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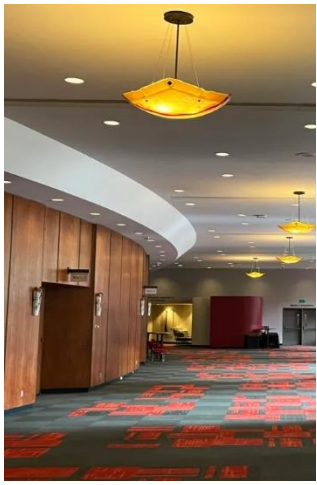

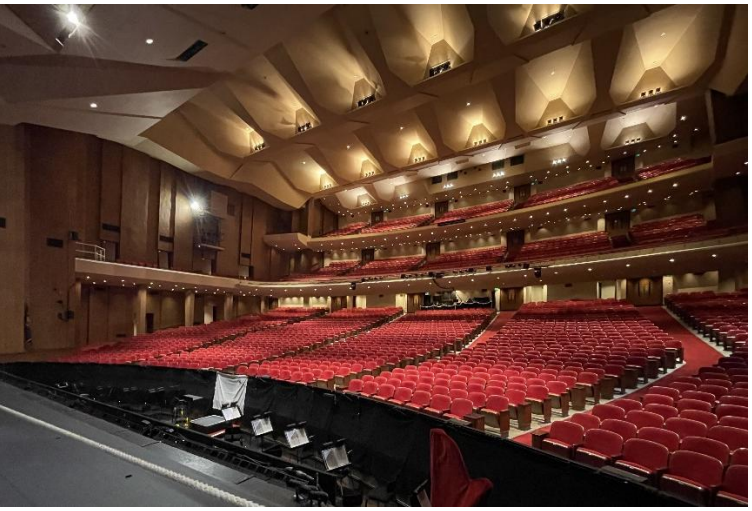

Metro Portland'5 Centers for the Arts

Facility Condition Assessment for

Keller Auditorium

April 10, 2026 | Prepared by: Säzän Group

Contents

1. Building Executive Summary

1.1. Purpose and Scope of the Assessment

On December 9, 2025, Säzän Group (Säzän) conducted a Facility Condition Assessment (FCA) of three Portland'5 Centers for the Arts facilities, including Keller Auditorium (KA). The purpose of this FCA was to provide a comprehensive evaluation of the physical condition of building systems. The assessment was performed to support Metro's asset management objectives, including establishing a consistent baseline of asset condition data and identifying short-term repairs to critical systems to maintain current service levels for the next ten years. Ten years as a time frame was determined based on input from the City of Portland's Future of Large Scale Performing Arts planning group, presenters and operational staff.

The FCA included rapid visual assessments of building and site systems, engagement with facility stakeholders and staff, and the development of a structured asset inventory consistent with Metro's asset classification hierarchy and data standards. Major building systems were evaluated, including architectural, structural, mechanical, electrical, plumbing, civil, life-safety, and specialized theater systems. No destructive testing was conducted that might otherwise indicate further condition issues. The FCA did not include seismic evaluation. A structural and seismic analysis of Keller Auditorium was completed in March 2020 by Miller Consulting Engineers. According to the City's summary of that report, the analysis identified significant structural vulnerabilities under major seismic events and developed conceptual retrofit cost estimates indicating that substantial investment would be required to address seismic deficiencies. Säzän did not independently verify or update the findings of that prior analysis. Structural observations in this FCA are based on visible conditions at the time of assessment and do not constitute a detailed structural capacity analysis, code compliance review, or seismic performance evaluation. Each asset was evaluated at Uniformat Level 4, using Metro's asset classification hierarchy, which is based on Uniformat but incorporates agency-specific numbering that does not always directly correspond to standard Uniformat designations. Assets were assigned condition ratings, estimated remaining useful life, replacement costs, and criticality to facility operations.

The scope of work also included identification of potential statutory, regulatory, and code deficiencies; assessment of operational and maintenance practices; evaluation of risk of failure and consequence of failure for critical assets; and development of prioritized recommendations for repair, rehabilitation, and capital replacement.

1.2. Facility Summary Information

Constructed in 1917, with its last major renovation completed in 1968, KA is a century old, three-story performance venue. The building's structural frame continues to exhibit fundamentally sound construction despite its age. However, the building no longer meets modern performance expectations, and many systems now show extensive deterioration.

In recent years several major systems have been rehabilitated or replaced. These have included a complete upgrade of the electrical mains (2017-19); complete freight elevator modernization (2020) and targeted passenger elevator upgrades (2026); a complete chiller system and cooling tower replacement (2021 and 2015, respectively); and a roof replacement, including

seismic/structural support for the parapets, and standing seam metal roof at the stage house (2016). The building's condition is generally conducive to maintaining current operations for the next decade, but investments are recommended in key building systems, particularly theatrical and building envelope, in order to maintain current service levels.

1.3. Key Findings and Recommendations

Theater Systems

1. Existing orchestra pit lift system shows ample evidence that it has exceeded manufacturer's anticipated useful life and does not conform to current ANSI/ESTA standards for motorized orchestra pit lift systems.
   Recommendation: Perform a comprehensive inspection and do a major service of lift system.
2. Existing House, Work, & Production lighting controls systems are outdated and nearing end of manufacturer's support.
   Recommendation: Recommend replacement of new integrated, networked, lighting controls infrastructure with current generation systems.
3. The existing house public address speaker system is outdated and underpowered compared to industry standards for similar performance venues.
   Recommendation: Replace PA speakers and upgrade the audio reinforcement system (amplification, processing, and signal distribution) to meet current performance needs; test and commission after installation.

Architectural Systems

4. Architectural millwork throughout the building requires attention. In front-of-house lobbies and corridors, finishes show noticeable discoloration. Within the auditorium, wood veneer is delaminating from the substrate, with several sections exhibiting severe separation that warrants repair or replacement.
   Recommendation: Refinish front of house millwork panels to bring up to presentable level of finish. Within the auditorium, engage a qualified and specialist millworker to identify potential remediation options beyond just replacing with new.

Building Envelope Systems

5. Systemic water intrusion and envelope failures are occurring across multiple assemblies. Although roof repairs and replacements and been completed, water continues to infiltrate at numerous locations.
   Recommendation: Implement a comprehensive envelope and drainage remediation program, addressing all conditions (sealants, parapets, storefronts, roof interfaces, stucco) to eliminate ongoing water intrusion.

Mechanical Systems

6. Numerous plumbing, drainage, domestic water, and HVAC systems (air handling units, select pumps, and aging building automation controls) are approaching end of useful life but are still meeting functional requirements.

Recommendation: Continue routine maintenance and periodic condition monitoring of noted systems to sustain operational reliability.

Electrical Systems

7. The primary electrical distribution system, including switchgear, distribution equipment, standby generator, lighting, and low-voltage systems, is generally in good condition and has undergone significant renewal within the past decade. The overall system configuration appears capable of supporting current building operations with no immediate capacity concerns identified.
8. Deteriorated branch circuit wiring and instances of improper grounding were identified at select devices and luminaires. These conditions present localized electrical safety and reliability risks if not addressed.
   Recommendation: Branch circuit wiring and grounding should be further investigated and replaced as required.

1.4. Summary of Total Estimated Costs

Based on observed conditions, maintenance practices, age of building systems and remaining useful life, the FCA developed order-of-magnitude (ROM) cost estimates for required repairs, rehabilitation, and capital replacements. Costs are presented in current dollars and represent planning-level estimates (i.e., +/- 30%) intended to support planning, budgeting and prioritization.

This FCA report identifies that KA is now due for substantial capital renewal after decades of incremental maintenance and partial system replacements. The report outlines approximately $4.5M-$9.5M in immediate and priority needs within the next five years. The following tables and graphs summarize the total expenditures and corrective actions broken down by discipline.

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Total Expenditures

Note: The KA scope was limited to ten years based on input from the City of Portland's Future of Large Scale Performing Arts planning group, presenters and operational staff.

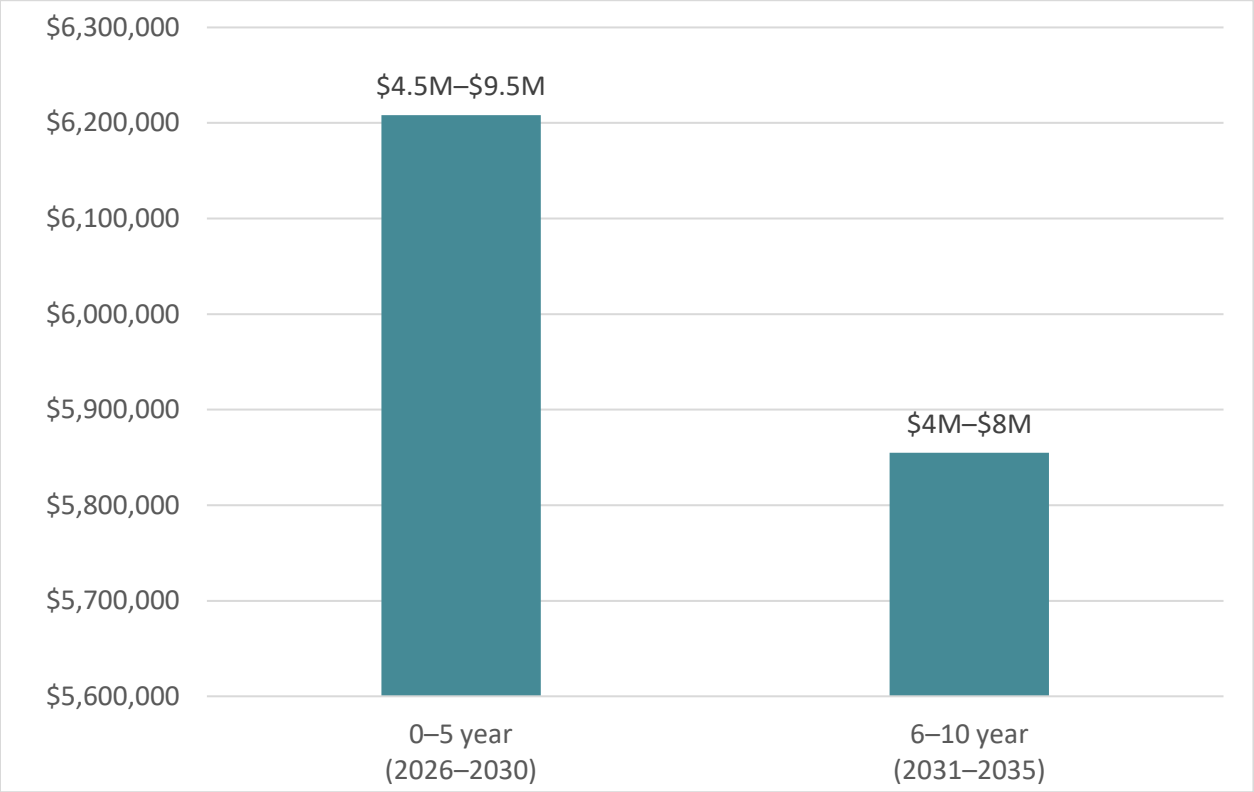


Figure 1. Total Recapitalization Need

Cost Category	Planning-Level Cost Range*
Immediate / High Priority (2026-2030)	$4.5-$9.5M
Short Term (2031–2035)	$4M-$8M
Total Estimated Capital Need	**$8.5M-$17.5M**

**Planning-level cost ranges reflect typical order-of-magnitude accuracy for Facility Condition Assessments.*

Table 1. Total Recapitalization Need

Immediate / High Priority (2026-2030) Costs by Discipline

Theater Systems	$1.5M–$2.5M
Architectural Systems	$1.0M-$2.0M
Structural Systems	$0-$0.5M
Building Envelope Systems	$1.5M–$3.0M
Mechanical Systems	$0.5M–$1.0M
Electrical Systems	$0M-$0.5M
TOTAL	**$4.5M-$9.5M**

Table 2. Total Corrective Action Costs by Discipline

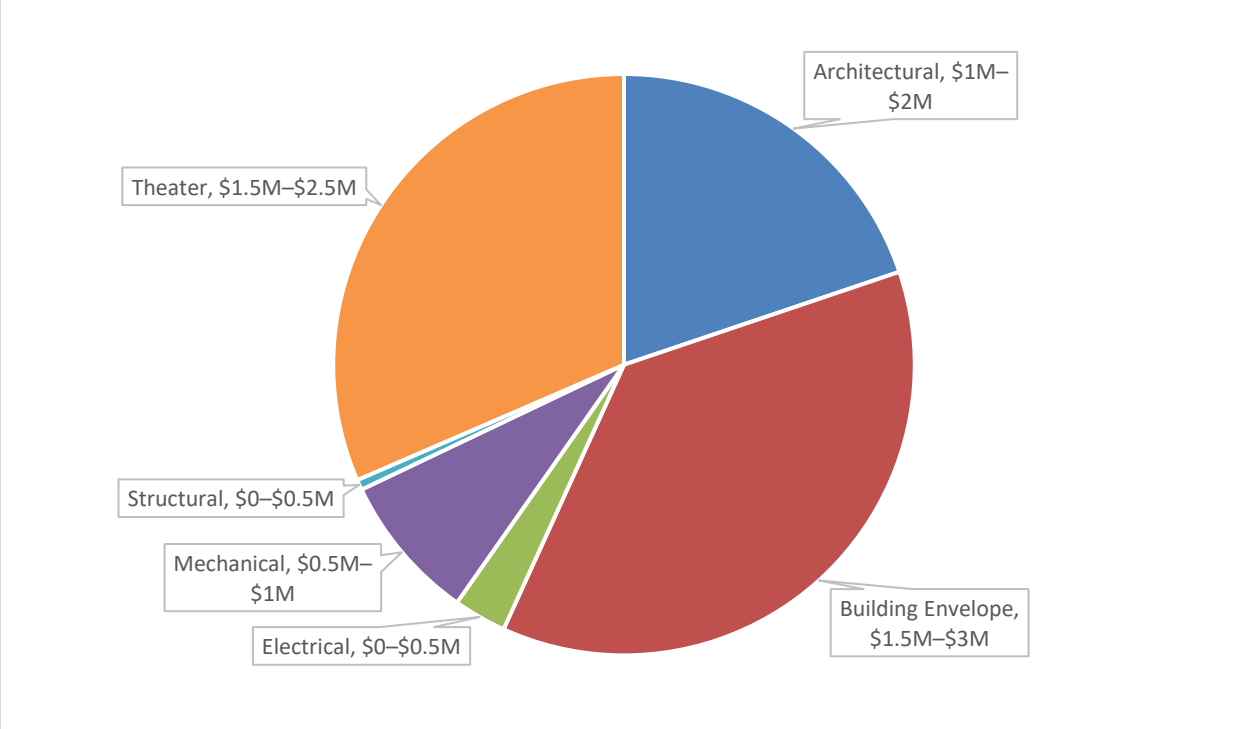


Figure 2. Total Corrective Action Costs by Discipline

2. Methodology

2.1. Facility Condition Assessment

Metro engaged Säzän to perform a Facility Condition Assessment (FCA) for KA. The FCA was conducted as a high-level observational assessment to provide a comprehensive evaluation of the physical condition, performance, and long-term capital needs of the facility. The assessment was performed to support Metro's asset management objectives, including establishing a consistent baseline of asset condition data, identifying operational and maintenance risks, and informing near- and long-term capital planning and investment decisions.

The assessment included qualitative observations of building systems and order-of-magnitude cost opinions associated with identified Corrective Actions. Remaining Useful Life (RUL) estimates were documented for major systems to provide context for lifecycle cost modeling and long-term replacement forecasting. Cost opinions were developed to support evaluation of near-term Corrective Actions necessary to facilitate continued use of the building.

2.2. Corrective Action Categories

To support consistent prioritization, budgeting, and risk management, each identified deficiency or recommended corrective action has been assigned to one of the following standardized categories. These categories are intended to clearly communicate the nature of the issue, the urgency of response, and the primary driver for action.

The corrective action categories are intended to:

- Provide a consistent framework for interpreting deficiencies across facilities and systems
- Support transparent prioritization of capital and maintenance investments
- Align corrective actions with risk, compliance, and asset life-cycle considerations
- Enable meaningful aggregation and analysis at the portfolio level

These categories do not replace professional judgment but serve as a standardized decision-support tool for asset management and capital planning.

Major Maintenance

Major Maintenance includes corrective actions required to restore assets that are still within their expected useful life but are exhibiting significant deterioration, performance issues, or deferred maintenance. These actions are typically necessary to maintain acceptable levels of service, reliability, and asset value.

Examples of Major Maintenance include, but are not limited to:

- Significant repairs to building envelope components (e.g., roofing, exterior walls, waterproofing)
- Overhauls or major servicing of mechanical and electrical equipment
- Replacement of major subcomponents that are failing prematurely
- Corrective work addressing chronic operational issues

Major Maintenance actions are generally planned and budgeted as part of ongoing capital renewal or maintenance programs and are prioritized based on asset condition, criticality, and risk of failure.

Life Safety and Code Violation

Life Safety and Code Violation includes deficiencies that pose an immediate or near-term risk to occupant safety, public safety, or regulatory compliance. These corrective actions are typically driven by building codes, fire and life-safety standards, occupational safety requirements, or other statutory and regulatory obligations.

Examples include:

- Fire alarm or fire suppression system deficiencies
- Inadequate emergency egress or lighting
- Electrical hazards
- Structural safety concerns
- Non-compliance with accessibility standards

Life Safety and Code Violation items are generally assigned the highest priority and should be addressed as soon as practicable to mitigate risk, ensure compliance, and protect occupants and facility operations.

Additional Evaluation Needed

Additional Evaluation Needed includes conditions where observed deficiencies or uncertainties require further investigation, testing, or specialized assessment before an appropriate corrective action can be defined.

This category is used when:

- The extent of deterioration cannot be fully determined through visual inspection alone
- Specialized expertise is required (e.g., structural, geotechnical, environmental, hazardous materials)
- Subsurface or concealed conditions are suspected
- System performance issues cannot be clearly diagnosed

Items in this category typically result in follow-up studies, targeted inspections, or monitoring programs that inform future capital planning and corrective actions.

End of Useful Life

End of Useful Life includes assets that have reached or exceeded their expected useful life and for which full replacement is recommended. These assets may still be operational but present increasing risk of failure, inefficiency, or inability to meet current performance requirements.

Examples include:

- HVAC equipment beyond expected service life
- Obsolete electrical or control systems
- Plumbing systems with chronic failure history

- Structural or architectural components no longer viable for repair

End of Useful Life actions are generally treated as capital replacement projects and form a significant portion of long-term recapitalization planning.

2.3. Condition Rating Overview

As part of the assessment, the physical condition of the facility's major building systems and related components are categorized in one of five conditions per category:

Excellent

New or very close to new; component or system typically has been installed within the past year, sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.

Good

Satisfactory as-is. A component or system is sound and performing its function, typically within the first third of the component's predicted useful life. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.

Fair

Showing signs of wear and tear but still satisfactory as-is, typically near the middle of its estimated useful life. The component or system is performing adequately at this time but may exhibit signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated RUL.

Poor

Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is required, or repairs are required to restore it to good condition, prevent premature failure, and/or prolong useful life.

Deficient

Component or system has ceased functioning or performing as intended. Replacement, repair, or another significant action is recommended or required.

2.4. Cost Estimating Assumptions

The overall condition and Corrective Action cost data for Metro assets are based upon a parametric approach that is consistent with supporting effective capital and operations-and-maintenance planning and budgeting. Range of accuracy of conceptual level cost estimating for Corrective Actions is typically +/- 30%, and a contingency factors of 20% for design and estimating, and 10% for soft costs are also included in cost estimate mark-ups. See following Table 8 and Table 9.

Conceptual cost projections are based on 2025 market costs for facilities and building systems. Cost projections do not replace typical project-based planning, budgeting, and due diligence. All cost projections represented in this report reflect labor, materials, and markups necessary to repair or replace systems.

The Construction Cost markup subtotal is calculated on a multiplicative basis, while the Soft Cost markup subtotal is calculated as the sum of the listed items.

Construction Costs and Soft Costs compound when applied to the base cost of labor and materials.

$$Total\ Cost = Base\ Cost\ \times (Product\ of\ Construction\ Cost\ Markups) \times (Sum\ of\ Soft\ Cost\ Markups)$$

Construction Cost Item	Markup	Multiplier
Design & Estimating Contingency	20.0%	1.20x
General Conditions, Requirements, and Fee	20.0%	1.20x
Total Construction Cost Markups		**1.44x**

Table 8. List of Construction Cost Markups

Construction Cost markups are applied on a compounding (multiplicative) basis by converting percentage markups to multipliers and applying them sequentially.

Soft Cost Markups	
Design Fees (including CA)	14.5%
Owner Planning & Management Services	10.0%
Project Contingency / Reserve	10.0%
Fixed Furnishings & Equipment	5.0%
Owner Admin or Overhead (e.g., Green design, Policy/Procedures)	4.0%
Owner Consultants (e.g., CM)	4.0%
Utility/Franchise Fees	2.0%
Permits	1.5%
Art	1.0%
Commissioning	0.5%
Testing & Inspection	0.5%
Total Soft Cost Markups	**53.0%**

Table 9. List of Soft Cost Markups

Soft Cost markups are applied on an additive basis. Items are summed to a total percentage markup which is converted to a multiplier.

All future costs are then normalized to net present value to account for the time value of money and show costs in present dollars. The costs are escalated at a rate of 4.5% per year (the average year-over-year increase in construction costs over the past 15 years) and discounted at a rate of 3.0% per year.

$$Net\ Present\ Value = Total\ Cost * \left(\frac{Escalation\ Rate}{Discount\ Rate}\right)^{Years\ Until\ Renewal}$$

Escalation and Discount Factors	
Escalation	4.5% per year
Discount	3.0% per year

Table 10. List of Escalation and Discount Factors

Facility Condition Index (FCI)

The Facility Condition Index for each facility is an industry standard benchmark for evaluating the condition performance of facilities over time. Agencies develop and change FCIs depending on budget planning and needs. There are various methods for calculating FCI. For this reason, the FCI scores represented in this report should not be compared to those of other organizations unless they use the exact same method of calculation.

The FCI numerator, commonly referred to as Deferred Maintenance, or Backlog in Maintenance and Repair, consists of short-term CAs (i.e., 2025-2030) and mid-term PRs (i.e., 2031-2035).

The FCI calculations used in this report are represented by the total cost of CAs and PRs identified for each building for the period 2025-2035 relative to the estimated 2025 Current Replacement Value (CRV) for each building. This FCI calculation uses CA, PR, and CRV costs in 2025 dollars that do not include escalation.

$$KA\ FCI = \frac{Corrective\ Actions\ (2026-2030) + Predicted\ Renewals\ (2031-2035)}{Current\ Replacement\ Value\ (CRV)}$$

FCI scores are expressed as percentages that range from 0% – 100%. A lower FCI reflects a facility in better condition with lower maintenance needs and associated costs. Conversely, a high FCI score indicates a facility in poorer condition with higher percentage of maintenance needs and associated costs.

FCI is represented by the following categories:

FCI Score	Definition
Good (0%–5%)	The building is in new or well-maintained condition with no visual evidence of wear, soiling, or other deficiencies.
Fair (5%–10%)	The building is subject to wear and soiling but is still in a serviceable and functioning condition.
Poor (10%–60%)	The building has been subjected to hard or long-term wear and is nearing the end of its useful or serviceable life.
Very Poor (60%–100%)	The building has reached the end of its useful or serviceable life. Renewal is now necessary.

Table 11. FCI scoring categories

Current Replacement Value (CRV)

The Current Replacement Value of buildings is based upon a cost model for the use-type of each building and factors the cost model's estimated cost per square foot by the gross square foot area of the building. CRVs should include cost markups to reflect full design and construction costs for the current year's construction market. CRV does not normally include an escalation factor, nor demolition costs of the current building. The primary use of modelling CRVs for buildings is to calculate FCIs for benchmarking purposes.

3. Building Summary

3.1. Facility Overview

Year of original construction	1917
Facility size (gross sq. ft.)	146,555
Number of floors	3
Address	222 SW Clay Ave, Portland, OR 97205
Current Replacement Value	$331,879,233

FCI score could not be provided due to the scope of the assessment—the building was assessed assuming a 10-year lifespan.

Theater Summary

See Appendix A for a detailed theater narrative summary.

Architectural Summary

The KA is a 3-story structure, an orchestra floor and two balcony levels, built in 1917. The facility has seating capacity for 2,992 people. The last major renovation occurred in 1968. The original structure is comprised of brick faced reinforced concrete walls, steel framing and a concrete slab roof system. The 1968 renovation replaced the front wall and much of the interior. Additionally marble panels were added to the exterior walls.

Structural Summary

The building structural system consists of brick-faced reinforced concrete and reinforced masonry wall construction, with steel framing and a concrete slab roof system. The structural

system reflects the original 1917 construction, with modifications associated with the 1968 renovation.

The building includes concrete floor and roof assemblies integrated with the primary structural system and supports the orchestra level and balcony levels within the facility, as well as the primary auditorium and associated spaces.

The building does not meet current seismic code. A structural and seismic analysis of Keller Auditorium was completed in March 2020 by Miller Consulting Engineers. According to the City's summary of that report, the analysis identified significant structural vulnerabilities under major seismic events and developed conceptual retrofit cost estimates indicating that substantial investment would be required to address seismic deficiencies.

Building Envelope Summary

The KA is primarily clad with 3 stories of decorative aggregate precast panels with stucco at the central east elevation and storefront style window wall system at the west elevation. Beneath this 1967-68 renovation appears to be portions of historic brick facade predating the KA. The coping and flashing systems are showing signs of age while the window wall is quite resilient, facilitated by the protection of the portico. Stucco exhibits cracks typical of this cladding type and precast panel cladding is reaching end of useful life with evidence of epoxy injection repair. The aggregate precast panels are found only on the north and south facades and are badly deteriorated.

Mechanical Summary

The HVAC systems at KA are comprised of a hot and chilled water central plant. Two gas-fired boilers provide hot water to the building. These units were replaced in 2015 and facility maintenance staff report that they are running well and are easy to maintain. Two multi-stack chillers were installed recently and are in good condition. All but two pumps for the chilled/condenser water system have been replaced recently as well. The cooling tower that serves the condenser loop was installed circa 2014 and is in fair condition with no reported issues necessary to keep the building functioning for 10 years.

Four-pipe air handling units provide ventilation as well as heating and cooling to the spaces for single zone units or multizone units provide heating and cooling to several zones. These Pace units are reliable but approaching end of useful life. It is suggested to refurbish these units with new fan motors (where it hasn't already been completed), new heating and cooling coils and piping components, and interior/exterior cleaning/paint to prolong their life.

Domestic hot water is provided via a gas-fired tank style water heater. The unit was installed in 2017 and is in fair condition with no reported issues. It was noted that no seismic bracing or housekeeping pad insulation is provided for the unit.

There is a sprinkler system that serves the building. It is past its normal expected useful life. An inspection of the system to determine the need for replacement should be completed.

The elevator motors are original to the 1980's renovation and are at end of useful life.

The building control system is Niagara based and staff report issues with overall operation and failure of sensors. The damper actuators on most air handling units appear to be in good condition, but it appears that other sensors and controls equipment have not been replaced in several years, meaning the equipment is approaching end of useful life. A system upgrade is recommended to the most recent version of Niagara to ensure occupant comfort to support the 10-year operations horizon.

Electrical Summary

The building is served by a 3000A, 208Y/120V, three-phase, four-wire distribution switchgear fed from the Pacific Power utility vault. The main distribution panel feeds several subdistribution systems throughout the facility. These include a 1200A distribution switchboard serving motor control centers and elevators, a 1600A distribution switchboard serving branch panelboards and supplying an additional 1000A distribution switchboard that feeds additional panelboards, and a 1200A distribution equipment section dedicated to serving two chillers. The building also includes a 400A standby distribution switchboard connected through an automatic transfer switch to a 125 kW diesel generator, with subdistribution equipment serving multiple standby branch panelboards. The distribution equipment and most panelboards are in good condition and were replaced between 2014 and 2018. The generator also appears to be in good condition and was replaced in 2009.

Several lighting fixture types were observed throughout the building, including recessed downlights, troffers, surface-mounted fixtures with wraparound lenses, strip lights, and open sockets. Front-of-house lighting fixtures were generally observed to be in good condition, while back-of-house fixtures were found to be in fair condition. Several fluorescent and incandescent fixtures remain in use.

Low-voltage systems, including telephone, television, intercom, public address, and security systems, were observed to be in good condition. The fire alarm system also appeared to be in good condition.

Discussions with Facilities Personnel indicated that several devices and equipment are currently not properly grounded.

3.2. Corrective Action Summary

Säzän identified 43 corrective actions based on observations made during the assessment. These actions represent approximately $6.2M in order-of-magnitude cost opinions.

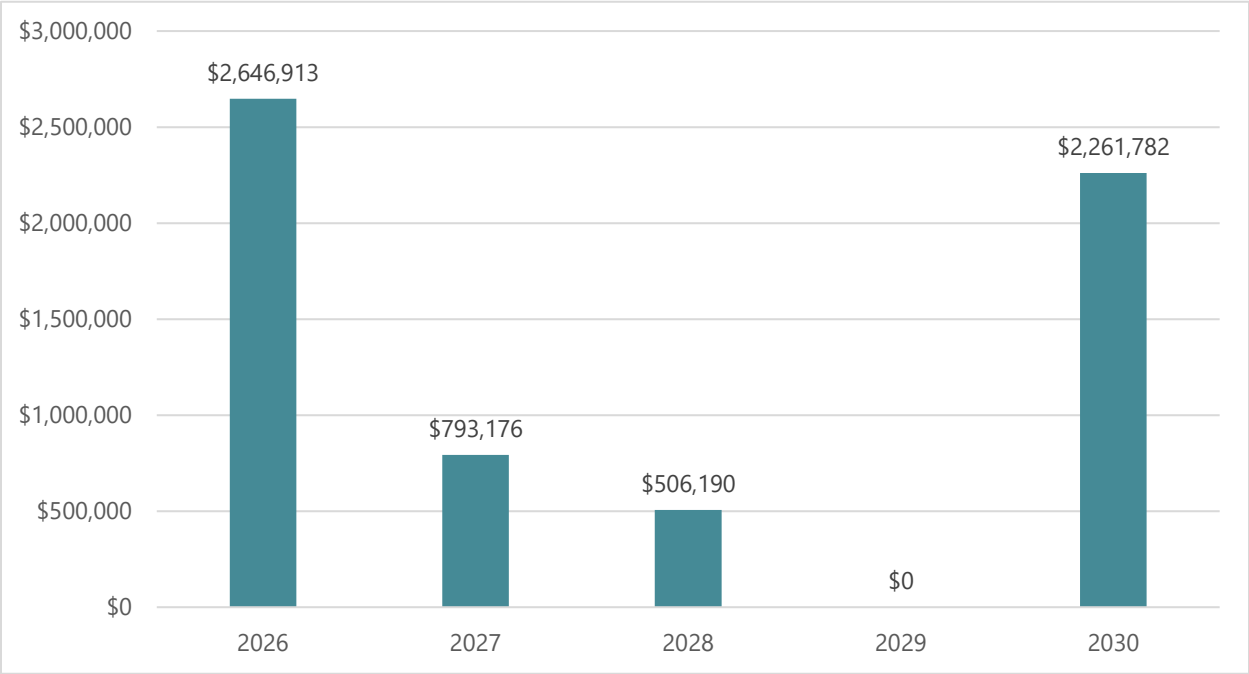


Figure 3. Recapitalization Need by Year, 2026–2030

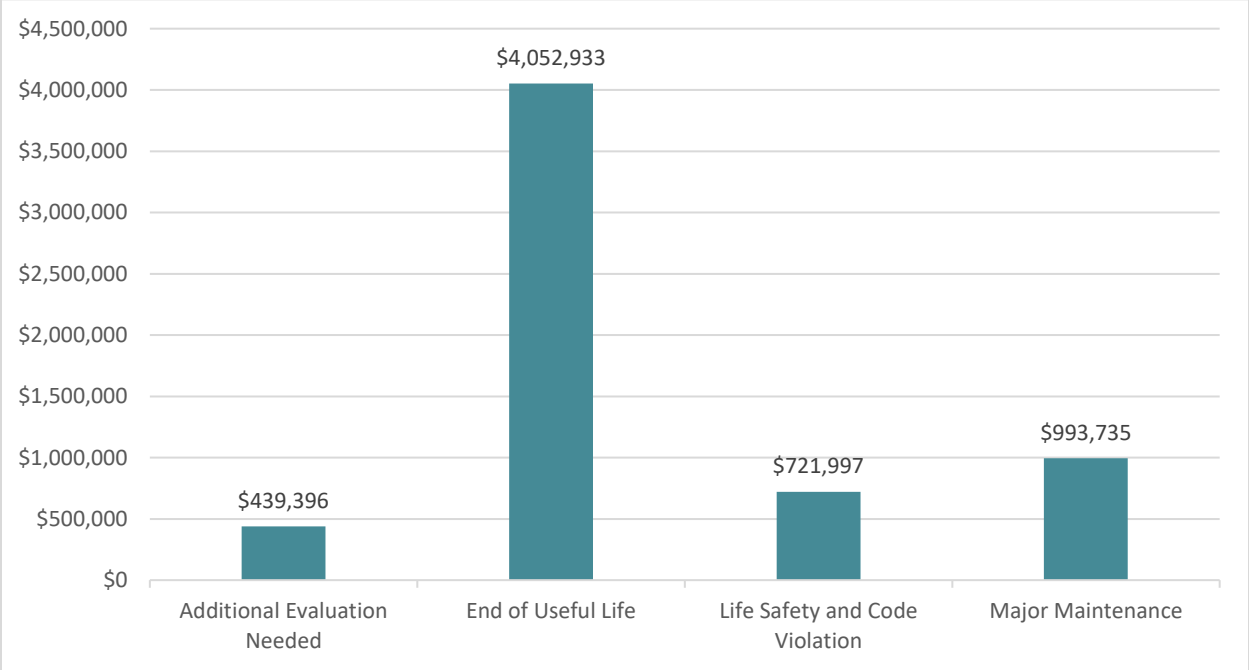


Figure 4. Recapitalization Need by Corrective Action Type

3.3. List of Corrective Actions

End of Useful Life: A1113 Perimeter Drainage & Insulation

Component

A1113 Perimeter Drainage & Insulation

Action Type

End of Useful Life

Year to Occur

2026

CA ID

KA-01

Total Cost

$67,059

Observed Deficiency

Deteriorated sealant at the at-grade exterior wall transition adjacent to the west elevation entry stair appears to be contributing to water ingress in the bar storage area.

Recommended Action

Implement targeted repair campaign to address deficient base of wall waterproofing.

End of Useful Life: A1331 Standard Slab on Grade

Component

A1331 Standard Slab on Grade

Action Type

End of Useful Life

Year to Occur

2027

CA ID

KA-02

Total Cost

$36,285

Observed Deficiency

Slab on grade located at south west corner (adjacent to main entrance) slopes towards the building and is draining runoff into it. Standing water was noted at that location while on site. Drainage issue should be corrected to mitigate the potential for water intrusion into the building.

Recommended Action

Remove and replace slab or pressure grout jack slab level. Pricing reflects cost of removal and replacement of slab.

Additional Evaluation Needed: A2224 Interior Skin

Component

A2224 Interior Skin

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-03

Total Cost

$11,176

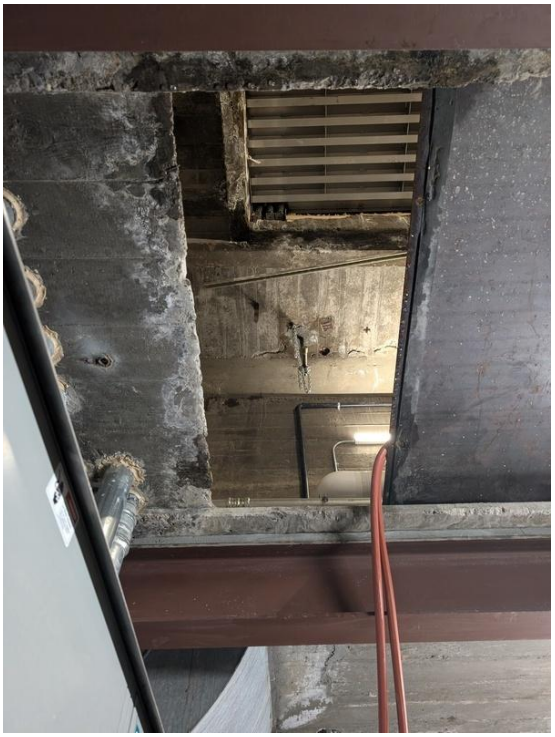
Observed Deficiency

Water ingress occurring at manhole and south elevation wall located below sidewalk and adjacent to Market Street.

Recommended Action

Further investigation and water testing is recommended to determine ingress point and and extent of necessary repair.

End of Useful Life: A2224 Interior Skin



Component

A2224 Interior Skin

Action Type

End of Useful Life

Year to Occur

2026

CA ID

KA-04

Total Cost

$36,882

Observed Deficiency

Presenting leaks appear to originate from unsealed access door at the street level.

Recommended Action

We recommend the access door is retrofitted(or replaced) to install sealing gaskets and internal capture gutter and drain.

Additional Evaluation Needed: B1223 Canopies

Component

B1223 Canopies

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-05

Total Cost

$26,823

Observed Deficiency

Interior finish damages correlate with location of adjacent awning and signage connection to exterior wall.

Recommended Action

Develop scope of repair then install and integrate new flashing/ water-resistive barrier at deficient connection. With precast panel cladding having been epoxy bonded to structure, repair feasibility is uncertain. Price reflects cost of evaluation only.

End of Useful Life: B2111 Exterior Wall Construction

Component

B2111 Exterior Wall Construction

Action Type

End of Useful Life

Year to Occur

2026

CA ID

KA-06

Total Cost

$77,117

Observed Deficiency

Stucco walls at high roof exhibit signs of ingress in the form of cracking, spalling, and moisture staining.

Recommended Action

Route and seal cracks then apply elastomeric waterproof coating.

End of Useful Life: B2111 Exterior Wall Construction

Component

B2111 Exterior Wall Construction

Action Type

End of Useful Life

Year to Occur

2030

CA ID

KA-07

Total Cost

$1,520,720

Observed Deficiency

Sealants at cladding panel to panel joints and window perimeters are deteriorated.

Recommended Action

We recommend general sealant renewal to prolong the life of existing cladding and window assemblies.

Additional Evaluation Needed: B2111 Exterior Wall Construction

Component

B2111 Exterior Wall Construction

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-08

Total Cost

$11,176

Observed Deficiency

Security of panel attachment unknown without sounding panels for voids.

Recommended Action

Consider more detailed facade assessment or ensure 10-year operations horizon and to determine deficient/at-risk panels and specific locations for repair. Price reflects evaluation only. These panels were included in the prior 2015-16 assessment and were recommended for substantial repairs.

Major Maintenance: B2112 Parapets

Component

B2112 Parapets

Action Type

Major Maintenance

Year to Occur

2030

CA ID

KA-09

Total Cost

$217,890

Observed Deficiency

Parapets were in varied condition. Evidence of joint failure and damage to metal panel cladding was observed at multiple locations.

Recommended Action

Remove failed sealants and repair parapet joints; repair/replace damaged cladding or coping; restore continuous waterproofing and drainage.

Major Maintenance: B2113 Exterior Louvers, Screens and Fencing

Component

B2113 Exterior Louvers, Screens and Fencing

Action Type

Major Maintenance

Year to Occur

2026

CA ID

KA-10

Total Cost

$53,647

Observed Deficiency

Sealant joints at louvers have reached end of useful life, creating a potential water ingress path. Louvers themselves are in fair condition with some finish deterioration.

Recommended Action

Replace all damaged louver units around the building; repair surrounding frames/flashing and reseal to maintain weather-tightness.

End of Useful Life: B2115 Balcony Walls & Handrails

Component

B2115 Balcony Walls & Handrails

Action Type

End of Useful Life

Year to Occur

2027

CA ID

KA-11

Total Cost

$76,540

Observed Deficiency

Balcony seating section divider rail assemblies exhibit significant wear, damage, and looseness. Several rail components are broken or inadequately secured, indicating the assemblies are nearing the end of their useful life and may not reliably perform as intended.

Recommended Action

Repair and re-secure loose seating section divider rail components and replace damaged or broken sections. Where deterioration is widespread, replace divider rail assemblies to restore structural integrity and intended performance..

Major Maintenance: B2116 Exterior Soffits

Component

B2116 Exterior Soffits

Action Type

Major Maintenance

Year to Occur

2030

CA ID

KA-12

Total Cost

$30,789

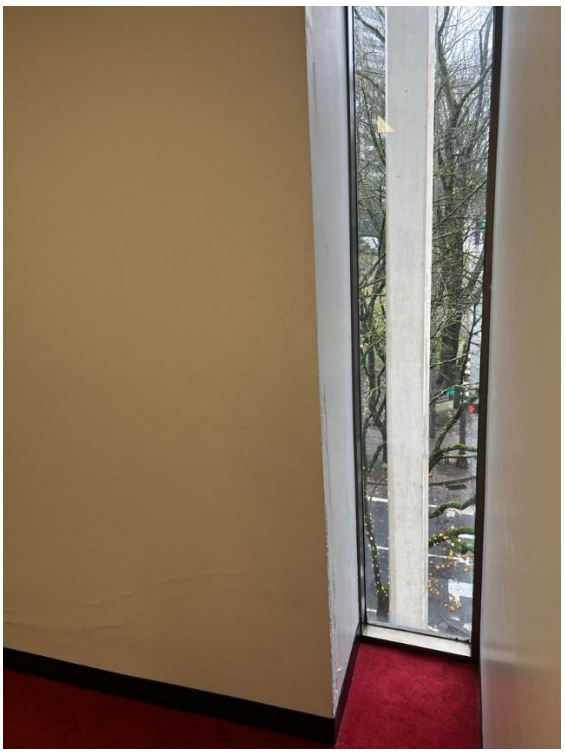
Observed Deficiency

Soffits are in poor to fair condition with observed failures at water ingress points at top of slab.

Recommended Action

Patch and repair cracked stucco at all soffit locations; seal joints/cracks; prep and repaint with exterior-grade coating system to extend limited life to 10-year operations horizon.

End of Useful Life: B2221 Exterior Windows



Component

B2221 Exterior Windows

Action Type

End of Useful Life

Year to Occur

2030

CA ID

KA-13

Total Cost

$8,052

Observed Deficiency

Exterior windows are showing signs of age. Sealant joints are approaching end of useful life with some failures observed.

Recommended Action

Identify leak locations and repair window/frame interfaces; replace failed gaskets/sealants; repair/replace damaged hardware and refinish coatings.

Major Maintenance: B2223 Exterior Storefronts

Component

B2223 Exterior Storefronts

Action Type

Major Maintenance

Year to Occur

2030

CA ID

KA-14

Total Cost

$184,733

Observed Deficiency

Storefront style window wall system is largely protected from weather by portico eave and evidence of water intrusion was not observed, except at base off wall (see perimeter drainage). System is showing signs of its age but appears to be performing. At internmitent locations, internal gasket failures at window units.

Recommended Action

Inspect storefront/window wall for sealant and gasket failures; replace deteriorated gaskets/sealants; repair localized glazing/frame deficiencies to restore performance.

End of Useful Life: B2331 Exterior Glazed Doors & Entrances

Component

B2331 Exterior Glazed Doors & Entrances

Action Type

End of Useful Life

Year to Occur

2027

CA ID

KA-15

Total Cost

$68,035

Observed Deficiency

Door thresholds and hardware are corroded, and sill substrate is deteriorating.

Recommended Action

We recommend repair of the sills to provide solid substrate and installation of new threshold to prevent water ingress and proper drainage away from sill.

Additional Evaluation Needed: B3111 Roof Finishes

Component

B3111 Roof Finishes

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-16

Total Cost

$10,059

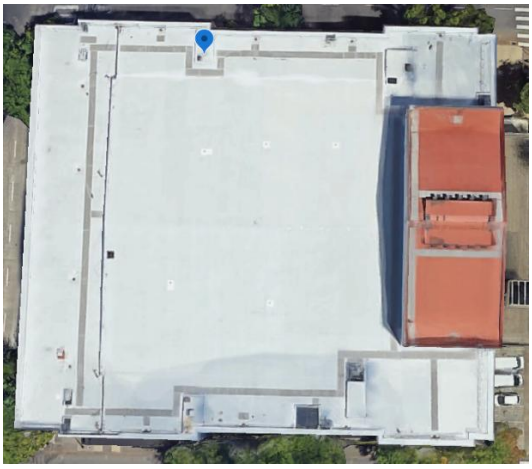
Observed Deficiency

Leak presenting is at crack in concrete roof slab located at lower sub-roof with roof drain.

Recommended Action

Validate source of leak then engage roof installer or qualified roofer to implement targeted repair. Cost reflects evaluation only.

Additional Evaluation Needed: B3111 Roof Finishes



Component

B3111 Roof Finishes

Action Type

Additional Evaluation Needed

Year to Occur

2027

CA ID

KA-17

Total Cost

$11,339

Observed Deficiency

Water intrusion occurring at the ceiling of the rehearsal space may be roof related or plumbing related and is minor in nature.

Recommended Action

We recommend further investigation to determine if roof or plumbing related and take necessary corrective action. Price reflects evaluation only.

Major Maintenance: B3114 Flashings & Trim

Gap in wall to roof flashing

Separation at flashing joint

Wear and organic growth observed at wall flashing

Component

B3114 Flashings & Trim

Action Type

Major Maintenance

Year to Occur

2030

CA ID

KA-18

Total Cost

$15,394

Observed Deficiency

Flashing joints and transitions are in varied condition with isolated failures observed in several locations. Water intrusion was not correlated to these failures but they expose the structure to potential leaks if membrane beneath deteriorates.

Recommended Action

Remove and replace failed flashing and sealant at deficient joints and transitions. Repair adjacent finishes as required and verify proper drainage at affected locations.

Life Safety and Code Violation: C2114 Stair Handrails and Balustrades

Component

C2114 Stair Handrails and Balustrades

Action Type

Life Safety and Code Violation

Year to Occur

2026

CA ID

KA-19

Total Cost

$118,470

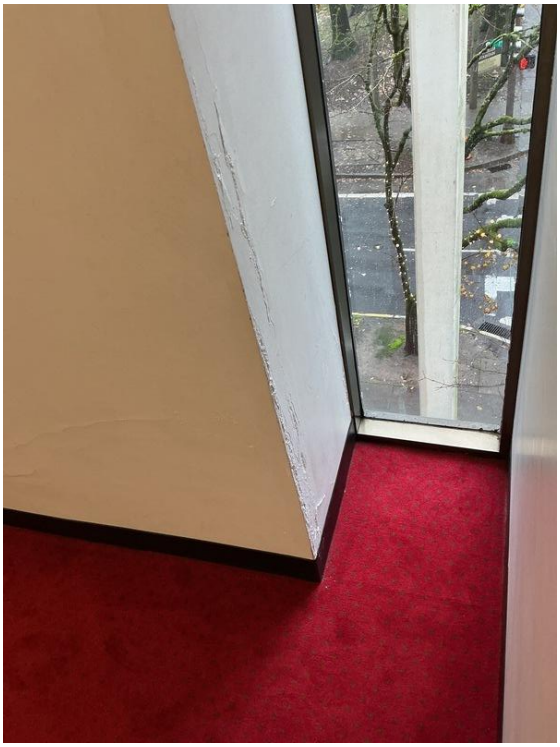
Observed Deficiency

All four stair handrails are installed at approximately 2'-10" above the stair nosing, and the open side of the stair does not include a guardrail height consistent with current code standards. While these elements may have been compliant at the time of installation, they do not align with current handrail and guard height requirements and may present elevated fall risk exposure in a public assembly occupancy.

Recommended Action

Evaluate stair handrail and guard configurations relative to current code standards and consider modification or replacement to reduce potential life safety and liability exposure over the 10-year planning horizon.

Additional Evaluation Needed: C3111 Wall Finishes to Inside Exterior Walls



Component

C3111 Wall Finishes to Inside Exterior Walls

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-20

Total Cost

$33,529

Observed Deficiency

Interior wall finishes adjacent to exterior glazing at landing above first balcony level at NW public stair corner exhibit cracking, surface deformation, and localized deterioration consistent with moisture exposure.

Recommended Action

Repair and refinish affected wall surfaces and coordinate with the envelope consultant to verify and address any contributing exterior moisture conditions.

Additional Evaluation Needed: C3111 Wall Finishes to Inside Exterior Walls

Component

C3111 Wall Finishes to Inside Exterior Walls

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-21

Total Cost

$33,529

Observed Deficiency

At the Ghost Bar ice machine alcove, interior wall finishes along the exterior walls show localized deterioration, staining, and material degradation consistent with moisture intrusion.

Recommended Action

Repair and refinish affected wall surfaces and coordinate with the envelope consultant to verify and address contributing exterior moisture conditions.

Additional Evaluation Needed: C3111 Wall Finishes to Inside Exterior Walls

Component

C3111 Wall Finishes to Inside Exterior Walls

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-22

Total Cost

$33,529

Observed Deficiency

Interior wall finishes along exterior wall at street level under the awning at the corner of 3rd and Clay St show peeling paint and deterioration consistent with moisture exposure.

Recommended Action

Repair and refinish affected wall surfaces and coordinate with the envelope consultant to verify and address any contributing exterior moisture conditions.

Additional Evaluation Needed: C3111 Wall Finishes to Inside Exterior Walls

Component

C3111 Wall Finishes to Inside Exterior Walls

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-23

Total Cost

$33,529

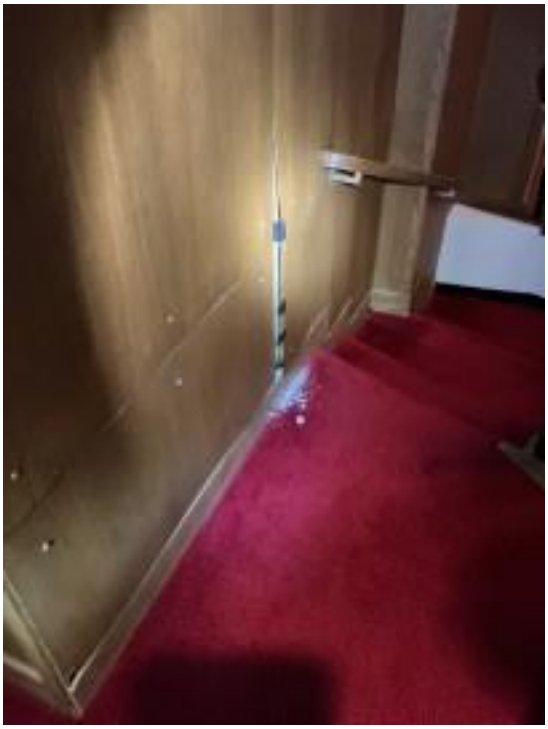
Observed Deficiency

Interior wall finishes at the interior face of the basement level pump room exterior walls show peeling paint and deterioration consistent with moisture exposure.

Recommended Action

Coordinate with the envelope consultant to investigate and address the source of water intrusion. Following mitigation, repair and refinish affected wall surfaces.

End of Useful Life: C3112 Wall Finishes to Interior Walls



Component

C3112 Wall Finishes to Interior Walls

Action Type

End of Useful Life

Year to Occur

2028

CA ID

KA-24

Total Cost

$603,527

Observed Deficiency

Wood veneer wall panels in the auditorium are separating from the substrate, with visible gaps and areas of loosening. Continued separation may result in further detachment and localized safety concerns.

Recommended Action

Reattach loose veneer panels where feasible and selectively replace panels that cannot be adequately secured.

Major Maintenance: C3112 Wall Finishes to Interior Walls

Component

C3112 Wall Finishes to Interior Walls

Action Type

Major Maintenance

Year to Occur

2027

CA ID

KA-25

Total Cost

$54,428

Observed Deficiency

Wall protection panels in the North back-of-house Corridor at the Second Balcony Level are loose and partially detached from the wall, creating potential for further damage and localized safety concerns.

Recommended Action

Re-secure existing wall protection where feasible and replace sections that cannot be adequately fastened.

Major Maintenance: C3112 Wall Finishes to Interior Walls

Component

C3112 Wall Finishes to Interior Walls

Action Type

Major Maintenance

Year to Occur

2026

CA ID

KA-26

Total Cost

$40,235

Observed Deficiency

Interior wall finishes adjacent to plumbing fixtures at southside first balcony women's restroom exhibit moisture-related deterioration, patching, and surface damage near the floor, consistent with repeated exposure to water and cleaning.

Recommended Action

Repair damaged wall finishes, address localized moisture impacts as required, and refinish wall surfaces with durable, moisture-resistant coatings appropriate for restroom environments

End of Useful Life: C3224 Flooring

Component

C3224 Flooring

Action Type

End of Useful Life

Year to Occur

2026

CA ID

KA-27

Total Cost

$145,294

Observed Deficiency

Existing sprung stage floor has exceeded its useful life and should be replaced.

Recommended Action

Refinish or replace worn stage flooring panels and finish surfaces; restore resilience/levelness and recoat to manufacturer recommendations.

Additional Evaluation Needed: C3331 Ceiling Finishes

Component

C3331 Ceiling Finishes

Action Type

Major Maintenance

Year to Occur

2026

CA ID

KA-28

Total Cost

$22,353

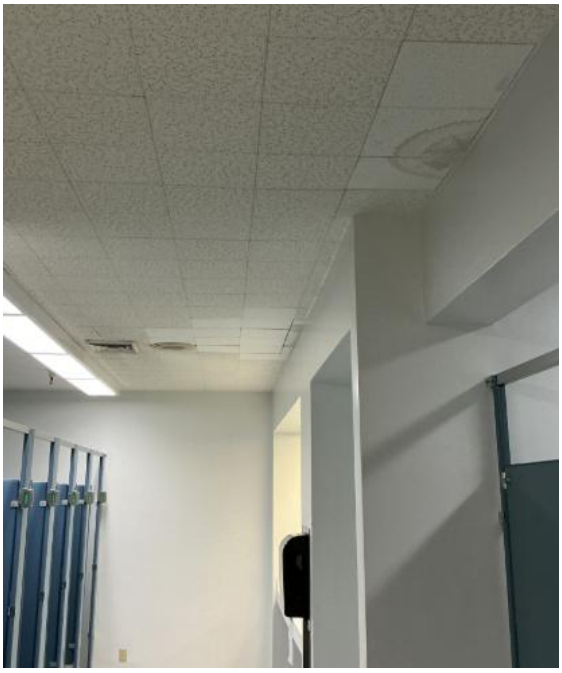
Observed Deficiency

At Intermediate Level 2 Rehearsal Hall, localized ceiling staining observed, consistent with active or prior water intrusion.

Recommended Action

Replace damaged ceiling finish materials following resolution of the leak source (see KA-17).

Additional Evaluation Needed: C3331 Ceiling Finishes



Component

C3331 Ceiling Finishes

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-29

Total Cost

$22,353

Observed Deficiency

Suspended acoustic ceiling tiles at southside first balcony women's restroom exhibit localized staining and discoloration in multiple areas, consistent with active or prior water intrusion.

Recommended Action

Coordinate with the building envelope consultant to identify and remediate the source of moisture intrusion above. Replace affected ceiling tiles following resolution of the leak source and monitor adjacent areas for similar conditions.

Additional Evaluation Needed: C3332 Suspended Ceilings

Component

C3332 Suspended Ceilings

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-30

Total Cost

$22,353

Observed Deficiency

Top Level of Dressing Rooms, suspended acoustic ceiling tiles exhibit localized staining, deterioration, and displacement consistent with active or prior water intrusion.

Recommended Action

Coordinate with the building envelope and/or MEP teams to identify and remediate the source of moisture intrusion above. Replace affected ceiling tiles and repair grid components following resolution of the leak source.

Major Maintenance: D3224 Insulation

Component

D3224 Insulation

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-31

Total Cost

$78,235

Observed Deficiency

There are still several areas of the building where the heating hot water and chilled water piping are insulated with asbestos insulation.

Recommended Action

Evaluate all piping to identify areas where insulation has been damaged and may be friable. Remediate and replace any areas that are damaged. Price reflects cost of evaluation only.

Major Maintenance: D3444 Hot Water Distribution

Component

D3444 Hot Water Distribution

Action Type

Major Maintenance

Year to Occur

2030

CA ID

KA-32

Total Cost

$284,204

Observed Deficiency

Inspect piping during insulation repair/replacement to address need for piping replacement.

Recommended Action

Remove and replace damaged/deteriorated mechanical pipe insulation; inspect piping during insulation work and replace corroded or compromised sections; recoat and label as required.

Major Maintenance: D3663 Heating-Cooling Air Handling Units

Component

D3663 Heating-Cooling Air Handling Units

Action Type

Major Maintenance

Year to Occur

2026

CA ID

KA-33

Total Cost

$44,706

Observed Deficiency

The hot and chilled water piping serving ASU-1, 5, and 8 is missing insulation.

Recommended Action

Replace missing insulation.

Major Maintenance: D3772 Air systems Testing & Balancing

Component

D3772 Air systems Testing & Balancing

Action Type

Major Maintenance

Year to Occur

2027

CA ID

KA-34

Total Cost

$45,357

Observed Deficiency

The balancing on the air side of the HVAC systems has not been re-done in several years.

Recommended Action

Perform TAB on the air side of the HVAC system and assess whether system meets current minimum ventilation standards.

Additional Evaluation Needed: D3773 HVAC Commissioning

Component

D3773 HVAC Commissioning

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-35

Total Cost

$67,059

Observed Deficiency

HVAC system has not been retro-commissioned.

Recommended Action

Perform retro-commissioning to assess overall operational efficiency and identify adjustments needed to verify the HVAC system is operating as designed for the building's remaining service life.

End of Useful Life: D5223 Lighting Controls

Component

D5223 Lighting Controls

Action Type

End of Useful Life

Year to Occur

2027

CA ID

KA-36

Total Cost

$421,818

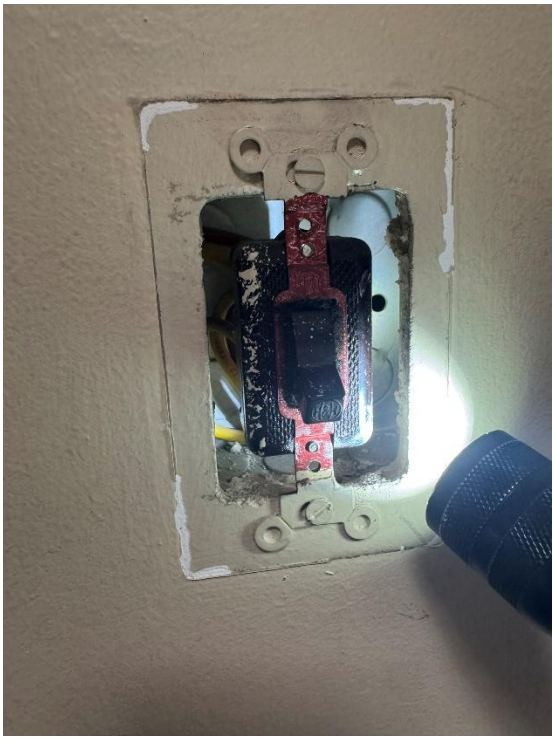
Observed Deficiency

Lighting controls (both production and house) have reached the end of their anticipated useful life. House lighting controls are beginning to fail intermittently. Production lighting dimmer processors are outdated, but can be retrofitted with new processors, which will extend useful life by at least 10 years. Distributed Lighting Network, DMX/RDM data is insufficient to adequately support full conversion to LED based production lighting fixtures. Work Lighting Controls appear original to the 1980's era renovation of the space. It is unlikely that replacement parts are available for this equipment. Work lighting controls should be incorporated into an overall lighting controls system.

Recommended Action

Replace lighting control and dimming systems (racks, panels, control stations) and integrate with new lighting equipment; test and commission.

Major Maintenance: D5991 Grounding Systems



Component

D5991 Grounding Systems

Action Type

Additional Evaluation Needed

Year to Occur

2026

CA ID

KA-37

Total Cost

$44,706

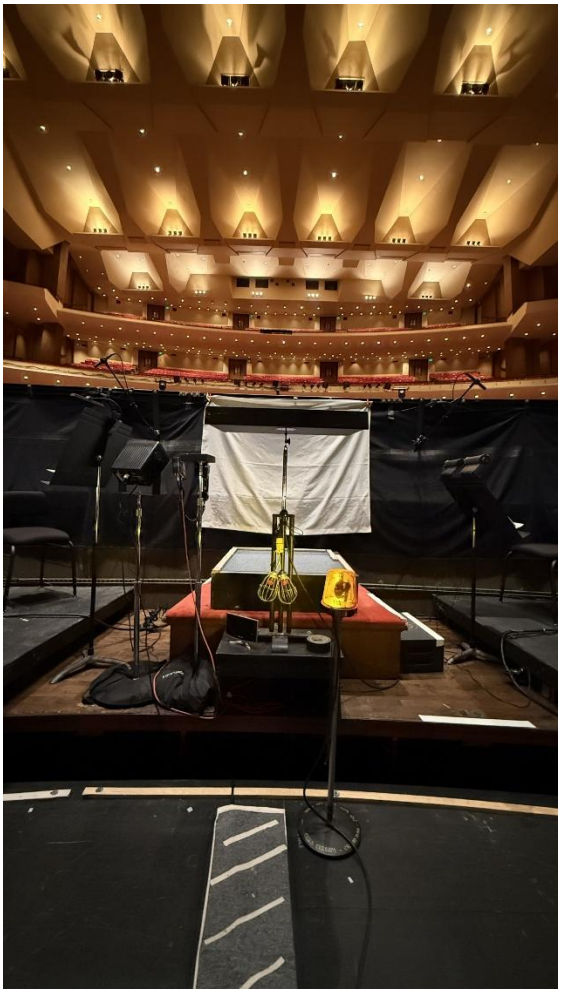
Observed Deficiency

Discussions with Facilities Personnel indicated that several devices and equipment are currently not properly grounded.

Recommended Action

More invasive field investigation required to identify deficient locations.

Life Safety and Code Violation: D5994 Other Special Systems & Devices



Component

D5994 Other Special Systems & Devices

Action Type

Life Safety and Code Violation

Year to Occur

2026

CA ID

KA-38

Total Cost

$536,469

Observed Deficiency

The orchestra pit lift has exceeded its reasonable service life and presents potential safety risks. The operational workarounds currently required to reconfigure the lift are labor-intensive and introduce avoidable hazards. Life-safety concerns exist at the front-of-house catwalks and ante-pro catwalks, where guardrails are either missing or inadequate.

Recommended Action

Perform a comprehensive inspection and major service of lifts (mechanical, hydraulic, electrical, controls, safety devices); address deficiencies and plan for full replacement when systems reach end of useful life.

End of Useful Life: E1225 Audio-visual Equipment

Component

E1225 Audio-visual Equipment

Action Type

End of Useful Life

Year to Occur

2026

CA ID

KA-39

Total Cost

$388,940

Observed Deficiency

PA Speakers are far beyond their intended working life. Audio System is underpowered for events requiring reinforcement beyond orchestral music or spoken word events. Signal distribution means are lacking.

Recommended Action

Replace PA speakers and upgrade the audio reinforcement system (amplification, processing, and signal distribution) to meet current performance needs; test and commission after installation.

End of Useful Life: E1333 Loading Dock Equipment

Component

E1333 Loading Dock Equipment

Action Type

End of Useful Life

Year to Occur

2026

CA ID

KA-40

Total Cost

$17,100

Observed Deficiency

Wood bumper rail at the loading dock exhibits significant deterioration, including splitting, crushing, and material loss consistent with repeated impact from delivery and service vehicles, reducing protection at the dock edge. The adjacent building corner at the loading dock entrance shows visible impact damage and is not fully protected by existing bollards.

Recommended Action

Remove and replace deteriorated wood bumper rail with a heavy-duty bumper system designed to withstand repeated truck impacts. Install an additional fixed steel bollard at the building corner adjacent to the loading dock entrance to provide direct impact protection where damage has occurred.

End of Useful Life: E2112 Fixed Casework

Component

E2112 Fixed Casework

Action Type

End of Useful Life

Year to Occur

2027

CA ID

KA-41

Total Cost

$79,374

Observed Deficiency

Fixed casework at concession areas exhibits worn, chipped, and delaminating plastic laminate surfaces, indicating finishes are nearing the end of their useful life.

Recommended Action

Repair or replace deteriorated casework components and plastic laminate finishes to restore durability, cleanability, and appearance.

End of Useful Life: E2223 Movable Rugs and Mats

Component

E2223 Movable Rugs and Mats

Action Type

End of Useful Life

Year to Occur

2028

CA ID

KA-42

Total Cost

$506,190

Observed Deficiency

Theatrical Draperies are in generally good condition but are cotton, and approaching their recommended EUL without being washed and re-flame treated. Replacement with new IFR velour is recommended over washing and re-treating existing draperies.

Recommended Action

Replace worn/torn portable draperies and associated hardware/tracks; clean or dispose of unsalvageable materials and verify fire-rating requirements.

Life Safety and Code Violation: G2333 Exterior Steps

Component

G2333 Exterior Steps

Action Type

Life Safety and Code Violation

Year to Occur

2026

CA ID

KA-43

Total Cost

$67,059

Observed Deficiency

Exterior concrete stairs along the 3rd Avenue frontage beneath the covered exterior entrance exhibit cracking at treads and risers. Step edges and changes in elevation lack adequate visual contrast, creating a potential trip hazard. Handrails do not meet current code-required profile standards.

Recommended Action

Repair cracked concrete stairs, including patching or partial replacement as required. Improve visibility at tread edges by adding high-contrast striping or other code-compliant visual indicators to clearly delineate changes in elevation. Install handrails per current code profile.

3.4. Facility Conditions

Component	Rating
A1111 Wall Foundations	Good
A1112 Column Foundations & Pile Caps	Good
A1331 Standard Slab on Grade	Good
A1333 Inclined Slab on Grade	Good
A2221 Basement Wall Construction	Good
A2224 Interior Skin	Poor
B1112 Upper Floors Construction	Good
B1113 Balcony Floors Construction	Good
B1114 Ramps	Good
B1221 Flat Roof Construction	Good
B1223 Canopies	Poor
B2111 Exterior Wall Construction	Poor
B2112 Parapets	Fair
B2113 Exterior Louvers, Screens and Fencing	Fair
B2116 Exterior Soffits	Fair
B2221 Exterior Windows	Fair
B2223 Exterior Storefronts	Fair
B2331 Exterior Glazed Doors & Entrances	Fair
B2332 Solid Exterior Doors	Fair
B2334 Exterior Overhead Doors	Fair
B3111 Roof Finishes	Fair
B3113 Roof Insulation & Fill	Fair
B3114 Flashings & Trim	Fair
B3115 Roof Eaves and Soffits	Fair
B3222 Roof Hatches	Fair
B3223 Gravity Roof Ventilators	Fair
C1111 Fixed partitions	Good
C1114 Site Built Toilet Partitions	Fair
C1117 Interior Windows & Storefronts	Fair
C1221 Interior Doors	Fair
C1222 Interior Door Frames	Fair
C1223 Interior Door Hardware	Fair
C1225 Interior Door Sidelights & Transoms	Fair
C1226 Interior Hatches & Access Doors	Good
C1226 Interior Hatches & Access Doors	Fair
C1227 Interior Door Painting & Decorations	Fair
C1228 Interior Overhead Doors	Fair
C1331 Fabricated Toilet partitions	Fair
C1332 Fabricated Compartments & Cubicles	Good
C1333 Storage Shelving and Lockers	Good
C1334 Ornamental Metals and Handrails	Fair
C1336 Closet Specialties	Fair
C2111 Regular Stairs	Good
C2113 Spiral Stairs	Deficient
C2113 Spiral Stairs	Good
C2114 Stair Handrails and Balustrades	Poor
C2115 Fixed Ladders	Good
C2115 Fixed Ladders	Fair
C2221 Stair, Tread and Landing Finishes	Good
C2222 Stair Soffit Finishes	Good
C2223 Stair Handrail & Balustrade Finishes	Fair
C3111 Wall Finishes to Inside Exterior Walls	Fair
C3112 Wall Finishes to Interior Walls	Fair
C3113 Column Finishes	Good
C3222 Traffic Membranes	Good
C3223 Hardeners and Sealers	Fair
C3224 Flooring	Poor
C3224 Flooring	Good
C3225 Carpeting	Good
C3226 Bases, Curbs and Trim	Good

Component	Rating
C3331 Ceiling Finishes	Fair
C3332 Suspended Ceilings	Fair
C3333 Other Ceilings	Fair
D1111 Passenger Elevators	Fair
D1112 Freight Elevators	Fair
D2111 Water Closets	Good
D2112 Urinals	Good
D2113 Lavatories	Fair
D2114 Sinks	Fair
D2116 Water Fountains	Good
D2117 Showers	Fair
D2118 Drinking Fountains and Coolers	Good
D2120 Water Heaters	Fair
D2221 Cold Water Service	Fair
D2222 Hot Water Service	Fair
D2223 Domestic Water Supply Equipment	Fair
D2331 Waste Piping	Fair
D2332 Vent Piping	Fair
D2333 Floor Drains	Fair
D2334 Sanitary Waste Equipment	Fair
D2441 Pipe & Fittings	Fair
D2442 Roof Drains	Fair
D2443 Rainwater Drainage Equipment	Poor
D2991 Gas Distribution	Fair
D3112 Gas Supply system	Fair
D3115 Hot Water Supply System	Fair
D3221 Boilers	Good
D3222 Boiler Room Piping & Specialties	Fair
D3224 Insulation	Poor
D3331 Chilled Water Systems	Good
D3332 Direct Expansion Systems	Fair
D3441 Air Distribution Systems	Fair
D3442 Exhaust Ventilation Systems	Fair
D3444 Hot Water Distribution	Fair

Component	Rating
D3445 Chilled Water Distribution	Fair
D3447 Glycol Distribution Systems	Good
D3551 Terminal Self-Contained Units	Good
D3661 Heating Generating Systems	Fair
D3663 Heating-Cooling Air Handling Units	Fair
D3664 Exhaust & Ventilating Systems	Fair
D3667 General Monitoring & Control	Fair
D3668 Building Automation Systems	Fair
D3669 Other Controls and Instrumentation	Fair
D3771 Piping System Testing & Balancing	Fair
D3772 Air systems Testing & Balancing	Fair
D3773 HVAC Commissioning	Fair
D4111 Sprinkler Water Supply	Good
D4114 Wet Sprinkler Systems	Fair
D4221 Standpipe Water Supply	Fair
D4224 Fire Hose Equipment	Fair
D4331 Fire Extinguishers	Fair
D4332 Fire Extinguisher Cabinets	Fair
D5112 Low Tension Service & Dist.	Good
D5221 Branch Wiring Devices	Fair
D5222 Lighting Equipment	Fair
D5222 Lighting Equipment	Fair
D5223 Lighting Controls	Poor
D5223 Lighting Controls	Fair
D5331 Public Address & Music Systems	Good
D5332 Intercommunication & Paging System	Good
D5333 Telephone System	Good
D5334 Call Systems	Good
D5335 Television Systems	Good

Component	Rating
D5336 Clock and Program systems	Good
D5337 Fire Alarm systems	Fair
D5338 Security and Detection Systems	Good
D5339 Local Area Networks	Good
D5991 Grounding Systems	Fair
D5992 Emergency Light & Power Systems	Fair
D5992 Emergency Light & Power Systems	Fair
D5993 Floor Raceway Systems	Fair
D5994 Other Special Systems & Devices	Deficient
E1112 Teller and Service Equipment	Good
E1114 Checkroom Equipment	Good
E1115 Mercantile Equipment	Good
E1116 Laundry & Dry Cleaning Equipment	Good
E1117 Vending Equipment	Good
E1118 Office Equipment	Good
E1223 Theater & Stage Equipment	Poor
E1225 Audio-visual Equipment	Poor
E1333 Loading Dock Equipment	Poor
E1991 Maintenance Equipment	Good
E1994 Residential Equipment	Fair
E2111 Fixed Artwork	Good
E2112 Fixed Casework	Fair
E2115 Fixed Multiple Seating	Poor
E2115 Fixed Multiple Seating	Good
E2222 Furniture & Accessories	Good
E2223 Movable Rugs and Mats	Fair
G2112 Paving & Surfacing	Good
G2113 Curbs, Gutters and Drains	Good
G2115 Painted Lines	Fair
G2331 Paving & Surfacing	Fair
G2333 Exterior Steps	Fair
G2442 Retaining Walls	Fair
G2443 Terrace & perimeter Walls	Fair
G2553 Top Soil & Planting Beds	Fair
G2555 Planting	Fair
G2556 Planters	Good
G2559 Trees	Good
G3111 Potable Water Distribution & Storage	Fair
G3112 Non-Potable Water Distribution & Storage	Fair
G3114 Fire Protection Distribution & Storage	Fair
G3221 Piping	Fair
G3554 Cooling Towers on Site	Fair
G3661 Fuel Piping	Fair
G4221 Fixtures & Transformers	Fair
G4223 Wiring & Conduits & Ductbanks	Fair
G4224 Site Lighting Controls	Fair
G4331 Site Communications Systems	Fair
G4332 Site Security & Alarm Systems	Fair
G4992 Site Emergency Power Generation	Fair
A1113 Perimeter Drainage & Insulation	Poor
A2224 Interior Skin	Poor
B1223 Canopies	Poor
G2556 Planters	Fair

Table 3. List of Component Ratings (components not present or not applicable to this facility have been omitted for clarity)

3.5. Asset Inventory and Asset Condition Ratings

The Combined Rating for assets is a derived score representing the current condition of the asset. It is calculated as the average of four factors (asset age, asset condition, asset performance, and level of maintenance), each assessed on a 5-point scale.

Asset ID	Name	Combined Rating	Criticality	Replacement Cost
14943	Ice Machine No 3	4.5-Good	5-Low	$3,387
12858	KA SEC CHW Pump VFD 3B	4.75-Good	2-Essential	$13,870
12857	KA SEC CHW Pump VFD 3A	4.75-Good	2-Essential	$13,870
12856	KA PRI CHW Pump VFD 4C	4.75-Good	2-Essential	$13,870
12855	KA PRI CHW Pump VFD 4B	4.75-Good	2-Essential	$13,870
12854	KA PRI CHW Pump VFD 4A	4.75-Good	2-Essential	$13,870
12853	KA Condenser Pump VFD 2C	4.75-Good	2-Essential	$15,870
12852	KA Condenser Pump VFD 2B	4.75-Good	2-Essential	$15,870
12851	KA Condenser Pump VFD 2A	4.75-Good	2-Essential	$15,870
9108	KA SEC CHW Pump 3B	4.75-Good	2-Essential	$13,870
9107	KA SEC CHW Pump 3A	4.75-Good	2-Essential	$13,870
9106	KA PRI CHW Pump 4C	4.75-Good	2-Essential	$13,870
9105	KA PRI CHW Pump 4B	4.75-Good	2-Essential	$13,870
9104	KA PRI CHW Pump 4A	4.75-Good	2-Essential	$13,870
9103	KA Condenser Pump 2C	4.75-Good	2-Essential	$28,740
9102	KA Condenser Pump 2B	4.75-Good	2-Essential	$28,740
9101	KA Condenser Pump 2A	4.75-Good	2-Essential	$28,740
9112	KA CHW Expansion Tank	4.75-Good	2-Essential	$6,380
9111	KA CHW Buffer Tank 3	5-Excellent	2-Essential	$3,690
9110	KA CHW Buffer Tank 2	5-Excellent	2-Essential	$3,690
9109	KA CHW Buffer Tank 1	5-Excellent	2-Essential	$3,690
9114	KA CDW Air Separator	4.75-Good	2-Essential	$2,444
9113	KA CHW Air Separator	4.75-Good	2-Essential	$2,444
9100	KA Chiller 2-3 70t	4.75-Good	2-Essential	$297,500
9099	KA Chiller 2-2 70t	4.75-Good	2-Essential	$297,500
9098	KA Chiller 2-1 50t	4.75-Good	2-Essential	$212,500
9116	KA Chiller 2	4.75-Good	2-Essential	$212,500
9097	KA Chiller 1-3 70t	4.75-Good	2-Essential	$297,500
9096	KA Chiller 1-2 70t	4.75-Good	2-Essential	$297,500
9095	KA Chiller 1-1 50t	4.75-Good	2-Essential	$212,500
9115	KA Chiller 1	4.75-Good	2-Essential	$212,500
8432	KA OSA Supply Fan	2.75-Marginal	3-Important	$7,433

Asset ID	Name	Combined Rating	Criticality	Replacement Cost
8433	KA Boiler Room Fresh Make-Up Air Supply Fan	2.75-Marginal	3-Important	$7,433
8455	KA Emergency Generator Battery Charger, 6 Amp	4.5-Good	3-Important	$885
8454	KA Emergency generator	4.5-Good	3-Important	$58,980
8439	KA Cooling Tower Loop Filter	4.75-Good	3-Important	$22,850
8426	KA Boiler B-1	2.25-Marginal	2-Essential	$709,750
8449	KA EF 12	3.25-Adequate	3-Important	$3,894
8448	KA EF 11	3.25-Adequate	3-Important	$3,894
8447	KA EF 10	3.25-Adequate	3-Important	$3,894
8446	KA EF 9	3.25-Adequate	3-Important	$3,894
8445	KA EF 8	3.25-Adequate	3-Important	$3,894
8444	KA EF 7	3.25-Adequate	3-Important	$3,894
8443	KA EF 6	3.25-Adequate	3-Important	$3,894
8298	KA EF 4	3.25-Adequate	3-Important	$3,894
8441	KA EF 2	3.25-Adequate	3-Important	$3,894
8440	KA EF 1	3.25-Adequate	3-Important	$3,894
8473	KA ASU 6	3.25-Adequate	3-Important	$16,350
8468	KA ASU 1	3-Adequate	3-Important	$12,110
8438	KA Cooling Tower	4.5-Good	2-Essential	$165,000
8470	KA ASU 3	3.5-Adequate	3-Important	$14,555
8422	KA AED 1	5-Excellent	1-Vital	$1,487
8456	KA Ice Machine, No.2	4.5-Good	4-Support	$3,387
8480	KA water heater, recirculating pump P-6	4.25-Good	3-Important	$6,270
8478	KA water heater, Main Domestic	4.5-Good	3-Important	$6,870
8431	KA Boiler Pump 5-B	2.25-Marginal	3-Important	$7,210
8429	KA Boiler Pressure tank	4-Good	3-Important	$6,200
8428	KA Boiler Loop Expansion Tank	4-Good	3-Important	$8,130
	Unknown	4.75-Good	3-Important	$26,770
15269	KA Mini Split Unit Chiller Rm	5-Excellent	3-Important	$7,890
	KA Ice Machines	4.5-Good	4-Support	$3,387
	KA CLOTHES DRYER 1	4.25-Good	4-Support	$3,640
	KA CLOTHES WASHER 1	4.25-Good	4-Support	$3,930
	KA CLOTHES WASHER 2	4.25-Good	4-Support	$3,930
	KA CLOTHES DRYER 2	4.25-Good	4-Support	$3,540

Asset ID	Name	Combined Rating	Criticality	Replacement Cost
	KA CLOTHES WASHER 3	4.25-Good	4-Support	$3,930
	KA CLOTHES WASHER 4	4.25-Good	4-Support	$3,930
	KA CLOTHES DRYER 3	4.25-Good	4-Support	$3,540
	KA CLOTHES DRYER 4	4.25-Good	4-Support	$3,390

Table 4. List of Asset Inventory and Asset Conditions

3.6. Prioritized 5-Year List of Corrective Actions

CA ID	Component	Action	Priority	Cost
KA-01	A1113 Perimeter Drainage & Insulation	Replace system	1	$67,059
KA-02	A1331 Standard Slab on Grade	Replace system	2	$36,285
KA-03	A2224 Interior Skin	Conduct further evaluation	1	$11,176
KA-04	A2224 Interior Skin	Replace system	1	$36,882
KA-05	B1223 Canopies	Conduct further evaluation	1	$26,823
KA-06	B2111 Exterior Wall Construction	Replace system	1	$77,117
KA-07	B2111 Exterior Wall Construction	Replace system	3	$1,520,720
KA-08	B2111 Exterior Wall Construction	Conduct further evaluation	1	$11,176
KA-09	B2112 Parapets	Repair system	3	$217,890
KA-10	B2113 Exterior Louvers, Screens and Fencing	Repair system	1	$53,647
KA-11	B2115 Balcony Walls & Handrails	Replace system	2	$76,540
KA-12	B2116 Exterior Soffits	Repair system	3	$30,789
KA-13	B2221 Exterior Windows	Replace system	3	$8,052
KA-14	B2223 Exterior Storefronts	Repair system	3	$184,733
KA-15	B2331 Exterior Glazed Doors & Entrances	Replace system	2	$68,035
KA-16	B3111 Roof Finishes	Conduct further evaluation	1	$10,059
KA-17	B3111 Roof Finishes	Conduct further evaluation	2	$11,339
KA-18	B3114 Flashings & Trim	Repair system	3	$15,394
KA-19	C2114 Stair Handrails and Balustrades	Rectify safety/code issue	1	$118,470
KA-20	C3111 Wall Finishes to Inside Exterior Walls	Conduct further evaluation	1	$33,529
KA-21	C3111 Wall Finishes to Inside Exterior Walls	Conduct further evaluation	1	$33,529

CA ID	Component	Action	Priority	Cost
KA-22	C3111 Wall Finishes to Inside Exterior Walls	Conduct further evaluation	1	$33,529
KA-23	C3111 Wall Finishes to Inside Exterior Walls	Conduct further evaluation	1	$33,529
KA-24	C3112 Wall Finishes to Interior Walls	Replace system	1	$603,527
KA-25	C3112 Wall Finishes to Interior Walls	Repair system	2	$54,428
KA-26	C3112 Wall Finishes to Interior Walls	Repair system	1	$40,235
KA-27	C3224 Flooring	Replace system	1	$145,294
KA-28	C3331 Ceiling Finishes	Conduct further evaluation	1	$22,353
KA-29	C3331 Ceiling Finishes	Conduct further evaluation	1	$22,353
KA-30	C3332 Suspended Ceilings	Conduct further evaluation	1	$22,353
KA-31	D3224 Insulation	Conduct further evaluation	1	$78,235
KA-32	D3444 Hot Water Distribution	Repair system	3	$284,204
KA-33	D3663 Heating-Cooling Air Handling Units	Repair system	1	$44,706
KA-34	D3772 Air systems Testing & Balancing	Repair system	2	$45,357
KA-35	D3773 HVAC Commissioning	Conduct further evaluation	1	$67,059
KA-36	D5223 Lighting Controls	Replace system	2	$421,818
KA-37	D5991 Grounding Systems	Conduct further evaluation	1	$44,706
KA-38	D5994 Other Special Systems & Devices	Rectify safety/code issue	1	$536,469
KA-39	E1225 Audio-visual Equipment	Replace system	1	$388,940
KA-40	E1333 Loading Dock Equipment	Replace system	1	$17,100
KA-41	E2112 Fixed Casework	Replace system	2	$79,374
KA-42	E2223 Movable Rugs and Mats	Replace system	2	$506,190
KA-43	G2333 Exterior Steps	Rectify safety/code issue	1	$67,059
Total				**$6,208,062**

Table 5. Prioritized 5-Year List of Corrective Actions

3.7. Prioritized 6–10 Year List of Predicted Renewals

Component	Action	Priority	Cost
D3663 Heating-Cooling Air Handling Units	Replace system	2	$2,011,778
B1223 Canopies	Replace system	3	$2,947,626

Component	Action	Priority	Cost
B2113 Exterior Louvers, Screens and Fencing	Replace system	3	$410,429
D5991 Grounding Systems	Replace system	3	$485,052
Total			**$5,854,885**

Table 6. Prioritized 6–10 Year List of Predicted Renewals

3.8. Recommendations for Follow-up Assessments

The FCA identified several deficiencies which require additional evaluation and analysis to understand the extent and cause of the issue. Those deficiencies and estimations of their costs are summarized below. These costs are included in the prioritized 5-year list of corrective actions.

CA ID	Component	Deficiencies	Cost
KA-03	A2224 Interior Skin	Water ingress occurring at manhole and south elevation wall located below sidewalk and adjacent to Market Street.	$11,176
KA-05	B1223 Canopies	Interior finish damages correlate with location of adjacent awning and signage connection to exterior wall.	$26,823
KA-08	B2111 Exterior Wall Construction	Security of panel attachment unknown without sounding panels for voids.	$11,176
KA-16	B3111 Roof Finishes	Leak presenting is at crack in concrete roof slab located at lower sub-roof with roof drain.	$10,059
KA-17	B3111 Roof Finishes	Water intrusion occurring at the ceiling of the rehearsal space may be roof related or plumbing related and is minor in nature.	$11,339
KA-20	C3111 Wall Finishes to Inside Exterior Walls	Interior wall finishes adjacent to exterior glazing at landing above first balcony level at NW public stair corner exhibit cracking, surface deformation, and localized deterioration consistent with moisture exposure.	$33,529
KA-21	C3111 Wall Finishes to Inside Exterior Walls	Interior wall finishes at the interior face of exterior walls show localized deterioration, staining, and material degradation consistent with moisture intrusion.	$33,529
KA-22	C3111 Wall Finishes to Inside Exterior Walls	Interior wall finishes along exterior wall at street level under the awning at the corner of 3rd and Clay St show peeling paint and deterioration consistent with moisture exposure.	$33,529

CA ID	Component	Deficiencies	Cost
KA-23	C3111 Wall Finishes to Inside Exterior Walls	Interior wall finishes at the interior face of the basement level pump room by maintenance staff) exterior walls show peeling paint and deterioration consistent with moisture exposure.	$33,529
KA-29	C3331 Ceiling Finishes	Suspended acoustic ceiling tiles at southside first balcony women's restroom exhibit localized staining and discoloration in multiple areas, consistent with active or prior water intrusion.	$22,353
KA-30	C3332 Suspended Ceilings	Top Level of Dressing Rooms, suspended acoustic ceiling tiles exhibit localized staining, deterioration, and displacement consistent with active or prior water intrusion.	$22,353
KA-31	D3224 Insulation	There are still several areas of the building where the heating hot water and chilled water piping are insulated with asbestos insulation.	$78,235
KA-35	D3773 HVAC Commissioning	HVAC system has not been retro-commissioned.	$67,059
KA-37	D5991 Grounding Systems	Discussions with Facilities Personnel indicated that several devices and equipment are currently not properly grounded.	$44,706
Total			**$439,396**

Table 7. Recommended Follow-up Assessments and Estimated Costs

4. How to use this Report

The information in this report provides Metro with objective recommendations and cost estimates that should be considered for both short and long-term planning and budgeting. To effectively utilize the data, the following recommendations include:

1. Review Corrective Action improvement scope and costs. This will identify trends in what systems require the most work and provide high-level capital planning figures.
2. Review Corrective Actions per facility to understand the recommended work items by scope and cost.
3. Consider opportunities for combining recommended improvements based on similar scope, schedule, and budget concerns. Combining scope of work options will provide efficiencies of scale and work trades.
4. Assess the building value and functionality and compare against the cost to maintain the facility.
5. Assign a dedicated project manager (i.e., Department staff or consultant) for selected improvements and begin further planning and refinement of scope of work for each improvement. Each proposed project should have an experienced facilities professional to develop a scope of work.
6. Understand that this FCA is a starting point for the Department's formal asset management strategy.
    a. The cost projections provided in this report are useful to illustrate Rough Order of Magnitude (ROM), budgetary costs that are -30% / +50% and are intrinsically conservative. Do not rely on these costs for cost management of projects; rather, from this initial baseline, project managers will be better informed about the future development of more detailed third-party cost estimates.
    b. The description of work to be performed to address Corrective Actions must be reviewed and more fully detailed by a qualified facility professional, architect, engineer, or construction manager to minimize construction risk. Where applicable, a detailed design be completed.

5. Appendices

PLA DESIGNS
PERFORMANCE SPACE CONSULTANTS
PORTLAND • SEATTLE

Narrative Summary

Project: Portland'5 Facility Condition Assessment
Subject: Brunish, Winningstad, Newmark, Arlene Schnitzer Concert Hall, Keller Auditorium
Date: 3/11/2026
From: Chris Ochocki, ASTC

Introduction

Project History and Narrative Summary Purpose

Over the course of multiple visits in November and December of 2026, PLA Designs represented by Chris Ochocki, ASTC, Jessica Irish, Nate Zwainlesk, & Thomas Cowdery toured the Brunish, Winningstad, & Newmark Theaters, the Arlene Schnitzer Concert Hall, and the Keller Auditorium. The intent of our visits to each of the Portland'5 performance venues was to observe, report, and provide recommendations for the theatrical systems and equipment in the spaces.

Our observations and reporting of recommended corrective actions have been recorded as part of the overall facility condition assessment project led by Sazan Group. However, due to the specialized nature of the technical systems and equipment for performing arts venues, many of the items observed, and our recommendations for said items, require context than exceeds space limitations in the executive summaries. This narrative summary report of our findings and recommendations is intended to provide the extra context required and should serve as a higher definition document for future corrective actions for the theatrical systems and equipment included herein.

Recognition of Excellent Facility Stewardship by P5 Staff

As we toured each space, a common theme emerged. For every technical system, at every venue without fail, every piece of equipment observed was in the best condition possible. This was true for the systems and equipment we observed which were brand new, the systems and equipment we observed which were long ago obsolete and in desperate need of replacement, and the systems and equipment in all stages of life in-between. Our reporting would be incomplete without first acknowledging the Portland'5 Operations Staff, as well as the many stagehands and department heads whose passion and excellent stewardship of the systems and equipment in their charge can be observed throughout each space we observed.

Systems & Equipment Groupings

Our observations, reporting, and recommended corrective actions for the systems and equipment included in our scope of work are grouped into the following categories:

- Stage Flooring Systems
- Manual & Motorized Stage Rigging Systems
- Stage, Decorative, & Variable Acoustic Draperies

- Fixed Pipe Grid Systems
- Motorized Orchestra Pit, Stage, and Seating Lifts
- Theatrical Lighting Control Systems
- General Illumination Fixtures
- Production Lighting Fixtures
- Production Audio/Visual Systems
- Fixed Audience Seating
- Portable Audience Seating & Seat Decking
- Technical Access and Other Life Safety Items
- Historic Interior Finishes

Note that some system groups listed above may not be present in each of the venues observed. Additionally, detailed commentary on audiovisual systems is somewhat lacking, due to variables which are often subjective rather than objectively obvious. Our comments are therefore generalized.

As with most complex technical systems, theatrical systems and equipment are often interconnected in ways that may not seem readily apparent. In many cases systems which seem fully independent of each other are in fact intertwined. With very few exceptions, it is not possible to replace or repair an item without impacting many other items in space. For clarity of reporting, we have isolated the theatrical systems for each space observed into separate groups. However, we have also done our best to highlight instances where our recommendations for repair or replacement of a specific component will likely have an impact on other items in the space, up to and including requiring modifications to and/or replacement of equipment in good or working condition.

Brunish Theater – Observations & Recommendations

Masking Draperies (Brunish Theater)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	None	No

Observations

- Most of the drapery system includes sewn-in manufacturer labels identifying them as IFR (inherently flame-resistant) velour drapery products of Stagecraft Industries, Inc., installed in March 2012. Other drapes within the system were unlabeled, but their observed condition, material wear, and degradation patterns strongly suggest they are of similar age or older. The overall drapery system shows extensive signs of deterioration, including moisture-related staining, weakened backing, structural tearing, fraying, hem failures, and previous repairs. The damage is systemic rather than isolated, indicating end-of-life conditions.
- Extensive tide-line staining indicates repeated moisture exposure.
- Binder migration and backing hardening visible across multiple panels.
- Multiple structural tears, including one long repaired tear at a weakened elevation.

- Hem separation and drag damage where drapes contact the floor.
- Fraying and emerging tears suggest compromised tensile strength.
- Multiple panels exhibit symptoms consistent with binder migration, including hardened lower sections, tide-line staining, and backing distortion. Combined with the observed structural failures (horizontal tears and frayed openings occurring precisely within the affected elevation), these conditions strongly suggest that the binder system has been compromised, contributing to the overall degradation and reduced remaining service life of the drapery system.
- Damage is consistent with long-term storage and age-related degradation.

Recommendations

- The widespread physical degradation, persistent moisture damage, and structural failure of multiple panels, indicate that replacement of the drapery system should be considered a near-term priority. Continued use increases the likelihood of additional tears and shortens aesthetic life onstage.

Pipe Grid System (Brunish Theater)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	10+ Years	No

Observations

- The Pipe Grid System appears to be constructed from 1.5" Schedule 40 steel pipe, painted to match the ceiling above. The pipe grid supports both portable theatrical equipment clamped to the pipe grid members, as well as permanent and semi-permanent equipment mounted to, or immediately adjacent to the pipe grid members. The pipe grid components appear, based on a visual review, to be in good overall condition. However, given the age of the pipe grid and limited available as-built documentation, a detailed structural review, beyond the scope of this report is recommended.
- The existing Pipe Grid system appears to be in good condition.
- Cross-connect clamps between pipe grid members appear secure.
- Ledger brackets supporting pipe grid members terminating at perimeter walls appear to be well attached to walls, and connections to pipe grid members appear secure.
- Threaded rod hangers appear to be in good condition.
- Portable equipment attached to the pipe grid appears to be properly secured, including the appropriate safety cables per best theatrical practice.
- No lateral seismic bracing serving the pipe grid system was observed.
- We were unable to observe any documentable point load, or overall system load ratings for the pipe grid system.

Recommendations

- A detailed hands-on structural review and analysis of the pipe grid components and pipe grid connections to structure should be performed by a registered structural engineer, so that accurate load ratings for the pipe grid system are known.
- Though not required at the time of installation, the addition of new seismic bracing of the pipe grid system should be considered as part of work scope for systems and equipment permanently or semi-permanently attached to the pipe grid system.

Theatrical Lighting Controls (Brunish Theater)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Poor	1-5 Years, depending on use	Yes (Emergency egress controls)

Observations

- Production Lighting Power Controls consists of an array of portable dimmer bars which have been configured for semi-permanent attachment to the Pipe Grid System. The dimmer bars appear to be in fair condition but are now obsolete. Sourcing replacement parts for the dimmer bars is likely to become problematic as the manufacturer has ceased operations.
- General Lighting Controls are partially integrated with production lighting controls. Manufacturer support for the general lighting controls system is anticipated to end in the next 5 years.
- **No means of automatic control bypasses to trigger emergency lighting during a loss of normal power or fire alarm event could be observed.**
- There are currently no hard-wired or dedicated means to control modern LED production lighting instruments present in space.
- The DMX Data Input receptacle for controlling the dimmer bars is located on the opposite side of the space from the existing control location, necessitating a long run of portable patch cable(s) between the stage lighting console and the control receptacle.
- DMX data distribution (required for the control of modern stage lighting fixtures) is limited.
- Existing panel boards serving obsolete dimmer bars are in good condition and have ample capacity to support reconfiguration of the system from obsolete incandescent fixtures to modern LED units.
- Existing stations for general lighting controls are obsolete, with manufacturer support for the devices likely to be ending within the next 5 years.
- Existing company switch is in excellent condition and should remain to allow for future growth.

Recommendations

- Remove obsolete dimmer bars and existing panelboards and replace them with mains fed relay panels with integral circuit breakers, utilizing existing feeders.

- Provide new multi-outlet power receptacles fed from new relay panels at the locations of the removed dimmer bars.
- Provide new hardwired lighting network and DMX/RDM data distribution adjacent to new power receptacles and at elevated control location.
- Replace existing Architectural controls to allow for new LED General Illumination fixtures described below and connect to building's Fire Alarm Control Panel per current life safety codes and best theatrical practice.

General Lighting Fixtures (Brunish Theater)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	1 Year	No

Observations

- Existing general illumination consists of two separate groups of fixtures. A grid linear work light fixtures, lamped with fluorescent tubes of varying color temperatures, suspended just above the pipe grid, and incandescent production lighting fixtures, clamped to the pipe grid and plug connected to existing dimmer bars.
- Lamps of differing color temperature, not color balanced to production lighting fixtures likely produce shifts in perceived color between set construction/design and performances.
- Production lighting fixtures serving as house lighting are obsolete, procurement of replacement lamps with theatrical quality dimming is likely to become problematic within the next five to ten years.

Recommendations

- Remove existing fluorescent fixtures and obsolete production lighting fixtures serving as house lighting fixtures with new LED cylinder downlights with smooth dimming to less than .01% and high color rendering. Integrate with new house lighting, emergency egress, and production lighting controls systems.

Production Lighting Fixtures (Brunish Theater)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	None	No

Observations

- Existing production lighting fixture inventory consists of obsolete incandescent units in poor condition and in need of replacement.

Recommendation

- Replace existing incandescent fixtures with a basic complement of new LED units.

Production Audio/Video Systems (Brunish Theater)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- A/V systems in the space are limited, though appropriate for the size typical use of the space. However, many existing components are obsolete or nearing obsolescence.

Recommendations

- Replace aging components with new.

Portable Audience Seating & Seat Decking (Brunish Theater)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor (Portable Seating)	1 Year	No

Observations

- Portable seating units have exceeded their expected useful life and need to be replaced.
- Upholstery on existing seating units is well worn on many seating units. Some units are beginning to show signs of extreme wear.
- Self-rising mechanisms on many seats appear to be failing. Self-rising functionality is critical to allow life safety code conformance with existing row to row spacing as configured.
- Railings for portable decking system appear to be well secured to existing seating decks.
- Portable decking units are aging but appear very well maintained. Seating decks appear to be in good condition, with a solid and premium feel.
- Barring abuse or accidental damage, the existing seat decking system should remain functional for the next 8-12 years.

Recommendations

- Replace existing portable seating units in the Brunish with new units. We recommend the new units be provided in the same type and configuration as the portable audience seating in the Winningstad Theater to allow for consolidated maintenance and to provide a uniform experience across P5 venues with portable audience seating.

Technical Access and Other Life Safety Items (Brunish Theater)

Observations

- Gaps in railings at elevated control platform exceed the allowable dimensions described in current OSHA requirements.
- Color temperature of general lighting fixtures in Brunish Dressing Rooms appears to be in the 4000K range. Best practices for these areas are 3000K CCT & 90+ CRI lighting.

Recommendations

- Reconfigure railing installation to remove gaps larger than those that allow for a 4" sphere to pass through.
- Replace dressing room fixtures with new fixtures, color matched to new LED production lighting fixture's base color temperature. (Typically 3000K.)

End of Brunish Observations & Recommendations

Winningstad Theater – Observations & Recommendations

Stage Flooring Systems (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- Existing finish floor panels appear to have been replaced with new tempered hardboard. Due to pandemic related supply chain shortages, available stock of tempered hardboard has been prone to pre-mature failure when used in stage floor applications.

Recommendations

- Carefully observation of finish floor panels to mitigate the potential of pre-mature failure. Anticipate replacement of entire stage floor in advance of typical life cycle for performance space flooring.

Manual & Motorized Stage Rigging Systems (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	1 Year	No

Observations

- Existing manual counterweight rigging sets have exceeded the manufacturer's published recommended useful life.
- We observed multiple locations where lifting lines for FOH lighting hoists are rubbing against adjacent lifting lines, or other equipment adjacent to lifting lines.
- Motorized line sets appear to be in working order, but many components have exceeded the manufacturer's published recommended useful life.

Recommendations

- Replace existing manual and motorized line sets with new, matching quantities and configuration of existing line sets.

Stage, Decorative, & Variable Acoustic Draperies (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	7-9 Years	No

Observations

- The majority of the drapery system includes sewn-in manufacturer labels identifying them as Rose Brand, Velour 54 in IFR (inherently flame-resistant) 25 oz. Charisma drapery products installed in May 2013.
- The Winningstad's drapery system is aged but very well maintained. The draperies observed are consistent with expected wear patterns for IFR velour in long-term theatre use. Replacement is not immediately required, but capital planning for renewal within the next 7–9 years is appropriate based on age, aesthetic wear, and lifecycle expectations.

Recommendations

- No conditions were observed that indicate an immediate need for total system replacement; however, based on age, material type, and observed wear patterns, planning for replacement within the next 7–9 years is recommended.

Motorized Orchestra Pit, Stage, and Seating Lifts (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- Lift system has been well maintained but is beginning to show signs of age.
- Abnormal wear patterns, and metal shavings were observed at multiple screw jack locations.
- High pitched whine during system, during lift operation was observed.

- Users indicate lift system is inspected/maintained annually.

Recommendations

- Continue regular maintenance/inspection by specialized elevator/lift contractor.
- Even with regular maintenance and care, mechanical systems are subject to normal wear which can lead to failure. Planning for replacement of lift system within 5 years is recommended.

Theatrical Lighting Controls (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- General Lighting controls were replaced in 2017 and conform to all current life safety codes.
- Production lighting controls and distribution systems are configured primarily for incandescent stage lighting instruments.
- Existing controls can accommodate a limited number of LED based production lighting fixtures.
- Existing Stage Lighting Distribution equipment is in fair condition, and configured primarily for incandescent production lighting fixtures.
- Limited DMX/RDM and lighting network data distribution is present, but is inadequate to support a full complement of LED production lighting fixtures.

Recommendations

- Replace existing production lighting distribution equipment with new, configured to fully support an inventory of all LED production lighting fixtures.
- Replace existing dedicated dimmer modules located in existing stage lighting dimmer racks with new dedicated relay modules.

General Illumination Fixtures (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Excellent	10-15 Years	No

Observations

- General and Work Lighting Fixtures are LED, replaced in 2017 and in excellent condition.

Recommendations

- None at this time.

Production Lighting Fixtures (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Poor	1-3 Years	No

Observations

- Existing production lighting complement consists of mostly incandescent fixtures nearing or exceeding obsolescence.
- Fixtures are well maintained and in working condition, but sourcing of production quality lamps is likely to become problematic in the near future.

Recommendations

- Replace existing incandescent fixture inventory with new LED units.

Production Audio/Visual Systems (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	5-10 Years	No

Observations

- Existing equipment appears to be current generation and in good working condition.

Recommendations

- None at this time.

Fixed & Portable Audience Seating (Winningstad)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	10-15 Years	No

Observations

- Existing fixed and portable seating units are in good condition and show minimal signs of wear.

Recommendations

- None at this time.

End of Winningstad Observations & Recommendations

Newmark Theater – Observations & Recommendations

Stage Flooring Systems (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- Existing finish floor panels appear to have been replaced with new tempered hardboard. Due to pandemic related supply chain shortages, available stock of tempered hardboard has been prone to pre-mature failure when used in stage floor applications.

Recommendations

- Carefully observation of finish floor panels to mitigate the potential of pre-mature failure. Anticipate replacement of entire stage floor in advance of typical life cycle for performance space flooring.

Manual & Motorized Stage Rigging Systems (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Poor	1 Year	No

Observations

- Existing manual counterweight rigging sets have exceeded the manufacturer's published recommended useful life.

Recommendations

- Replace existing manual line sets with new, matching quantities and configuration of existing line sets.

Stage, Decorative, & Variable Acoustic Draperies (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	7-9 Years	No

Observations

- The majority of the drapery system includes sewn-in manufacturer labels identifying the drapery The 2014 iWeiss masking drapery, fabricated from Rose Brand 25 oz IFR Charisma velour, remains in sound operational condition despite its age. The drapes exhibit normal long-term wear characteristics, including surface fading, nap compression, and minor soiling, but no failures that compromise their structural or functional integrity. Stitching, panel alignment, and

fabric performance remain stable. Given the durability of IFR Charisma velour and the well-executed original construction, these drapes are expected to remain serviceable for a minimum of 7 additional years with routine handling and maintenance.

- By contrast, the 2017 Rose Brand border drapery, although made from the same 25 oz IFR Charisma velour, demonstrates significant construction-related deficiencies. The fabric itself is not the limiting factor; rather, the borders show poorly executed original stitching, including extremely narrow seam allowances, evidence of multiple removed and re-sewn seam lines, and areas of active seam stress and separation. These deficiencies reflect variable fabrication quality rather than material degradation. As a result, despite being newer and made from the same base velour product, these borders have a substantially shortened remaining lifespan and are likely to require replacement within the next five years, potentially sooner depending on use frequency.

Recommendations

- The Newmark Theatre's drapery system remains broadly operational, with the 2014 iWeiss masking drapery showing age-appropriate fading, nap wear, and minor soiling while still retaining full structural and functional integrity. Remaining serviceable for longer than 5 years. In contrast, the 2017 Rose Brand border drapery, though made from the same IFR Charisma fabric, displays significant fabrication-related deficiencies. These issues stem from original construction quality rather than material degradation, resulting in a substantially shorter remaining useful life and the need for replacement within the next five years, potentially sooner depending on progression of seam failure.

- However, it should be noted that the grand drape, as part of the iWeiss 2014 drapes was fabricated from Peacock Charisma velour, is also generally serviceable despite localized fading and minor wear around pull-handle attachment points. Importantly, this fabric was obviously selected to match the color palette of the auditorium seating upholstery. If the venue intends to reupholster or replace the seating in the coming years, it is recommended that the grand drape be replaced concurrently. Staggered replacement, where new seating fabric is installed alongside an older, naturally faded drape, will result in highly noticeable color mismatch, making either the drape or the seating appear prematurely worn. Coordinated replacement will preserve visual cohesion and avoid a scenario where one element's fresher dye lot makes the other appear detrimentally faded.

Motorized Orchestra Pit Lift (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- Lift system has been well maintained but is beginning to show signs of age.
- Users indicate lift system is inspected/maintained annually.

Recommendations

- Continue regular maintenance/inspection by specialized elevator/lift contractor.
- Even with regular maintenance and care, mechanical systems are subject to normal wear which can lead to failure. Planning for replacement of lift system within 5 years is recommended.

Theatrical Lighting Controls (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- General Lighting controls were replaced in 2017 and conform to all current life safety codes.
- Production lighting controls and distribution systems are configured primarily for incandescent stage lighting instruments.
- Existing controls can accommodate a limited number of LED based production lighting fixtures.
- Existing Stage Lighting Distribution equipment is in fair condition, and configured primarily for incandescent production lighting fixtures.
- Limited DMX/RDM and lighting network data distribution is present, but is inadequate to support a full complement of LED production lighting fixtures.

Recommendations

- Replace existing production lighting distribution equipment with new, configured to fully support an inventory of all LED production lighting fixtures.
- Replace existing dedicated dimmer modules located in existing stage lighting dimmer racks with new dedicated relay modules.

General Illumination Fixtures (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Excellent	10-15 Years	No

Observations

- General and Work Lighting Fixtures are LED, replaced in 2017 and in excellent condition.

Recommendations

- None at this time.

Production Lighting Fixtures (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Poor	1-3 Years	No

Observations

- Existing production lighting complement consists of mostly incandescent fixtures nearing or exceeding obsolescence.
- Fixtures are well maintained and in working condition, but sourcing of production quality lamps is likely to become problematic in the near future.

Recommendations

- Replace existing incandescent fixture inventory with new LED units.

Production Audio/Visual Systems (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	5-10 Years	No

Observations

- Existing equipment appears to be current generation and in good working condition.

Recommendations

- None at this time.

Fixed Audience Seating (Newmark)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	1 Year	No

Observations

- Existing fixed seating units have well exceeded their anticipated useful life, and are in need of replacement.

Recommendations

- Replace seating units with new of like kind and layout.

Technical Access and Other Life Safety Items (Newmark)

Observations

- Vertical ladder from mid gallery to loading gallery/grid iron access is open, with no observable safety measures conforming to current OSHA requirements.

Recommendations

- Provide fall arrest and recovery system at vertical ladder between mid and loading galleries.

End of Newmark Observations & Recommendations

Arlene Schnitzer Concert Hall – Observations & Recommendations

Stage Flooring Systems (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	5-10 Years	No

Observations

- Existing stage floor is in good condition and with regular maintenance and care should have an anticipated life of 5-10 years.

Recommendations

- None at this time

Manual & Motorized Stage Rigging Systems (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Poor	1 Year	No

Observations

- Existing manual counterweight rigging sets have exceeded the manufacturer's published recommended useful life.
- Users indicate replacement of manual stage rigging components is scheduled.

Recommendations

- Replace existing stage rigging equipment as currently scheduled.

Decorative, & Variable Acoustic Draperies (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	5 Years	No

Observations

- Decorative draperies are in good condition and if cleaned at regular intervals should have an expected life of not less than 10 years.
- Acoustic draperies at perimeter of house are in generally fair condition and should be able to sustain one more cleaning cycle.

Recommendations

- Clean acoustic draperies within 2 years. Prepare for replacement no later than 5 years after next cleaning cycle.

Motorized Orchestra Pit, Stage, and Seating Lifts (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	5-10 Years	No

Observations

- Lift system has been well maintained and is operated regularly.
- Users indicate lift system is inspected/maintained annually.

Recommendations

- None at this time

Theatrical Lighting Controls (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Excellent	10-15 Years	No

Observations

- New lighting controls equipment was staged for installation at time of observation.

Recommendations

- None at this time.

General Illumination Fixtures (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue

Good	10-15 Years	No

Observations

- General lighting fixtures were being replaced with new LED lamps at the time of our observation.
- Existing raceways/sockets for general lighting fixtures appear in most locations to be original to the building. Existing raceways/sockets may lead to accelerated failure of new LED lamps.

Recommendations

- Carefully monitor failure rate of newly installed LED lamps. If many new LED lamps begin to fail sooner than anticipated by LED lamp manufacturer, consider replacement or retrofit of existing raceways/sockets with linear LED tape.

Production Lighting Fixtures (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	1-5 Years	No

Observations

- Existing production lighting fixtures are in good working condition.
- There are limited location where the installation of new catwalk decks serving variable acoustic array system makes aiming/focusing of existing production lighting fixtures problematic.

Recommendations

- Replace fixed focus incandescent fixtures at locations affected by new catwalk decks for variable acoustic array with new automated LED profile units.

Production Audio/Visual Systems (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-3 Years	No

Observations

- Existing line array speakers/subs are in fair condition, but are leased and not owned by P5.
- Lease agreement mandates equipment be removed and placed on tour by leasing company during summer months. Equipment is prone to damage or abuse during touring that can complicate operations once re-installed.

Recommendations

- Replaced leased line array and subs with new, purchased by P5.

Fixed Audience Seating (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	1 Year	No

Observations

- Existing fixed audience seating has well exceeded its intended life and is in desperate need of replacement.

Recommendations

- Replace fixed seating units with new of like kind and arrangement.

Historic Interior Finishes (ASCH)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Poor	1 Year	No

Observations

- Existing decorative plasterwork shows signs of aging and in need of restoration.
- Damage to plaster finishes was observed in multiple locations.

Recommendations

- Restoration of historic plaster finishes by a qualified entity, specializing in historic preservation/restoration is recommended.

End of Arlene Schintzer Concert Hall Observations & Recommendations

Keller Auditorium – Observations & Recommendations

Stage Flooring Systems (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	End of Life	No

Observations

- Existing stage floor is in very poor condition and in need of replacement.

Recommendations

- Replace existing stage floor with field constructed sprung wood stage floor assembly.

Manual & Motorized Stage Rigging Systems (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	End of Life (Chain Hoists)	No

Observations

- Existing manual counterweight rigging components have exceeded the manufacturer's recommended life but all line sets appear to be in good operational condition.
- Users indicate a preference to repair damaged/broken manual counterweight components as required, rather than wholesale replacement of stage rigging system.
- Chain hoists at grid iron are obsolete, and servicing is becoming problematic due to lack of manufacturer's direct support.

Recommendations

- Continue to monitor and repair existing manual stage rigging components as required, with Level 2 Stage Rigging Inspections by qualified personnel per current ESTA/ANSI standards annually. Anticipate replacement being required within 5-10 years.
- Replace existing chain motor hoist units with new, matching existing configuration and rating.

Decorative, & Variable Acoustic Draperies (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Good	5-10 Years	No

Observations

- Draperies deployed during observation appear to be from 2013 and are in surprisingly good condition given their age.

Recommendations

- Clean as required.

Motorized Orchestra Pit (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	End of Life	No

Observations

- The orchestra pit lift has exceeded its reasonable service life and presents potential safety risks.

Recommendations

- Replace Orchestra Pit Lift with new.

Theatrical Lighting Controls (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Poor	1 Year	No

Observations

- Existing house and production lighting controls system has reached end of life and is soon to reach end of manufacturer's support period.
- Dedicated DMX/RDM & Production Lighting Network distribution is lacking for a modern flagship performing arts facility.

Recommendations

- Replace existing architectural lighting system with new.
- Provide new dedicated DMX/RDM and Lighting Network distribution backbone on stage, in common control locations, and at all FOH lighting positions.

General Illumination Fixtures (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- General house lighting fixtures consist of incandescent production lighting fixtures configured as architectural fixtures.
- Lamps for existing fixtures of theatrical grade quality and performance are likely to become problematic to source within the next 1-5 years.

Recommendations

- Replace existing incandescent fixtures with new LED units. Replacement of existing house lighting fixtures with new LED units should be performed at the same time as replacement of existing theatrical lighting controls system.

Production Lighting Fixtures (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Fair	1-5 Years	No

Observations

- Existing production lighting fixtures are in good working condition, but incandescent units are becoming obsolete, with quality lamps likely becoming hard to source within the next 1-5 years.

Recommendations

- Replace incandescent production lighting fixtures with LED units.

Production Audio/Visual Systems (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	End of Life	No

Observations

- Existing PA speakers are underpowered and do not provide adequate coverage throughout the space for most performances.

Recommendations

- Replace existing FOH PA system with new.

Fixed Audience Seating (Keller)

Summary Overview

System Rating	Estimated Remaining Life	Life Safety Issue
Very Poor	1 Year	No

Observations

- Existing fixed audience seating has well exceeded intended life and is in desperate need of replacement.

Recommendations

- Replace fixed seating units with new of like kind and arrangement.

Technical Access and Other Life Safety Items (Keller)

Observations

- Elevated Lighting positions lack railings and fall arrest safety systems conforming to current OSHA requirements.

Recommendations

- Provide fall arrest and recovery system at all elevated lighting positions.

End of Keller Auditorium Observations & Recommendations

Respectfully Submitted,

PLA Designs, Inc.

Chris Ochocki, ASTC
Senior Theater Consultant

Appendix B

Metro's Asset Classification Hierarchy				ASTM UniFormat II (2024)	
Level 1	**Level 2**	**Level 3**	**Level 4**	**UniFormat Code #**	**UniFormat 2024 - Level 4 Category**
A Substructure	A1 Foundation	A11 Standard Foundation	A1111 Wall Foundations	A101001	WALL FOUNDATIONS
			A1112 Column Foundations & Pile Caps	A101002	COLUMN FOUNDATIONS AND PILE CAPS
			A1113 Perimeter Drainage & Insulation	A101003	DEWATERING
		A12 Special Foundations	A1221 Pile Foundations	A102001	PILE FOUNDATIONS
			A1222 Grade Beams		
			A1223 Caissons	A102002	CAISSONS
			A1224 Underpinning	A102003	UNDERPINNING
			A1225 Dewatering	A102004	DEWATERING
			A1226 Raft Foundations	A102005	RAFT FOUNDATIONS
			A1227 Pressure Injected Grouting	A102006	PRESSURE INJECTED GROUTING
			A1229 Other Special Conditions	A102099	OTHER SPECIAL FOUNDATIONS
		A13 Slab on Grade	A1331 Standard Slab on Grade	A103001	STANDARD SLAB ON GRADE
			A1332 Structural Slab on Grade	A103002	STRUCTURAL SLAB ON GRADE
			A1333 Inclined Slab on Grade	A103003	INCLINED SLAB ON GRADE
			A1334 Trenches, Pits and Bases		
			A1335 Under-Slab Drainage & Insulation	A103006	FOUNDATION DRAINAGE
	A2 Basement Construc	A21 Basement Excavation	A2111 Excavation for Basements	A201001	EXCAVATION FOR BASEMENTS
			A2112 Structure Back Fill & Compaction	A201002	STRUCTURE BACKFILL AND COMPACTION
			A2113 Shoring	A201003	SHORING
		A22 Basement Walls	A2221 Basement Wall Construction	A202001	BASEMENT WALL CONSTRUCTION
			A2222 Moisture Protection	A202002	MOISTURE PROTECTION
			A2223 Basement Wall Insulation	A202003	BASEMENT WALL INSULATION
			A2224 Interior Skin	A202099	OTHER BASEMENT WALLS
B Shell	B1 Superstructure	B11 Floor Construction	B1111 Suspended Basement Floors Construction		
			B1112 Upper Floors Construction		
			B1113 Balcony Floors Construction	B101004	BALCONY CONSTRUCTION
			B1114 Ramps	B101005	RAMPS
			B1115 Exterior Stairs and Fire Escapes		
			B1116 Floor Raceway System		
			B1117 Other Floor Construction	B101099	OTHER FLOOR CONSTRUCTION
		B12 Roof Construction	B1221 Flat Roof Construction		
			B1222 Pitched Roof Construction		
			B1223 Canopies	B102004	CANOPIES
			B1229 Other Roof Systems	B102099	OTHER ROOF CONSTRUCTION
	B2 Exterior Enclosures	B21 Exterior Walls	B2111 Exterior Wall Construction		
			B2112 Parapets	B201004	PARAPETS
			B2113 Exterior Louvers, Screens and Fencing	B201005	EXTERIOR LOUVERS AND SCREENS
			B2114 Exterior Sun Control Devices	B201006	SUN CONTROL DEVICES (EXTERIOR)
			B2115 Balcony Walls & Handrails	B201007	BALCONY WALLS AND RAILINGS
			B2116 Exterior Soffits	B201008	EXTERIOR SOFFITS
		B22 Exterior Windows	B2221 Exterior Windows	B202001	WINDOWS
			B2222 Exterior Curtain Walls	B202003	CURTAIN WALLS
			B2223 Exterior Storefronts	B202004	EXTERIOR GLAZING
		B23 Exterior Doors	B2331 Exterior Glazed Doors & Entrances	B203002	GLAZED DOORS
			B2332 Solid Exterior Doors	B203001	SOLID DOORS
			B2333 Exterior Revolving Doors	B203003	REVOLVING DOORS
			B2334 Exterior Overhead Doors	B203004	OVERHEAD AND ROLL-UP DOORS
			B2339 Other Exterior Doors & Entrances	B203098	OTHER EXTERIOR SPECIALTY DOORS
	B3 Roofing	B31 Roof Coverings	B3111 Roof Finishes		
			B3112 Traffic, Toppings & Paving Membranes		
			B3113 Roof Insulation & Fill	B301003	ROOF INSULATION AND FILL
			B3114 Flashings & Trim	B301004	FLASHINGS AND TRIM
			B3115 Roof Eaves and Soffits		
			B3116 Gutters and Downspouts	B301005	GUTTERS AND DOWNSPOUTS
		B32 Roof Openings	B3221 Glazed Roof Openings		
			B3222 Roof Hatches		
			B3223 Gravity Roof Ventilators		
C Interiors	C1 Interior Constructio	C11 Partitions	C1111 Fixed partitions	C101001	FIXED PARTITIONS
			C1112 Demountable Partitions	C101002	DEMOUNTABLE PARTITIONS
			C1113 Retractable Partitions	C101003	RETRACTABLE PARTITIONS
			C1114 Site Built Toilet Partitions		
			C1115 Site Built Compartments Cubicles		
			C1116 Interior Balustrades and Screens	C101004	INTERIOR GUARDRAILS AND SCREENS
			C1117 Interior Windows & Storefronts		
		C12 Interior Doors	C1221 Interior Doors		
			C1222 Interior Door Frames		
			C1223 Interior Door Hardware	C102007	INTERIOR DOOR HARDWARE
			C1224 Interior Door Wall Opening Elements		
			C1225 Interior Door Sidelights & Transoms		
			C1226 Interior Hatches & Access Doors		
			C1227 Interior Door Painting & Decorations		
			C1228 Interior Overhead Doors	C102005	INTERIOR OVERHEAD DOORS

Metro's Asset Classification Hierarchy				ASTM UniFormat II (2024)	
Level 1	**Level 2**	**Level 3**	**Level 4**	**UniFormat Code #**	**UniFormat 2024 - Level 4 Category**
		C13 Fittings	C1331 Fabricated Toilet partitions		
			C1332 Fabricated Compartments & Cubicles		
			C1333 Storage Shelving and Lockers		
			C1334 Ornamental Metals and Handrails		
			C1335 Identifying Devices		
			C1336 Closet Specialties	C103010	CLOSETS
			C1337 General Fittings & Misc. Metals		
C Interiors (continued)	C2 Stairs	C21 Stair Construction	C2111 Regular Stairs	C201001	INTERIOR STAIR CONSTRUCTION
			C2112 Curved Stairs		
			C2113 Spiral Stairs		
			C2114 Stair Handrails and Balustrades		
			C2115 Fixed Ladders		
		C22 Stair Finishes	C2221 Stair, Tread and Landing Finishes	C202001	INTERIOR STAIR FINISH
			C2222 Stair Soffit Finishes		
			C2223 Stair Handrail & Balustrade Finishes		
	C3 Interior Finishes	C31 Wall Finishes	C3111 Wall Finishes to Inside Exterior Walls		
			C3112 Wall Finishes to Interior Walls		
			C3113 Column Finishes		
		C32 Floor Finishes	C3221 Floor Toppings		
			C3222 Traffic Membranes		
			C3223 Hardeners and Sealers	C302010	HARDENERS AND SEALERS
			C3224 Flooring		
			C3225 Carpeting	C302005	CARPETING
			C3226 Bases, Curbs and Trim		
			C3227 Access Pedestal Flooring		
		C33 Ceiling Finishes	C3331 Ceiling Finishes		
			C3332 Suspended Ceilings	C303007	SUSPENSIONS SYSTEMS
			C3333 Other Ceilings	C303099	OTHER CEILING AND CEILING FINISHES
D Services	D1 Conveying	D11 Elevators & Lifts	D1111 Passenger Elevators	D101002	PASSENGER ELEVATORS
			D1112 Freight Elevators	D101003	FREIGHT ELEVATORS
			D1113 Lifts		
		D12 Escalators & Moving W	D1221 Escalators		
			D1222 Moving Walks	D102002	MOVING WALKS
		D19 Other Conveying Syste	D1991 Dumbwaiters		
			D1992 Pneumatic Tube Systems	D109001	PNEUMATIC TUBE SYSTEMS
			D1993 Hoists & Cranes		
			D1994 Conveyors	D109002	CONVEYORS
			D1995 Chutes		
			D1996 Turntables	D109004	TURNTABLES
			D1997 Baggage Handling & Loading Systems		
			D1998 Transportation Systems	D109006	TRANSPORTATION SYSTEMS
	D2 Plumbing	D21 Plumbing Fixtures	D2111 Water Closets	D201001	WATERCLOSETS
			D2112 Urinals	D201002	URINALS
			D2113 Lavatories	D201003	LAVATORIES
			D2114 Sinks	D201004	SINKS
			D2115 Bathtubs		
			D2116 Water Fountains		
			D2117 Showers		
			D2118 Drinking Fountains and Coolers	D201006	DRINKING FOUNTAINS AND COOLERS
			D2119 Bidets and Other Plumbing Fixtures	D201007	BIDETS
			D2120 Water Heaters		
		D22 Domestic Water Distrib	D2221 Cold Water Service		
			D2222 Hot Water Service		
			D2223 Domestic Water Supply Equipment		
		D23 Sanitary Water	D2331 Waste Piping	D203001	WASTE PIPE AND FITTINGS
			D2332 Vent Piping	D203002	VENT PIPE AND FITTINGS
			D2333 Floor Drains	D203003	FLOOR DRAINS
			D2334 Sanitary Waste Equipment	D203004	SANITARY AND VENT EQUIPMENT
			D2335 Pipe Insulation		
		D24 Rain Water Drainage	D2441 Pipe & Fittings	D204001	PIPE AND FITTINGS
			D2442 Roof Drains	D204002	ROOF DRAINS
			D2443 Rainwater Drainage Equipment	D204003	RAINWATER DRAINAGE EQUIPMENT
			D2444 Pipe Insulation		
		D29 Other Plumbing Systen	D2991 Gas Distribution		
			D2992 Acid Waste Systems	D209002	ACID WASTE SYSTEMS
			D2993 Interceptors	D209003	INTERCEPTORS
			D2994 Pool Piping and Equipment	D209004	POOL PIPING AND EQUIPMENT
			D2995 Decorative Fountain Piping Devices		
			D2999 Other Piping Systems		

Appendix B

Metro's Asset Classification Hierarchy				ASTM UniFormat II (2024)	
Level 1	**Level 2**	**Level 3**	**Level 4**	**UniFormat Code #**	**UniFormat 2024 - Level 4 Category**
	D3 HVAC	D31 Energy supply	D3111 Oil Supply System	D301001	OIL SUPPLY SYSTEM
			D3112 Gas Supply system	D301002	GAS SUPPLY SYSTEM
			D3113 Coal Supply System	D301003	COAL SUPPLY SYSTEM
			D3114 Steam Supply System	D301004	STEAM SUPPLY SYSTEM (FROM CENTRAL PLANT)
			D3115 Hot Water Supply System	D301005	HOT WATER SUPPLY SYSTEM (FROM CENTRAL PLANT)
			D3116 Solar Energy System	D301006	SOLAR ENERGY SUPPLY SYSTEMS
			D3117 Wind Energy System	D301007	WIND ENERGY SUPPLY SYSTEM
		D32 Heat Generating Syster	D3221 Boilers		
			D3222 Boiler Room Piping & Specialties		
			D3223 Auxiliary Equipment	D302005	AUXILIARY EQUIPMENT
			D3224 Insulation	D302006	EQUIPMENT THERMAL INSULATION
		D33 Cooling Generating Sys	D3331 Chilled Water Systems	D303001	CHILLED WATER SYSTEMS
			D3332 Direct Expansion Systems	D303002	DIRECT EXPANSION SYSTEMS
		D34 Distribution Systems	D3441 Air Distribution Systems	D304001	AIR DISTRIBUTION, HEATING, AND COOLING
			D3442 Exhaust Ventilation Systems	D304007	EXHAUST SYSTEMS
			D3443 Steam Distribution Systems	D304002	STEAM DISTRIBUTION SYSTEMS
			D3444 Hot Water Distribution	D304003	HOT WATER DISTRIBUTION SYSTEMS
			D3445 Chilled Water Distribution	D304006	CHILLED WATER DISTRIBUTION SYSTEMS
			D3446 Change-over Distribution system	D304004	CHANGE OVER DISTRIBUTION SYSTEMS
			D3447 Glycol Distribution Systems	D304005	GLYCOL DISTRIBUTION SYSTEMS
		D35 Terminal & Package Un	D3551 Terminal Self-Contained Units		
			D3552 Package Units	D305006	PACKAGE UNITS
		D36 Controls & Instrumenta	D3661 Heating Generating Systems		
			D3662 Cooling Generating Systems		
			D3663 Heating-Cooling Air Handling Units		
			D3664 Exhaust & Ventilating Systems		
			D3665 Hoods and Exhaust Systems		
			D3666 Terminal Devices		
			D3667 General Monitoring & Control		
			D3668 Building Automation Systems		
			D3669 Other Controls and Instrumentation	D306099	OTHER CONTROLS INSTRUMENTATION
		D37 Systems Testing & Bala	D3771 Piping System Testing & Balancing		
			D3772 Air systems Testing & Balancing	D307002	AIR SIDE TESTING AND BALANCING—HEATING, COOLING, AND EXHAUST
			D3773 HVAC Commissioning	D307003	HVAC COMMISSIONING
			D3779 Other Systems Testing and Balancing	D307099	OTHER SYSTEMS TESTING AND BALANCING
		D39 Other HVAC Systems &	D3991 Special Cooling Systems & Devices		
			D3992 Special Humidity Control		
			D3993 Dust & Fume Collectors		
			D3994 Air Curtains		
			D3995 Air Purifiers		
			D3996 Paint Spray Booth Ventilation		
			D3997 General Construction Items (HVAC)		
	D4 Fire Protection	D41 Sprinklers	D4111 Sprinkler Water Supply		
			D4112 Sprinkler Pumping Equipment		
			D4113 Dry Sprinkler System		
			D4114 Wet Sprinkler Systems		
		D42 Standpipes	D4221 Standpipe Water Supply		
			D4222 Pumping Equipment		
			D4223 Sandpipe Equipment		
			D4224 Fire Hose Equipment		
		D43 Fire Projection Specialti	D4331 Fire Extinguishers		
			D4332 Fire Extinguisher Cabinets		
		D49 Other Fire Protection Sy	D4991 Carbon Dioxide Systems	D409001	CARBON DIOXIDE SYSTEMS
			D4992 Foam Generating Equipment	D409002	FOAM GENERATING EQUIPMENT
			D4993 Clean Agent Systems	D409003	CLEAN AGENT SYSTEMS
			D4994 Dry Chemical System		
			D4995 Hood & Duct Fire Protection	D409005	HOOD AND DUCT FIRE PROTECTION
	D5 Electrical	D51 Electrical Service & Dist	D5111 High Tension Service & Dist.		
			D5112 Low Tension Service & Dist.		
		D52 Lighting & Branch Wiri	D5221 Branch Wiring Devices	D502001	BRANCH WIRING
			D5222 Lighting Equipment	D502002	LIGHTING EQUIPMENT
			D5223 Lighting Controls		
		D53 Communications & Sec	D5331 Public Address & Music Systems	D503004	PUBLIC ADDRESS SYSTEMS
			D5332 Intercommunication & Paging System	D503005	INTERCOMMUNICATIONS SYSTEMS - Intercom and Paging system
			D5333 Telephone System		
			D5334 Call Systems		
			D5335 Television Systems	D503007	TELEVISION SYSTEMS - Video management and Recording System
			D5336 Clock and Program systems	D503006	CLOCK AND PROGRAM SYSTEMS

Metro's Asset Classification Hierarchy				ASTM UniFormat II (2024)	
Level 1	**Level 2**	**Level 3**	**Level 4**	**UniFormat Code #**	**UniFormat 2024 - Level 4 Category**
			D5337 Fire Alarm systems		
			D5338 Security and Detection Systems		
			D5339 Local Area Networks		
		D59 Other Electrical System	D5991 Grounding Systems	D509003	GROUNDING SYSTEMS
			D5992 Emergency Light & Power Systems		
			D5993 Floor Raceway Systems		
			D5994 Other Special Systems & Devices	D509099	OTHER SPECIAL SYSTEMS AND DEVICES
			D5995 General Construction Items (Elect.)		
E Equipment & Furnishin	E1 Equipment	E11 Commercial Equipment	E1111 Security & Vault Equipment	E101005	SECURITY AND VAULT EQUIPMENT
			E1112 Teller and Service Equipment	E101006	TELLER AND SERVICE EQUIPMENT
			E1113 Registration Equipment		
			E1114 Checkroom Equipment		
			E1115 Mercantile Equipment	E101007	MERCANTILE EQUIPMENT
			E1116 Laundry & Dry Cleaning Equipment		
			E1117 Vending Equipment		
			E1118 Office Equipment		
		E12 Institutional Equipment	E1221 Ecclesiastical Equipment	E102007	ECCLESIASTICAL EQUIPMENT
			E1222 Library Equipment	E102006	LIBRARY EQUIPMENT
			E1223 Theater & Stage Equipment		
			E1224 Instrumental Equipment	E102008	INSTRUMENTAL EQUIPMENT
			E1225 Audio-visual Equipment	E102009	AUDIO-VISUAL EQUIPMENT
			E1226 Detention Equipment	E102010	DETENTION EQUIPMENT
			E1227 Laboratory Equipment	E102003	LABORATORY EQUIPMENT
			E1228 Medical Equipment	E102002	MEDICAL EQUIPMENT
			E1229 Other Institutional Equipment		
		E13 Vehicular Equipment	E1331 Vehicular Service Equipment		
			E1332 Parking Control Equipment	E103001	PARKING CONTROL EQUIPMENT
			E1333 Loading Dock Equipment	E103002	LOADING DOCK EQUIPMENT
			E1339 Other Vehicular Equipment		
		E19 Other Equipment	E1991 Maintenance Equipment	E109001	BUILT-IN MAINTENANCE EQUIPMENT
			E1992 Solid Waste Handling Equipment	E109003	WASTE HANDLING EQUIPMENT
			E1993 Food Service Equipment	E109002	FOOD SERVICE EQUIPMENT
			E1994 Residential Equipment	E109004	RESIDENTIAL EQUIPMENT
			E1995 Unit Kitchens	E109005	UNIT KITCHENS
			E1997 Window Washing Equipment		
			E1998 Radios		
			E1999 Other Equipment		

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Level 1	**Level 2**	**Level 3**	**Level 4**	**UniFormat Code #**	**UniFormat 2024 - Level 4 Category**
	E2 Furnishings	E21 Fixed Furnishings	E2111 Fixed Artwork	E201001	FIXED ARTWORK
			E2112 Fixed Casework		
			E2113 Blinds and Other Window Treatment		
			E2114 Fixed Floor Grilles and Mats		
			E2115 Fixed Multiple Seating		
			E2116 Fixed Interior Landscaping	E201005	FIXED INTERIOR LANDSCAPING
		E22 Movable Furnishings	E2221 Movable Artwork	E202001	MOVEABLE ART WORK
			E2222 Furniture & Accessories		
			E2223 Movable Rugs and Mats	E202004	RUGS AND ACCESSORIES
			E2224 Movable Interior Landscaping		
F Special Construction &	F1 Special Construction	F11 Special Structures	F1111 Air Supported Structures	F101003	AIR-SUPPORTED STRUCTURES
			F1112 Pre-engineered Structures		
			F1113 Other Special Structures	F101099	OTHER SPECIAL CONSTRUCTION
		F12 Integrated Construction	F1221 integrated Assemblies		
			F1222 Special Purpose Rooms	F102001	SPECIAL PURPOSE ROOMS
			F1223 Other Integrated Construction	F102099	OTHER INTEGRATED CONSTRUCTION
		F13 Special Construction Sy	F1331 Sound, Vibration & Seismic Const.		
			F1332 Radiation Protection	F103003	RADIATION PROTECTION
			F1333 Special Security Systems		
			F1334 Vaults	F103001	VAULTS
			F1339 Other Special Construction Systems	F103099	OTHER SPECIAL CONSTRUCTION SYSTEMS
		F14 Special Facilities	F1441 Aquatic Facilities	F104001	INTERIOR SWIMMING POOLS
			F1442 Ice Rinks	F104005	ICE RINKS
			F1443 Site Constructed Incinerators		
			F1444 Kennels & Animal Shelters	F104003	KENNELS AND ANIMAL SHELTERS
			F1445 Liquid & Gas Storage Tanks	F104002	LIQUID AND GAS STORAGE TANKS
			F1449 Other Special Facilities	F104099	OTHER SPECIAL FACILITIES
		F15 Special Controls & Instr	F1551 Recording Instrumentation	F105001	RECORDING INSTRUMENTATION
			F1552 Building Automation System	F105001	RECORDING INSTRUMENTATION
			F1559 Other Special Controls & Instrumentation	F105099	OTHER SPECIAL CONTROLS AND INSTRUMENTATION
	F2 Selective Building D	F21 Building Elements Dem	F2111 Building Interior Demolition		
			F2112 Building Exterior Demolition		
		F22 Hazardous Components	F2221 Removal of Hazardous Components		
			F2222 Encapsulation of Hazardous Components		
G Building Sitework	G1 Site Preparation	G11 Site Clearing	G1111 Clearing & Grubbing		
			G1112 Tree Removal & Thinning		
		G12 Site Demolition & Relo	G1221 Building Demolition	G102001	BUILDING MASS DEMOLITION
			G1222 Demolition of Site Components	G102002	ABOVE GROUND SITE DEMOLITION
			G1223 Relocation of Building & Utilities		
			G1224 Utilities Relocation	G102005	UTILITY RELOCATION
		G13 Site Earthwork	G1331 Site Grading Excavation		
			G1332 Borrow Fill	G103004	FILL AND BORROW
			G1333 Soil Stabilization & Treatment		
			G1334 Site Dewatering		
			G1335 Site Shoring	G103009	SHORING
			G1336 Embankments		
			G1337 Erosion Control	G103011	TEMPORARY EROSION AND SEDIMENT CONTROL
		G14 Hazardous Waste Reme	G1441 Removal of Contaminated Soil	G104001	REMOVAL OF CONTAMINATED SOIL
			G1442 Soil Restoration & Treatment	G104002	SOIL RESTORATION AND TREATMENT
	G2 Site Improvements	G21 Roadways	G2111 Bases and Sub-Bases	G201001	BASES AND SUBBASES
			G2112 Paving & Surfacing	G201003	PAVED SURFACES
			G2113 Curbs, Gutters and Drains		
			G2114 Guardrails and Barriers	G201005	GUARDRAILS AND BARRIERS
			G2115 Painted Lines		
			G2116 Markings & Signage		
			G2117 Vehicular Bridges		
		G22 Parking Lots	G2221 Bases and Sub-Bases	G202001	BASES AND SUBBASES
			G2222 Paving & Surfacing		
			G2223 Curbs, Rails & Barriers	G202003	PAVED SURFACES
			G2224 Parking Booths & Equipment		
			G2225 Markings & Signage	G202004	MARKING AND SIGNAGE
		G23 Pedestrian Paving	G2331 Paving & Surfacing		
			G2332 Edging		
			G2333 Exterior Steps		
			G2334 Pedestrian Bridges		
		G24 Site Development	G2244 Signage		
			G2441 Fences & Gates	G204001	FENCING AND GATES
			G2442 Retaining Walls	G204002	RETAINING WALLS
			G2443 Terrace & perimeter Walls		
			G2444 Signage	G204005	SIGNAGE
			G2445 Site Furnishings		

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			G2446 Fountains, Pools & Watercourses		
			G2447 Playing Fields	G204007	PLAYING FIELDS
			G2448 Flagpoles	G204009	FLAGPOLES
			G2449 Miscellaneous Structures		
		G25 Landscaping	G2551 Fine Grading & Soil Preparation	G205001	FINE GRADING AND SOIL PREPARATION
			G2552 Erosion Control Measures	G205002	EROSION CONTROL MEASURES
			G2553 Top Soil & Planting Beds	G205003	TOPSOIL AND PLANTING BEDS
			G2554 Seeding & Sodding	G205004	SEEDING, SPRIGGING, AND SODDING
			G2555 Planting	G205005	PLANTINGS
			G2556 Planters	G205006	PLANTERS
			G2557 Irrigation Systems	G205007	IRRIGATION SYSTEMS
			G2558 Other Landscape Features	G205099	OTHER LANDSCAPING
			G2559 Trees		
	G3 Site Mechanical Uti	G31 Water Supply	G3111 Potable Water Distribution & Storage		
			G3112 Non-Potable Water Distribution & Storage		
			G3113 Well Systems	G301001	WELL SYSTEMS
			G3114 Fire Protection Distribution & Storage		
			G3115 Pumping Stations	G301007	PUMPING STATIONS
			G3116 Package Water Treatment Plants	G301008	PACKAGED WATER TREATMENT PLANTS
		G32 Sanitary Sewer	G3221 Piping	G302001	SANITARY SEWER PIPING
			G3222 Manholes & Cleanouts	G302002	SANITARY SEWER MANHOLES AND CLEANOUTS
			G3223 Septic Disposal Systems		
			G3224 Lift Stations	G302003	LIFT STATIONS AND PUMPING STATIONS
			G3225 Packaged Water Waste Treatment Plants	G302004	PACKAGED SANITARY SEWER TREATMENT PLANTS
			G3226 Septic tanks	G302005	SEPTIC TANKS
			G3227 Drain Fields	G302006	DRAIN FIELDS
		G33 Storm Sewer	G3331 Piping	G303001	STORM SEWER PIPING
			G3332 Manholes		
			G3333 Headwalls & Catch Basins		
			G3334 Lift Stations	G303003	LIFT STATIONS
			G3335 Retention Ponds		
			G3336 Ditches & Culverts	G303004	CULVERTS
		G34 Heating Distribution	G3441 Steam Supply		
			G3442 Condensate Return		
			G3443 Hot Water Supply System	G304003	UNDERGROUND HOT WATER SYSTEMS
			G3444 Pumping Stations	G304006	PUMPING STATIONS
		G35 Cooling Distribution	G3551 Chilled Water Piping		
			G3552 Wells for Cooling	G305004	WELLS FOR COOLING
			G3553 Pumping Stations	G305005	PUMPING STATIONS
			G3554 Cooling Towers on Site	G305006	ON-SITE COOLING TOWERS
		G36 Fuel Distribution	G3661 Fuel Piping	G306001	LIQUID FUEL DISTRIBUTION PIPING
			G3662 Fuel Equipment	G306003	LIQUID FUEL DISPENSING EQUIPMENT
			G3663 Fuel Storage Tanks	G306004	LIQUID FUEL STORAGE TANKS
			G3664 Fuel Dispensing Stations		
		G39 Other Site Mechanical U	G3991 Industrial Waste Systems		
			G3992 Petroleum Oil & Lubricants Dist Systems		
	G4 Site Electrical Utiliti	G41 Electrical Distribution	G4111 Substations	G401001	SUBSTATIONS
			G4112 Overhead Power Distribution	G401004	OVERHEAD ELECTRIC CONDUCTORS
			G4113 Underground Power Distribution	G401006	UNDERGROUND ELECTRIC CONDUCTORS
		G42 Site Lighting	G4221 Fixtures & Transformers		
			G4222 Poles		
			G4223 Wiring & Conduits & Ductbanks		
			G4224 Site Lighting Controls		
		G43 Site Communications &	G4331 Site Communications Systems	G403001	TELECOMMUNICATIONS SYSTEMS
			G4332 Site Security & Alarm Systems		
		G49 Other Site Electrical Uti	G4991 Cathodic Protection		
			G4992 Site Emergency Power Generation		
	G9 Other Site Construc	G91 Service and Pedestrian	G9111 Service Tunnels	G901001	CONSTRUCTION OF SERVICE AND PEDESTRIAN TUNNELS
			G9112 Trench Boxes		
			G9113 Pedestrian Tunnels	G901002	PREFABRICATED SERVICE AND PEDESTRIAN TUNNELS
		G99 Other Site Systems & E	G9991 Snow Melting Systems		