



# 100 West Washington Program Facility Condition Assessment and Management and Maintenance Review

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## Executive Summary

This report contains a high-level review of two (2) existing Facility Condition Assessments previously performed for the 100 West Washington facility. Kitchell performed independent site visits on both Wednesday, December 1<sup>st</sup>, and Tuesday, December 28<sup>th</sup>, which included visual inspection of Mechanical, Electrical, and Plumbing (MEP) equipment as well as a review of the existing maintenance and inspection records and related data.

This report is presented in consideration of the imminent Tenant Improvement (TI) projects planned for the 911 Center and Transit and Development offices, and prioritizes improvements based on moving these City of Phoenix resources into the facility as follows:

PRIORITY	DESCRIPTION	ESTIMATED COST
PHASE 1 <i>Immediate</i>	<ul style="list-style-type: none"> <li>Required prior to the 911 Center or Transit &amp; Development TIs</li> <li>Health &amp; Safety</li> <li>Compliance</li> </ul>	\$32,059,508
PHASE 2 <i>1-4 Years</i>	<ul style="list-style-type: none"> <li>Required prior to any TIs subsequent to the 911 Center and Transit &amp; Development spaces</li> <li>Known or recommended end-of-life replacements or refurbishments</li> </ul>	\$3,861,526
PHASE 3 <i>5+ Years</i>	<ul style="list-style-type: none"> <li>Recommended for cost or energy efficiency purposes / long term</li> <li>Known or recommended end-of-life replacements or refurbishments</li> <li>Not required for any planned TI build-outs</li> </ul>	\$6,858,605

The above represents an organized breakdown of cost and scope provided in the existing condition assessment reports, which have been reviewed and adjusted to more accurately reflect the current program context. Further breakdowns of the above cost and scope items are included in Attachments 1 and 2.

## Facility Condition Assessment Review

### 1. Introduction

Kitchell was provided with two existing facility condition assessment reports, which, when combined with review of existing drawings and site inspections, comprise the basis of this portion of the review:

- *Wells Fargo Plaza / 2<sup>nd</sup> Avenue Parking Garage Facility Condition Evaluation*, authored by DLR Group, and dated June 11, 2021
- *Property Condition Assessment, Wells Fargo Plaza and 2<sup>nd</sup> Avenue Garage*, authored by Marx/Okubo and dated March 9, 2021

The above was reviewed for consistency, accuracy, and relevance within the context of historic data and the planned TIs. Kitchell has made adjustments to certain scope and cost items where deemed appropriate, and organizes activities according to priority. A recommended breakdown of scope and cost by phase is contained in Attachment 1. Except where noted otherwise, all cost data is pulled directly from the existing reports.

### 2. Site:

#### A. Landscaping:

- i. Both Marx/Okubo (MO) and DLR Group (DLR) reports indicate that the site hardscape is generally in good condition with no immediate critical action items. Pedestrian paving and concrete tiles will need maintenance (replacement and sealing) within the study period (5 to 10 years).

#### B. Parking:

- i. Per DLR analysis, whether calculating from the current City of Phoenix parking bylaws noted in the DLR FCA report, or the actual number of stalls provided in the two parking garages, the number of regular and accessible parking spaces is inadequate. According to parking bylaws, the shortfall is 290 stalls (18% less than the total required). It is recommended that a traffic analysis be performed to determine if the current number of stalls is adequate for both staff day trips and fleet vehicle storage. Due to present COVID protocols, the analysis should be performed when the current staffing levels recover. Nevertheless, full demand may not occur considering current or future city policies regarding personnel working from home. It is noted that DLR combined the total number of parking stalls of both garages to calculate the number of accessible stalls. One may apply dispersion so that the actual minimum number of accessible stalls is satisfied in both garages. This approach reduces the total number of required parking stalls from what is stated in the DLR report; however, since the 2<sup>nd</sup> Avenue Garage is two blocks from the Tower this may not be desirable to the City. Additionally, MO reported that an 8'-2" head clearance is currently not provided in the 2<sup>nd</sup> Avenue Garage, which conflicts with the ADA required height for van accessible parking spaces and vehicular traffic ways. Regular accessible parking stalls do not have any height requirements.

- ii. In applying ADA requirements to the existing parking garages, when there are more than 500 stalls, 2% are required to be accessible. Of the 583 stalls in the Plaza Parking Garage, the required minimum number is 12. Based on these numbers, one additional stall is needed. Of the 757 stalls in the 2<sup>nd</sup> Avenue Garage, the required minimum is 16 stalls with 11 of those required to be accessible. Our findings are consistent with the MO report for scoping and application of ADA.
- iii. The DLR report states that the surface slope of the stalls exceeds the maximum allowance according to the ADA. This must be corrected immediately for compliance with modified cementitious overlay on the concrete for compliant slopes. The report does not state whether the access aisle or the path of travel is compliant for slopes and this should be investigated. The path of travel is not marked from the parking aisles and it should be marked with blue striping. Based on photos, the path of travel passes behind parking stalls, which is prohibited per the ADA for a safe means of travel between the parking stalls and the garage egress point.
- iv. The report does not address van accessible parking spaces. One van accessible stall is required for every six accessible stalls or fraction thereof. According to the ADA, an accessible stall are required to be a minimum of 13' in width as opposed to regular accessible stalls at 9' width. Plaza Parking Garage requires two van accessible parking stalls, and the 2<sup>nd</sup> Avenue Garage requires three van accessible stalls.

### 3. Structural:

- A. Both reports recommend a forensic structural review of the following items:
  - i. Plaza Garage: Cracking of elevated concrete slab and beam.
  - ii. 2<sup>nd</sup> Ave Garage: Efflorescence on the north elevation.

### 4. Architectural:

- A. The tower building was constructed between 1970 and 1971 and should fall under the 1970 UBC requirements.
- B. Tower windows appear to be single glazing in dry gaskets with aluminum storefront framing. The solar glare has been addressed with tinted film on the interior face of the glazing. These windows are a significant contributor to heat increase in the building and does not comply with the current International Energy Conservation Code (IECC) performance requirements. The existing condition reports recommend replacement of sealants to improve energy efficiency. However, we recommend that the City consider complete replacement of the windows with tinted low-e insulated glazing units in thermally broken aluminum frames. While representing a greater capital expenditure than the current recommendation, modernization of the entire glazing system will likely yield positive net returns over the long term through energy efficiency. Both options should be further analyzed prior to procurement.
- C. The buildings were constructed prior to the issuance of the 1990 Americans with Disabilities Act (ADA) which came into effect in 1992, therefore it was not required to comply with any accessibility standards at time of construction. As noted in the MO report, the Owner, given their financial resources, has an ongoing obligation to implement readily achievable barrier removal at the entry, in areas providing goods or services, and the restrooms. Any alterations today would be required compliance at the maximum extent possible with the 2010 ADA and

any applicable provisions of the International Building Code (IBC). The construction document packages of individual floor alterations from 4<sup>th</sup> to 15<sup>th</sup>, 22<sup>nd</sup>, and 23<sup>rd</sup> levels within the last twenty years were made available for review. The most significant alterations were done in the restroom facilities with the addition of new accessible single user restrooms. Alterations to the original restrooms would have required significant modification and a reduction of the number of toilets. It is noted in both FCAs that inadequate access space is provided within the single user restrooms and it is not clear what components are out of compliance. This should be immediately addressed to ensure compliance.

- D. The DLR FCA notes the Tower stair doors have knob handsets and no panic hardware, which are required by the current ADA code for the immediate unlatching of the doors. Further, there is no area of refuge on the floor levels for persons with accessible needs, nor means of communication with the responding party for evacuation assistance. Without destructive testing, the construction of the stair shafts could not be verified by DLR. The exit stairs and railing do not comply with current code. According to the DLR report, both stair shafts join at the building lobby which conflicts with current code requirements where one shaft should discharge directly to an exterior space. There has been no indication in either FCA if the Tower has a smoke control system as required by the Section 405 of the IBC. These deficiencies are a life-safety issue and it is recommended that an in depth study be completed to the Authorities Having Jurisdiction (AHJ) for resolution.
- E. Cost Comparison: Costs reported by DLR is more in line with current conditions than what is noted in the MO report.

## 5. Conveying Systems

- A. DLR contracted the services of Lerch Bates to perform a specific condition assessment of the facility elevators. We are familiar with Lerch Bates and consider their work to be of the highest professional standard.
- B. The Lerch Bates report contains a detailed inventory of all conveying system components and their current condition. We note no exceptions to their assessment, and consider their proposed upgrades and associated costs to be reasonable.

## 6. Fire Detection and Alarm:

- A. The MO report noted that the three fire alarm panels for the Tower Building and Plaza Garage are over 30-years old and in need of replacement. The DLR report only noted there is one fire alarm panel in the Plaza Tower and did not note the age or condition.
- B. Cost: The MO report estimated a current cost of \$631,000 with a year-one escalated cost of \$632,000. In our opinion, this is an extremely low cost.
  - i. Recommendation: Based on the age of the system in the report we would recommend that the fire detection and alarm system be replaced in the first year at an estimated cost of \$3,777,400.

## 7. Electrical System:

- A. The DLR report noted that the electrical switchboards in the Tower have date plate codes of 1992. Additionally, due to age and inadequate ratings, the lighting electrical panelboards should be replaced within the next 2-years (priority 2). The MO report did not identify the age of the electrical system.

- B. Cost: The DLR report noted a current cost \$481, 396 with a high and low range escalated cost of \$529,535 and \$673,954 respectively.
- i. Recommendation: Based on probable age of the switchboards and panelboards that are approaching or have approached the end of their expected useful life and/or have inadequate ratings, we recommend complete replacement in the first year.
  - ii. Both reports indicated that a significant number of the light fixtures have been replaced with LED fixtures. Replacement of the remaining existing non-LED fixtures is recommended but not a critical item.

## 8. Mechanical:

### A. Mechanical System:

- i. Chilled water is supplied to the AHU systems via variable speed pumps and three 900-ton Trane centrifugal chillers. The chillers were installed in 2004 and are reported to be in excellent condition and maintained; however, they are approaching the end of their useful lives. Heat is rejected to three cooling towers located in a well on the roof. The cooling towers are in excellent condition and do not show signs of corrosion. The pumps and all the equipment for the chilled water system appears to be well maintained and in good working order. The central plant has a functional refrigerant monitoring system that meets international mechanical code requirements.
- ii. Trane recommends conducting an eddy current inspection of the condenser and evaporator tubes in water-cooled chillers every three years. Eddy current tests are intended to identify defects on or within the walls of heat exchanger tubing that could lead to in-service tube failures. Eddy current tests conducted before a chiller is put into service are considered “baseline” and are intended to establish a reference point to aid in the interpretation of future eddy current test reports. That being said, two of the three chillers are coming up on their end of useful life and are recommended to be replaced along with chilled water and condenser water pumps. Chiller #3 was refurbished by Trane in 2019 and it is expected to reach 50-year life, which is greater than the ASHRAE useful life of 23 to 27 years without such work. Chillers #1 and 2 are reaching the ASHRAE end of useful life and refurbishments of the units is an alternative to replacement which will be more costly due to the equipment location in the building penthouse. Depending on the condition of all operating elements, the refurbishment cost is estimated between \$100,000 to \$125,000 per chiller. The heating hot water non-condensing boilers still have a useful service life in them given they are well maintained. This report currently contemplates full replacement, but Kitchell encourages the City to consider rehabilitation as an option.
- iii. All air handling systems are in good condition and operating efficiently. The cooling coils are in good condition and have no signs of mold or corrosion. Heating water is supplied to the building via variable speed pumps and two 6,278 MBH boilers. The boilers are older and non-condensing but are well maintained and appear to be good working order. Heating water is supplied to the VAV boxes on each floor. The building was designed when internal heat gains were much higher than today; therefore, heating is only provided on the perimeter VAV boxes. This

can be problematic when the interior zones are not fully loaded and the sun is on one side of the building, causing the space to be in cooling mode when interior zones need heat.

- iv. All VAVs in the building are approaching the end of their useful lives. However, the total number and sizing of any replacement VAVs will be determined by the design of future TIs. As such, this report does not consider the cost of any VAV-related work.

#### **9. Plumbing System:**

- A. Only domestic water piping was observed in the basement level at the booster pumps and is in good condition. The building utilizes a triplex variable speed booster pump system that meets all code requirements for NSF 61 and was recently installed. The assumption is the rest of domestic water piping system is working order. Domestic hot water boilers are recommended to be replaced.
- B. Sanitary waste and vent piping appear to be in good condition. DLR was informed facilities maintenance that the waste and vent stacks, along with other waste and vent piping, had been recently replaced. Visual observation of existing waste and vent piping did not indicate corrosion and is in good condition. The basement level sewage ejector and pumps are operating and in good condition.

#### **10. Fire Protection:**

- A. Fire protection systems appear to be in good condition with a basement level tri-plex booster pump that was installed within the past few years.

## Facility Management and Maintenance Review

### 1. Introduction

The inspections of the facility were conducted on two (2) separate occasions. Wednesday, December 1<sup>st</sup>, 2021 focused on a visual walk and inspection of the physical structure as well as Critical MEP Systems. Representatives from COP, JLL and Kitchell attended. The Tuesday, December 28<sup>th</sup>, 2021 site visit was attended by Chris Ashcraft (Kitchell) and Mark Bell (Jones, Lang, LaSalle (JLL)). This visit focused on the existing maintenance program and its associated data.

The facility's MEP equipment appears to be in generally excellent condition with routine and required maintenance being conducted in accordance with the maintenance plan having been implemented by the previous owner and currently administered by the incumbent maintenance provider, JLL. Individual observations and deficiencies are noted below:

### 2. Plumbing

In general, the facility plumbing appears to be in good operating condition with the following exceptions:

System	Overall building drain plumbing infrastructure.
Observation	Many plumbing drain lines are original to the building although some have been replaced. It is understood that the vertical drain lines have been recently replaced but the status of lateral lines should be investigated and subsequent repairs and / or replacements planned for.
Recommendation	As tenant improvements are made it should be standard practice to inspect and replace all associated drain plumbing.

System	Domestic water supply
Observation	It is understood that many floors do not have dedicated isolation valves for at each level
Recommendation	As tenant improvements are made it should be standard practice to install floor level isolation valves.

System	Domestic hot water supply
Observation	It is understood that only alternating floors have water heaters.

Recommendation	As tenant improvements are made it should be standard practice to install floor level water heaters isolating the floors from each other. In the case of heater failure or piping leaks, impact to tenants and downtime can be reduced and flood damage mitigated.
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### 3. Heating, Ventilation and Air Conditioning, Building Automation System

The HVAC equipment appears to be in very good operating condition; however, a few individual pieces of equipment appear to be approaching or past their expected useful life.

#### A. Hydronic Cooling Towers

- i. The cooling towers appear to be in very good condition with an effective water treatment program and maintenance / cleaning program in place and being executed.
  - o The cooling tower fill material show small amounts of water hardness deposits. These are not in high enough levels to be greatly concerned about, but the overall age of the fill material and its brittle nature lends itself to it being easily damaged during routine maintenance. It is recommended that fill replacement be captured in near future plans.

#### B. Chillers

- i. It was noted during discussions with JLL facility management that both Trane Chiller's 1 and 2 need the Adaptive Frequency Drives replaced on recommendation from the manufacturer. These devices are critical to the overall function of the chiller and any potential energy savings gained by them being in peak functioning condition. This observation should be addressed.

#### C. Building Automation System

- i. It was noted during discussions with JLL facility management that the Johnson Controls building automation system (BAS) has been in place for many years and may be entering a legacy status. This should be verified and address in the case that the system may need to be replaced and / or upgraded.
- ii. Floor level and unitary level BAS controllers are aging and should be replaced as opportunity presents and during any floor level tenant improvements.

### 4. Electrical

The electrical system appears to be in very good operational condition, however most of the equipment with current NFPA 70E ARC Flash designations. Annual thermographic studies are current, and the recommended 5-year electrical maintenance has been scheduled and executed as per the existing preventative maintenance schedule.

### 5. Facility Maintenance/Inspection Plan and Records Review

The facility utilizes the Corrigo Computerized Maintenance Management System (CMMS) by JLL and has been administrated by the incumbent service provider, JLL. This team should be commended on the program's development and implementation as evidence by the overall condition of the building. The

system produces regularly scheduled preventive maintenance schedules and asset-based tasking items and appears to be thorough and effective as evidenced by the overall condition of the buildings systems. Historical data retention has been captured accurately in the system.

Based on a review of the inspection and maintenance records provided by the facilities management team it is the opinion of the Kitchell team that the current maintenance plan meets and/or exceeds industry standards when compared to industry benchmarking from CBRE Costlab.

## Conclusion

In general, Kitchell Facilities Management agrees with the findings in the City provided Facility Condition Assessments dated March 9<sup>th</sup>, 2021 and June 11<sup>th</sup>, 2021 as it pertains to the Mechanical, Electrical, and Plumbing system(s) and components. This report contains several recommendations as it pertains to following up on known issues, and reflects appropriate cost adjustments to more accurately reflect the context of the program. However, the facility appears to be in good working order, and Kitchell has not identified any material issues of concern outside of those identified in the existing reports.

Unless noted otherwise, Kitchell notes no exception to the proposed cost for individual components contained in the existing reports. However, we emphasize that procurement strategy will have a significant impact on total cost. All efforts should be made by the City to optimize the timing and volume to generate efficiencies.

This report does not take into consideration the demands of any future tenant improvement. All space and equipment loading must be duly considered as design develops.



# Attachment 1

## Cost & Scope Summary



City of Phoenix



Category	PRIORITY 1 (IMMEDIATE)	PRIORITY 2 (1-4 YEARS)	PRIORITY 3 (5-10 YEARS)
ADA	4,864,341	49,245	-
Site & Landscaping	11,817,706	-	254,912
Architectural	6,414,883	-	4,051,785
Vertical Transportation	5,568,029	-	274,657
Fire Protection	3,332,677	-	-
Plumbing	61,872	-	1,807,064
Mechanical	-	2,769,686	470,187
Electrical	-	1,042,595	-
<b>Subtotals</b>	<b>\$ 32,059,508</b>	<b>\$ 3,861,526</b>	<b>\$ 6,858,605</b>



## Attachment 2

### Detailed Scope & Cost Breakdown



City of Phoenix



Location	Category	Deficiency	Description of Work	CEM Priority	Quantity	Unit	PRIORITY 1 (IMMEDIATE)	PRIORITY 2 (1-4 YEARS)	PRIORITY 3 (5-10 YEARS)
Throughout	ADA	Various ADA compliance issues	Upgrade all core public toilet rooms for ADA compliance Replace doors for ADA hardware compliance upgrades Relocate or retrofit non-compliant accessible parking spaces at Plaza garage	1	1	LS	\$ 4,864,341	\$ -	\$ -
Throughout	ADA	Toilet room accessories not ADA-compliant	Replace toilet room accessories to achieve ADA-compliance	2	1	LS	\$ -	\$ 49,245	\$ -
Parking	Site & Landscaping	Spaces less than code requirement	Bring number of parking spaces to meet City of Phoenix Code, Section 702C, (3.2 spaces / 1,000 leasable sf)	1	290	EA	\$ 11,817,706	\$ -	\$ -
Parking	Site & Landscaping	Deteriorating sealant at Plaza perimeter sidewalks / breezeway Cracked concrete at 2nd ave garage perimeter	Replace sidewalk sealant and fix cracked concrete hardscaping	3	1	LS	\$ -	\$ -	\$ 194,051
Parking	Site & Landscaping	Deteriorating sealant at Plaza perimeter sidewalks / breezeway Cracked concrete at 2nd ave garage perimeter	Replace sidewalk sealant and fix cracked concrete hardscaping	3	1	LS	\$ -	\$ -	\$ 60,861
Parking	Architectural	Stairs out of code Elevators out of IBC Code compliance Efforescence at 2nd Ave Garage north wall Fire-rated enclosure horizontal exit required from internal stairs to exterior Coiling security gate damaged at 2nd Ave Garage Expansion joint rubber covers deteriorating	Renovate stairs to bring them up to code Renovate elevator lobbies to bring them up to IBC compliance Perform forensic investigation of efforescence at north wall Add fire-rated enclosure for horizontal exit Replace damaged gate Replace rubber covers	1	1	LS	\$ 5,922,063	\$ -	\$ -
Parking	Architectural	Plaster damaged above garage entrance at 2nd Ave Garage <i>Tower window sealants deteriorating</i> Surfaces require cleaning at Plaza Garage and 2nd Ave Garage	Repair damaged plaster above garage entrance <i>Remove / replace sealant at exterior side of tower windows</i> Power wash all garage surfaces	3	1	LS	\$ -	\$ -	\$ 1,458,419
Parking	Architectural	Parking space striping and graphics showing wear at Plaza and 2nd Ave Garages <i>Existing glazing is energy inefficient at Tower Plaza</i>	Restripe / repaint striping and graphics at both garages <i>Remove / replace window shade film &amp; reseal at Tower Plaza</i>	3	1	LS	\$ -	\$ -	\$ 768,288
Parking	Architectural	Exterior sealant and paint maintenance	Re-seal and paint Tower exterior	3	1	LS	\$ -	\$ -	\$ 52,613
Roofing	Architectural	Sealant at Plaza Tower Roof deteriorating Flashing and penetrations require maintenance Damaged Breezeway skylight Roof drains require maintenance Branch Building and Breezeway roofs require replacement, including repairs to portions of ceiling	Repair sealant at Plaza Tower Roof Maintain / repair penetration flashing and flashing generally Repair Breezeway skylight Clean and repair roof drain Tear off and replace roofs at Branch Building and Breezeway, and repair portions of ceiling resulting from roof replacement	1	1	LS	\$ 492,820	\$ -	\$ -
Roofing	Architectural	Tower roof requires replacement Small canopy roofs at Breezeway require replacement Branch skylight requires replacement Roof drainage inadequate Plaza Garage roof requires replacement	Tear off / replace Tower roof Replace small canopy roofs at Breezeway Replace Branch skylight Provide secondary roof (overflow) drainage Tear off / replace Plaza Garage roof	3	1	LS	\$ -	\$ -	\$ 1,567,335
Roofing	Architectural	Flashing requires eventual replacement Plaza Tower & garage, and 2nd Ave Garages require miscellaneous painting Plaza Tower and garage roof requires miscellaneous repairs	Replace flashing throughout Miscellaneous painting in Plaza and 2nd Ave garages Miscellaneous roof repairs at Plaza and Tower	3	1	LS	\$ -	\$ -	\$ 205,130
Throughout	Vertical Transportation	Modernizations required for Tower and 2nd Ave Garage elevators	Modernize Plaza Elevators PE1 and PE2, and 2nd Ave Garage elevators 1-North and 2-South Replace hoistway door at basement for cars A and E (aesthetic only)	1	1	LS	\$ 5,568,029	\$ -	\$ -
Throughout	Vertical Transportation	No Text to Talk emergency communications capabilities at the Plaza elevators	Add Text to Talk emergency communication capabilities at Tower elevators A - J	3	1	LS	\$ -	\$ -	\$ 274,657
Throughout	Fire Protection	Existing fire protection piping requires inspection	Fire Protection contractor to investigate existing piping	1	1	LS	\$ 4,788	\$ -	\$ -
Throughout	Fire Protection	Three existing fire alarm panels for the Tower and Plaza are 30+ years old and require replacement	Provide a fully addressable fire alarm control panel with associated initiating and signaling devices.	1	1	LS	\$ 3,327,889	\$ -	\$ -
Throughout	Plumbing	Fixtures require replacement	Replace fixtures on vacant floors	1	1	LS	\$ 61,872	\$ -	\$ -
Throughout	Plumbing	Waste and vent piping requires replacement	Replace waste and vent piping	3	1	LS	\$ -	\$ -	\$ 1,807,064
Throughout	Mechanical	Boilers require replacement	Replace 2 boilers	3	1	LS	\$ -	\$ -	\$ 249,937
26th Floor	Mechanical	Chillers No. 1 and No. 2	CH-1, 2,3 ( Trane CVHF-910~850.0 ton)	2	3	EA	\$ -	\$ 1,522,368	\$ -
26th Floor	Mechanical	Chilled water pumps	CHWP-1, CHWP-2 (each 1400 Gpm@135FT, 75hp)	3	2	EA	\$ -	\$ -	\$ 24,668
26th Floor	Mechanical	Condenser Water pumps	CHWP-1,2,3 (each 2550 Gpm@55FT, 50hp)	3	3	EA	\$ -	\$ -	\$ 26,430
27th Floor	Mechanical	Cooling Tower	Refurbish Cooling towers	2	3	EA	\$ -	\$ 90,000	\$ -
26th Floor	Mechanical	Chilled water fancoils	replacement	2	1	EA	\$ -	\$ 5,851	\$ -
Mech	Mechanical	AHU-1, 2	Serve east and west halves of bldg floors 12~25, 145000 CFM each	2	2	EA	\$ -	\$ 440,500	\$ -
Mech	Mechanical	AHU-3, 4	Serve east and west halves of bldg floors 1~11, 150000 CFM total	2	2	EA	\$ -	\$ 352,400	\$ -
Museum	Mechanical	AHU-5	Serves Museum 55000 CFM	3	1	EA	\$ -	\$ -	\$ 169,152
26th Floor	Mechanical	Heating hotwater heater	6,278 MBH Each	2	2	EA	\$ -	\$ 292,492	\$ -
26th Floor	Mechanical	Heating hotwater Expansion Tank	Expansion tank	2	2	EA	\$ -	\$ 12,334	\$ -
26th Floor	Mechanical	Hotwater pump	Hydronic heating hotwater pump 800gpm ea	2	2	EA	\$ -	\$ 26,430	\$ -
lower level	Mechanical	VFT Fans	Fan powered terminal Unit Nailor 35EST	2	3	EA	\$ -	\$ 6,608	\$ -
lower level	Mechanical	Ductless split system	1.5 ton AC unit	2	1	EA	\$ -	\$ 881	\$ -
lower level	Mechanical	domestic hotwater heaters	Domestic hotwater heater	2	3	EA	\$ -	\$ 19,823	\$ -
4th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	13	EA	\$ -	\$ -	\$ -
5th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	14	EA	\$ -	\$ -	\$ -
6th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	14	EA	\$ -	\$ -	\$ -
7th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	25	EA	\$ -	\$ -	\$ -

Location	Category	Deficiency	Description of Work	CEM Priority	Quantity	Unit	PRIORITY 1 (IMMEDIATE)	PRIORITY 2 (1-4 YEARS)	PRIORITY 3 (5-10 YEARS)
8th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	14	EA	\$ -	\$ -	\$ -
9th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	25	EA	\$ -	\$ -	\$ -
13th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	22	EA	\$ -	\$ -	\$ -
14th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	15	EA	\$ -	\$ -	\$ -
15th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	23	EA	\$ -	\$ -	\$ -
22nd floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	23	EA	\$ -	\$ -	\$ -
23rd floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
24th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
25th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
10th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
11th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
12th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
16th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
17th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
18th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
19th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
20th floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
21st floor	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit - estimated quantity; drawings unavailable	N/A	19	EA	\$ -	\$ -	\$ -
plaza	Mechanical	VAV Box /controllers	Single duct VAV Terminal Unit	N/A	4	EA	\$ -	\$ -	\$ -
unknown	Mechanical	VAV Box /controllers (unknown quantity)	Credit of \$30K for replacement of unknown number of VAVs noted in existing report	N/A	1	LS	\$ -	\$ -	\$ -
Throughout	Mechanical - HVAC	VAV piping requires replacement	Replace VAV interior re-heat piping	3	1	LS	\$ -	\$ -	\$ -
Throughout	Electrical	Lighting panelboards require replacement	Replace Lighting panelboard	2	1	LS	\$ -	\$ 673,954	\$ -
		Major distribution boards require programmed maintenance	Perform maintenance to major distribution boards						
		Lightning protection system requires planned inspection and certification	Have lightning protection system inspected and certified						
Throughout	Electrical	Electrical Switchboards are past their expected useful life	Replace the existing 6000A switchboard with new switchboard	2	1	LS	\$ -	\$ 360,000	\$ -
Throughout	Electrical	Electrical Switchboards are past their expected useful life	Replace the existing 600A switchboard with new switchboard	2	1	LS	\$ -	\$ 6,641	\$ -
Throughout	Electrical	Automatic Transfer Switches are approaching their end of life, and difficult to obtain	Replace existing ATs	2	5	EA	\$ -	\$ 2,000	\$ -
<b>SUBTOTALS</b>							<b>\$ 32,059,508</b>	<b>\$ 3,861,526</b>	<b>\$ 6,858,605</b>