

FACILITY CONDITION ASSESSMENT

prepared for

City of McMinnville
231 Northeast Fifth Street
McMinnville, Oregon 97128
Mike Bisset



FACILITY CONDITION ASSESSMENT
OF
AQUATIC CENTER
138 NORTHWEST PARK DRIVE
MCMINNVILLE, OREGON 97128

PREPARED BY:

EMG | A Bureau Veritas Group Company
10461 Mill Run Circle, Suite 1100
Owings Mills, Maryland 21117
800.733.0660
www.EMGcorp.com

EMG CONTACT:

Matthew Anderson
Program Manager
800.733.0660 x7613
manderson@emgcorp.com

EMG PROJECT #:

132218.18R000-010.354

DATE OF REPORT:

February 11, 2019

ON SITE DATE:

November 5 and 7, 2018



engineering | environmental | capital planning | project management

A Bureau Veritas Group Company



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1. Executive Summary

Property Overview & Assessment Details

General Information	
Property Type	Pool facility
Main Address	138 Northwest Park Drive McMinnville, Oregon 97128
Site Developed	Phase - I Mid 1950s Phase – II 1986
Site Area	0.57 acres (estimated)
Parking Spaces	23 total spaces all in an open lot
Building Area	28,052 SF
Number of Stories	Two
Current Occupants	McMinnville Aquatics Center
Percent Utilization	100%
Date(s) of Visit	November 5 th & 7 th , 2018
Management Point of Contact	City of McMinnville Mike Bisset, Community Development Director 503.434.7312 phone mbiset@mcminnvilleoregon.gov email
On-site Point of Contact (POC)	Rob Porter
Assessment & Report Prepared By	James A. Cave
Reviewed By	Al Diefert Technical Report Reviewer For Matthew F. Anderson Program Manager mfanderson@emgcorp.com 800.733.0660 x7613

Significant/Systemic Findings or Deficiencies

Historical Summary

Original improvements to the property were constructed in the 1950s; consisting of an indoor and outdoor pool and mechanical spaces. The site was reconstructed circa 1986 with an all-new structure enclosing both pools and associated locker rooms, bleacher area and offices. The pool equipment spaces and current weight room are the only remaining portions of the 50s era construction. The facility has had a number of various HVAC and other improvements since 1986.

Architectural

The appearance and condition of the various interior and exterior building finishes is fair to poor with a number of condition problems throughout. The interior finishes are mostly hard surfaces and generally original. There is widespread evidence that the high vapor content of the interior pool environment is damaging the building's roof assembly. The facility recently completed an in-depth envelop study that concluded there was significant vapor-drive issues and related damage within the roofing assembly and recommends the replacement of the entire roof assembly and the repair of all uncovered damaged roof structure and decking. EMG concurs with these recommendations. Other short term or early reserve period repairs include exterior metal wall panel replacement, exterior wall painting and exterior and interior window and door replacement. A number of typical life cycle pool equipment and interior finish replacements will be required during the evaluation period.

Mechanical, Electrical, Plumbing & Fire (MEPF)

The building's HVAC and digital controls system was significantly redesigned and upgraded in 2010, as a result, the equipment is a combination of equipment installed circa 1999 and 2010. The system appears to be operating normally and reportedly effective in dealing with the building's humid interior environment. The pool equipment, filtration and pumps, vary in age and appeared to be functioning normally at the time of the inspection. The plumbing fixtures appear to date mostly from the 1980s and functioning adequately. The fire alarm panel is dated and needs to be replaced in short term. A number of typical lifecycle repairs and replacements of pool equipment, HVAC and fire protection equipment will be required and budgeted.





Site





The subject facility shares a site with an adjacent public park and a library. Parking is provided by angled stalls accessed directly from a public street. The vehicle pavement and access sidewalks are in fair to poor condition with some limited short-term repairs required to correct minor trip hazards.

Recommended Additional Studies

No additional studies recommended at this time.

Key Findings

	<p>Roof Assembly in Failed condition.</p> <p>Asphalt Shingle, Rigid Insulation, Sleepers Aquatic Center Roof</p> <p>Uniformat Code: B3011 Recommendation: Replace in 2018</p>	<p>Priority Score: 90.0</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$240,800</p> <p>\$\$\$\$</p>
<p>Roof assembly has failed requiring entire system replacements - AssetCALC ID: 1082581</p>		
	<p>Structural Flooring/Decking in Failed condition.</p> <p>Wood Aquatic Center Roof</p> <p>Uniformat Code: B1012 Recommendation: Repair in 2018</p>	<p>Priority Score: 90.0</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$191,500</p> <p>\$\$\$\$</p>
<p>Roof structure/decking replacement allowance - AssetCALC ID: 1091536</p>		
	<p>Wood Trim in Poor condition.</p> <p>Exterior Wood Aquatic Center Building Exterior, Original Portion of Structure</p> <p>Uniformat Code: B2011 Recommendation: Replace in 2019</p>	<p>Priority Score: 90.0</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$2,700</p> <p>\$\$\$\$</p>
<p>Wood trim on original portion of structure noted to have widespread evidence of rot and related damage. Replacement required in order to maintain integrity o building envelope - AssetCALC ID: 1082540</p>		
	<p>Roof in Poor condition.</p> <p>Modified Bituminous Aquatic Center Roof</p> <p>Uniformat Code: B3011 Recommendation: Replace in 2019</p>	<p>Priority Score: 90.0</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$11,700</p> <p>\$\$\$\$</p>
<p>Roofing at end of its useful life - AssetCALC ID: 1082583</p>		

	<p>Exterior Wall in Poor condition.</p> <p>Aluminum Siding Aquatic Center Building Exterior</p> <p>Uniformat Code: B2011 Recommendation: Replace in 2020</p>	<p>Priority Score: 90.0</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$84,500</p> <p>\$\$\$\$</p>
<p>Discolored, damaged and unattached wall panels noted throughout - AssetCALC ID: 1082547</p>		
	<p>Exterior Walls in Poor condition.</p> <p>Painted Surface Aquatic Center Building Exterior</p> <p>Uniformat Code: B2011 Recommendation: Prep & Paint in 2020</p>	<p>Priority Score: 89.9</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$13,800</p> <p>\$\$\$\$</p>
<p>Stained and discolored painted noted throughout - AssetCALC ID: 1082518</p>		
	<p>Window in Poor condition.</p> <p>Hollow Metal Aquatic Center Building Exterior, Lobby Area</p> <p>Uniformat Code: B2021 Recommendation: Replace in 2019</p>	<p>Priority Score: 88.0</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$26,700</p> <p>\$\$\$\$</p>
<p>Severe corroding observed - AssetCALC ID: 1082524</p>		
	<p>Roof Skylight in Poor condition.</p> <p>Glass Single Unit Aquatic Center Roofs Above Lockers</p> <p>Uniformat Code: B3021 Recommendation: Replace in 2020</p>	<p>Priority Score: 88.0</p> <p>Plan Type: Performance/Integrity</p> <p>Cost Estimate: \$15,800</p> <p>\$\$\$\$</p>
<p>Skylights are not leaking but the insulated air gap between translucent skins appears to have failed - AssetCALC ID: 1082574</p>		



Exterior Door in Poor condition.

Steel
Aquatic Center Building Exterior

Uniformat Code: B2032
Recommendation: **Replace in 2020**

Priority Score: **88.0**

Plan Type:
Performance/Integrity

Cost Estimate: \$5,400

\$\$\$\$

Significant corrosion noted - AssetCALC ID: 1082536



Window in Poor condition.

Steel Fixed
Aquatic Center Natatorium and Lobby

Uniformat Code: B2021
Recommendation: **Replace in 2020**

Priority Score: **88.0**

Plan Type:
Performance/Integrity

Cost Estimate: \$14,600

\$\$\$\$

Severe corrosion noted on frames. - AssetCALC ID: 1082532



Fire Alarm Control Panel in Poor condition.

Multiplex
Aquatic Center Second Floor Office

Uniformat Code: D5037
Recommendation: **Replace in 2019**

Priority Score: **87.0**

Plan Type:
Performance/Integrity

Cost Estimate: \$4,900

\$\$\$\$

Passed useful life - AssetCALC ID: 1082566



Interior Door in Poor condition.

Steel
Aquatic Center Natatorium, Office & Lobby

Uniformat Code: C1021
Recommendation: **Replace in 2020**

Priority Score: **84.0**

Plan Type:
Performance/Integrity

Cost Estimate: \$9,700

\$\$\$\$

Severe corrosion noted due to nightly hosing washing caustic chemicals against steel - AssetCALC ID: 1082586

Facility Condition Index (FCI)

One of the major goals of the FCA is to calculate each building's Facility Condition Index (FCI), which provides a theoretical objective indication of a building's overall condition. By definition, the FCI is defined as the ratio of the cost of current needs divided by current replacement value (CRV) of the facility. The chart below presents the industry standard ranges and cut-off points.

FCI Ranges & Description	
0 – 5%	In new or well-maintained condition, with little or no visual evidence of wear or other deficiencies.
5 – 10%	Subjected to wear but is still in a serviceable and functioning condition.
10 – 30%	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.
30% and above	Has reached the end of its useful or serviceable life. Renewal is now necessary.

The deficiencies and lifecycle needs identified in this assessment provide the basis for a portfolio-wide capital improvement funding strategy. In addition to the current FCI, extended FCI's have been developed to provide owners the intelligence needed to plan and budget for the "keep-up costs" for their facilities. As such the 3-year, 5-year, and 10-year FCI's are calculated by dividing the anticipated needs of those respective time periods by current replacement value. As a final point, the FCI's ultimately provide more value when used to relatively compare facilities across a portfolio instead of being over-analyzed and scrutinized as stand-alone values. The table below summarizes the individual findings for this FCA:

FCI Analysis Aquatic Center (1983)			
<i>Replacement Value</i>	<i>Total SF</i>	<i>Cost/SF</i>	
\$ 12,427,100	28,052	\$ 443	
Current FCI		\$ 497,100	4.0 %
3-Year		\$ 1,118,500	9.0 %
5-Year		\$ 1,615,600	13.0 %
10-Year		\$ 1,988,400	16.0 %

Immediate Needs

Facility/Building	Total Items	Total Cost
Aquatic Center	6	\$478,600
Total	6	\$478,600

Aquatic Center

ID	Location	UF Code	Description	Condition	Plan Type	Cost
1091536	Aquatic Center	B1012	Structural Flooring/Decking, Wood, Repair	Failed	Performance/Integrity	\$191,500
1082540	Aquatic Center	B2011	Wood Trim, Exterior Wood, Replace	Poor	Performance/Integrity	\$2,800
1082524	Aquatic Center	B2021	Window, Hollow Metal, Replace	Poor	Performance/Integrity	\$26,800
1082581	Aquatic Center	B3011	Roof Assembly, Asphalt Shingle, Rigid Insulation, Sleepers, Replace	Failed	Performance/Integrity	\$240,800
1082583	Aquatic Center	B3011	Roof, Modified Bituminous, Replace	Poor	Performance/Integrity	\$11,800
1082566	Aquatic Center	D5037	Fire Alarm Control Panel, Multiplex, Replace	Poor	Performance/Integrity	\$4,900
Total (6 items)						\$478,600

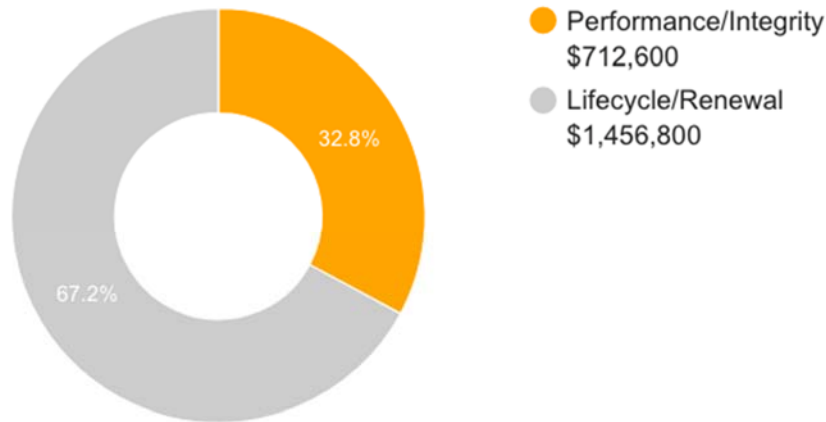
Plan Types

Each line item in the cost database is assigned a Plan Type, which is the primary reason or rationale for the recommended replacement, repair, or other corrective action. This is the “why” part of the equation. A cost or line item may commonly have more than one applicable Plan Type; however, only one Plan Type will be assigned based on the “best” fit, typically the one with the greatest significance.

Plan Type Descriptions

Safety	■ An observed or reported unsafe condition that if left unaddressed could result in injury; a system or component that presents potential liability risk.
Performance/Integrity	■ Component or system has failed, is almost failing, performs unreliably, does not perform as intended, and/or poses risk to overall system stability.
Accessibility	■ Does not meet ADA, UFAS, and/or other handicap accessibility requirements.
Environmental	■ Improvements to air or water quality, including removal of hazardous materials from the building or site.
Lifecycle/Renewal	■ Any component or system that is not currently deficient or problematic but for which future replacement or repair is anticipated and budgeted.

Plan Type Distribution (by Cost)



Ten year total: \$2,169,400

2. Building & Site Information



Systems Summary

<i>System</i>	<i>Description</i>	<i>Condition</i>
Structure	Combination of concrete masonry, cast-in-place concrete, and some conventional wood frame bearing walls, on concrete perimeter footings and concrete slabs on grade. The roof structure is constructed of glue-laminated beams with wood purlins, wood framing and wood decking. The upper floors, including the bleachers, are constructed of cast-in-place concrete.	Poor
Façade	Combination of stucco, wood siding, painted concrete masonry and metal wall panels with aluminum and steel windows	Poor
Roof	Primary: Sloped roofing with asphalt composition shingle finish Secondary: Sloped roofing with standing seam metal roofing Tertiary: Flat roof system with TPO/PVC roofing membrane Fourth: Flat roof system with modified bitumen finishes	Failed
Interiors	Walls: Painted CMU, painted concrete, painted GWB, unfinished Floors: Sealed concrete, painted concrete, ceramic tile, and carpet Ceilings: Painted gypsum board, Unfinished/exposed, stained wood	Fair
Elevators	None	--
Plumbing	Copper supply and cast iron waste & venting Domestic hot water heat exchanger	Good

Systems Summary		
HVAC	Central system with boilers, chillers, and air handlers Split-system units	Fair
Fire Suppression	Wet-pipe sprinkler system; hydrants, fire extinguishers	Good
Electrical	Source & Distribution: Main switchboard with copper wiring Interior Lighting: T-8, LED, and CFL, Emergency: None	Fair
Fire Alarm	Alarm panel, smoke detectors, alarms, pull stations, back-up emergency lights, and exit signs	Fair
Equipment/Special	Swimming pool pumps heaters and filters	Fair
Site Pavement	Asphalt lots with concrete sidewalks, curbs, ramps, and stairs	Fair
Site Development	Chain link fencing	Fair
Landscaping & Topography	Limited landscaping features Irrigation not present Low to moderate site slopes throughout	Fair
Utilities	Municipal water and sewer Local utility-provided electric and natural gas	Fair
Site Lighting	Pole-mounted: None Building-mounted: LED, High intensity discharge	Fair
Ancillary Structures	None	--
Accessibility	Presently it does not appear an accessibility study is needed for this property. See Appendix C.	
Key Issues & Findings	Roof assembly is failing due to vapor drive from the building's humid interior environment requiring full replacement and potential structural repairs. Damaged exterior metal wall panels, corroded interior and exterior metal frames, deteriorated exterior paint, damaged exterior wood trim, damaged wood stud wall assembly. Minor cracking in pedestrian pavement.	

Systems Expenditure Forecast

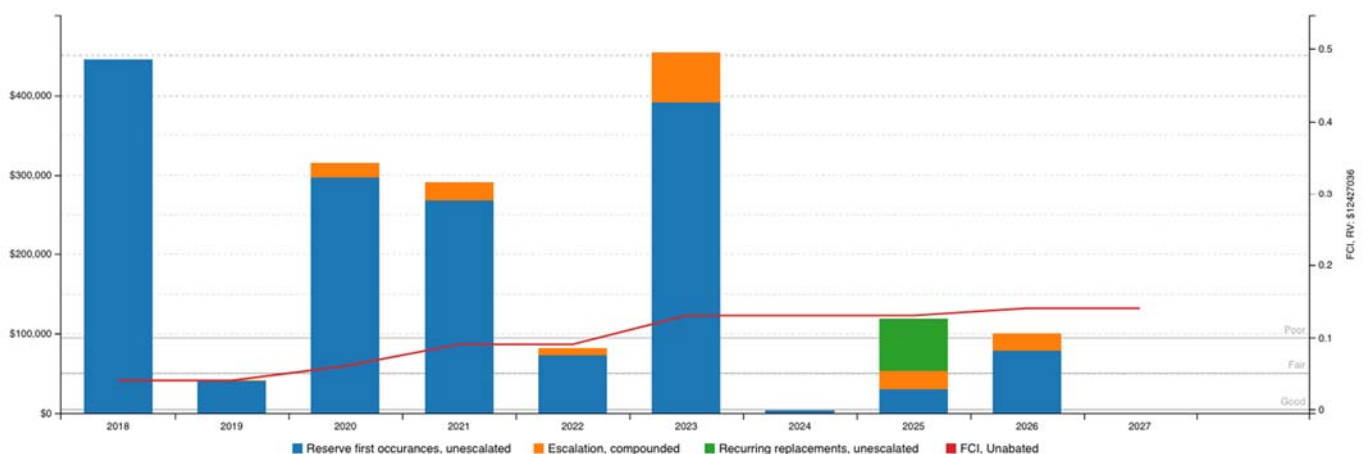
System	Immediate	Short Term (3 yr)	Near Term (5 yr)	Med Term (10 yr)	Long Term (20 yr)	TOTAL
Structure	\$191,500	-	-	-	-	\$191,500
Facade	\$29,400	\$123,000	\$64,500	\$6,000	\$19,100	\$242,000
Roofing	\$265,800	\$16,300	\$165,000	-	\$105,900	\$553,000
Interiors	-	\$439,200	-	\$93,600	\$744,000	\$1,276,800
Plumbing	-	\$42,100	\$16,800	\$94,200	\$53,500	\$206,700
HVAC	-	-	\$88,500	\$45,700	\$776,400	\$910,700
Electrical	-	\$18,500	\$107,400	\$240,100	\$32,600	\$398,500
Fire Alarm & Comm	\$4,900	-	-	-	\$7,600	\$12,400
Equipment/Special	-	\$20,000	\$2,700	\$39,700	\$17,700	\$80,100
Other ()	-	\$9,300	-	-	-	\$9,300
TOTALS	\$491,600	\$668,400	\$444,900	\$519,300	\$1,756,800	\$3,881,000

The graph below indicates the capital expenditure needs of each year (reference left axis). The red line forecasts what would happen to the FCI over time, assuming zero capital expenditures (reference right axis).

Needs by Year with Unaddressed FCI Over Time

FCI Analysis: Aquatic Center

Replacement Value: \$ 12,427,036; Inflation rate: 3.0%



3. Property Space Use & Observed Areas

Unit Allocation

All 25,082 square feet of the property are occupied by McMinnville Aquatics Center. The spaces are mostly a combination of a natatorium, locker rooms, offices, a weight room, restrooms and supporting pool equipment rooms.

Areas Observed

Most of the interior spaces were observed in order to gain a clear understanding of the property's overall condition. Other areas accessed included the site within the property boundaries, the exterior of the property, and the roofs.

Key Spaces Not Observed

All key areas of the property were accessible and observed.

4. ADA Accessibility

Generally, Title III of the Americans with Disabilities Act (ADA) prohibits discrimination by entities to access and use of “areas of public accommodations” and “commercial facilities” on the basis of disability. Regardless of its age, these areas and facilities must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Buildings completed and occupied after January 26, 1992 are required to comply fully with the ADAAG. Existing facilities constructed prior to this date are held to the lesser standard of compliance to the extent allowed by structural feasibility and the financial resources available. As an alternative, a reasonable accommodation pertaining to barrier removal must be made.

During the FCA, EMG performed a limited high-level accessibility review of the facility non-specific to any local regulations or codes. The scope of the visual observation was limited to those areas and categories set forth in the tables throughout this report. It is understood by the Client that the limited observations described herein do not comprise a full ADA Compliance Survey, and that such a survey is beyond the scope of EMG’s undertaking. Only a representative sample of areas was observed, and actual measurements were not taken to verify compliance.

The facility was originally constructed circa 1986. Complaints about accessibility issues have not been regularly received by the property management. The property does not have associated prior or pending litigation related to existing barriers or previously removed barriers.

City is planning to conduct an ADA assessment of all of its facilities in the next few years.

5. Purpose and Scope

Purpose

EMG was retained by the client to render an opinion as to the Property's current general physical condition on the day of the site visit.

Based on the observations, interviews and document review outlined below, this report identifies significant deferred maintenance issues, existing deficiencies, and material code violations of record, which affect the Property's use. Opinions are rendered as to its structural integrity, building system condition and the Property's overall condition. The report also notes building systems or components that have realized or exceeded their typical expected useful lives.

The physical condition of building systems and related components are typically defined as being in one of five condition ratings. For the purposes of this report, the following definitions are used:

Condition Ratings	
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. Component or system is sound and performing its function, typically within the first third of its lifecycle. 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 use but still satisfactory as-is, typically near the median of its estimated useful life. Component or system is performing adequately at this time but may exhibit some 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 remaining useful life.
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 needed or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
Failed	Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
Not Applicable	Assigning a condition does not apply or make logical sense, most commonly due to the item in question not being present.

Definition of Exceedingly Aged

A fairly common scenario encountered during the assessment process, and a frequent source of debate, occurs when classifying and describing “very old” systems or components that are still functioning adequately and do not appear nor were reported to be in any way deficient. To help provide some additional intelligence on these items, such components will be tagged in the database as *Exceedingly Aged*. This designation will be reserved for mechanical or electrical systems or components that have aged well beyond their industry standard lifecycles, typically at least 15 years beyond and/or twice their Estimated Useful Life (EUL). In tandem with this designation, these items will be assigned a Remaining Useful Life (RUL) not less than two years but not greater than 1/3 of their standard EUL. As such the recommended replacement time for these components will reside outside the typical *Immediate Repair* window but will not be pushed ‘irresponsibly’ (too far) into the future.

Scope

The standard scope of the Facility Condition Assessment includes the following:

- Visit the Property to evaluate the general condition of the building and site improvements, review available construction documents in order to familiarize ourselves with, and be able to comment on, the in-place construction systems, life safety, mechanical, electrical, and plumbing systems, and the general built environment.
- Identify those components that are exhibiting deferred maintenance issues and provide cost estimates for Immediate Costs and Replacement Reserves based on observed conditions, maintenance history and industry standard useful life estimates. This will include the review of documented capital improvements completed within the last five-year period and work currently contracted for, if applicable.
- Provide a full description of the Property with descriptions of in-place systems and commentary on observed conditions.
- Provide a high-level categorical general statement regarding the subject Property’s compliance to Title III of the Americans with Disabilities Act. This will not constitute a full ADA survey, but will help identify exposure to issues and the need for further review.
- Obtain background and historical information about the facility from a building engineer, property manager, maintenance staff, or other knowledgeable source. The preferred methodology is to have the client representative or building occupant complete a Pre-Survey Questionnaire (PSQ) in advance of the site visit. Common alternatives include a verbal interview just prior to or during the walk-through portion of the assessment.
- Review maintenance records and procedures with the in-place maintenance personnel.
- Observe a representative sample of the interior spaces/units, including vacant spaces/units, to gain a clear understanding of the property’s overall condition. Other areas to be observed include the exterior of the property, the roofs, interior common areas, and the significant mechanical, electrical and elevator equipment rooms.
- Provide recommendations for additional studies, if required, with related budgetary information.
- Provide an Executive Summary at the beginning of this report, which highlights key findings and includes a Facility Condition Index as a basis for comparing the relative conditions of the buildings within the portfolio.

6. Opinions of Probable Costs

Cost estimates are attached throughout this report, with the Replacement Reserves in the appendix.

These estimates are based on Invoice or Bid Document/s provided either by the Owner/facility and construction costs developed by construction resources such as *R.S. Means*, *CBRE Whitestone*, and *Marshall & Swift*, EMG's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing or bundling of the work (if applicable), quality of contractor, quality of project management exercised, market conditions, use of subcontractors, and whether competitive pricing is solicited, etc. Certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study should be included in the FCA.

Methodology

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, EMG opines as to when a system or component will most probably necessitate replacement. Accurate historical replacement records, if provided, are typically the best source of information. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc., are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its *effective age*, whether explicitly or implicitly stated. Projections of Remaining Useful Life (RUL) are based primarily on age and condition with the presumption of continued use and maintenance of the Property similar to the observed and reported past use and maintenance practices, in conjunction with the professional judgment of EMG's assessors. Significant changes in occupants and/or usage may affect the service life of some systems or components.

Where quantities could not be or were not derived from an actual construction document take-off or facility walk-through, and/or where systemic costs are more applicable or provide more intrinsic value, budgetary square foot and gross square foot costs are used. Estimated costs are based on professional judgment and the probable or actual extent of the observed defect, inclusive of the cost to design, procure, construct and manage the corrections.

Immediate Repairs

Immediate repairs are opinions of probable costs that require immediate action as a result of: (1) material existing or potential unsafe conditions, (2) failed or imminent failure of mission critical building systems or components, or (3) conditions that, if not addressed, have the potential to result in, or contribute to, critical element or system failure within one year or will most probably result in a significant escalation of its remedial cost.

Replacement Reserves

Cost line items traditionally called Replacement Reserves (equivalently referred to as Lifecycle/Renewals) are for recurring probable renewals or expenditures, which are not classified as operation or maintenance expenses. The replacement reserves should be budgeted for in advance on an annual basis. Replacement Reserves are reasonably predictable both in terms of frequency and cost. However, Replacement Reserves may also include components or systems that have an indeterminable life but, nonetheless, have a potential for failure within an estimated time period.

Replacement Reserves generally exclude systems or components that are estimated to expire after the reserve term and are not considered material to the structural and mechanical integrity of the subject property. Furthermore, systems and components that are not deemed to have a material effect on the use of the Property are also excluded. Costs that are caused by acts of God, accidents, or other occurrences that are typically covered by insurance, rather than reserved for, are also excluded.

Replacement costs are solicited from ownership/property management, EMG's discussions with service companies, manufacturers' representatives, and previous experience in preparing such schedules for other similar facilities. Costs for work performed by the ownership's or property management's maintenance staff are also considered.

EMG's reserve methodology involves identification and quantification of those systems or components requiring capital reserve funds within the assessment period. The assessment period is defined as the effective age plus the reserve term. Additional information concerning system's or component's respective replacement costs (in today's dollars), typical expected useful lives, and remaining useful lives were estimated so that a funding schedule could be prepared. The Replacement Reserves Schedule presupposes that all required remedial work has been performed or that monies for remediation have been budgeted for items defined in the Immediate Repair Cost Estimate.

7. Certification

The City of McMinnville (the Client) retained EMG to perform this Facility Condition Assessment in connection with its continued operation of the Aquatic Center, 138 Northwest Park Drive, McMinnville, Oregon 97128 herein referenced as the "Property". It is our understanding that the primary interest of the Client is to locate and evaluate materials and building system defects that might significantly affect the value of the property and to determine if the present Property has conditions that will have a significant impact on its continued operations.

The conclusions and recommendations presented in this report are based on the brief review of the plans and records made available to our Project Manager during the site visit, interviews of available property management personnel and maintenance contractors familiar with the Property, appropriate inquiry of municipal authorities, our Project Manager's walk-through observations during the site visit, and our experience with similar properties.

No testing, exploratory probing, dismantling or operating of equipment or in-depth studies were performed unless specifically required under the *Purpose and Scope* section of this report. This assessment did not include engineering calculations to determine the adequacy of the Property's original design or existing systems. Although walk-through observations were performed, not all areas may have been observed (see Section 1 for specific details). There may be defects in the Property, which were in areas not observed or readily accessible, may not have been visible, or were not disclosed by management personnel when questioned. The report describes property conditions at the time that the observations and research were conducted.

This report has been prepared on behalf of and exclusively for the use of the Client for the purpose stated within the *Purpose and Scope* section of this report. The report, or any excerpt thereof, shall not be used by any party other than the Client or for any other purpose than that specifically stated in our agreement or within the *Purpose and Scope* section of this report without the express written consent of EMG.

Any reuse or distribution of this report without such consent shall be at the Client and the recipient's sole risk, without liability to EMG.

Prepared by: James A. Cave,
Project Manager

Reviewed by:



Al Diefert
Technical Report Reviewer for
Matthew F. Anderson
Program Manager
manderson@emgcorp.com
800.733.0660 x7613

8. Appendices

- Appendix A: Photographic Record
- Appendix B: Site Plan
- Appendix C: Accessibility Review
- Appendix D: Pre-Survey Questionnaire
- Appendix E: Replacement Reserves
- Appendix F: Equipment Inventory List

Appendix A: Photographic Record



#1	FRONT ELEVATION, PARTIAL
----	--------------------------



#2	FRONT ELEVATION, PARTIAL
----	--------------------------



#3	RIGHT ELEVATION
----	-----------------



#4	LEFT ELEVATION, PARTIAL
----	-------------------------



#5	REAR ELEVATION
----	----------------



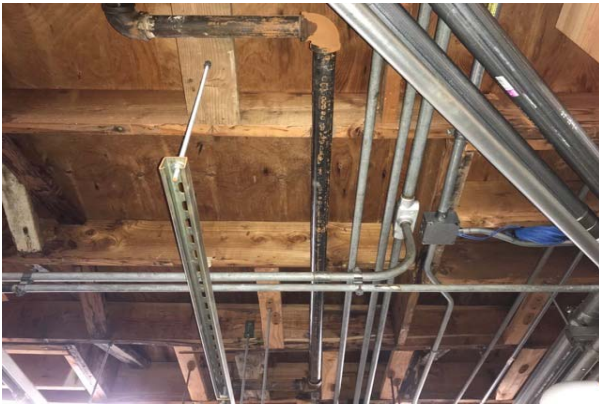
#6	LEFT ELEVATION
----	----------------



#7	EXTERIOR SOFFIT
----	-----------------



#8	ROOF STRUCTURE
----	----------------



#9	STRUCTURE IN ORIGINAL PORTION OF STRUCTURE
----	--



#10	EXTERIOR FACADE
-----	-----------------



#11	EXTERIOR FACADE
-----	-----------------



#12	EXTERIOR FACADE
-----	-----------------



#13	DAMAGED METAL WALL PANELS
-----	---------------------------



#14	DAMAGED STUCCO WALL ASSEMBLY AND TRIM
-----	---------------------------------------



#15	EXTERIOR DOOR, STEEL, REPLACE
-----	-------------------------------



#16	EXTERIOR STOREFRONT
-----	---------------------



#17	ROOF 2
-----	--------



#18	METAL ROOF AND WALL PANELS
-----	----------------------------



#19	EXTERIOR STOREFRONT
-----	---------------------



#20	DAMAGED WINDOW FRAME
-----	----------------------



#21	TPO ROOFING MEMBRANE
-----	----------------------



#22	MODIFIED BITUMEN ROOFING
-----	--------------------------



#23	SKYLIGHTS
-----	-----------



#24	FAILED SKYLIGHTS
-----	------------------



#25	LOBBY
-----	-------



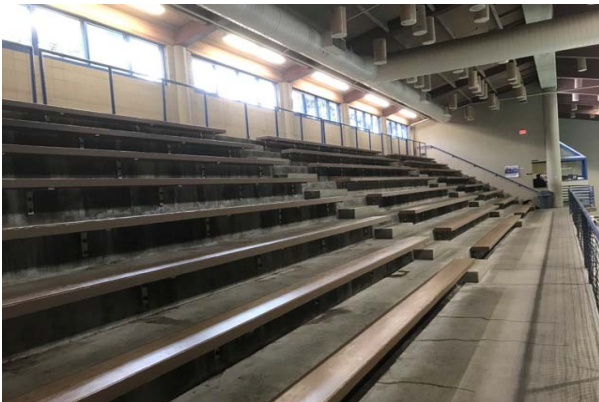
#26	OFFICE
-----	--------



#27	NATATORIUM
-----	------------



#28	NATATORIUM
-----	------------



#29	BLEACHERS
-----	-----------



#30	STAIR TO BLEACHERS
-----	--------------------



#31	WEIGHT ROOM
-----	-------------



#32	STAFF CLASSROOM
-----	-----------------



#33	LOCKER ROOM
-----	-------------



#34	LOCKER ROOM
-----	-------------



#35	SHOWER
-----	--------



#36	DAMAGED INTERIOR WINDOWS
-----	--------------------------



#37	INTERIOR DOORS
-----	----------------



#38	INTERIOR DOOR, CORRODED
-----	-------------------------



#39	LAVATORIES
-----	------------



#40	URINALS
-----	---------



#41	BOILER
-----	--------



#42	WATER STORAGE TANK
-----	--------------------



#43	HEAT EXCHANGER
-----	----------------



#44	CHILLER
-----	---------



#45	CIRCULATION PUMPS
-----	-------------------



#46	AIR HANDLER
-----	-------------



#47	FURNACE, ELECTRIC
-----	-------------------



#48	CONDENSER/HEAT PUMP
-----	---------------------



#49	ELECTRICAL DISTRIBUTION
-----	-------------------------



#50	FIRE ALARM PANEL
-----	------------------



#51	SAND FILTER
-----	-------------



#52	POOL PUMP
-----	-----------



#53	POOL PUMP, SPA
-----	----------------



#54	POOL STORAGE ROOM
-----	-------------------



#55	SPA POOL
-----	----------



#56	COMPETITION POOL
-----	------------------



#57	RECREATIONAL POOL
-----	-------------------



#58	POOL COPING
-----	-------------



#59	POOL GUTTER SYSTEM
-----	--------------------



#60	ASPHALT PAVEMENT
-----	------------------

Appendix B: Site Plan

SITE PLAN

AQUATIC CENTER

EMG PROJECT NO: 132218.18R000-010.354



SOURCE:
Google Earth



ON-SITE DATE:
November 5 & 7, 2018

Appendix C: Accessibility Review

Accessibility Issues

	Major Issues <i>(ADA study recommended)</i>	Moderate Issues <i>(ADA study recommended)</i>	Minor/No Issues
Parking	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Exterior Accessible Route	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Interior Accessible Route	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Use Restrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Possible other categories: <i>swimming pools</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

..

Appendix D: Pre-Survey Questionnaire

FACILITY CONDITION ASSESSMENT: PRE-SURVEY QUESTIONNAIRE

This questionnaire must be completed by the property owner, the owner's designated representative, or someone knowledgeable about the subject property. **The completed form must be presented to EMG's Field Observer on the day of the site visit.** If the form is not completed, EMG's Project Manager will require **additional time** during the on-site visit with such a knowledgeable person in order to complete the questionnaire. During the site visit, EMG's Field Observer may ask for details associated with selected questions. This questionnaire will be utilized as an exhibit in EMG's final Property Condition Report.

Name of person completing form: Rob Porter

Title / Association with property: City of McMinnville Recreation Manager-Aquatics

Length of time associated w/ property: 19 years

Date Completed: 9/21/18

Phone Number: 503-435-5791

Building / Station Name: McMinnville Aquatic Center

Directions: Please answer all questions to the best of your knowledge and in good faith. Please provide additional details in the Comments column, or backup documentation for any **Yes** responses.

DATA OVERVIEW		RESPONSE
1	Year constructed	Opened in 1986
2	Building size in SF	Approximately 25,000 SF
3	Acreage	Approximately .57 acres
4	Number of parking spaces	23 dedicated (including 5 disabled spaces). Auxiliary parking available at the Chamber of Commerce and Library (not sure how many spaces available).
5	Age of roof (known or estimated); active warranty w/ expiration date?	Original Natatorium roof was replaced in 1991. A switch from metal roof to shingle was completed in 2006. 2/3rds of the original flat roof (over mechanical spaces) was covered with Duro-Last in 2016 and is still under warranty.
QUESTION		RESPONSE
6	List all major renovations or rehabilitations since construction (with estimated dates).	<ol style="list-style-type: none"> 1. 2/3rds of the original flat roof (over mechanical spaces) was covered with Duro-Last: 2016. 2. Energy efficiency improvements: completed 12/16/2009 3. A switch from metal natatorium roof to shingle: 11/06 4. ERSEF-1 & 2 replaced: 1999 (two primary facility air handlers) 5. Building envelop and HVAC: 1991
7	List other somewhat lesser but still significant capital improvements, focused within recent years (provide approximate year completed).	<ol style="list-style-type: none"> 1. Main entryway doors and windows replaced: 4/2015 2. Paint both pools: 9/2008, 2014
8	List any major capital expenditures planned/requested for the next few years. Have they been budgeted?	A "Building Envelope Condition Assessment" was conducted by Forensic Building Consultants in 2017. The study concluded that the main natatorium roof is failing. Replacement estimates are between \$250,000 to \$500,000 depending on condition of lower decking and potential relocation of natatorium lighting wiring/conduit. This repair has not been budgeted.
9	Describe any extremely problematic, historically chronic, or immediate facility needs.	Main natatorium roof and general building envelop showing signs of failure.
10	Describe any shared building or site elements or unique arrangements with neighboring properties.	We are located in Upper City Park next to the City of McMinnville Library. Some of our underground communication lines run from the library to our site.

QUESTION		RESPONSE
11	Does the building have an indoor exhaust removal system.	Yes, EF-2 & EF 3

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any **Yes** responses. (**NA** indicates "Not Applicable", **Unk** indicates "Unknown")

QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
11	Are there any unusable or "down" areas, units, or spaces within the building?		X			
12	Is the station served by a private water well, septic system or other special waste treatment system?		X			
13	Are there any problems with the utilities, such as inadequate pressure or capacities?	X				We occasionally experience power spikes that trip several VFD's that control heating and circulation pump operation.
14	Have there been any leaks or pressure problems with natural gas service?				X	We do not have natural gas service.
15	Are there any problems with erosion or areas with storm water drainage issues?		X			
16	Are there any problems with the landscape irrigation systems?		X			
17	Are there any problems or inadequacies with exterior lighting?		X			We are slowly transitioning to exterior LED lighting.
18	Are there any problems with foundations or structures, like excessive settlement?	X				Segments of exterior metal siding and stucco are demonstrating signs of progressive failure.
19	Are there any known issues with termites or other wood-boring pests?		X			
20	Are there any wall, window, basement or roof leaks?	X				Roof leaks
21	Are there any plumbing leaks or water pressure problems?	X	X			We experience pump, pipe, bathroom fixture leaks on a somewhat regular basis. Majority of leaks are normal wear and tear issues.
22	Are any areas of the building inadequately heated, cooled or ventilated?	X				Main lobby space should be secured from the general natatorium environment to reduce noise, provide increased staff comfort and decrease humidity damage to computer equipment. Ideally, the mechanical spaces would be air conditioned.
23	Are there any poorly insulated areas?			X		Potentially the main roof.
24	Do any of the HVAC systems use older R-11, 12, or 22 refrigerants?	X				R-22 standard on all 2009 installed hvac equipment utilizing refrigerants.

Mark the column corresponding to the appropriate response. Please provide additional details in the Comments column, or backup documentation for any Yes responses. (NA indicates "Not Applicable", Unk indicates "Unknown")						
QUESTION		RESPONSE				COMMENTS
		Yes	No	Unk	NA	
25	Has any part of the building ever contained visible suspect mold growth?	X				We are seeing dry rot on the east exterior portion of the building. One contractor suspects that there could be internal mold growth that cannot be directly observed without further excavation of the walls.
26	Have there been indoor air quality or mold related complaints from building occupants?		X			
27	Are there any known unresolved building, fire, or zoning code issues with the governing municipality?		X			
28	Is there any pending litigation concerning the property?		X			
29	Are there outstanding accessibility issues at the building?			X		An ADA evaluation of the facility would provide us with this information.
30	Are there any other unresolved construction defects or significant issues/hazards at the property that have not yet been identified?		X			

Rob Porter

9/21/18

Signature of person interviewed or completing form

Date

RED FLAG CHECKLIST & MATRIX

Mark the single column corresponding to the most appropriate situation. (PSQ only indicates POC acknowledged presence during interview but item was not observed on-site; OBS only indicates the item was observed but not identified as known to be present during interview process; PSQ & OBS indicates item was both verbally identified and physically observed; NOT EVID indicates the item was neither observed during limited visual assessment nor identified as present during discussions).						
RED FLAG ISSUE		OBSERVED?				GUIDANCE most prevalent time of potential use
		PSQ only	OBS only	PSQ & OBS	NOT EVID	
1	Fire Retardant Plywood (FRT)				?	1955 to 1998; as roof sheathing; view attics; sometimes stamped; moisture absorbance leads to premature failure
2	Engineered / Hardboard Wood Siding				?	any time; Masonite, T-111; water damage and premature failure
3	Exterior Insulation and Finish System (EIFS)				?	any time; water penetration and premature failure (looks like stucco but feels "lighter")
4	Galvanized Water Piping				X	prior to early 1980's; common in 1970's; pinhole leaks and interior mineral build-up
5	Polybutylene Water Piping				X	1977-1995; mostly relevant to housing; grey plastic commonly leaks at joint fittings
6	ABS Piping Recall				X	1984-1990; faulty resin by 5 manufactures; very difficult to discover & visually observe
7	Cadet/Encore Wall Heater Recall				X	1982-1999; mostly relevant to housing; collect & cross-check model numbers; potential fire hazards
8	PTAC Recall (Goodman/Amana)				X	1996-2003; mostly relevant to housing; faulty thermal override switch; collect & cross-check model numbers
9	Aluminum Wiring (Interior)				X	1964-1975; more concerns with interior and smaller gauge
10	Federal Pacific Stab-Lok Electrical Panels				X	prior to 1986; potential fire hazards
11	Fused Electrical Panels				X	prior to early 1960's; easily tampered with, as such potential fire hazard
12	Low Unit Amperage				X	any time; relevant to housing
13	Fire Sprinkler Head Recalls				X	1960-2001; more heavily 1990's; Central, Gem, Star, Globe, Omega can be suspect; collect & cross-check model numbers
14	Dishwasher Recalls				X	1983-1989: GE, Hotpoint 1997-2001: GE, Hotpoint, Maytag, Jenn-Air, Kenmore, Eterna collect & cross-check model numbers; potential fire hazards

REQUEST FOR DOCUMENTATION

On the day of the site visit, provide EMG's Field Observer the documents listed below. Signify which documents will be copied, available for review at the site, not available, or not applicable by placing a check mark in the appropriate columns. Also provide this completed checklist.

		Copies Provided	Reviewed at Site	Not Available	Not Applicable
1	Maintenance Contractor List. Provide the company name, phone number, and contact person of all maintenance contractors who serve the property, such as mechanical contractors, roof contractors, fire sprinkler and fire alarm testing contractors, and elevator contractors.	X			
2	Construction Documents (Blueprints). Provide all available construction documents for the original construction of the building or for any tenant improvement work or other recent construction work.	X			
3	Site plan. Provide a site plan, preferably 8 1/2" X 11", which depicts the arrangement of buildings, roads, parking stalls, and other site features.	X			
4	Certificates of Occupancy and original Building Permits.			?	
5	Tenant List. if there are any tenants, provide a tenant list, which identifies the names of each tenant, vacant tenant units, the floor area of each tenant space, and the gross and net leasable area of the building(s).				X
7	Occupancy Percentage. Provide the current occupancy percentage and typical turnover rate records (for commercial and apartment properties).				X
8	Inspection Documents and Certificates. Fire, building, and health department inspection reports and elevator inspection certificates.	X			
9	Warranties. Roof and HVAC warranties, or any other similar relevant documents.	X			
10	Utility Companies. The names of the local utility companies which serve the property, including the water, sewer, electric, gas, and phone companies.	X			
11	Capital Improvement Summary. A summary of recent (over the last 5 years) capital improvement work which describes the scope of the work and the cost of the improvements.	X			
12	Proposed Improvements. Pending contracts or proposals for future improvements.	X			
13	Historical Costs. Costs for repairs, improvements, and replacements.	X			
14	Records. Records of system & material ages (roof, MEP, paving, finishes, furnishings).	X			
15	Brochures or Marketing Information.	X			
16	Appraisal, either current or previously prepared.			?	
17	Previous reports pertaining to the physical condition of property.	X			
18	ADA survey and status of improvements implemented.			X	
19	Litigation. Current / pending litigation related to property condition.				X
20	Geotechnical Reports, for the building site, if any.			X	X

Appendix E: Replacement Reserves

Uniformat Code	ID	Cost Description	Lifespan (EUL)	EAge	RUL	Quantity	Unit	Unit Cost	w/ Markup *	Subtotal	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	Deficiency Repair Estimate			
D2023	1082573	Water Filter, Sand Filter, Replace	15	3	12	1	EA	\$8,975.51	\$10,169.70	\$10,170												\$10,170										\$10,170			
D3021	1082567	Boiler, Gas, Replace	25	7	18	1	EA	\$14,377.52	\$16,290.45	\$16,290																			\$16,290			\$16,290			
D3022	1082545	Chemical Feed System, Commercial, Replace	25	9	16	2	EA	\$10,642.24	\$12,058.19	\$24,116																	\$24,116					\$24,116			
D3023	1082562	Heat Exchanger, Plate, Replace	35	31	4	1	EA	\$3,919.23	\$4,440.68	\$4,441					\$4,441																	\$4,441			
D3023	1082542	Heat Exchanger, Plate, Replace	35	31	4	1	EA	\$12,636.70	\$14,318.01	\$14,318					\$14,318																		\$14,318		
D3023	1082527	Heat Exchanger, Plate, Replace	35	31	4	1	EA	\$22,826.04	\$25,863.04	\$25,863					\$25,863																		\$25,863		
D3031	1082543	Chiller, Reciprocal Water-Cooled, Replace	25	12	13	1	EA	\$61,535.74	\$69,723.07	\$69,723													\$69,723										\$69,723		
D3031	1082539	Chiller, Air-Cooled, Replace	25	12	13	1	EA	\$39,546.02	\$44,807.62	\$44,808													\$44,808										\$44,808		
D3031	1082554	Chiller, Air-Cooled, Replace	25	12	13	1	EA	\$49,323.77	\$55,886.30	\$55,886													\$55,886										\$55,886		
D3032	1082541	Condensing Unit/Heat Pump, Split System, Replace	15	11	4	1	EA	\$3,578.67	\$4,054.81	\$4,055					\$4,055															\$4,055			\$8,110		
D3032	1082546	Condensing Unit/Heat Pump, Split System, Replace	15	10	5	1	EA	\$3,366.36	\$3,814.25	\$3,814						\$3,814																\$3,814	\$7,629		
D3032	1082555	Condensing Unit/Heat Pump, Split System, 2.5 Ton, Replace	15	9	6	1	EA	\$3,366.36	\$3,814.25	\$3,814						\$3,814																	\$3,814		
D3041	1082557	Air Handler, Interior, Replace	15	11	4	1	EA	\$19,738.18	\$22,364.34	\$22,364					\$22,364															\$22,364			\$44,729		
D3041	1082523	Air Handler, Interior, 801 to 1,300 CFM, Replace	20	13	7	1	EA	\$6,339.63	\$7,183.12	\$7,183							\$7,183																	\$7,183	
D3041	1082521	Air Handler, Exterior, Replace	30	19	11	1	EA	\$74,317.27	\$84,205.18	\$84,205													\$84,205											\$84,205	
D3041	1082575	Air Handler, Interior, Replace	30	19	11	1	EA	\$54,822.31	\$62,116.42	\$62,116													\$62,116											\$62,116	
D3042	1082551	Exhaust Fan, Outdoor, Replace	15	9	6	4	EA	\$2,664.18	\$3,018.65	\$12,075						\$12,075																		\$12,075	
D3042	1082597	Exhaust Fan, Interior, Replace	15	9	6	1	EA	\$4,322.55	\$4,897.67	\$4,898						\$4,898																		\$4,898	
D3051	1082588	Furnace, Electric, Replace	20	16	4	1	EA	\$3,274.56	\$3,710.24	\$3,710					\$3,710																			\$3,710	
D3052	1082526	Heat Pump, Packaged (RTU), Replace	15	9	6	1	EA	\$8,928.22	\$10,116.12	\$10,116						\$10,116																		\$10,116	
D3068	1082578	HVAC Controls, Building Automation System (BAS), Upgrade	20	9	11	25082	SF	\$5.36	\$6.07	\$152,327												\$152,327												\$152,327	
D5012	1082534	Variable Frequency Drive (VFD), Electric, Replace	20	16	4	2	EA	\$11,345.65	\$12,855.19	\$25,710					\$25,710																			\$25,710	
D5012	1082552	Building/Main Switchgear, 600 AMP, Replace	30	21	9	1	EA	\$162,416.98	\$184,026.56	\$184,027										\$184,027														\$184,027	
D5012	1082530	Variable Frequency Drive (VFD), Electric, Replace/Install	20	9	11	2	EA	\$5,638.29	\$6,388.46	\$12,777												\$12,777												\$12,777	
D5012	1082582	Variable Frequency Drive (VFD), 5 HP, Replace	20	9	11	2	EA	\$4,748.96	\$5,380.81	\$10,762												\$10,762												\$10,762	
D5022	1093096	Flood Light, Exterior, Replace	20	17	3	15	EA	\$995.47	\$1,127.92	\$16,919				\$16,919																				\$16,919	
D5029	1082517	Lighting System, Interior, Older, Upgrade	25	21	4	13000	SF	\$4.73	\$5.36	\$69,671					\$69,671																			\$69,671	
D5037	1082566	Fire Alarm Control Panel, Multiplex, Replace	15	15	0	1	EA	\$4,284.35	\$4,854.38	\$4,854	\$4,854														\$4,854									\$4,854	
F1041	1082591	Swimming Pool Gutter System, Commercial, Replace	30	29	1	200	LF	\$85.71	\$97.11	\$19,422		\$19,422																						\$19,422	
F1041	1082553	Swimming Pool Heater, Electric, Replace	15	11	4	1	EA	\$2,150.00	\$2,436.06	\$2,436					\$2,436															\$2,436				\$4,872	
F1041	1082589	Swimming Pool Diving Board, Commercial, Replace	20	13	7	1	EA	\$9,527.00	\$10,794.57	\$10,795							\$10,795																		\$10,795
F1041	1082564	Swimming Pool Lift Transfer Device, ADA, Replace	15	8	7	2	EA	\$9,469.00	\$10,728.85	\$21,458							\$21,458																		\$21,458
F1041	1082531	Swimming Pool Ladder Rails, Stainless Steel, Replace	50	33	17	8	EA	\$895.36	\$1,014.49	\$8,116																		\$8,116						\$8,116	
Totals, Unescalated											\$478,246	\$296,005	\$266,555	\$72,702	\$391,341	\$3,814	\$96,931	\$79,006	\$0	\$234,519	\$0	\$475,432	\$249,040	\$170,417	\$0	\$4,854	\$118,714	\$72,192	\$18,678	\$82,250	\$256,295	\$3,366,993			
Totals, Escalated (3.0% inflation, compounded annually)											\$478,246	\$304,885	\$282,788	\$79,443	\$440,458	\$4,422	\$115,741	\$97,167	\$0	\$305,995	\$0	\$658,110	\$355,072	\$250,263	\$0	\$7,563	\$190,501	\$119,322	\$31,799	\$144,226	\$462,898	\$4,328,898			

* Markup/LocationFactor (1.054) has been included in unit costs. Markup includes a and 7.5% Design and Permitting factors applied to the location adjusted unit cost.

Appendix F: Equipment Inventory List

2/11/2019



ID	Location	Description	Manufacturer	Model	Details	Barcode	Asset Tag	Quantity	Unit	Year Installed/In Service	Replacement Year	Total Cost
1082569	Aquatic Center	D2012 - Urinal, Vitreous China, Replace; Lifespan:20						3	EA		2023	\$3,849
1082538	Aquatic Center	D2014 - Sink/Lavatory, Enameled Steel, Replace; Lifespan:20						6	EA		2023	\$3,973
1082590	Aquatic Center	D2021 - Backflow Preventer, 8 INCH, Replace; Lifespan:15						1	EA		2028	\$14,034
1082520	Aquatic Center	D2023 - Water Filter, Sand Filter, Replace; Lifespan:15	Paragon Aquatics	SC-72R	5035-2716-1			1	EA	2016	2031	\$9,649
1082522	Aquatic Center	D2023 - Pool Pump, 10 HP, Replace; Lifespan:20						2	EA		2021	\$26,668
1082533	Aquatic Center	D2023 - Domestic Circulator or Booster Pump, Commercial, Replace; Lifespan:20	Baldor					3	EA	2006	2026	\$37,543
1082550	Aquatic Center	D2023 - Water Storage Tank, Large, Replace; Lifespan:20	Not found	Not found	Not found			1	EA		2028	\$10,433
1082519	Aquatic Center	D2023 - Pool Circulation Pump, Commercial, Replace; Lifespan:20						2	EA		2028	\$8,637
1082576	Aquatic Center	D2023 - Water Filter, Sand, Replace; Lifespan:15	Stark	Not found	Not found			1	EA	2016	2031	\$9,649
1082549	Aquatic Center	D2023 - Water Filter, Sand, Replace; Lifespan:15	Triton Commercial					2	EA		2030	\$6,880
1082573	Aquatic Center	D2023 - Water Filter, Sand Filter, Replace; Lifespan:15	Paragon Aquatics	SC-72R	5035-2716-1			1	EA	2016	2031	\$9,649
1082556	Aquatic Center	D2023 - Spa Pump, Commercial, Replace; Lifespan:20						3	EA		2021	\$11,011
1082567	Aquatic Center	D3021 - Boiler, Gas, Replace; Lifespan:25	AO Smith	NW-96	128104-K09		B-1	1	EA	2012	2037	\$15,456
1082545	Aquatic Center	D3022 - Chemical Feed System, Commercial, Replace; Lifespan:25						2	EA		2035	\$22,881
1082562	Aquatic Center	D3023 - Heat Exchanger, Plate, Replace; Lifespan:35	Mueller	AT4-C30	G 17827-2			1	EA		2023	\$4,213
1082542	Aquatic Center	D3023 - Heat Exchanger, Plate, Replace; Lifespan:35	Mueller	AT4-C30	G 17827-1			1	EA	1985	2023	\$13,584
1082527	Aquatic Center	D3023 - Heat Exchanger, Plate, Replace; Lifespan:35	Mueller	AT405-C30	G17827-3			1	EA	1985	2023	\$24,538
1082543	Aquatic Center	D3031 - Chiller, Reciprocal Water-Cooled, Replace; Lifespan:25	Multi Stack	MS5OZ6H1WO-R22	J1-07-1R3			1	EA	2007	2032	\$66,151
1082539	Aquatic Center	D3031 - Chiller, Air-Cooled, Replace; Lifespan:25	Airstack	ASP20A-H	J1-07-01			1	EA	2007	2032	\$42,512
1082554	Aquatic Center	D3031 - Chiller, Air-Cooled, Replace; Lifespan:25	Airstack	ASP20A-H	J1-07-02		Module 3	1	EA	2007	2032	\$53,023
1082541	Aquatic Center	D3032 - Condensing Unit/Heat Pump, Split System, Replace; Lifespan:15	Carrier	38YRA018320	4201E00243			1	EA		2023	\$3,847
1082546	Aquatic Center	D3032 - Condensing Unit/Heat Pump, Split System, Replace; Lifespan:15	Trane	2TWA3036A300PAA	92611L64F			1	EA	2009	2024	\$3,619
1082555	Aquatic Center	D3032 - Condensing Unit/Heat Pump, Split System, 2.5 Ton, Replace; Lifespan:15	Trane	2TWA3036A300PAA	9294NKF2F			1	EA	2010	2025	\$3,619
1082521	Aquatic Center	D3041 - Air Handler, Exterior, Replace; Lifespan:30	Team	Not found	Not found			1	EA	2000	2030	\$79,891
1082523	Aquatic Center	D3041 - Air Handler, Interior, 801 to 1,300 CFM, Replace; Lifespan:20	First Co.	MCB2303M10	986FF33M3M		SF-4	1	EA	2006	2026	\$6,815
1082557	Aquatic Center	D3041 - Air Handler, Interior, Replace; Lifespan:15	Energy Labs Inc.	C4466-FCH-R	9912-1610-2		ERS-2	1	EA		2023	\$21,219
1082575	Aquatic Center	D3041 - Air Handler, Interior, Replace; Lifespan:30	Energy Labs Inc	C68116-FCH-R	9912-1610-1		ERS-1	1	EA	2000	2030	\$58,934
1082551	Aquatic Center	D3042 - Exhaust Fan, Outdoor, Replace; Lifespan:15						4	EA		2025	\$11,456
1082597	Aquatic Center	D3042 - Exhaust Fan, Interior, Replace; Lifespan:15	First Co.	Inaccessible	Inaccessible		EF-5	1	EA	2010	2025	\$4,647
1082588	Aquatic Center	D3051 - Furnace, Electric, Replace; Lifespan:20	Carrier	F84ANF024	0502A7284			1	EA	2002	2023	\$3,520
1082526	Aquatic Center	D3052 - Heat Pump, Packaged (RTU), Replace; Lifespan:15	Trane	GEHB12031D0F00LRD01	W09G0T918			1	EA	2010	2025	\$9,598
1082578	Aquatic Center	D3068 - HVAC Controls, Building Automation System (BAS), Upgrade; Lifespan:20						25082	SF		2030	\$144,522
1082530	Aquatic Center	D5012 - Variable Frequency Drive (VFD), Electric, Replace/Install; Lifespan:20					Boiler Pump 1 & 2	2	EA		2030	\$12,122
1082582	Aquatic Center	D5012 - Variable Frequency Drive (VFD), 5 HP, Replace; Lifespan:20						2	EA	2010	2030	\$10,210
1082534	Aquatic Center	D5012 - Variable Frequency Drive (VFD), Electric, Replace; Lifespan:20						2	EA	2000	2023	\$24,393
1082563	Aquatic Center	D5012 - Distribution Panel, 800 AMP, Replace; Lifespan:30	Square D	HCP32688	No tag/plate found			1	EA		2048	\$12,926
1082552	Aquatic Center	D5012 - Building/Main Switchgear, 600 AMP, Replace; Lifespan:30						1	EA	1985	2028	\$174,598
1093096	Aquatic Center	D5022 - Flood Light, Exterior, Replace; Lifespan:20						15	EA		2022	\$16,052
1082560	Aquatic Center	D5029 - Lighting System, Interior, Newer, Upgrade; Lifespan:25						13000	SF	2017	2041	\$66,102
1082517	Aquatic Center	D5029 - Lighting System, Interior, Older, Upgrade; Lifespan:25						13000	SF		2023	\$66,102
1082566	Aquatic Center	D5037 - Fire Alarm Control Panel, Multiplex, Replace; Lifespan:15						1	EA		2019	\$4,606
1082564	Aquatic Center	F1041 - Swimming Pool Lift Transfer Device, ADA, Replace; Lifespan:15						2	EA		2026	\$20,358
1082553	Aquatic Center	F1041 - Swimming Pool Heater, Electric, Replace; Lifespan:15	Coates	32045PHS	P01C055			1	EA		2023	\$2,311
Total												\$1,155,800