dock area, then under the Pedestrian Bridge from the building to the Parking Garage and then up the side of the Parking Garage to the stack discharge point. The exhaust duct was replaced in 1999 with a factory-fabricated and insulated double-wall assembly.

The exhaust duct appears to be in good condition. There is some water leakage through the plaza deck slab that is promoting corrosion of the exhaust duct supports. These should be repaired and sealed.

Rust should be removed the generator exhaust duct supports painted.

Parking Garage Ventilation

A series of carbon monoxide (CO) sensors/transmitters and a controller are located on the walls of the basement level garage. The four garage exhaust fans, located on the west wall and the four supply fans, located on the east wall, operate whenever the space CO level rises above the setpoint. Both exhaust and supply fans have been in service since 1983.

The garage ventilation system appears to be in good overall condition. The manufacturer of the installed CO sensors has discontinued this product model. The typical life of a CO sensor cartridge is 4-6 years and the sensor should be calibrated every six months.

The CO sensors should be tested to determine if they are still functioning properly and replaced if needed.

PLUMBING

Domestic Water

Water service is served by City of Toledo Water, the local municipal water service. The building has two, 6 inch service mains which enter the basement level of the building parallel to the two, 8 inch fire service mains. The original 6 inch water service branches off the Erie Street water main and enters the west side of the building in the Meter Room just west of (and accessible through) the Chiller Room and north of the Electrical Switchgear room. The second 6 inch service branches off the water main in Huron Street and enters the east side of the building in the Housekeeping Storage Room in the southeast corner. The Huron Street water service was installed in 2002 and the Erie Street water service was upgraded at the same time.

The two 6 inch domestic water services connect in the basement level Chiller Room, upstream of the domestic water booster pumps. The water supply for the basement and first and second floors branches off upstream of the booster pumps, relying on available city water pressure for distribution. The booster pumps supply domestic water to all floors above the second floor. OS&Y gate valves are provided for isolating the pumps and a Y-strainer is included upstream of the suction header. The booster pump package includes three identical vertical multistage centrifugal pumps their respective variable frequency drives (VFD), a remote hydropneumatic tank and a controller to ensure constant pressure in response to varying consumption. The controller also provides automatic sequencing and staging to equalize runtimes.

A water supply branch with isolation valves and pressure reducing valve are located on every third floor. The branch connection is at the domestic water riser located in the fan rooms on floors 3, 6, 9, 12, 15, 18 and 21. Each branch supply serves the floor level at the tap as well as the floor above and the floor below. From this point, water is distributed throughout the three floors to the toilet rooms, water coolers, kitchenette sinks and other bathroom/toilet room facilities on the floors.

Electric tank style water heaters, 80 gallon tank are also located at every third floor with a similar supply arrangement. Two floors, the basement and the 22nd, have inline hot water recirculation pumps for hot water temperature maintenance. There is also a 21 KW electric water heater located in the kitchen to serve the kitchen hot water demand.

The hot and cold domestic water piping is insulated with preformed fiberglass insulation with all-service jacket throughout the building. The water piping located in the basement level Meter Room and Chiller Room is color coded and identified as City Water. Domestic hot and cold water beyond and above the basement level, is not color coded and identified as Cold Water or Hot Water.

Additional reduced pressure zone BFP's serve HVAC and plumbing makeup water systems.

Natural Gas

The building is served by Columbia Gas, the local gas provider, from a gas main located in Erie Street. The building has one, 3 inch high pressure gas service which enters the Meter Room in the basement level of the building parallel to and just north of the domestic water and fire service mains. There are two line size rotary style positive displacement meters with independent shutoff/isolation valves, piped in parallel. The house gas piping increases to 4 inch downstream of the meter and then tie into a 6 inch house main.

The only natural gas load in the building are the two gas-fired steam boilers.

Fuel Oil System

The fuel oil system includes a 20,000 gallon (6'-0" diameter x 31'-0" long) underground, No. 2 fuel oil storage tank, two fuel oil pumps and supply and return piping. Fuel oil piping is routed to/from the fuel oil transfer pumps (Kerr Machinery, Model G 32) and the 275 gallon fuel oil day tank that serves the emergency power generator. The generator is located in the Emergency Generator Room just north of (and accessible through) the Boiler Room in the basement level. The emergency generator fuel oil usage is 33 gallons per hour at full load.

Fuel oil is piped to the steam boilers for use as a backup fuel, however a switch has been installed in the boiler's burner control that disables this function. The oil firing has not been used for years.

Irrigation, Sculpture Fountain and Pool

A 2 inch branch pipe off the 6 inch domestic water main serves both the irrigation system and sculpture fountain and pool. A BFP with isolation valves protects the domestic supply. This branch tees into two-2 inch branches, one serving the irrigation system and one serving the pool (fill).

The irrigation branch exits the building on the west side of the basement level just north of the Meter Room. A valve and drain with a compressed air fitting for winterization is located at the west wall.

The sculpture fountain is recirculated by a horizontal double suction pump with a VFD. System piping includes a 6 inch and a 4 inch supply pipe and 10 inch return pipe. Pump trim includes OS&Y gate style isolation valves. The sculpture fountain piping exits the building through the south wall in the Chiller Room just east of the Electric Switchgear Room.

Pool water is recirculated by a close-coupled pump (3 HP) through a sand filter (with backwash and drain valve) and 3 inch supply and return piping. The system also includes a brominator for water treatment and a controller. The pool recirculation piping also exits the building through the south wall in the Chiller Room just east of the sculpture fountain piping.

These systems appear to be in good working condition.

Sanitary

The primary building sanitary waste drain is a 10 inch gravity pipe routed through the basement level and located below the first floor structure. This drain collects the waste from all the floors above the building's basement and pumped waste from the basement sump. The basement sanitary drainage is collected in a sump (SP-1) located adjacent to the domestic water booster pumps in the Chiller Room. The sanitary sump includes a duplex pump package and controller. A 4 inch pumped discharge ties into the 10 inch sanitary waste gravity drain which then is routed to the east and exits the building near the southeast corner. The building sanitary main then discharges into a combination manhole on site.

The kitchen, located on the 13th floor has a small above floor grease interceptor that collects drainage from the three-compartment sink. The contractor that operates the kitchen is responsible for maintenance of the grease interceptor.

The elevator pits have depressed sumps that are not drained. The sumps provide a low point for temporary use of a portable pump(s) if required.

The sanitary system has no known problems or issues.

Storm

The building (flat) roof collects storm water at interior roof drains. A 15" storm riser collects the penthouse and main building roof storm drainage at the 22nd floor level. Additional storm drainage is collected in a sump (SP-2) located in the building's basement. The sump is located just east of the door to the Chiller Room along the north wall. The storm sump includes a duplex pump (2 HP each) package, controller and backup battery power system. A 6 inch pumped discharge ties into the 15" storm gravity drain which then is routed to the east and exits the building near the southeast corner. The building storm main then discharges into a combination manhole on site.

The parking garage drainage from floors three through six is collected by gravity drainage and from floors one and two in a sump with duplex pumps and a controller. The sump (SP-3, 2 HP each) is located on the lowest level of the garage in the areaway on the west side of the parking garage. The 4 inch sump pump discharge ties into the gravity drain at the third floor level. The 10 inch storm drain exits the garage along the south wall at the southeast corner of the garage.

The building roofs do not include secondary roof drainage. Current Code requires either secondary roof drains and piping that discharge to daylight or the roof structure must be designed to accommodate the additional load from water ponding in the event of a roof drain blockage. Consider adding secondary roof drainage the next time the building is re-roofed.

Fixtures

The majority of the plumbing fixtures in the building are white vitreous china, wall-hung fixtures including the water closets, urinals and lavatories. The first floor women's public restroom has undermount lavatories mounted in a solid surface countertop. The water closets and most of the urinals have hands-free, sensor activated flush valves. There are waterless urinals located on floors 12, 13 and basement. There are multiple types of faucets due to replacements, however the majority of the lavatories have two-handle faucets. A few lavatories have hands-free, sensor activated faucets. Fixture groupings in all tenant restrooms include one of each fixture mounted at ADA height.

Electric drinking water coolers are located near the tenant restrooms on each floor.

Each floor has a common kitchenette with sink for tenant use.

There are a few private toilet rooms located on the tenant floors. There is a private bathroom with shower in the Mayor's Office and a private toilet room in the Deputy Mayor's Office and the 22nd floor.

The basement level has employee restrooms that include shower and locker facilities. There is a clothes washer and dryer located in the Housekeeping Storage Room.

Safety fixtures are located in the Mechanical Rooms where chemicals are handled for water treatment.

There is a restaurant with a kitchen on the 13th floor. Plumbed fixtures in the kitchen include: two-bowl prep sink, three-compartment sink with hose spray, hand washing sink, single bowl sink with disposer in a work table, undercounter style dishwasher, ice machine, coffee makers, beverage unit and soup and salad unit.

Plumbing fixtures are in good condition.

The lavatory drains and water supply piping are not insulated to protect against contact as required by current Code.

Lavatory drain piping should be insulated.

FIRE SUPPRESSION

The existing fire suppression systems are functional and are generally well maintained. System testing is conducted thoroughly and on a timely basis, both in-house and by certified, qualified service, testing and inspection contractors. Up to date test certificates are maintained and made readily available for reference by staff and fire code officials. Original Information regarding hydraulic calculations from the original water based fire suppression system design have been well preserved, maintained, and kept on hand for reference in the Fire Pump Room.

Water Supply and Service Entry

The fire sprinkler/standpipe systems for the complex are supplied by two City of Toledo 8" fire service water entries, one at the building's east side and one at the building's west side. The east side entry is served from the city water main in Huron Street, is identified outdoors by a supervised post indicator valve and enters the building in the Basement Housekeeping Room. The west side entry is served from the city water main in Erie Street, is identified outdoors by a supervised post indicator valve and enters the building in the Basement Gas Meter Room. Each service line is equipped with a double check valve backflow preventer (DCV BFP). The two 8" fire service entries are merged together into one 8" main overhead in the Basement Chiller Room and are routed into the Basement Fire Pump Room.

Fire Pump System

The water based fire suppression system fire pump, located in the Basement Fire Pump Room, is an electrically driven horizontal split case rated for 750 GPM at 460 feet of head (200 PSI). The fire pump controller is located on the north wall of the Fire Pump Room. The system jockey pump is a 5 horsepower, horizontal inline type. The jockey pump control panel and the low suction cut-out panel are mounted on the west wall of the Fire Pump Room.

The Fire Pump Room is clearly identified and is kept very clean. The fire pump and all its components are very well maintained. Upon visual inspection, the fire suppression pressure gauges in the Fire Pump Room appear to be functional, but some gauges appear to have questionable readings. Malfunctioning pressure gauges should be replaced.

Water-based Fire Sprinkler Systems

The facility is protected by wet pipe sprinkler systems in conditioned areas. Dry pipe sprinkler systems protect the Parking Garage, Levels 1 and 2, and the Truck Dock. The dry pipe valve risers are located in the Fire Pump Room. The Basement wet pipe sprinklers are served by risers operating at city water pressure (65 PSI). The Basement up through the Penthouse Level sprinkler systems are served by standpipes distributed from the fire pump.

The fire sprinkler systems appear to be generally well maintained and testing has proven the systems and its components are functional. The SimplexGrinnell test/inspection report dated 9-18-12 indicates that both dry systems appear to be due for 5 year internal

Water-based Fire Standpipe Systems

Dry standpipes equipped with Class I 2-1/2" fire hose valves serve the Parking Garage. The office tower portion of the building is equipped with a system of two 6" wet standpipes, one of which serves Class I 2-1/2" fire hose valves from the First through the Penthouse Levels exposed and accessible in the West Stairwell. This west standpipe serves the wet pipe sprinkler system on the Penthouse Level and terminates in the Penthouse Mechanical Room serving a 6" roof manifold with three 2-1/2" valved outlets. The fire hose valves from the 21st Level and below are equipped with pressure reducing valves. The standpipe in the East Stairwell is an exposed and accessible 6" combined standpipe which serves sprinkler systems and Class I 2-1/2" fire hose valves from the First through the 22nd Levels and a Class I

2-1/2" fire hose valve on the Penthouse Level. The fire hose valves from the 21st Level and below are equipped with pressure reducing valves. The sprinkler systems are served from the east standpipe by floor control valve / test & drain assemblies.

The fire standpipe systems appear to be generally well maintained and testing has proven the systems and its components are functional.

Fire Department Connections

There is a system of fire department Siamese connections located on the south retaining wall of the Lower Level Entry Ramp to the Parking Garage. These connections appear to be in good condition.

FM-200 Clean Agent Fire Suppression Systems

There are four FM-200 clean agent fire suppression systems within the Building. The Sprint Communications Room in the Basement is equipped with an FM-200 System, and is owned by ODAS. The Lucas County Computer Center on the 3rd Floor is equipped with an FM-200 System. This system is not owned by ODAS. The Lucas County Auditor's Office on the 7th Floor is equipped with an FM-200 System. This system is not owned by ODAS. The City of Toledo Computer Center on the 7th Floor is equipped with an FM-200 System. This system is not owned by ODAS.

The FM-200 fire suppression systems appear to be generally well maintained and testing has proven the systems and their components are functional.

Kitchen Hood Fire Extinguishing System

The 13th Floor cafeteria-kitchen is equipped with a wet chemical fire extinguishing system.

The kitchen hood fire extinguishing system appears to be generally well maintained and testing has proven the system and its components are functional.

Portable Fire Extinguisher Systems

The building is fully equipped with readily accessible, portable ABC dry chemical fire extinguishers, located conspicuously along normal paths of travel including exits from areas.

The portable fire extinguisher systems appear to be generally well maintained and testing has proven the system and its components are functional.

ELECTRICAL

Electrical Service

The building has two electrical services and electrical services are provided by Toledo Edison, a subsidiary of A First Energy Company. Two services are provided from Utility transformers under side walk on west side of building and routed underground in to basement electrical room each with 10 sets of 500 kCMIL in RGS conduits with two spare conduits. This provides service capacity of 3800 ampere and it was allowed by 1980 NEC code to install 4000 ampere fuses for these services.

The service entrance switchgear is working fine but is old and beyond useful service life. Replacement is recommended. All electrical distribution equipment should be inspected yearly with a thermal imaging system for prolonged satisfactory service from old equipment. Perform a short circuit and coordination study to ensure proper short circuit ratings and electrical system coordination of overcurrent protection devices.

As per infrared study performed by GEM INC in November 2011, there are several locations identified in report that have loose fuse clips or loose feeder problems. The repairs noted should be corrected.

A short circuit and coordination study should be performed to ensure proper short circuit ratings and electrical system coordination of overcurrent protection devices. This is a requirement of 2011 NEC Article 110.10.

As per NFPA the fire pump switch should carry full load lock rotor current of fire pump motor. The motor is 150 HP, which has 1085 ampere lock rotor current and next available switch size is 1200 ampere.

Power Distribution

The building has one 2500 ampere feeder bus riser running vertical in west electrical closet with bus plugs for lighting and separate plug for receptacle load with step-down transformer on each floor. The base building lighting panels are General Electric 100 ampere at 480Y/277 volt on each floor and provide lighting power through 20 ampere single pole branch circuit breaker on respective floor. Base building receptacle panels are also General Electric 100 ampere at 208Y/120 volt and provide receptacle power through 20 ampere single pole branch circuit breaker on respective floor. Additional sub panels are added as required and these subpanels are mostly Square D, and have been installed on floors required additional breaker space.

The power for building mechanical units located on basement, second floor and penthouse are provided with Motor Control Centers (MCC). Basement has 600 ampere main bus and 300 ampere section bus, 480 volt, three-phase, three-wire standby power MCC with five sections and provides power to critical HVAC units in basement area. MCC has 12" and 30" spaces and three size one spare combination starters. Another normal power MCC with 1200 ampere main bus and 300 ampere section bus, 480 volt, three-phase, three-wire to provide power to HVAC equipment on basement floor. This MCC has 6" space and two size one combination spare starters. There are unused starter for CHWP2, CHWP-4, CWP-2 and CWP-3. The second floor mechanical room has a MCC to feed HVAC equipment located on second floor. This is three sections MCC with 600 ampere main bus and 300 ampere section bus and has three size one spare starters. There is also a MCC on Penthouse floor, which has one spare starter.

The building has receptacle power feeder riser running in east electrical closet with tap box on each floor with tap, and transformer with primary disconnect and a 100 ampere, 208Y/120 volt panel. Panels are good working condition, but it is more than 30 years old and beyond it's useful life. Breakers for these panels may not be readily available.

The building has mechanical unit feeder riser running in mechanical room with tap box on each floor with tap and disconnect as required to provide power for mechanical units.

The building roof has power receptacles for window cleaning services on all sides of penthouse. These special receptacles are powered from a power transformer and panel in the penthouse mechanical room. Receptacle location and power is satisfactory and meets window washing requirements.

The building has four Wind Turbines installed above penthouse and inverter and wind turbine panel are installed in penthouse mechanical room. The wind turbines are no longer used and have been secured to prevent movement.

The base building power distribution system including distribution panels boards, branch circuit panelboards, power risers are nor than 30 years old and passed its useful life span. It is recommended that the entire power distribution system be replaced. The design engineer should take in consideration that building is using less power than originally designed, and should reduce service entrance gear size, and distribution size as per maximum demand recorded by Toledo Edison.

Until distribution system replacement, routine maintenance shall be performed with breaker exercising and thermal imaging study. All breakers and wiring shall be replaced and/or tighten as recommended by thermal imaging study.

All MCC are more than 30 years old and parts not available in open market. Also MCC is used as circuit disconnects and starter for HVAC equipment are installed near individual equipment due to use of variable frequency drives or starter provided with mechanical equipment. The MCC size should be reduced as required for motor starter only and provide distribution panel for the feeder circuit where MCC have been used as feeder disconnect.

Emergency and Standby Power

This building has a diesel power generator for emergency and stand-by back-up power. It has 640 kW i.e. 800 kVA or 962 ampere capacity at 480Y/277 volt. The emergency and stand-by power is provided to the building through a 1200 ampere Russ Electric automatic transfer switch and a 1200 ampere distribution gear and sub transfer switches for fire pump, elevators, egress lighting, etc. This was allowed by 1980 NEC code.

Generator has an above ground day tank for fuel supply and an underground tank with 20,000 gallon capacity for fuel supply for longer time.

The generator and transfer switches are more than 30 years old and are passed their useful life span. Parts are not available in open market and any major failure will lead to longer shut-down. Replace the generator and transfer switches with newer generator having higher efficiency and in compliance with EPA requirements. The design engineer should install new generator and transfer switches as per latest NEC.

Replace the emergency panelboards located throughout the building.

Until replacement of the generator and transfer equipment occurs, routine maintenance should be performed by factory trained personnel for reliable operation of the generator and power transfer equipment.

Routine maintenance on panelboards should be performed as described in distribution section.

Grounding

The ground loop is buried and could not be verified during the building walk through. The design drawings indicate that the building is grounded to the loop encircling the building. Building has two #1/0 grounding conductor risers, one in each electrical closet for conversion of normal power panel into isolated ground panel. Each floor has a tap box with isolated ground lugs and some locations have isolated ground termination strips which connect the isolated grounding conductors.

Test the entire grounding system every five years using fall of potential method to ensure continuity and that resistance to ground is no more than 5 ohms.

Lighting System

Building lighting has been upgraded from incandescent lamp and T-12 fluorescent fixtures with magnetic ballast to compact fluorescent lamps and T-8 fluorescent fixtures with electronic ballast. All office work area on floor 3 through 22 has louvered 12”X48” T-8 fluorescent fixtures with electronic ballast. Overall building lighting distribution in all areas is satisfactory.

Emergency egress lighting and exit sign back-up power is provided from generator circuit to strategically place fluorescent lighting. The emergency lighting in the building is under process of converting to LED lighting.

The first floor front lobby has LED lighting and back lobby has fluorescent lighting. County and City council meeting room has compact fluorescent down lighting and incandescent track-lighting. Snack bar and other conference rooms, and offices have T-8 fluorescent lighting with electronic ballast.

Basement, second floor mechanical space, and all floors mechanical, electrical room, elevator equipment rooms, and penthouse has T-8 industrial fixtures with electronic ballasts and compact replacement fluorescent lamp installed in incandescent socket.

Rest room on all floors has T-8 fluorescent fixtures with acrylic lens and compact fluorescent lamp down lighting.

Cafeteria on 13th floor has combination of LED, compact fluorescent and T-8 fluorescent lighting with some PAR 16 incandescent lighting.

When floor layouts change, the emergency lighting layout should be changed to match the new egress pathway locations. As per maintenance personnel, management is in process of replacing all emergency egress lighting with LED fixtures and these new emergency fixtures should be located above egress pathways.

Wiring

Wiring in building is in good condition and should provide good satisfactory service for at least 20 more years.

FIRE ALARM

The existing fire alarm systems are functional and are well maintained. System testing is conducted thoroughly and on a timely basis, both in-house and by certified, qualified service, testing and inspection contractors. The Fire Alarm control panel is clearly identified with sufficient interface capabilities. The command center PC interface provides ample interface capabilities and system status display. Replacement components are readily available.

Control Panel

The fire control panel is a Honeywell addressable system with voice notification. The main panel is located in the Basement Chiller Room on the North Wall with sub panels located throughout the facility.

The Fire alarm control panel is in good working condition.

Command Center

The building Command Center includes a PC based graphic interface. The graphic system integrates both building fire alarm and security systems. Graphic floor plans provide device location on a per floor basis including current device status. The graphic system allows operator to acknowledge and silence building alarm conditions.

Initiating Device

Addressable initiating devices are located throughout the facility as follows: Manual pull stations are located at exterior exits and at access points to stairwells on all floors. Ceiling mounted smoke detectors are located in elevator lobbies, building electrical and telecommunication closets and mechanical rooms. Duct mounted smoke detectors are located on building Air Handling Units. Fire suppression monitoring devices are located at fire pump controllers and suppression system piping.

Notification Devices

Audible and visual devices are located throughout the building in public spaces such as elevator lobbies and public corridors. The system provides voice messages for evacuation

and includes a microphone for emergency communication to occupants by authorized personnel.

TECHNOLOGY

Entrance Facility

The Entrance facility located on the Lower Level contains fiber and copper services entering from separate cable tray pathways. Copper backbone terminates onto lightning protection, and then distributes to County, State and City owned phone systems and DTE Equipment located within the Entrance Facility. A Telecommunications wall field distributes copper trunks and fiber backbone to the floors above via 13x 4" vertical conduits. Many of these conduits contain capacity for future cabling. However, not all conduits reach all floors.

A dedicated grounding system is present in the Entrance Facility. Additional hardware in this room is a mixture of head end equipment that is individually owned and operated by the City, State, and County tenant offices.

The Entrance Facility contains a cabinet containing multiple channel banks connecting to a carrier system. The carrier system connects to the AT&T state wide Centrex carrier system.

The Entrance Facility is in good working order.

Typical Technology Room

The building contains sufficient space dedicated to Technology infrastructure on each floor for the building's tenant capacity. The individual Technology Rooms are keyed secure.

Each floor (3-22) contains two Technology Rooms. Each closet consists of copper backbone terminations, RJ21x blocks serving local services, CATV backbone, and some amount of existing copper horizontal distribution. Depending on location, much of the voice distribution terminated on 66 blocks within each Technology Room is not currently in use.

Floors 3-8 are occupied by County offices. The closets on these floors are utilized to distribute fiber and points of demarcation for internet services to their locally controlled Technology Rooms within their tenant space. Floors 9-15 are occupied by State offices. While the State does operate their own Data Center on the 11th Floor, it appears that the elements of the Meridian phone system are hosted in the building Technology Rooms.

Many of the closets contain distribution equipment (active and passive) that is not current, and possibly not being utilized. The quantity and ownership of this equipment varies based on location.

The Equipment Rooms serving the 3rd, 11th, and 21st floors are temperature controlled, power conditioned, and contain capacity for additional growth.

The locations of individual Technology Rooms provide acceptable distances for horizontal cabling for tenants. There are no telecommunications grounding systems installed in the closets.

Providing a dedicated Telecommunications Grounding Backbone system within each Technology Room is recommended.

Throughout the building, many instances of abandoned equipment was seen. Much of this equipment has been unused for years, but still remains powered on wasting power. Cabling connected to abandoned systems can also be evaluated for removal

Some firestopping of pathways within the facility is inconsistently applied or maintained. Partitions, floors, and ceilings should be firestopped.

It is recommended that an ANSI/EIA/TIA 606 Class 2 labeling system be implemented and maintained.

The creation/ adoption and documentation of TIA/EIA 569 based set of building standards for the design and installation of low voltage building cabling infrastructure should be implemented.

Typical Horizontal Distribution

The majority of tenants audited utilized a standard 1 voice/ 1 data outlet for typical office outlet locations. The outlets were wall mounted where appropriate or mounted within furniture. Typical floor layouts included multiple 2" holes leading into the ceiling space of the floor below. In many places, this 2" pathway is utilized for power and voice. But it also abandoned in many other locations. Throughout the building, the ceiling space appears to have sufficient space for additional cabling.

The existing majority of the existing horizontal cabling is rated CAT 5/5e CMP. The existing majority of fiber optic cabling is single mode.

The fiber backbone cabling is adequate for 10 Gbps data throughput. The Category 5 cabling is adequate for a maximum data speed of 10/100 Mbps throughput. The CAT 5e cabling is adequate for up to 1000 Mbps data throughput.

The majority of the areas observed contained abandoned cabling within the underfloor and ceiling pathways that should be removed.

HAZARDOUS MATERIALS

It is unlikely that asbestos was used in construction; however, NESHAPs (40 CFR 61, Subpart M) requires that buildings be inspected for ACMs prior to renovation/demolition projects without exception, regardless of the building's construction date. Suspect ACMs observed throughout the building appeared to be in good condition at present time.

Should existing/historical asbestos documentation not be located, it is recommended that an asbestos survey be completed prior to renovation/demolition activities. Based on analytical results of the asbestos survey, an Asbestos Operations and Maintenance (O&M) Plan should be created and implemented in order to minimize asbestos fiber exposure to all building occupants and contractors. Additionally, the results of the suspect ACM sampling would provide the ODAS with an asbestos abatement budget for future site improvements.

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INTRODUCTION

On August 28, 2012, the Ohio Facilities Construction Commission (OFCC), formerly the State of Ohio Office of the State Architect, contracted with KZF Design Inc. to conduct a comprehensive, all-inclusive, architectural and engineering analysis survey (e.g. building exterior, building interior, building structural systems, HVAC systems, fire and security protection systems, plumbing systems, IT infrastructure systems, etc.) of the State of Ohio-owned Michael V. DiSalle Government Center, One Government Center, Toledo, Ohio. These services were accomplished in three distinct phases:

1. Accomplishment of facilities assessments
2. Development of plans for capital improvements
3. Formal publishing and presentation of the final report

This facility assessment will be used to develop biennial operating budgets, biennial capital budgets and major renovation projects.

FACILITY DESCRIPTION

The property located at One Government Center is located in Lucas County, Ohio. The 511,255 square foot building is composed of tinted glass, along with granite panels and stainless steel trim. The 22-story structure houses offices of the City of Toledo, Lucas County and the State of Ohio. The main, public entrance to the building faces Jackson Boulevard. A second entrance to the building in the rear of the main lobby is connected by a covered walkway leading to and from an eight-level, 335-space parking garage open to the tenants and the public.

In 1999, the Ohio Building Administration invested more than $2 million in energy conservation upgrades including new lighting, chillers, pumps, DDC controls and variable speed air handlers to achieve ENERGY STAR® Certification.

Designed by Minoru Yamasaki & Associates, the DiSalle Center was completed and occupied in 1983 and construction costs totaled approximately $61 million. The DiSalle Center contains 511,255 square feet of office space is 327.5 feet high and has 22 stories. Approximately 1,500 state, city and county employees work in the building.

The building is named in honor of Michael V. DiSalle, who was elected Governor in 1958.

PROJECT SCOPE

The scope of services is to establish a comprehensive inventory and information database of building systems and components and provide a condition assessment of existing building systems and components. This assessment includes the following:

- Condition of the basic building shell and envelope including foundations, windows, cladding, windows/curtainwall systems, doors, roof and flashing system, exterior building drainage systems (gutters and downspouts) and waterproofing systems
- Condition of interior finishes
- Condition of electrical systems, mechanical systems and plumbing systems
- Condition of life safety systems
- Condition of IT infrastructure components and wiring condition and extent of infrastructure present for IT capabilities now and in the future
- Condition of other fixed equipment including elevators, and emergency generators

- Significant opportunities for increased energy efficiency
- Code violations
- Surrounding site conditions such as paving, walks and other visible elements

Following the assessment, the Project Team provided recommendations for improvements and major repairs to the facility systems and components based on the assessment and provide estimated costs for each improvement and repair item. These recommendations will be used to create capital funding scenario in two year budget increments over the period of July 1, 2013 through June 30, 2023.

METHODOLOGY

Information for this report was obtained by review of scanned sets of original building plans, conversations with ODAS staff and a visual observation of accessible spaces. These plan sets the Project Team reviewed include:

- *Government Center, Original Construction Drawings* dated December 1, 1980 prepared by Minoru Yamasaki & Associates of Troy, Michigan
- *FS-90+ Fire Protection System* dated September 20, 1990 by Honeywell Home & Building Control of Toledo, Ohio
- *Energy Star Building Program Upgrades* Record Drawings dated February 6, 2001 by The Obsorn Engineering Company of Cleveland, Ohio
- *Domestic Water Service Modifications* dated March 26, 2002 prepared by The Obsorn Engineering Company of Cleveland, Ohio
- *Roof-Mounted Wind Turbine* Bid/Permit Drawings dated April 12, 2010 by Obsorn Engineering of Cleveland, Ohio
- *Fire Alarm System Renovations* dated October 19, 1999 by Point One Design, Inc. of Worthington, Ohio and Simplex Time Recorder Co. of Dublin, Ohio

The Project Team's on-site observations took place on October 1–3, 2012 . After a meeting with facilities staff, eight hours of building observation were followed by review of building project and maintenance files and interviews with key staff (including building managers and maintenance personnel) regarding their maintenance experiences with each building's respective systems and components. There were no observations and investigations of concealed conditions. The review of the extensive existing project files was not exhaustive.

The project team noted building code items such as means of egress, ADA and fire separation as part of their review, which included following the designated paths of egress in corridors and exit stairs to the exit discharge. Numbers of exits and egress door hardware were also noted. For ADA, the "path of travel" areas were assessed. The "path of travel" includes the pedestrian passageways and areas of entries, exits, corridors, lobbies, restrooms and drinking fountains. Exterior ramps, walkways and parking aisles are also included in the path of travel. Guardrails at stairs, mezzanines and along roof edge areas were noted for concerns for fall protection.

The mechanical, plumbing, fire protection, electrical and IT operating system teams focused on existing code issues that could be considered life safety issues. Existing operational systems that have been maintained and were in accordance with the code at the time of installation are exempted from subsequent code changes and are commonly referred to as "grandfathered." Items that create potential life safety issues such as defective flue liners, lack of combustion air, mechanical working clearance and arc flash risks have been noted.

This report represents a "snapshot in time" in the life of the facility. The building was evaluated on an "as is" basis at the time of the on-site observations.

ACKNOWLEDGEMENTS

Ohio Department of Administrative Services (ODAS)

Office of Properties and Facilities (OPF)

Peter Gunnell
State Chief Facilities Officer

Anthony J. Matney
Northern Group Facilities Manager

Ohio Facilities Construction Commission (OFCC)

Richard Hickman
Executive Director

Capital Plan

The Capital Plan is divided into a Tower Fund and Capital Fund. The Tower Fund includes all high-rise buildings, i.e. James Rhodes Tower, Vern Riffe Center, Michael DiSalle Center, Oliver Ocasek Building, Frank Lausche Building. The Capital Fund includes all low- and mid-rise buildings, i.e. 4200 Surface Road, 25 South Front Street and the Governor's Residence.

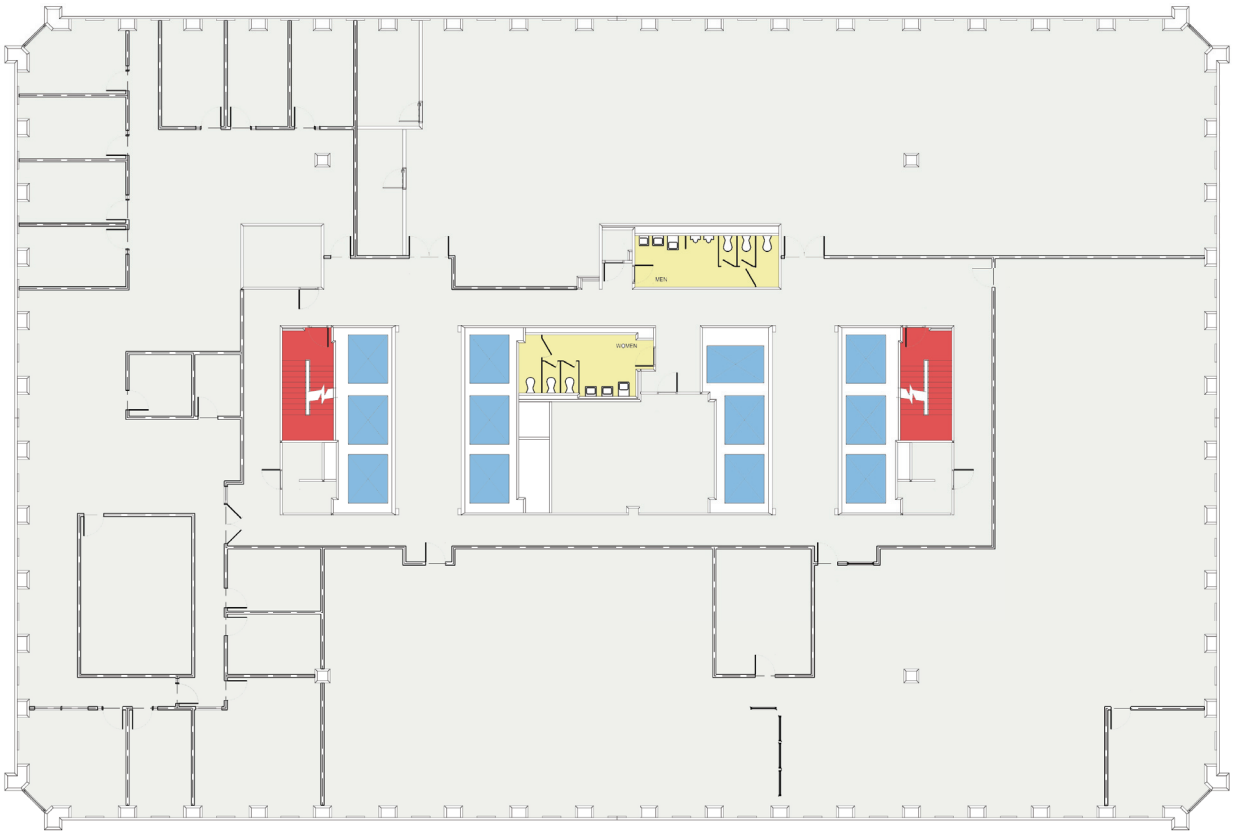
All of the items have been assigned to a category that relates to priority as follows:

- Life Safety: This includes items noted that have a potential life safety risk. These may include guardrails to provide fall protection, safe working clearances, structural failures or even tripping hazards. These items should be given high priority for addressing the condition.
- Increased Risk & Cost Associated If Deferred: This includes primarily items that are deteriorating and will continue to deteriorate until corrective action is taken. These also may include consequential damages to adjacent areas or equipment. Examples include items such as deteriorated parking lot pavement, replacement of joint sealants in precast concrete panels and corroded condenser water piping.
- Short Term Repairs: This includes relatively small but immediate repairs that should be done as temporary repairs until a long-term solution can be done. An example would be a roof leak.
- Item Currently Beyond Life Cycle: This includes materials, systems or equipment that may or may not be currently functioning properly, but are passed their anticipated service life. Examples of this include older roof system, old boilers and obsolete electrical components.
- General Maintenance: This includes a wide range of on-going routine inspection, general maintenance and preventative maintenance-type items that can usually be performed by the maintenance staff at the facility or by a local service provider (e.g. propane gas supplier, elevator service).
- Energy Savings Options: This includes items that are currently causing wasting energy or opportunities to replace or redesign something to reduce energy consumption. Examples of this include window replacements, energy efficient lighting fixtures, recirculation pumps for hot water.

PREREQUISITE

This report represents the Project Team's professional opinion based upon information currently available and arrived at in accordance with generally accepted professional standards. This report is based upon the tasks performed consistent with the scope of work requested by the State of Ohio Facilities Construction Commission (OFCC), formerly the State of Ohio Office of the State Architect. Short of complete deconstruction to examine every element at every location, no assessment can reveal all conditions that may exist. Further testing, assessment or demolition may uncover conditions that would make it necessary to modify these conclusions and/or recommendations. This report has been prepared for the purpose described in our Agreement and for use by those to which the report is addressed.

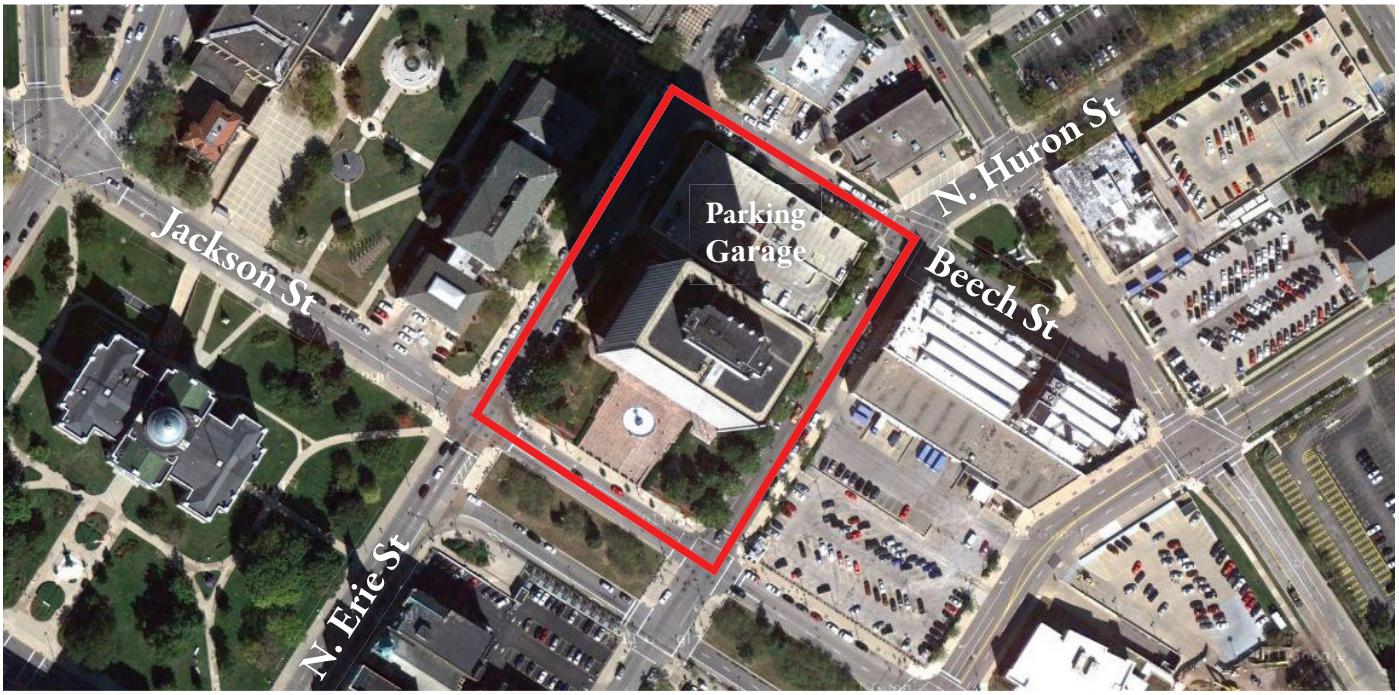
TYPICAL FLOORPLAN



Individual floorplans are located in Appendix A of this document.

LEGEND
STAIRS
ELEVATORS
RESTROOMS

SITE PLAN



SITE

The DiSalle complex covers one entire city block in downtown Toledo, bound by Beech (north), Jackson (south), Huron (east) and Erie (west) street in Toledo, OH. The main entry plaza is on Jackson Street. A parking garage serving the facility is north of the building and has access via Beech Street. The site is paved with large granite pavers, concrete walkways, and stamped concrete paving. The areas to the east and west have well developed landscape areas with grass covered lawns, shrubbery, flowers, plants, mature trees, and low planters and modular precast concrete retaining walls.

FRONT PLAZA

The front plaza on Jackson Street is composed of large, 2–3-inch thick rectangular granite slabs that form the plaza, steps and accessible ramp (Photo S-1). The plaza is constructed over top of conditioned and occupied spaces below in the basement, and appears to be composed of a hot applied waterproofing on structural concrete. The slabs are set in a mortar bed (Detail 3-31). Joints are filled with resilient joint sealants. The sealant joints were replaced in 2011. The plaza is sealed each year with a liquid sealer. The plaza closes for the season in mid-October and site furniture is removed and the fountain is turned off.

Accessible Ramp: The walking surface and sidewalls of the ramp are clad in granite and has continuous stainless steel handrails on both sides (Photo S-2).

Precast Concrete Planters: There are six precast concrete planter boxes located in front of the plaza along Jackson Street. These appear to serve as a security vehicular barrier. These are not original and their age was not determined (Photos S-3 and S-4).

Assessment:

The granite slabs forming the plaza, steps and ramp appeared to be in good condition. There are a few pieces of granite with minor cracks. There are elevation offsets between many slab pieces. This is commonly referred to as lippage. This lippage can create a tripping hazard for pedestrians and can create puddles (Photo S-5). There is a plaza drain just west of the fountain that drains slowly which contributes to the puddles.

The accessible ramp appeared to be in good condition. Slopes, landings and handrails appear to meet ADA standards. Handrail extensions, called for by ADA, at the top and bottom do not exist.

The precast concrete planters are deteriorated. Two of the six have extensive deterioration along the lower areas (Photos S-3 and S-4)

Recommendations:

Repair or replace the drain in the plaza west of the fountain.

Reset granite slabs as needed to eliminate lippage between slabs in a bituminous setting method. This includes a bituminous base over a concrete mud slab. The slabs are then set in a hot neoprene bonding coat that is squeegeed over the bituminous base. This system is designed for areas with high traffic and freeze-thaw cycles. A laser level is recommended to ensure precision.

Not having handrail extensions at the top and bottom of the ramp is not a major accessibility issue and it is not economically nor technically feasible to add handrail extensions at the ramp.

Replace the precast concrete planters with a permanent series of concrete bollards spaced far enough apart to allow pedestrian access but close enough together to prevent vehicular access is recommended. The final design should be something that provides security yet is still attractive and pedestrian welcoming.

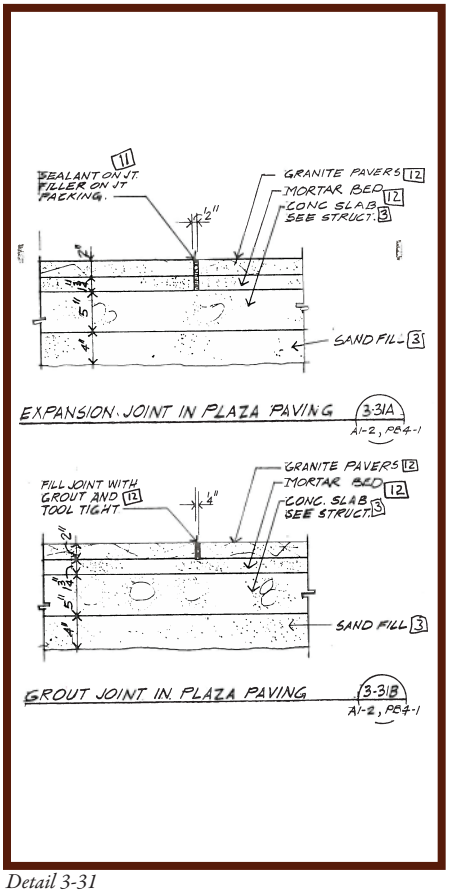
S-1

S-2

S-3

S-4

Site



Detail 3-31

S-7

S-8

S-5

S-9

S-6

EAST SITE AREAS

The granite slab plaza extends along the east side of the building and meets the granite wall cladding (Photo S-6). There are minor areas of efflorescent along the base of the granite building wall. The efflorescence is likely caused by de-icing products that are used on the walkways. The water-soluble alkali salts are absorbed into the stone along with the water from the melting snow and ice. As the water evaporates, the whitish crystal deposits are left on the surface of the material.

The concrete walk to Huron Street had some deterioration along the side curb. The handrails along both sides do not have the extensions along the top and bottom as required by ADA (Photos S-7 and S-8).

The modular precast concrete landscape planter walls have a significant amount of efflorescence (Photo S-9).

Recommendations:

The efflorescence along the base of wall in the granite is unsightly but not likely to cause long term problems. Granite is a very noble stone and is less likely to be etched by minor amounts of efflorescence. The efflorescence should be removed by dry brushing with non-metallic brushes, followed by a brief water rinse. There are commercial cleaning products available, but they are not recommended for this minor amount of efflorescence. There are commercial de-icing products on the market that do not contain efflorescence forming chemicals that should be considered.

Sections of damaged concrete along the walkways should be replaced rather than patched.

Not having handrail extensions at the top and bottom of the ramp is not a major accessibility issue and it is not economically nor technically feasible to add handrail extensions at the ramp.

The efflorescence at the precast concrete planter walls could be removed using non-metallic brushes and a brief water rinse. Attempting to remove the efflorescence from these walls would require significant effort that would not likely prove long term effective. Although some of the efflorescence can be removed, it will likely re-occur in a short period of time. The absorptive concrete in direct contact with the ground will likely continue to absorb water-soluble salts that produce efflorescence. Surface applied sealers or water repellents would not help since the salts are also being absorbed through ground contact.

WEST SIDE AREAS

A concrete walk extends to Erie Street. The steps showed signs of slight settling. (Photos S-10 and S-11) It is not evident what may have caused the settling but it is likely just a minor compaction issue.

Recommendations:

Replace concrete steps. Replace handrails with ADA compliant handrails when steps are replaced.

LANDSCAPE AREAS

The east and west areas have mature trees, lawn areas and shrubbery. The pedestrian sidewalk along Jackson Street has flowering areas and young trees (Photos S-12 and S-13).

All the landscaping appeared to be very well maintained and healthy.

Recommendations:

Continue to maintain the landscaping areas.

S-10

S-11

S-12

S-13

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GARAGE

The adjacent and connected elevated parking garage is a six story above ground structure composed of a pre-cast concrete post and beam structure with pre-cast concrete tee deck members.

There are three cast-in-place concrete stairs. Exit stairs are in the northwest and southeast corners. There is a central communicating stair.

Assessment:

Elevated concrete parking decks and garages in this particular climate zone are subjected to de-icing chemicals and the associated degradations that are exacerbated by deicing chemicals. Elevated cast-in-place concrete parking decks and garages offer a higher-level of redundancy to combat deterioration than do elevated pre-cast parking decks and garages.

The central stair has cracking and spalling in several areas (Photos G-1 through G-3).

Certain repairs have been made over the past years to mitigate the effects of concrete cracking, concrete spall damages and concrete deterioration. Even though the elapsed time since recent repairs is relatively short, some of those repairs are not holding up well. The repair proposals that were available were made by trade contractors as opposed to professional design firms that specialize in forensic analysis and design of repairs for concrete parking decks and garages (Photos G-4 through G-6).

Recommendations:

It is recommended that, based on observations made and noted areas of concern, a professional design firm that specializes in forensic analysis and design of repairs for concrete parking decks and garages to be engaged should thoroughly evaluate this particular structure and to provide a design for repairs and to provide construction administration for same.

Until a thorough study is concluded, a probable cost estimate cannot be developed for repairs to the elevated parking garage.

G-3


G-4


G-5

G-1

G-2


G-6

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BUILDING ENVELOPE

Due to the building management group confirming current roof equipment certifications, exterior façade maintenance access with dedicated building equipment was made available. The exterior surfaces of the glass, metal and Architectural Precast Concrete (APC) panels have not been cleaned for two years.

The tower, from Floor 3 to the top of building is clad with a combination of nominally 5-inch thick by 5-foot wide by floor-height APC panels with glazed punched opening aluminum windows that have a dark bronze anodic finish (Photos A-01 and A-02). The corner APC panels project outward in a manner to produce the look of a corner column feature. In the field of the wall, the APC panels are vertically interrupted every 30 feet, with an inset continuous aluminum channel that serves as a restraint for the dedicated façade maintenance scaffold. The exterior face of the punched opening windows projects out beyond the exterior plane of the APC panels by about 1-½ inches. Shop drawings or other submittals were not on file for review, but the outside drop inspection confirmed that the window framing is thermally broken as indicated in the architectural design drawings. The vertical extent of the APC panels is to a point about 42 inches above the main roof surface. A secondary (or back up) wall with the same vertical extent is constructed behind the APC panels and appears to be composed of a concrete masonry unit (CMU) wall laid up in a running bond pattern. The CMU wall surface facing the main roof is painted. There were no cracks observed in the CMU back up wall. A formed aluminum coping cap encapsulates both walls, and is sloped toward the roof.

A-01

A-02

It was reported that water penetration defects have been noted since the time of occupancy and several large scale façade repair efforts have been conducted since the time of building occupancy. Water penetration defects continue to be noted, and were noted within the weeks just prior to this observation at the building. A map of currently noted water penetrations was provided. Exterior drops were planned based on the defect maps. It is suspected that some quantity of concealed materials have been fully saturated by water during the occupancy of the building, however; those conditions were concealed from observation and would require some amount of dismantlement for further inspection which would be in addition to our current scope.

Recommendations:

Prior to a total replacement, the building maintenance staff should remove portions of the interior finishes to evaluate the underlying conditions, and potential for hidden defects. The results of that visual evaluation may assist in the decisions related to repair extents and timing/scheduling.

The exterior temperatures during the visit were between 50°–55°F, making observation for interior condensation formation not possible, however we were informed that no condensation formation has observed by the building management group during their tenure.

The vision glazing infills in the punched opening windows are composed of a one inch thick hermetically sealed insulating glass unit (IGU) (Photos A-01 and A-02). There were no signs of fogging or other signs of hermetic seal failure. Using a hand-held detector did not detect a metallic low-E coating, which is not expected for a glazed wall constructed in 1983. From the exterior scaffold, exterior glass surfaces appeared to be in exceptionally good condition. This was probably because of frequent cleaning since the building was completed, however some surface staining on the glass surface was noted and has likely began to evolve since the two year layoff in exterior cleaning.

Elastomeric glazing gaskets on the exterior appeared to be composed of neoprene rubber and are deteriorated, cracked and exhibit linear shrinkage such that the extents of the gaskets have migrated away from their initial positions which have resulted in open gaps of as much as one half inch at the ends. Many of those conditions appear to have been addressed

Building Envelope

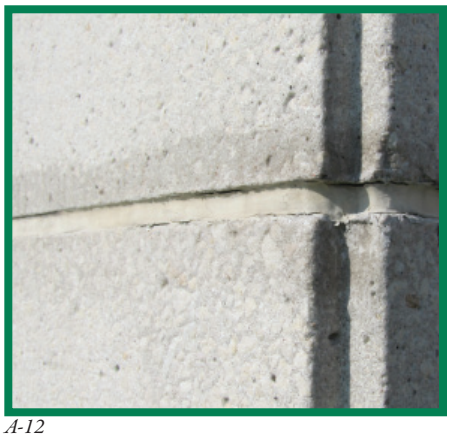

A-03


A-07


A-11


A-04


A-08


A-12


A-05


A-03


A-13


A-06


A-10


A-14

and re-addressed by application of various compositions of weather sealants and caulking, which have deteriorated. Open gaps in the exterior glazing gaskets provide a path for air infiltration and water penetration.

Elastomeric glazing gaskets on the interior appeared to be composed of neoprene rubber and exhibit linear shrinkage such that the extents of the gaskets have migrated away from their initial positions which have resulted in open gaps of as much as one half inch at the ends (Photos A-03 through A-08). Open gaps in the interior glazing gaskets provide a path for air infiltration and water penetration.

Close-up inspection of the exterior surfaces indicates numerous attempts at different times have been made to correct the water penetration deficiencies by applying various compositions of weather sealants and caulking over the exterior glazing gaskets. Polyurethane weather sealants and silicone weather sealants, some of which are in contact with each other and exhibit various levels of materials breakdown due to incompatibility. It is not known if polysulfide, butyl or sealant compounds other than polyurethane or silicone exist on the windows or APC panels.

Several test cuts were made of the weather sealants at APC panel joints and at punched opening window joints. At the APC panel weather seals, polyurethane repair weather sealants had been applied directly over an "Emseal – Backer Seal" (EBS) material, in lieu of having a backer rod separator as stipulated in the repair design documents. It appears apparent that the polyurethane weather seals have chemically broken down due to the outgassing of the EBS material (a commonly known mode of failure) and the breakdown of polyurethane has affected the sealant bond to the APC panels in a negative manner. A backer rod separator may have prolonged the life of the sealant adhesion, however the EBS outgassing would have eventually overcome the backer rod if used (Photos A-9 through A-15).

In several window perimeter sealant areas (away from where EBS was used) polyurethane sealants were found that had the consistency of freshly chewed bubble gum. This may have been the result of sealant reversion (manufacturing defects) or insufficient field mixing. "Reversion" was an industry wide problem with certain polyurethane commercial construction sealants. Newer generation products no longer have the reversion problems (Photos A-16 through A-23).

On most of the punched opening window framing "dry fitted" corner joints were observed which is well known to provide a path for water penetration. On about 40% of the windows observed, those frame joineries were face sealed with silicone sealant, some of which did not appear to have proper adhesion (Photos A-03 through A-06).

Cracks were observed in the APC panels, with what appeared to be the most severe cracks in the corner APC panels. (Photos A-24 through A-26).

Recommendations:

It is recommended that all existing weather sealants be removed and replaced with new silicone weather sealants. At APC joints (and those adjacent to punched opening windows), the existing weather sealants in contact with APC need to removed by grinding to virgin APC base material so as to avoid incompatibility with the various weather sealant chemistries used since the time of building construction. All traces of the EBS material need to be removed. EBS materials should not be re-applied to this repair, as the outgassing could be detrimental to the weather sealant materials. An aggressive primer (such as Dow Corning Primer C) needs to be applied prior to new weather sealant application. Adhesion and compatibility testing need to be performed initially, and periodically during the repair period as recommended by the sealant manufacturer. Prior to weather sealant application, cracks in the APC need to be repaired in a water tight manner with an epoxy based crack repair material.

A-15

A-16

A-17

A-18

Building Envelope

A-19

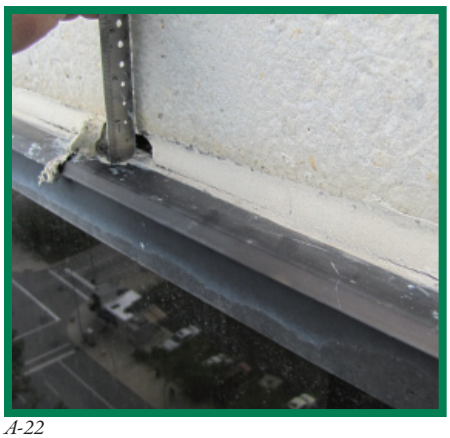
A-23

A-20

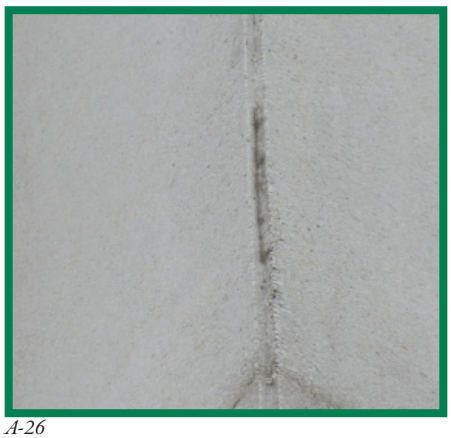
A-24

A-21

A-25



A-22



A-26

Punched opening window perimeter sealants need to be removed, surfaces aggressively cleaned and primed, and weather sealants then replaced. Adhesion and compatibility testing need to be performed initially, and periodically during the repair period as recommended by the sealant manufacturer.

Façade surfaces should be periodically cleaned to prevent staining and deterioration of finish surfaces.

LOWER LEVEL FAÇADE SYSTEMS

The lower levels of the building facades are clad with a combination of kerf supported polished granite panels and pressure glazed monumental aluminum curtain walls that are over clad with polished stainless steel on the building exterior.

The polished granite panels appeared to be in reasonably good condition, however;

1. Granite panel surface deterioration near the walking surface that is suspected to have been caused by de-icing chemicals.

2. At the granite panel joints, weather sealant degradation was noted to a level that indicates that the weather sealants are nearing the end of service life.

   Recommendations:

   Perimeter weather sealants should be removed and replaced at the time of repairing adjacent associated items as recommended above.

   Weather sealant materials should be a medium-modulus elastomeric silicone sealant designed for weatherproofing sensitive porous stone and metal panel substrates to reduce residue rundown and substrate staining (such as Dow Corning 756).

   Façade surfaces should be periodically cleaned to prevent staining and deterioration of finish surfaces.

The glazed aluminum curtain walls appear to be in good condition, however;

1. Certain stainless steel cladding elements and support members thereof are becoming dislocated and appear to be on a path to separating from the underlying aluminum framing. Some of those stainless steel pieces are quite large, and could pose a safety issue to pedestrians.

   Recommendations:

   As soon as possible, the cladding elements and support members thereof should be re-attached and secured in a manner consistent with the building code.

2. The large glass lights are monolithic plate glass (both ½-inch thick and ¾-inch thick) and do not provide for insulating value.

   Recommendations:

   The replacement of the existing glass with insulating glass units should be considered for addressing energy efficiency.

3. At the perimeter joints, weather sealant degradation was noted to a level that indicates that the weather sealants are nearing the end of service life.

   Recommendations:

   Perimeter weather sealants should be removed and replaced at the time of repairing adjacent associated items as recommended above.

Weather sealant materials should be a medium-modulus elastomeric silicone sealant designed for weatherproofing sensitive porous stone and metal panel substrates to reduce residue rundown and substrate staining (such as Dow Corning 756).

Façade surfaces should be periodically cleaned to prevent staining and deterioration of finish surfaces.

FAÇADE ACCESS EQUIPMENT AND SYSTEMS

The portable building façade access equipment consists of a 30-foot long electrically powered scaffold with two wire rope sky climber hoists suspended by a rolling platform carriage with hydraulically operated out-rigging carriage masts. The access equipment is housed in an outdoor location and has four powered and manually steerable rolling casters for movement to placement locations on a continuous perimeter concrete runway. The carriage is fitted with permanent counterweights and does not have tie offs to the building structure which is not acceptable in modern designs or code requirements. In addition, the personnel safety line tie-offs are currently made to the carriage which is not acceptable in modern designs or code requirements. It is believed that the equipment is currently approved for use, but that does not mean it will be in the future as changes are required due to updating the equipment or updating certifications for the equipment (Photos A-34 through A-38).

Since it is stored in a weather vulnerable location, the portable façade access equipment appears to show signs of deterioration from the degrading elements.

Recommendations:

The entire façade access unit should be inspected, serviced as necessary, and certified for use in accordance with governing codes, ordinances and regulations. There were visual signs of material distress at the mast connection and pivot points. These should be inspected by a professional engineer before the equipment is re-deployed.

A-35

A-36

A-37

A-34

A-38

ROOF

The main roof is composed of a multiply cold applied built-up roofing system manufactured by Tremco Roofing Systems (Photo A-27). The membrane has a white reflective coating. This roof system was installed in 2011. The roof is surrounded by a four foot high concrete masonry parapet, with a sheet metal coping. The joints in the coping have been covered with reinforced EPDM tape strips. Around the perimeter of the roof there is a 10-foot wide by 4-inch thick precast concrete runway slabs that form a path for the rolling façade access carriage and scaffold. There are extruded polystyrene insulation boards under the concrete to protect the roof membrane. The precast concrete runway slabs are jointed and separated with protection board strips (Photo A-28). Areas in the corners of the building have a wider concrete runway to allow for turning the rolling scaffold. There is no physical means to limit the travel of the rolling equipment, and a continuous painted yellow line exists as a guide for the limits of the façade access equipment carriage wheel edges.

A-27

Roof areas slope to internal roof drains. There are no secondary or overflow drains.

The penthouse roof is a fully adhered EPDM single ply membrane over mechanically fastened insulation boards (Photos A-29 through A-31).

A-28

The roof system is said to have been installed sometime between 2002 and 2004. In 2011, a white reflective coating was applied over the EPDM. There were reported problem areas of damaged insulation along a center section. In this area, irregular conditions could be felt under the EPDM.

Assessment:

The new roof system appeared to be in excellent condition. The sheet metal copings with EPDM tape at the joints appeared to be in good condition, although they appeared to be older than 2011. Roof drainage appeared to be adequate and drains were working properly. The roof flashing at the vertical parapet walls appear to be in good condition.

A-29

The upper penthouse roof membrane, with the recently applied white coating, likely appeared better than its actual condition. The newer coating likely conceals weathering and deterioration to the 8–10 year old membrane. There were reported problems in the center area of the roof during recent repairs. There are apparent voids and undulations under foot when walking the roof, and suspect that the previous repair effort may have been inconsistent with best practices. Test cuts would need to be conducted to fully assess the overall roof assembly, which is outside of the scope of this assignment. The white, elastomeric coat is delaminating in local areas, and this should be expected to continue. Flashings appeared to be in good condition.

Four roof drains were observed on the main roof as illustrated on the design drawings. Four roof drains for the penthouse area was observed as illustrated on the design drawings. No over flow roof drains were constructed since they were not a code requirement at the time of building construction.

A-30

Recommendations:

The main roof should be routinely inspected at least twice a year (early Spring and late Fall) and after any notable weather events. Preventative repairs should be made when noted. Roof drains should be checked to ensure proper drainage.

The penthouse roof and its insulation should be inspected as noted above. In addition, noted potential problem items should be documented, via photographs and inspection log as a means of establishing a date for replacement. Based on this assessment, the roof should be scheduled for replacement in the next five years.

Roof

The roof hatch to the penthouse is within six feet of the roof edge (Photo A-31) and should have a guardrail for fall protection. Several manufacturers produce roof hatch rails with swing gates that connect to existing hatch curbs that are OSHA-complaint.

The door leading to the main roof leaks when it rains. The door should have a threshold, weatherstripping and a drip strip (at the head of the door frame) (Photos A-32 and A-33).

A-31

A-32

A-33

INTERIORS

The materials in the interior environment of this building are clean, neutral, updated and well maintained. Every window was reviewed from the interior to check for signs of water penetration, failure in seals or gaskets, condition of framing members, cracked or broken glazing, condition of window treatments, and condition of perimeter radiator enclosure. Drywall jamb and soffit conditions as well as ceiling tiles were also reviewed for signs of damage or water penetration.

Restrooms were reviewed for general overall condition of toilet partitions, toilet accessories, countertops, mirrors and fixtures. ADA issues were also noted.

PUBLIC SPACES

There are two entries on Floor 1. The main entry lobby is a clean, well lit, bright space (Photos I-1 and I-2). There is one security desk at the main entry (Photo I-3) and one security desk at the garage entry (I-4). The assembly spaces signage on the first floor are ADA compliant.

Assessment:

The lobby and assembly spaces appear to be in good condition and well maintained (I-5). Floor 1 includes the city council chambers on the east side, the county commissioner room on the west side and two large conference rooms. These public hearing rooms and conference rooms are in good condition. There is a sundry shop on the first floor that is in acceptable condition. The café on Floor 13 has been recently renovated and appears to be updated and well maintained (Photos I-6 and I-7). Most of the signage in this building is not ADA-compliant. There are many permanent rooms that are unsigned.

Recommendations:

Update and add ADA-compliant building signs at suites, 'permanent rooms' and stairs (with stair number, east/west) throughout the building. Consider updating the security desk on the garage side of the building, as it appears to be a bit more dated and less timeless than the main entry.

WINDOWS

See Appendix "A" for a complete listing of problem areas with accompanying photos for each individual floor.

Lobby windows are aluminum storefront with chrome finish. Floors 3–22 are thermally broken aluminum framing with insulating glass. There is an aluminum storefront entrance located at the rear entry to the building from the parking garage. The Lobby entry consists of two revolving doors and a single ADA accessible door with ADA door operator and push paddle controls. An additional window lite in aluminum frame has been added in the Floor 3 Data Center. There is drapery throughout the building, with the exception of a few locations and the café.

Assessment:

Lobby glazing and frames are in good condition with no visible signs of leaking (Photo I-8). Revolving doors operate smoothly and seals are performing well. "EXIT" sign above one of the revolving doors is not illuminated (Photo I-9). The ADA door is functioning properly. Upper-level aluminum frames and sills are generally in good shape with no broken panes of glass and no failed glazing seals (Photo I-10). A few windows were previously marked with a taped "X" indicating that a repair was required (Photo I-11). In many instances, the existing drapery track has been removed or relocated and the drywall soffit not repaired (Photo I-12). There is evidence on several windows of glazing gaskets falling out of the frame (Photo I-13). There are several instances of missing rubber wall base at the floor (Photo

I-1

I-2

I-3

I-4

Interiors


I-5


I-9


I-13


I-6


I-10


I-14


I-7


I-11


I-15


I-8


I-12


I-16

I-14). Many locations show evidence of water damage. Windows were resealed and repairs made to drywall jamb and head conditions. Level of finish on these repairs varies from poor to very good.

Many of the areas by the windows show paint blistering, bubbling and/or wrinkling. It is uncertain at some of the existing conditions as to whether water leaking is still an issue or if the quality of the previous repairs is the issue. The photos taken on each floor show the majority of the problems are water damage to the drywall jambs and soffits, loose glazing gaskets, water stains on drywall and ceiling tile, water stains on drapes, and an occasional evidence of rusting. (Photos I-15 through I-21). Most of the window treatments are drapery. They are difficult to operate and many times are soiled and damaged from the difficulty to operate (Photos I-22 and I-23). The café has perforated shades, which complement the architecture and brighten the interior, as they allow some light through (Photo I-24).

I-17

Recommendations:

All previous drywall repairs need to be evaluated for the quality of the repair and corrected to an acceptable level of finish. This would include patching all holes, removing any rust, and properly priming and preparing the repaired surface before applying final finish coat of paint. Many of the photos indicating problems in the painted surface may be the result of poor surface preparation. All holes should be patched and finished where the drapery track has been removed. Drapes generally need to be replaced. Several have broken hardware, many have stains from water damage.

Follow up on windows marked with the "X" to be sure repair is completed. Replace all loose glazing gaskets. All window frames could use a thorough cleaning to remove dirt and stains. Replace all water stained ceiling tile and verify that leak has been corrected. Replace all missing rubber base at the floor. Clean drapery at exterior windows or consider updating window treatment throughout to perforated shades (similar to café).

I-18

DOORS

Doors are prefinished wood in painted hollow metal frames. Suite entrances have prefinished wood doors with glass sidelights in painted hollow metal frames. Card readers and magnetic locks are provided for secure areas and restrooms.

I-19

Assessment:

All doors and frames are generally in good condition with finishes consistent with the age of the building. High traffic doors tend to show more wear on the door finish, especially at the bottom and near hardware edge (Photo I-25). All hardware is functioning properly. Card readers and magnetic locks are "fail-safe" for emergency situations.

Recommendations:

Generally nothing required for existing doors. Some doors and frames could use some touch-up painting and perhaps install kick-plates at high traffic doors where excess wear is present.

RESTROOMS

The restrooms are finished with floor and wall tile, which were in acceptable condition and neutral finishes (Photos I-26 through I-28). Toilet partitions are ceiling hung painted metal. Automatic flush valves are on toilet fixtures. Two waterless urinals are located in Men's Room on a few floors. (Photo I-29). Hand dryers and paper towel dispensers are present. Sinks are wall-hung with manual faucets. An ADA-compliant sink is provided. Soap dispensers are also wall mounted units. Channel frame mirrors are located over the sinks. The restroom signs are ADA compliant.

I-20

Interiors


I-21


I-25


I-29


I-22


I-26


I-23


I-27


I-24


I-28

Assessment:

Restrooms are generally in good condition. All toilet accessories are functioning. Mirrors are in good condition. Toilet partitions are in good condition with only a few instances of hardware that needs attention. (Photo I-30). Piping under the ADA sink is not protected (Photo I-31). Interior vestibule door in Men's Room is not ADA compliant. An 18-inch maneuvering clearance is required on a front pull side front approach. There are two instances in Men's Room where mechanical grilles need repair (Photo I-32).

Recommendations:

Provide under sink pipe protection at ADA sinks. Replace mechanical grilles.

Install an automatic door operator at the restroom door that does not have the wheelchair maneuvering clearances.

I-30

TENANT FLOORS

Floors 3–22 are primarily office and open office environment with carpet tile floors, vinyl base, 2-foot by 4-foot ceiling tile and neutral painted walls. The elevator lobbies are very neutral with painted metal elevator doors and frames (Photo I-33).

I-31

Assessment:

The finishes appear to be neutral and in very good condition and well maintained. The elevator lobbies on each floor are consistent.

Recommendations:

Replace ceiling tile pads with a smoother, whiter color to brighten interior spaces.

I-32

I-33

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ELEVATORS

Elevators in this building consist of:

- 6 Low Rise Elevators
- 5 High Rise Elevators
- 1 Service (serves all landings)

The following is a summary of each elevator.

- Elevator Number 01 - Low Rise: Gearless traction, 3,500 pound capacity Speed 500 FPM; Serving floors one through 12. Manufacturer: Schindler.
- Elevator Number 02 - Low Rise: Gearless traction, 3,500 pound capacity Speed 500 FPM; Serving floors one through 12. Manufacturer: Schindler.
- Elevator Number 03 - Low Rise: Gearless traction, 3,500 pound capacity Speed 500 FPM; Serving floors one through 12. Manufacturer: Schindler.
- Elevator Number 04 - Low Rise: Gearless traction, 3,500 pound capacity Speed 500 FPM; Serving floors one through 12. Manufacturer: Schindler.
- Elevator Number 05 - Low Rise: Gearless traction, 3,500 pound capacity Speed 500 FPM; Serving floors one through 12. Manufacturer: Schindler.
- Elevator Number 06 - Low Rise: Gearless traction, 3,500 pound capacity Speed 500 FPM; Serving floors one through 12. Manufacturer: Schindler.
- Elevator Number 07 - High Rise: Gearless traction, 3,500 pound capacity Speed 800 FPM; Serving floors 12 through 22. Manufacturer: Schindler.
- Elevator Number 08 - High Rise: Gearless traction, 3,500 pound capacity Speed 800 FPM; Serving floors 12 through 22. Manufacturer: Schindler.
- Elevator Number 09 - High Rise: Gearless traction, 3,500 pound capacity Speed 800 FPM; Serving floors 12 through 22. Manufacturer: Schindler.
- Elevator Number 10 - High Rise: Gearless traction, 3,500 pound capacity Speed 800 FPM; Serving floors 12 through 22. Manufacturer: Schindler.
- Elevator Number 11 - High Rise: Gearless traction, 3,500 pound capacity Speed 800 FPM; Serving floors 12 through 22. Manufacturer: Schindler.
- Elevator Number 12 – Service Elevator: Gearless traction, 4,000 pound capacity Speed 500 FPM; 24 landings served. Manufacturer: Schindler.

Assessment:

All the elevators were modernized in the year 2002. This included new Controllers, Machines, Fixtures, and Rope Breaks. The elevators are up-to-date by code and in a reliable condition.

Recommendations:

The elevators should continue to be maintained using maintenance service agreements.

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MECHANICAL

CODE COMPLIANCE

The building was designed in 1980 and occupied in 1983.

The code in effect at the time of design was the Ohio Basic Building Code based on BOCA codes with amendments. These codes contained similarities as well as differences from those in effect today.

Assessment:

In general there were no significant mechanical code issues.

HVAC

Heating

The building's primary heating source is two gas-fired, low pressure, Ohio Special steam boilers. The boilers are Kewanee wetback firetube design, Model L3S1759-GO with 358 square feet (SF) of heating surface and 5,858 MBH or 6,040 pounds of steam per hour capacity each. The boilers are rated for 15 PSI steam and are normally operated at 8 PSI. The original boiler burners were equipped to fire natural gas or oil. They have been replaced with Cleaver-Brooks gas only burners with Honeywell burner controls. Combustion air is provided by a gravity intake (louver) mounted high in the exterior wall with a manual damper. The two boiler flues are manifolded and equipped with a Hays Cleveland draft controller. The boiler flue is routed up through a shaft adjacent to the Fan Rooms between the toilet exhaust shaft and Women's Toilet Room. Two pressure relief valves are installed on each boiler and the discharge is piped outdoors. Stop valves and service valves are located to allow isolation and servicing of an individual boiler while maintaining the second boiler in service.

A package deaerator provides condensate collection, boiler feedwater heating and introduction of pre-treated makeup water. Water conditioning and chemical treatment is provided by a separate built-up system. Condensate collection and return at the basement floor level is provided by three floor-mounted condensate receiver tanks with duplex pumps (CP-1, -2 and -3) and controls.

Steam is distributed throughout the building to all air handling units with heating coils and all unit heaters. The steam piping system is a two-pipe system with piping to deliver steam to the loads and a second piping system to collect and drain steam condensate back to the boiler system. All condensate appears to be returned. All steam piping and coils include steam traps to maintain separation between the steam and condensate piping systems.

The main steam and condensate pipe risers are routed up through the building in the HVAC Fan Rooms. Thermal expansion joints are located in the risers at Floors 6 and 18.

Assessment:

The boiler manufacturer, Kewanee, went out of business in 2001. Repair parts such as replacement tubes, level controls and flame safeguards are still available for most Kewanee boilers.

The boilers and ancillary equipment have been in service approximately 30 years and are approximately five years beyond the ASHRAE median service life.

Annual boiler inspections are completed, with the last boiler inspection certificate dated May 17, 2012.

Mechanical

Current code requires combustion air for fuel-burning appliances (boilers) be provided by two openings, one located within 1-foot of the room's ceiling and one within 1-foot of the floor.

A common problem with this type of heating system is inconsistent monitoring and adjustment of condensate and makeup water chemistry. Poor condensate/water quality can cause scale and corrosion problems resulting in heat transfer inefficiencies and/or tube and piping failures.

Another common problem is steam trap failure. Steam trap failure allows steam to pass into the condensate return line before the latent heat is removed in the heat exchanger/coil. This condition causes inefficiencies, increasing the system operating costs. There is no record of any periodic monitoring of trap performance.

M-001

M-002

Recommendations:

Based on service life, replacement of the boilers and ancillary equipment and controls should be planned. Note however, that this type of boiler in an office heating application that has received consistent, continued maintenance are often in service in excess of 40 years. Equipment such as this, if run to failure, will typically have increased maintenance costs, but in turn will provide a longer service life and deferred replacement costs over the published median service life data. At this facility, boiler replacement could be staged to allow maintaining partial heating capacity because there are two boilers.

Building operators should develop a log of boiler system information. Example data include but are not limited to: blowdown frequency, makeup water quantity and quality, flue gas temperature, combustion efficiency via stack gas analyzer, water softener and chemical treatment operation. This logged information will provide a baseline of operation that can be compared to current data for predicting maintenance requirements over and above the periodic preventive maintenance (PM) tasks and also aid the building operators in determining the need for the eventual replacement of the equipment.

Perform a steam trap survey utilizing ultrasonic test equipment and institute an annual testing and documentation program for monitoring and determining the need for steam trap maintenance and/or replacement.

Repair damaged piping insulation and jacketing (Photo M-001).

When boilers are replaced, the combustion air provisions should be modified to comply with the current Code requirements.

Cooling

The building's primary cooling source is two electric driven, water-cooled centrifugal water chillers equipped with variable frequency drives (VFD) that were installed in 1999. The chillers are Trane Model CVHF485, nominal 485 tons capacity, refrigerant R-123.

The chilled water system is circulated with a primary-secondary pumping arrangement. The primary pumps circulate chilled water through the chiller loop and the secondary pumps circulate chilled water throughout the building. The primary and secondary chilled water pumps were also replaced in 1999. Both the primary and secondary pumps are Systecon package pumping systems consisting of three vertical split case, double suction pumps (one is standby) with VFD's and controller. The primary pumps are Aurora Model 413 BF 6x8x11, 950 GPM each at 35 feet of head (ft hd) with 15 HP premium efficiency motors. The secondary pumps are Aurora Model 413 BF 5x6x11A, 950 GPM each at 105 feet of head with 40 HP premium efficient motors.

The chilled water system makeup water, chemical treatment pot feeder and expansion tank are all located in the mechanical penthouse.

The chiller condenser water system includes a Systecon package pumping system with VFD's and controller, sidestream filter and blowdown tank located in the Chiller Room and two cooling towers and water treatment equipment located at the Penthouse. The pumps are three vertical split case, double suction pumps (one standby), Aurora Model 413 BF 8x8x11B, 1425 GPM each at 105 ft hd with 60 HP premium efficient motors.

The cooling towers are forced-draft, centrifugal fan, counterflow style with three fans each and vertical air discharge at the penthouse roof. The cooling towers are BAC Model VXT-800WC, 60 HP each and are the original towers installed in 1981. The cooling tower pans and fan sections are constructed of corrosion resistant 304 stainless steel material. Tower basin freeze protection is provided by steam injection into the cold water basin. Condenser water makeup is provided at the cooling tower sump by a solenoid control valve that opens in response to the cooling tower sump water level as sensed in the stilling chamber installed on the sump. The same level sensor/transmitter appears to provide water level alarming also.

M-003

Chemical treatment equipment for the condenser water system is located in the mechanical penthouse. Equipment includes dual metering for monitoring makeup water usage and water deduct metering, flow-through sensors/analyzers and chemical metering pumps. Cooling tower overflow piping discharges on the floor of the penthouse. Condenser water blowdown is done manually at the blowdown tank and sump located in the basement chiller room.

All chilled water and condenser water pumps have butterfly style isolation valves, discharge check valves and suction diffuser style strainers. The primary chilled water pump and the condenser water pump discharge manifolds are valved to provide additional manual isolation and/or pump selection control.


M-004

The chilled/condenser water system also includes a non-integrated waterside economizer to provide free cooling when outdoor ambient temperatures allow. A plate and frame heat exchanger, Graham Model GPE-42 with 1,132 sf, and three-way diverting valves in both the chilled and condenser water loops are located in the chiller room. The three-way valving isolates the chillers when the system is in economizer mode.

The chilled and condenser water piping is insulated with preformed fiberglass insulation with all-service jacket throughout the building. The chilled water piping located in the basement level Chiller Room is color coded and identified. Primary chilled water piping is dark blue and secondary chilled water piping is light blue. Condenser water piping is dark green. Chilled and condenser water piping beyond and above the basement level, is not color coded, only identified.


M-005

Assessment:

Some pipe and equipment insulation and jacketing on and around the pumps has been damaged.

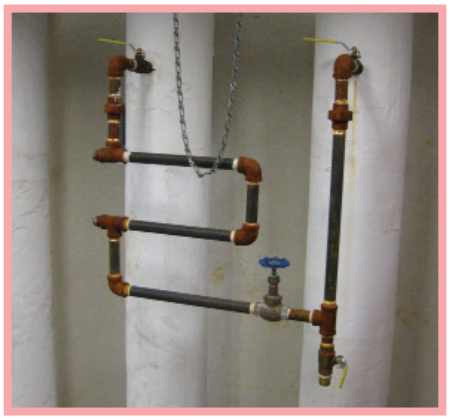
The chiller (CH-1), primary and secondary chilled water pumps, condenser water (cooling tower) pumps, cooling tower fan motors and VFD's and the water side economizer plate and frame heat exchanger were replaced in 1999; currently at 14 years of service. The chillers have approximately 11 years of the ASHRAE median service life remaining. The pumps have approximately six years of the ASHRAE median service life remaining. The plate and frame heat exchanger has 11–15 years of service life remaining.


M-006

Cooling tower spray distribution parts were replaced in 2007. There is surface corrosion, discoloration and streaking of the tower casing consistent with leakage (Photos M-002 and M-003). There is also evidence of leakage onto ductwork, piping and equipment (Photo M-004) located under the cooling towers, as well as plastic sheeting in place to shed any leakage (Photo M-005). Note that one tower was operating when the survey was done and there was no water leakage occurring at the time. There were a couple closure panels

Mechanical

M-008



M-012

M-009

M-013

M-010

M-014

M-011

M-015

M-016

that isolate the cooling tower from the penthouse mechanical room that were not in place (Photo M-006).

Recommendations:

Replace damaged insulation and jacket on pumps.

In addition to the annual chiller oil analysis (to determine system moisture content, acid level and wear metal content), provide an Eddy current test on condenser bundle every three years and every five years on the evaporator bundle.

Infill closure panels at the cooling towers should be installed and kept in place except on an as-needed basis for service requirements (Photo M-006).

Due to corrosion on the cooling tower casings and evidence of leakage (Photos M-008, M-009), plan for casing panel repairs or panel replacement.

Install insulation and jacket on exposed steam and condensate piping, such as the piping to the cooling tower basin heater (Photo M-010).

Repair leak in condenser water treatment piping (Photo M-011).

Remove and cap or plug all condenser pipe branch connections that will no longer be used for water treatment and analysis (Photos M-012 and M-013) and remove any associated equipment no longer used (Photo M-014).

Outdoor Ventilation Air and Energy Recovery Unit

Outdoor air for the entire building is preconditioned with an energy recovery unit (ERU) using an energy wheel. The ERU is located in the Penthouse. The suction side of the energy wheel exhaust is connected to the exhaust air duct riser located in the shaft west of the tenant floor HVAC Fan Rooms. Air is being exhausted from the building's toilet rooms through a constant volume box located on each floor in the Fan Room. After passing through the energy wheel, the ERU exhaust fan (20,785 cubic feet per minute (CFM), 15 HP) discharges (via ductwork) through a dampered opening in the exhaust air areaway located on the west wall of the Penthouse. The ERU supply fan (20,000 CFM, 15 HP) pulls outdoor air through a similar dampered opening located in the areaway at the north wall of the Penthouse, then through the energy recovery wheel and then through a heating coil. The outdoor ventilation air supply fan discharge is ducted down through the same shaft as the exhaust air and through a similar constant volume box in each tenant floor Fan Room. Outdoor air dumps into the fan room and mixes with return air from the floor before returning to the air handling unit. Both the supply air and exhaust air branch ducts are fire dampered at each floor level. The ERU operates only during normal occupied hours.

Assessment:

The energy recovery wheel has been in service since 1983. There is limited service life data available for this type of equipment. New high efficiency fan motors with VFD's (Photo M-015) and seals were installed in 1999.

Recommendations:

Repair damaged ERU internal insulation.

Monitor and log energy recovery wheel performance creating a baseline for comparison to current wheel performance to determine when the wheel should be replaced.

Air Handling Units

The information in Table 1 (see pages 34 and 35) was developed from record drawings and has not been field verified due to the equipment being in service.

Mechanical

Table 1: Air Handling Unit Table

The basement level is served by the following air handling units (AHU):

Tag	Location	Serves	Supply Airflow, CFM	Supply Fan Motor, HP	Return Fan Motor, HP
HV-1	Basement Chiller Room (West End)	Bsmt. Chiller Rm	5,000	7.5	1.5
HV-2	Basement Chiller Room (West End)	Basement Level NW Maintenance	2,000	3.0	1.5
HV-3	Basement East Fan Room	Bsmt. NE Storeroom and SE Housekeeping	3,200	5.0	1.5
MZ-2	Basement East Fan Room	Basement Level Emp. Restrooms/Showers/Lockers, Chiller Rm. Off., Corridor, Security, Truck Dock Restroom, Dock Lobby, Chief Eng. Off.	3,300	5.0	1.5
FC-1		Telephone/Security	2,000	0.75	None

The first floor is served by the following AHU's:

Tag	Location	Serves	Supply Airflow, CFM	Supply Fan Motor, HP	Return Fan Motor, HP
MZ-1	Basement Chiller Room (West End)	South Lobby	18,000	20.0	10.0
AC-1	2nd Floor East Mezzanine	City Council Chambers	14,300	20.0	7.5
MZ-25	2nd Floor East Mezzanine	Conference Rooms (2) North side East of Vestibule	2,700	5.0	1.5
MZ-4	2nd Floor East Mezzanine	North Lobby, Newstand, Service Elevator Lobby, Building Manager's Suite	7,720	10.0	5.0
AC-2	2nd Floor East Mezzanine	Conference Room (1) North side West of Vestibule	2,700	5.0	2.0
MZ-3	2nd Floor East Mezzanine	County Commissioners, Media and Waiting Rooms	12,075	15.0	7.5
FC-2	Basement Chiller Room	South Vestibule	1,500	0.75	None
FC-5	Basement Storeroom	North Vestibule	1,500	0.75	None

The soffit areas at the corners of the building are heated by two fan coil units located on the second floor:

Tag	Location	Serves	Supply Airflow, CFM	Supply Fan Motor, HP	Return Fan Motor, HP
FC-3	2nd Floor East Mezzanine	Soffit Space at NW and SW Corners	2,000	1.0	None
FC-4	2nd Floor East Mezzanine	Soffit Space at NE and SE Corners	2,000	1.0	None

AHU's for stairwell and elevator shaft pressurization are located on the second floor:

Tag	Location	Serves	Supply	Supply Fan	Return Fan

			Airflow, CFM	Motor, HP	Motor, HP
HV-4	2nd Floor East Mezzanine	East Stair and Elevator Shaft	9,500	10.0	None
HV-5	2nd Floor East Mezzanine	West Stair and Elevator Shaft	9,500	10.0	None

Floors 3 through 22 are typical tenant occupied spaces and each floor has a dedicated AHU located in the Fan Room. The fan rooms are located in the center of the building between the elevator shafts and south of the toilet rooms.

Tag	Location	Serves	Supply Airflow, CFM	Supply Fan Motor, HP	Return Fan Motor, HP
MZ-5	3rd Floor Fan Room	3rd Floor	20,810	25.0	None
MZ-6	4th Floor Fan Room	4th Floor	19,460	25.0	None
MZ-7	5th Floor Fan Room	5th Floor	19,460	25.0	None
MZ-8	6th Floor Fan Room	6th Floor	19,460	25.0	None
MZ-9	7th Floor Fan Room	7th Floor	19,460	25.0	None
MZ-10	8th Floor Fan Room	8th Floor	19,460	25.0	None
MZ-11	9th Floor Fan Room	9th Floor	19,460	25.0	None
MZ-12	10th Floor Fan Room	10th Floor	19,460	25.0	None
MZ-13	11th Floor Fan Room	11th Floor	19,460	25.0	None
MZ-14	12th Floor Fan Room	12th Floor	19,460	25.0	None
MZ-15	13th Floor Fan Room	13th Floor	19,460	25.0	None
MZ-16	14th Floor Fan Room	14th Floor	19,250	25.0	None
MZ-17	15th Floor Fan Room	15th Floor	19,250	25.0	None
MZ-18	16th Floor Fan Room	16th Floor	19,760	25.0	None
MZ-19	17th Floor Fan Room	17th Floor	19,760	25.0	None
MZ-20	18th Floor Fan Room	18th Floor	19,760	25.0	None
MZ-21	19th Floor Fan Room	19th Floor	19,760	25.0	None
MZ-22	20th Floor Fan Room	20th Floor	19,760	25.0	None
MZ-23	21st Floor Fan Room	21st Floor	19,760	25.0	None
MZ-24	22nd Floor Fan Room	22nd Floor	20,330	25.0	None

The following units are unique and located where indicated:

Tag	Location	Serves	Supply Airflow, CFM	Supply Fan Motor, HP	Return Fan Motor, HP
MZ-26	13th Floor	Restaurant Kitchen			
AC-4 RF-11	Mechanical Penthouse	West Elevator Equipment Room (RF-11)	9,500	10	10
AC-5	Mechanical Penthouse	East Elevator Equipment Room	9,500	10	None

Mechanical

Assessment:

The air handling equipment, except multizone unit (MZ), MZ-26 that serves the Restaurant, has been in service approximately 30 years and is beyond the ASHRAE median service life. However, the multizone AHU's serving the tenant floors had new motors, VFD's and controls installed in 1999. The chilled water coils have also been replaced. AHU casings at the CHW coil location are showing signs of corrosion and deterioration. The cooling coil condensate drain pans also show signs of corrosion and deterioration.

Some of the MZ AHU filters are not dimensionally consistent with the filter frame dimensions requiring blank-off filler panels. Some of these blank-off panels have become dislodged and no longer perform the intended function. This allows a portion of the return air to bypass the air filters.

M-017

Recommendations:

The service life of the AHU's has been extended due to the 1999 modifications and upgrades. Note however, that the corrosion of the tenant floor MZ AHU casings at the cooling coils and also cooling coil condensation pans should be addressed in the near future. Provide a permanent repair of all damaged casings at the cooling coils (Photo M-016). Remove corrosion and provide a corrosion resistant finish and/or lining for the cooling coil supports (Photo M-017) and condensate drain pans (Photo M-018).

Repair damaged insulation and vapor barrier jacketing on AHU casings (Photo M-019).

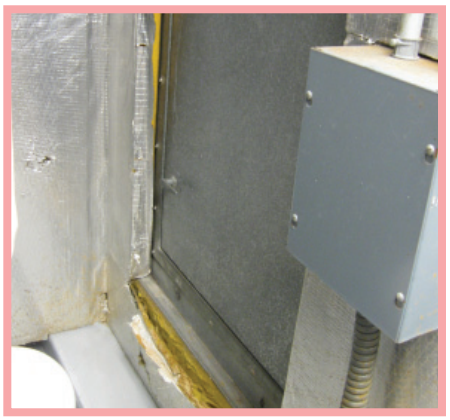
Repair/replace damaged insulation inside AHU's (Photo M-020).

Provide properly sized air filters or provide appropriately sized closure panels that seal off filter frames (Photo 021) and are more permanently fastened or clipped in place.

M-018

Air Distribution System

Each AHU system distributes the supply air through zone ductwork to variable air volume (VAV) terminal units and then to supply air devices. Steam heating coils are included in the two zones that serve the north and south perimeter zones. The heating zone ducts also have humidifiers (installed 1983), however none of them are active. Each VAV terminal is controlled by a separate thermostat. The VAV terminal regulates airflow in response to room temperature requirements. The VAV controls are the original pneumatic type.



M-019

Assessment:

VAV terminal unit repairs/replacements are made as failures occur. Failure typically occurs with the damper actuator. The pneumatic terminal unit controls are beyond the ASHRAE median service life and maintenance costs will continue to increase over time.

Recommendations:

Replace VAV terminal units with current technology including direct digital controls (DDC).

EMERGENCY GENERATOR EXHAUST

A 12-inch engine exhaust from the emergency power generator is routed from the generator to the exterior above the truck dock area, then under the Pedestrian Bridge from the building to the Parking Garage and then up the side of the Parking Garage to the stack discharge point. The exhaust duct was replaced in 1999 with a factory-fabricated and insulated double-wall assembly.

M-020

Assessment:

The exhaust duct appears to be in good condition. There is some water leakage through the plaza deck slab that is promoting corrosion of the exhaust duct supports.

Recommendations:

Repair deck slab cracks and seal. Remove rust and paint generator exhaust duct supports showing corrosion. Scope of improvements to be identified as part of the Forensic Evaluation of the Garage identified in the Garage Assessment section.

M-021

PARKING GARAGE VENTILATION

A series of carbon monoxide (CO) sensors/transmitters and a controller are located on the walls of the basement level garage. The four garage exhaust fans, located on the west wall and the four supply fans, located on the east wall, operate whenever the space CO level rises above the setpoint. Both exhaust and supply fans have been in service since 1983.

Assessment:

The garage ventilation system appears to be in good overall condition. Kele, the manufacturer of the installed CO sensors has discontinued this product model. The typical life of a CO sensor cartridge is 4–6 years and the sensor should be calibrated every six months.

Recommendations:

Test the CO sensors to determine if they are still functioning properly. Most likely the sensor cartridges are beyond their useful service life. Replacement sensor cartridges are not available, so the sensor/transmitters should be replaced. Implement a PM task to recalibrate the CO sensors twice a year.

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PLUMBING

CODE COMPLIANCE

The building was designed in 1980 and occupied in 1983.

The code in effect at the time of design was the Ohio Basic Building Code based on BOCA codes with amendments. These codes contained similarities as well as differences from those in effect today.

Assessment:

In general there were no significant plumbing code issues.

PLUMBING

Domestic Water

The DiSalle Building is served by City of Toledo Water, the local municipal water service. The building has two, 6-inch service mains which enter the basement level of the building parallel to the two 8-inch fire service mains. The original 6-inch water service branches off the Erie Street water main and enters the west side of the building in the Meter Room just west of (and accessible through) the Chiller Room and north of the Electrical Switchgear room. The second 6-inch service branches off the water main in Huron Street and enters the east side of the building in the Housekeeping Storage Room in the southeast corner. The Huron Street water service was installed in 2002 and the Erie Street water service was upgraded at the same time. Both water service entrances include the following line size components: OS&Y gate style shutoff valve, Y-strainer, water meter and reduced pressure zone backflow preventer (BFP) with gate valves. Both services also include a parallel 4-inch bypass line with the same components less the water meter. All six isolation and shutoff valves are equipped with steel cables and tamper switches that alarm if their handwheel is moved from its' normal position. Both BFP reliefs are equipped with air gap fittings that are piped to discharge at the floor. The BFP's are tested regularly; the last test occurring on April 17, 2012.

The two 6-inch domestic water services connect in the basement level Chiller Room, upstream of the domestic water booster pumps. The water supply for the basement and first and second floors branches off upstream of the booster pumps, relying on available city water pressure for distribution. The booster pumps supply domestic water to all floors above the second floor. OS&Y gate valves are provided for isolating the pumps and a Y-strainer is included upstream of the suction header. The booster pump package includes three identical vertical multistage centrifugal pumps (Grundfos Model CR64-3-2 A-G-A-E-KUBE with 30 HP motor each), their respective variable frequency drives (VFD), a remote hydropneumatic tank and a controller to ensure constant pressure in response to varying consumption. The controller also provides automatic sequencing and staging to equalize runtimes.

A water supply branch with isolation valves and pressure reducing valve are located on every third floor. The branch connection is at the domestic water riser located in the fan rooms on Floors 3, 6, 9, 12, 15, 18 and 21. Each branch supply serves the floor level at the tap as well as the floor above and the floor below. From this point, water is distributed throughout the three floors to the toilet rooms, water coolers, kitchenette sinks and other bathroom/toilet room facilities on the floors.

Electric tank style water heaters (Lochinvar Model HS36-082, 36 KW (six at 6 KW ea.), 80 gallon tank are also located at every third floor with a similar supply arrangement. Two floors, the Casement and Floor 22, have in-line hot water recirculation pumps for hot water temperature maintenance. There is also a 21 KW electric water heater located in the kitchen to serve the kitchen hot water demand.

Plumbing

The hot and cold domestic water piping is insulated with preformed fiberglass insulation with all-service jacket throughout the building. The water piping located in the basement level Meter Room and Chiller Room is color coded and identified as City Water. Domestic hot and cold water beyond and above the basement level, is not color coded and identified as Cold Water or Hot Water.

Additional reduced pressure zone BFP's serve HVAC and plumbing makeup water systems.

Assessment:

The floor drain in the Erie Street water room has a plate cover with only five small holes (Photo P-1) in lieu of a drain grate.

The floor drain in the Huron Street water room appears to be a 4 inch size.

The electric water heater have a median service life of approximately 15 years.

Recommendations:

Assess the reason for the floor drain cover (Photo P-1) in the Erie Street water room and if possible replace with a grate providing greater open area. This will help reduce the flooding that would occur if the backflow preventer were to relieve.

Consider replacing and enlarging the floor drain in the Huron Street water service (Housekeeping) room. This will help reduce the flooding that would occur if the backflow preventer were to relieve.

Provide dielectric separation where dissimilar materials are in contact in the piping systems and repair and/or replace pipe insulation and jacketing where damaged or missing (Photo P-2).

P-1

P-2

Natural Gas

The DiSalle Building is served by Columbia Gas, the local gas provider, from a gas main located in Erie Street. The building has one 3-inch high pressure gas service which enters the Meter Room in the basement level of the building parallel to and just north of the domestic water and fire service mains. There are two line size rotary style positive displacement meters with independent shutoff/isolation valves, piped in parallel. The house gas piping increases to 4-inch downstream of the meter and then tie into a 6-inch house main.

The only natural gas load in the building are the two gas-fired steam boilers.

Assessment:

The natural gas piping system has no known problems or issues.

Fuel Oil System

The fuel oil system includes a 20,000 gallon (6-foot diameter by 31-foot long) underground, No. 2 fuel oil storage tank, two fuel oil pumps and supply and return piping. Fuel oil piping is routed to/from the fuel oil transfer pumps (Kerr Machinery, Model G 32) and the 275 gallon fuel oil day tank that serves the emergency power generator. The generator is located in the Emergency Generator Room just north of (and accessible through) the Boiler Room in the basement level. The emergency generator fuel oil usage is 33 gallons per hour at full load.

Previously, fuel oil was piped to the steam boilers and used as a backup fuel, however the boiler's burners have been replaced and they no longer have oil firing capability.

Assessment:

The underground fuel oil storage tank is oversized for the current anticipated load.

Refer to Site/Civil narrative for additional information.

Irrigation, Sculpture Fountain and Pool

A 2-inch branch pipe off the 6-inch domestic water main serves both the irrigation system and sculpture fountain and pool. A backflow preventer with isolation valves protects the domestic supply. This branch tees into two 2-inch branches, one serving the irrigation system and one serving the pool (for filling).

The irrigation branch exits the building on the west side of the basement level just north of the Meter Room. A valve and drain with a compressed air fitting for winterization is located at the west wall.

The sculpture fountain is recirculated by a horizontal double suction pump (Peerless, 25 horsepower (HP)) with a VFD. System piping includes a 6-inch and a 4-inch supply pipe and 10-inch return pipe. Pump trim includes OS&Y gate style isolation valves. The sculpture fountain piping exits the building through the south wall in the Chiller Room just east of the Electric Switchgear Room.

Pool water is recirculated by a close-coupled pump (3 HP) through a sand filter (with backwash and drain valve) and 3-inch supply and return piping. The system also includes a brominator for water treatment and a controller. The pool recirculation piping also exits the building through the south wall in the Chiller Room just east of the sculpture fountain piping.

Assessment:

These systems appear to be in good working condition.

Sanitary

The primary building sanitary waste drain is a 10-inch gravity pipe routed through the basement level and located below the first floor structure. This drain collects the waste from all the floors above the building's basement and pumped waste from the basement sump. The basement sanitary drainage is collected in a sump (SP-1) located adjacent to the domestic water booster pumps in the Chiller Room. The sanitary sump includes a duplex pump package and controller. A 4-inch pumped discharge ties into the 10-inch sanitary waste gravity drain which then is routed to the east and exits the building near the southeast corner. The building sanitary main then discharges into a combination manhole on site.

The kitchen, located on Floor 13 has a small above floor grease interceptor that collects drainage from the three-compartment sink. The contractor that operates the kitchen is responsible for maintenance of the grease interceptor.

The elevator pits have depressed sumps that are not drained. The sumps provide a low point for temporary use of a portable pump(s) if required.

Assessment:

The sanitary system has no known problems or issues.

Storm

The building's flat roof collects storm water at interior roof drains. A 15-inch storm riser collects the penthouse and main building roof storm drainage at Floor 22. Additional storm drainage is collected in a sump (SP-2) located in the building's basement. The sump is located just east of the door to the Chiller Room along the north wall. The storm sump

Plumbing

includes a duplex pump (2 HP each) package, controller and backup battery power system. A 6-inch pumped discharge ties into the 15-inch storm gravity drain which then is routed to the east and exits the building near the southeast corner. The building storm main then discharges into a combination manhole on site.

The parking garage drainage from Floors 3–6 is collected by gravity drainage and from floors one and two in a sump with duplex pumps and a controller. The sump (SP-3, 2 HP each) is located on the lowest level of the garage in the areaway on the west side of the parking garage. The 4-inch sump pump discharge ties into the gravity drain at the third floor level. The 10-inch storm drain exits the garage along the south wall at the southeast corner of the garage.

P-3

Assessment:

The building roofs do not include secondary roof drainage (Photo P-3). Current Code requires either secondary roof drains and piping that discharge to daylight or the roof structure must be designed to accommodate the additional load from water ponding in the event of a roof drain blockage.

The garage drains connect to storm piping. Current code requires parking garage drainage to discharge to the sanitary sewer due to the possibility of chemicals or petroleum products entering the waste stream.

P-4

Recommendations:

Install roof drain grate on lower shaft roof (Photo P-4).

Consider adding secondary roof drainage the next time the building is re-roofed.

Fixtures

The majority of the plumbing fixtures in the building are white vitreous china, wall-hung fixtures including the water closets, urinals and lavatories. The first floor women's public restroom has undermount lavatories mounted in a solid surface countertop. The water closets and most of the urinals have hands-free, sensor activated flush valves. There are waterless urinals located on Floors 12–13 and the Basement. There are multiple types of faucets due to replacements, however the majority of the lavatories have two-handle faucets. A few lavatories have hands-free, sensor activated faucets. Fixture groupings in all tenant restrooms include one of each fixture mounted at ADA height.

Electric drinking water coolers are located near the tenant restrooms on each floor.

Each floor has a common kitchenette with sink for tenant use.

There are a few private toilet rooms located on the tenant floors. There is a private bathroom with shower in the Mayor's Office and a private toilet room in the Deputy Mayor's Office and Floor 22.

The Basement has employee restrooms that include shower and locker facilities. There is a clothes washer and dryer located in the Housekeeping Storage Room.

Safety fixtures are located in the Mechanical Rooms where chemicals are handled for water treatment.

There is a restaurant with a kitchen on Floor 13. Plumbed fixtures in the kitchen include: two-bowl prep sink, three-compartment sink with hose spray, hand washing sink, single-bowl sink with disposer in a work table, undercounter style dishwasher, ice machine, coffee makers, beverage unit and soup and salad unit.

Assessment:

Plumbing fixtures are in good condition.

The lavatory drains and water supply piping are not insulated (Photo P-5) to protect against contact as required by current Code.

Recommendations:

Insulate lavatory drain piping.

P-5

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FIRE SUPPRESSION SYSTEMS

Assessment:

The existing fire suppression systems are functional and are generally well maintained. System testing is conducted thoroughly and on a timely basis, both in-house and by certified, qualified service, testing and inspection contractors. Up-to-date test certificates are maintained and made readily available for reference by staff and fire code officials. Original information regarding hydraulic calculations from the original water based fire suppression system design have been well preserved, maintained, and kept on hand for reference in the Fire Pump Room. The SimplexGrinnell test/inspection report dated September 18, 2012 indicates that a number of items are listed as not having been tested and/or inspected in the last five years.

Recommendations:

Continue the annual inspections and testing of fire suppression systems.

Follow up with testing as detailed on test reports. Continue the five year, annual, quarterly, monthly and weekly inspections, testing and maintenance of valves, valve components and trim.

Replace the malfunctioning gauges in the Fire Pump Room.

WATER SUPPLY AND SERVICE ENTRY

The fire sprinkler/standpipe systems for the complex are supplied by two City of Toledo 8-inch fire service water entries, one at the building's east side (Photo FP-1) and one at the building's west side (Photo FP-2). The east side entry is served from the city water main in Huron Street is identified outdoors by a supervised post indicator valve (Photo FP-3) and enters the building in the Basement Housekeeping Room. The west side entry is served from the city water main in Erie Street is identified outdoors by a supervised post indicator valve (Photo FP-4) and enters the building in the Basement Gas Meter Room. Each service line is equipped with a double check valve backflow preventer (DCV BFP). The two 8-inch fire service entries are merged together into one 8-inch main overhead in the Basement Chiller Room and are routed into the Basement Fire Pump Room.

Assessment:

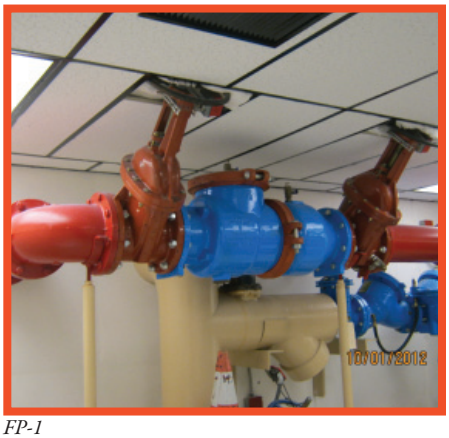
Both fire service entries are located overhead and each requires a ladder for accessibility. Exposed Water based fire suppression piping has been made distinguishable by (red) painting.

FIRE PUMP SYSTEM

The water based fire suppression system fire pump, located in the Basement Fire Pump Room (Photo FP-5), is an Aurora electrically driven horizontal split case rated for 750 GPM at 460 feet of head (200 PSI). The fire pump controller is located on the north wall of the Fire Pump Room (Photo FP-6). The system jockey pump is an Aurora, 5 horsepower, horizontal inline type (Photo FP-7). The jockey pump control panel and the low suction cut-out panel are mounted on the west wall of the Fire Pump Room (Photo FP-8).

Assessment:

The Fire Pump Room is clearly identified and is kept very clean. The fire pump and all its components are very well maintained. Upon visual inspection, the fire suppression pressure gauges in the Fire Pump Room appear to be functional, but some gauges appear to have questionable readings. The fire pump and all its components are very well maintained. There are a number of pressure gauges throughout the fire pump system which appear to have questionable readings. As of the time of this assessment, these gauges had been brought to the attention of the building managers by the testing and inspection contractor. The Sim-



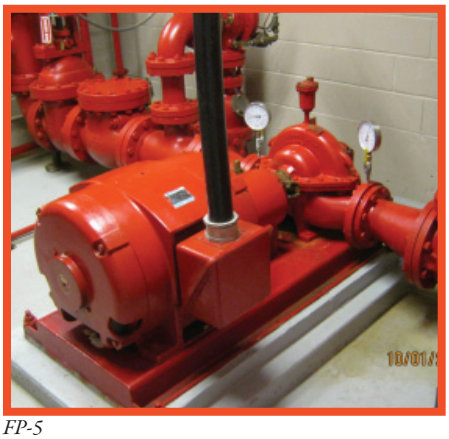
FP-1

FP-2

FP-3

FP-4

Fire Suppression Systems



FP-5

FP-9

FP-6

FP-7

FP-8

plexGrinnell test/inspection report dated September 18, 2012 indicates that seven gauges in the Fire Pump Room appear to be due for replacement per NFPA 25.

Recommendations:

Replace malfunctioning pressure gauges.

WATER BASED FIRE SPRINKLER SYSTEMS

The facility is protected by wet pipe sprinkler systems in conditioned areas. Dry pipe sprinkler systems protect the Parking Garage, Floors 1–2 and the Truck Dock. The dry pipe valve risers are located in the Fire Pump Room (Photo FP-9). The Basement wet pipe sprinklers are served by risers operating at city water pressure (65 PSI). The Basement up through the Penthouse Floor sprinkler systems are served by standpipes distributed from the fire pump.

Assessment:

The fire sprinkler systems appear to be generally well maintained and testing has proven the systems and its components are functional. The SimplexGrinnell test/inspection report dated September 18, 2012 indicates that both dry systems appear to be due for five year internal inspection.

WATER BASED FIRE STANDPIPE SYSTEMS

Dry standpipes equipped with Class I 2-½-inch fire hose valves serve the Parking Garage (Photo FP-11). The office tower portion of the building is equipped with a system of two 6-inch wet standpipes, one of which serves Class I 2-½-inch fire hose valves from Floor 1 through the Penthouse Floor exposed and accessible in the West Stairwell. This west standpipe serves the wet pipe sprinkler system on the Penthouse Floor and terminates in the Penthouse Mechanical Room serving a 6-inch roof manifold with three 2-½-inch valved outlets. The fire hose valves from Floor 21 and below are equipped with pressure reducing valves (Photo FP-12). The standpipe in the East Stairwell is an exposed and accessible 6-inch combined standpipe which serves sprinkler systems and Class I 2-½-inch fire hose valves from Floors 1–22 and a Class I 2-½-inch fire hose valve on the Penthouse Floor. The fire hose valves from Floor 21 and below are equipped with pressure reducing valves. The sprinkler systems are served from the east standpipe by floor control valve/test and drain assemblies. For a typical arrangement: see Photo FP-13.

Assessment:

The fire standpipe systems appear to be generally well maintained and testing has proven the systems and its components are functional.

FIRE DEPARTMENT CONNECTIONS

There is a system of fire department Siamese connections located on the south retaining wall of the Lower Level Entry Ramp to the Parking Garage (Photo FP-10).

Assessment:

The fire department connections appear to be in good condition. Original construction documents indicate that the fire department connection (FDC) serves certain portions of the building other than downstream of the fire pump discharge. The FDC inlets did not individually indicate the areas of the complex served. During the Assessment Team's visit to the site, these FDC service areas could not clearly be determined due to structural barriers and visual obstructions. Discrepancies on original construction documents do not clearly indicate FDC pipe routing. Actual sprinkler system installation drawings with "as-built" conditions per NFPA 25, 4.3.4 were not encountered during our Assessment Team's visit to the site. Therefore, an absolute determination could not be made regarding FDC service areas.

FP-10

FP-11

FP-12

FP-13

Fire Suppression Systems

Recommendations:

Verify FDC service areas and provide signage at the FDC inlets reflective of which areas of the complex are served.

FM-200 CLEAN AGENT FIRE SUPPRESSION SYSTEMS

There are four FM-200 clean agent fire suppression systems within the DiSalle Building. The Sprint Communications Room in the Basement is equipped with an FM-200 System, and is owned by ODAS (Photos FP-14 through FP-16). The Lucas County Computer Center on Floor 3 is equipped with an FM-200 System. This system is not owned by ODAS. The Lucas County Auditor's Office on Floor 7 is equipped with an FM-200 System. This system is not owned by ODAS. The City of Toledo Computer Center on Floor 7 is equipped with an FM-200 System. This system is not owned by ODAS.

FP-14

Assessment:

The FM-200 fire suppression systems appear to be generally well maintained and testing has proven the systems and their components are functional.

FP-15

KITCHEN HOOD FIRE EXTINGUISHING SYSTEM:

The Floor 13 cafeteria-kitchen is equipped with a wet chemical fire extinguishing system (Photo FP-17).

Assessment:

The kitchen hood fire extinguishing system appears to be generally well maintained and testing has proven the system and its components are functional.

PORTABLE FIRE EXTINGUISHER SYSTEMS

The building is fully equipped with readily accessible, portable ABC dry chemical fire extinguishers, located conspicuously along normal paths of travel including exits from areas.

Assessment:

The portable fire extinguisher systems appear to be generally well maintained and testing has proven the system and its components are functional.

FP-16

FP-17

FIRE ALARM

CONTROL PANEL

The fire control panel is a Honeywell addressable system with voice notification (Photo FA-1). The main panel is located in the Basement Chiller Room on the North Wall with sub panels located throughout the facility. Functionality included in the main panel:

A. System Alarm, trouble and status display and control

B. System paging microphone and speaker circuit selection interface

C. Firefighter phone interface

D. Air Handling Unit status and control interface

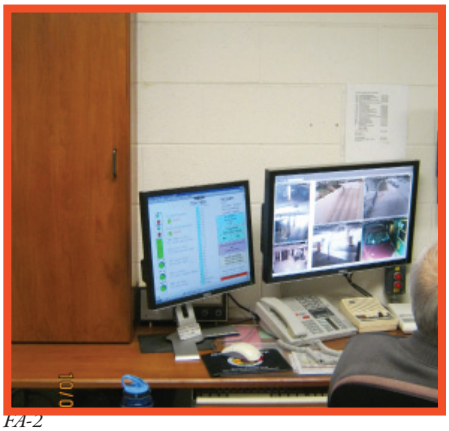
FA-1

Assessment:

Fire alarm control panel is in good working condition. Replacement components are readily available.

COMMAND CENTER

The building Command Center includes a PC-based graphic interface (Photo FA-2). The graphic system integrates both building fire alarm and security systems. Graphic floor plans provide device location on a per floor basis including current device status. The graphic system allows operator to acknowledge and silence building alarm conditions.



FA-2

Assessment:

Replacement components are readily available.

INITIATING DEVICES

Addressable initiating devices are located throughout the facility as follows: Manual pull stations are located at exterior exits and at access points to stairwells on all floors (Photo FA-3). Ceiling-mounted smoke detectors are located in elevator lobbies, building electrical and telecommunication closets and mechanical rooms (Photo FA-4). Duct-mounted smoke detectors are located on building Air Handling Units. Fire suppression monitoring devices are located at fire pump controllers and suppression system piping (Photo FA-5).

FA-3

Assessment:

Initiating devices are installed per current code requirements. Replacement components are readily available.

NOTIFICATION DEVICES

Audible and visual devices are located throughout the building in public spaces such as elevator lobbies and public corridors (Photo FA-6). The system provides voice messages for evacuation and includes a microphone for emergency communication to occupants by authorized personnel.

FA-4

Assessment:

Notification devices are installed per current code requirements. Replacement components are readily available.

ASSESSMENT

The existing fire alarm systems are functional and are well maintained. System testing is conducted thoroughly and on a timely basis, both in-house and by certified, qualified service,

testing and inspection contractors. The Fire Alarm control panel is clearly identified with sufficient interface capabilities. The command center PC interface provides ample interface capabilities and system status display. Replacement components are readily available.

RECOMMENDATIONS

- Continue the annual inspections and testing of fire alarm systems.
- Replace malfunctioning initiating and notification devices when identified during annual inspections.

FA-5

FA-6

ELECTRICAL

Before the building was inspected, a brief meeting was held with facility maintenance personnel to gather general information about the existing electrical systems and to get a better understanding of how the systems are currently performing. This report is based on information obtained during the meeting, existing drawings and reports and visual inspections of the existing electrical systems.

CODE COMPLIANCE

The building was designed and drawings issued for permit in 1981. The code in effect at that time was the 1980 National Electrical Code (NEC). These codes contained similarities as well as differences from those in effect today. In general, there are no significant electrical code issues. There are a few minor code infractions that will be addressed under the Assessment and Recommendations sections of this report.

ELECTRICAL SERVICE

The building has two electrical services and electrical services are provided by Toledo Edison, a subsidiary of A First Energy Company. Two services are provided from Utility transformers under sidewalk on the west side of the building and routed underground in to the basement electrical room, each with 10 sets of 500 kCMIL in RGS conduits with two spare conduits. This provides service capacity of 3800 ampere and allows up to 4000 ampere fuses for these services, per 1980 NEC.

Switchgear east is labeled as SBBA and has five sections. (Photo E-01) The first section has 4000 ampere main switch with ground fault trip unit and current transformer (CT) compartment. The second Section has local metering, a 1200 ampere feeder switch for Chiller-2 and a 400 ampere feeder riser switch for Floors 14–22 (HVAC) units. The third section has 2500 ampere feeder switch with 1600 ampere fuses for lighting and power bus riser and a 1200 ampere feeder switch for motor control center MCC-BA. The fourth section has 800 ampere spare fused switch, a 400 ampere feeder riser switch for electric water heater and an 800 ampere switch for fire pump. The fifth section has a space for 800 ampere switch, an 800 ampere spare fused switch and an 800 ampere feeder switch for DPEL-15B, DPEL-PB and elevators 4, 5, 6, 8, 10 and 12. The local meter reading at the time of site visit was 470Y/271 volts and maximum demand for SBBA was 1075.2 kW which is 1321 ampere. These meters appear to have never been reset and the demand reading indicator should be higher than the actual demand registered by Toledo Edison.

Switch gear west is labeled as SBBB and has six sections (Photo E-02). The first section has 4000 ampere main switch with ground fault trip unit and CT compartment. The second section has local metering, a 1200 ampere feeder switch for normal power feeder to emergency transfer switch and a 1200 ampere feeder switch for Chiller-1. The third section has an 800 ampere spare fused switch, a 400 ampere feeder switch for MCC-2A, and a 600 ampere feeder switch for MCC-PA. The fourth section has an 800 ampere spare fused switch, a 400 ampere feeder riser switch for Floors 3–13 (HVAC) units and a 400 ampere feeder switch for DP-BA. The fifth section has an 800 ampere spare fused switch, a 400 ampere feeder riser switch for Floors 3–12, receptacle panels in east closets and a 400 ampere spare fused switch.

The sixth section has an 800 ampere spare fused switch, a 400 ampere feeder switch for Floors 13–22 receptacle panels in east closets and an 800 ampere feeder switch for DPEL-15A, DPEL-PA and elevators 1, 2, 3, 7, 9 and 11.

The local meter reading at the time of site visit was 460Y/265 volts and maximum demand for SBBB was 844.8 kW which is 1060 ampere. These meters appear to have never been reset and the demand reading indicator should be higher than the actual demand registered by Toledo Edison.

E-1

E-2

Electrical

As per Toledo Edison, combined maximum demand for both services is 1442.9 kW within last 12 months which is 1791.5 ampere and is well within combined capacity of 7600 ampere as per 2011 NEC.

E-3

E-4

Assessment:

The switchgear is currently working fine and should continue to provide service if routine maintenance is provided every two years. Maintenance should include cleaning contacts, verifying and adjusting trip settings as required for proper operation of the breakers, and tightening service and feeder conductors with proper force specified by General Electric. Although maintenance service may extend the life of the switchgear, it is old and beyond their scheduled service life. Replacement parts for these older systems become increasingly difficult to obtain. Replacement of the switchgear is recommended.

As per infrared study performed by GEM Inc. in November, 2011. There are several locations identified in report that have loose fuse clips or loose feeder problems.

An arc flash study was performed by GEM Inc. in December 2010, and it is in compliance with NEC article 110.16. The arc flash hazard labels have been installed on power distribution equipment.

Recommendations:

The medium voltage switch gear is beyond its useful life span and should be replaced. If the decision is made to replace the switchgear, the design engineer should consider reduced sizes as per maximum demand on City of Columbus power electrical service, which will require a smaller size switchboard and reduce the space requirement.

Although replacing the switch gear is recommended, the switch gear is currently working and could provide service for an indefinite period of time is routine maintenance is performed every two years.

Repair is recommended as required by infrared study performed by GEM Inc. in November, 2011.

A short circuit and coordination study should be performed to ensure proper short circuit ratings and electrical system coordination of overcurrent protection devices. This is a requirement of 2011 NEC Article 110.10.

As per NFPA the fire pump switch should carry full load lock rotor current of fire pump motor. The motor is 150 HP, which has 1085 ampere lock rotor current and next available switch size is 1200 ampere.

POWER DISTRIBUTION

The building has one 2500 ampere feeder bus riser running vertical in west electrical closet with bus plugs for lighting and separate plug for receptacle load with step-down transformer on each floor. As per tenant requests, additional bus plug has been installed where required with a step-down transformer for additional receptacle panel. The base building lighting panels are General Electric 100 ampere at 480Y/277 volt on each floor and provide lighting power through 20 ampere single pole branch circuit breaker on respective floor. Base building receptacle panels are also General Electric 100 ampere at 208Y/120 volt and provide receptacle power through 20 ampere single pole branch circuit breaker on respective floor. Additional sub panels are added as required and these subpanels are mostly Square D, and have been installed on floors required additional breaker space (Photos E-3 and E-4).

The power for building mechanical units located on basement, second floor and penthouse are provided with Motor Control Centers (MCC). Basement has 600 ampere main bus and 300 ampere section bus, 480 volt, three phase, three wire standby power MCC with five sections and provides power to critical HVAC units in basement area. MCC has 12-inch and

30-inch spaces and three size one spare combination starters. Another normal power MCC with 1200 ampere main bus and 300 ampere section bus, 480 volt, three phase, three wire to provide power to HVAC equipment on Basement Floor. This MCC has 6-inch space and two size one combination spare starters. There are unused starter for CHWP2, CHWP-4, CWP-2, and CWP-3. The Floor 2 Mechanical Room has a MCC to feed HVAC equipment located on second floor. This is three sections MCC with 600 ampere main bus and 300 ampere section bus and has three size one spare starters (Photo E-5). There is also a MCC on Penthouse floor, which has one spare starter.

E-5

The building has receptacle power feeder riser running in east electrical closet with tap box on each floor with tap, and transformer with primary disconnect and a 100 ampere, 208Y/120 volt General Electric panel. Panels are good working condition, but it is more than 30 years old and have passed their useful life. Breakers for these panels may not be available in open market (Photo E-6).

E-6

The building has mechanical unit feeder riser running in mechanical room with tap box on each floor with tap and disconnect as required to provide power for mechanical units. (Photo E-7)

The building roof has power receptacles for window cleaning services on all sides of penthouse. These special receptacles are powered from a power transformer and panel in the penthouse mechanical room. Receptacle location and power is satisfactory and meets window washing requirements.

The building has four wind turbines installed above penthouse and inverter and the wind turbine panel is installed in the penthouse mechanical room. Wind turbines have been chained to prevent operation. (Photos E-8 through E-10)

E-7

Assessment:

Panels are in good working condition but are more than 30 years old and passed their useful life. Breakers for these panels are not available in open market. Replacement of these panels is recommended.

All new panels installed in the building are Square D and have circuits added in the existing conduits without de-rating of existing and new circuits and if new conduits installed for branch circuits is installed in one or two 2-inch conduit with 3–30 circuits (Photos E-11 and E-12). As per NEC article 310.15, (B), (3), (a). Conductors should be de-rated as per numbers of conductors in conduit as indicated on NEC Table 310.15, (b), (3), (a).

The panels on Floor 3 (west electrical closet), Floor 14 (east electrical closets) and Floor 22 (east electrical closets) have transformer installed in front of respective panels with less than 36-inch working space (Photo E-13). This is not compliant with NEC article 110.26, (A), (1). Minimum working space should be 36 inches in front of panel with 150 volt or less to ground.

The MCC located on Penthouse floor has only 21 inches of working clearance in front of last two sections. This is not compliant with NEC article 110.26, (A), (1). Minimum working space should be 42 inches in front of panel with higher than 150 volt to ground (Photo E-14).

E-8

Recommendations:

The base building power distribution system including distribution panels boards, branch circuit panelboards, power risers are more than 30 years old and passed its useful life span. Replacement of entire power distribution system is recommended. The design engineer should take in consideration that building is using less power than originally designed, and should reduce service entrance gear size, and distribution size as per maximum demand recorded by Toledo Edison.

Electrical

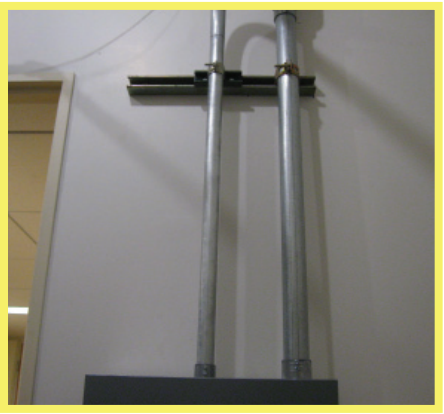
E-9


E-13


E-10


E-14

E-11

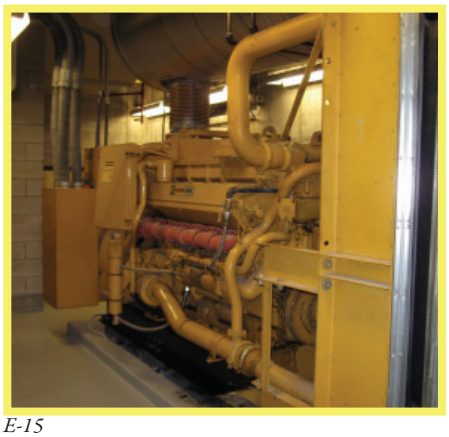

E-12

Until distribution system replacement, routine maintenance shall be performed with breaker exercising and thermal imaging study. All breakers and wiring should be replaced and/or tighten as recommended by thermal imaging study.

All motor control centers (MCCs) are more than 30 years old and parts not available in open market. The MCCs are used as circuit disconnects and starters for HVAC equipment due to use of variable frequency drives or starters provided with mechanical equipment. Reducing the MCC size as required for motor starter only and providing distribution panel for the feeder circuit where MCC have been used as feeder disconnect is recommended.

EMERGENCY AND STANDBY POWER

This building has a diesel power generator for emergency and stand-by back-up power. The generator is located in a room on the loading dock area (Photo E-15). The generator is manufactured by Marathon Electric Company. It has 640 kW i.e. 800 kVA or 962 ampere capacity at 480Y/277 volt. The emergency and stand-by power is provided to the building through a 1200 ampere Russ Electric automatic transfer switch and a 1200 ampere distribution gear and sub transfer switches for fire pump, elevators, egress lighting, etc. This was allowed by 1980 NEC code.



E-15

The generator has an above ground day tank for fuel supply and an underground tank with 20,000 gallon capacity for fuel supply for longer time.

The building has an emergency/standby power feeder riser running vertically in the west electrical closet with Tap boxes on each floor. Tap boxes have been installed on Floors 4, 8, 13, and 18 with a 100 ampere, 480Y/277 volt General Electric panel to provide power for emergency egress lighting and exit signs through 20 ampere single pole branch circuit breakers. The panels are in good working condition (Photo E-16).

E-16

Assessment:

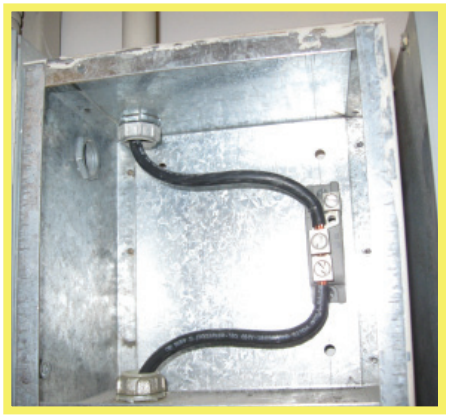
The generator is serviced by "Second Generation Power" and generator and transfer switches are in good working condition.

Recommendations:

The generator and transfer switches are more than 30 years old and are passed their useful life span. Parts are not available in open market and any major failure would lead to longer shut-down. Replace the generator and transfer switches with a newer generator having higher-efficiency that is in compliance with EPA requirements. The design engineer should install new generator and transfer switches as per the latest NEC.

Replace the emergency panelboards located throughout the building.

Until replacement of the generator and transfer equipment occurs, routine maintenance should be performed by factory trained personnel for reliable operation of the generator and power transfer equipment.

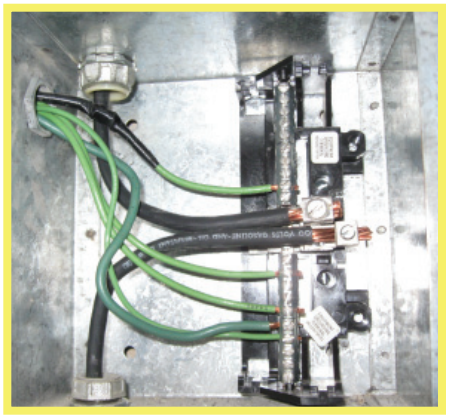


E-17

Routine maintenance of panelboards should be performed as described in distribution section.

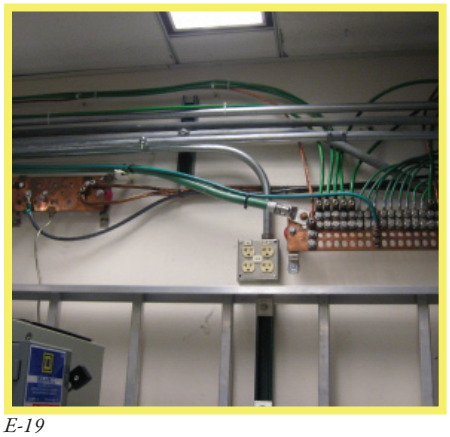
GROUNDING

The ground loop is buried and could not be verified during the building walk through. The design drawings indicate that the building is grounded to the loop encircling the building. Building has two #1/0 grounding conductor risers, one in each electrical closet for conversion of normal power panel into isolated ground panel. Each floor has a tap box with isolated ground lugs and some locations have isolated ground termination strips which connect the isolated grounding conductors. This is not a UL listed isolated grounding panel but it does serve the purpose of having an isolated ground. (Photos E-17 and E-18).



E-18

Electrical


E-19

E-23


E-27


E-20


E-24


E-28


E-21


E-25


E-22


E-26

The Floor 21 Communication Room has two ground buses encircling the room perimeter with #1/0 and #4/0 bare grounding conductors respectively and ground bus. Both buses are connected together at ground bus. All metal parts in the communication room are connected to this bus to eliminate any static grounding and stray voltages. (Photos E-19 and E-20)

Recommendations:

Grounding is an essential part of the power and communication systems. To ensure integrity of the grounding, the entire grounding system should be tested every five years using fall of potential method to ensure continuity and that resistance to ground is no more than 5 ohms. Make resistance measurements in dry weather, not less than 48 hours after rainfall. The written report should be kept for records and should indicate measured resistance, corrective measured resistance, and soil conditions at time measurements were made.

LIGHTING SYSTEM

Building lighting has been upgraded from incandescent lamp and T-12 fluorescent fixtures with magnetic ballast to compact fluorescent lamps and T-8 fluorescent fixtures with electronic ballast. All office work area on Floors 3–22 have louvered 12-inch by 48-inch T-8 fluorescent fixtures with electronic ballast. Overall building lighting distribution in all areas is satisfactory (Photo E-21). Emergency egress lighting and exit sign back-up power is provided from generator circuit to strategically place fluorescent lighting. The emergency lighting in the building is under process of converting to LED lighting (Photos E-22 and E-23).

The Floor 1 front lobby has LED lighting and back lobby has fluorescent lighting. The County and City Council meeting room has compact fluorescent down lighting and incandescent track-lighting. The snack bar and other conference rooms and offices have T-8 fluorescent lighting with electronic ballast (Photo E-24).

The Basement, Floor 2 mechanical space and all floors mechanical rooms, electrical rooms, elevator equipment rooms and the Penthouse has T-8 industrial fixtures with electronic ballasts and compact replacement fluorescent lamp installed in incandescent socket (Photos E-25 and E-26).

The restrooms on all floors have T-8 fluorescent fixtures with acrylic lens and compact fluorescent lamp down lighting (Photos E-27 and E-28).

The Cafeteria on Floor 13 has a combination of LED, compact fluorescent and T-8 fluorescent lighting with some PAR 16 incandescent lighting (Photos E-29 and E-30).

Assessment:

Egress lighting locations were not verified, but from a vacant floor, we were able to verify location of emergency lighting. In general, the floor layouts and egress pathways have changed on most of the floors over time, but emergency egress lighting locations were not updated. In some cases, egress emergency lighting is located in private offices or in the middle of work-stations.

Recommendations:

Whenever a floor layout changes, the emergency lighting layout should be changed to match the new egress pathway locations. As per maintenance personnel, management is in the process of replacing all emergency egress lighting with LED fixtures and these new emergency fixtures should be located above egress pathways.

WIRING

Wiring in building is in good condition and should provide good satisfactory service for an indefinite period of time (Photos E-31 and E-32).

E-29

E-30

E-31

E-32

Electrical

Assessment:

On Floor 22, in the west electrical closet, there is an LB fitting that has an open cover (Photo E-33). A few openings in the floor and/or wall are without any caulking material (Photos E-34 and E-35).

Recommendations:

Maintenance should make sure that all pull boxes, junction boxes and LB fittings have covers. All wall and floor openings should be filled with appropriate caulking material to ensure smoke and fire ratings.

E-33

E-34

E-35

TECHNOLOGY

ENTRANCE FACILITY

The Entrance facility located on the Lower Level contains fiber and copper services entering from separate cable tray pathways. Copper backbone terminates onto lightning protection, and then distributes to County, State and City owned phone systems and DTE Equipment located within the Entrance Facility. A Telecommunications wall field distributes copper trunks and fiber backbone to the floors above via 13-inch buy 4-inch vertical conduits (Photo T-1). Many of these conduits contain capacity for future cabling, however not all conduits reach all floors.

A dedicated grounding system is present in the Entrance Facility. Additional hardware in this room is a mixture of head end equipment that is individually owned and operated by the City, State and County tenant offices (Photo T-2).

The Entrance Facility contains a cabinet containing multiple channel banks connecting to a carrier system. The carrier system connects to the AT&T state wide Centrex carrier system.

T-1

T-2

TYPICAL TECHNOLOGY ROOM

The building contains sufficient space dedicated to technology infrastructure on each floor for the building's tenant capacity. The locations of individual Technology Rooms provide acceptable distances for horizontal cabling for tenants. The individual Technology Rooms are keyed secure.

Floors 3–22 each contain two Technology Rooms. There are no telecommunications grounding systems installed in the closets. Each closet consists of copper backbone terminations, RJ21x blocks serving local services, CATV backbone and some amount of existing copper horizontal distribution. Depending on location, much of the voice distribution terminated on 66 blocks within each Technology Room is not currently in use.

Floors 3–8 are occupied by County offices. The closets on these floors are utilized to distribute fiber and points of demarcation for internet services to their locally controlled Technology Rooms within their tenant space. Floors 9–15 are occupied by State offices. While the State does operate their own Data Center on Floor 11, it appears that the elements of the Meridian phone system are in hosted in the building Technology Rooms.

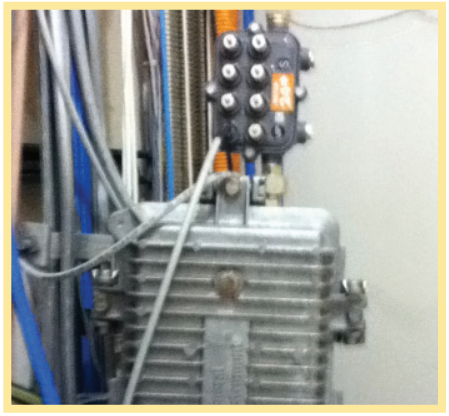
Many of the closets contain active distribution equipment (both active and passive) that is not current and possibly not active. The quantity and ownership of this equipment varies based on location.

The Equipment Rooms serving Floors 3, 11 and 21 are temperature-controlled, power conditioned, and contain capacity for additional growth (Photo T-1 through T-3).

T-3

Items that are shared by all of the Technology Rooms include;

- Vertical pathway system of 4-inch conduits with growth capacity
- 100 pair copper backbone terminated on 66 type blocks
- One (min) quad electrical receptacle
- Multiple Horizontal conduits leading into the tenant ceiling space
- Coax RF Antenna extending to Floor 22
- CATV with minimum 8 port taps and amplifiers (Photo T-4)
- The closets are not climate controlled, active equipment is not recommended for these areas



T-4

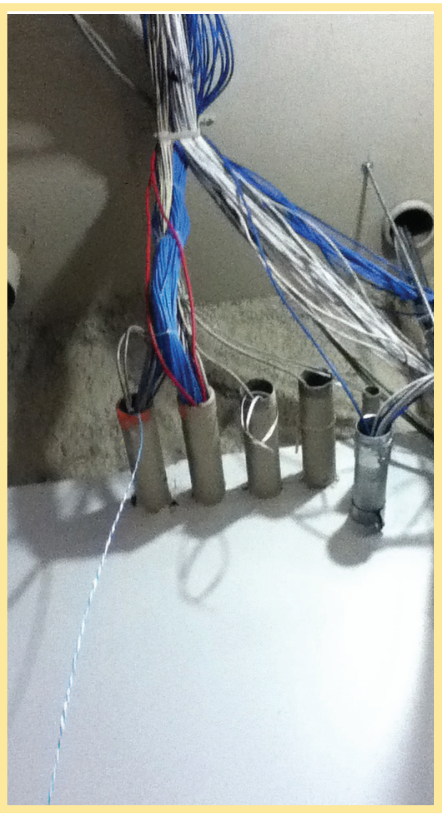
TYPICAL HORIZONTAL DISTRIBUTION

The majority of tenants audited utilized a standard one-voice/one-data outlet for typical office outlet locations. The outlets were wall mounted where appropriate or mounted within furniture. Typical floor layouts included multiple 2-inch holes leading into the ceiling space of the floor below (Photo T-5). In many places, this 2-inch pathway is utilized for power and voice, but it also abandoned in many other locations.

Throughout the building, the ceiling space appears to have sufficient space for additional cabling.

The existing majority of the existing horizontal cabling is rated CAT 5/5e CMP. This is adequate for 10/100 Mbps data throughput.

The existing majority of fiber optic cabling is single mode. This is adequate for 1 Gbps data throughput (Photos T-4 through T-7).



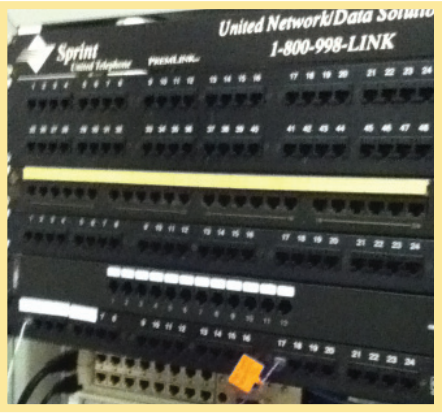
T-5

Recommendations:

Grounding/bonding. Provide a dedicated Telecommunications Grounding Backbone system within each Technology Room. The establishment of an Equipment Grounding System serves three purposes:

- Maintain zero volts on all equipment enclosures during normal operations
- Act as the intentional path for fault current underground fault conditions
- Properly installed, it provides a zero-volt reference for end use equipment power supplies

Removal of abandoned cabling. The majority of the areas observed contained abandoned cabling within the underfloor and ceiling pathways. Per the NEC 2005 800.2, and NFPA 70, Installed communications cable that is not terminated at both ends at a connector or other equipment and not identified for future use with a tag.



T-6

Removal of abandoned equipment. Throughout the building, many instances of abandoned equipment was seen. Much of this equipment has been unused for years, but still remains powered on (Photo T-6). This results in wasted power. Cabling connected to abandoned systems can also be evaluated for removal. A secondary benefit would be the recuperation of space within the Technology Rooms and pathways.

Consistency of firestopping. It was observed that firestopping of pathways within the facility is inconsistently applied or maintained (Photo T-7). NEC Article 300.21, "Openings around electrical penetrations through fire-resistant-rated walls, partitions, floors, or ceilings shall be firestopped using approved methods to maintain the fire-resistance rating."

T-7

Power and UPS/Conditioning. The closets containing tenant owned Network Electronics are not currently being served by Emergency or Conditioned power. Additionally, many of the network electronics being hosted in building Technology Rooms are not served by standalone UPS systems. Coordination of tenant power requirements with building standards will assist with liability issues in the future.

Administrative System. It is recommended that an Administrative Class 2 (minimum) system be utilized to provide operational and maintenance benefits to the existing Telecommunications system. This system shall include individual requirements for Identifiers, Record Keeping and Labeling of all Telecommunications systems and pathways within the building.

Building standards for cabling. The creation/adoption and documentation of Division 27 building standards for the design and installation of low voltage building cabling infrastructure. A building standard should include references to Technology Spaces in terms of

HVAC, power requirements, cabling and equipment clearances, grounding and bonding, acceptable cabling types, etc. Documentation of owner's and tenant's responsibilities for telecommunications infrastructure in the building's technology rooms and tenant spaces.

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HAZARDOUS MATERIALS SCREEN

GENERAL INFORMATION

The site consists of a 22-story office building with a penthouse and basement. The building consists of approximately 511,255 square feet and was constructed circa 1983. A Hazardous Materials Screen was conducted on October 1, 2012. Potential Hazardous Materials observed during the inspection included asbestos containing materials, lead-based paint, storage tanks, fluorescent light fixtures and polychlorinated biphenyls (PCBs). It should be noted that this report is not a definitive study of contamination at the site and should not be interpreted as such. No sampling or chemical analyses were completed as part of this assessment. Additionally, no existing/historical asbestos documentation for this site was provided for review.

L&A's scope of work was limited to the following tasks:

- Review existing/historical documentation by an Ohio Certified Asbestos Hazard Evaluation Specialist.
- Conduct a site visit to visually inspect accessible areas for the presence of suspect hazardous materials.

SUSPECT ASBESTOS CONTAINING MATERIALS

A visual inspection of accessible areas of the building was conducted for suspect asbestos containing materials (ACMs). It should be noted that additional suspect ACMs may exist in inaccessible areas of the building (i.e. behind walls and ceilings). In general, the building materials appear to be homogeneous in nature throughout each floor. The following suspect ACMs and their general locations were observed during the assessment:

A. Spray-applied fireproofing: throughout building; primarily above ceiling panels

B. Fire doors: throughout building; primarily stairwell and elevator doors

C. Drywall/joint compound: throughout building

D. Exterior caulking: throughout building exterior

E. Ceiling panels: throughout building

F. Carpet glue: throughout building

G. Cove base/glue: throughout building

H. Boiler components: boiler room

I. Sink undercoating: throughout building kitchens

J. Sheet metal duct sealant: throughout building mechanical rooms

K. Mudded pipe insulation joints/elbows: throughout building restroom plumbing chases

L. 12-inch by 12-inch floor tile and mastic: throughout building custodial closets; basement and service elevator lobby

M. Roofing materials: throughout roofing systems

These materials were observed to be in good condition at this time. Regardless of the age of construction, sampling must be conducted in order to confirm the presence or absence of asbestos prior to renovation and/or demolition activities.

ASBESTOS CONTAINING MATERIAL REGULATIONS

The Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA) and the Ohio Department of Health (ODH) regulate asbestos containing materials (ACMs). These agencies define ACMs as materials which contain greater than 1% asbestos content.

The National Emission Standards for Hazardous Air Pollutants (NESHAPs) which was enacted by the EPA is intended to minimize the release of asbestos fibers during certain activities (i.e., renovations, demolition, and installations). It specifies work practices to be followed during renovations of buildings which contain a specific amount of friable asbestos. NESHAPs (40 CFR 61, Subpart M) requires that buildings be inspected for ACMs prior to renovation/demolition projects without exception, regardless of the building's construction date.

NESHAPs also requires owners and operators subject to the asbestos rules to notify delegated state and local agencies and/or the regional EPA offices before demolition or renovation activities begin. In addition, NESHAPs requires the removal of all regulated ACMs prior to renovation/demolition.

OSHA began regulating workplace asbestos exposure in 1970, adopting a permissible exposure limit (PEL) to regulate worker exposure. The original asbestos standard has been revised several times to better protect workers. The OSHA standards regulate asbestos exposure in general industry and the construction industry. Under OSHA, it is the building owner's responsibility to communicate to all building occupants, workers and contractors of the presence, location and quantity of ACMs or presumed asbestos containing materials (PACMs) at or within the structure/facility/worksite.

Under OSHA's 29 Code of Federal Regulations (CFR) 1910.1001, building owners are required to treat installed thermal system insulation, sprayed on or troweled on surfacing material as presumed asbestos containing materials (PACM), unless sampling shows otherwise. This regulation also indicates that, asphalt and vinyl flooring material installed prior to 1980 must also be assumed to be asbestos-containing, unless sampling shows otherwise.

It should be noted that no sampling, analysis, quantification, or assessment of accessible suspect ACMs or identification of inaccessible suspect ACMs was conducted as part of this effort, and this should not be construed as an effort to comply with any EPA, NESHAPs, OSHA or ODH regulations.

EXISTING/HISTORICAL ASBESTOS DOCUMENTATION

No asbestos sampling results or reports were able to be located. Should this documentation be located, this Hazardous Materials Screen will be updated and revised as applicable.

LEAD-BASED PAINT

Due to the age of the building, it is L&A's professional opinion it is unlikely that the paint throughout the building contains lead; however, during renovation activities, OSHA regulations regarding lead-based paint (29 CFR 1926.62) may apply. The presence or absence of lead-based paint can be determined through sampling.

STORAGE TANKS

One approximately 300-gallon fuel oil above ground storage tank was observed within the Generator Room. No staining was observed in the vicinity of the AST. According to on-site personnel, one (1) approximately 20,000-gallon fuel oil underground storage tank is located at the site. No additional information regarding this UST was available.

FLUORESCENT LIGHT FIXTURES

Fluorescent light fixtures are located throughout the building. Fluorescent light bulbs may contain a small quantity of mercury that can be harmful to the environment and to human health when improperly managed. Bulbs can contain approximately 40 milligrams of elemental mercury, depending on the brand and manufacturer date.

INDICATIONS OF POLYCHLORINATED BIPHENYLS (PCBS)

Ballasts associated with fluorescent lights potentially contain PCB oils and are normally labeled "Contains No PCBs" if PCBs are not present. A visual inspection of the equipment revealed no evidence of leaks. Additionally, "Dry-type" transformers were observed throughout the building. "Dry-type" transformers do not utilize fluids that may contain PCBs.

Overall Recommendations:

It is L&A's professional opinion that it is unlikely that asbestos was used in construction; however, NESHAPs (40 CFR 61, Subpart M) requires that buildings be inspected for ACMs prior to renovation/demolition projects without exception, regardless of the building's construction date. Suspect ACMs observed throughout the building appeared to be in good condition at present time.

Should existing/historical asbestos documentation not be located, it is recommended that an asbestos survey be completed prior to renovation/demolition activities. Based on analytical results of the asbestos survey, an Asbestos Operations and Maintenance (O&M) Plan should be created and implemented in order to minimize asbestos fiber exposure to all building occupants and contractors. Additionally, the results of the suspect ACM sampling would provide the ODAS with an asbestos abatement budget for future site improvements.

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Capital Plan

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OHIO DAS - 12P009 GSD ASSESSMENT
MICHAEL V. DISALLE GOVERNMENT CENTER, ONE GOVERNMENT CENTER, TOLEDO, OH
TOWER FUND
ASSESSMENT ESTIMATE
OCTOBER 25, 2013

QUANTITY MEASUREMENT KEY
SF - SQUARE FOOT
LS - LUMP SUM
LF - LINEAR FOOT
EA - EACH
CF - CUBIC FOOT

BUILDING	ITEM	PAGE NO.	ITEM NO.	DESCRIPTION	QUANTITY		UNIT COST	DISALLE	1 Life safety	2 Increased risk & cost if deferred	3 Short term repairs	4 Items currently beyond life cycle	5 General Maintenance	6 Energy saving options	Priority	Status	REMARKS
				SITE													
DISALLE	SITE	5	2	RESET GRANITE SLABS TO ELIMINATE LIPPAGE	18,500	SF	10.00	$ 185,000	1						A		Located at main entry plaza
DISALLE	SITE	7	5	CLEAN EFFLORESCENCE AT BASE OF GRANITE WALLS	400	SF	25.00	$ 10,000		2					C		
DISALLE	SITE	7	9	REMOVE AND REPLACE DAMAGED CONCRETE AT WALKWAYS	180	SF	20.00	$ 3,600		2					B		Located at east walk/ramp
DISALLE	SITE	7	10	REMOVE AND REPLACE CONCRETE STEPS	100	SF	70.00	$ 7,000		2					B		Located at west walk/steps
DISALLE	SITE	7	12	REMOVE AND REPLACE HANDRAILS AT STEPS (ADA)	50	LF	100.00	$ 5,000		2					B		Located at east walk/ramp
DISALLE	SITE	5	15	REPAIR/REPLACE DRAIN AT PLAZA	1	LS	6,000.00	$ 6,000					5		A		Located at main entry plaza
DISALLE	SITE	5	22	REMOVE AND REPLACE PRECAST CONCRETE PLANTERS	6	EA	4,000.00	$ 24,000	1						A		Concrete planters are for security purpose
DISALLE	SITE	7	23	CLEAN EFFLORESCENCE AT PRECAST PLANTER WALLS	200	SF	25.00	$ 5,000					5		C		
				PARKING GARAGE													
DISALLE	GARAGE	9	12	COMMISSION PROFESSIONAL SERVICE PROVIDER TO PERFORM FORENSIC EVALUATION OF STRUCTURE	1	LS	30,000.00	$ 30,000		2					A		
				BUILDING ENVELOPE													
DISALLE	BUILDING ENVELOPE	13	10	REPAIR CRACKS AT ARCHITECTURAL PRECAST CONCRETE PANELS	1	LS	100,000.00	$ 100,000		2					A		Requires façade access equipment in place. This work is based on an allowance
DISALLE	BUILDING ENVELOPE	13	19	REMOVE AND REPLACE WEATHER SEALANTS AT ARCHITECTURAL PRECAST BUILDING PANELS	55,000	LF	9.00	$ 495,000				4			B		Requires façade access equipment in place. Assume replacement of all sealants between panel joints
DISALLE	BUILDING ENVELOPE	13	28	REMOVE AND REPLACE WEATHER SEALANTS AT CURTAINWALL	471	LF	9.00	$ 4,239				4			B		Requires façade access equipment in place
DISALLE	BUILDING ENVELOPE	15	34	REMOVE AND REPLACE WEATHER SEALANTS AT ALUMINUM PUNCHED OPENINGS	47,920	LF	9.00	$ 431,280				4			B		Requires façade access equipment in place
DISALLE	BUILDING ENVELOPE	15	42	RE-ATTACH LOOSE CLADDING ELEMENTS AT CURTAINWALL	1	LS	10,000.00	$ 10,000		2	3				B		Located at lower level façade system
DISALLE	BUILDING ENVELOPE	16	44	INSPECT, SERVICE AND CERTIFY PORTABLE FAÇADE ACCESS EQUIPMENT	1	LS	100,000.00	$ 100,000	1						A		If new equipment is required add $175,000
DISALLE	BUILDING ENVELOPE		99	REPLACE EXISTING PLATE GLASS WITH INSULATING GLASS	90	SF	2,750.00	$ 247,500									
				ROOF													
DISALLE	ROOF	17	5	ROUTINELY INSPECT ROOF	-		-	$ -					5		C		Provided by general maintenance staff
DISALLE	ROOF	18	23	PROVIDE GUARDRAIL AT EQUIPMENT	20	LF	200.00	$ 4,000	1						A		
DISALLE	ROOF	18	24	PROVIDE ROOF HATCH GUARD RAIL WITH SWING GATE	1	EA	2,500.00	$ 2,500	1						A		
DISALLE	ROOF	18	31	PROVIDE THRESHOLD, WEATHERSTRIPPING AND DRIP STRIP AT ROOF DOOR	1	EA	500.00	$ 500		2					C		
				INTERIOR													
DISALLE	INTERIOR	19	1	ADD ADA COMPLIANT BUILDING SIGNS AND DIRECTORIES AT PUBLIC AND TENANT	1	LS	50,000.00	$ 50,000					5		C		Located at restrooms-46, stairs-42, permanent-209 directories-23
DISALLE	INTERIOR	19	22	UPDATE/TOUCHUP SECURITY DESK	1	EA	1,500.00	$ 1,500					5		C		
DISALLE	INTERIOR	21	23	REMOVE AND REPLACE WINDOW TREATMENT (DRAPES)	42,000	SF	15.00	$ 630,000				4			C		Replace 90% of drapes
DISALLE	INTERIOR	21	27	TOUCH-UP PAINTING AT HOLLOW METAL DOOR FRAMES	100	EA	50.00	$ 5,000					5		C		Touch-up on 10% of all doors
DISALLE	INTERIOR	21	28	INSTALL KICKPLATES AT HIGH TRAFFIC DOORS	46	EA	200.00	$ 9,200					5		C		Located at toilet rooms
DISALLE	INTERIOR	21	52	EVALUATE DRYWALL REPAIRS AND CORRECT	20,000	SF	3.50	$ 70,000					5		C		Located at 50% of windows in building
DISALLE	INTERIOR	23	54	REMOVE AND REPLACE CEILING TILE PADS AT TENANT FLOORS	60,000	SF	3.50	$ 210,000					5		C		Located at 12 floors, 25%
DISALLE	INTERIOR	21	58	MINOR MAINTENANCE WORK	1	LS	20,000.00	$ 20,000							C		
DISALLE	INTERIOR	21	59	CLEAN WINDOW FRAMES	2,320	EA	10.00	$ 23,200					5		C		Clean all frames
DISALLE	INTERIOR	23	63	REPLACE MISSING RUBBER BASE	10	LF	3.00	$ 30					5		C		

Pricing based on 2013
Add 4% escalation per additional year
Soft costs are not included

Priority A - Urgent
Priority B - Secondary
Priority C - Other recommendation

OHIO DAS - 12P009 GSD ASSESSMENT
MICHAEL V. DISALLE GOVERNMENT CENTER, ONE GOVERNMENT CENTER, TOLEDO, OH
TOWER FUND
ASSESSMENT ESTIMATE
OCTOBER 25, 2013

1 Life safety
2 Increased risk & cost if deferred
3 Short term repairs
4 Items currently beyond life cycle
5 General Maintenance
6 Energy saving options
Priority
Status

QUANTITY MEASUREMENT KEY
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BUILDING	ITEM	PAGE NO.	ITEM NO.	DESCRIPTION	QUANTITY		UNIT COST	DISALLE	1	2	3	4	5	6	Priority	Status	REMARKS
				PLUMBING													
DISALLE	PLUMBING	38	12	REMOVE COVER AND REPLACE FLOOR DRAIN GRATE AT ERIE STREET WATER ROOM	1	EA	700.00	$ 700		2					B		
DISALLE	PLUMBING	38	13	REPLACE AND ENLARGE FLOOR DRAIN AT HURON STREET WATER SERVICE	1	EA	4,000.00	$ 4,000		2					B		
DISALLE	PLUMBING	38	14	PROVIDE DIELECTRIC SEPARATION AT DISSIMILAR MATERIALS IN CONTACT AT PIPING SYSTEMS	24	EA	130.00	$ 3,120					5		C		
DISALLE	PLUMBING	38	15	REPAIR OR REPLACE PIPE INSULATION AND JACKETING WHERE DAMAGED/MISSING	200	LF	7.50	$ 1,500					5		C		
DISALLE	PLUMBING		34	ADD MODIFIED SECONDARY ROOF DRAINAGE SYSTEM	1	SF	7,500.00	$ 7,500									
DISALLE	PLUMBING	40	36	INSTALL ROOF DRAIN GRATE ON LOWER SHAFT ROOF	1	EA	500.00	$ 500					5		C		
DISALLE	PLUMBING	41	44	INSULATE LAVATORY PIPING FOR ADA COMPLIANCE	122	EA	105.00	$ 12,810		2					A		
				HVAC													
DISALLE	HVAC	28	8	PERFORM SURVEY AND STEAM TRAPS ONCE PER YEAR	1	LS	1,750.00	$ 1,750					5		C		
DISALLE	HVAC	28	9	REMOVE AND REPLACE DAMAGED PIPING INSULATION AT BOILERS	1	LS	1,500.00	$ 1,500					5		B		
DISALLE	HVAC	31	20	REPLACE DAMAGED PIPING INSULATION AT CHILLERS	1	LS	1,500.00	$ 1,500					5		B		
DISALLE	HVAC	31	24	PROVIDE ANNUAL CHILLER OIL INSPECTION	1	LS	150.00	$ 150					5		C		Done concurrent with Item 20
DISALLE	HVAC	31	33	PROVIDE ANNUAL VISUAL CONDENSER TUBE INSPECTION AND CLEAN	1	LS	1,000.00	$ 1,000					5		C		Done concurrent with Item 19
DISALLE	HVAC	31	35	PROVIDE EDDY CURRENT TEST TUBE BUNDLES	1	LS	1,500.00	$ 1,500					5		C		Provide test every three years for condenser and every five years for evaporator
DISALLE	HVAC	31	38	INSTALL CLOSURE PANELS	1	LS	500.00	$ 500					5		C		
DISALLE	HVAC	31	39	INSTALL INSULATION AND JACKET ON EXPOSED STEAM AND CONDENSATE PIPING	20	LF	16.00	$ 320	1						A		
DISALLE	HVAC	31	40	REPAIR LEAK IN CONDENSER WATER TREATMENT PIPING	1	LS	300.00	$ 300					5		B		
DISALLE	HVAC	31	41	REMOVE AND CAP/PLUG ALL CONDENSER PIPE BRANCH CONNECTIONS NO LONGER USED AT WATER TREATMENT	1	LS	300.00	$ 300					5		C		
DISALLE	HVAC	31	42	REMOVE PIPING NO LONGER USED AT WATER TREATMENT	1	LS	600.00	$ 600					5		C		
DISALLE	HVAC	31	43	REPAIR ERU INTERNAL INSULATION	1	LS	1,000.00	$ 1,000					5		C		
DISALLE	HVAC	31	59	PROVIDE PERMANENT REPAIR OF ALL DAMAGED CASINGS AT COOLING TOWERS	1	LS	226,000.00	$ 226,000		2					C		
DISALLE	HVAC	31	60	CORROSION DAMAGED COIL CASINGS AND CONDENSATE PANS WILL REQUIRE EVENTUAL AHU REPLACEMENTS	22	EA	55,000.00	$ 1,210,000				4			B		
DISALLE	HVAC	34	63	REPAIR DAMAGED INSULATION AND VAPOR BARRIER AT AHU'S	1	LS	2,000.00	$ 2,000					5		B		
DISALLE	HVAC	34	65	PROVIDE PROPERLY SIZED AIR FILTERS OR CLOSURE PANELS	1	LS	900.00	$ 900					5		C		
DISALLE	HVAC	34	66	REMOVE & REPLACE VAV TERMINAL UNITS WITH CURRENT TECH & DDC	1,180	EA	1,500.00	$ 1,770,000				4			C		
DISALLE	HVAC	35	81	REPLACE CO SENSORS AND CONTROLLERS AT GARAGE	1	LS	5,000.00	$ 5,000	1						A		
DISALLE	HVAC	35	121	REMOVE RUST AND PAINT GENERATOR EXHAUST DUCT SUPPORTS	1	LS	1,200.00	$ 1,200					5		C		
DISALLE	HVAC	23	135	REPLACE MECHANICAL GRILLES AT RESTROOMS	5	EA	100.00	$ 500					5		C		
DISALLE	HVAC	28	136	BOILER SYSTEM DATA LOGGING	-		-	$ -							C		Provided by general maintenance staff
DISALLE	HVAC	31	137	MONITOR AND LOG ERU PERFORMANCE	-		-	$ -							C		Provided by general maintenance staff
				FIRE SUPPRESSION													
DISALLE	FIRE SUPPRESSION	45	18	REPLACE MALFUNCTIONING PRESSURE GAUGES	8	EA	80.00	$ 640				4			B		
DISALLE	FIRE SUPPRESSION	45	20	REPLACE MISSING CHAINS FROM FDC CAPS	4	EA	20.00	$ 80				4			B		
				ELECTRICAL													
DISALLE	ELECTRICAL	50	2	REMOVE AND REPLACE SWITCHGEAR	2	EA	90,000.00	$ 180,000				4			B		Located in main electrical room in basement
DISALLE	ELECTRICAL	53	7	REMEDY CODE ISSUE AT MCC	1	EA	5,000.00	$ 5,000					5		A		Located in penthouse

Pricing based on 2013
Add 4% escalation per additional year
Soft costs are not included

Priority A - Urgent
Priority B - Secondary
Priority C - Other recommendation

OHIO DAS - 12P009 GSD ASSESSMENT
MICHAEL V. DISALLE GOVERNMENT CENTER, ONE GOVERNMENT CENTER, TOLEDO, OH
TOWER FUND
ASSESSMENT ESTIMATE
OCTOBER 25, 2013

QUANTITY MEASUREMENT KEY
SF - SQUARE FOOT
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BUILDING	ITEM	PAGE NO.	ITEM NO.	DESCRIPTION	QUANTITY		UNIT COST	DISALLE	1 Life safety	2 Increased risk & cost if deferred	3 Short term repairs	4 Items currently beyond life cycle	5 General Maintenance	6 Energy saving options	Priority	Status	REMARKS
DISALLE	ELECTRICAL	53	13	REMOVE AND REPLACE EMERGENCY/STANDBY GENERATOR	1	EA	181,000.00	$ 181,000				4			B		Assume 600 kW diesel generator
DISALLE	ELECTRICAL	53	16	REMOVE AND REPLACE AUTOMATIC TRANSFER SWITCHES	3	EA	8,600.00	$ 25,800				4			B		Provide multiple ATS's per code
DISALLE	ELECTRICAL	55	20	REMEDY CODE VIOLATION FOR EMERGENCY EGRESS LIGHTING	1	LS	10,000.00	$ 10,000	1						A		Located throughout building
DISALLE	ELECTRICAL	53	27	REMOVE AND REPLACE PANELBOARDS	66	EA	7,400.00	$ 488,400				4			B		Located in floor electrical rooms
DISALLE	ELECTRICAL		28	REMOVE & REPLACE 45 KVA TRANSFORMERS	22	EA	5,100.00	$ 112,200				4			B		Located in floor electrical rooms
				TECHNOLOGY													
DISALLE	TECHNOLOGY	58	1	PROVIDE DEDICATED TELECOM GROUNDING BACKBONE SYSTEM AT TECH ROOMS	22	EA	1,000.00	$ 22,000					5		C		
DISALLE	TECHNOLOGY	58	2	REMOVE ABANDONED CABLING	22	EA	1,000.00	$ 22,000		2					C		
DISALLE	TECHNOLOGY	58	3	REMOVE ABANDONED EQUIPMENT	1	LS	2,000.00	$ 2,000					5		C		
DISALLE	TECHNOLOGY	58	4	PROVIDE FIRESTOPPING AT ALL FIRE-RATED ASSEMBLIES	22	EA	500.00	$ 11,000					5		C		
DISALLE	TECHNOLOGY	58	5	COORDINATION OF TENANT POWER REQUIREMENT WITH BUILDING STANDARD	1	LS	2,000.00	$ 2,000					5		C		
DISALLE	TECHNOLOGY	58	6	PROVIDE ADMINISTRATIVE CLASS 2 SYSTEM	1	LS	2,000.00	$ 2,000					5		C		
DISALLE	TECHNOLOGY	58	7	ESTABLISH STANDARDS FOR CABLING	1	LS	10,000.00	$ 10,000					5		C		
				HAZARDOUS MATERIALS													
DISALLE	HAZARDOUS MATERIALS	63	1	SAMPLING OF SUSPECT ACM'S	1	LS	7,500.00	$ 7,500					5		C		Cost includes providing an abatement budget
				NOTES													
			1	PRICING IS BASED ON 2013. ADD 4% ESCALATION PER ADDITIONAL YEAR													
			2	PRICING IS BASED ON DIRECT COSTS ONLY. NO SOFT COSTS ARE INCLUDED													
			3	THE PURPOSE OF THE LINE ITEM NUMBER IS FOR IDENTIFICATION AND TO ALLOW SORTING OF SAME WORK THROUGHOUT ALL BUILDINGS													

APPENDIX A

Building Floorplans

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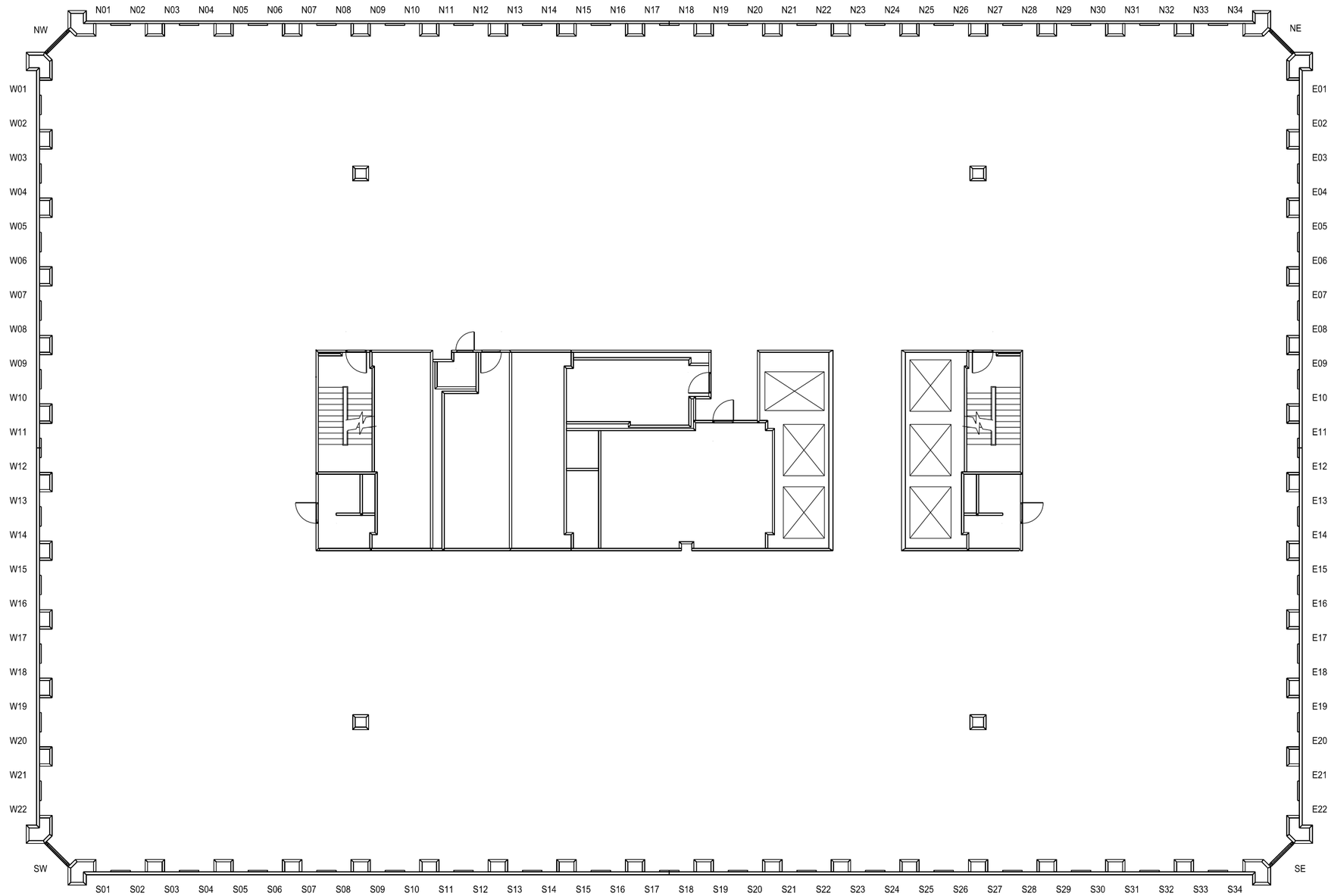

WINDOW LAYOUT PLAN - TYPICAL FLOOR

1/8 SCALE 0 4 8 12FT

N

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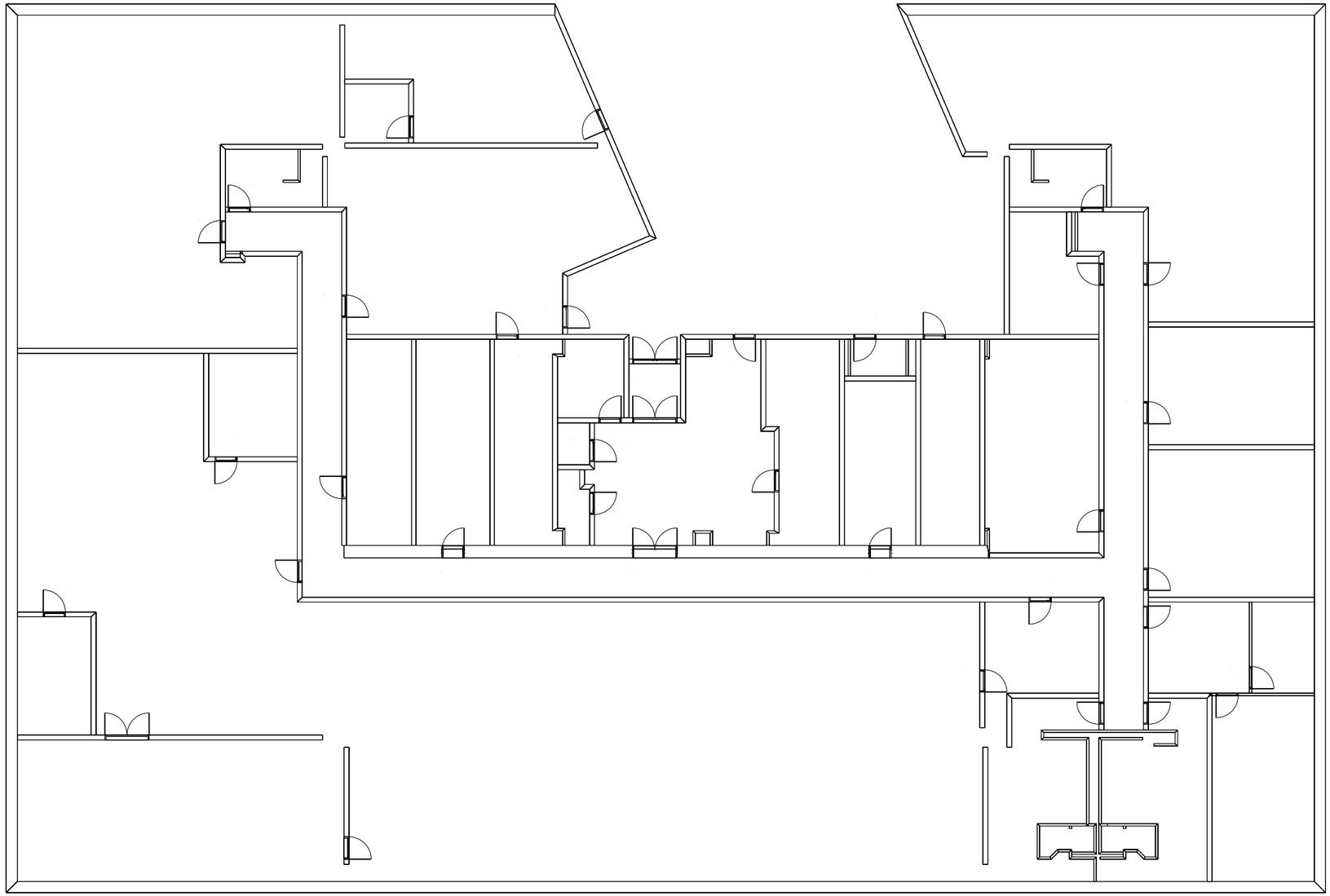
BEECH

ALLEY

ERIE

HURON



JACKSON

PLAZA FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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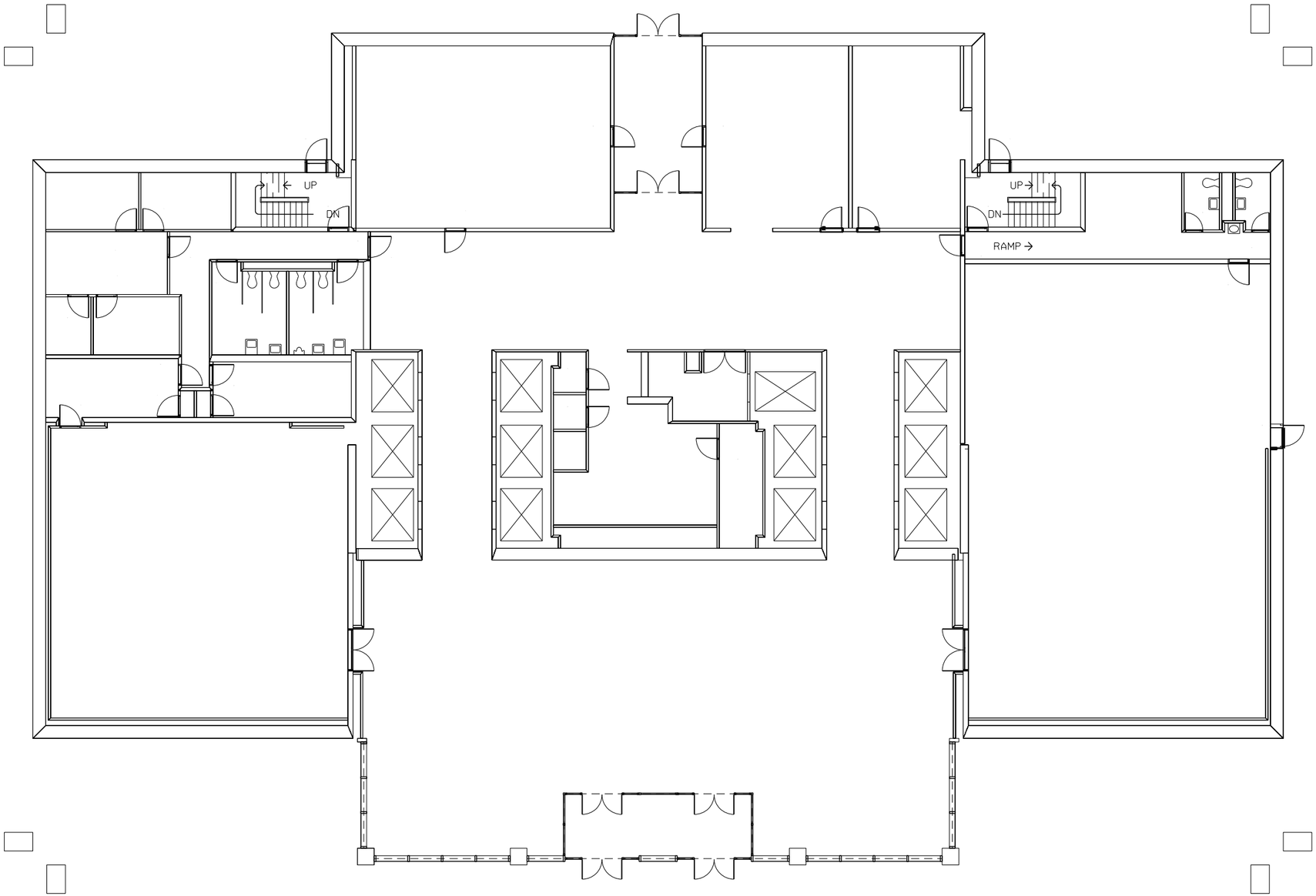

1st FLOOR PLAN

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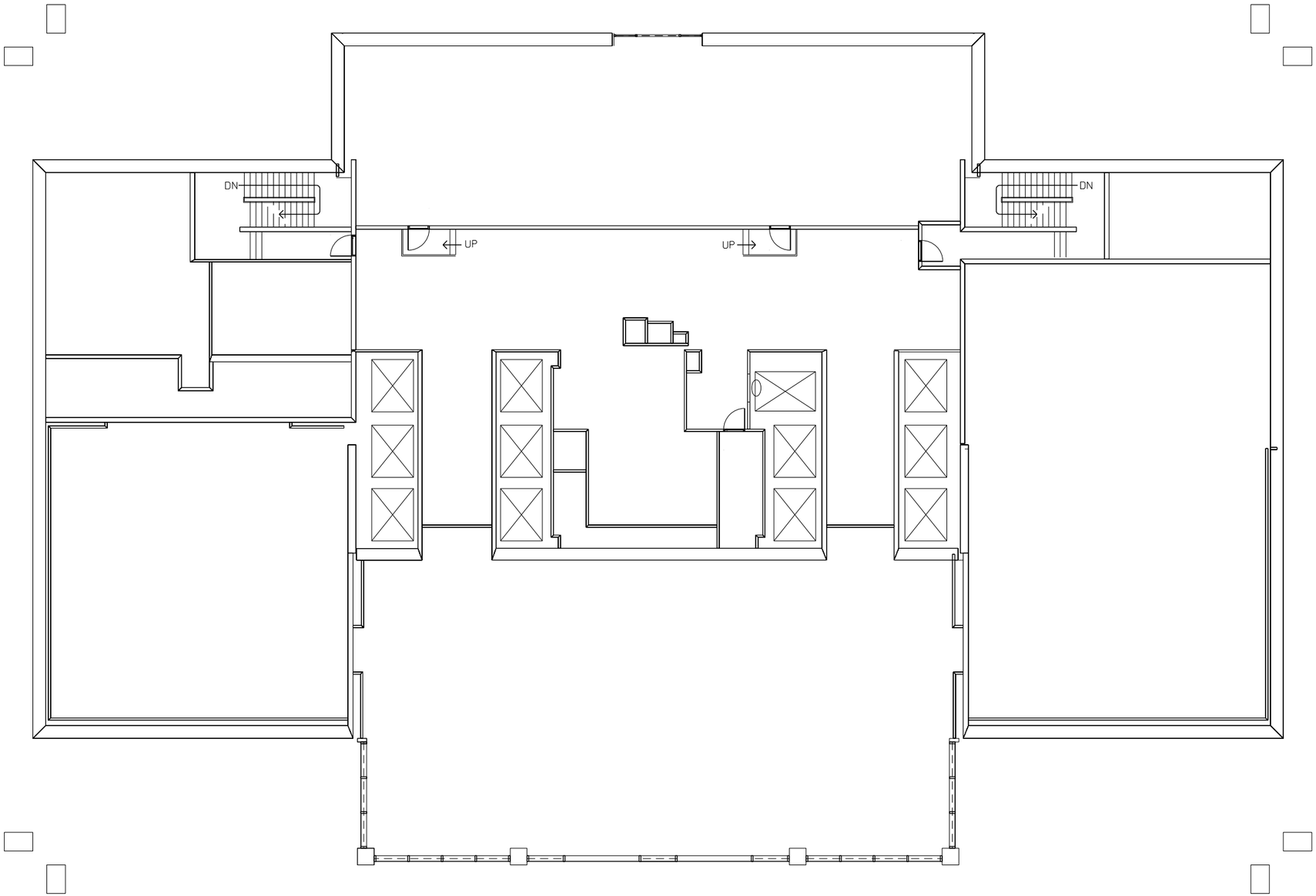

2nd FLOOR PLAN

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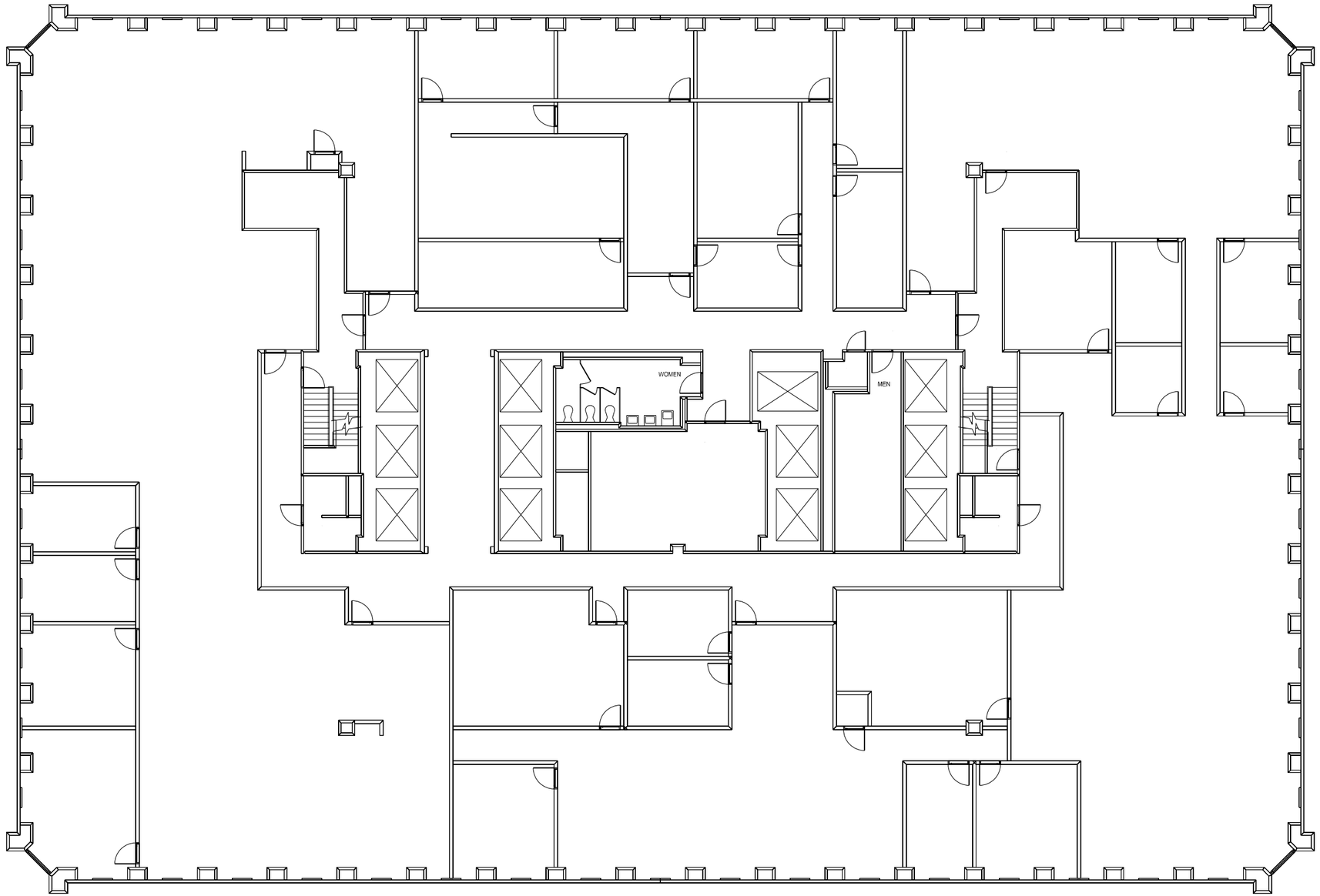

3rd FLOOR PLAN

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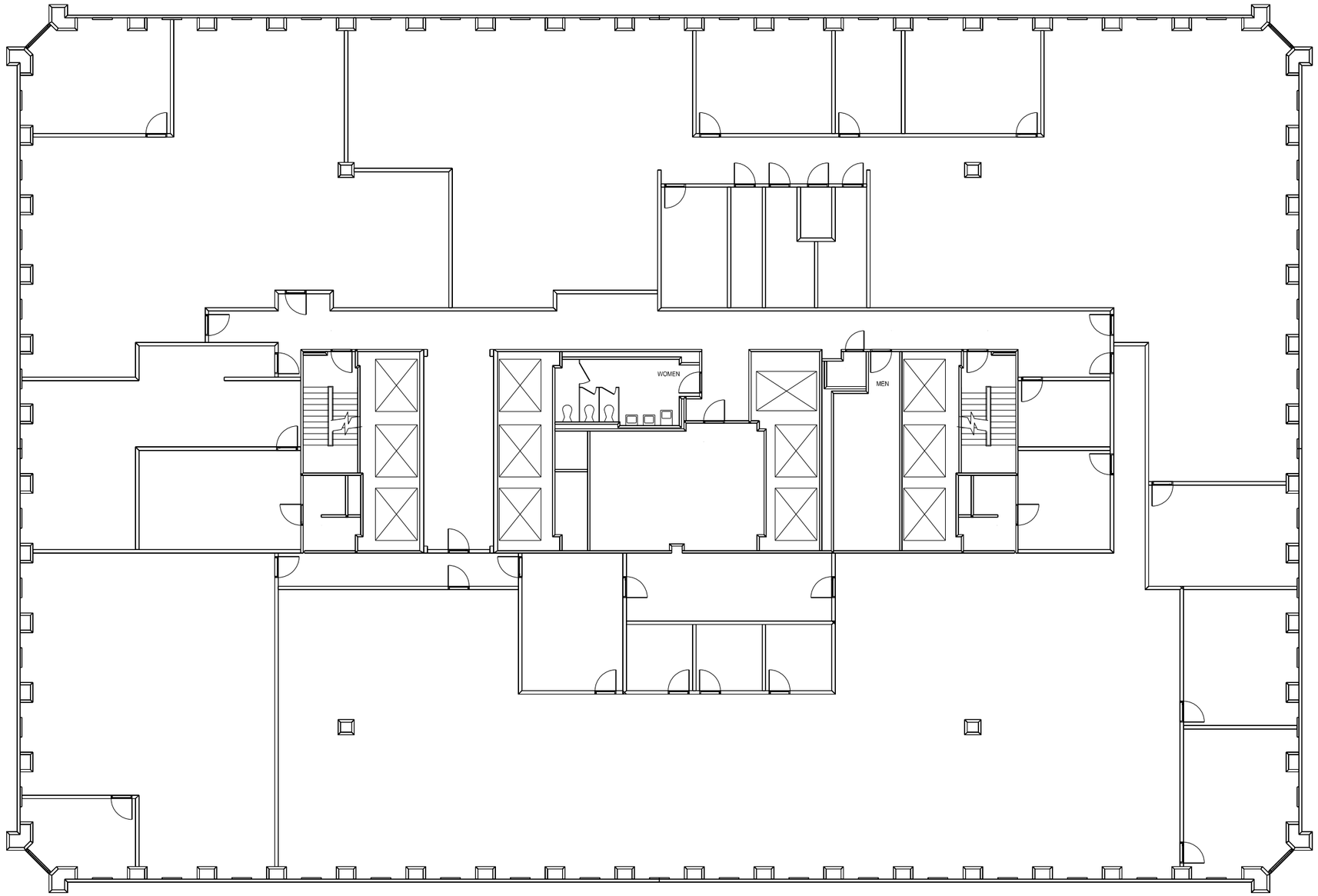

4th FLOOR PLAN

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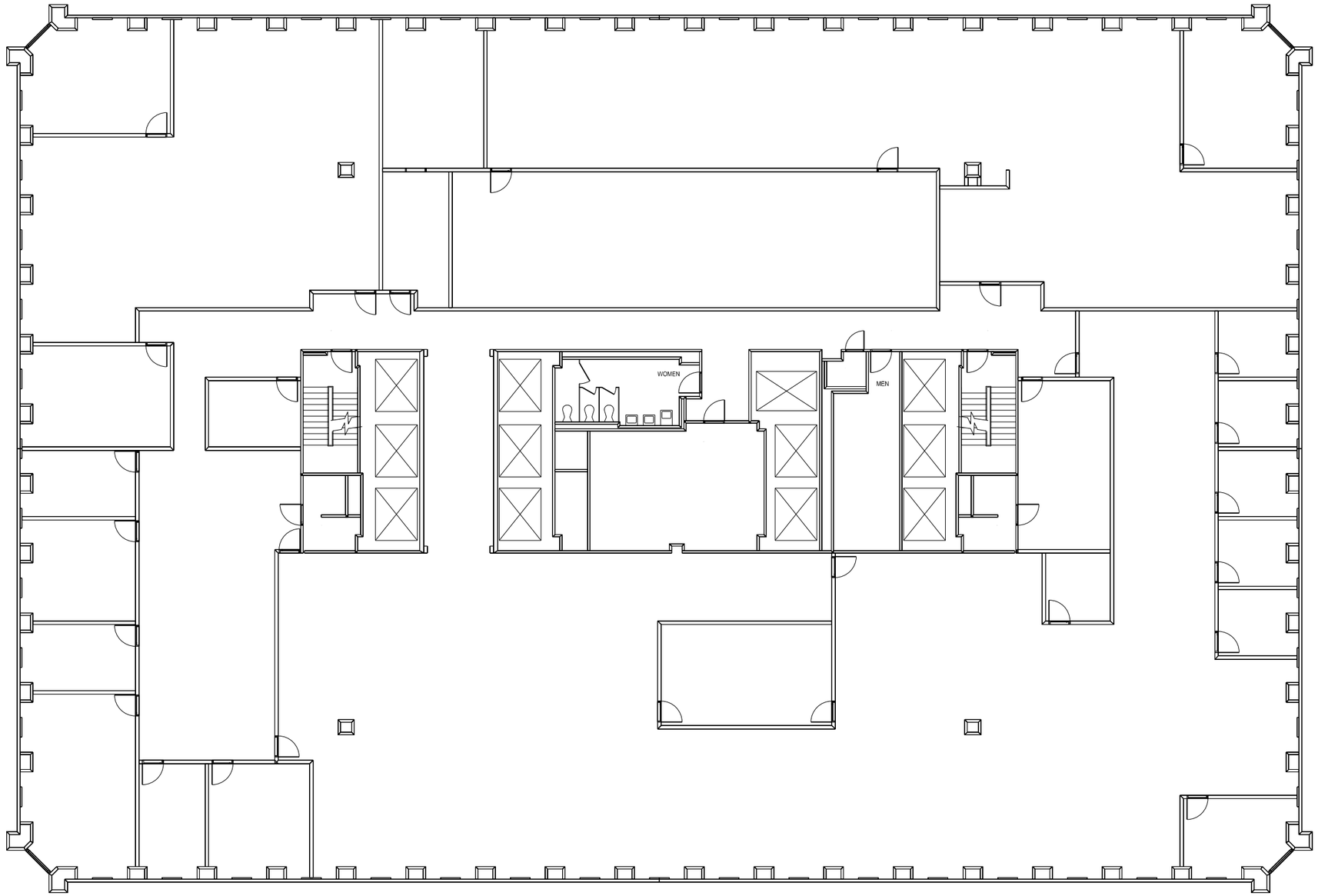

5th FLOOR PLAN

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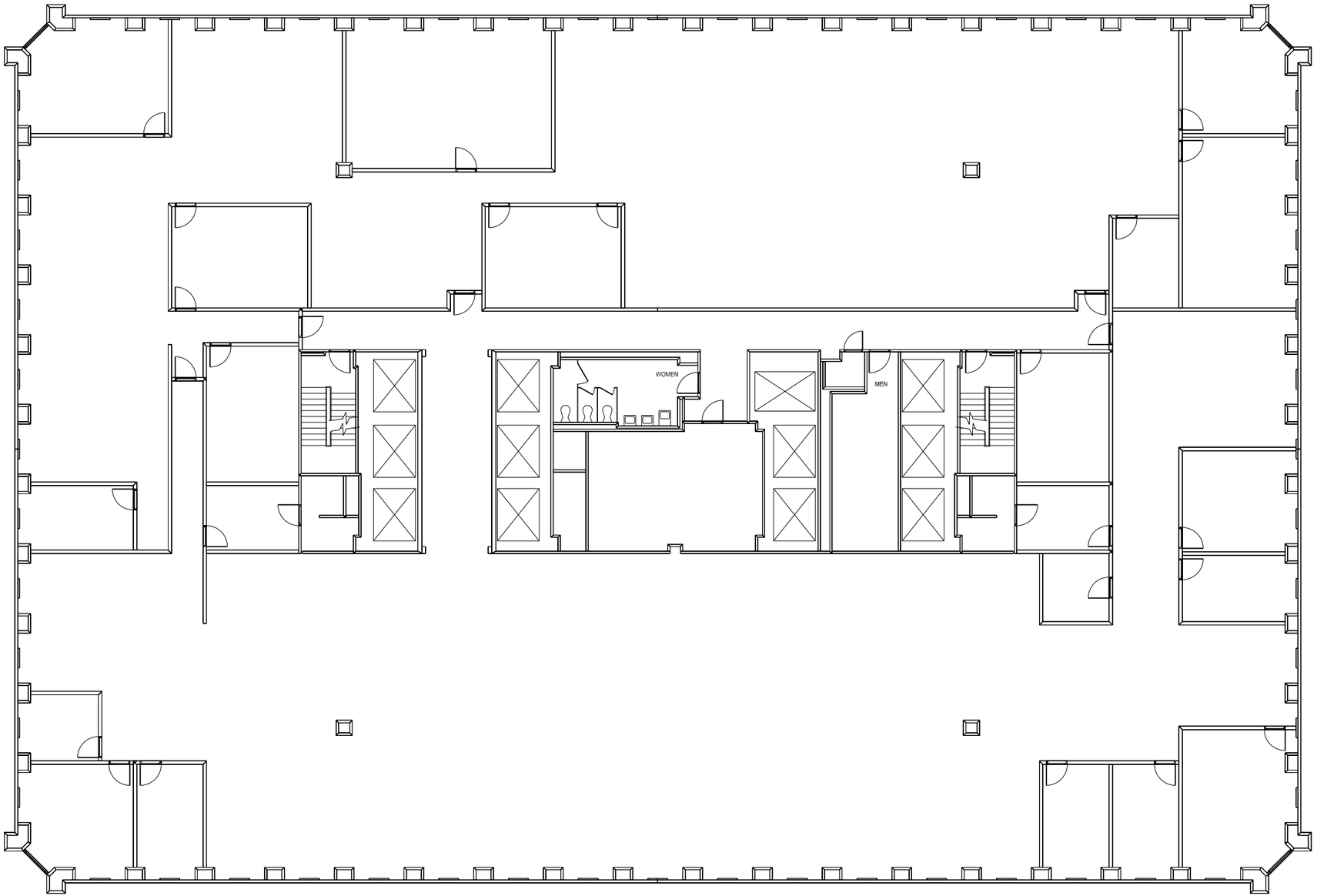

6th FLOOR PLAN

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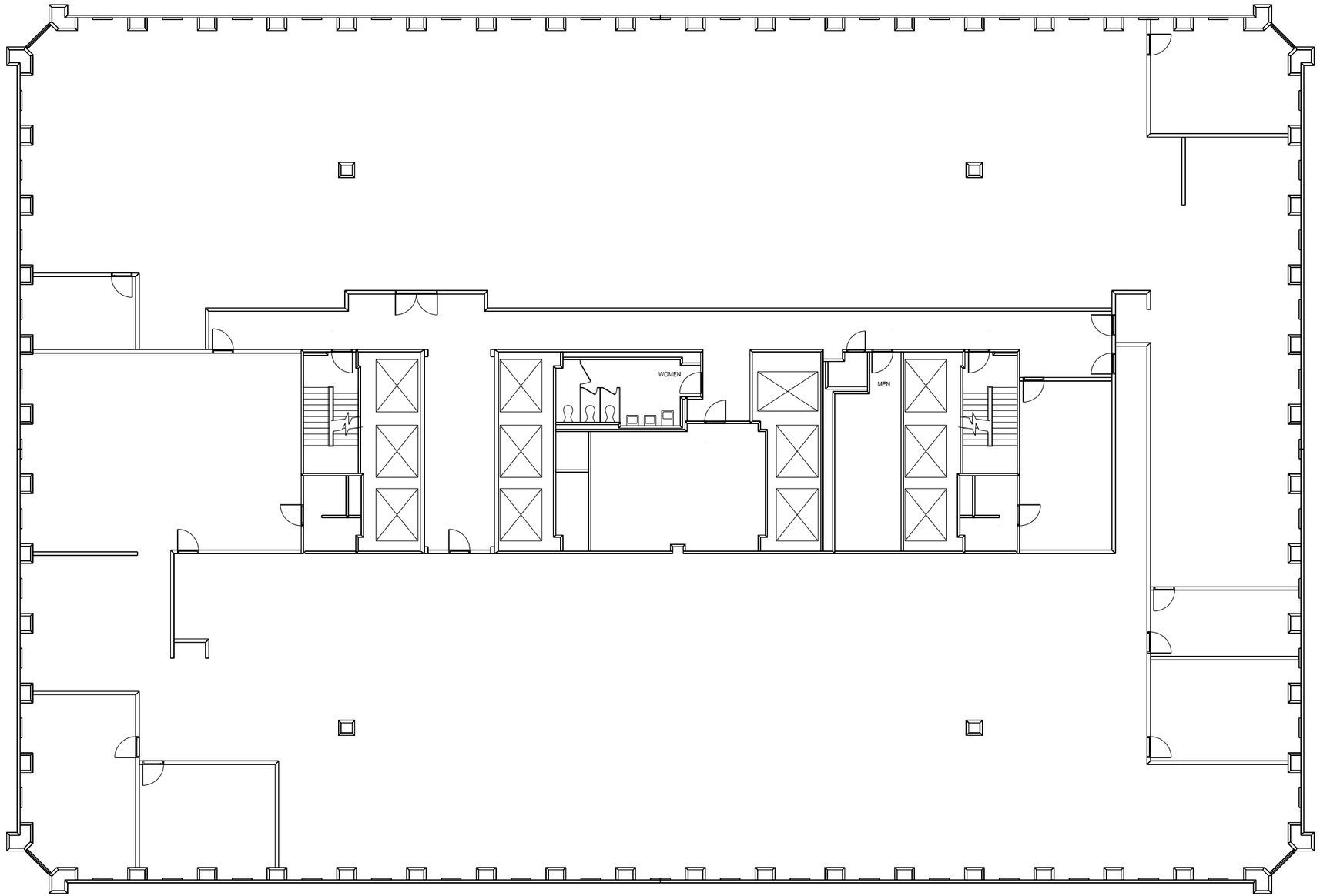

7th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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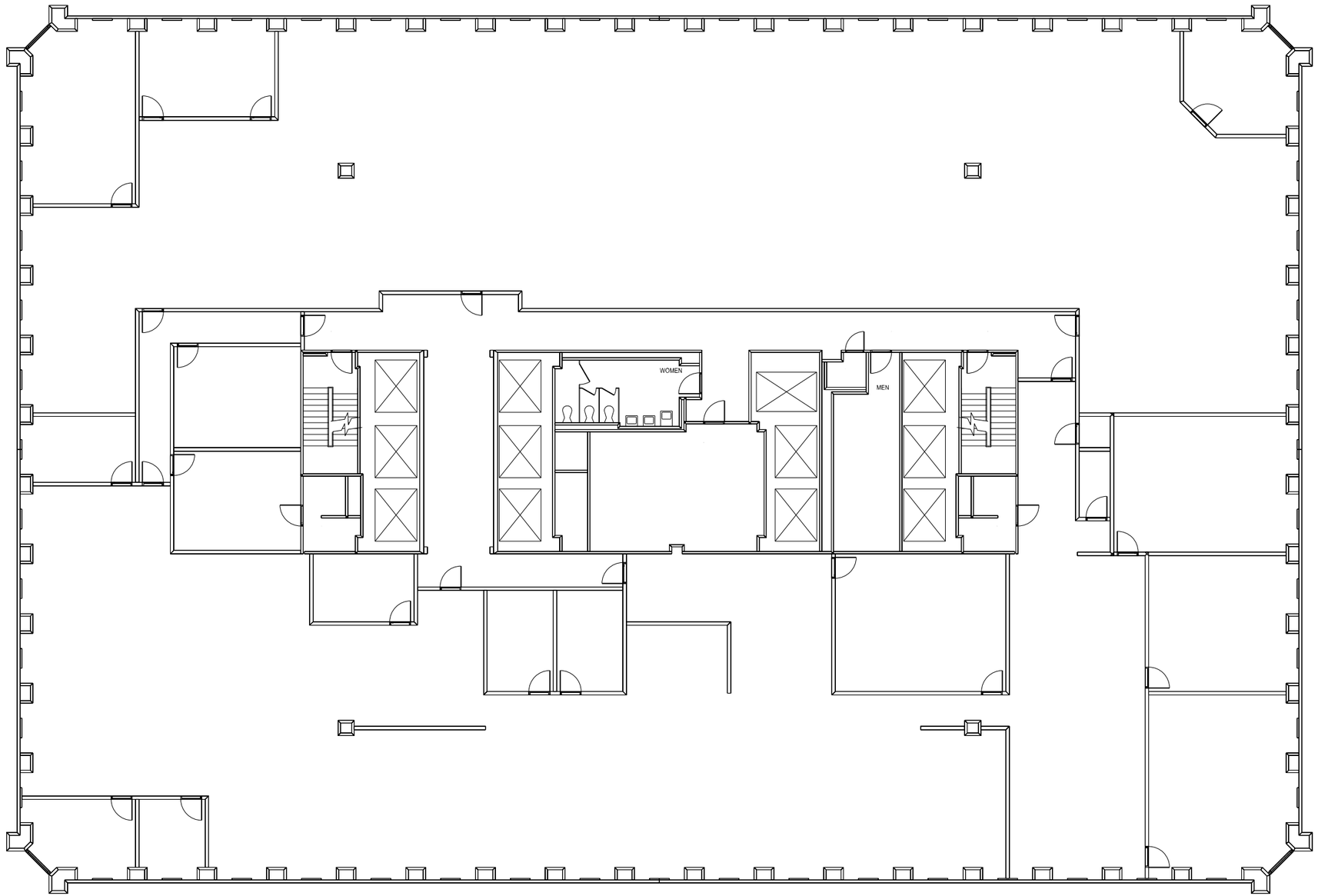

8th FLOOR PLAN

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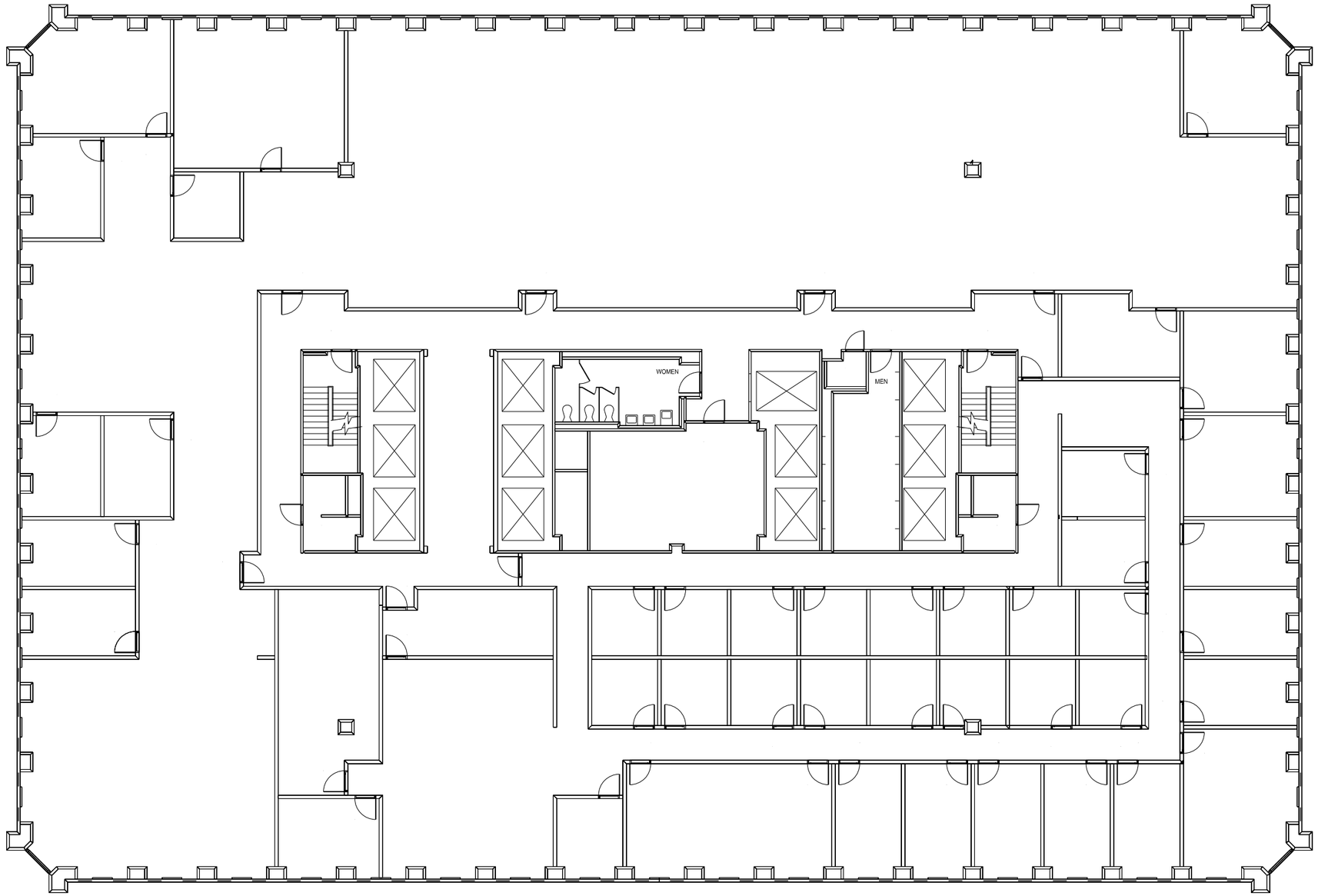

9th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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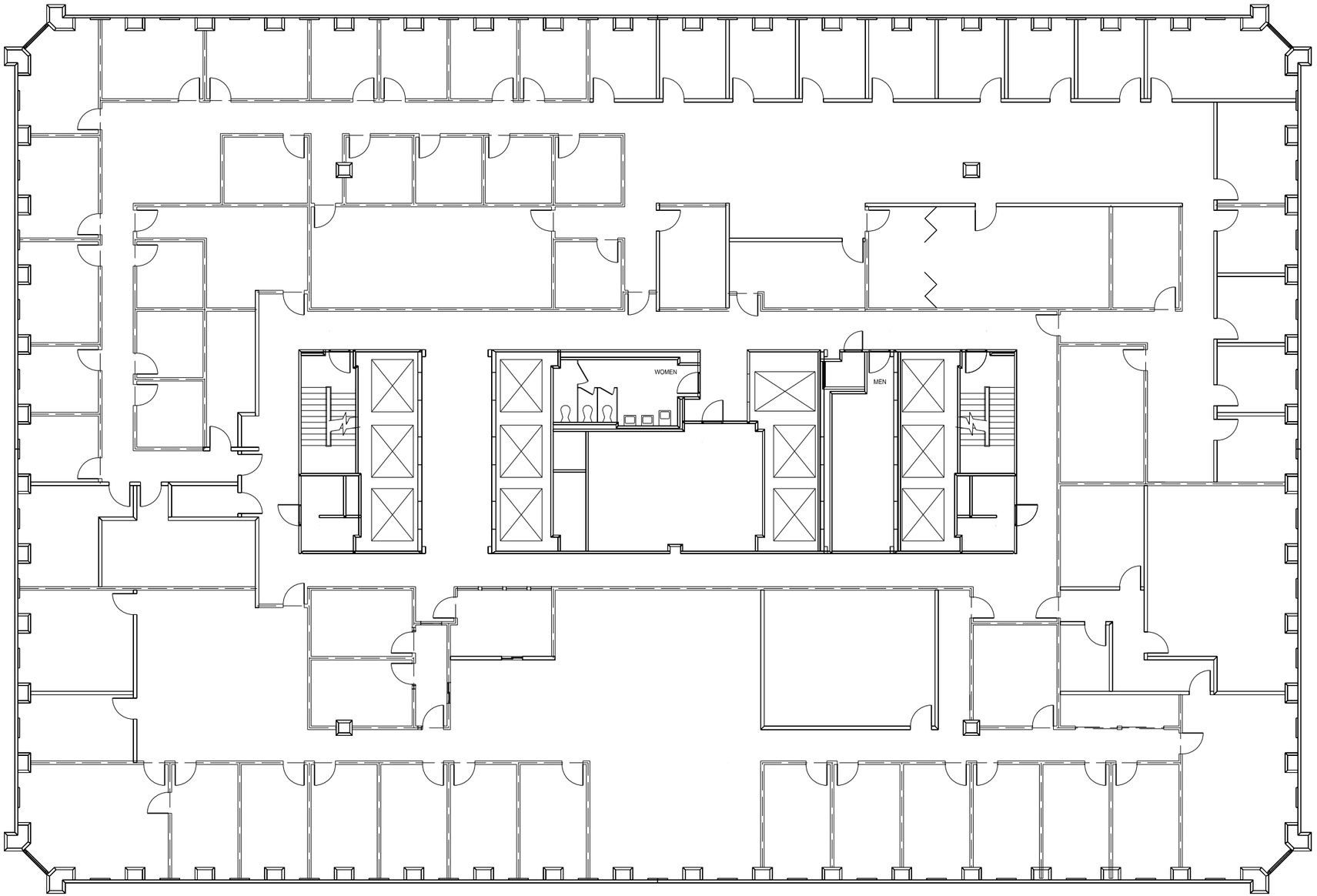

10th FLOOR PLAN

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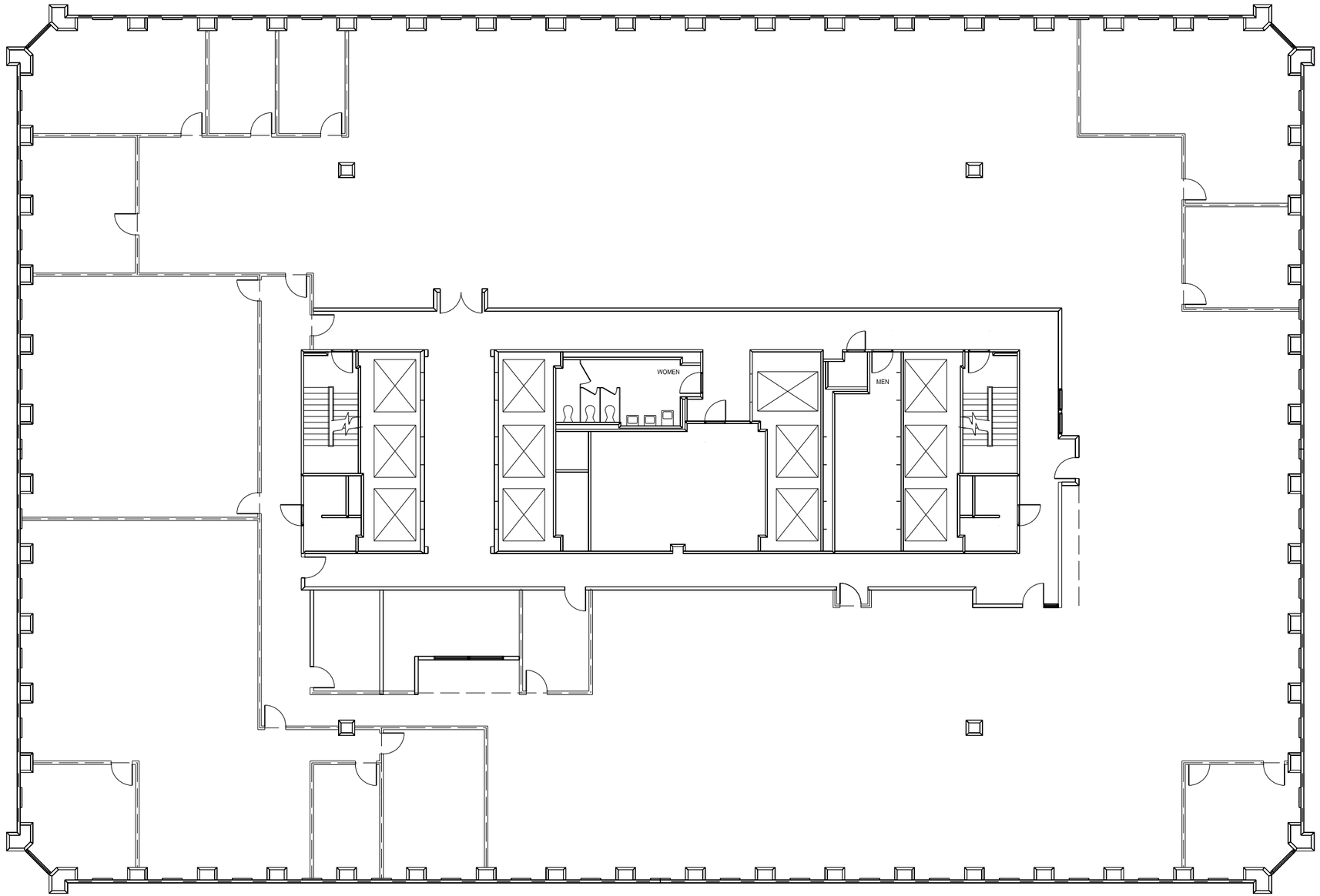

11th FLOOR PLAN

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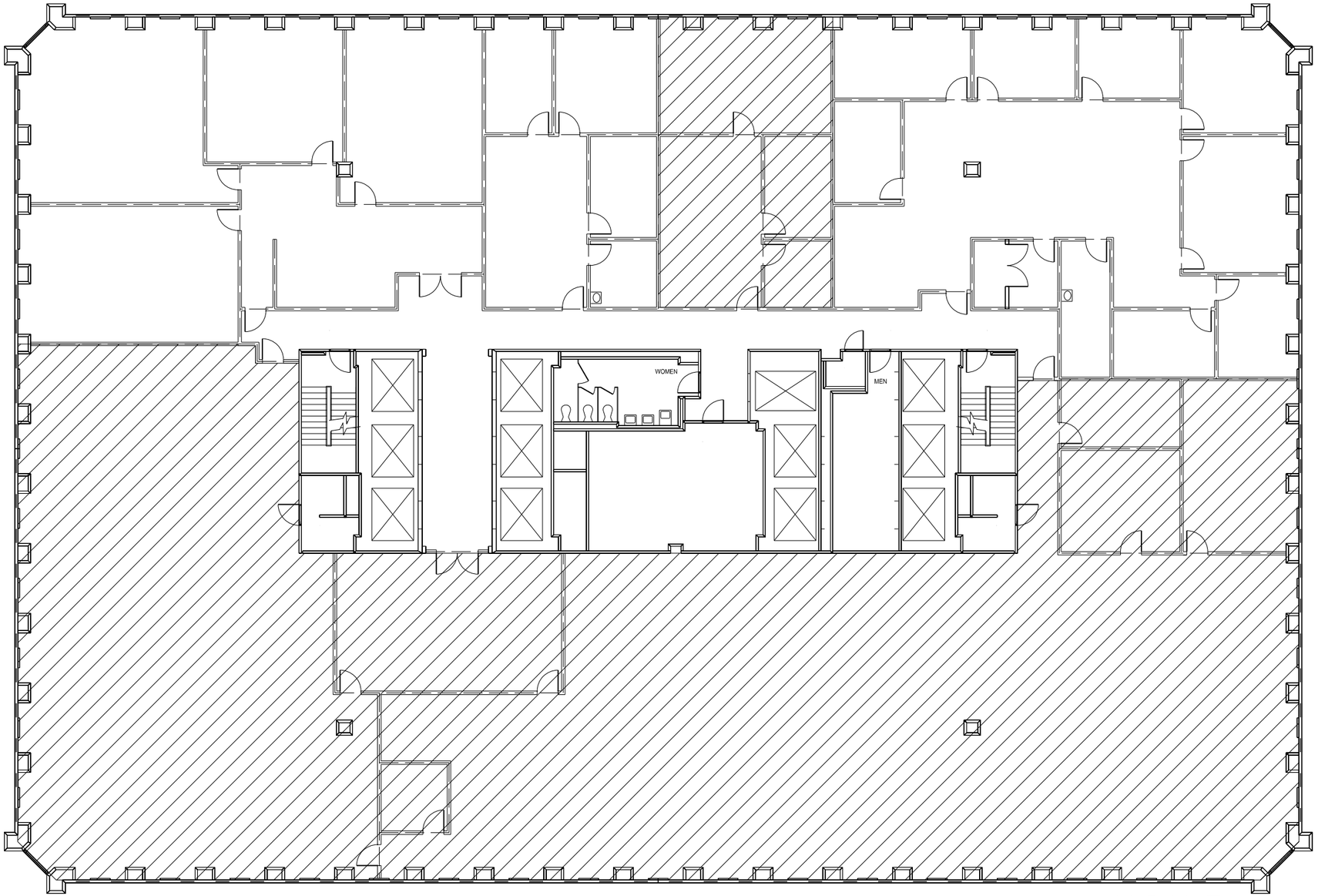
VACANT
1040



VACANT
1070

12th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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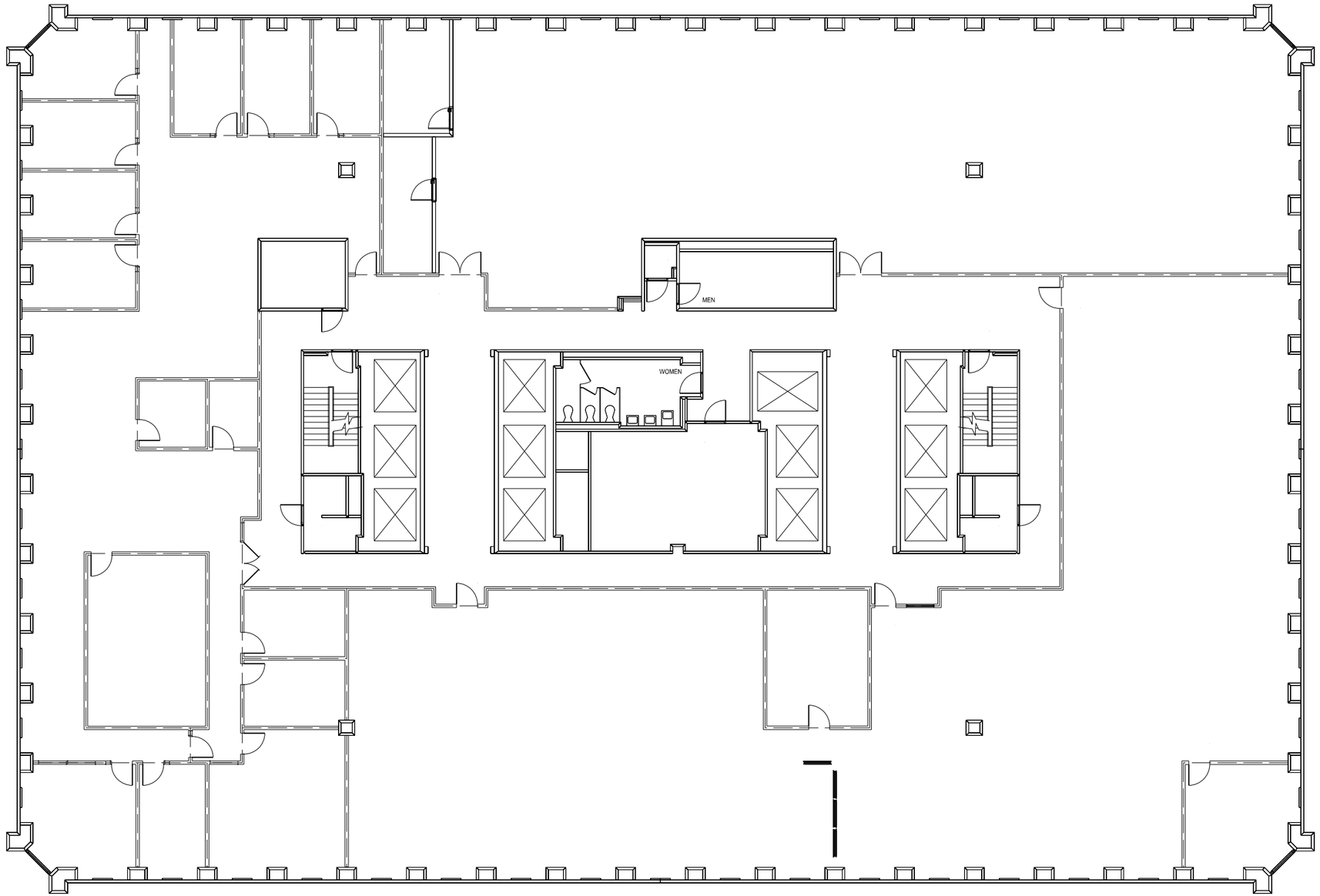

13th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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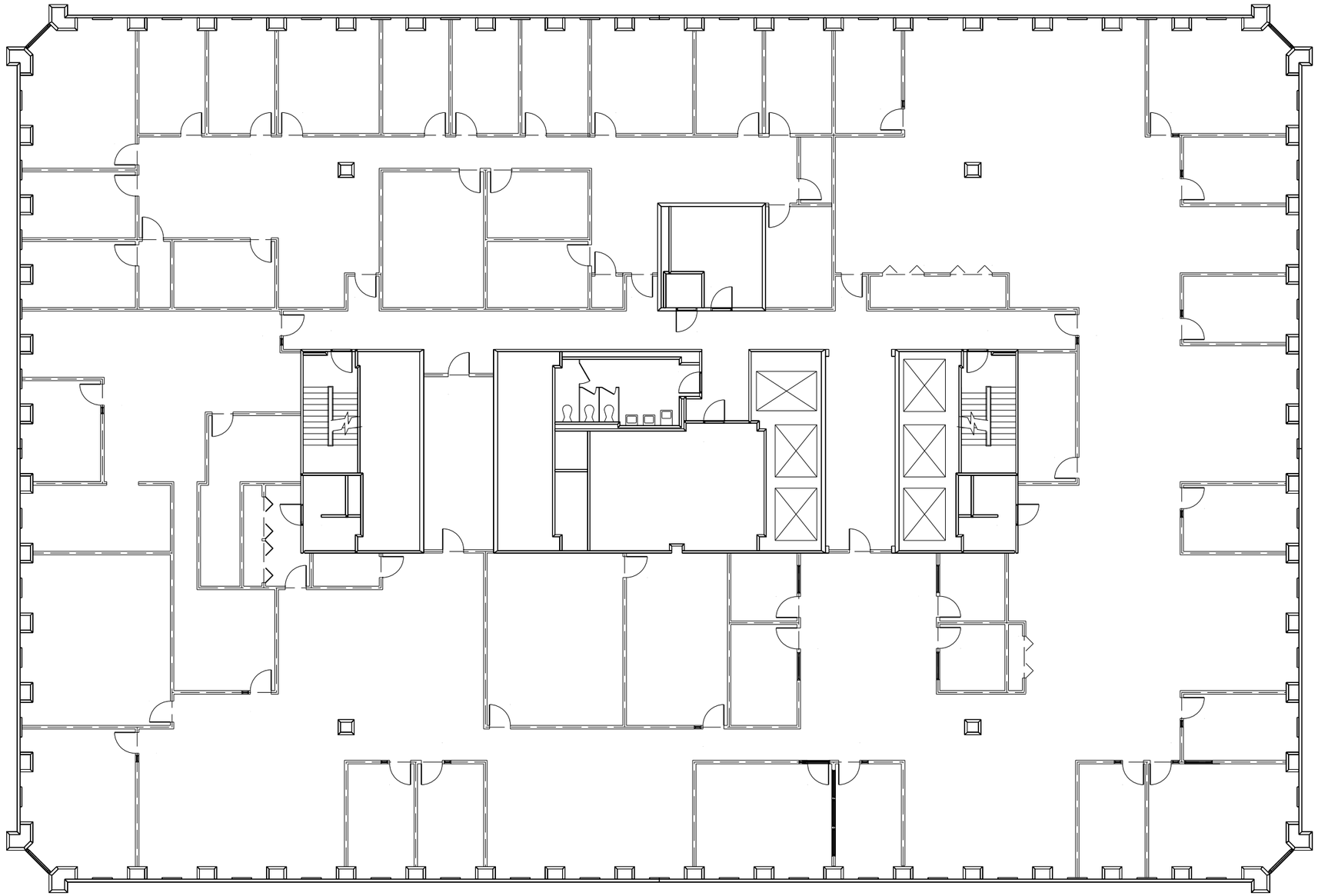

14th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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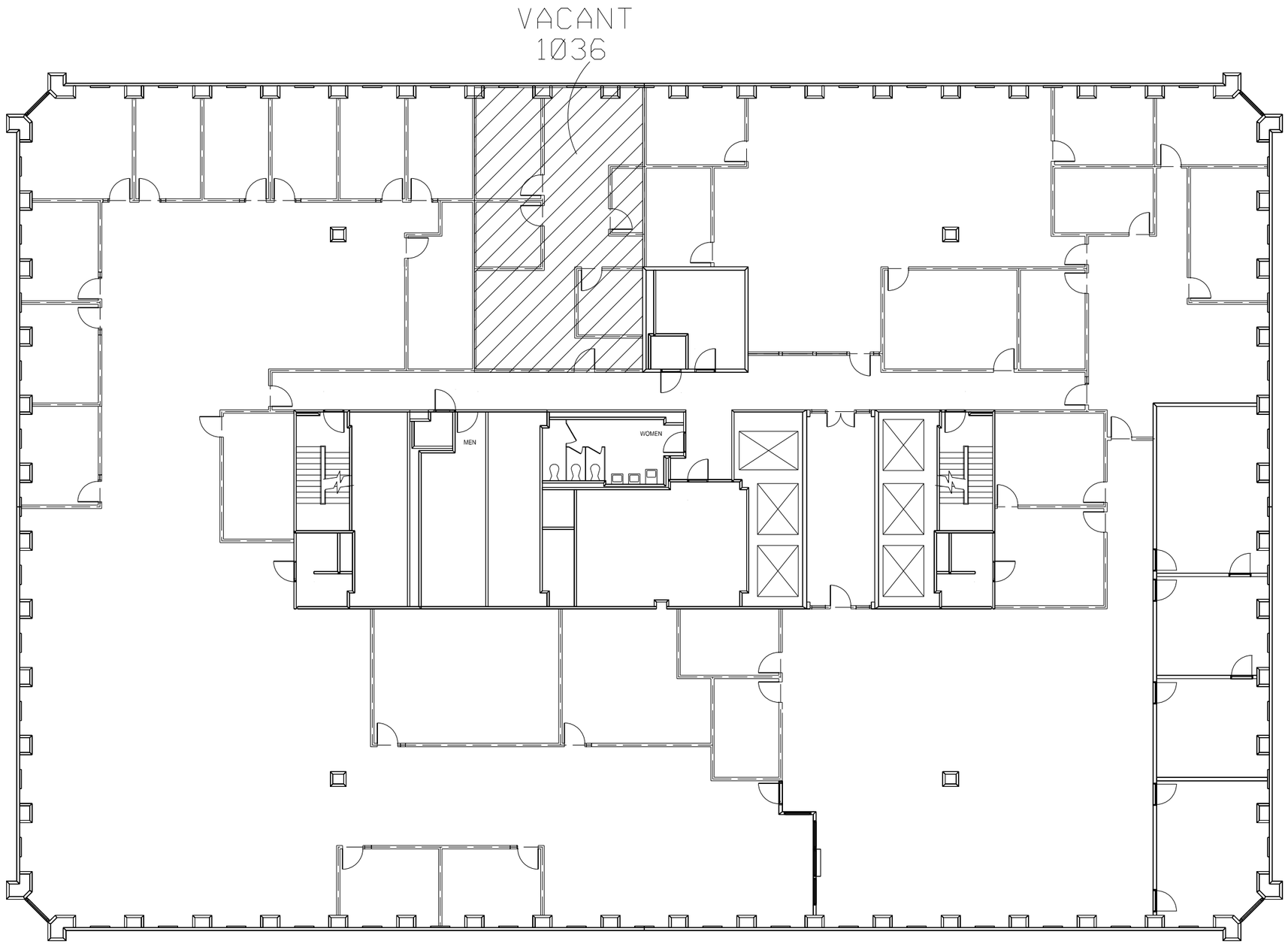

15th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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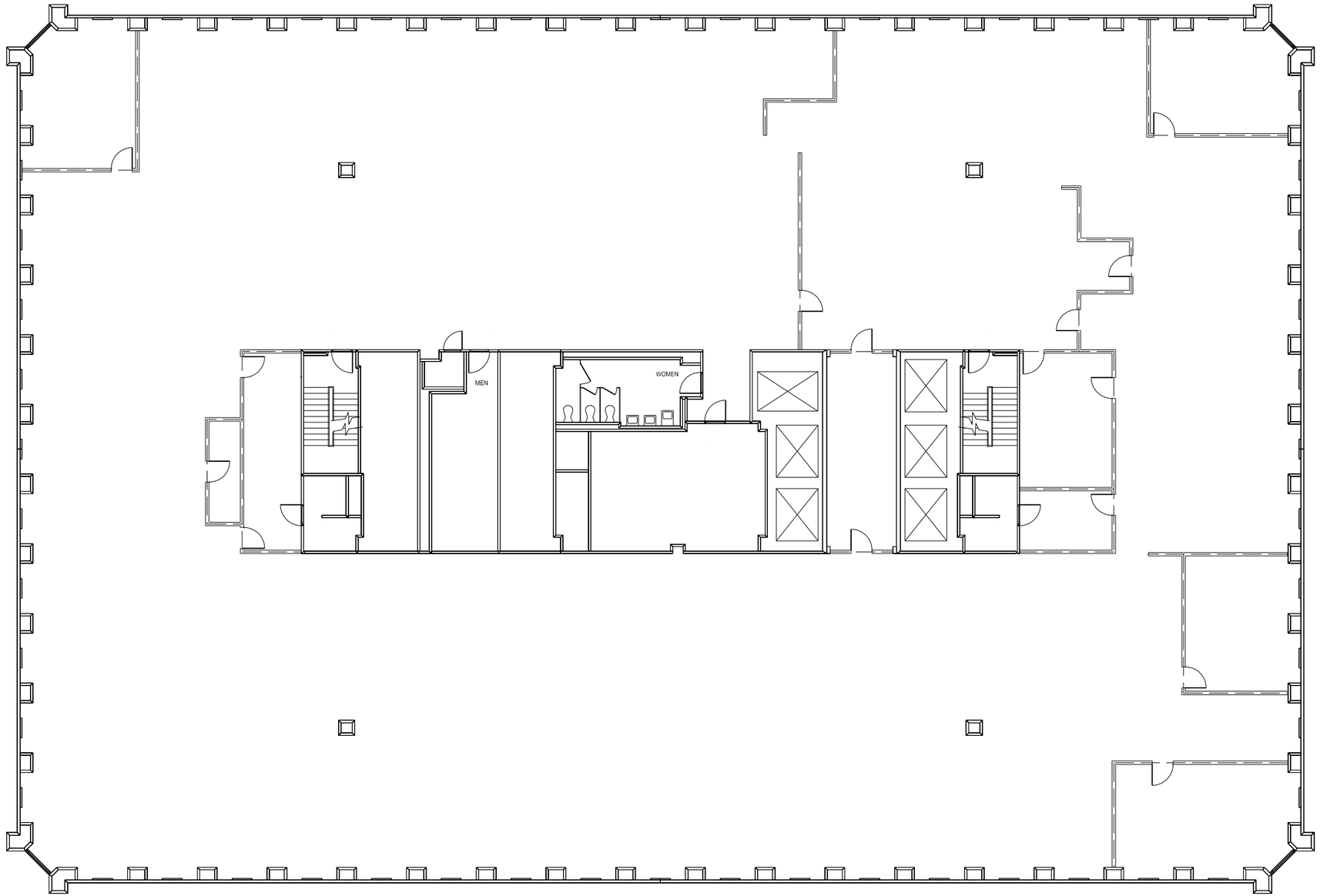

16th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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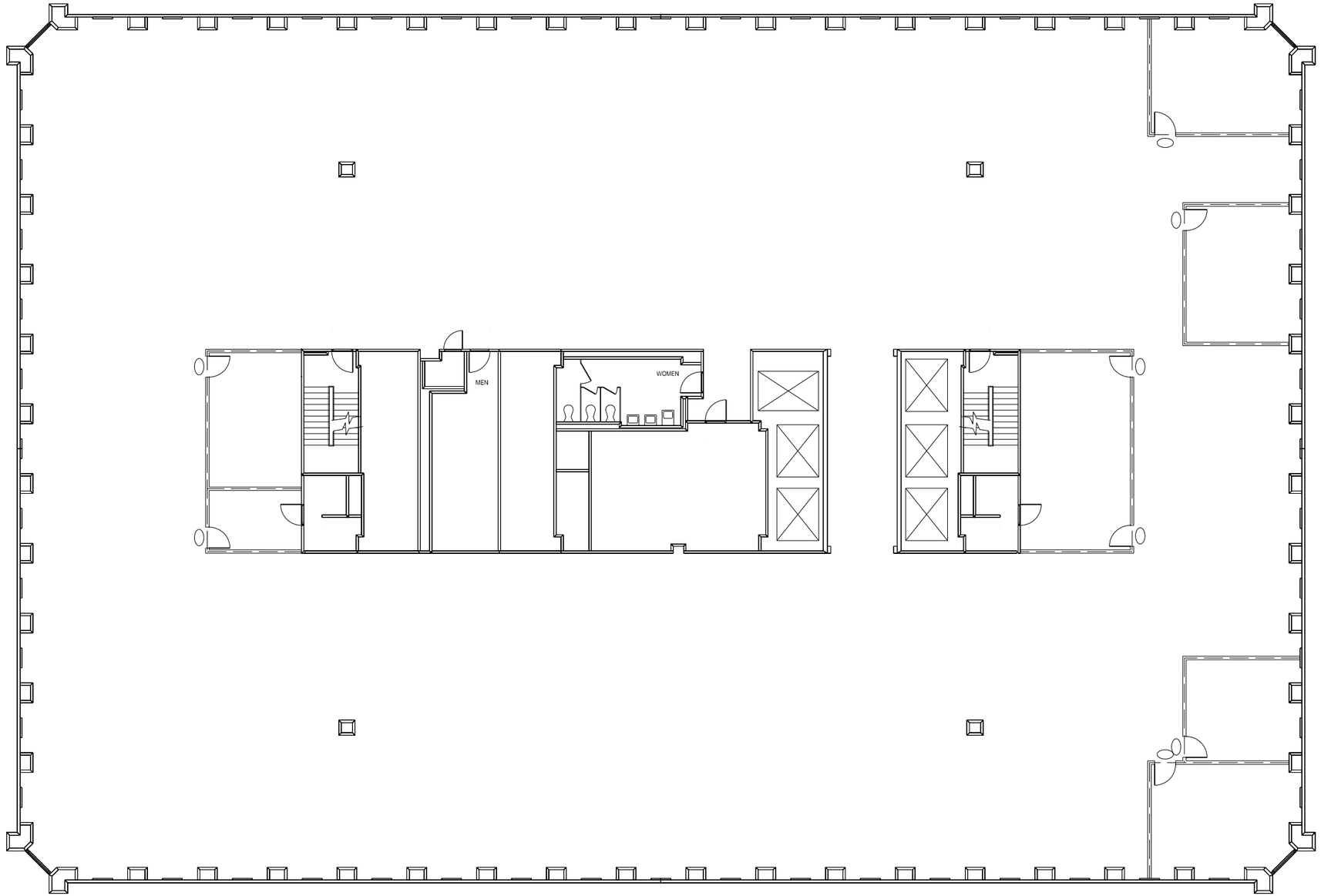

17th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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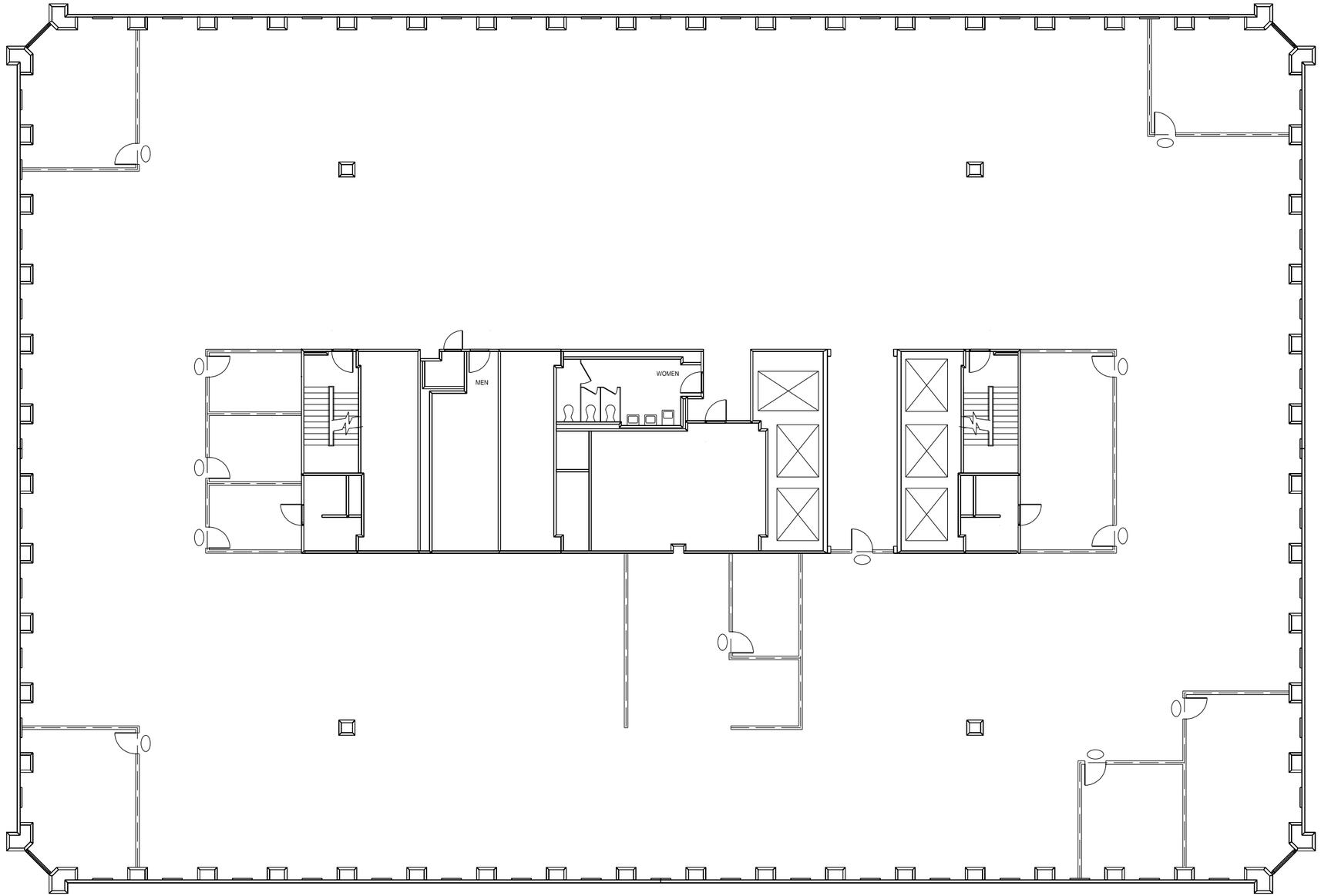

18th FLOOR PLAN

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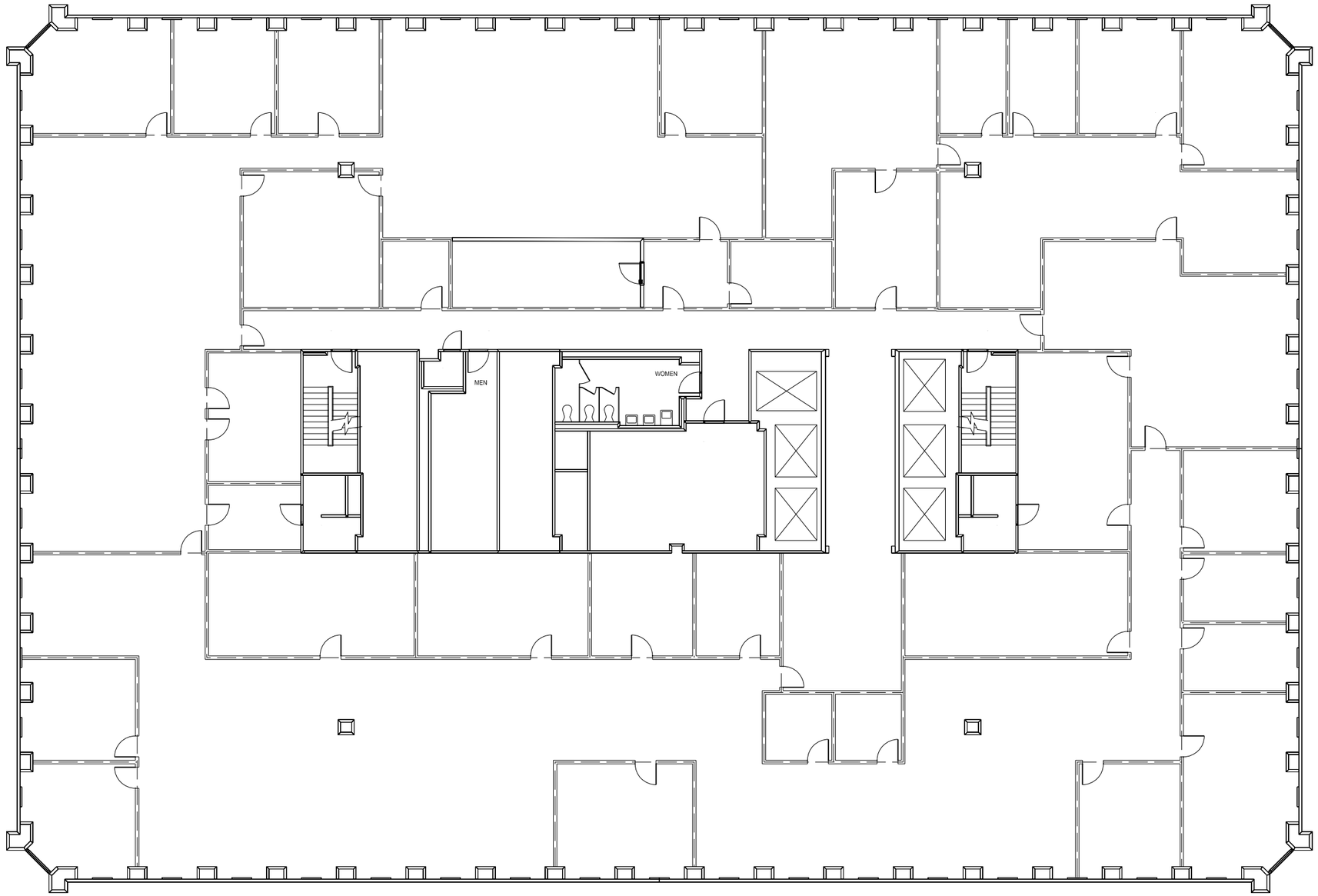

19th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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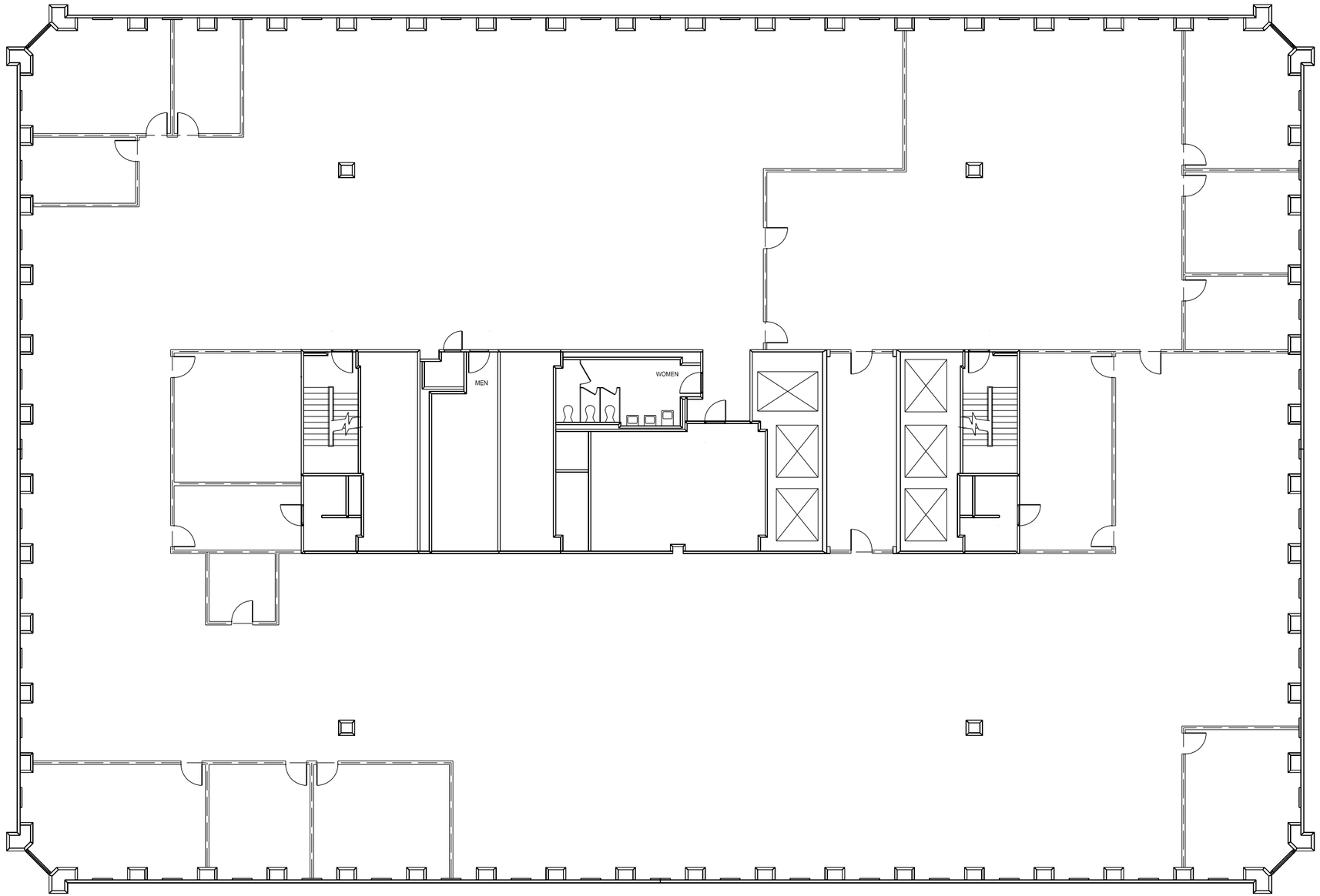

20th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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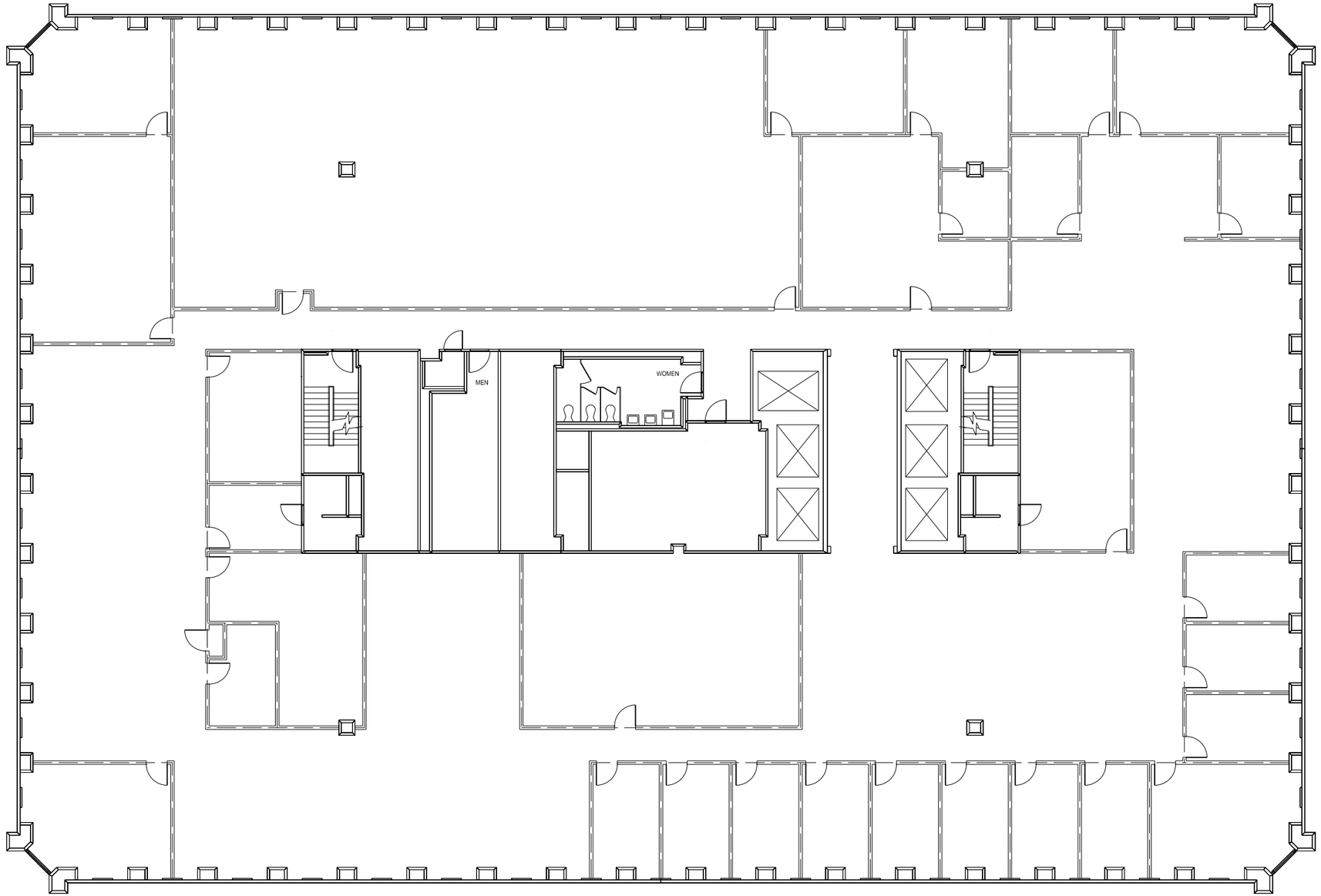

21th FLOOR PLAN

1/8 SCALE 0 4 8 12FT

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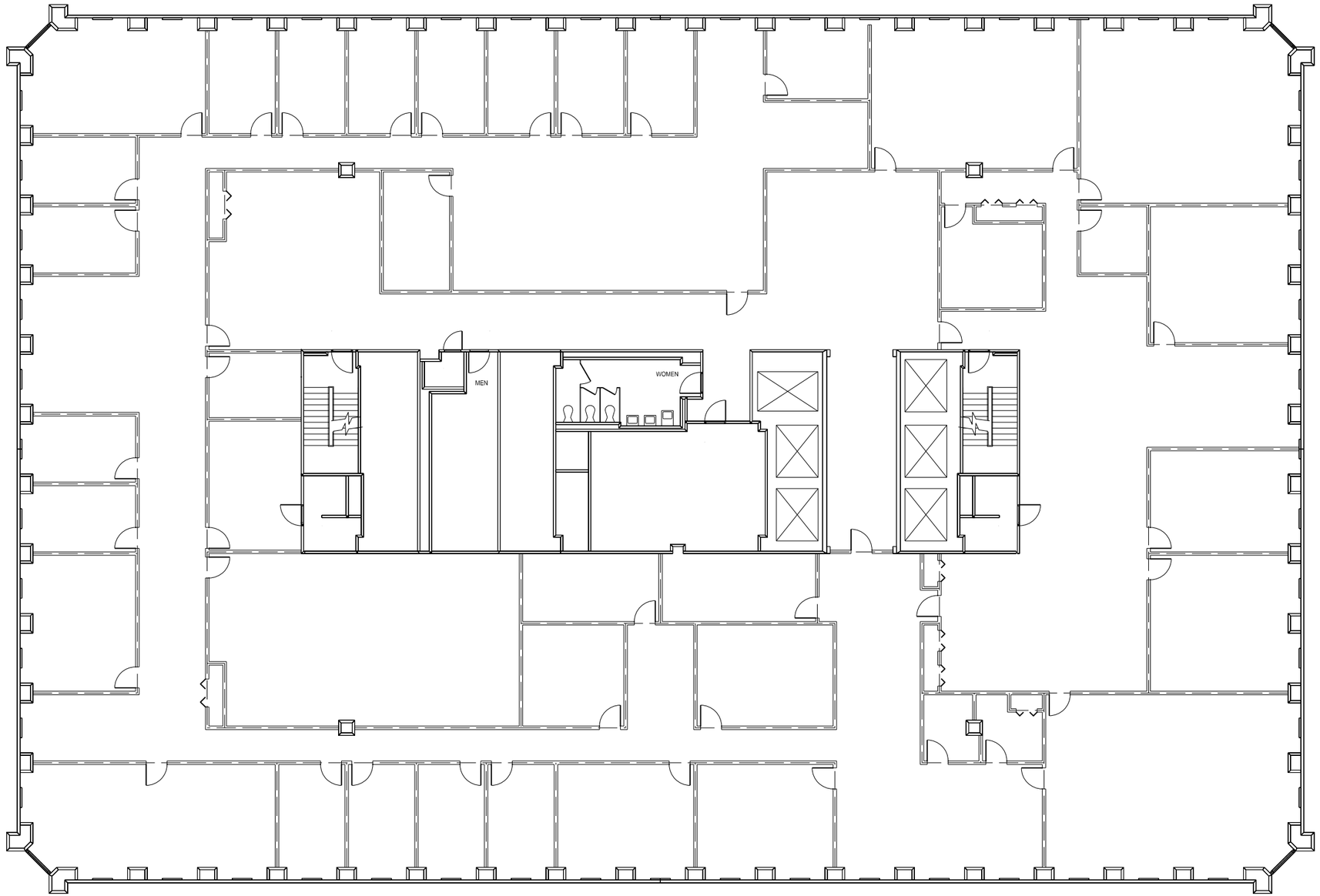

22th FLOOR PLAN

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