RFQ: 19-C-00042
OLD CITY HALL INTERIOR RENOVATIONS
DESIGN-BUILD SERVICES

DESIGN CRITERIA PACKAGE

PREPARED BY:

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CONTRACT ADMINISTRATION DEPARTMENT

CITY OF TAMPA

March 19, 2019

DESIGN CRITERIA:

The City of Tampa has prepared the enclosed Design Criteria Package for Design-Build Services related to the Old City Hall Interior Renovations. The scope shall include, but not be limited to the following:

- Upgrading of existing HVAC system in the Old City Hall Building.
- Upgrading of existing electrical system to support new chiller and air handlers.
- Upgrading of existing plumbing system.
- Upgrading of the interior building envelope to complement the recent exterior renovations.
- Replacement of existing fire alarm system.
- Full design services, including preparation of record drawings for use during design phase, etc.
- Development of GMP for construction
- Scheduling of related logistics

Estimated Construction Budget: $5.0 million.

In addition, the following contain the project overview and description of requirements:

A. Building History

Significance

Old City Hall is a classical tiered "layer cake" building on the National Register of Historic Places, completed in 1915 (the cornerstone was laid in January 1915) and stands today with major building components substantially intact. This building is one of the best known works of the architect, M. Leo Elliott and is one of the richest in detail of old buildings in the heart of Downtown Tampa. A four-faced clock occupies the building's Bell Tower. The Contractor was McGucken and Hyer, Contractors, Tampa, Florida and the Structural Engineer was H.G. Perring Engineering Company, Consulting Engineers of Jacksonville, Florida. Having lost the original county courthouse, Tampa City Hall is the only extant municipal building in downtown Tampa and is integral to the architectural heritage.

Site

The location of the Tampa City Hall is in the center of the downtown central business district on the southwest corner of the intersection of Kennedy Boulevard (formerly Lafayette Street) and Florida Avenue. The primary façade of the building faces north and Kennedy Boulevard, while the secondary façade faces east and Florida Avenue. A 1978 Municipal Office Building was constructed southwest of the original City Hall. A matching three-story Police Station was built south of City Hall originally, but razed in the 1960's which now accommodates a Mayor – City Council Parking Lot. A New City Hall Plaza was completed in 1979 connecting the two buildings on the site.

Exterior

The facility is a nine-story building of Palladian influence and is 158 feet high, excluding the 27 foot high flagpole. The first three floors are composed of five structural bays in a 93' square plan and reveal six limestone columns and five bays at the second and third floors but only on the two primary elevations north and east. The south and west elevations utilize brick pilasters in lieu of limestone columns. The first floor is composed of rusticated granite facing at the north and east elevations. The remaining exterior materials at the first three floors include: double hung, fixed sash aluminum windows with tinted, impact glazing, buff brick facing and brick detail work and extensive terra-cotta ornamentation at the third-floor fascia, railing and pediment. The original windows were double-hung wood sash and were replaced in 2012 with aluminum windows which closely match the profiles and appearance of the original windows. A 1915 cornerstone is engraved at the northeast corner of the first floor as well as a bronze building plaque at the north façade. A seal of the City is cast in stone over the main entry doors at the north façade. A benchmark indicates that the building is 19.511 feet above sea level.

The fourth floor is a 119-foot square plan with three structural bays. The fourth floor is unique in that full arched windows are utilized at all elevations. The roof area is readily accessible. A terra-cotta ornamental band separates the fourth and fifth floor and provides a key stone at the brick arches of the fourth-floor windows. Buff colored brick is the primary facing material at the fourth floor.

Floors five through seven are identical in all four elevations. Rectangular double-hung, fixed sash, aluminum windows in groups of three in three bays make-up the glass areas. The remainder is brick in-fill.

Floor eight is identical in all four elevations and acts as a cap for floors four through seven. A three-window segmental arched opening fills three bays. Four ornamental terra-cotta heads terminate the four-story brick piers. The ornamental heads were fashioned from a Seminole Indian maiden with braided hair. The eighth floor incorporates extensive terra-cotta ornamentation at the fascia, railing, and pediment.

The ninth floor is a 30-foot square plan and has one full arched louver at each elevation. The exterior material is gypsum block. An ornamental terra-cotta cap supports a cement plaster pediment with terra-cotta urns and flames at each of four corners.

The tenth floor is a 16-foot square plan that houses a luminous dial clock, clockworks and a bell with metal louvers. Gypsum block provides an exterior skin. Ornamental cement plaster and metal combined make-up the fascia and pediment. An ornamental copper dome constructed from a square base crowns the building. A 27-foot-high flagpole with brass finial tops the dome. The tenth-floor clock/bell tower, copper dome, and flagpole were recently restored and as such, are not to be included in the scope of this project.

The structural system of the building is poured in place concrete post and beam on concrete bell footings with structural clay tile infill. The floor slab is poured in place concrete. Masonry and stone are used as facing materials.

The building originally had a twin building immediately to the south which was the Police Station and matched in appearance to the first 3 levels of the extant building; however, the building was demolished in July 1962.

Interior

Tampa City Hall was designed to accommodate 35,000 square feet of City office functions, with the basic plan revealing a central core that includes a single monumental central stair, an elevator, and toilet rooms. The perimeter of each floor is reserved for office space. The building was designed with no central heating or cooling system but rather, utilized passive energy techniques such as operable windows, ceiling fans at each bay, operable transoms, high ceilings, and venetian blinds.

The first floor has a main hall which connects the main entry at the north to Kennedy Boulevard and what was an internal connection to the South at the Police Station. A secondary entry occurs to the east at Florida Avenue. It was determined that an elevator was not in the original building and was added in the building in 1927, some 12 years after the building's original construction. The last remaining hand-operated elevator in the City served the main hall until it was replaced in 2010. There is an open core monumental stair immediately opposite the elevator. The main hall and stairs have marble wainscots and marble treads at the stairs. Walls typically are painted plaster with oak wood base moulds, chair rails, picture rails and plaster cove moldings at the plaster ceilings. Original floor materials were linoleum typically throughout and ceramic tile at toilet rooms. The stairs have mosaic tiles at stair landings. The original flooring was linoleum which was later changed to vinyl.

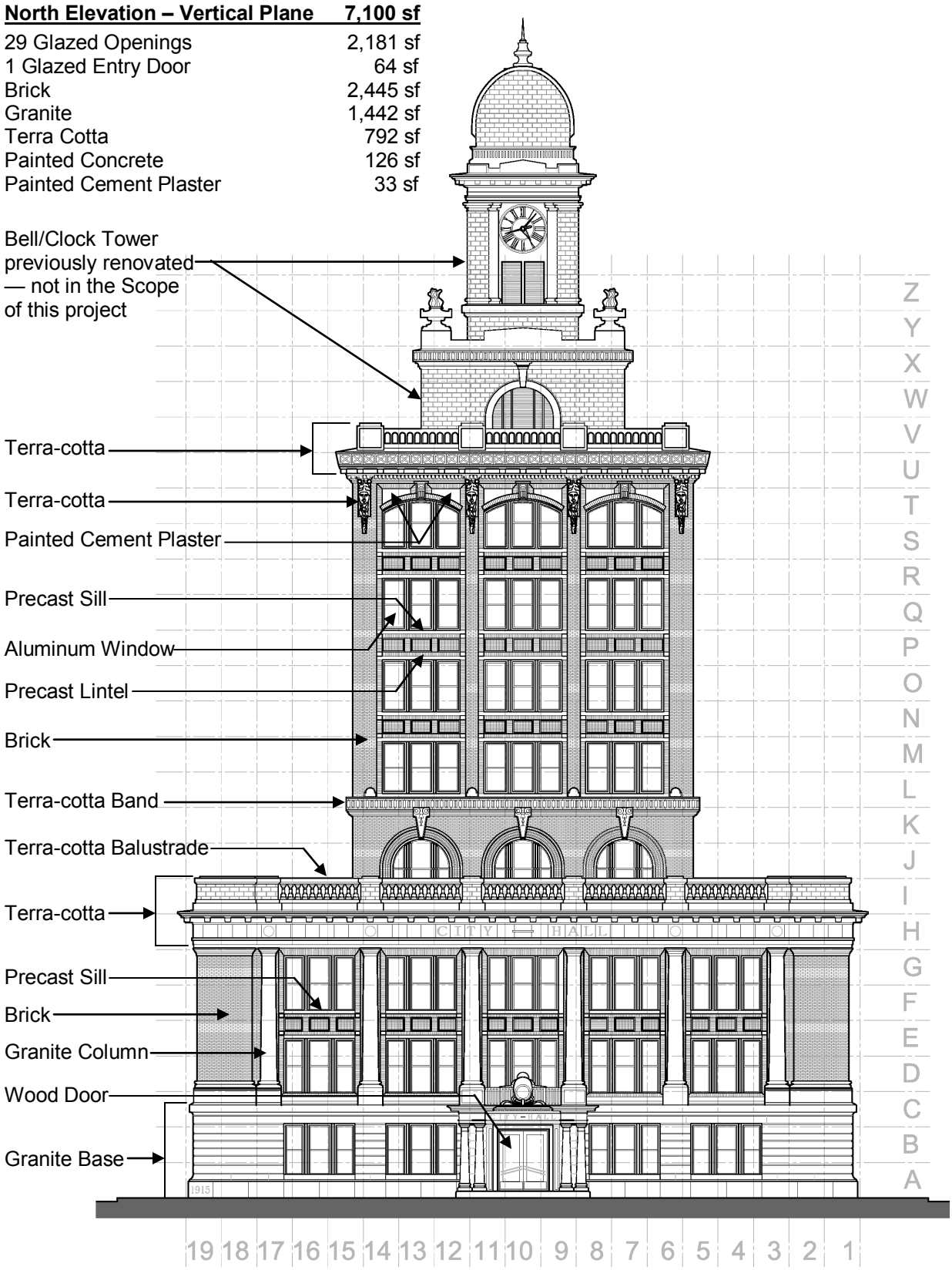
Beyond the third floor, the exposed stairs become metal treads and stringers, metal newel posts, metal balustrades and oak handrails. Only one stair tower exists within the building. Doors are oak panel with custom brass hardware bearing the seal of the City on the mounting plates at the handles. The second and third floors of the building have record vaults with metal doors. The ninth floor is used for Elevator Equipment.

B. Building Façade

The building consists of several different enclosure systems with the predominate one being brick masonry. The brick is trimmed with terra cotta components and granite with some stucco panels.

Walls contain no cavity or drainage system, and there is no vapor barrier. The walls were originally designed to breathe with the building allowing for moisture and air to pass through the envelope. With the introduction of air conditioning to the building, moisture is drawn into the building and not stopped by a drainage plane when the building is under negative pressure. The following page depict a typical building elevation.

North Elevation – Vertical Plane	**7,100 sf**
29 Glazed Openings	2,181 sf
1 Glazed Entry Door	64 sf
Brick	2,445 sf
Granite	1,442 sf
Terra Cotta	792 sf
Painted Concrete	126 sf
Painted Cement Plaster	33 sf



B1. Building Façade – Remediation

In addition to the work that was recently done to the exterior, the entire façade of the building needs an application of sealant to further protect it from environmental infiltration. Also, proper flashing needs to be applied to critical vertical to horizontal transitions and around openings to provide proper drainage of the exterior surface.

C. Building Renovation History

Since 1915, the building has gone through several renovations including:

1963 – HVAC system installed
1986-2007 – Various Miscellaneous minor renovations (interior/exterior)
2011 – New DDC Controls System installed
2012 – Window Replacement Project
2012 – 4th and 9th Floors Reroofing
2015 – Major Exterior and Interior Renovations
2017 – Additional Outside Air and Pressurization Renovations

The facilities operation schedule as it relates to the HVAC systems is as follows:

Monday – Friday - 7:00 AM – 6:00 PM
Saturday & Sunday - 9:00 AM – 2:00 PM

HVAC System

The building's air conditioning is delivered to the spaces by way of Fan Powered Boxes on floors 1-3 and Variable Air Volume boxes on floors 5 through 8 with exposed spiral ductwork throughout the facility. The three air handlers serve the following floors:

AHU-1 serves the 1st & 2nd Floors (see attached building riser)
AHU-2 serves the 3rd & 4th Floors (see attached building riser)
AHU-3 serves floors 5 through 8 (see attached building riser)

An existing air-cooled chiller located in the 4th floor Southwest mechanical room and associated remote condenser located on the 4th floor roof exists as a backup cooling system to serve AHU-2 which serves The City Council chambers located on the South side of the 3rd floor. This backup chiller serves as emergency backup cooling in case of system failure and is sized to handle only the city council chambers. It was reported to be in good condition and shall remain as is.

The North and Northwestern corner of the 4th floor was at one point utilized as a Law Library with a dedicated D/x split system for dehumidification. The space is now empty, and the existing D/x split system has been abandoned in place. This system shall be removed.

All Fan Powered Boxes and VAV Boxes are reported to be in good condition.

All three air handling units are in separate mechanical rooms on the 4th floor. The chilled water piping serving these air handlers is routed down from the 9th floor penthouse where the chiller

and associated chilled water pumps are located. The piping is concealed in wall cavities running down through the interior core of the building and then distributed to the three AHU's. (Air Systems Riser).

The existing mechanical system was installed in 1963. Typical HVAC equipment has a rated lifetime of approximately 20 to 25 years depending upon maintenance and service.

At this time the building is completing a renovation of the ventilation system which results in a demand ventilation system that monitors the occupancy of all restrooms within the facility and minimizes the amount of air being exhausted from the building to the minimum allowable amount while increasing the amount of outside air delivered to each air handler, to increase positive pressurization in the building.

Chiller Plant

The existing remote condenser air cooled chiller on the 9th floor penthouse was a Water-Cooled Chiller that was converted to an Air-Cooled System with (3) remote condensers located on the 8th floor roof outside the penthouse. The chiller has suffered several compressor failures in recent months and is past it's service lifetime. The chilled water is distributed to the 4th floor mechanical rooms through (2) chilled water pumps located in the 9th floor penthouse. ASR Engineering was informed that the interior wall surface of the existing supply and return chilled water piping is in good condition.

Air Handling Units

(3) chilled water central station air handlers feed terminal units on each floor. These air handlers are operating at variable air volume and modulating 3-way chilled water control valve to modulate the volume and temperature of the air being delivered to the associated terminal units. The VFD controlling the supply fan motor and the actuator modulating the 3-way chilled water control valve are integrated with the buildings DDC system.

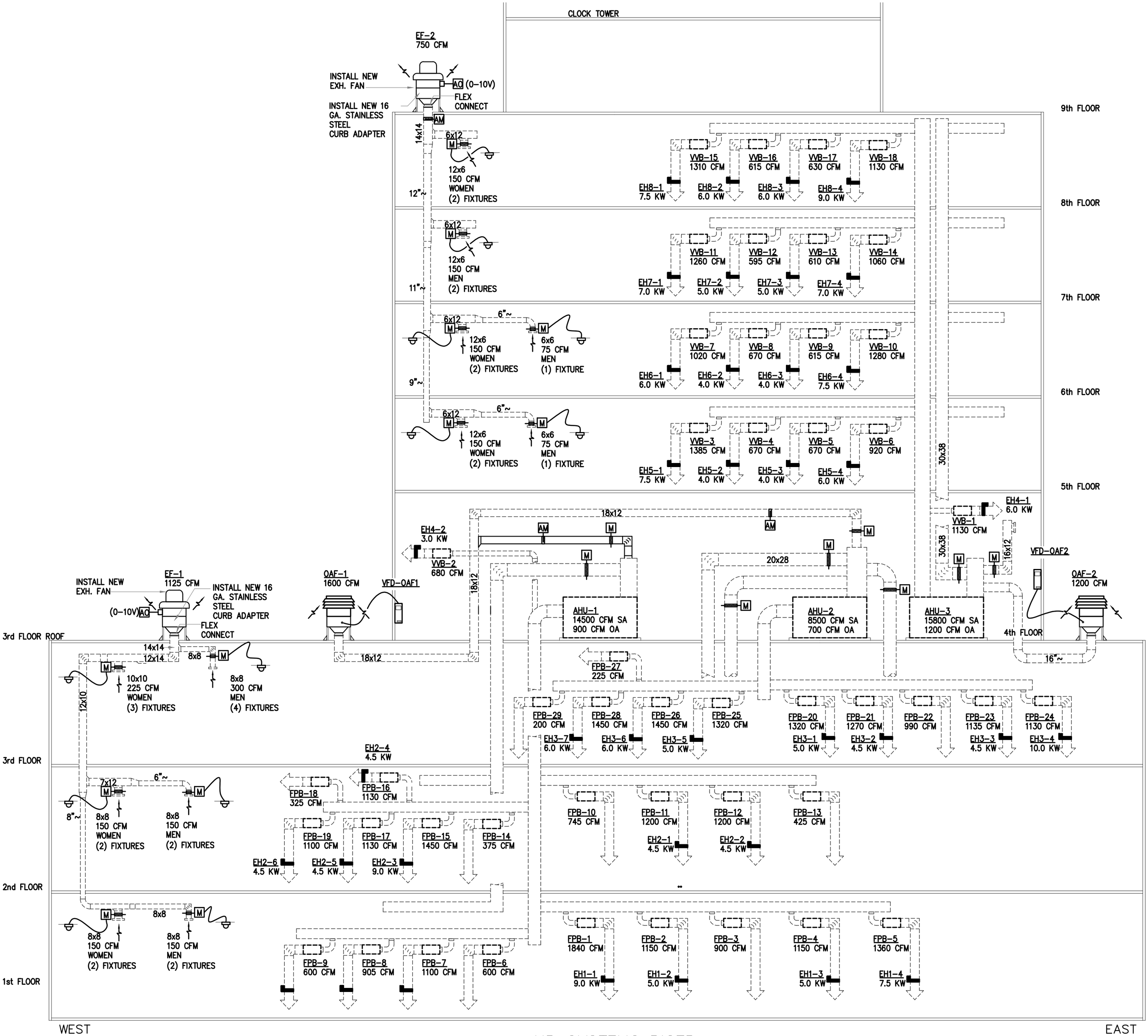
AHU-1 serves the 1st & 2nd Floors terminal units
AHU-2 serves the 3rd & 4th Floors terminal units
AHU-3 serves 5th through 8th Floors terminal units

The existing chilled water air handling units serving the facility are approaching or have reached the end of their service lifetime and need to be replaced.

Space Heating is provided by way of electric heat strips located at the terminal units on each floor.

Terminal Units:

The building's air conditioning is delivered to the spaces by way of Fan Powered Boxes on floors 1-3 and Variable Air Volume boxes on floors 5 through 8 with exposed spiral ductwork throughout the facility. These terminal units are centrally located above hard ceilings in the core of the building near the duct risers. The terminal units are designed to modulate and control the volume and air temperature delivered to the spaces. These terminal units, and their DDC control



AIR SYSTEMS RISER

SCALE: NONE

system were renovated in 2014. These systems are in working order and operating as designed based on the available record documents.

Ductwork:

Visible inspection of the exterior of the exposed ductwork was performed at various locations and was determined to be in fair condition. Possible duct cleaning services to inspect and clean the interior of the ductwork should be considered. The routing of the existing supply ductwork would make replacement labor intensive and disruptive to building occupants.

Examples of exposed duct throughout the building.

Controls:

The Direct Digital controls system is currently a KMC system. The current ventilation renovation project incorporates additions to the existing system related to Outside Air intake control and Exhaust systems.

Examples of KMC Controls throughout building

Ventilation/Exhaust Systems:

There are (2) existing roof mounted exhaust fans serving the building, EF-1 serves the restrooms on floors 1 through 3 and EF-2 serves the restrooms on floors 4-8. These fans were installed in 2017 as part of the Building Pressurization renovation project at OCH.
Note: The original exhaust fans EF-1 & EF-2 total exhaust air flow rate was 2,130 CFM. The recent Building Pressurization renovation has reduced this flowrate by way of new exhaust fans to a total exhaust air flow rate of 1,875 CFM. (2) new outside air fans were also installed as part of this project. OAF-1 supplies outside air to AHU-1 & 2 with a total of 1,600 CFM of outside air. OAF-2 supplies outside air to AHU-3 with 1,200 CFM of outside air.

Total Building Outside Air ..... 2,800 CFM
Total Building Exhaust ..... 1,275 CFM

Total Building Pressurization .... 925 CFM Positive

The intent of the design investigation that was conducted by ASR Engineering, Inc. and findings issued in a report dated February 18, 2019 was twofold. First was to investigate the potential to utilize the existing air-cooled package chiller located on the East roof of the TMOB building to supply chilled water to the (3) air handlers at OCH. This design would remove the chiller, condensers, and pumps from the 9th floor penthouse and associated roof of OCH. It would centralize the cooling plant for both TMOB and OCH to the Roofs both North and East of TMOB. The second facet to this investigation was to investigate and identify a chiller

arrangement that could replace the existing chiller at OCH and provide a considerable improvement to the accessibility and serviceability.

The first task was to investigate TMOB's current chiller capacity and building load to determine current load on the chiller. The demand on the unit is as follows.

TMOB AHU's Total Coil Capacities in Btuh

AHU-1	467,694
AHU-2	698,984
AHU-3	343,205
AHU-4	343,205
AHU-5	343,205
AHU-6	615,000
OAU-1	1,161,740
TOTAL	3,972,438 Btuh

331.0 Tons

The new coil load capacities listed below are sourced from the Heating/Cooling load calculations performed on the OCH facility as part of this investigation. These calculations include increased outside air requirements based on the FMC Table 403.3 and ASHRAE Standard 62.1 Refer to Load Calculations in Section 5.

OCH AHU's Total Coil Capacities in Btuh

AHU-1	628.27
AHU-2	379.86
AHU-3	482.57
TOTAL	1,490,700 Btuh

124 Tons = 250 GPM @ 12°ΔT

The existing 300 Ton chiller located on the East roof of the TMOB building does not contain enough residual capacity to supply the OCH building. Factoring for diversity of the system the existing chiller would still be ill equipped to adequately handle the combined cooling load.

C1. Chiller Plant – Remediation

Install a new dedicated Air-cooled Chiller on the North roof of the TMOB building. The intent is to specify an installation like the existing chiller at TMOB which would include a structural steel support and deck to house the new air-cooled chiller. New chemical shot feeder, primary and standby chilled water pumps, air separator, VFDs, and all other appurtenances to provide a complete system. The chiller cost will be based on the maximum tonnage available in a packaged Air-cooled scroll chiller. Any increase in chiller tonnage would change the compressor type from a scroll compressor to a helical rotary screw compressor. Based on Trane & Carrier manufacturers' data.

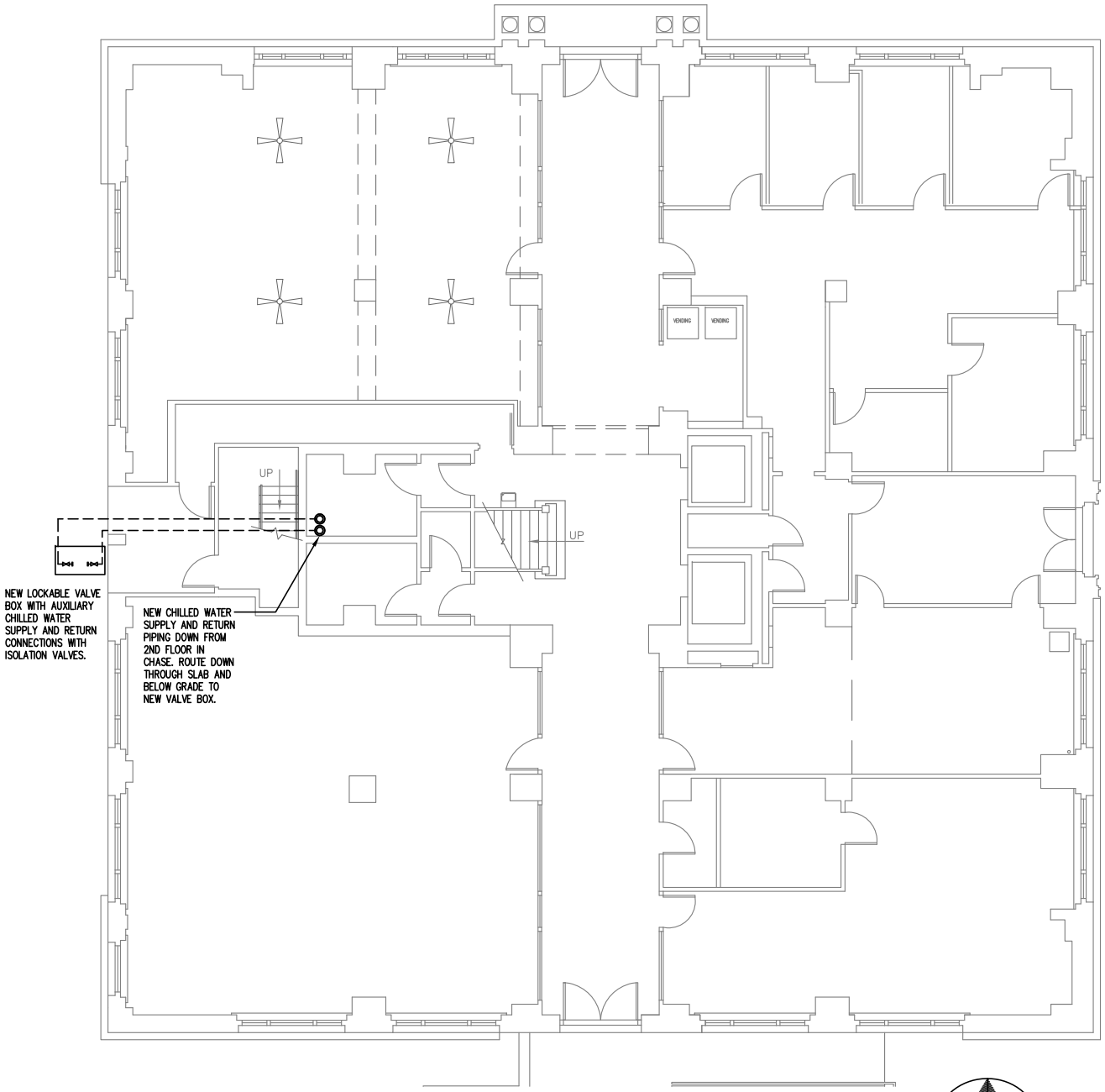
Additionally, new chilled water supply and return piping would be routed down from the North roof of the TMOB building, down the internal chases in the core of the structure, underground through the existing "brickyard", and finally up on the west side into the OCH Building to the 4th

floor mechanical rooms. See Sheets labeled SKM-3 that shows approximate locations of Auxiliary Piping on the 1st, 3rd and 4th floors. To better understand the complications and obstacles involved with routing the new piping ASR Engineering employed the services of a ground penetrating radar/sonar utility locate contractor to map the locatable utilities that would affect the proposed routing area. See attached Site Map with Findings prepared by GPRS for coordination with existing underground piping. ASR Engineering's past experiences lead us to believe there are more utilities/obstructions in the proposed path than the utility locate technician was able to identify.

The Air Handlers at OCH will be replaced with new chilled water, central station air handlers. They will be installed on aluminum I beams for structural support. A 3-way chilled water control valve will be installed to control the cooling capacity. New air handling units are to be shipped disassembled in loose pallet sized pieces and be constructed on site inside the mechanical room. The unit manufacturer shall be required to provide onsite inspection and certification of the units upon completion of construction. This option would facilitate the use of the building's internal elevator up to the 3rd floor and stairs into the 4th floor for conveying the new unit into the mechanical room.

New supply, return, & outside air duct will be installed within the confines of the mechanical floor and connected to the existing duct risers and distribution system. Modification or replacement of the Outside Air Fans on the 4th floor roof will be required to meet the outside air flow rates required by the current code. The existing ductwork needs to be inspected, cleaned and encapsulated (if needed).

Site Map with Findings	N	306 E Jackson St Tampa, FL	GPRS



OCH 1ST FLOOR – AUXILIARY PIPING

SCALE: 1/16" = 1'–0"

NORTH

ASR ENGINEERING, INC.
MECHANICAL–ELECTRICAL–ENERGY CONSULTANTS
1217 WEST LINEBAUGH AVENUE, SUITE #2
TAMPA, FLORIDA 33612
PINELLAS PHONE (727) 367–1009
PHONE (813) 935–7280 FAX (813) 931–8739

PE–41165
EB–0005702
L46531

ENGINEER SEAL

PROJECT NAME

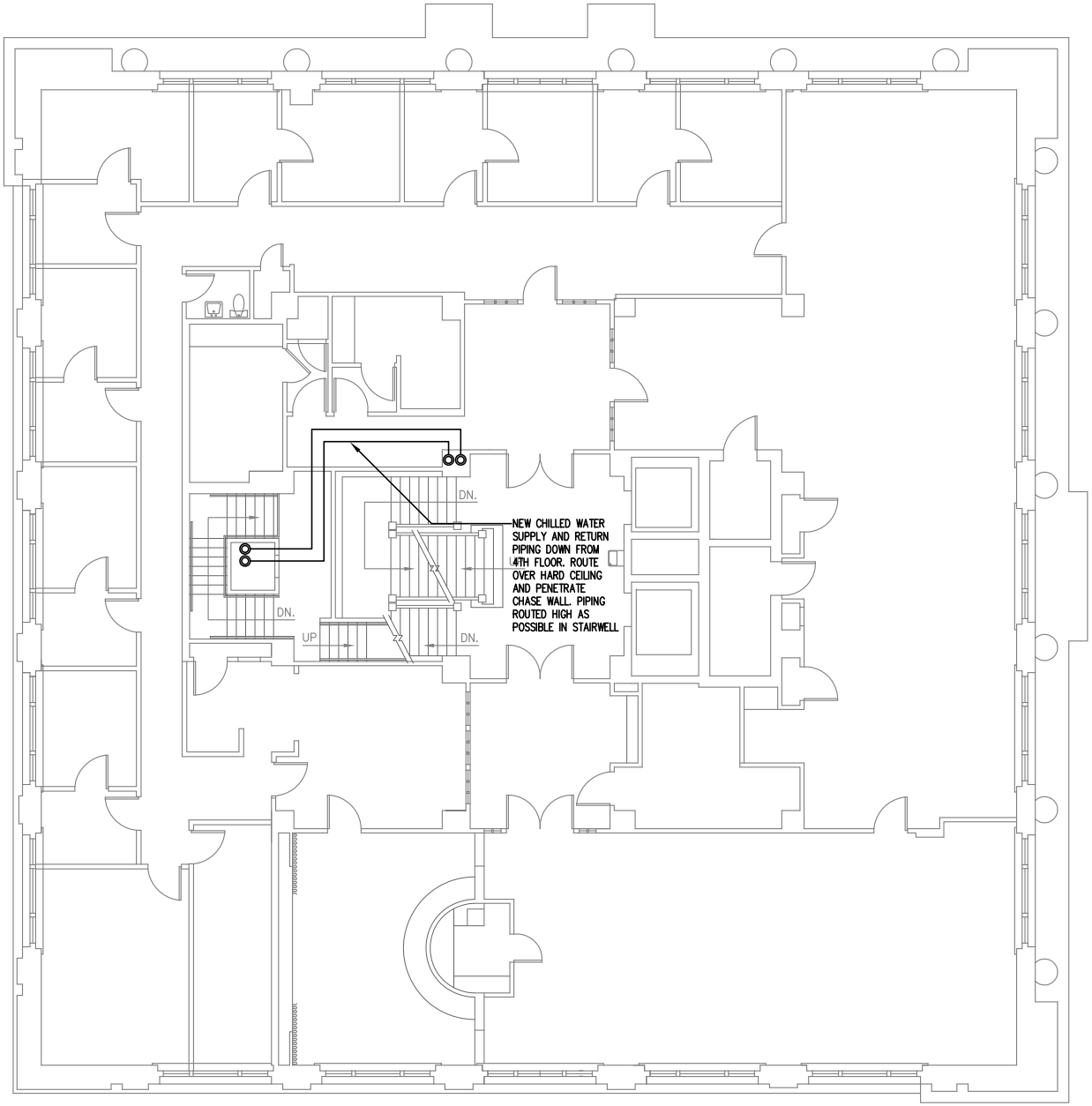
OCH DESIGN INVESTIGATION

PROJECT ADDRESS

DRAWN BY	ADT
CHECKED BY	ASR
DATE	10-2-18
JOB NO.	1809

SHEET

SKM-3



OCH 3RD FLOOR – AUXILIARY PIPING

SCALE: 1/16" = 1'–0"

NORTH

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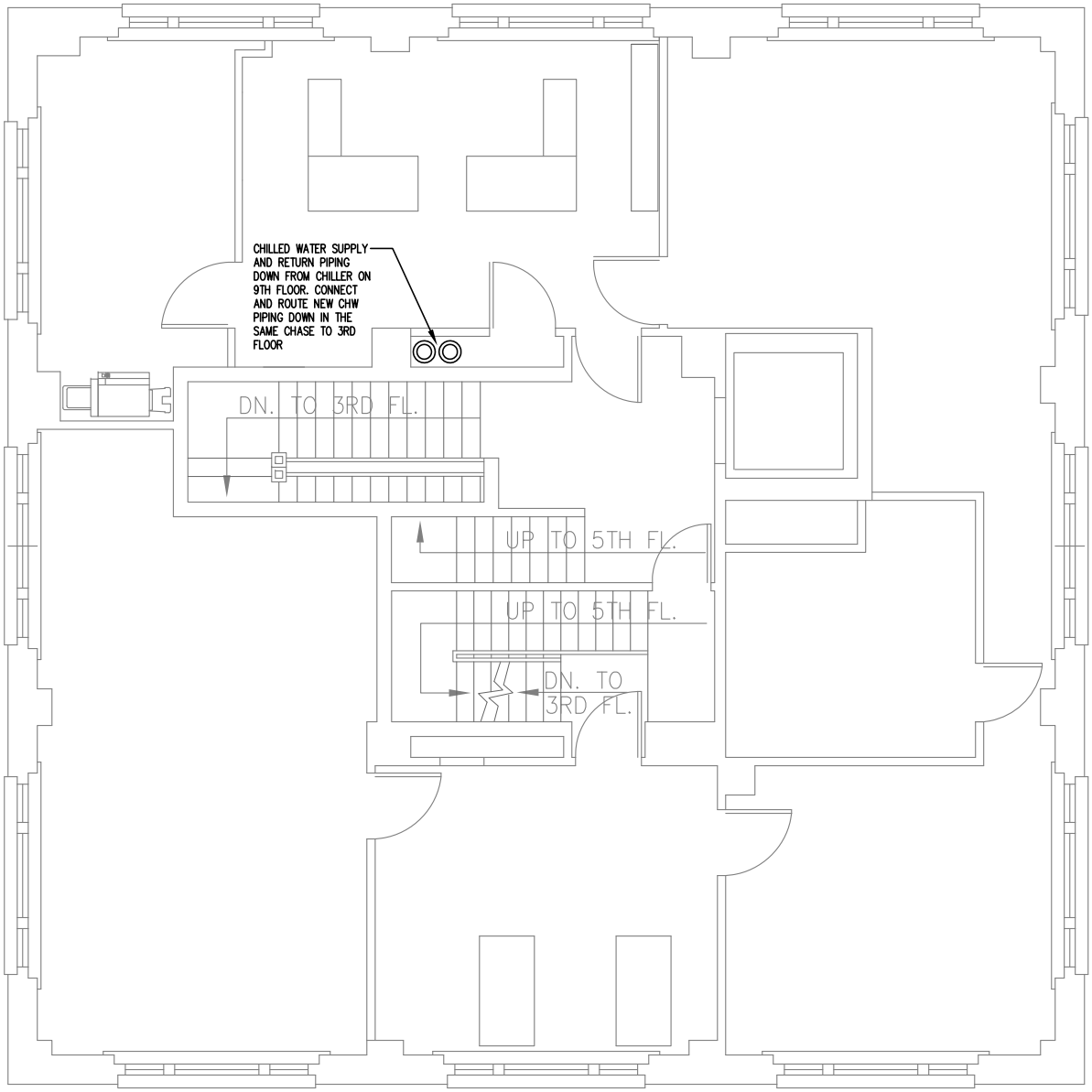

OCH 4TH FLOOR – AUXILIARY PIPING

SCALE: 1/8" = 1'–0"

NORTH

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SHEET

SKM-3

E1. Electrical System - Remediation

The main electrical switchboard located in the 1st floor electrical room at TMOB need to be replaced in order to upgrade feeders that service Old City Hall. Also, the electrical switchboard and feeders in the TMOB penthouse that services the HVAC equipment also needs to be replaced. In addition, the main electrical panels located on the 1st floor electrical room is to be replaced in order to accommodate the HVAC equipment in Old City Hall. Finally, the existing fire alarm system in Old City Hall needs to be replaced.

Electrical switchboard – 1St floor TMOB

Electrical switchboard – Penthouse @ TMOB

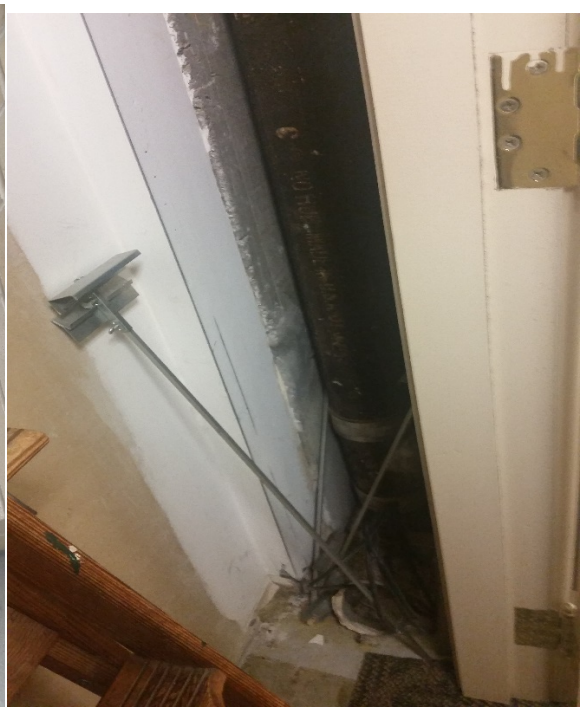
Electrical panels on 1st floor of OCH

Additionally, most of the electrical circuits to individual workstations run beneath the carpet via thin, flatwire cabling. Even though this keeps the wire out of sight, years of walking across it (particularly women with heels) cause it to deteriorate and need to be replaced more often. There is a low-profile cable management system (3/16” to ¼” finish floor height) that can be installed so that wiring can be installed without being damaged and adversely effecting door openings and access.

P1. Plumbing System - Remediation

Most of the existing water and wastewater piping throughout the building is cast iron and need to be replaced. In addition, the fire sprinkler riser piping concealed in the walls of the stairwells need to be replaced.

Existing exterior cleanout w/temporary covering



Existing plumbing stack in closet.

Existing plumbing stack in closet

Existing branch stack in closet

E2. Elevator Machine Room – Remediation

There is an existing elevator equipment room located on east side of the 9th Floor of the clock tower. The elevator equipment is stalled on a elevated mezzanine in the north half of the room. The clock tower has a large semi-circular louver facing each side of the building that provides ventilation for the air handlers installed on that floor. The elevator equipment room does not need to be ventilated and needs to be air conditioned similar to the elevator equipment room on the 4th floor. The vent needs to be covered and sealed along with the replacing of an existing bifold door with weather-stripping in order to provide air conditioning to that equipment room. Surfaces need to be cleaned and repainted.

Elevator equipment at 9th Floor mezzanine.

Existing Elevator equipment room grille.

Existing bifold door at elevator equipment room (interior and exterior)

The remaining plaster surfaces around the remaining grilles on the 9th floor need to be repaired and repainted.

W1. Window Trim, Sealing and Interiors - Remediation

The existing interior window trim and baseboards need to be removed in order to apply a thin peel and stick membrane between trim and the plaster finish around the windows to better seal them and bring the interior environment up to the same level of protection recently achieved with the exterior improvements. In general, all of the interior surfaces are to be examined and if necessary, selected demolished, cleaned, encapsulated and painted in order to improve the interior appearance.

Examples of wood trim surrounding existing windows

Additional details surrounding existing windows

S. Schedule / Phasing Strategy

The building is a functioning municipal building that is fully occupied and will need to be vacated in order to effectively accomplish this work in a timely fashion. Contractor is to coordinate the temporary relocation of both the employees and City Council meetings.

Since this is an historic building, Contractor will be responsible for coordinating with the design team for any possible approvals that may be required from the City of Tampa's Architectural Review Commission. We anticipate that any issues that may come up should be able to be handled with an administrative review not requiring a public hearing. However, there is and outside chance that a hearing may be necessary.