Jacobs

City of Fort Lauderdale Comparative Facility Analysis Report

An Assessment of Three Existing Buildings for Potential Conversion to a New City Hall

Document no: 1
Revision: 0

City of Fort Lauderdale, Florida

June 18, 2026

Jacobs Engineering Group Inc.

3150 SW 38 Avenue
Suite 700
Miami, FL 33146
United States

T +1.305.441.1864
www.jacobs.com

Jacobs

Table of Contents

Acronyms and Abbreviations

ADA	Americans with Disabilities Act
AHU	air-handling unit
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASTM	American Society for Testing and Materials
A/V	Audio-Visual
BDA	Bi-Direction Amplifier
BMS	Building Management System
BICSI	Building Industry Consulting Service International
DAS	Distributed Antenna System
DDC	Direct Digital Controls
DOR	Designer of Record
°F	Degrees Fahrenheit
FBC	Florida Building Code
FFE	Finished Floor Elevation
FPL	Florida Power and Light
HVAC	Heating, Ventilation, and Air Conditioning
HVHZ	High Velocity Hurricane Zone
IT	Information Technology
LED	Light Emitting Diode
NAVD	North American Vertical Datum of 1988
NFPA	National Fire Protection Association
SF	Square feet/square foot
TBD	To Be Determined

TI	Tenant Improvements
TPO	Thermoplastic Polyolefin
UL	Underwriters Laboratories
ULI	Urban Land Institute
UPS	Uninterruptable Power Supply
USF	Usable Square Feet
VAV	Variable Air Volume
VMS	Video Management System

1. Executive Summary

1.1 Project Introduction and Background

The City of Fort Lauderdale, Florida requires a data-driven comparative analysis pertaining to the potential adaptive reuse for one of three existing buildings, in the downtown Fort Lauderdale area, under consideration to be purchased and renovated for a new City Hall facility. The purpose of this "Phase 1" assessment is to provide sufficient information for the City Commission to evaluate the candidate buildings and determine whether further analysis of any candidate building is warranted. The information derived from this analysis will be used to inform the Commission in a build-new versus purchase-and-renovate decision process.

The three subject properties are:

- 1 East Broward Boulevard, an office tower (referred to herein as "Building A")
- 101 Northeast 3rd Avenue, a two-building office complex known as Tower 101 and 101 Centre ("Building B")
- 299 East Broward Boulevard, the Federal Courthouse ("Building C")

Criteria considered to be imperative in the development of a new city hall include:

- Accommodation for 630 employees, encompassing the majority of City departments
- Space(s) for City Commission chambers (estimated at 13,000 square feet) and public meetings
- Estimated useable area of 215,000 square feet
- Proximity to parking and public transportation
- Pedestrian access
- Accessibility and compliance with ADA Guidelines
- Capacity to support energy-efficiency and new technology systems, now and in the future
- Civic engagement potential, i.e. exterior public gathering space, publicly available amenities, landmark presence

1.2 Project Scope and Approach

The scope of this project entails condition assessments of structure, building envelope, engineering systems, and interior conditions, along with features of each of the three buildings that will support potential City Hall use, such as available square footage and parking. These items will be documented in a summary report format along with rough order of magnitude cost analyses, and summarized in a comparative valuation matrix.

In May 2026, multi-discipline teams of design professionals performed on-site assessments of each candidate building, documenting existing conditions via observation, measurements and photographs. The assessments completed are non-invasive in nature and in accordance with

ASTM E2018 *Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process.* Adequacy of the egress capacity, water pressure and flow, detailed engineering calculations, and appropriateness of fire barriers are examples of supplemental analyses that may be conducted for any of the subject buildings selected for further study.

The team then analyzed the gathered data, along with record drawings, client needs, and regulatory requirements, to provide a comprehensive analysis of each building for compatibility with the proposed adaptive reuse as a new City Hall facility. Note, available documentation regarding the Federal Courthouse was minimal, due to security concerns, as it was still in use as a Federal Courthouse at the time of this report. Within this analysis, the team considered the recommendations provided in the conceptual planning report prepared for the City by ULI Leadership Institute in 2024.

The team prepared a rough order of magnitude cost analyses for each candidate building with consideration of remaining useful life of major building systems and potential for enhancements to adapt facilities to the City's program requirements. The provided cost estimates are considered AACE Class 5, typically used for analysis and feasibility studies, with an accuracy range of +100/-50% due to various as-yet-undefined aspects of a future design. Subsequent estimates would be further refined with an increasing level of detailed information regarding program, layout, materials and other factors. Refer to Appendix B for additional estimating information.

Herein is the combined building data and cost data to produce a comprehensive comparison matrix and summary report, for which the findings will be presented to the City Commission at a regularly scheduled meeting.

1.3 Florida Building Code - Existing Buildings

For any of the subject buildings to be renovated, the governing regulation would be the Florida Building Code (FBC), Existing Building (-EB). Within the FBC-EB, the level of alteration defines the requirements therein. Most requirements refer back to the FBC for new construction, however, there are some exceptions in consideration of the feasibility of full implementation within an existing structure. (Cost alone does not qualify for exceptions to these requirements.) It is likely that renovations to any of the subject buildings would be classified as Alteration Level 3, where the work area exceeds 50% of the building area. This would also trigger a requirement that all systems be brought into compliance with the current FBC. It should be noted that a Level 3 alteration for which the cost of the improvements exceeds 50% of the value of the building, would also need to be brought into compliance with the locally established base flood elevation (BFE), which would incur significant work and additional costs.

FBC establishes minimum finished floor elevation as the 100-year flood BFE, plus 1 foot freeboard (a factor of safety); the current minimum is 7 ft NAVD. FEMA requires minimum of 7.4 ft NAVD. For critical infrastructure, the recommendation is BFE plus 3 ft, therefore 9 ft NAVD.

1.4 Risk Category

Risk Category, per the current Florida Building Code, is a categorization of buildings and other structures for determining design loads, based on the risk associated with unacceptable performance. For example, a screen enclosure damaged by high winds has a relatively low risk factor when compared to an air traffic control tower subjected to extensive wind damage.

Most structures are classified as Risk Category II, which in Broward County (within the FBC High Velocity Hurricane Zone (HVHZ), requires building designs to withstand wind loads of 170 mph. Office buildings usually meet Risk Category II criteria, and for the purposes of this evaluation, unless noted otherwise each building will be considered Risk Category II as it stands; when any of the subject properties were constructed, "Risk Category" was not defined in the building code, as it is today. Verification of the appropriate Risk Category would be accomplished in subsequent analyses if any of the subject buildings are selected for additional investigation.

Buildings "that represent a substantial hazard to human life in the event of failure" are considered Risk Category III, and are subject to design wind loads of 180 mph. This category would include schools with an occupant load over 250, auditoriums with an occupant load over 300, and any building with an occupant load over 5,000. The FBC would allow the project to be constructed as a Risk Category II, however, other South Florida projects completed in the past five years or currently in progress were found to have implemented Risk Category III or IV.

Designating a structure as an "essential facility" increases the Risk Category to IV, which requires design for 185 mph winds, and triggers additional, more stringent requirements in several areas, such as impact resistance ratings and emergency power systems, and with fewer available materials having appropriate Florida product approvals. Police and fire stations, air traffic control towers, emergency operations centers and similar mission-critical facilities are considered Risk Category IV.

Given the proximity to the New River and being not far from the Intracoastal Waterway and Atlantic Ocean, the propensity for flooding in the downtown area also gives rise to the possibility that the building could become inaccessible even while sustaining no major damage. If there are no police, fire, or other emergency personnel or equipment routinely stationed within the new City Hall, designing it as an essential/Risk Category IV facility may incur substantial, superfluous cost.

2. Assessment

2A. Building Assessment (Building "A" 1 East Broward Blvd.)

2A.1 General

The original building was constructed in 1983 as an 18-story tower.

The first level is elevated and is above established flood requirements for the location. The area surrounding the building did experience significant street flooding in 2023, making the building inaccessible, and this could occur again during a heavy rain event. Refer to Appendix A for more detailed information pertaining to flood exposure.

Steel framing, metal deck and concrete slabs provide the structural framework, and the building is enclosed by a curtain wall system. The combination of tinted, reflective green glass and spandrel glass (none of which is laminated) provide the pattern of the façade; it is original and, based on observations and considering the age of the building, is not impact-resistant. Subsequent maintenance of the glass sealant provides a tight enclosure with no visible leaks throughout.

Vertical circulation is accomplished by five elevators for passenger use and two enclosed stair towers in the main core. There is one service elevator. All elevators were modernized in 2022.

Additional independent stair towers are part of the West and East buildings, 2 stories and 5 stories respectively.

The building has a connecting pedestrian bridge, to the City-owned parking garage, at the second level, with 772 spaces available on the second and third levels.

The third level roof and the sixth level and main roofs are covered with TPO membrane, and they have been recently renovated in 2021 and 2024 respectively. However, the connecting bridge roof was not included in the roof renovation.

Despite numerous interior renovations and upgrades throughout the life of the building, it still has some building code violations, per current code, as well as substandard ADA compliance in certain areas as outlined within this report.

The West Building features a double-height, two-story volume on the first floor that presents an ideal opportunity for future Commission Chambers. This space could be complemented by the existing landscaped, independent civic entry, creating a welcoming and functional environment with controlled access well-suited to this new use.

On the east side of the first level, an existing café can be refinished and repurposed as a shared amenity serving both employees and the public.

The site entrance includes a drive-through banking area that could be adapted in the future to serve as a utility payment drive-through. To accommodate this change, the existing bank features would need to be removed, allowing the lanes to be repurposed.

With an area of over 350,000 gross square feet, the building is large enough to accommodate the current planned staffing of approximately 630 personnel. This number would require only about 2/3 of the space, leaving over 100,000 square feet of space unallocated or available for lease. If unleased, the City would incur additional costs to maintain and cover utility charges for the unused areas.

Attributes which could be seen as "pros" for this building include:

- Prominent location
- Sufficient space for City Hall
- Ample additional space with lease potential
- Attached to City parking garage
- First floor space conducive to Commission Chambers use
- Potential for civic engagement space on first floor and outside
- Some spaces useable as-is
- Café attached on first floor
- Relatively high finished floor elevation

"Cons" for this building include:

- All restrooms require renovation
- Curtainwall system not impact resistant
- IT system needs updating
- Stairs, Guard/handrails not code compliant
- About half of air handling units need replacement
- Significant portion of electrical system, including switchgear, needs replacement

2A.2 Structure

Overall Description

Building A is an 18-story, steel-framed building, with two additional levels for the mechanical penthouse and main roof level.

The building is primarily set on pressure-injected deep pile foundations with some ancillary shallow foundations for site elements. Building A is laterally supported by a system of steel braced frames and steel moment frames. Wide-flange shapes are utilized for beams and columns, with wide-flange shapes and tube steel are utilized for braces. For gravity framing support, each floor level is comprised of a composite metal deck over steel beam framing. The floor system is

generally 4-1/4" thick lightweight concrete (f'c = 3,000 psi, 115 pcf) over either 2" (1st-5th level) or 1-1/2" (6th to Roof level) deep composite metal deck.

This system is generally suitable for local modifications, being easily able to add various forms of reinforcement such as cover plates, stiffeners, and additional framing. Overhauling the lateral system for improved reliability (increased wind speeds) can generally be done but would require significant analysis and field verification of existing framing and connections. The owner-provided documentation included steel shop drawings which aid in this effort, being able to see explicit connection intent, material sizes, and material properties. Field verification of steel buildings is also generally more easily done than concrete, having relatively easy access to measure important geometric properties of shapes and the ability to take coupons for testing on elements of unknown strength and type. New, high-volume spaces and through-floor penetrations are easily accomplished with new beam framing and reinforcement to existing framing.

Code-Based Lateral Analysis

The building was constructed in 1983 and likely designed under the 1981 South Florida Building Code Broward County Edition (SFBC). During this time period, buildings were designed for the same wind velocity absent of current Risk Category, as Risk Categories were incepted around 2000. For the purposes of this facility assessment, Jacobs evaluated the Main Wind Force Resisting System (MWFRS) loading from the 1981 SFBC against current-day ASCE 7-22 code loading requirements out of the 2023 Florida Building Code. A Risk Category of III was chosen for the analysis due to Jacobs' understanding of the intended use of the facility and the designation used for similar projects in the region. Definition of Risk Category and associated calculations would be confirmed in a subsequent early design phase.

Table 2A.2, below, outlines a summary of the results of the code analysis. In general, the loading from the time period of construction is consistent with current code wind loading. Some current-code roof pressures for the MWFRS slightly exceeded those of the SFBC but is likely an insignificant effect given the structural systems. Note that pressures generally vary along the height of the structure (increasing with height), and the results below are taken at a height equal to the roof level for the wall pressures.

Table 2A.2 Structural Code Analysis

	Ultimate (LRFD) Wind Speed	Allowable (ASD) Wind Speed	Net MWFRS Wall Pressure (ASD)	MWFRS Roof Pressure (ASD)	
				Windward 1/3	Leeward 2/3
1981 SFBC	N/A	120 mph (Fastest-Mile)	92.3 psf	71 psf	53.3 psf
ASCE 7-22	180 mph (3-Second Gust)	140 mph (3-Second Gust)	71.0 psf	56.7 psf	56.7 psf

Components and cladding (C&C) wind loads for the design of the doors, windows, roofing, etc. around the structure follow the same velocity pressure as the MWFRS velocity pressures in the 1981 SFBC. Shape factors (coefficients to increase the velocity pressure) are applied to the velocity pressure for C&C elements without consideration for position on the building (like edges and corners). Current-day practice recognizes that localized pockets of wind loading on the edges and corners can be orders of magnitude higher than what the structure will see globally or in the field of a wall or roof, and thus current code provides a more precise discretization of pressures to be utilized for the purpose of designing C&C elements. These current-day C&C pressures far exceed those in the SFBC by anywhere from 10-80% depending on the element. Evaluation of C&C forces and load paths would be required upon replacing any exterior cladding elements and localized reinforcement of structure would be required.

Floor Framing Capacity Analysis

Floor framing consists of steel wide flange composite beams (generally ASTM A36), with steel wide flange non-composite girders (generally ASTM A572 Grade 50). A representative bay of the building has been analyzed for the purpose of determining whether capacity exists in the current state to support assembly loading at a 100psf live load range. The representative bay is a 25'-0" X 33'-1" rectangle of orthogonal framing with the steel beams being W14x22 with (22) headed studs, and a W24x55 with no apparent headed studs.

At a 100psf live load, the W14x22 infill members exhibited excess capacity with a demand-to-capacity ratio (DCR) of 0.70 for strength, and 0.70 for deflection meaning they are unlikely to require any reinforcement for the proposed occupancy use. However, the W24x55 girders were found to be overstressed for the proposed 100psf live load condition. At the minimum code-required loading for the time period for office bays, a 50psf live load resulted in a 1.01 DCR for strength and 0.78 for deflection, thus indicating that for general office loading no reinforcement would be required.

In order to bring girders to the 100psf live load capacity, a cover plate would need to be added of approximately 3/4"x12" along the length of the girder, or in lieu of a cover plate a WT5x15 can be provided. This type of reinforcement would only be required in areas where higher loading is anticipated (assembly areas such as conference rooms or multipurpose rooms). Mechanical rooms over these areas would also likely require retrofit to some degree, but the extent of reinforcement required depends upon loading and location.

Site Observations

2A.2.1 Underside of floor framing is typically covered with spray-applied fireproofing

Figure 2A.2.1 Underside of floor framing

2A.2.2 Mechanical penetrations at girders are typically pre-formed

Figure 2A.2.2 Mechanical penetrations at girders

2A.2.3 Main wind-force resisting system wide-flange braced beams

Figure 2A.2.3 Typical main wind-force resisting system

2A.2.4 Visible corrosion on cooling tower framing, no section loss observed

Figure 2A.2.4 Cooling tower framing

2A.2.5 Spray-applied fire proofing damage at brace and various members throughout should be surveyed and repaired.

Figure 2A.2.5 Spray-applied fire proofing damage

2A.2.6 Rooftop screen wall framing visible corrosion to be repaired but section loss not observed.

Figure 2A.2.6 Rooftop screen wall framing

2A.2.7 Antenna farm frame at rooftop appears in good condition, some minor corrosion visible to be prepped and recoated.

Figure 2A.2.7 Antenna farm frame

2A.3 Architecture

2A.3.1. Elevators interior cab dimensions are 63x81 inches at the main tower, and 49x 61 inches at the two-story East building.

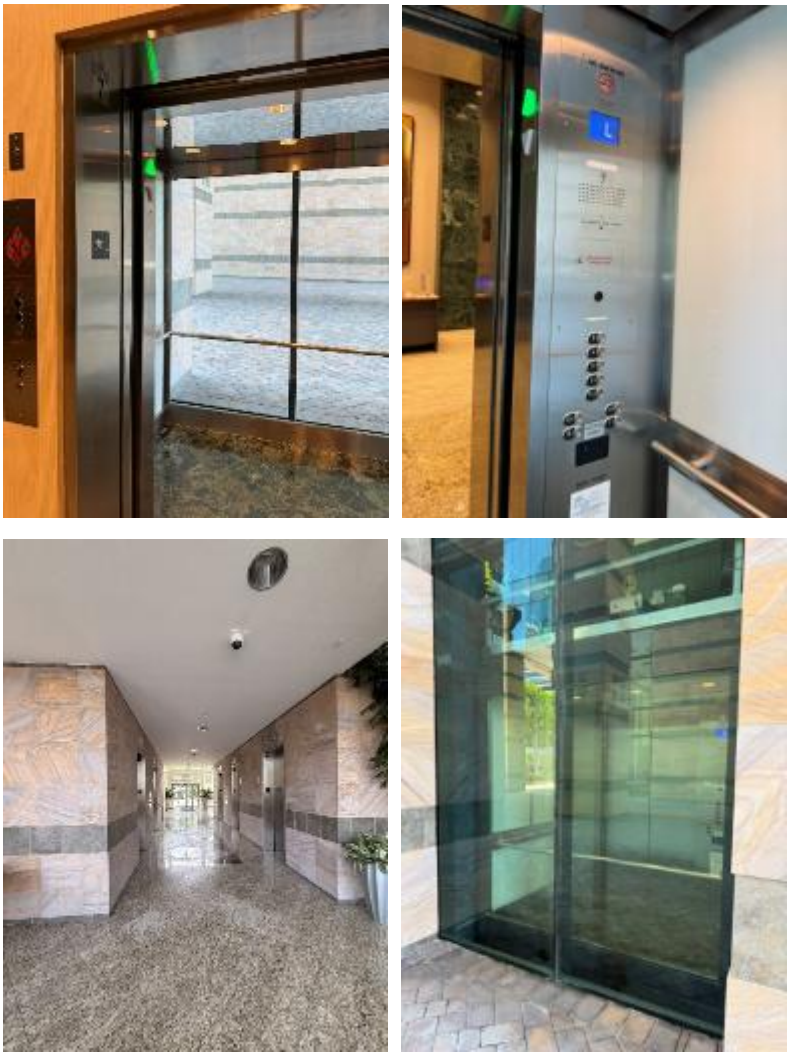


Figure 2A.3.1 Elevator Lobby and Elevator

2A.3.2. The elevators can accommodate an ambulance stretcher 76 inches long by 24 inches wide in the horizontal position, as required by FBC.

2A.3.3. Stairwells have no guardrail (required at 42" by current FBC) and handrails are of varying heights (32"/too low, to 39"/too high). Most handrail extensions do not comply with current building code.

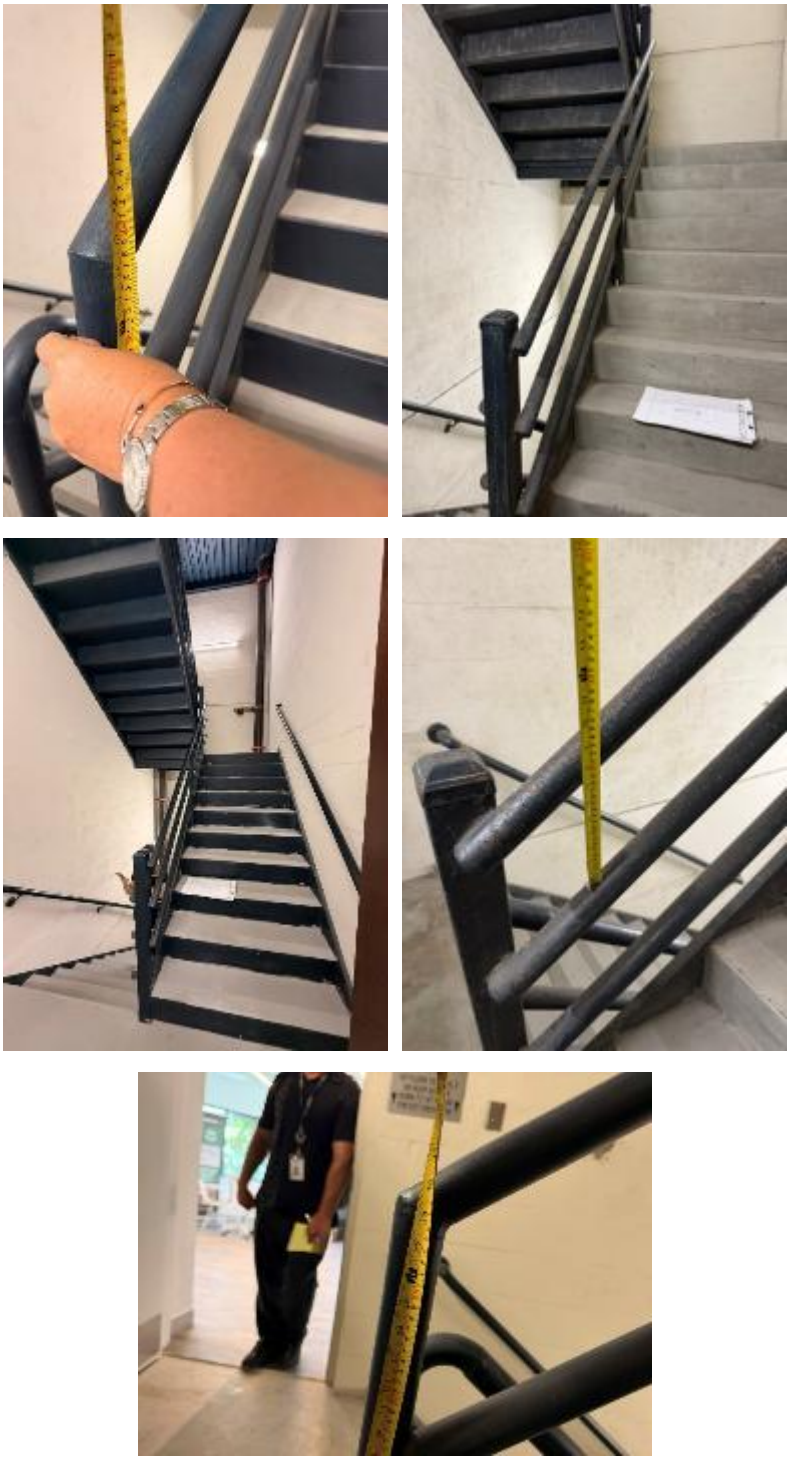


Figure 2A.3.3 Stairs

2A.3.4. Stair treads and risers vary within flights, which is not permitted by FBC. A variance would be required to potentially avoid such modifications.

Figure 2A.3.4 Treads

2A.3.5. Most stair risers 7 to 8 inches high (max 7 code required); original construction drawings show risers at 7+ inches. This is a code correction that cannot be addressed without complete modification of stair shafts. A variance would be required to potentially avoid such modifications.

Figure 2A.1.5 Risers

2A.3.6. Accessible toilet rooms are provided per floor, some of them are not fully compliant with the code requirements of fixtures overlap space or water closet clearance. Ambulatory accessible compartments are provided on some floors in lieu of accessible toilet compartments. Some stall doors are smaller than the required 36 inches. All bathrooms will require significant rework and reconfiguration to be code complaint. Due to occupancy modifications, plumbing fixture counts will need to be assessed and toilet stalls or rooms added if required.




Figure 2A.3.6 Toilets

2A.3.7. Exterior ramps to access the building from the street are 50 inches wide between handrails and have 60 inches intermediate landings. The slope is no steeper than 1:12 but the surface needs some repairs. It is noted that handrails and guardrails will need to be replaced to comply with current codes.

Figure 2A.3.7 Exterior Ramp

2A.3.8. The ramp handrails vary in height from 34 inches to 38 inches and handrails do not extend 12 inches as per code requirements.

Figure 2A.3.8 Ramp Handrails

2A.3.9. Guardrails from ramp landings do not comply with fall protection code that requires spacing to reject a 4-inch sphere.

Figure 2A.3.9 Exterior Ramp Railing

2A.3.10. Most of the elevator lobby areas have been renovated with new carpets and finishes. There is no evidence of loose carpeting or missing floor tiles.

Figure 2A.3.10 Elevator Lobby

2A.3.11. Door thresholds appear to be compliant within the max. ¼ inch

2A.3.12. Signage was renovated throughout the building and includes accessible features.

Figure 2A.3.12 Room Identification Signage

2A.3.13. Ceilings and lighting are overall in good condition; however they are not uniform throughout; tiles and lights would need to be replaced if a uniform appearance throughout the building is required.

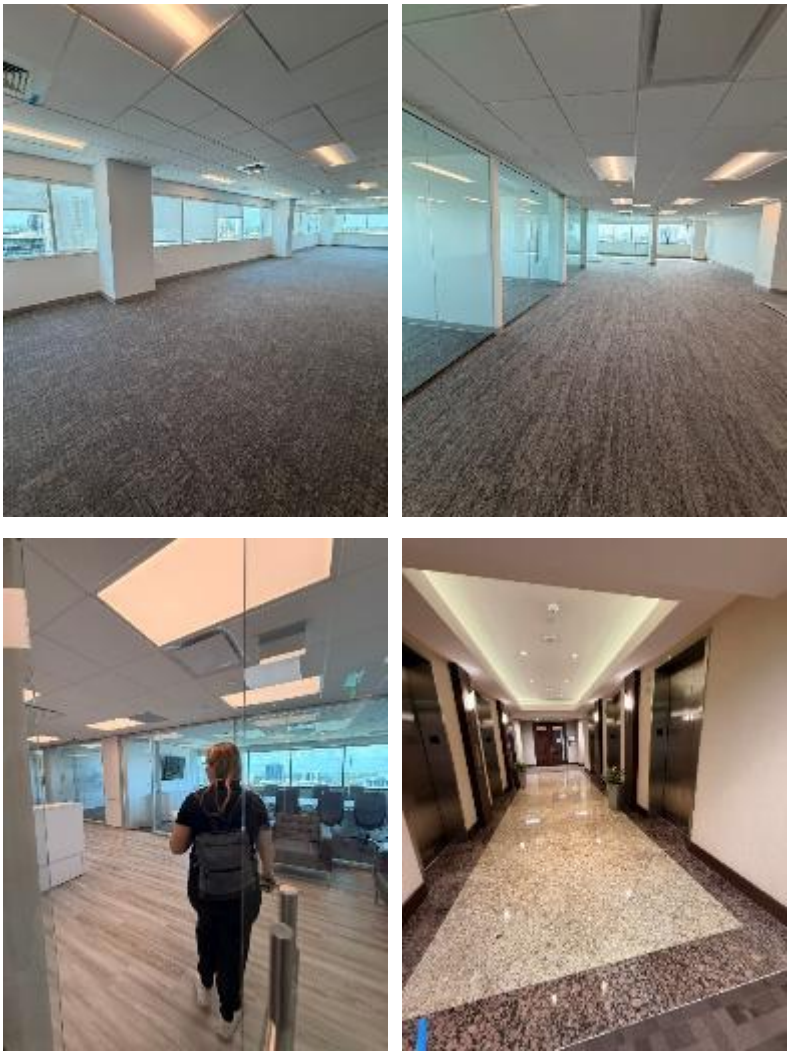


Figure 2A.3.13 Ceilings

2A.3.14. Most of the floors have tenant build outs except for the 16th floor that is empty and completely gutted. Interior doors, lockset, ceilings and fixtures are relatively consistent throughout the facility. There is a uniform building standard for finish elements provided by the landlord, however some tenants have selected their own finishes, lighting and furnishings. In this building case an estimated 25% of tenant layout would need minor modifications but many of the floors are ready to be occupied. Depending on the City programmatic requirements this estimated percentage could change.

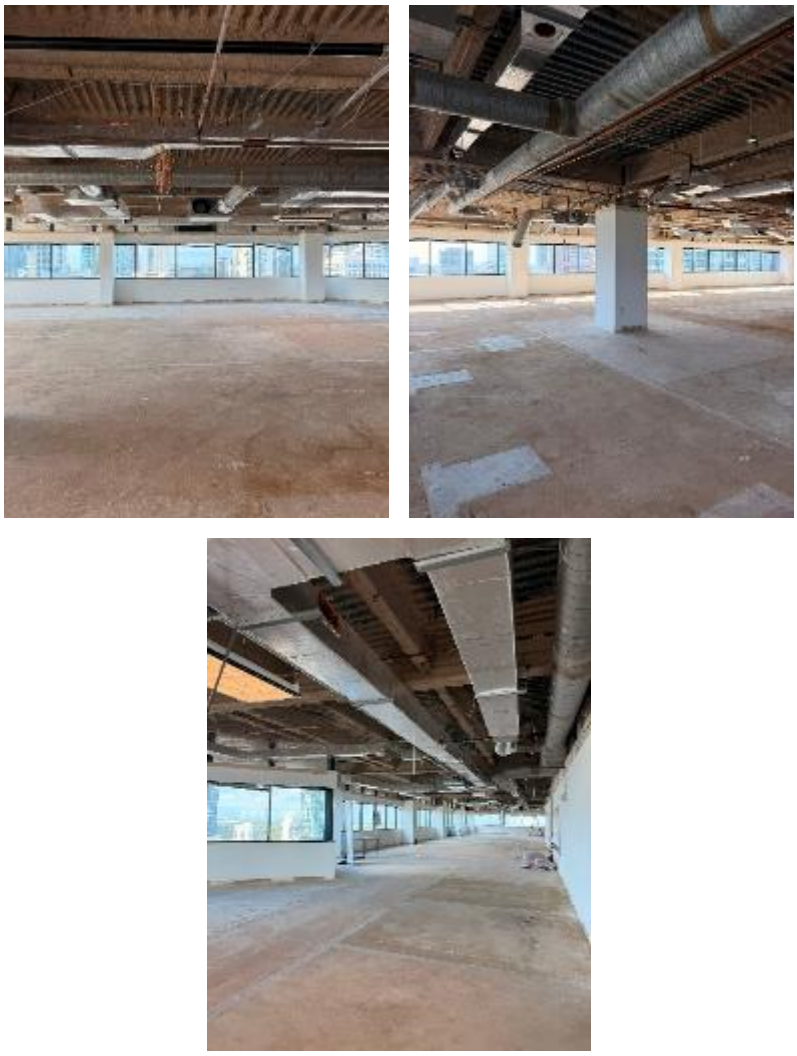


Figure 2A.3.14 16th Floor

2A.3.15. Roof, flashing and drains have been replaced in 2021 and 2024 and are in good condition.

Figure 2A.3.15 Roof

2A.3.16. There is a flat skylight on the roof that, due to age, is assumed to be non-impact resistant.

2A.3.17. There are no overflow drains and only one scupper provided on the main roof at 19th level appears to be insufficient.

Figure 2A.3.17 Roof

2A.3.18. Curtainwall glazing is likely not impact-resistant, therefore not meeting current building codes.

2A.3.19. Routine maintenance of the glass sealant provides a tight enclosure with no visible leaks throughout.

2A.3.20. The pedestrian bridge connecting the building to the City-owned parking garage to the north appears to be in good condition, with the exception of the roof, as noted previously. The bridge has no fire sprinklers nor fire rated separation from the building; sprinklers would need to be added.

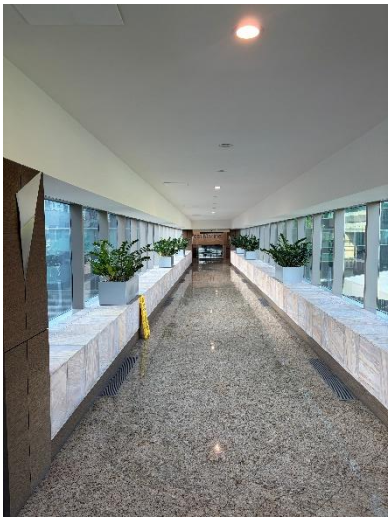


Figure 2A.3.20 Pedestrian bridge

2A.4 Mechanical and Plumbing

Mechanical

2A.4.1. Of the 21 air handling units (AHUs) observed during the site visit, 9 units have been replaced since the original construction and are currently in good condition; these units are not expected to require replacement within the next five years. Eight of these units are Daikin units (AHU-5, AHU-7, AHU-11, AHU-13D, AHU-14D, AHU-16, AHU-18, and AHU-23), and one unit (AHU-3) is a Trane unit. Continued preventive maintenance is recommended to sustain performance.

Figure 2A.4.3 AHUs in good condition

2A.4.2. The remaining 12 AHUs are original to the facility, appear to date back to the 1980s, and are in poor condition. These units include AHU-4, AHU-6, AHU-8, AHU-9, AHU-10, AHU-12, AHU-13T, AHU-14T, AHU-15, AHU-17, AHU-19, and AHU-22. Based on their age and observed condition, immediate replacement is recommended. ASHRAE equipment life expectancy guidelines indicate a typical service life of approximately 15 years for commercial air handling units, which has been significantly exceeded for these systems.


AHU

Figure 2A.4.2 AHUs requiring replacement

2A.4.3. HVAC – The cooling tower was observed to be in working condition and well maintained. The age of the cooling tower could not be confirmed. There is some evidence of corrosion on the frame.

Figure 2A.4.3 Cooling Tower

2A.4.4. HVAC – The chillers, as indicated by plans in the room, were replaced sometime close to 2014 which would make them 12 years old. They were observed to be in working condition and well maintained. They are not advised for replacement as centrifugal chillers have expected life of 23 years per ASHRAE.

Figure 2A.4.4 Chiller & CHW 2014 Tag

Plumbing

2A.4.5. In general, the bathroom facilities plumbing fixtures were in good condition.

2A.4.6. The domestic water booster pumps were observed to be in working condition and are not advised for replacement.

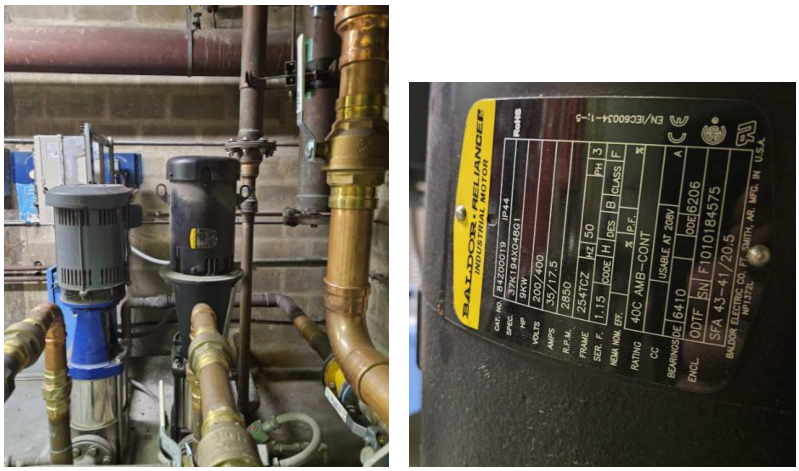


Figure 2A.4.6 Domestic water pumps

2A.4.7. It's not clear if the condensate provisions of 2023 FBC-M 307.2.1 (Broward County Amendment) are in compliance. Since the facility is served by a cooling tower and the aggregate cooling capacity surpasses 65 Mbh for many AHUs, their condensate must be discharged to the cooling tower makeup. For many of the AHUs, condensate was observed to be routed to floor drains and it's not clear if they are routed to the cooling tower.

2A.4.8. A few of the floors were observed to have domestic hot water via electrical tank heaters, but many floors do not have hot water. This is likely a required upgrade to comply with code and any new handwashing or showing facilities intended as part of a renovation.

2A.5 Fire Protection and Life Safety

2A.5.1 Due to the age of the centrifugal fire pump. Recommend replacing the fire pump, controller, jockey pump, and jockey pump controller.

Figure 2A.5.1 Fire Pump/Controller

2A.5.2 Fire Alarm – Existing EST manufactured system. Fire alarm panels (annunciators, NAC booster, main) are new and are in good condition. The existing Simplex smoke evacuation/stair pressurization panel is original and should be replaced.

Figure 2A.5.2 Panel

2A.5.3 Standpipe Roof Manifolds – found several hose valves missing caps. Hose valve handles were broken on two valves.

Figure 2A.5.3 Roof Manifold

2A.5.4 Standpipe Pressure Gauges were showing different readings. Minimum pressure for the existing standpipes should be 65 psi. Some show 60 psi or less. Pressure gauges should be replaced and the pump standby pressure may need to be reset.

2A.5.5 Structural Steel Fire Proofing – Found on each floor fire proofing missing from structural steel. Estimate 10 to 15 patches per floor will be needed.

Figure 2A.5.5 Fire Proofing

2A.5.6 Floor to Floor Fire Stop Penetrations – Found on each floor fire stop floor penetration issues. Estimate 2 to 6 fire stop penetration repairs per floor will be needed.

2A.5.7 Wall to Wall Fire Stop Penetrations – Found on each floor fire stop wall penetration issues. Estimate 6 to 10 fire stop penetration repairs per floor will be needed.

2A.5.8 Fire Dampers – Did not find documentation for fire damper testing. Shutters are required to be exercised with solder links removed every 4 years.

2A.5.9 Electrical Rooms Floors 2 thru Roof – Fire sprinkler coverage is missing in rooms.

2A.5.10 Fire Pump Room – Fire sprinkler coverage is missing

2A.5.11 Generator Room – Fire sprinkler coverage is missing

2A.5.12 Chiller Room – Significant sprinkler pipe corrosion (3 lines)

2A.5.13 Loading Dock – Significant sprinkler pipe corrosion. Found 4 hangers broken.

2A.5.14 Loading Dock Electrical Room – Door closer is broken off.

2A.5.15 19th Floor Mech Room – Sprinkler heads are corroded and needs to be changed out.

2A.5.16 2nd Floor Convenience Stair – Sprinkler coverage under intermediate landing is missing.

2A.5.17 2nd Floor outside Stair 3 – Exit sign is missing

2A.5.18 Gym - Exit sign is missing

2A.5.19 Ceiling Shop – Original ceiling has been removed and sprinklers are now installed 5 ft below ceiling. NFPA 13 requires standard coverage sprinklers to be 1″ to 12″ below ceiling/deck. Non stamped plywood mounted to walls. Sprinkler coverage is missing in far-right corner of room. Sprinklers are spaced for light hazard however the room is designated as ordinary hazard Group II.

2A.5.20 2nd Floor Core Telecomm Room - Sprinkler coverage is missing

2A.5.21 Convenience Stair – Sprinkler coverage is missing at top of shaft

2A.5.22 2nd Floor Stair 4 – Wall damage near intermediate landing

2A.5.23 3rd Floor Telecomm – Sprinkler head is located 5ft below the ceiling. Should be within 1 ft.

2A.5.24 4th Floor Telecomm – Sprinkler head is located 5ft below the ceiling. Should be within 1 ft. Plywood mounted to wall is not stamped.

2A.5.25 Stair 4 – Provide additional sprinkler coverage at top of shaft. Only 1 provided.

2A.5.26 4th Floor Mech Room – Inadequate sprinkler coverage. Two additional sprinklers are needed.

2A.5.27 5th Floor Mech Room – Sprinkler coverage is not provided.

2A.5.28 5th Floor Yageo Suite – Dead end corridor in business occupancy exceeds 50 ft (125 ft).

2A.5.29 Stair 1 – No sprinkler coverage provided at top of shaft.

2A.5.30 Suite 1508 – Exit sign is missing.

2A.5.31 Suite 1501 – Non-rated plywood mounted to wall.

2A.5.32 14th floor Core Corridor – Exit sign is missing.

2A.5.33 13th floor Attorney Suite – Exit sign is missing.

2A.5.34 12th Floor Corridor – Egress width is 37 inches wide and is being blocked by bump out of egress corridor wall. Should be minimum 44 inches.

2A.5.35 20th Floor Suite – Emergency egress lighting is inadequate.

2A.5.36 9th Floor Suites – Found several fire alarm audio/visual notification to be inadequate.

2A.5.37 7th Floor Cosuite – Inadequate audio/visual notification.

2A.6 Electrical

Electrical Overview

The available electrical as-built drawings appear to date back to approximately 1982 and do not reflect many of the tenant improvements, renovations, equipment replacements, and electrical modifications that have occurred throughout the life of the building.

Most tenant-specific electrical as-built drawings and renovation documentation were unavailable during the assessment. As a result, portions of the electrical system evaluation were based primarily on visual observations made during the site investigation.

Prior to future municipal renovations, a comprehensive electrical system verification effort should be performed including development of updated electrical riser diagrams, panel schedules, circuit tracing, and record drawings.

The facility contains aging electrical infrastructure with major distribution equipment, panelboards, transformers, lighting systems, and emergency power systems approaching the end of their useful life. Significant modernization and replacement should be anticipated during future municipal occupancy renovations.

Electrical Distribution Equipment

2A.6.1. Multiple panelboards contain missing, incomplete, or outdated panel schedules. Existing panel schedules do not appear to reflect all tenant modifications performed throughout the building.

Figure 2A.6.1 Electrical working clearance deficiencies

2A.6.2. Due to the lack of complete documentation, the actual utilization and available spare capacity of many panelboards could not be fully verified during the assessment.

2A.6.3. Several panelboards and transformers appear to be aging and approaching the end of their useful life. Approximately 75% of the existing panelboards and transformers should be considered for replacement as part of future modernization efforts.

Figure 2A.6.3 Electrical panelboards condition and deficiencies

2A.6.4. The existing main switchboards and primary electrical distribution equipment appear to be aging and should be evaluated for replacement. Future municipal occupancy and EV charging requirements may necessitate replacement of major distribution equipment and utility service upgrades.

Figure 2A.6.4 Electrical main switchboards and primary electrical distribution

2A.6.5. Surge Protective Devices (SPD) were not visibly identified on the primary electrical distribution equipment and are recommended as part of future renovations.

Electrical Rooms

2A.6.6. Multiple electrical rooms contain working clearance deficiencies and equipment accessibility concerns.

Figure 2A.6.6 Electrical equipment working clearance deficiencies

2A.6.7. Several electrical and mechanical rooms contain inadequate lighting levels for maintenance and operation activities.

Figure 2A.6.7 Electrical rooms inadequate lighting levels

2A.6.8. Existing electrical rooms provide limited space for future expansion and installation of additional distribution equipment.

Figure 2A.6.8 Electrical rooms limited space

2A.6.9. Missing GFCI receptacles were observed in all electrical and mechanical rooms as it's required to comply with current NEC code.

Lighting and Interior Power Systems

2A.6.10. Lighting layouts vary significantly throughout the building due to previous tenant buildouts and renovations.

2A.6.11. Existing lighting systems contain mixed fixture types, varying technologies, and inconsistent lighting layouts.

2A.6.12. Older lighting technologies remain in use throughout portions of the building and should be considered for replacement with LED fixtures.

2A.6.13. A building-wide lighting modernization program is recommended to improve energy efficiency, lighting quality, code compliance, and long-term maintenance.

Emergency Power System

2A.6.14. The existing emergency generator is assumed to be operational based on discussions with facility personnel; however, the equipment appears aged, and exhibits limited remaining useful life.

Figure 2A.6.14 Existing emergency generator

2A.6.15. Additional testing, maintenance review, and load bank testing are recommended to verify long-term reliability.

2A.6.16. Future municipal occupancy may require upgrades or replacement of the generator and associated emergency power distribution equipment depending on loads and remaining useful life at the time of improvements.

Lightning Protection and Grounding

2A.6.17. The lightning protection system was reportedly upgraded in 2022 and appears to be in generally good condition.

Figure 2A.6.17 Existing lightning protection system on roof

2A.6.18. Grounding and bonding systems could not be fully verified during the assessment; grounding bars were not observed in several electrical and telecommunications rooms.

Rooftop Electrical Equipment

2A.6.20. Two rooftop disconnect switches exhibit visible corrosion and deterioration.

Figure 2A.6.20 Existing disconnect switches on roof

2A.6.21. The corroded disconnect switches should be replaced as part of future modernization efforts to maintain good operation.

2A.6.22. Additional rooftop electrical equipment exhibits age-related deterioration associated with long-term outdoor exposure.

Figure 2A.6.22 Existing rooftop electrical equipment

Parking Garage and EV Charging Infrastructure

2A.6.23. The parking garage is served by a separate electrical service from the main building.

2A.6.24. The existing garage electrical service appears insufficient to support the City's anticipated EV charging requirements.

Figure 2A.6.24 Existing garage electrical service

2A.6.25. Approximately five existing EV charging stations were observed during the site investigation. Future increased EV charging implementation will require utility service upgrades, new transformers, switchboards, feeders, and dedicated EV distribution equipment. This would also require construction of a new dedicated electrical room, or

expansion of the existing garage electrical room, to accommodate new electrical infrastructure required to support approximately 10% EV-capable parking spaces.

2A.7 Telecommunications and Security

Telecommunications

2A.7.1. The main building telephone room is located on the first floor, near the loading dock. The room is long and narrow and is the entrance facility for leased telecommunications services from providers such as AT&T, FPL, and Comcast. Various fiber optic cables pass through this room up to intermediate rooms located on floors above. Legacy copper riser cables and terminations that serve the floors are also located here.

2A.7.2. As currently configured, the room does not meet National Electric Code (NFPA70) and ANSI/BICSI 009-2024 working clearances of 36" on each side of the equipment racks and cabinets.

2A.7.3. Unused cables and equipment should be removed, and remaining equipment should be reconfigured to meet current standards. An uninterruptable power supply (UPS) should be provided, powered from an emergency circuit off the generator, to maintain communications services.

Figure 2A.7.3 TS-1E-001 First Floor Telephone Room

2A.7.4. The closet is warm and doesn't appear to meet ANSI/BICSI standards of 64°F to 75°F, and as such additional HVAC will have to be provided along with a hung ceiling to help maintain constant temperature.

2A.7.5. There did not appear to be a Telecommunication Main Grounding Busbar. If that is the case, one should be provided, bonded to the building's electrical service ground, to properly ground equipment, racks, cabinets, and cable trays.

2A.7.6. The room has fluorescent light fixtures that should be upgraded to LED fixtures.

2A.7.7. The room door is secured with a manual key lock. Electronic access control and a video surveillance camera to view the door should be added as a matter of best practices.

2A.7.8. The building management team is in the process of removing non-telecom items stored in the telephone rooms throughout the building.

2A.7.9. Each floor has at least one Intermediate Telephone Room. These rooms house legacy copper riser cables, which are not ideal for current technology, and leased service provider equipment and fiber optic cables.

2A.7.10. Fire alarm system power supplies and relays are also collocated in these rooms. These telephone rooms have plywood on the walls for mounting equipment, riser cores through the floors and ceilings, and additional penetrations for horizontal cables.

2A.7.11. Some rooms do not meet code for working clearances as currently configured (e.g., 9th floor).

2A.7.12. Similar to the first floor main telephone closet, these closets have a fluorescent light fixture, manual key lock (a couple of exceptions with combination lock hardware), utilize building HVAC (again a couple of exceptions such as the seventh floor), have unused cables and equipment, are warm, have no video surveillance camera nor electronic access control.

2A.7.13. Upgrades proposed for the first floor main telephone room should be implemented for these rooms as well, i.e. to Category 6 cable and fiber optic cable to support current technology.

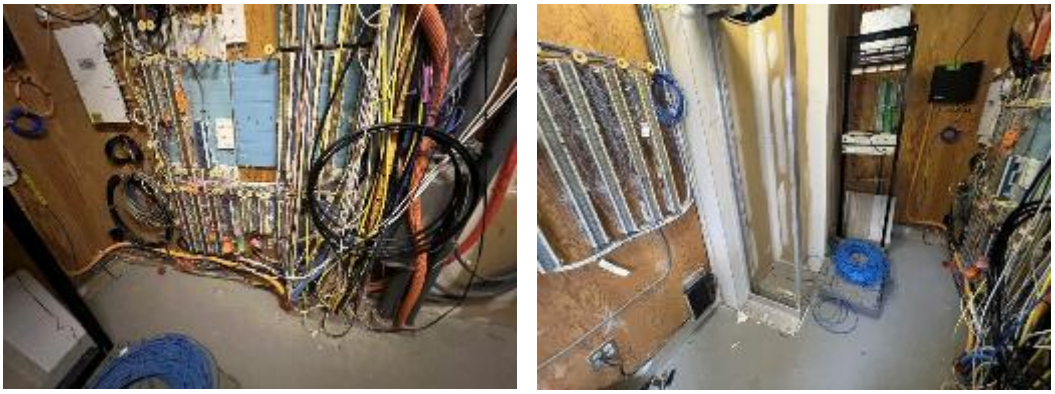


Figure 2A.7.13 TS-1E-009 Ninth Floor Telephone Closet

2A.7.14. Some floors included Telephone Rooms owned by the various tenants in the building. The rooms that were operational were not surveyed, except for a room on the ninth floor and an out-of-service room on the seventeenth floor was accessible.

2A.7.15. The ninth-floor room houses racks of communications equipment (not ideally located), cables (installed across the floor in front of the door, and the tenant's electronic access control system.

2A.7.16. In the seventeenth-floor room, the network equipment and patch panels were removed, and cables were cut back. For this area we would need to confirm if they are long enough to be re-terminated, and if so, then they would need to be tested and certified.

2A.7.17. In general, if any office areas are to be reconfigured, then new horizontal cabling, patch panels, telecommunications outlets, racks, and network data switches will need to be added on each floor occupied by the City. New telephones will be required for all City occupied spaces.

Figure 2A.7.17 Tenant Owned Telephone Closets
(TS 1E-009, 9th Floor & TS 1E-017, 17th Floor)

2A.7.18. The first-floor conference room and auditorium space appears to be served from a tenant-owned telephone closet near the reception desk; just past the reception desk is a wall mounted monitor.

2A.7.19. The conference room has amenities such as two large screen monitors, video conference camera, ceiling mounted loudspeakers, and Crestron A/V control panels (desk and wall mounted). There are dual data jacks on each of the long side walls. The auditorium area has two ceiling mounted Epson projectors, two roll down projection screens, a sound system with multiple Bose loudspeakers, and Aruba wireless access points.

Figure 2A.7.19 Conference Room and Auditorium Area

2A.7.20. If this area is repurposed for the City Hall Commission Chambers, then this equipment can likely be reconfigured to suit the City's needs. Additional equipment, such as additional data jacks, walk-through metal detectors and bag-check stations may be provided during the build out. The building does not have a dedicated public address system, but the fire alarm system has mass notification capabilities.

2A.7.21. The Building Manager's office has its own telecommunications (leased services and telephones) and data communications systems (network switches, cabling, wireless

access points). Each tenant is responsible for their own systems. As such, any floors occupied by the city will need to have new horizontal cabling, patch panels, telecommunications outlets, racks, and network equipment installed. Essentially, the entire building needs to be rewired.

2A.7.22. On the east side of the building there is a former bank drive through area. If this area is used in the future for media vehicles, dedicated communications pylons could be proposed to provide each vehicle with direct data connections to systems in the building.

Figure 2A.7.2 Bank Drive Through Area

Security

2A.7.23. There are two security desks in the building, one is located on the first floor, the other on the second floor. When visitors check in, they provide their license, and a visitor pass is printed with their name.

2A.7.24. The Building Management company has video surveillance cameras on the exterior and interior of the building. The cameras are connected to a web-based video management system (VMS). There are several dedicated viewing stations in the building. The VMS provides the viewing of live and recorded video streams.

2A.7.25. The Building Management company has electronic access control (card readers) on the exterior perimeter doors that lead into the lobby and within the elevator cabs. There is no electronic access control for support rooms such as telephone, electrical, mechanical, elevator machine, etc., which is not optimal for security.

2A.7.26. There are several tenants in the building that provide their own video surveillance, electronic access control, combination door locks, and intercom systems. These systems are by different manufacturers and are in various states of repair. Any floors that the city would occupy would need a new buildout of video surveillance and access control systems.

2A.7.27. In general, Video Surveillance and Card Access systems need to be standardized throughout the building, and be compatible with the City's existing systems.

2A.7.28. Additional card access shall be required to provide secure access for commissioners into building as well as from commissioner's office to the chambers. (Assuming chambers are located in two story space on 1st floor.)

Radio

2A.7.29. There are multiple omni and directional antennas on the roof. These antennas appear to connect to radio equipment in the radio equipment room on the roof. The room is owned by the City of Fort Lauderdale; during the site visit, access could not be obtained.

Figure 2A.7.29 Antennas on the Roof

2A.7.30. The building has a Bi-Direction Antenna and Distributed Antenna System (BDA/DAS) that provides two-way radio coverage within the building for first responders. It is assumed that these systems would remain should the city choose this location.

2A.7.31. If building is upgraded to low-e/impact rated glass, this BDA/DAS be able to support a cellular DAS system as it is based on donor antennas on the roof and a two way amplifier systems to transmit and receive radio frequencies in the building.

2A.8 Site-Civil

2A.8.1 Concrete sidewalks exist along East Broward Boulevard, SW Andrews Avenue, and NE 1st Street. These streets are designated public roadways and are maintained by the City of Fort Lauderdale. There are existing drive-thru lanes (from a previous financial institution) along the east side of the building. Although this area is paved and can be accessed by pedestrians, there are no accessibility accommodations or dedicated marked walkways.

Figure 2A.8.1 Drive-thru lanes

2A.8.2 The existing sidewalks are ADA compliant and in relatively good condition. A few heavily cracked areas will need to be leveled and a few horizontal gaps in sidewalk slabs will need to narrowed for wheelchair compliance, which would likely fall under the responsibility of the City.

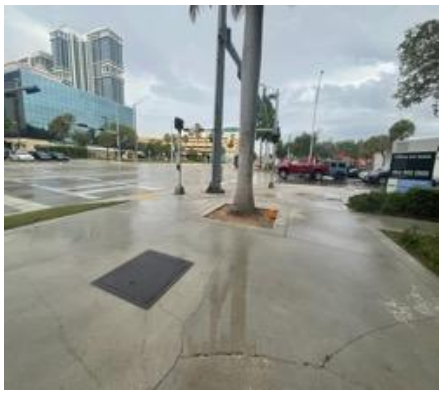


Figure 2A.8.2 Existing sidewalk cracks & horizontal gaps

2A.8.3 The only existing on-street parking associated with the building is located on the north side of the building along NE 1st Street. There are accommodations for 4 parking spaces; however, none of these are accessible (ADA) spaces.

Figure 2A.8.3 On-street parking (NE 1st St)

2A.8.4 ADA compliant curb ramps exist at the intersections adjacent to the building. These ramps are located within the public right-of-way and are maintained by the City of Fort Lauderdale. Figures below depict E. Broward/N. Andrews and N. Andrews/NE 1st St, respectively.

Figure 2A.8.4 Curb ramps

2B. Building Assessment (Building "B" 101 NE 3rd Ave.)

2B.1 General

The existing 19-story tower building (the "Tower") was originally constructed in 2001, based on available documentation of as-built drawings and subsequent permit revision submittals, and it consists of a 9-story open parking garage podium supporting 10 levels of office space above. The adjacent 6-story office building, known as the "Center", is also part of the complex. Combined square footage is 231,000 gross.

The parking garage has a total of 423 parking spaces, with two spaces designated for future EV charging, and 8 ADA spaces.

The first level FFE is approximately 6.25 ft NAVD in the Tower's garage and the Center building This is below the City requirement of 7.4 ft, and also indicates the buildings may be subject to damage from flooding during a significant rain event, specifically the first floor spaces of the Center. Refer to Appendix A for more detailed information pertaining to flood exposure.

The building envelope is composed of precast concrete panels and aluminum-framed, non-impact-resistant windows, with an exterior finish of stucco and paint.

The Tower structural system consists of reinforced cast-in-place concrete columns, slabs, and shear walls, with precast concrete keystone joist system for the typical floor framing. The Tower sits on auger cast pile foundations with cast-in-place pile caps.

The Center structural system is generally the same as the Tower, however it utilizes some additional moment frames around the perimeter of the structure and does not utilize piles in the shallow spread footings that support it.

Vertical circulation within the tower is provided by two egress stair towers and five passenger traction elevators. Of these, two serve the parking garage and three serve the office tower. The office elevators were modernized in 2015 and are maintained under a regular service schedule. Elevators are 11 years old, meaning the remaining useful life for cabs is approximately 5 to 10 years and motors and controls is 15-20 years. The parking garage elevators are scheduled for modernization in 2026.

The Center Building is a separate 6-story office structure constructed in 1987, with an addition in 1989, and is connected to the tower through the main lobby. It is supported by a cast-in-place concrete frame with prestressed members. Its exterior walls are constructed with cold-formed steel framing and gypsum-based Dryvit® cladding, along with aluminum-framed, non-impact windows. The entire envelope of this building would need to be replaced to be hurricane resistant and resilient.

Vertical circulation in the Center Building is provided by two passenger traction elevators and two stair towers. The elevators were last modernized in 2015. Their remaining life prior to the next renovation would be within 5 to 10 years.

The Tower roof consists of a 25-year-old, two-ply modified bitumen membrane installed over tapered insulation. A secondary curved metal roof structure, supported by steel framing and concrete, houses the primary HVAC equipment serving the office building.

The Center building roof is similarly constructed with a modified bitumen membrane over tapered insulation and is in comparable condition to the tower roof. Despite ongoing maintenance under a service contract with Advanced Roofing, both roofing systems are due for replacement.

Although the building has undergone numerous interior renovations and upgrades over time, several areas of non-compliance with current code, as detailed in this report.

This building lacks a two-story space ideal for the future commission chambers. A detailed structural analysis, beyond the scope of this Phase, would have to be performed to determine if one of the floor plates could be demolished at the Center building to provide a double height independent entry space that accommodates the chambers. Additionally, the FFE presents a challenge to install a civic space on the ground level of this building.

Attributes which could be seen as “pros” for this building include:

- Sufficient space for City Hall
- Attached parking garage
- Potential for civic engagement space in Center separate from office spaces in Tower
- Two buildings could be seen as a pro or con depending on future design
- Some spaces currently occupied by City staff or ready for immediate occupancy

“Cons” for this building include:

- Aging elevators require replacement
- Roof replacement required
- Windows not impact resistant
- Cladding of Center building not impact resistant
- Low finished floor elevation at Center and garage
- Limited locations for Commission Chambers
- Existing Chinese-manufactured video system
- Major HVAC components require replacement

2B.2 Structure

Overall Description

Building B is a dual-structure property consisting of a 6-story low-rise structure (Center) and a 19-story high-rise structure (Tower). Both structures have similar constructions of precast, prestressed concrete keystone joists for typical floor framing spanning to cast-in-place girders along the column lines. Both buildings are independently laterally supported by cast-in-place concrete shear walls; the Center structure likely has contributions to lateral resistance from moment frames around the perimeter. The Center structure is set on shallow cast-in-place spread footings of varying size under each column, with continuous wall footings under shear walls and some perimeter walls. The Tower structural foundation is an augercast pile foundation having a large pile mat under the shear wall core and independent isolated caps at interiors and exterior columns.

In the Center, floor framing is primarily a 16" deep precast, prestressed concrete keystone joist topped with a 4-1/2" thick normal-weight concrete slab for composite action. The Tower has varying depths of precast, prestressed concrete keystone joists ranging from 16" to 20", all topped with a 5-1/2" thick normal-weight concrete slab for composite action. Throughout the Tower structure, areas of one-way concrete slabs are found for small framed spans and at the ramps in the parking garage.

This structural system is generally not suitable for local modifications or upgrades. Precast, prestressed concrete joists are typically a delegated design item, wherein the Engineer of Record provides load criteria to the precast manufacturer. Each joist is designed for the specific required loading, and retrofit of this system is largely not possible. Retrofits could potentially be made by removing an entire beam run and installing supplemental framing, but this is impractical especially at higher floors where transfer columns cannot be easily added nor connect new framing to existing precast joists. New, high-volume spaces would only be possible on the ground level of the low-rise structure, and as noted above would require new columns and framing be installed after spans of precast joist are removed.

Code-Based Lateral Analysis

The low-rise Center building was constructed in 1987, and likely designed under the 1981 or 1984 South Florida Building Code Broward County Edition (SFBC). Regardless of code year, the pressures and procedures were identical for this type of building. During this time period, buildings were designed for the same wind velocity absent of Risk Category, as that was incepted around 2000.

The high-rise Tower building was constructed in 2001. As noted above, the concept of risk category for building design was adopted around 2000, and it does not appear from the as-built

general notes that this structure was designed using one. This structure was likely designed under the 1999 SFBC as the standardized Florida Building Code was adopted in 2001.

For the purposes of this facility assessment, Jacobs evaluated the Main Wind Force Resisting System (MWFRS) loading from the 1981/1984 SFBC (low-rise) and 1999 SFBC (high-rise) against current-day ASCE 7-22 code loading requirements out of the 2023 Florida Building Code. A Risk Category of III was chosen for this conceptual analysis due to Jacobs' understanding of the potential investigation of an increased level of protection for the future occupancy.

Table 2B.2 outlines a summary of the results of the code analysis. Note that pressures generally vary along the height of the structure (increasing with height), and the results below are taken at a height equal to the roof level for the wall pressures. The low-rise structural MWFRS loading at time of construction appears to be higher than is required for a Risk Category (RC) III structure in current-day code loading and thus would likely not require any retrofit or rehabilitation in it's current form to achieve an improved level of reliability desired by the Owner. However, the loading of the high-rise structure is not sufficient compared to a current-day RC III, and is approximately equal to a current-day RC II structure, with loads about 4% higher than current-code RC II loading. It is highly likely that the concrete framing and MWFRS have excess capacity to perform at the RC II level of reliability. Retrofit and rehabilitation of cast-in-place concrete shear wall and moment frame systems is challenging, and generally requires new lateral force-resisting elements including foundations.

Table 2B.2 Structural Code Analysis

	Ultimate (LRFD) Wind Speed	Allowable (ASD) Wind Speed	Net MWFRS Wall Pressure (ASD)	MWFRS Roof Pressure (ASD)	
				Windward 1/3	Leeward 2/3
1981 SFBC (low-rise)	N/A	120 mph (Fastest-Mile)	61.5 psf	47.3 psf	35.5 psf
ASCE 7-22 (low-rise) RC III	180 mph (3-Second Gust)	140 mph (3-Second Gust)	55.2 psf	41.8 psf	33.1 psf
ASCE 7-22 (low-rise) RC II	170 mph (3-Second Gust)	132 mph (3-Second Gust)	49.1 psf	37.2 psf	29.5 psf
1999 SFBC (high-rise)	N/A	110 mph (Fastest-Mile)	59.5 psf	47.6 psf	47.6 psf
ASCE 7-22 (high-rise) RC III	180 mph (3-Second Gust)	140 mph (3-Second Gust)	70.2 psf	56.2 psf	56.2 psf
ASCE 7-22 (low-rise) RC II	170 mph (3-Second Gust)	132 mph (3-Second Gust)	62.4 psf	49.9 psf	33.6 psf

Components and cladding (C&C) wind loads for the design of the doors, windows, roofing, etc. around the structure follow the same velocity pressure as the MWFRS velocity pressures in the 1981 SFBC. Shape factors (coefficients to increase the velocity pressure) are applied to the velocity pressure for C&C elements without consideration for position on the building (like edges and corners). Current-day practice recognizes that localized pockets of wind loading on the edges and corners can be orders of magnitude higher than what the structure will see globally or in the field of a wall or roof, and thus current code provides a more precise discretization of pressures to be utilized for the purpose of designing C&C elements.

For the low-rise structure, the current-day C&C pressures far exceed those in the 1981 SFBC by anywhere from 10-80% depending on the element. Conversely, the differences in code pressures for the high-rise C&C elements are roughly equivalent and in the range of +/-5% for a Risk

Category II structure. Evaluation of C&C forces and load paths would be required upon replacing any exterior cladding elements and localized reinforcement of structure would be required.

Floor Framing Capacity Analysis

As discussed prior, the floor framing is a bespoke design of precast, prestressed concrete keystone joists. In current-day engineering practice, these systems are designed using tabulated strand profile options which provide varying levels of capacity for different spans. Jacobs compared tabulated load capacities from a local vendor that specializes in keystone joist systems, SPI Miami, with the spans and configurations indicated in the drawings to develop an approximate estimate of load capacities.

In the Tower, the typical span is approximately 46'-0" on all floors, and is a 20" deep precast, prestressed keystone joist spaced at 6'-10" with a 5-1/2" thick composite topping slab. Using tables from SPI Miami, two potential strand options exist ("C", and "D"), which would offer a capacity between 64psf and 79psf of superimposed load.

In the Center building, the typical framing bay is approximately 45'-0", and consists of 16" deep precast, prestressed keystone joists at an approximately 3'-6" spacing with a 4-1/2" thick composite topping slab. Using capacity tables from SPI Miami, three potential strand options exist ("C", "D", and "E"), which would offer a capacity between 59psf and 89psf of superimposed load.

This level of loading on elevated floors is sufficient and consistent with loading for office environments but would not be suitable for assembly spaces at 100psf. It is possible some configurations of assembly spaces which do not take up the entire span would be acceptable but would require further engineering evaluation.

The first-floor slab on grade in the Center building can accommodate the required 100psf live load for the commission chambers. However, modifications to the structure to provide a two-story volume will potentially require new shear walls and likely require increased columns and foundation systems. This would require further engineering evaluation.

Site Observations

2B.2.1 Under slab garage insulation in high-rise building appears in good condition.

Figure 2B.2.1 Under slab insulation

2B.2.2 Railings throughout garage of high-rise building show corrosion due to dissimilar metals with architectural cladding at intermediate verticals. The main supports with diagonal bracing appear in good condition.

Figure 2B.2.2 Garage railings

2B.2.3 Typical dapped ends of precast joists in garage at high-rise building, no deficiencies observed.

Figure 2B.2.3 Precast joists

2B.2.4 Typical slab, beam, and girder areas at garage in high-rise building, no deficiencies observed.

Figure 2B.2.4 Garage structure

2B.2.5 Interior office framing at high-rise office building, no deficiencies observed.

Figure 2B.2.5 Interior framing

2B.2.6 Rooftop mechanical equipment bases at high-rise building, some exhibiting normal corrosion and should be repaired as needed.

Figure 2B.2.6 Rooftop equipment

2B.2.7 Chiller frame and pump bases on low-rise building exhibiting corrosion and some section loss will need structural repair.

Figure 2B.2.7 Corrosion at chiller frame/pump bases

2B.2.8 Chiller frame and pump bases on low-rise building exhibiting corrosion and some section loss will need structural repair.

Figure 2B.2.8 Corrosion at chiller frame/pump bases

2B.2.9 Some mild corrosion at railing welds need to be scrubbed and recoated.

Figure 2B.2.9 Corrosion at railing welds

2B.3 Architecture

2B.3.1. Elevators interior cab dimensions are 65x80 inches at the main tower, and 50x79 inches at the Center building.

Figure 2B.3.1 Elevator Lobby

2B.3.2. The elevators can accommodate an ambulance stretcher 76 inches long by 24 inches wide in the horizontal position, as required by Florida building code.

Figure 2B.3.2 Elevator

2B.3.3. Stairwells have guardrails at 42" A.F.F. and handrails are of varying heights. Most handrail extensions do not comply (too short in height or length) with current building code.

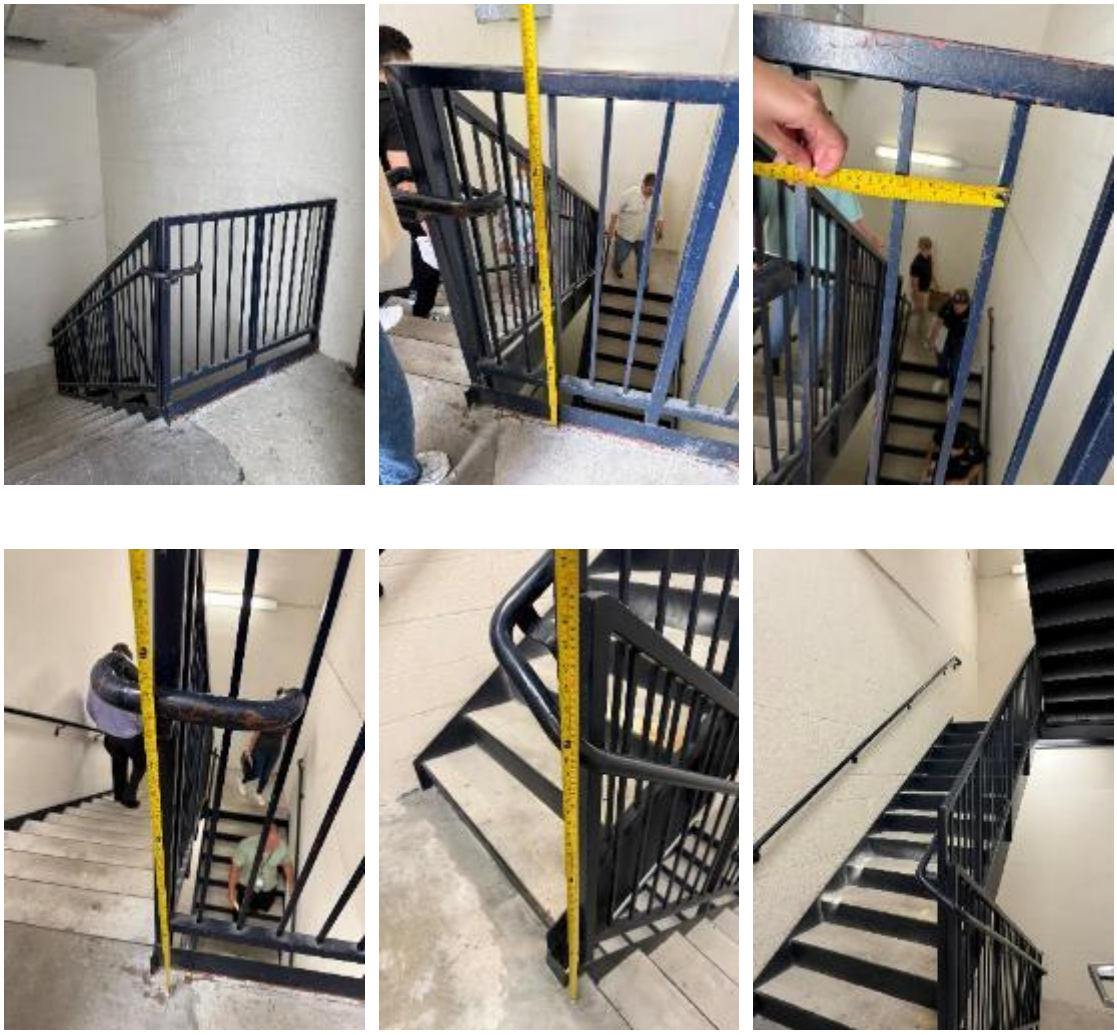


Figure 2B.3.3 Stair Guardrails & Handrails

2B.3.4. Stair treads are 12" and risers are 7" complying with current building code.

Figure 2B.3.4 Stair Guardrails & Handrails

2B.3.5. All floors have accessible toilets and Hi-lo water fountains in the corridor complying with ADA requirements. However, some accessories at the ADA toilet compartments are mounted at incorrect / different heights. General observation of the restrooms indicate that renovations are not uniform, and some restrooms have not undergone any renovation. If a cohesive appearance is desired, new finishes and accessories, including flooring, tile, toilet partitions and vanities, would be necessary. No plumbing rework would be required unless the plumbing count is insufficient due to the new occupancy count.

Figure 2B.3.4 Restrooms (Women; Men next page)



MEN





2B.3.6. Some vanities are missing ADA-required pipe protection underneath the sink.

Figure 2B.3.6 No pipe protection

2B.3.7. The main entrance is accessible from the street and the parking garage with a sidewalk slope that is not steeper than 1:12; however, the East side entrance is accessible only by stairs. This condition may require an accessibility modification if the renovations design is considered Alteration Level 3.

Figure 2B.3.7 Exterior access

2B.3.8. Most of the elevator lobby areas have been renovated with new carpets and finishes; however, renovations do not appear to be uniform or consistent between floors. There is no evidence of loose carpeting or missing floor tiles.

Figure 2B.3.8 Elevator lobbies

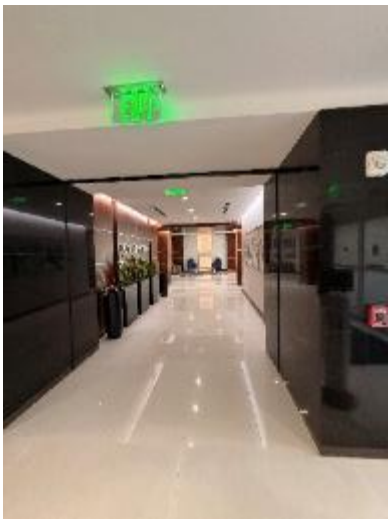
2B.3.9. Thresholds appear to be compliant within the allowable max of ¼ inch

2B.3.10. Signage was renovated throughout the building and includes accessible features. Most office signage will need to be revisited as part of the tenant improvements.

Figure 2B.3.10 Interior signage

2B.3.11. Ceilings and lighting are overall in good condition. All floors have tenant build outs, either occupied by single or multiple tenants, and if a consistent appearance is desired, ceilings and lighting would need to be replaced in approximately 75% of the spaces.









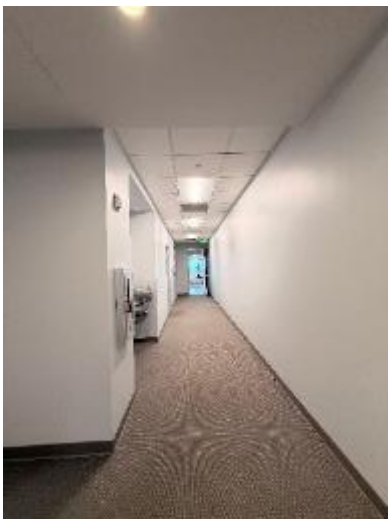


Figure 2B.3.11 Interiors

2B.3.12. Roof, flashing and drains, are generally maintained in good operational condition but are over 25 years old, nearing the end of remaining useful life.

Figure 2B.3.12 Roof

2B.3.13. Non-impact windows throughout; does not meet current building code requirements for Broward County HVHZ.

2B.4 Mechanical and Plumbing

Mechanical

2B.4.1 The facility is served by two chillers, one replaced in 2021, currently in good operating condition with no immediate deficiencies observed. Second chiller significantly older, exhibits signs of age-related wear and reduced reliability. Replacement of the older chiller is recommended in the near term to improve overall system reliability, operational efficiency, and maintainability, as continued reliance on a mixed-age chiller plant presents increased risk during peak load conditions or unplanned outages.

Figure 2B.4.1 Chillers

2B.4.2 AHU-1a and AHU-1b (Rooftop Penthouse) are large, combined air handling units located within the rooftop penthouse and serve Floors 7 through 21. Both are currently in good operating condition, and appear to have been well maintained; however, based on available information, they were manufactured over 25 years ago. While operationally sound at the time of this report, these units have exceeded typical service life expectations. Replacement is recommended due to age and long-term reliability concerns. This work may pose significant engineering and logistical challenges, as the systems serve multiple occupied floors. Replacement will require either temporary cooling systems, or full or partial vacancy of the floors served during demolition and installation.

Figure 2B.4.2 Penthouse AHUs

2B.4.3 AHU-2, AHU-3, and AHU-4 were manufactured in 2013 and are currently in good condition; not expected to require replacement within the next five years. Continued preventive maintenance is recommended to sustain performance.

Figure 2B.4.3 AHUs in good condition

2B.4.4 AHU-1 (manufactured in 2006), AHU-5 (manufactured in 2007), AHU-6 (manufactured in 2006), and the AHU serving the lobby are in comparatively worse condition than the newer AHUs; should be scheduled for replacement within the next five years as they approach the end of their useful service life.

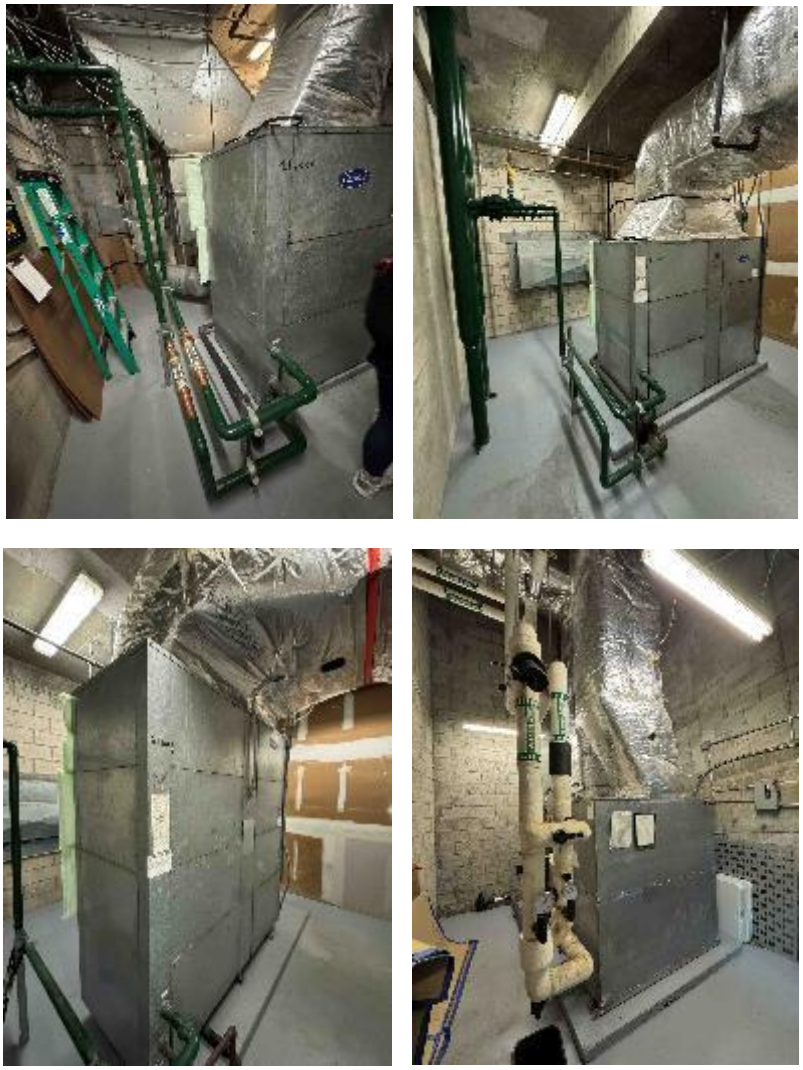


Figure 2B.4.4 AHUs needing replacement

2B.4.5 Fan Coil Units (FCU): FCU-1, FCU-2, FCU-3, FCU-4, and FCU-5 were all manufactured over 25 years ago; although they are currently in generally good condition, they have exceeded their typical lifecycle. These units should be replaced to improve system reliability, reduce maintenance requirements, and enhance occupant comfort.

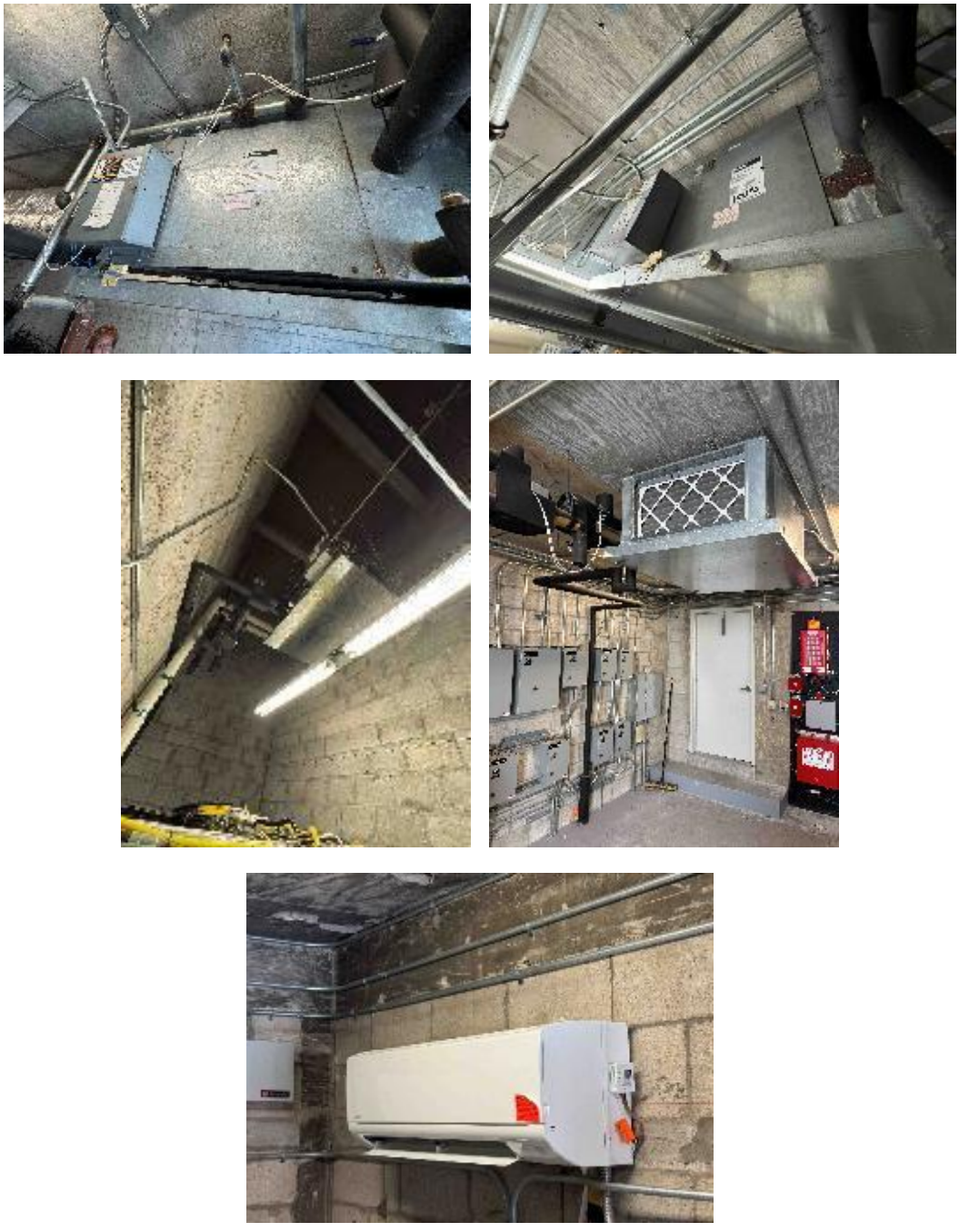


Figure 2B.4.5 Fan Coil Units

2B.4.6 Exhaust Fans (EFs): EF-7 manufactured in 2023, in very good condition, no action required at this time.

Figure 2B.4.6 Exhaust fans

2B.4.7 Remaining exhaust fans observed to be in generally good operating condition; however, several units estimated to be over 20 years old based on observed condition, typical equipment lifecycles. Exhaust fans exceeding 20 years of service life should be planned for replacement within next five years. Replacement should be prioritized based on condition, criticality, and maintenance history.

2B.4.8 Existing cooling tower on the lower roof in poor condition, should be prioritized for replacement.

Figure 2B.4.8 Cooling tower

Plumbing

2B.4.9 Each of the floors have tank water heaters that serve janitor closets and bathrooms. Many times, they're concealed above ceiling, so they were not directly observed.

2B.4.10 The domestic water pump (5HP Duplex) was observed to be in fair condition.

2B.5 Fire Protection and Life Safety

2B.5.1. Fire alarm/voice evacuation system had major upgrade in 2016.

2B.5.2 New Bi-directional amplifier is installed throughout the building, however some initiating devices were not included.

Figure 2B.5.2 Bi-directional amplifier

2B.5.3 Fire sprinkler and standpipe systems overall in good condition with exception of parking garage. Original fire sprinkler system installed in 1986 with multiple zoned upgrades over time.

2B.5.4 Parking Garage – Surface rust was observed on piping risers and mains. Galvanized branch lines and sprinkler heads have minor oxidation. Limited sections of pipe and fitting show pitting from oxidation. Replacement of pitted components is recommended.

2B.5.5 Chiller Pump Room – Sprinkler piping is corroded and needs to be replaced (2 branch lines, 2 cross mains)

Figure 2B.5.5 Corroded Piping

2B.5.6 17th Floor Electrical – Sprinkler is misaligned. Needs piping repair.

Figure 2B.5.6 Misaligned Sprinkler

2B.5.7 14th Floor Electrical – Four fire stopping issues within room

2B.5.8 14th Floor South Stair – Broken door closer.

2B.5.9 14th Floor – Replace old speaker strobes on floor

Figure 2B.5.9 Old NAC

2B.5.10 7th Floor Parking Garage – Clearance height issue with sprinkler piping across drive.

2B.5.11 1st Floor Drawing Room – Room is partially sprinklered.

2B.5.12 Generator Room – Sprinklers are over-spaced.

2B.5.13 Loading Area – Remote inspectors test connection has been painted over.

2B.5.14 South Stair – No sprinklers at top of stair shaft. Stair signage missing, all floors.

2B.5.15 6th Floor Sprinkler FCA – pressure gauge missing, old/poor condition butterball control valve needs to be replaced.

2B.5.16 North Stair – Top of stair shaft is partially sprinklered. Stair signage missing, all floors.

2B.5.17 5th Floor Mechanical – Large holes found in fire wall

2B.5.18 4th Floor Core – Found 2 doors swing greater than 50% open to the egress corridor.

Figure 2B.5.18 Egress Door

2B.6 Electrical

Electrical Overview

The available electrical as-built drawings appear to date back to approximately 1984 and do not reflect all tenant improvements, renovations, equipment replacements, and electrical modifications that have occurred throughout the life of the facility.

Portions of the electrical distribution system could not be fully verified by observation alone (e.g. to ascertain which disc feeds which branch); ARC Facility Assessment reports were used to supplement available documentation, however no riser diagram was available.

Prior to future municipal renovations, a comprehensive electrical system verification effort should be performed including updated electrical riser diagrams, panel schedules, circuit tracing, and record drawings.

The 19-story Tower electrical infrastructure appears well maintained and retains substantial remaining useful life. The 6-story Center contains older electrical infrastructure and emergency power equipment that should be considered for replacement as part of future modernization efforts. The most significant future electrical investment for the facility will be EV charging infrastructure, Center Building electrical infrastructure upgrades, and generator replacement.

Electrical Distribution Equipment

2B.6.1. The primary electrical distribution equipment serving the Tower appears generally well maintained and operational.

Figure 2B.6.1 Electrical distribution equipment (Tower)

2B.6.2. The electrical distribution equipment serving the Center appears older than the equipment serving the Tower but generally remains operational and functional.

Figure 2B.6.2 Electrical distribution equipment (Center)

2B.6.3. Due to the age of the Center electrical infrastructure and anticipated future municipal occupancy requirements, replacement of major portions of electrical distribution infrastructure should be considered as part of future modernization efforts.

Figure 2B.6.3 Electrical Distribution equipment serving the 6-story tower

2B.6.4. Several panel schedules are outdated and do not accurately reflect existing tenant loads and circuit assignments.

Figure 2B.6.4 Existing electrical panels (Center)

2B.6.5. Surge Protective Devices (SPD) were not visibly identified on major distribution equipment and are recommended as part of future modernization efforts.

Electrical Rooms

2B.6.6. Electrical rooms throughout the facility are generally well maintained and provide adequate working clearances.

Figure 2B.6.6 Example of electrical room layout

2B.6.7. Minor code-related deficiencies were observed including outdated labeling, incomplete panel schedules, and isolated maintenance concerns.

Figure 2B.6.7 Existing electrical equipment

2B.6.8. Selected electrical and telecommunications rooms contain inadequate lighting levels and should be upgraded as part of future renovations.

Figure 2B.6.8 Electrical Rooms lighting examples

Lighting and Interior Power Systems

2B.6.9. Lighting and power layouts vary significantly throughout both buildings due to previous tenant buildouts and renovations.

2B.6.10. Existing lighting systems contain mixed fixture types, varying technologies, and inconsistent layouts.

2B.6.11. Older lighting technologies remain in portions of the facility and should be replaced with LED fixtures as part of future modernization.

2B.6.12. A building-wide lighting modernization program is recommended to improve energy efficiency, lighting quality, maintenance costs, and code compliance.

Emergency Power Systems

2B.6.13. The 900 kW emergency generator serving the Tower appears operational and generally well maintained based on available information and visual observations.

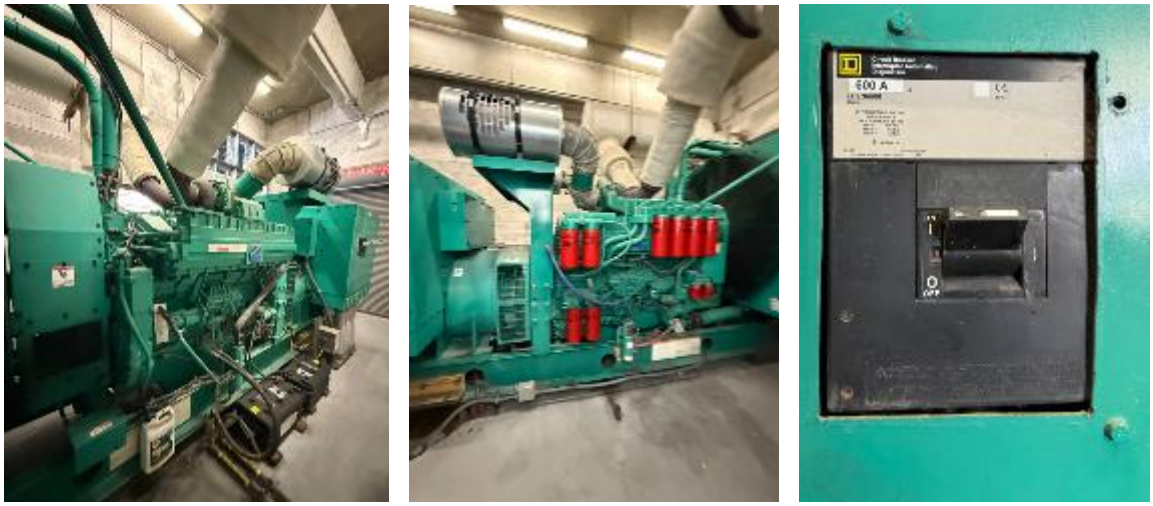


Figure 2B.6.13 Emergency generator serving the primary tower

2B.6.14. The 230 kW emergency generator serving the Center appears operational but exhibits signs of age and long-term service.

Figure 2B.6.14 Emergency generator (Center)

2B.6.15. A working clearance deficiency was observed within the Center's generator room where the main disconnect appears to have reduced clearance in front of the equipment.

Figure 2B.6.15 Emergency generator working clearance (Center)

2B.6.16. Due to the age of the equipment, limited remaining useful life, and future municipal occupancy requirements, replacement of the Center's generator and associated emergency power distribution infrastructure should be considered as part of future modernization efforts.

Figure 2B.6.16 Center generator and associated emergency power distribution

2B.6.17. Future municipal occupancy should include verification of emergency power capacity, emergency loads, and continuity-of-operations requirements.

Lightning Protection and Grounding

2B.6.18. The existing lightning protection system appears functional and generally serviceable based on visual observations.

Figure 2B.6.21 Existing lightning protection on the roof

2B.6.19. Portions of the system exhibit signs of age and weather exposure consistent with the age of the facility.

2B.6.20. Grounding bars were not visibly identified in all electrical and telecommunications rooms and should be verified during future renovations.

Figure 2B.6.21 Grounding bar located in the main electrical room

2B.6.21. Testing and verification of the lightning protection system are recommended to confirm continuity, grounding performance, and overall operational effectiveness.

Figure 2B.6.21 Existing Lightning Protection System

Rooftop Electrical Equipment

2B.6.21. Rooftop electrical equipment is generally in fair to good condition.

Figure 2B.6.21 Rooftop electrical equipment

2B.6.22. Isolated corrosion, aging disconnect switches, and weather-related deterioration were observed on selected rooftop equipment.

Figure 2B.6.22 Isolated corrosion, aging disconnect switches on the roof

2B.6.23. Selective replacement of aging rooftop electrical equipment should be anticipated as part of future modernization efforts.

Parking Garage and EV Charging Infrastructure

2B.6.24. The structured parking garage contains approximately 423 parking spaces.

2B.6.25. Only two existing EV charging stations were observed during the site investigation.

2B.6.26. Based on the City's anticipated goal of providing EV charging for approximately 10% of the parking inventory, approximately 43 future EV charging spaces may be required.

2B.6.27. Existing garage electrical infrastructure does not appear to have sufficient spare capacity to support future EV charging requirements.

2B.6.28. Existing garage electrical rooms appear to have limited or no available space for additional transformers, switchboards, panelboards, or EV charging distribution equipment.

2B.6.29. Future EV charging implementation will likely require utility coordination, new transformers, new switchboards, new distribution equipment, feeders, and dedicated EV charging infrastructure.

2B.6.30. Future EV charging implementation will likely require construction of a new dedicated electrical room, or expansion of existing electrical rooms, to accommodate new EV charging infrastructure and associated electrical distribution equipment.

Figure 2B.6.30 Electrical room in the Parking Garage

2B.7 Telecommunications and Security

Telecommunications

2B.7.1. The main building telephone room is located on the first floor. The room is long and narrow and is the entrance facility for leased telecommunications services from providers such as AT&T. Various fiber optic cables pass through this room up to intermediate telephone rooms located on floors above. Legacy copper riser cables and terminations that serve the floors are also located here.

2B.7.2. As currently configured, the closet does not meet National Electric Code (NFPA70) and ANSI/BICSI 009-2024 working clearances of 36" on each side of the equipment racks and cabinets. Unused cables and equipment should be removed, and remaining equipment should be reconfigured to meet current standards.

2B.7.3. An uninterruptable power supply (UPS) should be provided, powered from an emergency circuit off the generator, to maintain communications services as the generator comes online. The room has its own thermostat and was cool.

2B.7.4. There did not appear to be a Telecommunication Main Grounding Busbar. If that is the case, one should be provided, bonded to the building's electrical service ground, to properly ground equipment, racks, cabinets, and cable trays.

2B.7.5. The room has fluorescent light fixtures that should be upgraded to LED fixtures.

2B.7.6. The room door is secured with a manual key lock. Electronic access control and a video surveillance camera to view the door should be added.

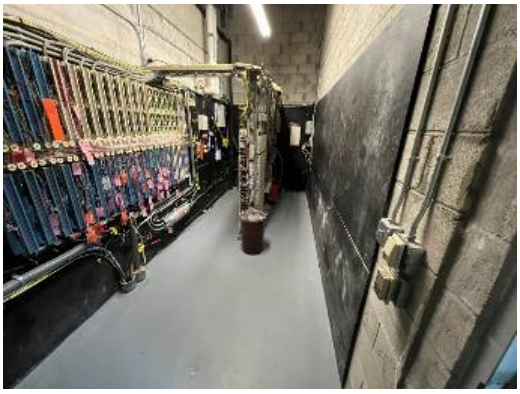


Figure 2B.7.6 Main telephone room

2B.7.7. Each office floor has at least one Intermediate Telephone Room. These rooms house legacy copper riser cables, and leased service provider equipment and fiber optic cables.

Figure 2B.7.7 Intermediate telephone rooms

2B.7.8. Fire alarm system panels are also located in some of these closets (i.e., 18th floor). These telephone rooms have plywood on the walls for mounting equipment, riser cores through the floors and ceilings, and additional penetrations for horizontal cables. All of the closets were warm, with no HVAC. Similar to the first floor main telephone closet, these closets have a fluorescent light fixture, manual key lock, have unused cables and equipment, have no video surveillance camera nor electronic access control. Upgrades proposed for the first floor main telephone closet should be implemented for these closets as well.

2B.7.9. Tenant Owned Intermediate Telephone Rooms – Some floors included Telephone Rooms owned by the various tenants in the building, such as the City of Fort Lauderdale on the 21st floor. These rooms were operational but were not surveyed. In general, if any office areas are to be reconfigured, then new horizontal cabling, patch panels, and telecommunications outlets will need to be added. Racks and network data switches will need to be added on each floor occupied by the City. Essentially, the entire building needs to be rewired. New telephones will be required for all City occupied spaces.

2B.7.10. The Building Manager's office has its own telecommunications (leased services and telephones) and data communications systems (network switches, cabling, wireless access points). Each tenant is responsible for their own systems. As such, any floors occupied by the city will need to have new horizontal cabling and new equipment installed.

Security

2B.7.11. There is a security desk located on the first floor Visitors check in, provide their license, and are added to a visitors list.

2B.7.12. The parking garage has license plate recognition cameras at the lift arm gates, monitoring vehicles entering and existing the garage. The system appears to be operational and in a state of good repair.

Figure 2B.7.12 Parking garage

2B.7.13. The Building Management company has video surveillance cameras on the exterior and interior of the building. The cameras are connected to a local video management system (VMS) and network video recorder (NVR). The video surveillance system is manufactured by Hikvision, a Chinese company, and is generally not allowed for use in federal and state government locations, and most likely will need to be replaced. There is a dedicated viewing station at the security desk. The VMS provides the viewing of live and recorded video streams.

2B.7.14. The Building Management company has electronic access control (card readers) on the exterior perimeter doors that lead into the lobby and within the elevator cabs.

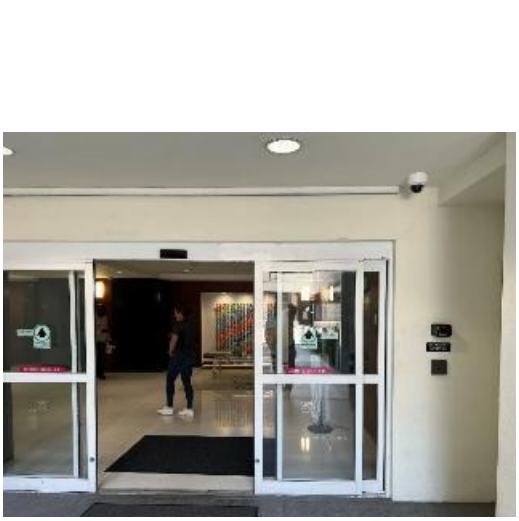


Figure 2B.7.14 Front Entrance & Elevator cab

2B.7.15. There is no electronic access control for support rooms such as telephone, electrical, mechanical, elevator machine, etc., and should be added.

2B.7.16. There are several tenants in the building that provide their own video surveillance, electronic access control, combination door locks, and intercom systems. These systems are by different manufacturers and are in various states of repair. Any floors that the city would occupy would need a new buildout of video surveillance and access control systems.

2B.8 Site-Civil

2B.8.1 Concrete sidewalks exist along NE 1st Street and NE 3rd Avenue. These streets are designated public roadways and are maintained by the City of Fort Lauderdale. The existing sidewalks are ADA compliant and in relatively good condition. A few heavily cracked areas will need to be leveled and several of the existing planted trees within the sidewalks will require tree grates to keep pedestrian pathways clear.

Figure 2B.8.1 Existing sidewalk cracks & Recommend tree grates (typical)

2B.8.2 ADA compliant curb ramps exist at the intersection adjacent to the building, at NE 1st St/NE 3rd Av. This ramp is located within the public right-of-way and is maintained by the City of Fort Lauderdale.

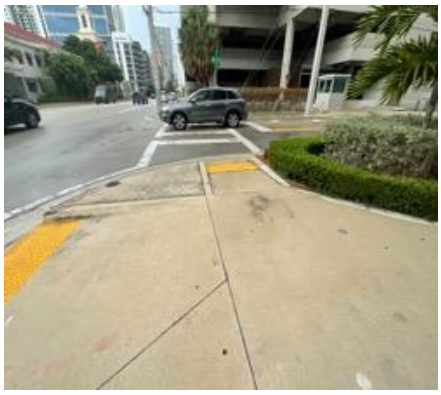


Figure 2B.8.3 Curb ramp

2C. Building Assessment (Building "C" 299 E Broward Blvd)

2C.1 General

The Federal Courthouse, at 299 East Broward Boulevard, was constructed in 1978. Because it is an operational Federal facility (at the time of this report), available documentation was limited, and the assessment herein is based solely on the site visit and information shared by on-site personnel. Certain details could not be disclosed for security reasons, and certain spaces could not be entered or photographed.

The building is a four-story, concrete structure, configured in a U-shape around a south-facing courtyard with a large, terraced fountain and multiple sets of wide concrete steps. Useable space is approximately 169,000 square feet, with gross square footage of 258,000. The exterior finish is a combination of smooth stucco and split-face modular concrete block veneer.

The roof was replaced in approximately 2014, however flashing was replaced more recently and is in good condition. The roof membrane (unknown type) is presently in poor condition. While no active leaks or evidence of leaks were observed, maintenance personnel stated that there have been leaks within the last year that have been repaired, near an expansion joint on the north side of the building.

The building sits over a one-story, basement-level parking garage, with approximately 226 spaces, with elevator and stair access to the interior of the building. There is also a sallyport in the basement for escorting detained persons to courtrooms or holding cells via a secure elevator. The garage has two access points for vehicles, one of which is not operational. The garage was completely flooded by a severe rainstorm in 2023, the same storm event which resulted in the demolition of the previous City Hall nearby. The garage is well below City required base flood elevation of 7.4 ft. Refer to Appendix A for more detailed information pertaining to flood exposure.

The useable square footage is less than the preliminary estimated square footage required for the City Hall, and due to the configuration and construction, additions would be difficult and therefore costly. Redesign for commission chambers would be challenging as well as there are no large spaces on the first level that could be easily reconfigured.

The interior courtyard is surrounded by staggered set-back, open-air terraces from which most interior spaces are accessed. The concrete terrace walls are lower than the height required by current building codes to act as a guard rail. In some areas, a metal rail has been added inside the concrete terrace wall, but is also of insufficient height.

The only "windows" in the building are storefront-type, floor-to-ceiling, some with entrance doors, fronting terraces mostly on the south side of the building, with a few smaller terraces scattered among the other exposures. Storefronts appear to be original to the building, and are in fairly good condition for the age, but are not impact resistant nor code compliant. They do not provide good sound control and at doors, air infiltration is evident at the seals. Most of the storefronts are

shaded by deep overhangs that are typically part of a terrace above. The perimeter walls on the west, north, and east have no windows, but some have a few recessed storefronts where terraces can be accessed from the interior.

Visitors access the building from the elevated first floor exterior terrace. Inside, upper floors are reached primarily by one of five elevators (within two elevator cores) or internal stairs, some of which are not enclosed. The public-use elevators were all replaced after the 2023 flood.

The interior finishes are in varying conditions, from poor to good, and are generally dated in appearance. In several areas of the interior there is a distinct musty odor, indicating moisture or possibly mold issues. A variety of building code and ADA non-compliance issues were observed throughout the building.

Preliminary observations indicate presence of hazardous materials including lead paint and asbestos, which would require further analysis and mitigation prior to any demolition or reconstruction activities.

Attributes which could be seen as “pros” for this building include:

- Iconic appearance
- Prominent location
- Potential for exterior civic engagement space
- Anticipated minimal cost to acquire from GSA

“Cons” for this building include:

- Unusual structure and configuration
- Lack of natural light
- Numerous features and systems in poor condition
- Basement garage with critical equipment subject to flooding
- Less space than needed for City Hall
- No ready-to-occupy spaces
- Poor potential for commission chambers
- Code violations throughout due to age
- Old systems, which typically equate to poor energy efficiency.

2C.2 Structure

Overall Description

Building C is a 4-story Federal Courthouse building. At the time of report writing, as-built drawings have not been made available to Jacobs therefore Jacobs cannot perform specific reviews of the floor framing, roof framing, or foundations. The construction appears to be a mix of cast-in-place and precast concrete, with likely foundation system of either shallow foundations or smaller pile

foundations. Precast concrete construction is generally unsuitable for modification and even with as-builts make it difficult to determine capacities of connections and framing for review.

Code-Based Lateral Analysis

The building was constructed around 1978, but cannot be confirmed with as-builts, and was likely designed under the 1977 South Florida Building Code Broward County Edition (SFBC). During this time period, buildings were designed for the same wind velocity regardless of Risk Category, as that was incepted around 2000. For the purposes of this facility assessment, Jacobs evaluated the Main Wind Force Resisting System (MWFRS) loading from the 1977 SFBC against current-day ASCE 7-22 code loading requirements out of the 2023 Florida Building Code. A Risk Category of III was chosen due to Jacobs understanding of planned public assembly areas which may trigger this level of classification due to occupant load.

Table 2C.2 outlines a summary of the results of the code analysis. In general, the loading from the time period of construction is consistent with current code wind loading. Note that pressures generally vary along the height of the structure (increasing with height), and the results below are taken at a height equal to the roof level for the wall pressures.

Table 2C.2 Structural Code Analysis

	Ultimate (LRFD) Wind Speed	Allowable (ASD) Wind Speed	Net MWFRS Wall Pressure (ASD)	MWFRS Roof Pressure (ASD)	
				Windward 1/3	Leeward 2/3
1977 SFBC	N/A	120 mph (Fastest-Mile)	56.9 psf	43.8 psf	32.8 psf
ASCE 7-22	180 mph (3-Second Gust)	140 mph (3-Second Gust)	52.3 psf	36.2 psf	20.1 psf

Components and cladding (C&C) wind loads for the design of the doors, windows, roofing, etc. around the structure follow the same velocity pressure as the MWFRS velocity pressures in the 1977 SFBC. Shape factors (coefficients to increase the velocity pressure) are applied to the velocity pressure for C&C elements without consideration for position on the building (like edges and corners). Current-day practice recognizes that localized pockets of wind loading on the edges and corners can be orders of magnitude higher than what the structure will see globally or in the field of a wall or roof, and thus current code provides a more precise discretization of pressures to be utilized for the purpose of designing C&C elements. These current-day C&C pressures far exceed those in the SFBC by anywhere from 10-80% depending on the element. Evaluation of C&C forces and load paths would be required upon replacing any exterior cladding elements and localized reinforcement of structure would be required.

A framing capacity analysis could not be completed due to the lack of available documentation of the existing structure.

Site Observations

2C.2.1. Bridge paint peeling and sooty appearance in garage may indicate previous small fire.

Figure 2C.2.1 Bridge surface appearance

2C.2.2. Typical exterior precast soffits appear to be in good condition.

Figure 2C.2.2 Typical exterior precast soffits

2C.2.3. Spalling observed at exterior framing edges.

Figure 2C.2.3 Spalling at exterior framing edges

2C.3 Architecture

2C.3.1. Parking garage (for employees only) below building has no accessible (ADA-compliant) parking spaces, nor accessible route into building.

2C.3.2. Elevated exterior terraces do not have code-compliant 42″ high guards; terrace walls are too short (33″); in some areas walls have supplementary metal rail, which is also too short (37.5″).

2C.3.3. Some small areas of ponding observed on terraces; however they appear to have adequate drainage, with no reported issues of water damage to the interior resulting from water accumulation on the terrace. Most areas of the terrace appear dirty; maintenance advised power washing occurs approximately twice a year.

Figure 2C.3.3 Terraces

2C.3.4. Several areas of surface patching were observed on the exterior in various locations, on columns, beams, terrace ceilings, and vertical surfaces. Many vertical surfaces have visible staining due to water accumulation or runoff.

Figure 2C.3.4 Exterior Surfaces

2C.3.5. FFE for the first level is elevated due to the configuration of the building, at approximately 15′-0″. While this is above FEMA established base flood elevation for 100-year+ storms, the basement garage and any infrastructure at that level would be subject to flood damage, as occurred in 2023. Additionally, the surrounding roads would likely be impassable during/after such a storm, also as evidenced in 2023.

2C.3.6. Roof membrane in poor condition, several tears and areas of ponding observed; ample roof drains visible. Visible lower-level roofs appear to be in same condition.

Figure 2C.3.6 Roof

2C.3.7. Public access elevators were replaced after the 2023 flood, appear to be compliant with current building code requirements.

2C.3.8. Stair risers are 8″, exceeding building code required 7″ maximum.

2C.3.9. Stairs do not have code-compliant guardrail/handrail systems; guards are not present along flights and are too low around open stairs (36" where 42" is required), most handrails do not have required extensions and are of varying heights.

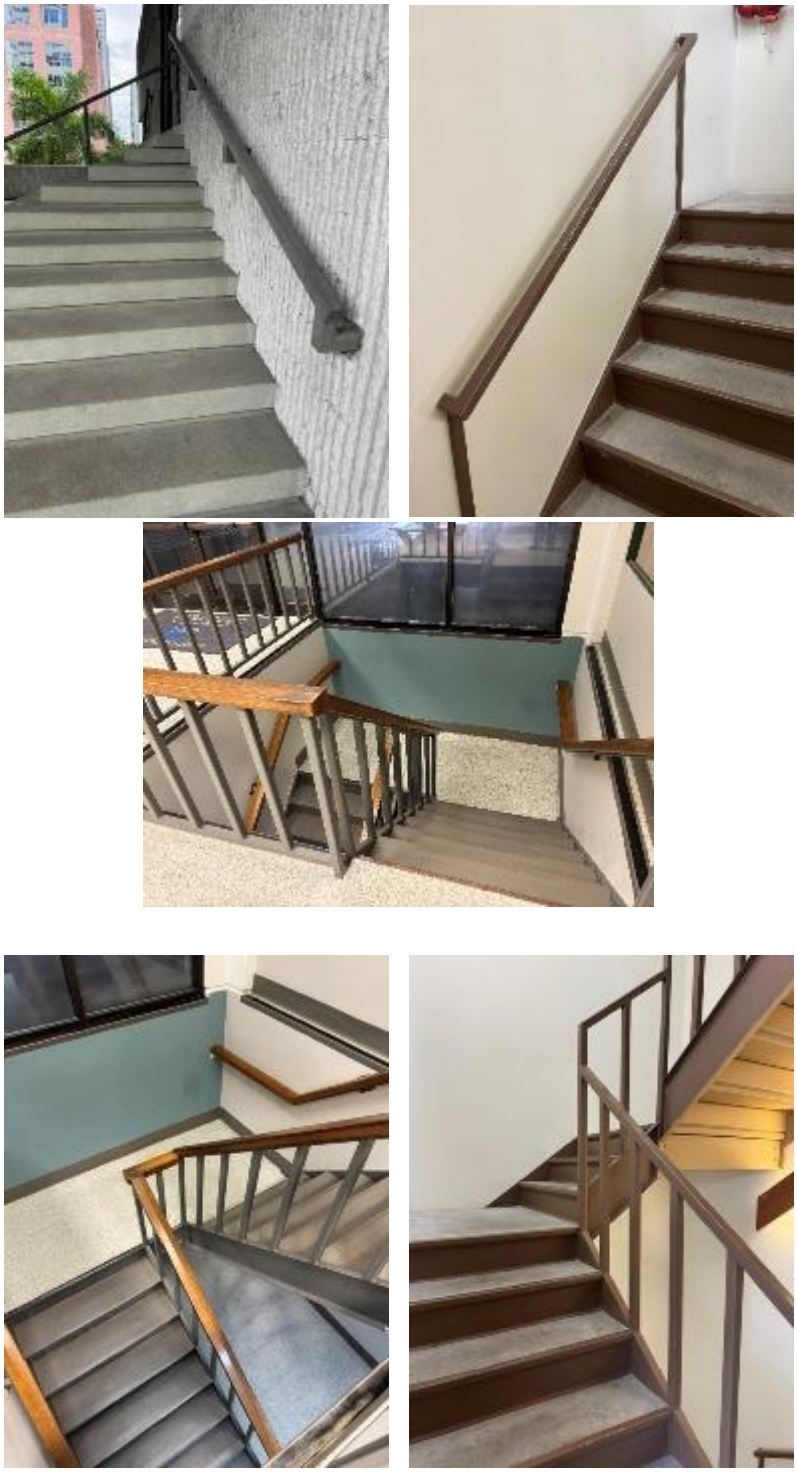


Figure 2C.3.9 Stairs

2C.3.10. Restrooms: most are not fully compliant with ADA, with no wheelchair accessible stalls in any of the public restrooms, several had no under sink pipe protection; most do have an ambulatory stall.

2C.3.11. First floor multi-user restrooms do not have adequate maneuvering clearance at entry.

2C.3.12. Single-user toilet rooms scattered throughout with varying levels of ADA-compliance, e.g. grab bars too high at 40" to top, door swing almost hitting sink.

2C.3.13. Jury room multi-user restroom does not have required clearances (single-user provided nearby but not fully compliant).

2C.3.14. Restroom finishes are dated and, in most cases, in subpar condition; aluminum slat ceilings sagging in several areas.






Figure 2C.3.14 Restrooms

2C.3.15. Exterior flush doors exhibit visible rust and peeling paint and corrosion on hardware.

Figure 2C.3.15 Typical Exterior Door

2C.3.16. Doors leading to interior spaces from the exterior terraces are heavy, not ADA-compliant, but necessary for exterior security and weather resistance.

2C.3.17. Doors in exterior facing storefront are generally not air-tight and allow noticeable noise intrusion.

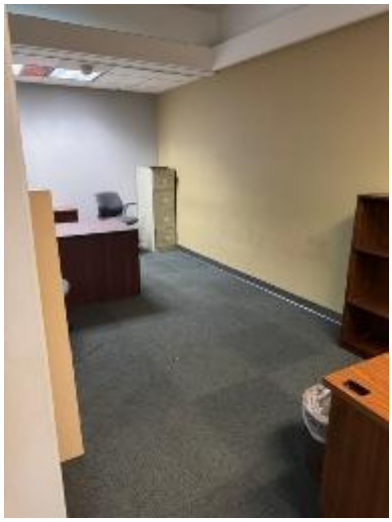
2C.3.18. Storefront window/door systems appear to be original to building, in good condition overall, but likely not impact resistant nor energy efficient.

Figure 2C.3.18 Storefront Systems and Doors

2C.3.19. Some interior spaces have strong musty odor indicating presence of mold; none observed.

2C.3.20. Interior spaces are dark due to deep overhangs at storefronts and no other windows.

2C.3.21. Interior spaces are not configured well for flexibility or adaptation of space to other uses; many rooms require egress through adjacent rooms to reach the exterior.



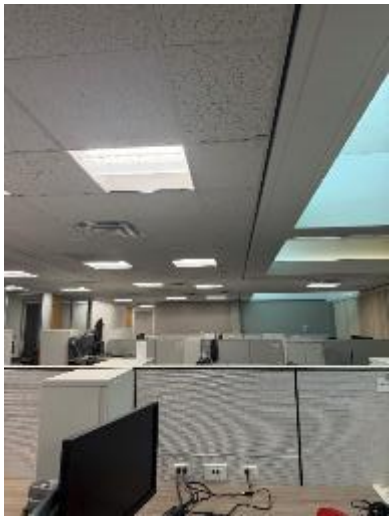


Figure 2C.3.21 Interior Spaces

2C.3.22. Security-hardened areas used by US Marshals would require significant, challenging renovation; includes vault, several holding cells, secure elevator (original to building), sally port.

2C.3.23. Interior finishes in most spaces are dated, in varying condition from poor to fair. A notable exception is the wood slat wall finish (in several courtrooms) is in very good condition, although with spaces reconfigured for different use, the wood slat walls would likely require removal.

Figure 2C.3.23 Interior Finishes

2C.3.24. Interior doors vary in material and condition, ranging from poor to good; many have non-ADA compliant hardware.

2C.3.25. Ceilings are mostly suspended grid systems, with aluminum slat or acoustic ceiling tiles, in varying condition, from poor to good.

Figure 2C.3.25 Ceilings

2C.3.26. Courtrooms could possibly be combined to create space large enough for commission chambers but would be on third floor, not ideal location for public access.

2C.3.27. Adding new space for commission chambers not practical; only space available is in courtyard/terrace areas, which has multiple levels with several sets of concrete steps as well as a multi-level fountain (not operational), and sits above the existing basement level parking garage, which could be impacted depending on the future structural design. Detailed analysis would be undertaken if this structure were selected for additional investigation.

2C.3.28. Current useable square footage is less than required for new City Hall; see above in reference to adding space.

2C.4 Mechanical and Plumbing

Mechanical

2C.4.1. Most of the air handling units (approx. 2 per floor), though they are well maintained, are advised for replacement. One Trane unit was dated to a manufactured year of 1995. This would suggest a 31 year old unit which is well beyond the equipment life expectancy (ASHRAE).

2C.4.2. The two cooling towers are in need of major repair or possible full replacement.

Figure 2C.4.2 Cooling tower fouling (red) and rusted framing (magenta)

2C.4.3. Most of the insulation is indicated to have asbestos fibers and is recommended for replacement.

Figure 2C.4.3 Sample label on insulation

2C.4.4. HVAC – The chillers have noticeable wear and are advised for replacement as they utilize R-22 refrigerant. Production and import of new R-22 was banned as of Jan 1, 2020 in the U.S., meaning only existing stock or reclaimed refrigerant is available. Thus, Servicing is legal but increasingly expensive.

2C.4 1 Chillers with visible wear

Plumbing

2C.4.5. Garage – The 1,000 gallon diesel tank that serves the generator is located below in the garage which exposes it to flooding risk. The generator was under maintenance at the time of the site visit.

2C.4.6. Very few of the spaces are served with hot water. All of the bathrooms observed did not have hot water at the lavatories. This would have to be updated to comply with current Florida Building Code (FBC-P 607.1).

2C.4.7. Some storm drainage was observed in the garage space that is cast iron. It's advised that this piping be replaced as it degrades from the inside and can cause significant water damage if they fail.

2C.5 Fire Protection and Life Safety

2C.5.1. General Comment – Original fire sprinkler piping is coated with lead paint. Replacing existing system may need lead abatement.

2C.5.2. General Comment – Many original fire sprinklers (solder link type) installed in the existing system are old and is nearing replacement. Per NFPA 25 Standard response, standard coverage type sprinklers should be replaced 50 years.

Figure 4.1- Sprinkler head cabinet

2C.5.3. General Comment – Significant fire stopping issues (floor and fire wall) throughout the building.

2C.5.4. General Comment - Due to the age of the existing fire alarm/voice evacuation system recommend replacing the fire alarm control panel. NAC booster panels and transceiver has been recently replaced and is in good condition.

Figure 4.3.2- Fire Alarm Control Panel

2C.5.5. Chiller Room – No sprinkler coverage is provided. No detection is provided either.

2C.5.6. Stair shaft – Fire stopping is needed in fire walls

2C.5.7. 4th floor Mechanical – No sprinkler coverage is provided.

2C.5.8. 3rd floor Telecomm – No sprinkler coverage is provided.

2C.5.9. 3rd floor Mechanical – No sprinkler coverage is provided.

2C.5.10. 3rd floor Electrical – no sprinkler coverage is provided.

2C.5.11. 1st floor corridor near security – Door swings greater than 50 percent into corridor.

2C.5.12. 1st floor clerks office – Need additional exit signage in suite.

2C.5.13. Fire Pump Room – No jockey pump provided for fire pump. Makeup pressure connection is tapped on the bypass line with a domestic water connection.

Figure 4.3.3- Fire Pump Room

2C.6 Electrical

Electrical Overview

Current electrical as-built drawings were not available during the assessment.

Due to the lack of complete documentation, the existing electrical distribution system could not be fully verified during the site investigation.

Existing electrical riser diagrams, panel schedules, feeder assignments, and circuit identification should be considered unreliable until verified in the field.

Prior to future municipal renovations, a comprehensive electrical system verification effort should be performed including updated electrical riser diagrams, panel schedules, circuit tracing, and record drawings.

The overall condition of the electrical infrastructure is considered poor when compared to modern facilities. Significant portions of the electrical distribution system appear to be approaching or exceeding their anticipated service life.

Due to aging infrastructure, code deficiencies, lack of documentation, generator condition, and future occupancy requirements, substantial electrical modernization should be anticipated.

Approximately 75% to 90% of the electrical infrastructure should be assumed to require replacement, major modification, or modernization as part of future municipal occupancy improvements.

Electrical Distribution Equipment

2C.6.1. The existing electrical distribution system appears significantly aged and exhibits signs of long-term service.

2C.6.2. Multiple panelboards appear outdated and contain incomplete or missing panel schedules and circuit identification.

2C.6.3. Due to the age of the infrastructure and anticipated future municipal occupancy requirements, replacement of major portions of the electrical distribution system should be anticipated.

2C.6.4. Existing switchgear, panelboards, transformers, and associated distribution equipment appear to be approaching the end of their useful life.

2C.6.5. Surge Protective Devices (SPD) were not visibly identified on major distribution equipment and are recommended as part of future modernization efforts

Figure 2C.6.1 Electrical distribution equipment

Figure 2C.6.2 Condition of existing electrical panels

Figure 2C.6.4 Examples of existing electrical panels and transformer conditions

Electrical Rooms

2C.6.6. Multiple electrical room working clearance deficiencies were observed throughout the facility.

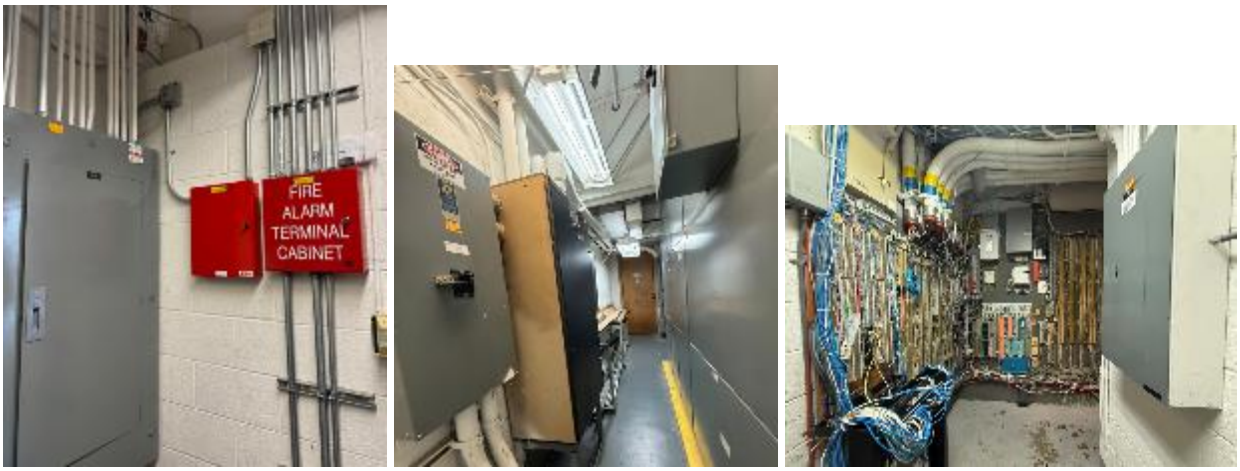


Figure 2C.6.6 Examples of electrical room working clearance deficiencies

2C.6.7. Equipment accessibility concerns were identified in several electrical rooms.

Figure 2C.6.7 Electrical panels with accessibility and clearance deficiencies

2C.6.8. Inadequate lighting levels were observed in multiple electrical and mechanical rooms.

2C.6.9. Missing GFCI receptacles were observed in selected electrical and mechanical spaces.

2C.6.10. Due to the lack of complete documentation, additional code-related deficiencies may exist and should be verified during future renovations.

Figure 2C.6.10 Electrical Panels with Missing Breaker Identification

Figure 2C.6.10 Electrical rooms limited space

Lighting and Interior Power Systems

2C.6.11. Existing lighting systems contain older fixture technologies and aging equipment.

2C.6.12. Lighting layouts vary throughout the facility and may not support future municipal occupancy requirements.

2C.6.13. Existing lighting controls appear outdated and may not comply with current energy code requirements.

2C.6.14. Building-wide LED lighting modernization should be anticipated.

Emergency Power Systems

2C.6.15. The existing emergency generator was not operational during the site visit due to maintenance activities.

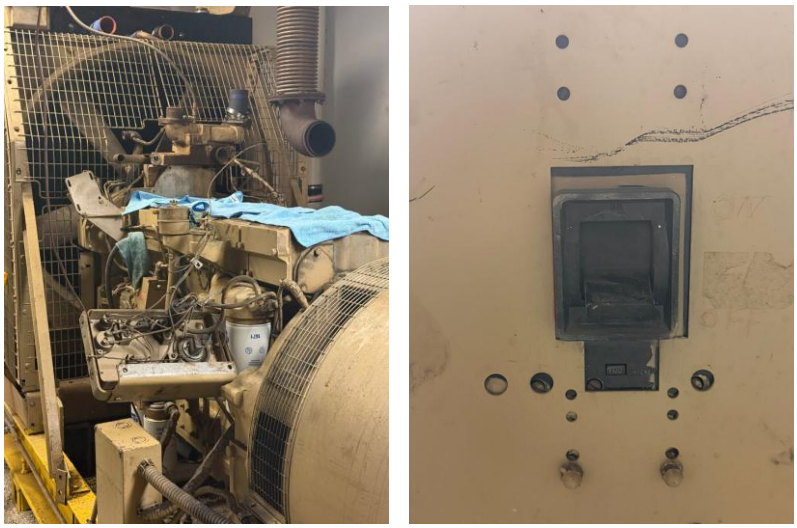


Figure 2C.6.15 Existing generator condition

2C.6.16. Facility personnel indicated the generator is currently undergoing maintenance; however, the equipment appears aged and exhibits limited remaining useful life.

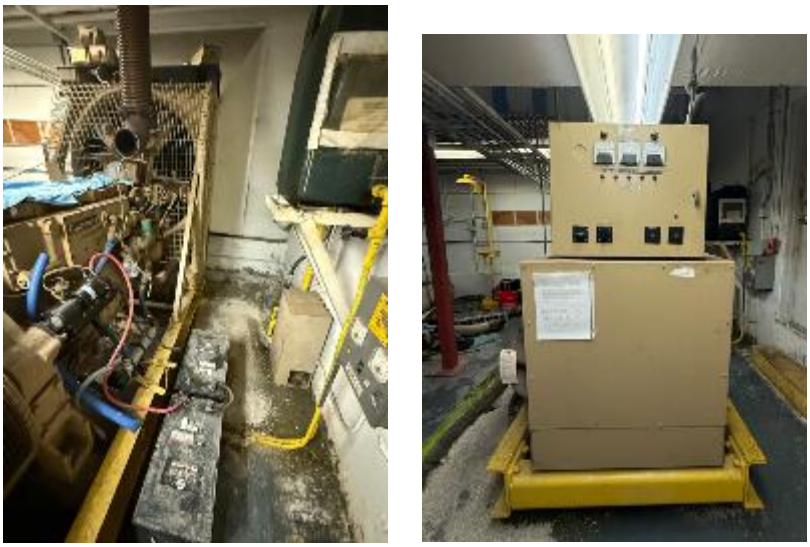


Figure 2C.6.16 Existing electrical generator

2C.6.17. Based on visual observations and available information, the remaining useful life of the existing generator is estimated to be approximately five years.

2C.6.18. Replacement of the existing generator and associated emergency power distribution equipment should be anticipated as part of future modernization efforts.

Grounding, Bonding, and Lightning Protection

2C.6.19. Existing grounding and bonding systems could not be fully verified during the assessment.

2C.6.20. Grounding bars were not visibly identified in all electrical and telecommunications rooms.

2C.6.21. Existing lightning protection infrastructure could not be fully verified and should be evaluated during future renovations.

Figure 2C.6.21 Existing roof - no lightning protection system

Rooftop Electrical Equipment

2C.6.22. Rooftop electrical equipment exhibits age-related deterioration and weather exposure.

2C.6.23. Existing rooftop disconnect switches and associated electrical equipment should be evaluated for replacement during future modernization efforts.

Figure 2C.6.23 Existing electrical equipment

Parking and EV Charging Infrastructure

2C.6.24. Available parking beneath the building will require substantial electrical infrastructure upgrades to support future EV charging requirements.

2C.6.25. Based on anticipated City requirements, approximately 10% of parking spaces may require EV charging capability.

2C.6.26. Existing electrical infrastructure is not expected to support future EV charging loads without significant upgrades.

2C.6.27. Future EV charging implementation will likely require new transformers, switchboards, panelboards, feeders, and dedicated EV charging distribution equipment.

2C.6.28. Construction of a new electrical room or expansion of existing electrical spaces may be required to accommodate future EV charging infrastructure.

2C.7 Telecommunications and Security

Telecommunications

2C.7.1. The main building telephone room is located on the first floor. The room is the entrance facility for leased telecommunications services from providers such as AT&T. Various fiber optic cables pass through this room up to intermediate telephone rooms throughout the building. Legacy copper riser cables and terminations that serve the floors are also located here. There are two telecommunications equipment racks in the rear center of the room. As currently configured, the closet appears meets National Electric Code (NFPA70) and ANSI/BICSI 009-2024 working clearances of 36" on each side of the equipment racks. There are three telephone systems in the room, there operational status could not be determined. Unused cables and equipment should be removed, and remaining equipment should be reconfigured to meet current standards. The room has a 100 amp rated electrical panel that provide electrical power to some of the equipment located in the room. The panel may be served by an emergency circuit. An uninterruptable power supply (UPS) should be provided, powered from an emergency circuit off the generator, to maintain communications services. The room also houses equipment for the electronic access control system. The room didn't appear to have HVAC, but it was cool at the time of the visit. There is a Telecommunication Main Grounding Busbar. The room has fluorescent light fixtures that should be upgraded to LED fixtures. The closet door is secured with a manual key lock. Electronic access control and a video surveillance camera to view the door should be added.

Figure 2C.7.1 Main telephone room

2C.7.2. Each floor has Intermediate Telephone Rooms. These rooms house legacy copper riser cables, and leased service provider equipment and fiber optic cables. Electronic access control system panels are also collocated in these rooms. These telephone rooms have plywood on the walls for mounting equipment, riser cores through the floors and ceilings, and additional penetrations for horizontal cables. All the closets were warm, with no HVAC. Similar to the first floor main telephone closet, these closets have

fluorescent light fixtures, manual key lock, have unused cables and equipment, and have no electronic access control. Some intermediate rooms had video surveillance cameras on the inside viewing the room door. Upgrades proposed for the first floor main telephone room should be implemented for these closets as well. In general, if any office areas are to be reconfigured, then new horizontal cabling, patch panels, and telecommunications outlets will need to be added. Racks and network data switches will need to be added in each telephone room to provide service to offices occupied by the City. Essentially, the entire building needs to be rewired.

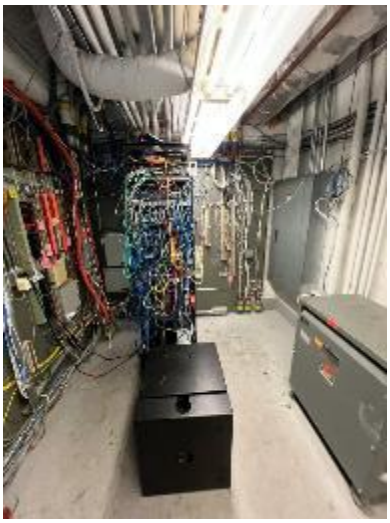


Figure 2C.7.2 Intermediate telephone room

2C.7.3. US Marshal's Area (no pictures were allowed in the Marshal's area) – the Marshal's area has its own IT closet, and is responsible for their own communications and security systems separately from the Courthouse systems.

2C.7.4. There are various spaces used by agencies other than the Courthouse and US Marshals. Each tenant is responsible for their own telecommunications and data communications systems. As such, any spaces occupied by the city will need to have new horizontal cabling, patch panels, telecommunications jacks, racks, and network equipment installed. New telephones will be required for all City occupied spaces.

Security

2C.7.1. There are two entrances to the below grade parking garage. Both are secured with roll up doors, wedge barriers, lift arm gates and electronic access control. The main garage entrance also has a guard booth. There are video cameras located throughout the garage.

2C.7.2. When entering the Courthouse, visitors must sign in and pass through a metal detector. Bags, briefcases, etc. must go through a baggage screener.

2C.7.3. There is electronic access control on select doors and the courthouse elevators.

2C.7.4. US Marshal's Area (no pictures were allowed in the Marshal's area) – the Marshal's area has its own IT closet, and is responsible for their own communications and security systems separately from the Courthouse systems.

2C.7.5. There are various spaces used by agencies other than the Courthouse and US Marshals. Each tenant is responsible for their own video surveillance, electronic access control, and intercom systems. As such, any spaces occupied by the city will need to have new horizontal cabling and new access control and video surveillance equipment installed.

2C.7.6. During a recent water infiltration event, some equipment was damaged and to date has not been repaired/replaced.

2C.7.7. There is no electronic access control or video surveillance for support rooms such as telephone, electrical, mechanical, elevator machine, etc., and should be added.

2C.7.8. If the existing electronic access control and/or video management system are not compatible with the City's system, then it will need to replaced.

2C.8 Site-Civil

2C.8.1 Concrete sidewalks exist along NE 1st Street, E. Broward Boulevard and NE 3rd Avenue. These streets are designated public roadways and are maintained by the City of Fort Lauderdale. The existing sidewalks are ADA compliant and in relatively good condition.

2C.8.2 ADA compliant curb ramps exist at the intersections adjacent to the building. These ramps are located within the public right-of-way and are maintained by the City of Fort Lauderdale. Those depicted below are located at NE 1st St/NE 3rd Ave. and E. Broward/NE 3rd Ave., respectively.

Figure 2C.8.2 Curb ramps

3. Summary of Deficiencies

Items listed in the tables below constitute code violations, health and safety concerns, limited remaining useful life (less than five years), or estimated cost in excess of $500,000. These tables should not be considered a comprehensive plan to provide a complete City Hall facility, but rather as an indication of the most significant issues in each subject building.

3A. Deficiency Log - Building A

Ref	*Description / Location*	*Recommended Action*
A1	Guard/handrail systems on egress stairs not code compliant	Replace
A2	Treads and risers dimensions vary within flights (code violation), stair risers are above code maximum height – requires modifications of entire stair tower(s)	Replace or request variance from bldg. dept.
A3	Non-impact windows, Exterior curtainwall, entire perimeter	Replace
A4	Restrooms throughout not fully ADA compliant	Renovate
A5	Remove/replace obsolete equipment/cables in main telephone room and intermediate telephone rooms	Replace
A6	Main telephone room modifications to meet NEC and BICSII working clearance requirements	Renovate
A7	Remove/replace existing security systems, add access controls and surveillance	Replace
A8	Electrical infrastructure upgrades for aging systems	Replace
A9	Generator nearing end of remaining useful life	Replace
A10	Working clearance in electrical rooms inadequate, not code compliant; upgrade lighting	Renovate
A11	Approximately half of air handling units nearing end of remaining useful life	Replace
A12	Fire pump and controller are at the end of their useful life	Replace
A13	Some hose valves and gauges broken	Replace
A14	Missing Fireproofing of structural steel observed.	Repair
A15	Fire alarm device deficiency observed	Renovate

3B. Deficiency Log - Building B

Ref	*Description / Location*	*Recommended Action*
B1	Exterior walls of Center building are not hurricane resistant (cold-formed steel framing and gypsum-based Dryvit® cladding)	Replace
B2	Guard/handrail systems on egress stairs not code compliant	Replace
B3	Roof membrane nearing end of useful life, Tower and Center, all roof levels	Replace
B4	Non-impact windows, Tower and Center, entire perimeter	Replace
B5	Main telephone room modifications to meet NEC and BICSII working clearance requirements	Renovate
B6	Building video system by Chinese manufacturer, not permitted in government facilities	Replace
B7	Remove/replace obsolete equipment/cables in main telephone room and intermediate telephone rooms	Replace
B8	Remove/replace existing security systems, add access controls and surveillance	Replace
B9	Finished floor elevation below FEMA/City base flood elevation	Renovate
B10	Passenger elevator cabs near end of useful life.	Renovate
B11	Cooling tower, chiller, several air handling units nearing end of remaining useful life	Replace

3C. Deficiency Log - Building C

Ref	*Description / Location*	*Recommended Action*
C1	Non-code compliant guards at elevated terraces	Provide code-compliant guards
C2	Basement garage below base flood elevation, with critical infrastructure in garage	Provide flood mitigation, relocate critical equipment
C3	Roof membrane in poor condition, all roof areas	Replace
C4	Non-impact rated storefront systems, all exterior storefronts	Replace
C5	Non-compliant guard/handrail systems	Replace
C6	Stair risers above code maximum height – requires modifications of entire stairs	Replace or request variance from bldg. dept.
C7	Interior finishes dated and in poor condition	Replace
C8	Restrooms throughout not fully ADA compliant	Renovate
C9	Remove obsolete equipment and cables in intermediate telephone rooms to meet working clearance requirements and provide space for City systems. Provide new Local Area Network equipment and cables.	Replace
C10	Replace various video surveillance and access control systems with new systems that are compatible with the City's systems.	Replace
C11	Telecom infrastructure and equipment outdated	Replace
C12	Cooling towers and approximately 80% of air handling units appear to be at end of useful life	Replace
C13	Cast iron piping throughout	Replace
C14	Fire sprinkler system outdated, in poor condition	Replace
C15	Fire alarm system in poor condition, approximately 50% requires replacement	Replace
C16	Multiple clearance violations and inadequate access to equipment in electrical rooms	Renovate
C17	Main switchgear, transformers, and primary distribution equipment nearing end of remaining useful life	Replace

C18	Significant portions of electrical infrastructure approaching or exceeding anticipated service life	Replace
C19	Aging light fixtures and controls throughout	Replace
C20	No lightning protection system, no grounding bus bars	Provide
C21	Emergency generator nearing end of remaining useful life	Replace
C22	Rooftop electrical equipment nearing end of remaining useful life	Replace

4. Rough Order of Magnitude Cost

For additional estimating details, refer to Appendix B.

4A. Rough Order of Magnitude Cost - Building A

Item	*Description*	*Estimated Cost*
SUPERSTRUCTURE	Miscellaneous Repairs and Enhancements for current code	$1,770,631
EXTERIOR ENCLOSURE	Enhancements for current code	$72,674,353
EXTERIOR HORIZONTAL ENCLOSURE	Replacement Bridge Roof	$350,102
INTERIOR CONSTRUCTION & FINISHES	Core upgrades for uniform building standard	$17,516,496
STAIRWAYS	Enhancements for current code	$2,668,061
INTERIOR FINISHES /Commission Chambers	Program Requirement	$3,933,926
PLUMBING	Enhancements for TI / Program Requirements	$3,888,367
HVAC	Replace majority of equipment and enhancements for program requirements	$30,311,535
FIRE PROTECTION	Partial Replacements, New Fire Pump and enhancements for TI/ program	$1,489,325
ELECTRICAL	Replacement of Majority of Equipment, EV charges, enhancements for program requirements	$23,389,093
COMMUNICATION	Replace old equipment / cable and upgrade for TI/ Program	$3,004,740
ELECTRONIC SAFETY AND SECURITY	Replace equipment / cable and upgrade for TI/ Program	$1,319,550
EQUIPMENT	Appliances associated with new program	$83,340

FURNISHINGS	Millwork and casework for program requirements	$2,389,080
DEMOLITION	In support of TI / Program Requirements	$2,385,934
BUILDING SITEWORK	Resiliency	$138,900
GENERAL	In support of scope of above	$920,773
Construction Costs	Including markups	$168,234,205
	Escalation	$25,235,131
	Soft Costs	$15,056,961
	TOTAL	$208,526,297

4B. Rough Order of Magnitude Cost - Building B

Item	*Description*	*Estimated Cost*
FOUNDATIONS	Chamber Modification	$527,949
SUPERSTRUCTURE	Miscellaneous Repairs and Enhancements for current code	$3,211,234
EXTERIOR ENCLOSURE	Enhancements for current code	$24,922,953
EXTERIOR HORIZONTAL ENCLOSURE	Replacement of 25 year old system	$2,102,663
INTERIOR CONSTRUCTION & FINISHES	Core upgrades for uniform building standard	$22,200,324
STAIRWAYS	Enhancements for current code	$1,895,221
INTERIOR FINISHES /Commission Chambers	Program Requirement	$4,475,636
CONVEYING	Limited remaining useful life	$4,921,597
PLUMBING	Enhancements for TI / Program Requirements	$5,037,903
HVAC	Replace majority of equipment and enhancements for program requirements	$21,245,450

FIRE PROTECTION	Partial Replacements and enhancements for TI/ program	$3,053,964
ELECTRICAL	Replacement of equipment in 6 story, EV charges, enhancements for program requirements	$19,982,015
COMMUNICATION	Replace old equipment / cable and upgrade for TI/ Program	$3,642,791
ELECTRONIC SAFETY AND SECURITY	Replace equipment / cable and upgrade for TI/ Program	$1,937,655
EQUIPMENT	Appliances associated with new program	$166,680
FURNISHINGS	Millwork and casework for program requirements	$2,986,350
DEMOLITION	In support of TI / Program Requirements	$4,777,209
BUILDING SITEWORK	Resiliency	$138,900
GENERAL	In support of scope of above	$717,695
Construction Costs	Including markups	$127,416,240
	Escalation	$19,112,436
	Soft Costs	$11,403,753
	TOTAL	$157,932,430

4C. Rough Order of Magnitude Cost - Building C

Item	*Description*	*Estimated Cost*
DEMOLITON	Full interior, partial exterior demolition	$8,100,000
ABATEMENT	Hazardous materials Abatement allowance	$2,700,000
RENOVATION	Renovation (use 1 E Broward) $/sf est x 25%	$108,225,000
ADDITION	New Construction	$42,000,000
Construction Costs	Cost per SF basis*	$161,025,000
	Escalation	$24,153,750
	Soft Costs	$14,411,738
	TOTAL	$199,590,488

* Cost per square foot basis estimate used for Courthouse due to lack of available documentation of existing building construction and inordinate number of unknown factors. This basis also applies to the Abatement allowance, which is included due to the building having known asbestos and lead paint within; when disturbed for a renovation, hazardous materials must be mitigated. There is no indication or documentation of Buildings A and B requiring the same.

5. Comparative Data

Ratings in the table below are derived from an aggregate analysis of site observations and the anticipated level of effort required for adaptive re-use for civic and administrative use. The ratings are 5 = Very good, 4 = Good, 3 = Average, 2 = Fair, 1 = Poor.

Category	Building A (1 E Broward)	Building B (Tower/ Center 101)	Building C (Fed Courthouse)*
General	4	3	2
Exterior/Site	3	2	2
Structure	4	3	2
Architecture/Interiors	3	2	1
Mechanical	4	3	2
Plumbing	4	2	1
Electrical	4	4	2
Fire Protection & Life Safety	2	3	1
Telecommunications & Security	4	4	1
Key Deficiencies	3	3	1
Major Elements Remaining Useful Life less than 5 years	3	3	1
Overall Condition Rating	3	3	1
Potential for Chambers Accommodation	4	3	1
Adequate space for staff (~630)	5	5	2
Schedule & Logistics	4	4	1
ROM Cost	2	3	1

* No existing drawings/data available at time of analysis; assumptions based on observations and building code at time of construction.

"Reimagining City Hall" Guiding Principles – Ratings based on as-is condition 5 = Very Good / 1 = Poor			
Welcoming & Engaging	4	2	2
Accessible & Secure	3	3	3
Amenable for Public & Staff (Amenities)	4	2	2
Showcase of History/Art & Civic Engagement	3	1	2
Cost Effective	2	2	2
Functional & Efficient	3	3	1
Resilient & Innovative	1	1	1

Appendix A – Preliminary Flood Exposure Review

City of Fort Lauderdale – Comparative Facility Analysis

APPENDIX A: Preliminary Flood Exposure Review (with Flood Mitigation/Adaptation considerations)

Date: June 18, 2026
Project name: City of Fort Lauderdale – Preliminary Flood Exposure Review
Project no: R6X01100
Attention: City of Fort Lauderdale
Prepared by: Jacobs Engineering Group, Inc. :: www.jacobs.com

This Memorandum is organized into the following sections:

1. Introduction & Purpose
2. Background
3. Flood Exposure Assessment
4. Flood Mitigation/Adaptation Actions
5. References

1. Introduction & Purpose

As the result of extensive flooding of the City Hall building in 2023, the City of Fort Lauderdale is currently evaluating the feasibility of relocating its administrative offices to one of three adjacent buildings.

This technical memorandum presents an assessment of the flood exposure of the three subject buildings to support the selection of the most suitable property for the new City Hall. The selected building will undergo renovations to reduce risk associated with future flooding and to meet the needs of a new City Hall facility.

The three buildings being evaluated are located in downtown Fort Lauderdale, at:

- Building A: 1 East Broward Blvd
- Building B: 101 NE 3rd Avenue
- Building C: 299 East Broward Blvd

In addition, this memo also includes considerations for potential flood mitigation strategies and associated minimum design elevations for proposed improvements. These elevations are based on readily available information without the benefit of existing topographic survey or as-built drawings with finished floor elevations (FFEs) for each building. *Therefore, all recommendations herein are based on limited information and assumptions, which should be field verified.*

2. Background

The April 12–13, 2023 extreme rainfall event in Fort Lauderdale resulted in severe flooding that directly impacted the City Hall building and adjacent infrastructure. Approximately 26 inches of rainfall fell within a 24-hour period, exceeding a 0.1% annual exceedance probability (AEP) (1,000-yr rain event) threshold and produced widespread flood inundation of roadways, utilities, and critical public facilities (Broward County 2023, National Centers for Environmental Information [NCEI] 2023).

At the City Hall site, floodwaters inundated the building basement with depths of up to approximately eight feet, submerging critical building systems. This resulted in catastrophic damage to mechanical, electrical, and HVAC infrastructure located in the basement, including power distribution and climate control systems essential for occupancy (NBC 6 South Florida 2023, NCEI 2023). The loss of these systems, combined with prolonged moisture intrusion, rendered the building non-compliant with minimum safety and operability requirements.

Due to the extent of system failures, the depth and duration of flooding, and the cost to restore the structure to current flood-resistant design standards, the building was determined to be substantially damaged and unsuitable for rehabilitation. Consequently, the City deemed the facility uninhabitable and proceeded with demolition (completed in 2024) in favor of a more resilient replacement (Insurance Journal 2023, WSVN 2024).

The project study area is delineated by the red boundary and includes the surrounding roadway corridors that define its limits, as depicted in Figure 1.

Figure 1. Previous and Proposed new City Hall locations

Bing Maps, 2026

Figure 2. E Broward Ave After Extreme Rainfall Event on April 12th 2023, 1 East Broward Blvd Building and 299 East Broward Blvd Building (top right of photo on left; left side of photo on the right)

Fort Lauderdale Extreme Rainfall and Flooding Event (Image Source: Sun Sentinel)

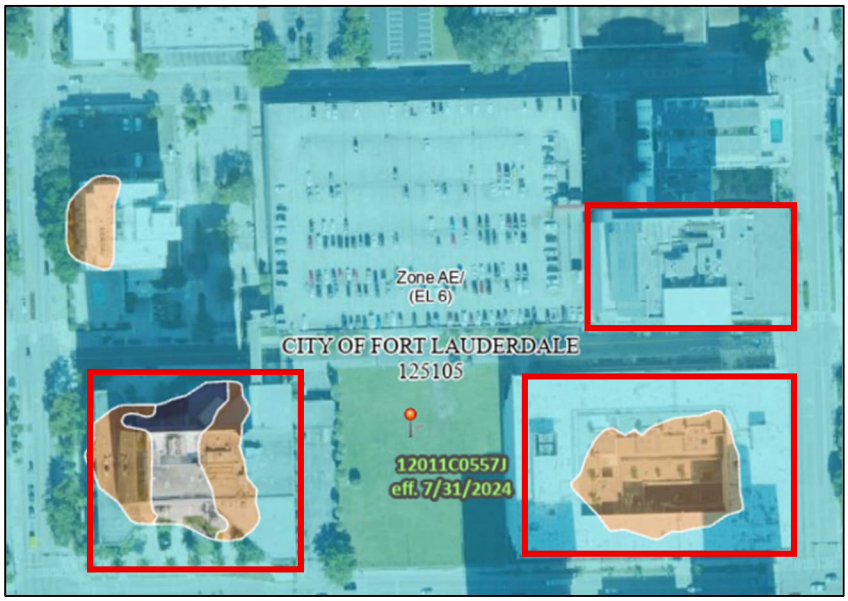
3. Flood Exposure Assessment

3.1. Project Area Flood Exposure

Current Day (100-Year) Flood Exposure

The Federal Emergency Management Agency (FEMA) maintains flood map data that provides an understanding of the 1% annual probability flood commonly known as the 100-year flood. The FEMA Flood Insurance Rate Maps (FIRM) in the downtown Fort Lauderdale area were last revised in 2024; and were utilized in this flood exposure analyses. As shown in Figure 3, the project area is exposed to the current day 100-year flood event, with a base flood elevation of approximately 6.0 feet NAVD (FEMA 2024). Most of the project area is within this 100-year special hazard flood zone (Zone AE), as depicted by the light blue shading. However, it is important to note that flood maps do not reflect flooding resulting from more severe storm events, or account for future sea levels or more intense rainfall events, both of which may affect future flood elevations.

Figure 3. FEMA Flood Insurance Rate Map (FIRM) Base Flood Elevation: 100-Year Flood



FEMA 100-year Floodplain. Zone AE, (FIRM Eff. Date: 7/31/24), FIRM Panel # 12011C0557J

While two of these buildings appear to show a small area outside of the 100-year flood zone (500-year flood zone, represented by the orange shading), it is important to note that this area of potentially higher elevation is located within the building footprint, and does not reflect an accurate flood elevation. Therefore, it is assumed that the buildings are entirely within the 100-year flood zone, as the same base flood elevation.

Future (100 & 500-year) Flood Exposure

Future flood elevations were approximated using a combination of the current day FEMA FIRM Base Flood Elevations and projected sea levels for 2040 & 2070 planning horizons. Sea level rise (SLR) projections were added to the 100-year and 500-year flood elevations to evaluate potential changes in flood magnitude over time. These adjustments were informed by modeled projections from the Broward County Resilience Plan (Broward County 2025). These future flood scenarios have incorporated 2-feet and 3.3-feet of SLR, respectively for the 2040 & 2070 scenarios, both derived from the NOAA 2017 Intermediate-High SLR projection with a 2000 baseline (SE FL Regional Climate Change Compact 2019).

Table 1. Future Flood Elevations in the City Hall project area: 100-Year Event

Flood Event	100-yr Flood (current day)	100-yr Flood Elev + NOAA 2040 Int. High SLR	100-yr Flood Elev + NOAA 2070 Int. High
Elevation (ft NAVD88)	6.0 ft	8.0 ft	9.3 ft

Notes:

- *FEMA FIRM 1% annual chance flood elevation covers majority of the project area. This elevation is used to inform overall site flood assessment.*
- *The SLR elevations used to arrive at these numbers are consistent with the modeling results captured in the Broward County Resilience Plan.*
- *While NOAA has published 2022 SLR projections, they have not yet been adopted for use in SE FL, by the Compact, or by Broward County, as they are less conservative than the 2017 NOAA SLR projections, which remain in use in SE FL.*
- *The addition of SLR and the BFE does not necessarily reflect the actual water surface elevation, as flood events are very dynamic and will vary with many factors. However, for the purposes of this cursory assessment, we are adding these values together, representing a conservative estimate of potential flood elevations for select future flood scenarios.*

Table 2. Flood Elevations in the City Hall project area: 500-Year Event

Flood Event	500-yr Flood (current day)	500-yr Flood Elev + NOAA 2040 Int. High SLR	500-yr Flood Elev + NOAA 2070 Int. High SLR
Elevation (ft NAVD)	Est. 6.5 ft	8.5 ft	9.8 ft

Notes:

- *FEMA FIRM 0.2% annual chance flood elevation (wave crest elevation = 6.5 ft NAVD), based on the Coastal Transect 37 within the FEMA Flood Insurance Study (FIS), less than one mile north of the project area; assumed to be similar to flood inundation for the subject project study area.*
- *While NOAA has published 2022 SLR projections, they have not yet been adopted for use in SE FL, by the Compact, or by Broward County, as they are less conservative than the 2017 NOAA SLR projections, which remain in use in SE FL.*
- *The addition of SLR and the BFE does not necessarily reflect the actual water surface elevation, as flood events are very dynamic and will vary with many factors. However, for the purposes of this cursory assessment, we are adding these values together, representing a conservative estimate of potential flood elevations for select future flood scenarios.*

Coastal Storm Surge

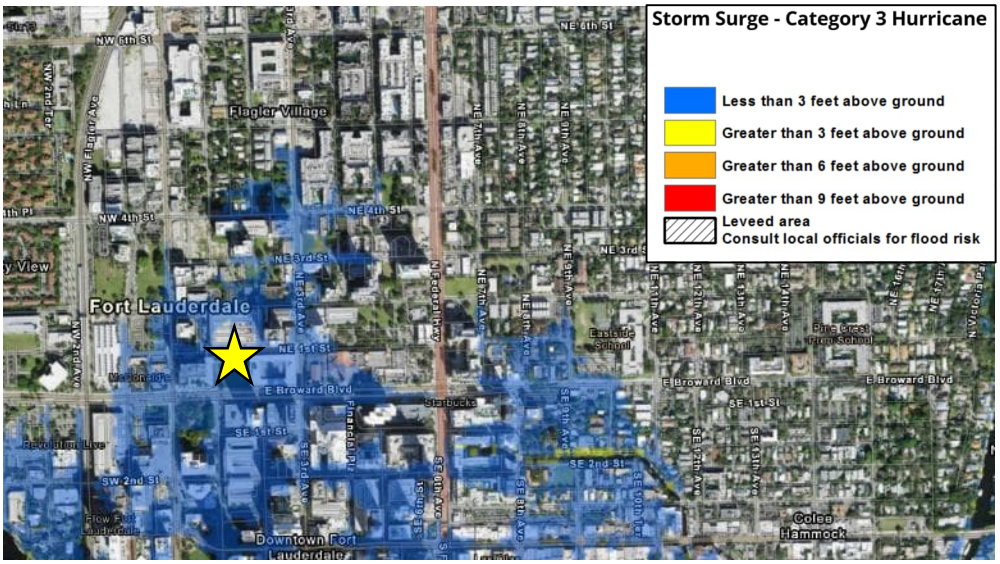
The project area is approximately 0.32 miles north of the New River, a tidally influenced waterway that serves as a primary drainage and stormwater conveyance feature within the downtown Fort Lauderdale area. Given the urban area is subject not only to pluvial (overland) and fluvial (riverine) flooding but also to tidal influences and coastal storm surge propagation through the connected canal network. As a result, storm surge impacts conveyed through the New River system were explicitly considered in this flood exposure assessment to appropriately characterize flood exposure and inform the development of minimum design elevations and flood mitigation strategies.

Storm surge data was obtained from the NOAA Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model outputs. SLOSH data presents anticipated storm surge depths for hurricanes of categories 1-5. It should be noted that the SLOSH modelling is primarily used for evacuation purposes, as the actual flood

inundation from a storm surge event may vary significantly from these flood depths, due to the complex and dynamic nature of storm surge. Based on NOAA storm surge modeling, the project area may experience flood depths of up to approximately 3 feet during Category 2 to 3 hurricane events, with greater inundation depths possible during more intense Category 4 and 5 hurricanes. Flood exposure from storm surge was not identified in the NOAA SLOSH modeling for a Category 1.

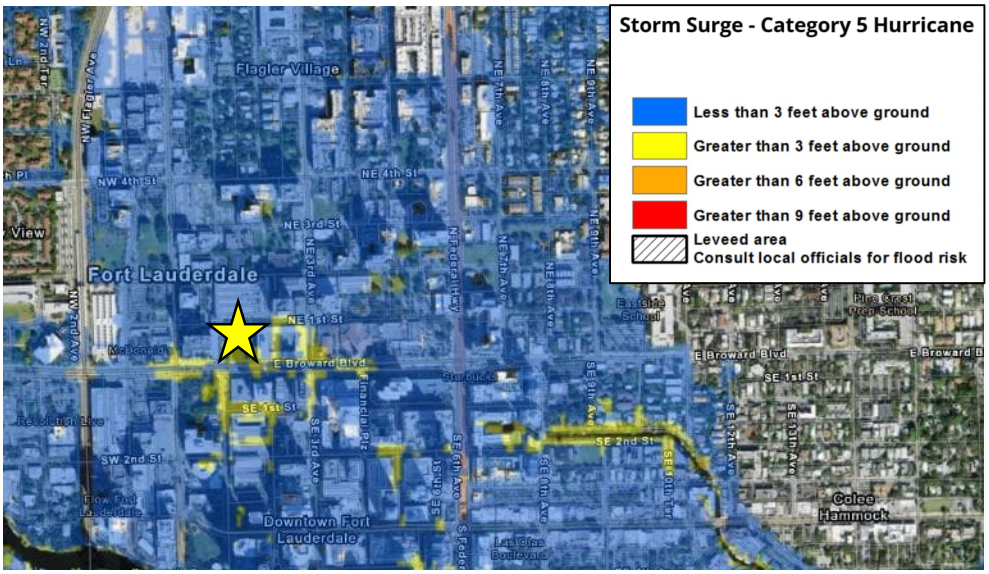
Figures 4 and 5, developed using the NOAA Flood Exposure Mapper, illustrate the spatial extent of storm surge inundation under Category 3 and Category 5 hurricane scenarios, with the project area identified by a yellow star.

Figure 4. NOAA SLOSH MOM Storm Surge Flood Depth Map (Cat. 3 hurricane)



NOAA Coastal Exposure Mapper, 2026

Figure 5. NOAA SLOSH MOM Storm Surge Flood Depth Map (Cat. 5 hurricane)

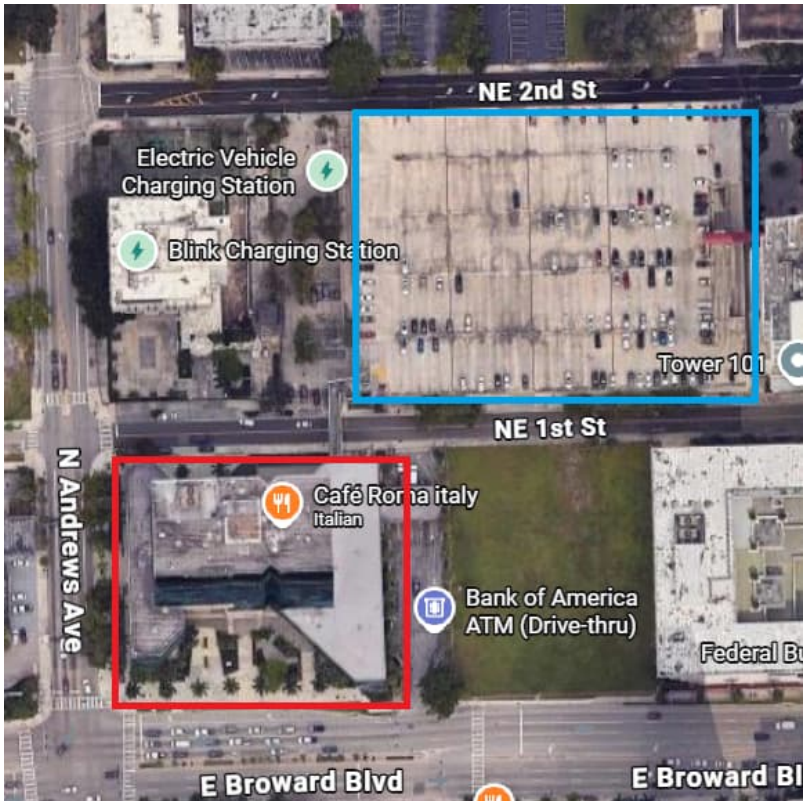


NOAA Coastal Exposure Mapper, 2026

3.2. Building Specific Flood Exposure & Potential Vulnerabilities

The following review is intended to provide an understanding of potential flood exposure for each of the subject buildings against the above described current and future flood scenarios to inform possible improvements needed to avoid flood vulnerabilities or associated impacts.

3.2.1. Building A: 1 East Broward Blvd

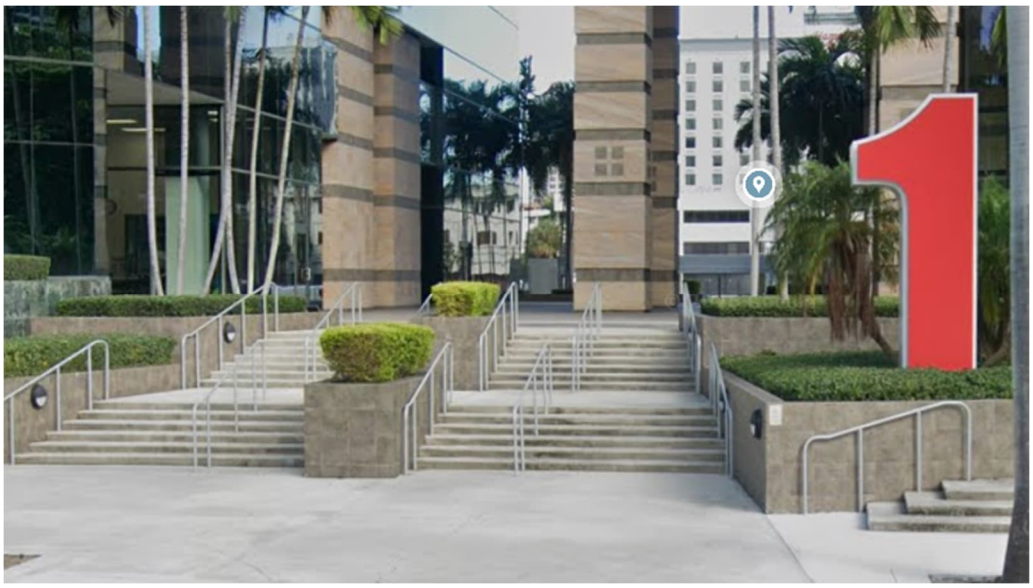


Building Information (from As-Builts)

- Building complex consists of 4 separate tower buildings attached above grade.
- Lowest finished floor: 7.83 ft NAVD of eastern building and 7.96 ft for remaining 3 buildings (based on provided design drawings)
    - This elevation represents the primary building FFE, based on visual observations and limited information, but does not necessarily represent the lowest floor of the building, or any sub-grade spaces.
- Curb line elevation: 1.5 ft NAVD at stormwater inlets (based on provided design drawings)

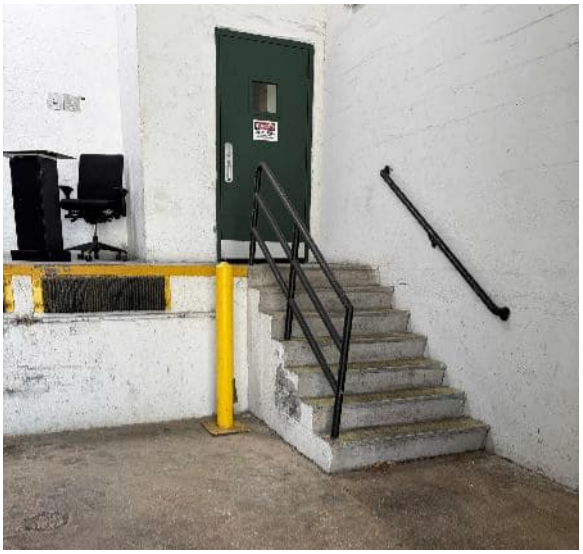
Site and Building Information/Observations from desktop review:

- Office building with elevated FFE and separate offsite parking structure with elevated catwalk.
- Access roads: est. at 1.5-2.5 ft NAVD (vulnerable to flooding)
- Stairwell egress door (NW corner of building): est. at 2-3 ft NAVD (via lower-level access door. (potential flood pathway to building interior)
- Back of house (loading ramp): low point est. 2-3 ft NAVD (elec. and mechanical equipment identified. Specifics on equipment unknown.)
    - FPL Vault room (at grade)
    - Storage room with electrical equipment and fuel storage (at grade)
    - elevated loading ramp/same as building lobby (est. 4 ft above grade)
- AC equipment (outside of building)
    - mini-split unit (est. 32 inches above grade)
- Parking structure across street with 2nd floor access walk:
    - lower-level parking including elevator access, elevator elec. (at grade)
    - elevator mechanical room (est. 18 inches above grade)
    - vehicle access and pay equipment est. 2-3 ft NAVD (vulnerable to flooding)



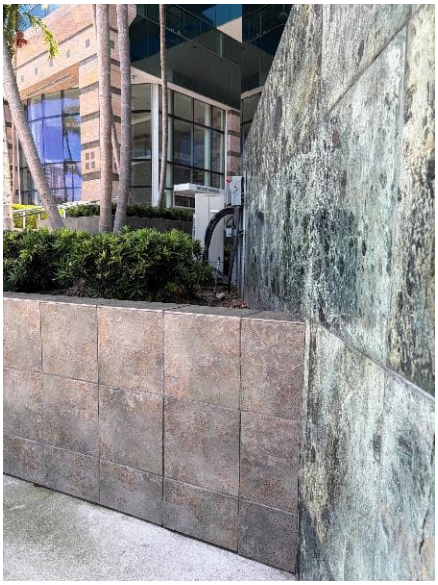
South side. Primary building entrance is about 5' above grade.

Loading dock area (back of house). FPL Vault is at grade in loading dock area. This would need flood panels. Louver at lower elevation extends up to the Mezzanine above.



Loading dock is approx. 4′ above grade. There is no change in elevation between loading dock and lobby within building. Road on south side of building may be 1′ lower than roadway on North side.

Right photo appears to be a storage room, located under an egress stair.

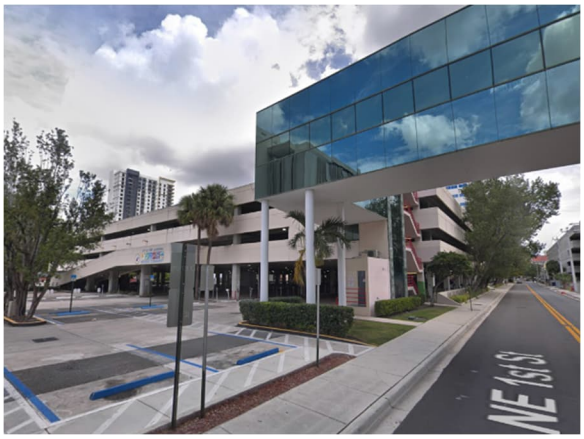


North side. This mini split AC unit sits at approx. 32" above grade.

West side of building. Egress stair. Approx 2' above grade. Stairwell will take on water.

East side of building. Unless the City wants a drive through to process utility payments, this will likely be removed. Room, equipment and existing electrical service are all at grade.

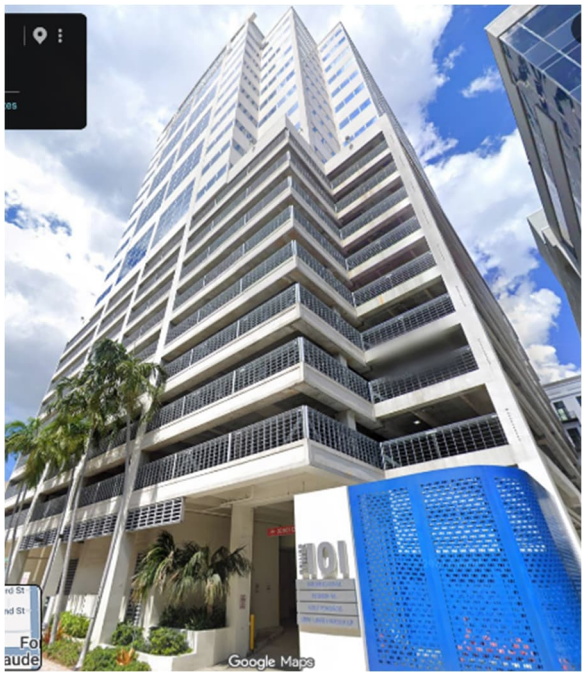
Electrical service for drive through. (low point of equipment est. 24-30 inches above grade)

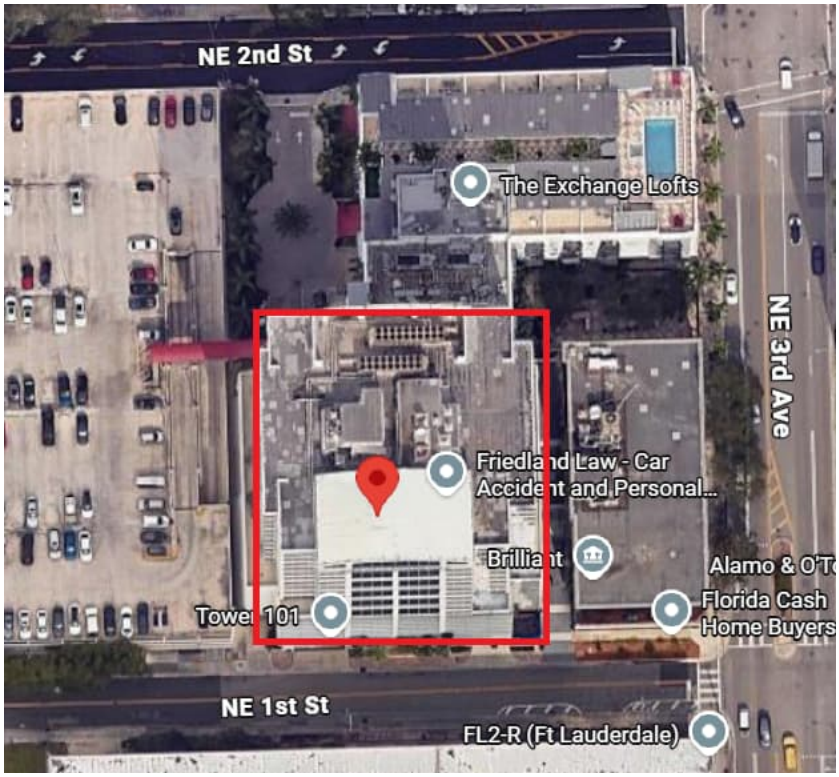


Access door to elevator shaft mech. equipment (approx. 18 inches above grade)

Elevator shaft access doors (assumed to be close to grade)

3.2.2. Building B: 101 NE 3rd Ave



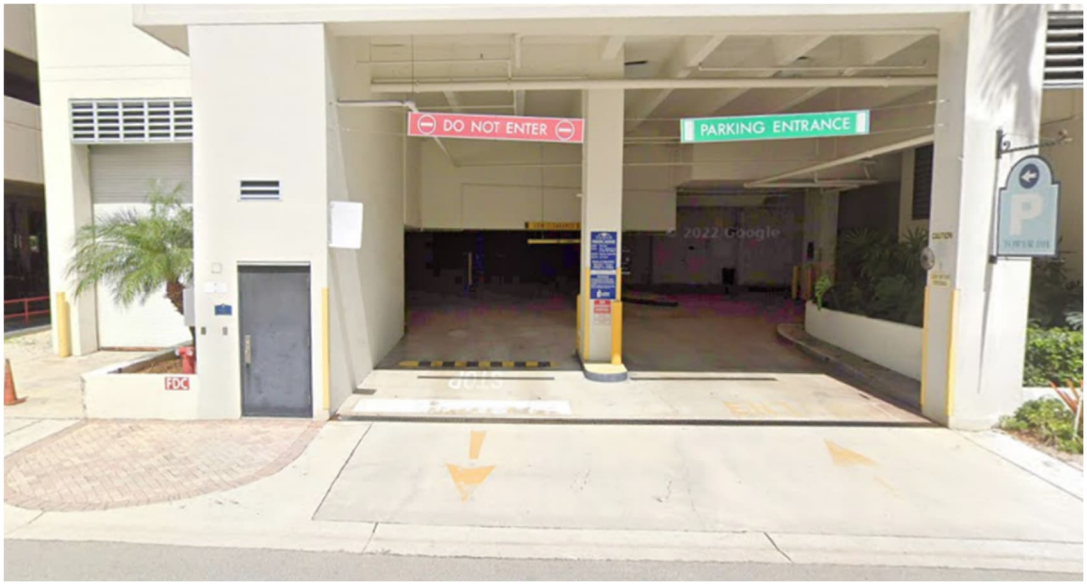


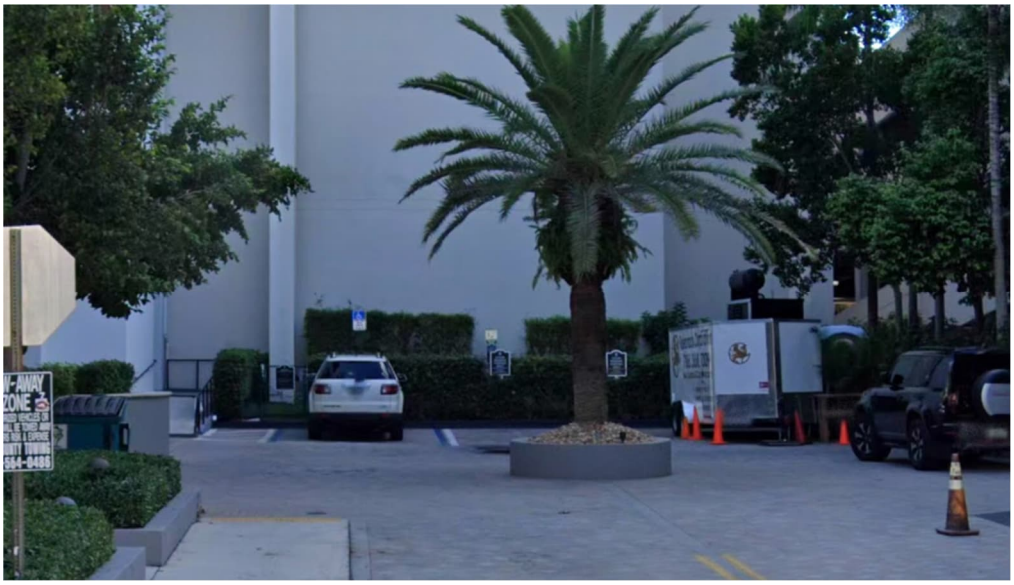
Building Information (from As-Builts)

- Building lower-level elev. 7 ft according to MSL
    - Assume MSL (in 1984 was around 0.5 ft NAVD, vs 1.2 ft today) not calculated… then lower-level would be around 6.25 ft NAVD.

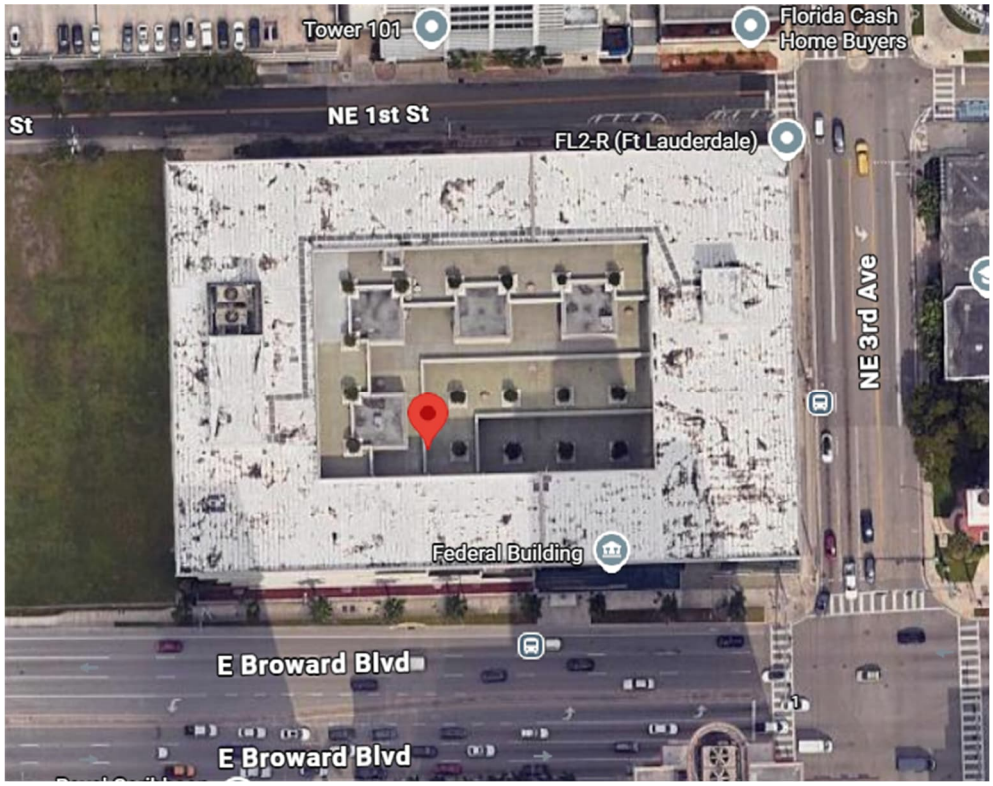
Site and Building Information/Observations from desktop review:

- Office building with elevated FFE above 9-story integrated parking structure.
- Approx. existing grade (at sidewalk): 2 ft NAVD
- Approx. building FFE: 102 ft NAVD (estimated based on provided design drawings)
    - Estimated based on 1st floor parking at 20 ft + 8 floors of parking at 10 ft = 100 ft above sidewalk grade.
    - This elevation represents the primary building FFE, based on visual observations, but does not necessarily represent the lowest floor of the building, or any sub-grade spaces.
- Access roads: est. at 2-3 ft NAVD (vulnerable to flooding)
- Electrical and Mechanical (HVAC) equipment room (SW corner of building): est. at 2-3 ft NAVD (via lower-level access door. Equipment inside room unknown.
- Mechanical room access door at SW corner of building (loading ramp?): est. 2-3 ft NAVD (possible freight elevator, and other elec. and mechanical equipment. Specifics unknown.
- Parking structure on lower levels of building: ramp up some to est. 3-4 ft NAVD
- Mechanical equipment and/or backup power generator on South side of building at lower level: est. elev. 2-3 ft NAVD (vulnerable to flooding)
- Possible mechanical access door at north side of building: est. 2-3 ft NAVD (vulnerable to flooding)
- Possible backup power generator at NW corner of building: est. 2-3 ft NAVD (vulnerable to flooding)



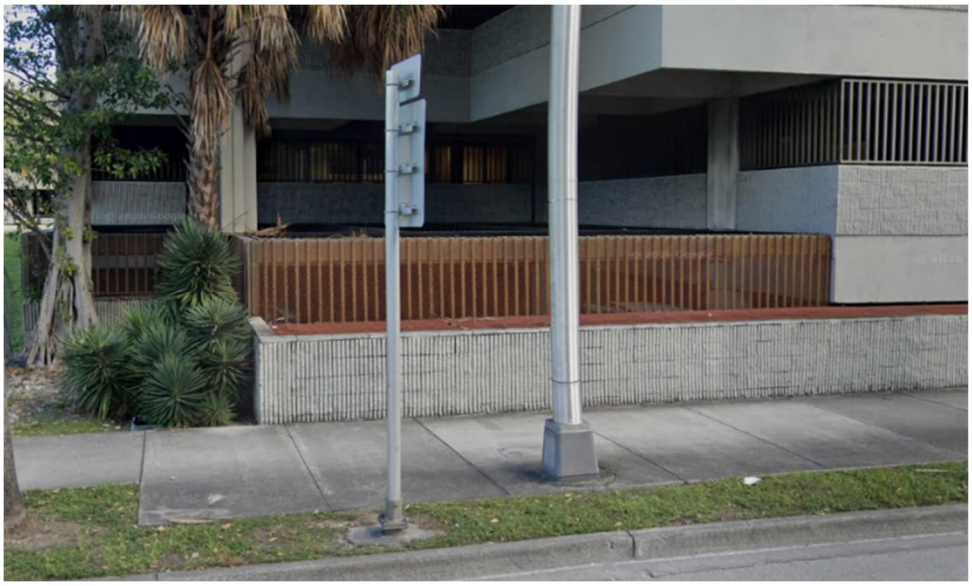


3.2.3. Building C: 299 East Broward Blvd

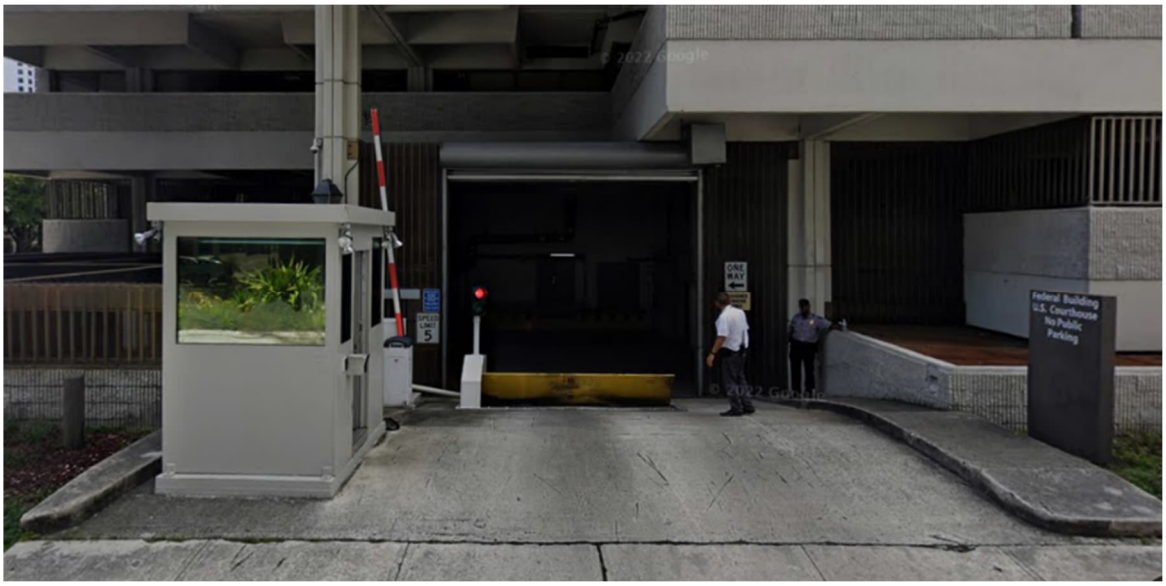


No as-built info available.
Site and Building Information/Observations from desktop review:

- Former Federal Building with elevated FFE. No windows on north, west or east sides of building.
- Below grade parking, with access along north side of building: est. 2-3 ft NAVD (vulnerable to flooding)
    - Wall elevation at approximately 3-4 feet NAVD surrounding most of building.
    - Communications, security equipment and fire equipment in below grade areas (including intercoms, card readers, cameras, and motors and controls for roll up doors)
- Approx. existing grade (at sidewalk): 2-3 ft NAVD
- Approx. building FFE: 15 ft NAVD
    - Estimated based on 24 steps @ 0.5 ft rise each = 12 ft above sidewalk grade
    - This elevation represents the primary building FFE, based on visual observations, but does not necessarily represent the lowest floor of the building, or any sub-grade spaces.
- Access roads: est. at 2-3 ft NAVD (vulnerable to flooding)
- Electrical and Mechanical (HVAC) equipment room (assumed to be in lower level of parking garage): est. elev. at 0 ft NAVD (via lower-level access doors). Equipment unknown.
- Back of house (loading ramp): est. 2-3 ft NAVD (possible freight elevator, and other elec. and mechanical equipment at elevation near or below elev. 0. Specifics unknown.




Federal Building-United States Courthouse


© 2022 Google
ONE WAY
SPEED LIMIT 5
Federal Building
U.S. Courthouse
No Public
Parking
© 2022 Google


© 2022 Google

4. Flood Mitigation/Adaptation Actions

4.1. Minimum Design Elevations

Define the minimum elevation thresholds for building finished floor elevations and flood-sensitive equipment used to reduce probability of flood impacts to structures and critical infrastructure systems. The Base Flood Elevation (BFE), representing the 1% annual chance flood, with 1.4 feet of freeboard serves as the regulatory baseline based on FEMA 480, with additional freeboard added to establish recommended minimum design elevations which account for uncertainty and future conditions (FEMA 2023, ASCE 2014). ASCE 24-24 further refines these criteria by linking elevation requirements to Flood Design Class, requiring higher freeboard and more conservative elevations for critical facilities to maintain functionality during extreme flood events (ASCE 2024).

In consideration of the selected facility's criticality to the long-term operation of the City of Fort Lauderdale's administration, a freeboard of 3 Feet is assumed to establish the recommended Finished Floor Elevation (FFE) for the new City Hall building. This elevation also serves as the minimum reference elevation for critical building systems such as electrical, HVAC, and emergency access and egress points.

When using this data to inform minimum requirements for floodproofing retrofits, it is strongly recommended to account for sea level rise for the 2040 planning horizon for short lived flood-sensitive supporting assets and the 2070 planning horizon to effectively protect critical assets and maintain public safety over the typical service life of a building.

The following formulas were used to determine the regulatory minimum FFE for both the 100-year and 500-year flood events, as well as the minimum design elevations for future flood scenarios.

A. **Minimum Regulatory FFE (based on FEMA 480)**
   =(100-yr + 1.4ft per FEMA 480)
   = 6 ft BFE + 1.4 ft = 7.4 ft NAVD

B. **Minimum FFE/Design elevation for critical infrastructure (based on ASCE 24-24)**
   = (100-yr Flood BFE + 3 ft freeboard)
   = 6 ft BFE + 3 ft freeboard = 9 ft NAVD

C. **Recommended Minimum Design Elevation (2040) for short lived critical, flood-sensitive assets**
   = (100-yr Flood BFE + 2040 SLR + 2.0 ft freeboard)
   = 6 ft BFE + 2 ft SLR + 2.0 ft freeboard = 10.0 ft NAVD

D. **Recommended Minimum Design Elevation (2070) for building flood protection and long-lived critical, flood-sensitive assets**
   = (100-yr Flood BFE + 2070 SLR + 2.0 ft freeboard)
   = 6 ft BFE + 3.3 ft SLR + 2.0 ft freeboard = 11.3 ft NAVD

Table 3, below, summarizes the resulting Minimum Design Elevations for flood protection of buildings and critical flood sensitive equipment for each of the scenarios listed above.

Table 3. Recommended Minimum Design Elevations for current and future flood scenarios

Flood Event	100-yr Flood (current day BFE)	Regulatory Minimum Design Elevation	Minimum Design Elev. per ASCE 24	Recommended Min. Elev. for Short Lived Assets (2040)	Recommended Min. Elev. for Long Lived Assets (2070)
Elevation (ft NAVD88)	6.0 ft	7.4 ft	9.0 ft	10.0 ft	11.3 ft

4.2. General Flood Mitigation/Adaptation Actions

Where elevation or relocation cannot be utilized as a flood defense, there are various options for flood hardening of the buildings and critical and supporting flood-sensitive infrastructure to reduce risk and maintain reliable City Hall operations. The following describes some of these activities

- **Dry Floodproofing**

  A form of asset hardening that prevents exposure to flood inundation through the use of flood barriers, sealed building envelopes, and water-tight cabinets or enclosures. This strategy is applied to assets or facilities up to the minimum design elevation when not elevated.

- **Wet Floodproofing**

  A form of asset hardening that utilizes non-flood-sensitive materials to prevent damage to an asset or facility. This strategy is applied to assets or facilities when assets cannot be elevated or where dry floodproofing is cost-prohibitive.

4.3. Building Specific Flood Mitigation Actions

The following provides some potential actions that can be taken to address the potential flood threat for each of the subject buildings.

Key for potential costs of flood mitigation /adaptation actions:

- $ $0 - $50k
- $$ $50k - $250k
- $$$ $250k - $1M
- $$$$ $1M +

4.3.1 Building A: 1 East Broward Blvd.

This existing building has an elevated FFE above the anticipated future flood stage for the 100-yr event; however, some of the supporting critical infrastructure may be vulnerable to flooding, which could result in impacts to critical assets, building operations and staff safety. The following actions may be warranted to reduce these vulnerabilities, but do require field verification:

Vulnerability	Elevation (at point of failure) NAVD88	Potential Action	Potential Cost
Site access to building and adjacent parking structure	Est. 1.5-2 feet road elev.	No practical solution in near term (requires coordination with City)	n/a
Parking structure across street (lower level)	Est. 1.5-2 feet	No practical solution in near term (requires coordination with City)	n/a
Elevator and pay equipment at parking structure	Est. 2-3 feet	Operable flood barriers at elevator access door and equipment room door; elevate parking pay equipment	$$
Sealing building envelope	From grade up to established minimum design elevation for flood defense	Seal building foundation, walls, cracks, pipe penetrations, vents, etc. with water tight seals	$$
Egress pedestrian door at NW corner of building	Est. 2-3 feet at doorway	Dry floodproof mech. room via flood door or panel	$
AC equipment outside of building (mini-split)	Est. 4-5 feet	Elevate equipment on pedestal to protect from flooding	$
Back of house loading ramp, electrical and mechanical equipment (additional flood barriers for FLP vault room would provide added level of protection)	Est. 2-3 feet at low point of back of house area	Incorporate operable flood panels across 30 ft wide access drive x 8-10 ft tall to be quickly deployed in advance of impending flood event. + additional flood barrier at FPL vault room	$$$ + $

While many of the identified vulnerabilities can be addressed, building and parking access cannot be easily addressed, which results in potential loss of service during flood events, where staff may be trapped in the building for a limited period of time, or prevented from accessing the building until flood waters recede. Most floods including storm surge only last 6-12 hours, so the operational impacts are expected to be minimal; however, in severe cases where floods last longer, steps should be taken to ensure staff have necessary provisions to remain in building for 1-2 days.

4.3.2 Building B: 101 NE 3rd Ave.

This existing building has an elevated FFE above the anticipated future flood stage for the 100-yr event; however, some of the supporting critical infrastructure may be vulnerable to flooding, which could result in impacts to critical assets, building operations and staff safety. The following actions may be warranted to reduce these vulnerabilities, but do require field verification:

Vulnerability	Elevation (at point of failure) NAVD88	Potential Action	Potential Cost
Site access to building and attached parking structure	Est. 1.5-2 feet road elev.	No practical solution	n/a
Parking structure (at lower level of building) including pay equipment	Est. 2-3- feet	No practical solution	n/a
Sealing building envelope	From grade up to established minimum design elevation for flood defense	Seal building foundation, walls, cracks, pipe penetrations, vents, etc. with water tight seals	$$
Elec. /mechanical room at SW corner of building via pedestrian access door	Est. 2-3 feet at doorway	Dry floodproof mech. room via flood door or panel	$
Loading ramp and mechanical equipment via vehicular door	Est. 2-3 feet at bay door	Incorporate operable flood panels across 12 ft wide bay door x 8-10 ft tall to be quickly deployed in advance of impending flood event.	$$
Elec./mech. equipment and/HVAC on south side of building via access doors and vents	Access doors Est. at 2-3 feet. Vents est. at 4-5 feet	Incorporate flood doors or operable panels for entry doors and relocate lower vents to higher elevation on wall.	$$
Egress doorway at north side of building	Est. 2-3 feet at doorway	Dry floodproof via flood door or operable panel	$
Backup power generator at NW corner of building outside	Est. 2-3 feet	Elevate generator and elec. equipment on pad above flood stage	$$

While many of the identified vulnerabilities can be addressed, building and parking access cannot be easily addressed, which results in potential loss of service during flood events, where staff may be trapped in the building for a limited period of time, or prevented from accessing the building until flood waters recede. Most floods including storm surge only last 6-12 hours or less, so the operational impacts are expected to be minimal; however, in severe cases where floods last longer, steps should be taken to ensure staff have necessary provisions to remain in building for 1-2 days.

4.3.3 Building C: 299 East Broward Blvd.

This existing building has an elevated FFE above the anticipated future flood stage for the 100-yr event; however, some of the supporting critical infrastructure may be vulnerable to flooding, which could result in impacts to critical assets, building operations and staff safety. The following actions may be warranted to reduce these vulnerabilities, but do require field verification:

Vulnerability	Elevation (at point of failure) NAVD88	Potential Action	Potential Cost
Site access to building and adjacent parking structure	Est. 1.5-2 feet road elev.	No practical solution	n/a
Sealing building envelope	From grade up to established minimum design elevation for flood defense	Seal building foundation, walls, cracks, pipe penetrations, vents, etc. with water tight seals	$$
Parking (below grade) including pay equipment via driveway entrance, NW corner loading ramp	Est. 2-3 feet	Incorporate operable flood panels across 20 ft wide driveway x 8-10 ft tall to be quickly deployed in advance of impending flood event.	$$$
Parking (below grade) including pay equipment via driveway entrance, NE corner	Est. 2-3 feet	Incorporate operable flood panels across 20 ft wide driveway x 8-10 ft tall to be quickly deployed in advance of impending flood event.	$$$
Parking area (below grade) via perimeter wall	Est. 3-4 feet	Elevate and floodproof perimeter wall around entire building to avoid floodwater entrance to lower level parking	$$$$
Elec. /mech., equipment communications, security, fire equipment and roll up door controls, in parking level, below grade	0 feet or below	Elevate, relocate or flood harden equipment above flood stage as added level of protection in addition to perimeter and vehicle access flood barriers.	$$-$$$

While many of the identified vulnerabilities can be addressed, building and parking access cannot be easily addressed, which results in potential loss of service during flood events, where staff may be trapped in the building for a limited period of time, or prevented from accessing the building until flood waters recede. Most floods including storm surge only last 6-12 hours, so the operational impacts are expected to be minimal; however, in severe cases where floods last longer, steps should be taken to ensure staff have necessary provisions to remain in building for 1-2 days.

5. References

1. American Society of Civil Engineers (ASCE). (2016). ASCE/SEI 24-14: Flood resistant design and construction. ASCE.
2. Broward County. (2024). Climate toolbox: Sea level rise. https://www.broward.org/Climate/Toolbox/Pages/SeaLevelRise.aspx
3. Broward County Resilience Plan. (2024). Flood risk assessment and vulnerability analysis. https://www.resilientbroward.com/risk-assessment
4. Federal Emergency Management Agency (FEMA). (2021). Protecting building utility systems from flood damage (FEMA P-348). FEMA.
5. National Oceanic and Atmospheric Administration (NOAA). (2026). Sea level rise and coastal flooding impacts viewer. https://coast.noaa.gov/slr/
6. American Society of Civil Engineers (ASCE). (2014). Flood resistant design and construction (ASCE/SEI 24-14). ASCE.
7. American Society of Civil Engineers (ASCE). (2024). Flood resistant design and construction (ASCE/SEI 24-24). ASCE.
8. Federal Emergency Management Agency (FEMA). (2023). Elevation certificate and floodplain management guidance. U.S. Department of Homeland Security. [fema.gov]
9. National Weather Service Miami, FL. (2023, June 26). Fort Lauderdale extreme rainfall and flooding event. ArcGIS StoryMaps. https://storymaps.arcgis.com/stories/55cf948a0bfe40509fb261203a16042

Appendix B – ROM Estimate Recap Sheets

City of Fort Lauderdale – Comparative Facility Analysis

APPENDIX B: Rough Order of Magnitude (ROM) Estimate Recap Sheets

Date: June 18, 2026

Project name: City of Fort Lauderdale Comparative Facility Analysis – ROM Estimate Recap Sheets

Project no: R6X01100

Attention: City of Fort Lauderdale

Prepared by: Jacobs Engineering Group, Inc. :: www.jacobs.com

The cost estimates presented in this report are interpreted within the framework established by the Association for the Advancement of Cost Engineering (AACE), which provides the industry standard for classifying estimates based on the level of project definition and associated estimating methodology. This classification system establishes a consistent basis for communicating estimate reliability, intended use, and expected accuracy throughout the project life cycle.

AACE defines five estimate classes, ranging from Class 5 (conceptual / order-of magnitude) to Class 1 (definitive. The primary differentiator between classes is the degree of design and scope development, which directly influences the level of uncertainty and confidence in the estimate. As project definition advances – from conceptual planning through detailed design – the estimate transitions to higher classes and the expected accuracy range correspondingly narrows.

Estimated cost ranges are expressed as percentage variations above and below the stated estimate value, reflecting the inherent uncertainty at each stage of development rather than estimator error. These ranges are commonly understood to represent an approximate 80 percent confidence interval, indicating the likelihood that actual project costs will fall within the stated bounds, assuming the project scope, schedule, and execution conditions remain consistent. Typical AACE accuracy range maximums are as follows:

Class 5 (Concept Screening): -50% to +100%

Class 4 (Feasibility): -30% to +50%

Class 3 (Budget Authorization): -20% to +30%

Class 2 (Control / Bid): -15% to +20%

Class 1 (Definitive): -10% to +15%

These accuracy ranges highlight that early-stage estimates carry a greater degree of variability and risk, and therefore are appropriate primarily for comparative analysis, screening, and planning-level decision-making, consistent with this task order. As noted in Table 1 below, ranges vary and are subject to estimator.

Estimate Class	Project % Complete	Purpose of Estimate	Estimating Method	Expected Accuracy Range
Class 5	0% to 2%	Feasibility	Estimator Judgment	Low: -20% to –50% High: +30% to +100%
Class 4	1% to 15%	Concept	Parametric	Low: -15% to –30% High: +20% to +50%
Class 3	10% to 40%	Budget Authorization	Semi-detailed	Low: -10% to –20% High: +10% to +30%
Class 2	30% to 75%	Control	Mostly Detailed	Low: -5% to –15% High: +5% to +20%
Class 1	65% to 100%	Check Estimate	Detailed	Low: -3% to –10% High: +3% to +15%

Table 1—Cost Estimate Classification Matrix

6/18/2026

Ft Lauderdale City Hall Bldg Assessments Rom Estimate	Total	sf	$/sf
1E Broward (West Marine)	**$168,234,205**	**349,600**	**$481**
TI assumed to be 125,000 sf			
Subtotal Direct Costs w Markups	**$168,234,205**		
Escalation on Estimate 30 mo x .5%/mo	$25,235,131		
Subtotal Direct Contingency Escalation	**$25,235,131**	**$193,469,335**	
Design/Engineering Costs	$8,411,710		
Design Services During Const CA	$3,364,684		
Subtotal Subcontractor, Planning, Design, SDCs	**$11,776,394**	**$205,245,730**	
Envelope Inspection	$841,171		
Material Testing	$1,682,342		
Project Permit Fees	$757,054		
Furniture/Fixtures/Equipment (FF&	$0	By owner	
Owner's Other Allowances	$0	By owner	
Subtotal Costs	**$3,280,567**	**$208,526,297**	

Assumptions & Clarifications to the ROM Estimate:

Telephones and IT Equipment are not included in this estimate
Includes soft costs noted above
Estimate is in 2026 Dollars and escalated as noted above
Estimate and is considered a Class 5 Rom Estimate
R.S. Means Costworks 2026 2nd qtr adjusted for area and project size used
No Window Washing equipment included

Estimate Class	**Low**		**High**
Class 5 - Concept Level 30%	**$145,968,000**	**$208,526,000**	**$312,789,000**
Class 5 - Concept Level 28%	**$150,139,000**	**$208,526,000**	**$302,363,000**

6/18/2026

Ft lauderdale Bldg Assesments Rom Estimate	Total	sf	$/sf
101 NE 3rd Av - TOWER 101 & 101 Center	**$127,416,240**	**468,000**	**$272**
Full TI of 6 Story and 75% of Tower			

Subtotal Direct Costs w Markups	**$127,416,240**	
Escalation on Estimate 30 mo x .5%/mo	$19,112,436	
Subtotal Direct Contingency Escalation	**$19,112,436**	**$146,528,676**
Design/Engineering Costs	$6,370,812	
Design Services During Const CA	$2,548,325	
Subtotal Subcontractor, Planning, Design, SDCs	**$8,919,137**	**$155,447,813**
Envelope Inspection	$637,081	
Material Testing	$1,274,162	
Project Permit Fees	$573,373	
Furniture/Fixtures/Equipment (FF&	$0	By owner
Owner's Other Allowances	$0	By owner
Subtotal Costs	**$2,484,617**	**$157,932,430**

Assumptions & Clarifications to the ROM Estimate:

Telephones and IT Equipment are not included in this estimate
Includes only soft costs noted above
Estimate is in 2026 Dollars and escalated as noted above
Estimate and is considered a Class 5 Rom Estimate
R.S. Means Costworks 2026 2nd qtr adjusted for area and project size used
No window washing equip included

Estimate Class	Low		High
Class 5 - Concept Level 30%	**$110,552,000**	**$157,932,000**	**$236,898,000**
Class 5 - Concept Level 28%	**$113,711,000**	**$157,932,000**	**$229,001,000**

6/18/2026

Ft lauderdale City Hall Bldg Assesments Rom Estimate

SF Analysis	sf	$/sf	Total
299 Broward Blvd Gut Existing bldg	**180,000**	**$45**	**$8,100,000**
Renovation (use 1 E Broward) $/sf est x 25%	**180,000**	**$601**	**$108,225,000**
Abatement allowance	**180,000**	**$15**	**$2,700,000**
New Addition	**35,000**	**$1,200**	**$42,000,000**
			$161,025,000

299 Broward Blvd Gut Existing bldg	**$161,025,000**

Subtotal Direct Costs w Markups	**$161,025,000**	
Estimate Contingency per AACE in above	$0	
Escalation on Estimate 30 mo x .5%/mo	$24,153,750	
Subtotal Direct Contingency Escalation	**$24,153,750**	**$185,178,750**
Design/Engineering Costs	$8,051,250	
Design Services During Const CA	$3,220,500	
Subtotal Subcontractor, Planning, Design, SDCs	**$11,271,750**	**$196,450,500**
Envelope Inspection	$805,125	
Material Testing	$1,610,250	
Project Permit Fees	$724,613	
Furniture/Fixtures/Equipment (FF&	$0	By owner
Owner's Other Allowances	$0	By owner
Subtotal Costs	**$3,139,988**	**$199,590,488**

Assumptions & Clarifications to the ROM Estimate:

Telephones and IT Equipment are not included in this estimate
Includes soft costs noted above
Estimate is in 2026 Dollars and escalated as noted above
Estimate and is considered a Class 5 Rom Estimate
R.S. Means Costworks 2026 2nd qtr adjusted for area and project size used
No window washing equip included

Estimate Class	Low	High
Class 5 - Concept Level 30%	**$199,590,000**	**$299,385,000**
Class 5 - Concept Level 28%	**$199,590,000**	**$289,406,000**

Appendix C – Commission Chamber Detail

City of Fort Lauderdale – Comparative Facility Analysis

APPENDIX C: Commission Chambers Detail

Date: June 23, 2026

Prepared by: Jacobs Engineering Group, Inc.

Tower/Center 101	Estimated Cost ($)
Structural mods	750,060
Doors	55,560
Flooring	162,513
Walls	250,298
Ceiling	325,026
Soundproofing	216,684
Millwork	270,855
Commission chamber 300 seats	250,020
Sprinkler	90,285
HVAC	722,280
Plumbing	108,342
Elect	541,710
Communication	252,798
Security and Safety	270,855
AV allow	208,350
Total	**4,475,636**
Cost /SF	344

Assumptions / Qualifications

- Chambers located on 1st floor of 6-story (Center) building
- Modifications to structure include removal of 2nd floor joists and reinforcing 1st floor columns
- Other Demo costs included elsewhere in estimate
- Includes increase to fixture count

1 East Broward	Estimated Cost ($)
Structural mods	0
Doors	55,560
Flooring	162,513
Walls	250,298
Ceiling	325,026
Soundproofing	216,684
Millwork	270,855
Commission chamber 300 seats	250,020
Sprinkler	90,285
HVAC	722,280
Plumbing	316,692
Elect	541,710
Communication	252,798
Security and Safety	270,855
AV allow	208,350
Total	**3,933,926**
Cost/SF	303

Assumptions / Qualifications

- No structural modification anticipated
- Reflects new restrooms on 1st floor
- Demo costs included elsewhere in estimate

299 E Broward	Estimated Cost ($)
Structural mods	0
Doors	55,560
Flooring	162,513
Walls	306,969
Ceiling	325,026
Soundproofing	216,684
Millwork	270,855
Commission chamber 300 seats	250,020
Sprinkler	90,285
HVAC	722,280
Plumbing	108,342
Elect	541,710
Communication	252,798
Security and Safety	270,855
AV allow	208,350
Total	**3,782,247**
Cost/SF	291

Assumptions / Qualifications

- Assumes chambers fits into existing courtroom.
- Costs for required additions to structure included elsewhere in estimate
- Includes increase to fixture count
- Demo cost included elsewhere in estimate