City of Corvallis
Corvallis School District

Osborn Aquatic Center Facilities Assessment

Scott Edwards Architecture

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Table of Contents

Introduction

How to Use This Document

This report provides information regarding the existing facility conditions, an assessment of those conditions and proposed recommendations for renovation or replacement. Recommendations address code compliance and deferred maintenance, repair of conditions created by the adjacent pool roof and structural issues along with improvements that enhance the facility for staff and visitors.

An Executive Summary with a Summary of Repairs Needed by Priority with associated cost estimates has been provided. The rest of the report provides further detailed evaluations, code compliance summaries, assessments and recommendations by each of the contributing consultants in individual sections by discipline.

- Building Code & Architecture
- Aquatics
- Structure
- Building Enclosure
- Mechanical, Plumbing, Fire, Electrical and Technology
- Civil & Landscape

Executive Summary

The Osborn Aquatic Center, constructed in 1977 and expanded in 1999, is a longstanding community and regional asset. It is one of a few publicly operated indoor 50-meter pools with adequate deck space and spectator seating for swim competitions in the Pacific Northwest. In addition, it has a warm-water therapy pool, second-level enclosed spectator seating, locker rooms, classrooms, support spaces, an outdoor lap pool, an outdoor recreation pool, and water slides.

The Corvallis School District owns the aquatic center. After renovation and expansion in 1999, the District entered into an agreement with the City of Corvallis to operate and maintain the pool.

The City of Corvallis had facility assessments completed in 2018 and 2022, identifying aging systems, energy inefficiencies, and outdated configurations. These reports recommended major system replacements and a facility expansion to improve efficiency. The City has managed a prioritized capital improvement list and implemented repairs and upgrades within available resources.

The urgency for a new assessment arose in the fall of 2024, when routine maintenance revealed significant corrosion and rust in a section of the roof structure. This discovery led to the immediate closure of the indoor pools. While repair options are being developed, it is clear that they will be costly and time-consuming.

In response, the Corvallis School District hired Scott Edwards Architecture and a team of specialized consultants in the spring of 2025 to perform a comprehensive facility condition assessment. The project aims to evaluate all building systems and develop a plan for necessary repairs, upgrades, and long-term maintenance.

Scott Edwards Architecture and a team of specialized consultants were commissioned to conduct a detailed analysis. The team includes experts in:

- **Structural:** WDY, Inc.
- **Mechanical/Electrical/Plumbing:** Interface Engineering
- **Aquatics:** Counsilman-Hunsaker
- **Building Envelope:** RDH Building Science Inc.
- **Civil & Landscape:** Harper Houf Peterson Righellis Inc.

This assessment covers the entire Osborn Aquatic Center, including the main building, outdoor pool building, all pools, and the surrounding grounds. It evaluates the facility's current condition and outlines both short-term and long-term renovation goals. These recommendations address a range of needs, from code-required fixes to improvements that will enhance the facility's overall usability and operations.

Summary of Repairs Needed

Priority 1: Immediate Requirements (Before Reopening)

Total Estimated Cost: $5,898,164

- **Structural:** Includes removing rust, repainting steel, replacing failed structural components, adding bracing to unbraced tanks and piping, and repairing masonry and concrete.
- **Building Enclosure:** Involves replacing the natatorium roof, repairing damaged brick, sealing windows and doors, and installing thermal isolation pads.
- **Aquatics:** Covers repairs to meet industry standards, reconfiguring ADA accessible lifts, replacing 50-meter pool finishes (impacted by scaffolding), plaster, underwater lights, replacing the 50-meter pool bulkhead, and replacing end-of-life mechanical components.
- **Mechanical, Plumbing, Fire, Electrical & Technology (MEP/F/T):** Includes inspecting boiler systems, replacing air handlers and dehumidification units, replacing pool ductwork impacted by scaffolding, replacing warped pool trench grates, and replacing non-functioning breakers, light fixtures, and obsolete fire alarm systems.

Priority 2: Short-Term Recommendations (Within 10 Years)

Total Estimated Cost: $3,192,014

- **Architecture:** Involves improving restrooms, replacing grab bars, adjusting shower controls, and replacing finishes and the scoreboard.
- **Building Enclosure:** Includes replacing all windows and brickwork.
- **Aquatics:** This involves replacing the recirculation and water treatment equipment for indoor pools, spray features, and waterslides, as well as the timing system.
- **MEP/F/T:** Includes adding physical separation between locker rooms and the natatorium, replacing plumbing fixtures and piping, replacing fire protection systems and electrical equipment, and upgrading telecommunications and security systems.
- **Civil & Landscape:** Includes repainting parking lines, replacing signs, and filling gaps in access routes.

Priority 3: Long-Term Recommendations (10-20 Years)

Total Estimated Cost: $10,650,068

- **Architecture:** Involves installing an elevator to the second level, replacing lockers, and reconfiguring locker rooms and staff areas.Aquatics: Includes replacing the concrete shells and piping of both indoor pools and assessing the outdoor pools.
- **Structural:** Involves monitoring steel for deterioration, reinforcing concrete walls, and retrofitting steel-braced frames.
- **Building Enclosure:** Includes replacing all roofs every 25 to 30 years.
- **MEP/F/T:** Involves combining boiler systems, replacing pool deck drain assemblies, replacing the wet-pipe sprinkler system, and upgrading lighting and electrical systems.
- **Civil & Landscape:** Involves replacing asphalt parking, sidewalks, and ramps to meet current ADA standards.

Priority 4: Long-Term Recommendations (Beyond 20 Years)

Total Estimated Cost: $4,380,348

- **Architecture:** Includes adding program expansion areas, such as a dry-land fitness area and an outdoor spa.
- **Aquatics:** Includes replacing the pool liners of both outdoor pools and re-assessing all pool structures and equipment.
- **MEP/F/T:** Involves replacing security and audio-visual systems and the fire alarm system.
- **Civil & Landscape:** Includes widening the accessible route around a storm sewer manhole.

Building Code & Architecture - Scott Edwards Architecture

Assessment Overview

While the Osborn Aquatic Center has been well maintained even at its age, previous assessments of the building have already determined the following areas are in need of improvement:

- Restrooms, family changing rooms, staff work areas, and seating areas do not meet the most recent ADA standards
- Flooring and walls at locations with major water use are worn or damaged
- Water damage and corrosion visible at the interior and exterior of the building

Following the in-person building assessment and discussions with staff, Scott Edwards Architecture recommends the following building upgrades organized in priority levels including immediate, short term, and long term.

Immediate Requirements (Before Reopening)
At the time at which Osborn Aquatic Center proceeds with the required renovations to support the roof from structural failure, any alterations to the area of primary function in the building would trigger updated code compliance requirements. Since this building was designed and permitted to meet the building code and accessibility requirements in place at the time, the existing facility is not required to be brought into compliance with current codes unless spaces are specifically altered as part of the roof repair scope of work.

Short Term Recommendations (Within 5-10 Years)
In the short term, the building should be altered to meet current building code and accessibility guidelines. In an analysis of Osborn Aquatics Center's ability to meet the Oregon State Specialty Code 2022 as is, the current facility fell short of meeting Chapter 11 Accessibility and Chapter 29 Plumbing Systems. Scott Edwards Architecture would also recommend updating specific spaces in which the finish quality of walls or floors is significantly damaged, and will become more degraded if not addressed within a short term period.

- Natatorium: When the pool mechanical system is upgraded, it is recommended the doors be placed at the entry/exit to the locker rooms from the pool deck at the same time (see Mechanical section).
- Restrooms, Locker Rooms, Changing Rooms: Replace existing grab bars at accessible toilets with updated set of grab bars, including 18" vertical grab bars. Transfer-style showers need to provide a full, clear 36" entry, and controls need to be on the opposite wall from the seat. Operable parts of swim suit spinners needs to be lowered to maximum 46" from the floor. All under-sink piping must be covered with temperature controlled slip-covers.
- Family Changing Rooms: Remaining tiled floors in showers have significant water damage, and should be replaced to avoid additional corrosion.
- Mezzanine Viewing Area: If an accessible (elevator added) route is provided for access to the second floor, the swim meet viewing area will be required to have wheel chair spaces added.

Long Term Recommendations (10-20 Years and Beyond 20 Years)
Recommendations addressing operational improvements and functional and functional inefficiencies of the building for the long term have been provided in the room by room assessments included in this section.

Building Code Analysis

Scott Edwards Architecture

Osborn Aquatic Center
1940 NW Highland Dr,
Corvallis, OR 97330

2022 OREGON STRUCTURAL SPECIALTY CODE	
Occupancy:	A-3 (permitted under 1998 OSSC as A2.1)
Construction Type:	II-A (permitted under 1998 OSSC as II-one hour)
Date of Original Construction:	1977, 1999 Addition & Remodel
Existing Construction:	Structural steel, reinforced CMU
Existing Building Area	
Main Building:	39,064 GSF
Outdoor Pool Building:	2,600 GSF
Outdoor Pool, Deck, and Seating:	31,530 GSF
Existing Building Height:	40'-0"
Existing Building Stories	1 story, plus mezzanine
Existing Sprinkler Status:	All buildings are sprinklered
Expected Program Occupant Load	
Main Building:	1,381 occupants
Outdoor Pool Building:	8 occupants
Outdoor Pool, Deck, and Seating:	2,163 occupants

CHAPTER 5
504.3 Allowable Building Height: 85'

504.4 Allowable Number of Stories Above Grade Plane: 4

506.2 Allowable Area: 46,500 SF (category SM – two stories above grade plane sprinklered)

508.2 Accessory Occupancies: The B occupancy spaces might qualify as an accessory occupancy, depending on the final square footage. The allowable height will be calculated for the main occupancy. Accessory occupancies may not occupy more than 10% of the floor area.

508.3 Non-separated Occupancies: Non-separated occupancies shall be individually classified. Allowable building height, number of stories and allowable building area will be based on the most restrictive occupancy (A-3).

509.1 Incidental Uses: Certain mechanical/equipment rooms, electrical rooms and laundry rooms will be considered incidental uses. 6" CMU walls separate the natatorium from the pool mechanical rooms. The 1999 addition walls at the storage room used for laundry and at the spa mechanical room are full height, one-hour rated.

CHAPTER 6

601 Fire-resistance Ratings for Building Elements: Exterior and interior bearing walls in Type II-A construction must have a one hour rating.

603.1 Allowable Materials: Should interior finishes be replaced or renovated, flooring materiel should be in accordance with Section 804 and wall & ceiling finishes should be in accordance with Section 803.

CHAPTER 7

705.5 Fire-resistance Ratings for Exterior Walls: Exterior walls with a fire separation distance of less than 30' are required to have 1-hour fire-resistance in Type II-A construction.

CHAPTER 10

1002.1 Alterations to Existing Means of Egress: Alterations to the existing building may not reduce the number of exits or the required capacity of the means of egress.

1006.2 Egress from spaces: The natatorium has under 1,000 occupants, so 3 exits are sufficient.

1006.3 Egress from stories: The existing overall occupant load on the ground floor is over 1,000, and currently exceeds the 4 minimum exits required. The existing overall occupant load on the mezzanine viewing are is under 500, and currently has the minimum 2 exits required. If alterations are made that remove an exit, a replacement exit will be required to maintain the total.

1017.2 Exit Access Travel Distance Limitation: The exit access travel distance may not exceed 250'.

1028.5 Access to a Public Way: The exit discharge must provide direct and unobstructed access to a public way. Panic hardware should be applied at any egress doors, including outdoor gates.

CHAPTER 11

1103.2.2 Employee Work Areas: If the administrative and office of the building are to be renovated, spaces and elements within employee work areas shall be designed and constructed so that individuals with disabilities can approach, enter or exit the work area.

1104.1 Site Arrival Points: At least one accessible route shall be provided within the site from accessible parking spaces and accessible passenger drop-off and loading zones; public streets and sidewalks; and public transportation stops to the accessible building or facility entrance they serve. Where more than one route is provided, all routes must be accessible.

1104.3.1 Employee Work Areas: Common use circulation paths within employee work areas shall be accessible routes.

1104.4 Multistory buildings and facilities: At least one accessible route shall connect each story and mezzanine in multistory buildings and facilities. The main viewing are for the natatorium currently has no accessible route of access or egress. If any employee work areas are located on the second story, an accessible route must be provided to those areas.

1104.6 Location: Accessible routes shall coincide with or be located in the same area as general circulation paths.

1105.1.1 Automatic Doors: Assembly buildings with occupant loads greater than 300, at least one door at a public entrance must be power operated or low-energy power operated. Where the public entrance includes a vestibule, at least one door into and one door out of the vestibule shall meet the requirements of this section. The inclusion of an enclosed vestibule in the project scope would be affected by this.

1109.2.2 Wheelchair Spaces: In rooms and spaces used for assembly purposes with fixed seating, accessible wheelchair spaces shall be provided. The fixed benches in the existing mezzanine viewing area must provide a minimum 6 wheelchair spaces as it currently has an occupancy of just over 300. At least one companion seat shall be provided for each wheelchair space.

1110.2 Toilet and Bathing Facilities: Where multiple single-user toilet or bathing rooms are clustered at a single location, at least 50% but not less than one room for each use at each cluster shall be accessible. This may effect the family changing rooms.

1112.2 Signs Identifying Toilet or Bathing Rooms: Signs shall be visual characters, raised characters, and braille complying with ICC A117.1. While the restrooms accessed from the Lobby space do have braille, icons, and raised lettering, other rooms that provide bathing (showering) facilities should have compliant braille as well.

CHAPTER 29

2902.1 Minimum Number of Required Plumbing Fixtures

CHAPTER 29: PLUMBING FIXTURES

PLUMBING FIXTURE SUMMARY

USE CLASSIFICATION (OSSC)	OCCUPANTS			WATER CLOSETS		LAVATORIES		DRINKING FOUNTAINS	SERVICE SINKS	SHOWERS
ASSEMBLY	TOTAL	MALE	FEMALE	MALE 1 PER 75	FEMALE 1 PER 40	MALE 1 PER 200	FEMALE 1 PER 150			
	1,364	682	682	9.09	17.05	3.41	4.55	1/FLOOR		
ASSEMBLY (OUTDOOR POOLS)	TOTAL	MALE	FEMALE	MALE 1 PER 75	FEMALE 1 PER 40	MALE 1 PER 200	FEMALE 1 PER 150			
	1,573	786.5	786.5	10.49	19.66	3.93	5.24	1/FLOOR		
BUSINESS	TOTAL	MALE	FEMALE	MALE 1 PER 25	FEMALE 1 PER 25	MALE 1 PER 40	FEMALE 1 PER 40			
	12	6	6	0.24	0.24	0.15	0.15			
STORAGE	TOTAL	MALE	FEMALE	MALE 1 PER 100	FEMALE 1 PER 100	MALE 1 PER 100	FEMALE 1 PER 100			
	8	4	4	0.04	0.04	0.04	0.04			
REQUIRED (WITHIN BUILDING ONLY)				10	18	4	5	1/FLOOR	0	0
EXISTING (WITHIN BUILDING ONLY)				11	15	7	8	4	1	32
REQUIRED (INCLUDING OUTDOOR ASSEMBLY)				20	37	8	10	1/FLOOR	0	0
EXISTING (INCLUDING OUTDOOR POOL BLDG)				14	19	9	13	6	1	35

OREGON HEALTH AUTHORITY

PLUMBING FIXTURE SUMMARY

	OCCUPANTS			WATER CLOSETS		LAVATORIES		DRINKING FOUNTAINS	SERVICE SINKS	SHOWERS
OCCUPANCY (OHA)	TOTAL	MALE	FEMALE	MALE 1 PER 60	FEMALE 1 PER 40	MALE 1 PER 60	FEMALE 1 PER 60			1 PER 40
POOL USERS	1,036	518	518	8.63	12.95	8.63	8.63			
REQUIRED				9	13	9	9	2	0	27
PROVIDED*				11	14	7	8	6	1	35

OREGON HEALTH AUTHORITY (OHA), CHAPTER 333-060-0170: BATH HOUSES AND SANITARY FACILITIES

333-060-0055: SURFACE AREA / (FACTOR) = POOL USERS
INDOOR POOL USERS: 10,190 SF/ 24 = 425 POOL USERS
OUTDOOR POOL USERS: (1,080 SF/27) + (8,570 SF/15) = 611

333-060-0170 (4) (a): URINALS ARE AN ACCEPTABLE SUBSTITUTE FOR NO MORE THAN ONE-HALF OF THE TOILETS.

*OHA 'PROVIDED' PLUMBING COUNTS INCLUDE MENS AND WOMENS LOCKER ROOMS, FAMILY CHANGING ROOMS, AND POOL BUILDING RESTROOMS.
PER OAR 333-060-0175, SEPARATE FACILITIES ARE PROVIDED FOR SPECTATORS AT MENS RESTROOM 129, WOMENS RESTROOM 117, AND TOILET 140.

CHAPTER 34

3403.1.3 Alteration, Addition or Change of Occupancy: Alterations must comply with either Section 3405 Prescriptive Compliance Method or Sections 3406-3409 Work Area Compliance Method.

3403.6.1 Alterations: The existing accessible features do not meet current accessibility code requirements. However, since this building was designed and permitted to meet the accessibility requirements in place at the time, the existing accessible features should not need to be brought into compliance with current codes unless they are altered as part of the scope of work. Any alterations to existing construction will need to comply with Sections 3403.6.7.1 unless technically infeasible.

3403.6.7.1 Alterations Affecting an Area Containing Primary Function: Where an alteration affects the accessibility to or is contained in an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains serving the area of primary function.

No more than 25% of alteration costs made to the area of primary function must be spent to provide accessible elements.

ORA 447.241 Standards for Renovating, Altering, or Modifying Certain Buildings:
In choosing accessible elements to provide under this section, priority shall be given to those elements that will provide the greatest access:

1. Parking
2. Accessible Entrance
3. Accessible route to the altered area
4. At least one accessible restroom for each sex or a single unisex restroom
5. Accessible telephones
6. Accessible drinking fountains
7. Additional accessible elements such as storage and alarms

This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, signs, mechanical systems, electrical systems, installation or alteration of fire protection systems, abatement of hazardous materials, and alterations undertaken for the purpose of increasing the accessibility of a facility. These are not seen as alterations that affect the usability of an area of primary function.

3405.3.1 Alterations to any building or structure shall comply with the requirements of this code for new construction. Alterations shall be such that the existing building or structure is not less compliant with the provisions of this code for new contribution than the existing building or structure was prior to alteration.

The existing number of plumbing fixtures can remain unchanged if:

- The current fixtures met the code requirements at the time of original construction.
- The alterations do not increase the building's occupant load or change its use in a way that would necessitate additional fixtures.
- The existing fixtures continue to function properly and do not pose health or safety risks.

Zoning Code Analysis

Scott Edwards Architecture

Osborn Aquatic Center
1940 NW Highland Dr,
Corvallis, OR 97330

Tax Lot Number:	1152BD03200
Current Zoning:	RS-6 (Low Density)
Comprehensive Plan:	Public Institutional
Site Area:	27.83 Acres
Existing Building Area:	41,664 Square Feet
Outdoor Pool, Deck, and Seating:	31,530 Square Feet
Existing Building Height:	40'-0"

LAND DEVELOPMENT CODE - CITY OF CORVALLIS

ARTICLE III - DEVELOPMENT ZONES
Chapter 3.1 - Low Density (RS-6) Zones

Section 3.1.30 - Permitted Building Types: Nonresidential

Section 3.1.40 - Permitted Use Types: Civic Use Types - Community Recreation
Primary use permitted outright

Section 3.1.50 - RS-6 Development Standards:
c. Minimum Lot Area: 5,000 sq ft
e. Setbacks:
1. Front Yard: 10 feet minimum; 25 feet maximum
2. Rear Yard: 15 feet minimum
3. Side Yard: 5 feet minimum
4. Exterior side yard or rear yard abutting a street: 15 feet maximum
h. Maximum Structure Height: 40 feet
i. Maximum Lot Coverage: 60% of lot area maximum

Section 3.1.70 - Green Area, Vegetation, and Outdoor Space Requirements
a. A minimum of 40 percent of the gross lot area must be retained and improved or maintained as permanent "Green Area".
b. A minimum of 15 percent of the gross lot area must consist of vegetation consisting of landscaping or naturally preserved vegetation. Landscaping within the required Green Area must primarily consist of ground cover, ferns, trees, shrubs, or other living plants with sufficient irrigation to properly maintain all vegetation. Drought-tolerant plant materials are encouraged. Design elements such as internal sidewalks, pedestrian seating areas, fountains, pools, sculptures, planters, and similar amenities may also be placed within the permanent Green Areas.

ARTICLE IV - DEVELOPMENT STANDARDS
Chapter 4.1 - Parking, Loading, and Access Requirements

Section 4.1.50 Standards for Bicycle Access and Parking
a. Quantity

1. Bicycle Parking Spaces - A minimum of two bicycle parking spaces must be provided with development of each Use Type listed below, unless a greater amount is required per Table 4.1-2 - Bicycle Parking Requirements.

Civic Use Type - Community Recreation Buildings: 1 per 2,000 sq ft of Gross Floor Area
73,194 sq ft of Gross Floor Area/2,000 sq ft = 36.597 (37 spots required) - 49 provided

3. Alteration of Existing Structures and/or Change of Use - When an existing structure is altered and/or existing uses within the structure change, bicycle parking must be provided in the amount required for the resultant uses.

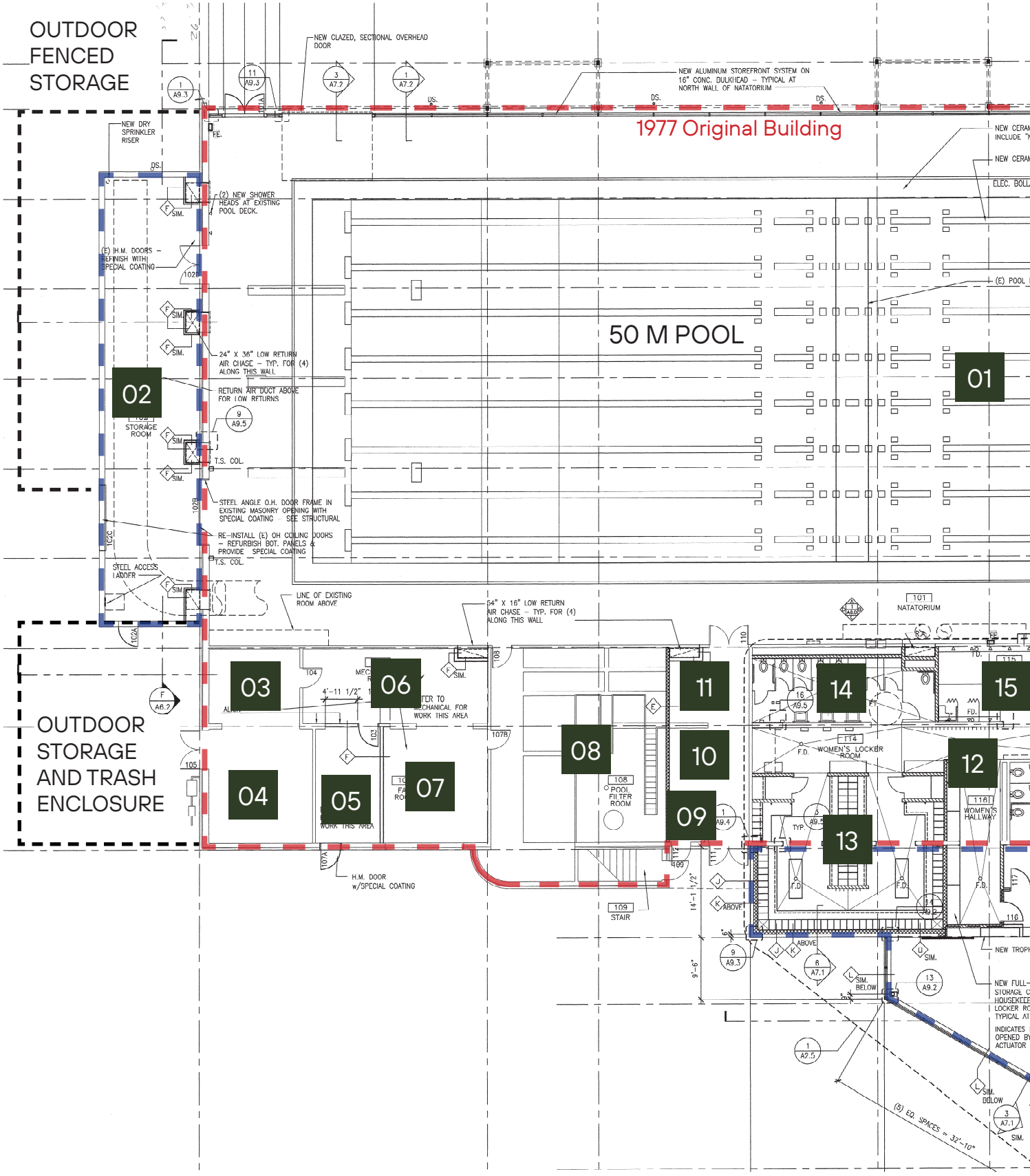
Chapter 4.2 - Landscaping, Buffering, Screening, and Lighting

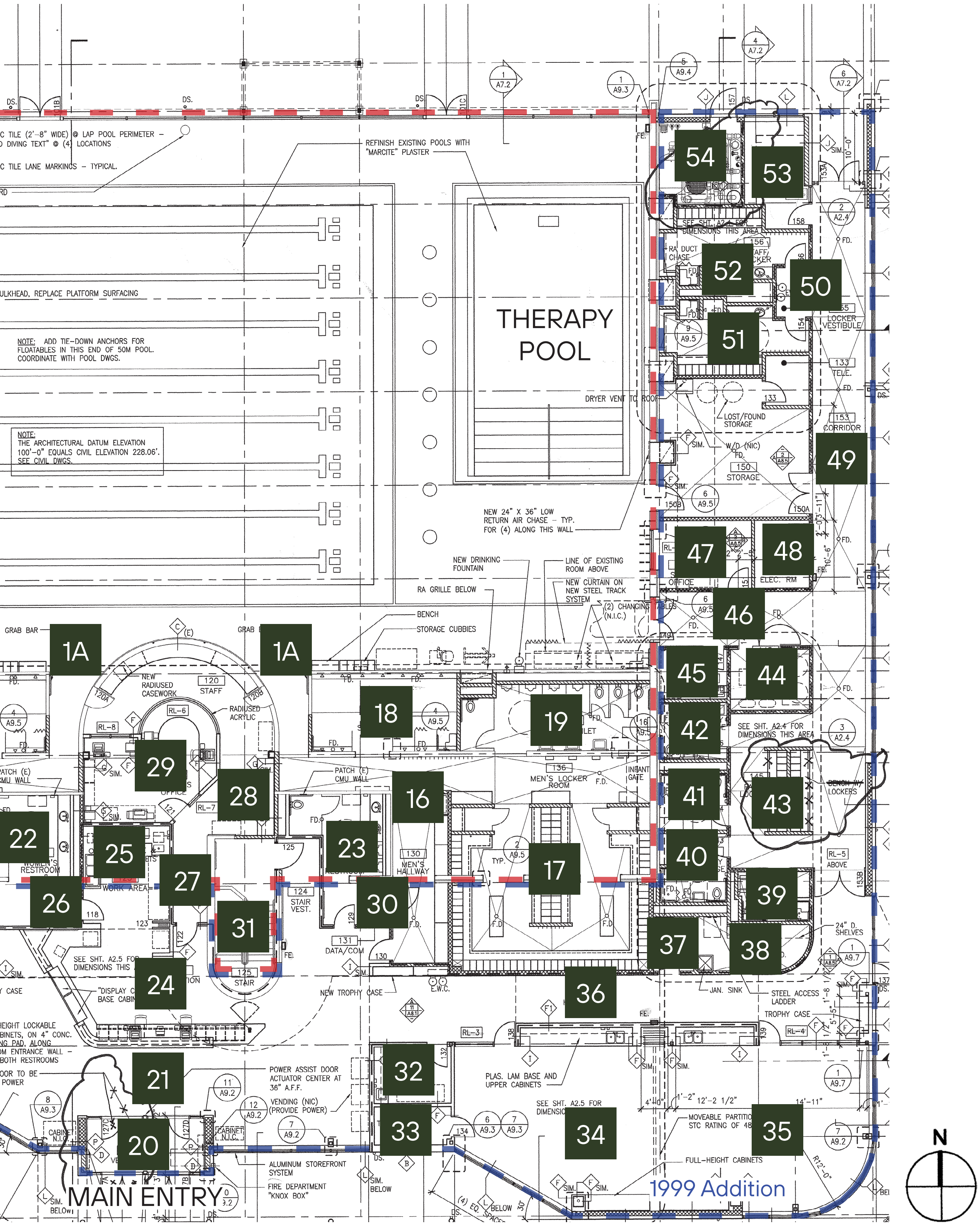
Section 4.2.50 Screening
4.2.50.01 Trash Dumpsters, Mechanical Equipment, and Outdoor Storage Areas.

a. Ground Level Screening - Trash dumpsters, ground-level air conditioning units and other mechanical equipment, and outdoor storage areas must be screened with a fence, wall, or plantings, consistent with the provisions of this Section.

b. Roof Mounted Equipment - For all new buildings and substantial improvements, roof mounted equipment, such as heating, ventilation, air conditioning equipment, etc. must be screened by providing sight-block features such as parapets or walls at least equal in height to the equipment.

Ground Floor Plan




THERAPY POOL
REFINISH EXISTING POOLS WITH "MARCITE" PLASTER
NOTE: ADD TIE-DOWN ANCHORS FOR FLOATABLES IN THIS END OF 50M POOL. COORDINATE WITH POOL DWGS.
NOTE: THE ARCHITECTURAL DATUM ELEVATION 100'-0" EQUALS CIVIL ELEVATION 228.06'. SEE CIVIL DWGS.
NEW 24" X 36" LOW RETURN AIR CHASE - TYP. FOR (4) ALONG THIS WALL
NEW DRINKING FOUNTAIN
LINE OF EXISTING ROOM ABOVE
NEW CURTAIN ON NEW STEEL TRACK SYSTEM
RA GRILLE BELOW
BENCH
STORAGE CUBBIES
MEN'S LOCKER ROOM
MEN'S HALLWAY
STAIR VEST.
DATA/COM
NEW TROPHY CASE
STAIR
POWER ASSIST DOOR ACTUATOR CENTER AT 36" A.F.F.
VENDING (NIC) (PROVIDE POWER)
ALUMINUM STOREFRONT SYSTEM
FIRE DEPARTMENT "KNOX BOX"
PLAS. LAM BASE AND UPPER CABINETS
MOVEABLE PARTITION STC RATING OF 48
FULL-HEIGHT CABINETS
STEEL ACCESS LADDER
TROPHY CASE
JAN. SINK
LOST/FOUND STORAGE
STORAGE
OFFICE
ELEC. RM
LOCKER VESTIBULE
CORRIDOR
WORK AREA
MAIN ENTRY
1999 Addition
1A
1A
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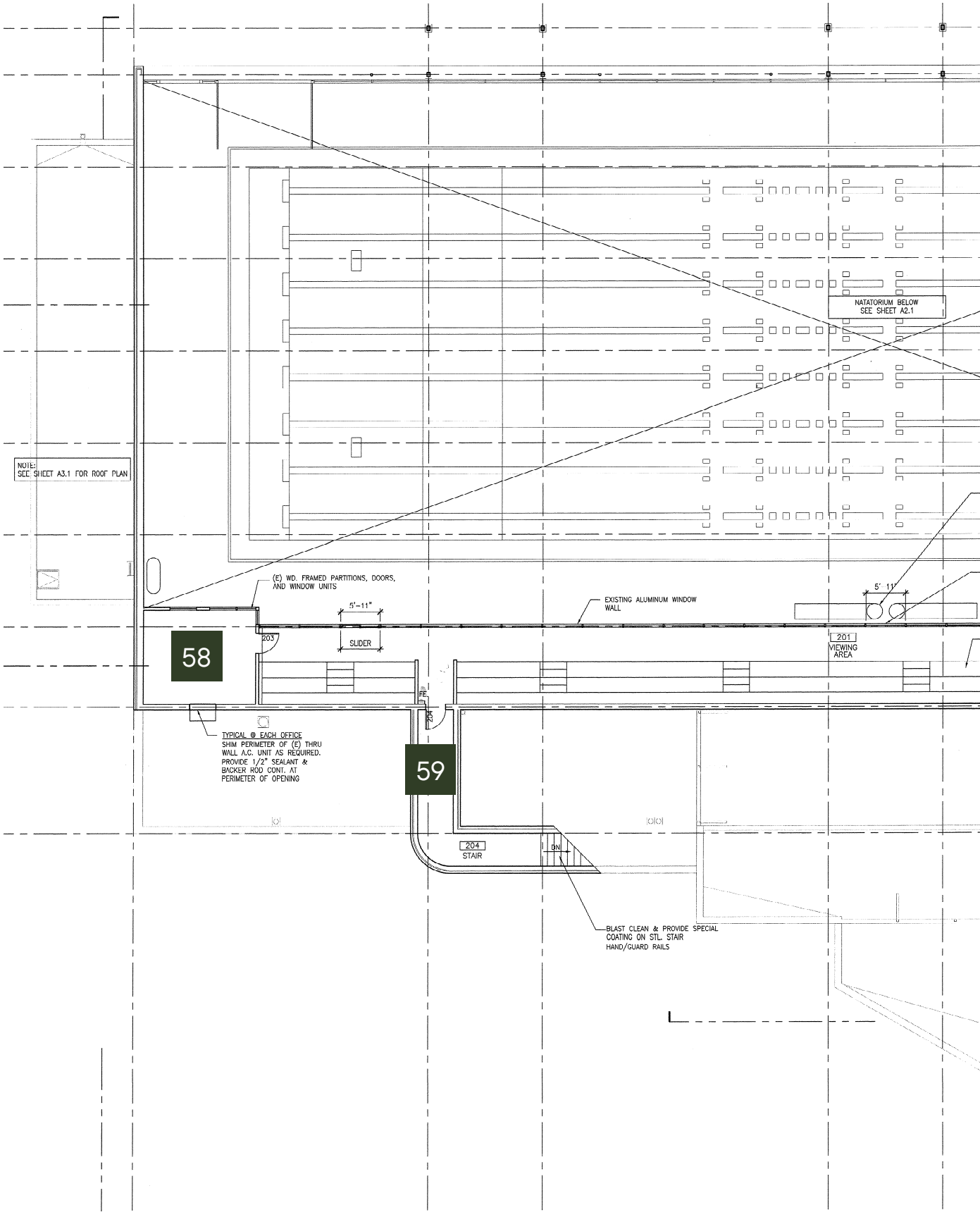
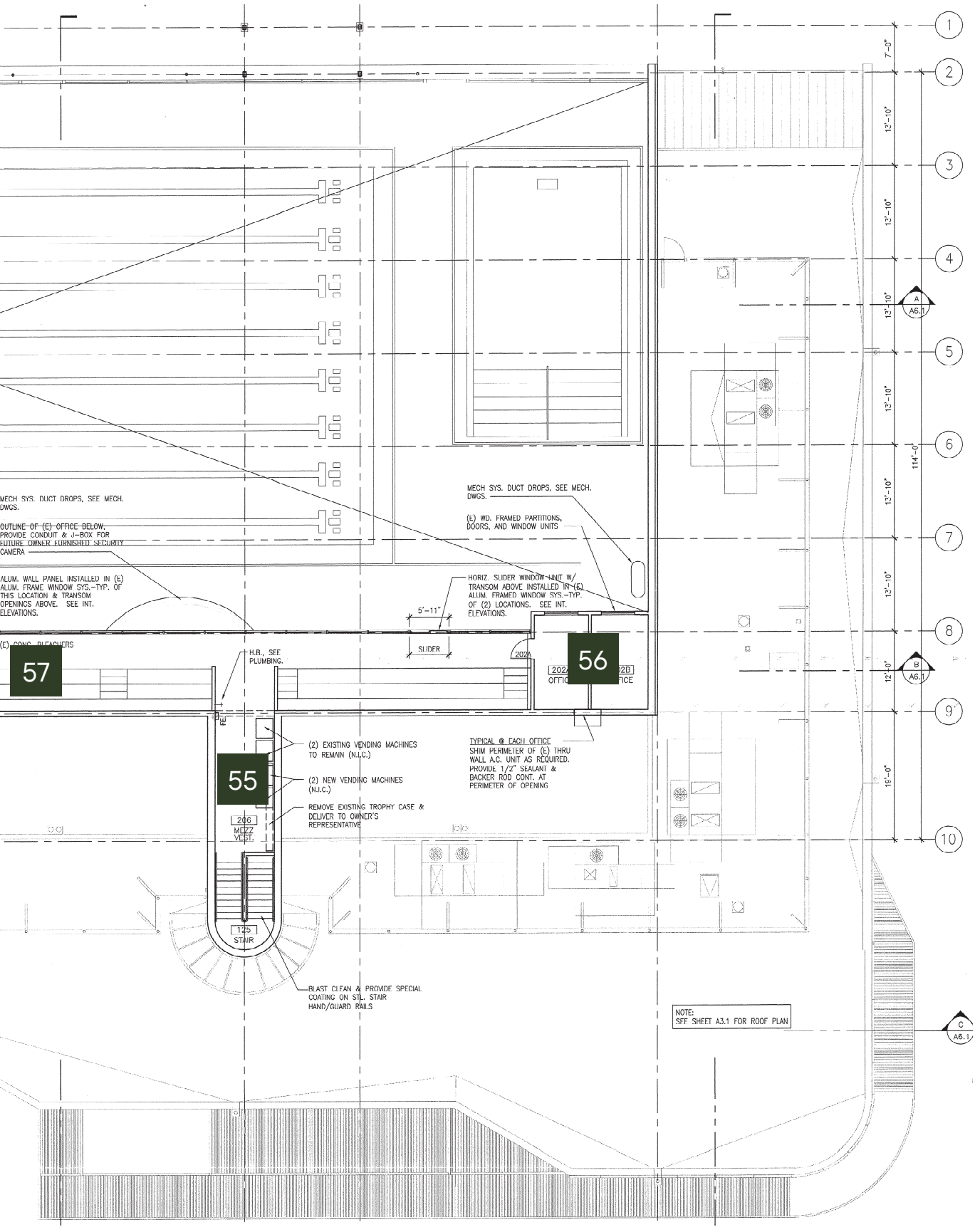
Mezzanine Floor Plan

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7'-0"
13'-10"
13'-10"
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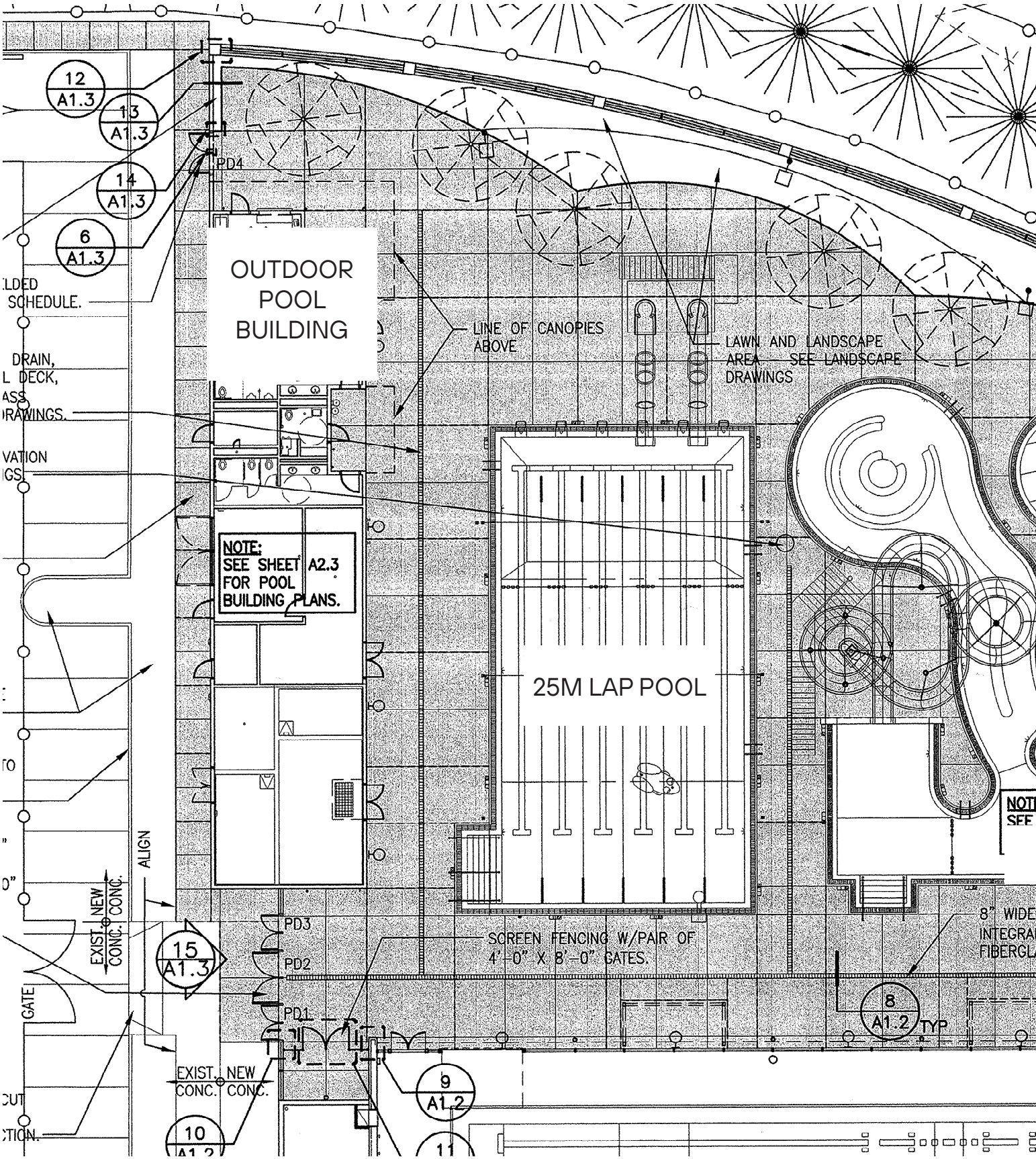
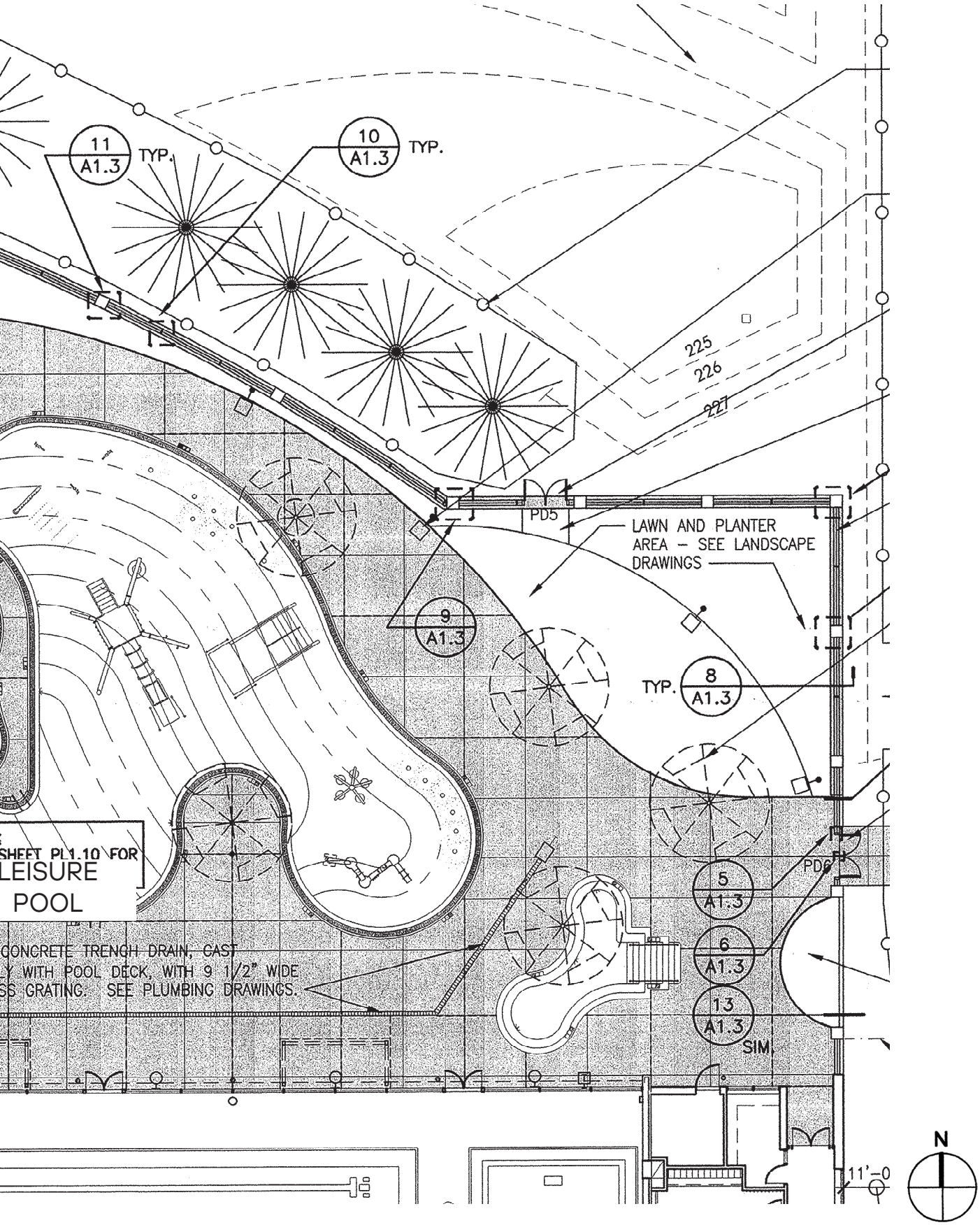
13'-10"
13'-10"
12'-0"
15'-0"
114'-0"
A
A6.1
B
A6.1
C
A6.1
MECH SYS. DUCT DROPS, SEE MECH. DWGS.
OUTLINE OF (E) OFFICE BELOW. PROVIDE CONDUIT & J-BOX FOR FUTURE OWNER FURNISHED SECURITY CAMERA
ALUM. WALL PANEL INSTALLED IN (E) ALUM. FRAME WINDOW SYS.-TYP. OF THIS LOCATION & TRANSOM OPENINGS ABOVE. SEE INT. ELEVATIONS.
(E) CONC. BLEACHERS
57
H.B., SEE PLUMBING.
RE
MECH SYS. DUCT DROPS, SEE MECH. DWGS.
(E) WD. FRAMED PARTITIONS, DOORS, AND WINDOW UNITS
HORIZ. SLIDER WINDOW UNIT W/ TRANSOM ABOVE INSTALLED IN (E) ALUM. FRAMED WINDOW SYS.-TYP. OF (2) LOCATIONS. SEE INT. ELEVATIONS.
5'-11"
SLIDER
202A
56
202D
(2) EXISTING VENDING MACHINES TO REMAIN (N.I.C.)
(2) NEW VENDING MACHINES (N.I.C.)
55
REMOVE EXISTING TROPHY CASE & DELIVER TO OWNER'S REPRESENTATIVE
TYPICAL @ EACH OFFICE
SHIM PERIMETER OF (E) 1HRU WALL A.C. UNIT AS REQUIRED. PROVIDE 1/2" SEALANT & BACKER ROD CONT. AT PERIMETER OF OPENING
206
MEZZ VEST.
125
STAIR
BLAST CLEAN & PROVIDE SPECIAL COATING ON STL. STAIR HAND/GUARD RAILS
NOTE:
SFF SHEET A3.1 FOR ROOF PLAN
N

Outdoor Pools, Deck, and Seating




11
A1.3
TYP.
10
A1.3
TYP.
225
226
227
PD5
LAWN AND PLANTER
AREA – SEE LANDSCAPE
DRAWINGS
9
A1.3
TYP.
8
A1.3
SHEET PL1.10 FOR
LEISURE
POOL
CONCRETE TRENCH DRAIN, CAST
Y WITH POOL DECK, WITH 9 1/2" WIDE
SS GRATING. SEE PLUMBING DRAWINGS.
PD6
5
A1.3
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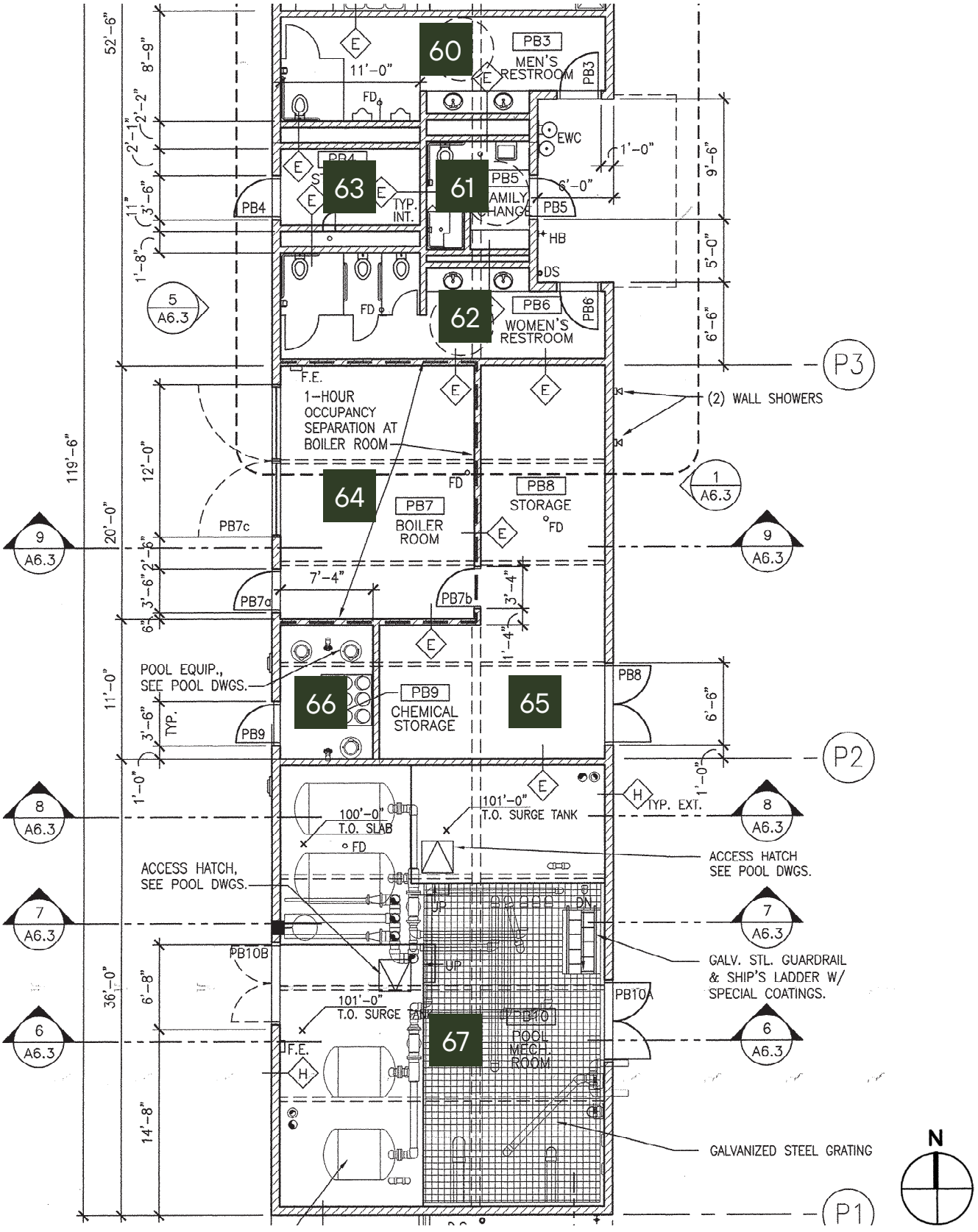
Outdoor Pool Building Floor Plan



MAIN ENTRY

SPACE DESCRIPTION AND ASSESSMENT:
Exterior main entry with metal canopy.

- Metal gutters are currently leaking.
- Patrons have to wait outdoors in uncovered area during busy summer days.
- No large building signage exists over the front entry.
- Bicycle racks can be full at times during the summer

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Extend covered porch area to the west.
- Repair gutter and drain.
- Add building name signage.
- Provide additional bike parking.

OUTDOOR POOL DECK

SPACE DESCRIPTION AND ASSESSMENT:
Exterior concrete deck used as food court area with food trailer. Includes large umbrellas and some bleacher seating.

- A planned permanent concession area at the north end of the outdoor pool building was never constructed.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Construct permanent concession building in place of temporary food trailer. Review original plan to expand north end of building.
- Review expansion of seating areas.
- Review original plan to include an outdoor spa in this area.

OUTDOOR PLAY POOL

SPACE DESCRIPTION AND ASSESSMENT:
The outdoor recreation pool includes a zero-entry with less than 3' depth wadding area with water spray features. Within the same body of water, a 3'-6" depth area is roped off for the water slide splash zone, and a lazy river with moving water currents is included as well.

- One of the wading pool slides is currently out for maintenance.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Reference Aquatics section for recommendations.
- Service broken pool features.
- Replace missing pool feature components.

SPACE DESCRIPTION AND ASSESSMENT:
Beach entry walk in to wading area.

- Pool liner was replaced recently.

SPACE DESCRIPTION AND ASSESSMENT:
Lazy River and Circle

OUTDOOR LAP POOL

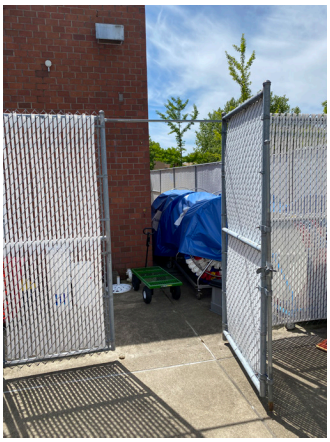
SPACE DESCRIPTION AND ASSESSMENT:
The 25-meter outdoor lap pool has 6 swim lanes and a stair entry.

- The pool depth goes from 3'-6" at the shallow end to 6' at the deep end for the use of diving blocks.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Reference Aquatics section for recommendations.

OUTDOOR FENCED STORAGE



SPACE DESCRIPTION AND ASSESSMENT:
Outdoor Storage for climbing walls and meet lane lines.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Adding a permanent roof over space would better protect items in storage.

OUTDOOR POOL BUILDING

SPACE DESCRIPTION AND ASSESSMENT:
(Also Reference Interior Assessment)
The outdoor pool building serves users of the outdoor pool and deck area.

- The building includes pool mechanical and boiler rooms, as well as a chemical storage room, with additional access from the parking lot side.
- The building also includes mens and womens restrooms, as well as one family changing room, and shower heads on the exterior wall of the building.

SPACE DESCRIPTION AND ASSESSMENT:
Entry to the Pool Building Men's and Women's Restrooms

- The family changing room is so popular that time limits have had to be set for use. Water and soap coming from the use of the wall mounted outdoor showers needs its own floor drain at the deck.

BUILDING CODE UPGRADES:

- Additional plumbing fixtures may be needed to meet number of outdoor occupants.

SPACE DESCRIPTION AND ASSESSMENT:
Entry Alcove, outdoor Drinking Fountain

SPACE DESCRIPTION AND ASSESSMENT:
Entry to Storage Room

OUTDOOR STORAGE AND TRASH ENCLOSURE

SPACE DESCRIPTION AND ASSESSMENT:
Outdoor Storage and Trash Enclosure

- Accessed from either the natatorium boiler room or the natatorium storage room.
- Loading for trash pickup is from the parking lot. CO2 tanks, sump pump, and backup generator are stored in this area.
- There is a new structural support concern at the framing of the door.
- The steel frame is rusted.
- Doors do not close properly.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Repair or replace door and frame from natatorium boiler room. Install emergency exit hardware.

1. NATATORIUM

SPACE DESCRIPTION AND ASSESSMENT:
The Osborn Aquatic Center natatorium (7,930 sf) houses a 50 meter pool and heated therapy pool.

- Robust Programming:
  - Swim Teams
  - Lap Swim
  - Rec Swim
  - Water Polo
  - Under-Water Hockey
  - Family Movie Night
  - The Zip Line
  - (2) 18' Climbing Walls have been removed temporarily

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Complete needed structural renovations.
- Complete needed mechanical renovations.
- Replace broken scoreboard.
- Replace corroded windows and doors.

SPACE DESCRIPTION AND ASSESSMENT:
Locker room entries onto deck.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

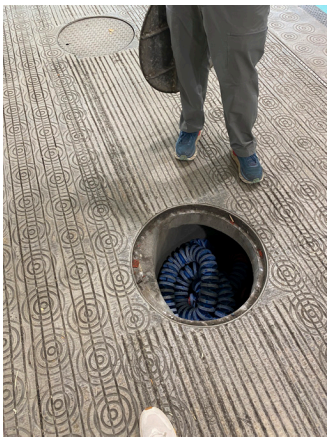
- Install storefront glass and door to separate spaces for HVAC air quality.

SPACE DESCRIPTION AND ASSESSMENT:
This area of the Natatorium includes the 91 degree therapy pool.

- Therapy Pool tile edge with quartz plaster liner.
- Very robust programing in pool.
- Everything from small children and babies to adult therapy.
- Programming is at capacity due to limited space.

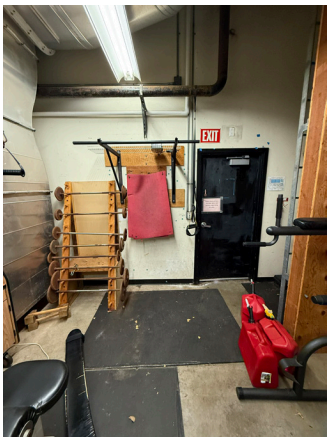
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Long term goal to extend pool area south to align with the main pool edge
- Adding a ramp for increased accessibility and capacity.



SPACE DESCRIPTION
Storage wells for lane lines.

2. NATATORIUM STORAGE ROOM



SPACE DESCRIPTION AND ASSESSMENT:
The natatorium storage space, identified within the building as “Storage Room #3”, is located west of the 50 meter pool.

- The space can be accessed from the desk via a flush pair or doors or an overhead coiling door.
- Access from the room to the exterior of the building is through an overhead coiling door or a single man door.
- This space is currently used as a workout space for cardio and strength conditioning equipment, as well as general storage.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- The space was not designed for fitness equipment and usage.
- Relocate function to a different location within the building.
- Upgrade the overhead lighting within the room.

3. MCC ROOM

SPACE DESCRIPTION AND ASSESSMENT:
The MCC room houses electrical equipment

- The room is accessed from the mechanical room or through the boiler room from the fenced outdoor storage area.

4. BOILER ROOM

SPACE DESCRIPTION AND ASSESSMENT:
The room houses the main pool boilers.

- The boiler room is accessed through the MCC room, from the mechanical room.
- The room has a pair of door that exit to the exterior of the building.

5. ELECTRICAL ROOM

SPACE DESCRIPTION AND ASSESSMENT:
The space holds electrical equipment.

- The electrical room can be accessed directly from the mechanical room,
- The space has a direct, single man door exit to the exterior of the building.

6. MECHANICAL ROOM

SPACE DESCRIPTION AND ASSESSMENT:
This space holds the main mechanical equipment for the pool.

- The mechanical room can be accessed via the pool filter room from the pool deck.

7. FAN ROOM

SPACE DESCRIPTION AND ASSESSMENT:
This room is functioning as a storage room.

- The fan room can be accessed via the pool filter room from the pool deck.
- The fan room has a pair of doors leading to the building exterior.

8. POOL FILTER ROOM

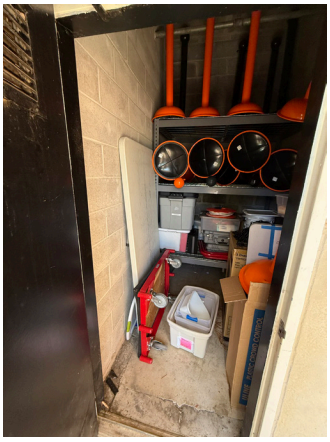
SPACE DESCRIPTION AND ASSESSMENT:
This space holds the filter equipment for the Natatorium

- The pool filter room can be directly accessed from the natatorium pool deck, and must be passed through to gain access to many of the other pool utility rooms.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Upgrade overhead and task lighting in the space.
- Provide grate coverage over remaining mechanical spaces to expand usable space.

9. POOL EQUIPMENT ROOM (FORMER CO2 ROOM)



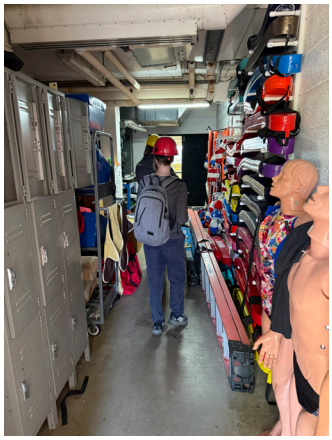
SPACE DESCRIPTION AND ASSESSMENT:
Though labeled on building plans as “CO2 Room” it is now used as additional pool equipment storage space.

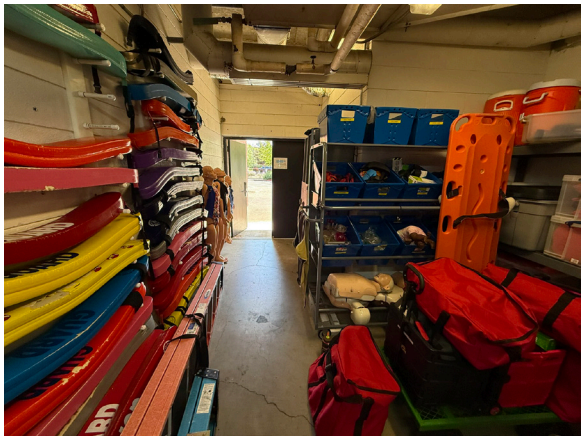
- Only accessible through a single door from the building exterior.

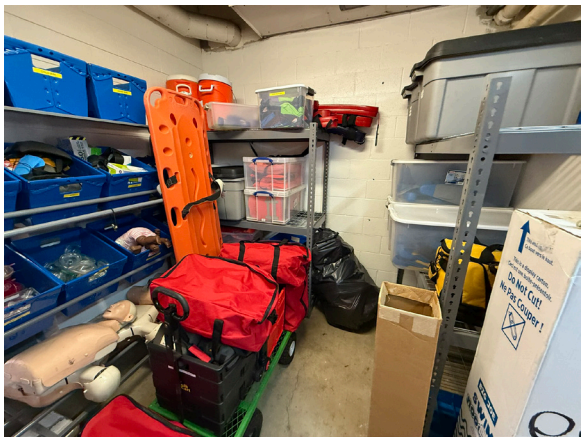
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Physically combine with rooms 10 and 11.

10. POOL EQUIPMENT ROOM







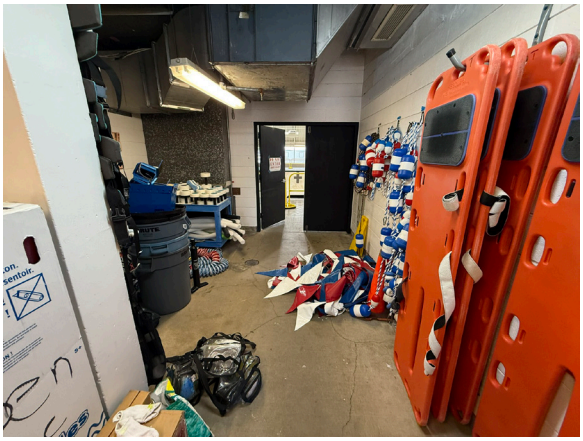
SPACE DESCRIPTION AND ASSESSMENT:
This room functions as the main equipment room for water programming.

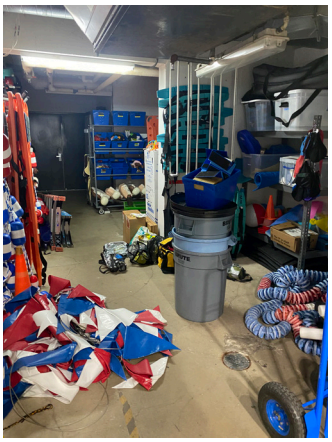
- Accessed via pair doors from the building exterior or through a pair man door from the pool deck. Directly connected to room 11 (no physical barrier between rooms).

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Install storage system to better organize equipment
- Upgrade lighting.
- Combine with rooms 9 and 11.

11. POOL EQUIPMENT ROOM





SPACE DESCRIPTION AND ASSESSMENT:
This space is an extension of the previous Pool Equipment Room.

- Accessed via pair doors from the building exterior or through a pair door from the pool deck.
- Directly connected to room 10 (no physical barrier between rooms).

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

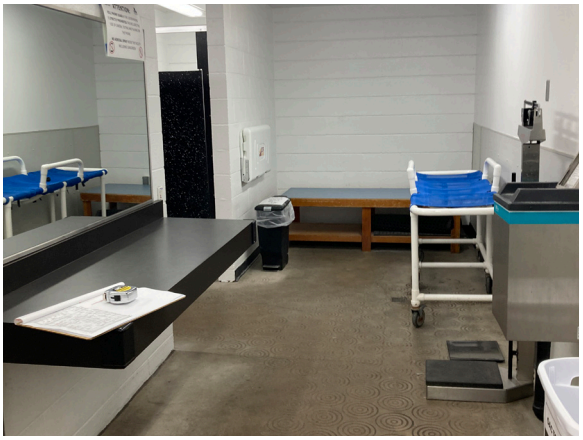
- Install storage system to better organize equipment
- Upgrade lighting.
- Combine with rooms 9 and 10.

12. WOMENS LOCKER ROOM HALLWAY

SPACE DESCRIPTION AND ASSESSMENT:
Lobby to hallway connection within Womens Locker Room.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- The storage is needed but problematic for access.
- Cabinetry needs to move somewhere else.
- At the time of SEA's in-person assessment it was indicated that the hairdryers at each mirrored counter tend to overheat and brake frequently.
- Wall mounted dryers would be preferred.



SPACE DESCRIPTION AND ASSESSMENT:
Locker hall includes access to toilets, showers, lockers, and pool entry.

- Space includes counters with mirrors, towel hooks at two heights, a swimsuit spinner, a diaper changing station, and low wooden bench.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- At the time of SEA's in-person assessment it was indicated that the hairdryers at each mirrored counter tend to overheat and brake frequently, and wall mounted dryers would be preferred.
- FRP, wall base, and door backers need to be replaced. Lighting needs to be upgraded.
- Replace existing hair dryers with wall mounted dryers.

ACCESSIBILITY UPGRADES:

- The operable parts of the swimsuit spinner need to be located between 34"-46" from the floor for an obstructed high side reach. Currently at 51" from floor.
- The diaper changing table needs to have 38"x42" clear space for a forward approach.

SPACE DESCRIPTION AND ASSESSMENT:
Entry to natatorium within Womens Locker Room.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

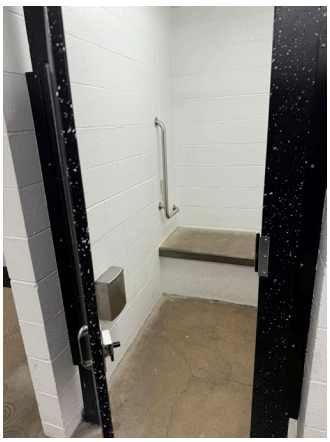
- Add a door for separation of conditioned areas.

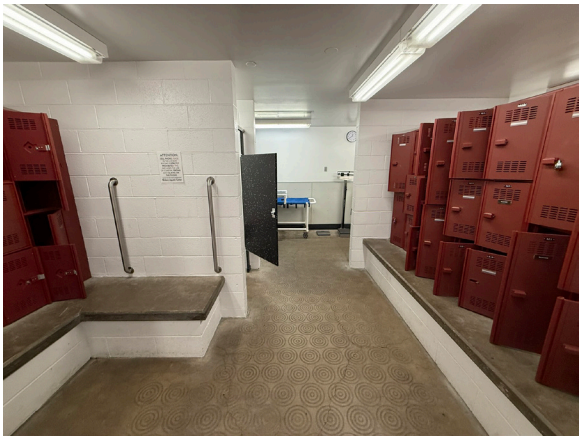
13. WOMENS LOCKER ROOM LOCKERS

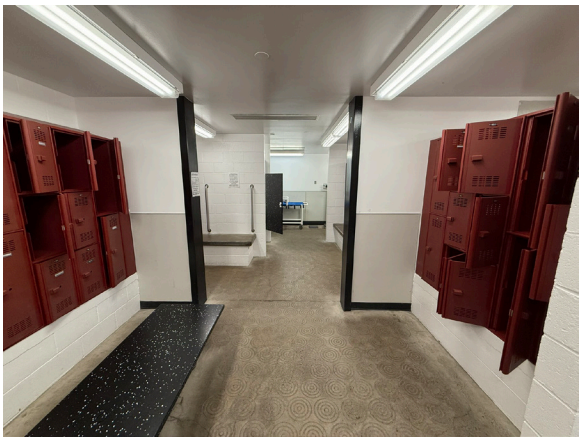
SPACE DESCRIPTION AND ASSESSMENT:
The Womens Locker Room locker area contains multiple benches, towel and clothes hooks, and two private changing rooms.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- The private changing rooms are often utilized.
- Facility staff indicated that they are interested in a locking solution for lockers that does not require a padlock or keys.
- Plastic lockers should be replaced.
- Provide locking system that is digital or numeric code based.







14. WOMENS LOCKER ROOM TOILETS

SPACE DESCRIPTION AND ASSESSMENT:
There are six toilet stalls and three sinks within the Womens Locker Room.

- Contains one ambulatory stall and one accessible stall.
- Contains three changing stalls without toilets.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Finishes need to be updated. Lighting needs to be upgraded.

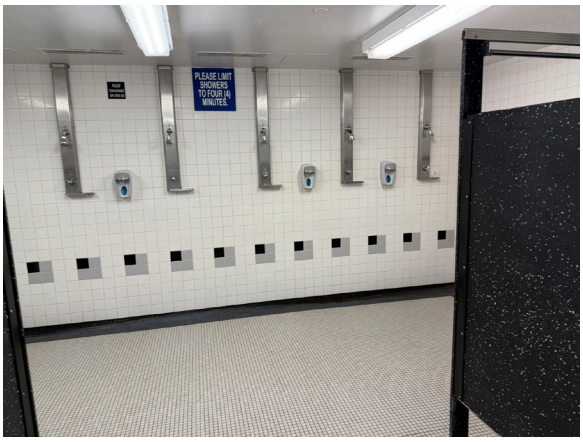
ACCESSIBILITY UPGRADES:

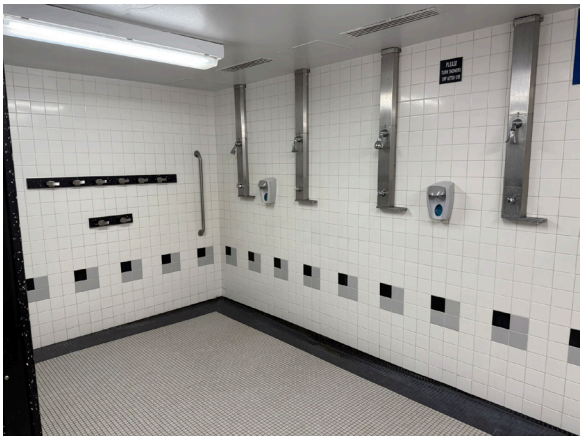
- All under-sink piping must be covered with a temperature controlled slip-covers.
- Replace existing grab bar in accessible stall with updated set of grab bars, including 18" vertical grab bar. Confirm that clear floor area from masonry wall to inside of stall partition is indeed 60" clear.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

BUILDING CODE UPGRADES:

- Additional womens water closets need to be added to the Aquatic Center to meet expected occupancy. (3) regular size stalls can fit in the Women's Toilets along the same plumbing wall without infringing on turning radius and circulation.

15. WOMENS LOCKER ROOM SHOWERS





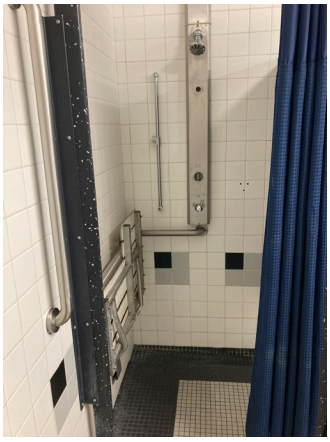
SPACE DESCRIPTION AND ASSESSMENT:
The Womens Locker Room showers contain seven open shower heads with a trench drain, and five shower heads with shower curtain and separation panels.

- The floor is made up of 2x2" tile, very gently sloped towards the trench drain.
- The two outermost private showers each have a foldable bench for seated showers.

SPACE RECOMMENDATIONS AND OPTIONS FOR
- FURTHER STUDY:
  At the time of SEA's in-person assessment it was indicated that the shower controls are Italian and are hard to fix or replace.
- Soap frequently runs out.
- Replace shower controls.
- Replace rusty bases.

ACCESSIBILITY UPGRADES:

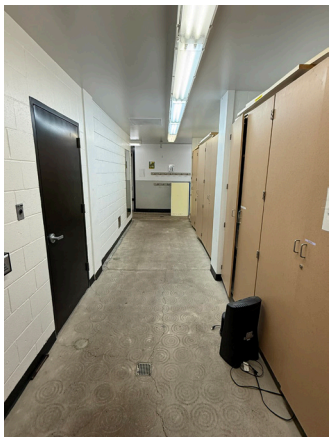
- The transfer-style shower does not provide a full, clear 36" opening for a transfer from a chair. 48" of clear space is needed from the control wall for a transfer.
- Controls needs to be on opposite wall of seat.
- Confirm operable parts of soap dispensers are no higher than 48" from the floor.
- Operable parts of shower controls should be between 36"-48" from the floor.



SPACE DESCRIPTION AND ASSESSMENT:
Seat transfer style shower

SPACE DESCRIPTION:
Roll-in style shower

16. MENS LOCKER ROOM HALLWAY

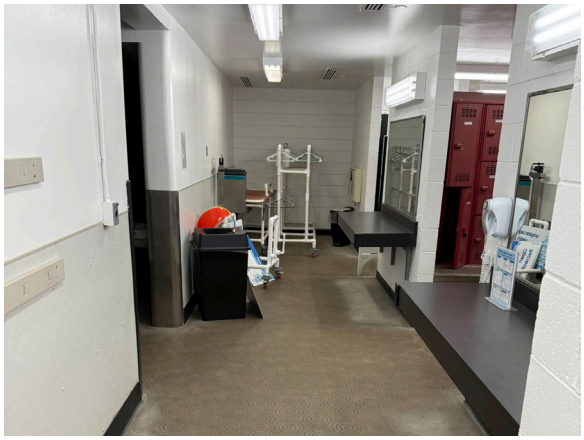


SPACE DESCRIPTION AND ASSESSMENT:
Lobby to hallway connection within Mens Locker Room.

- Access to Data/Comm Room is in this hallway, which limits non-male staff from being able to get to it.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- The storage is needed but problematic for access
- Cabinetry needs to move somewhere else.
- There is rust on cabinetry hinges.



SPACE DESCRIPTION AND ASSESSMENT:
Locker hall includes access to toilets, showers, lockers, and pool entry.

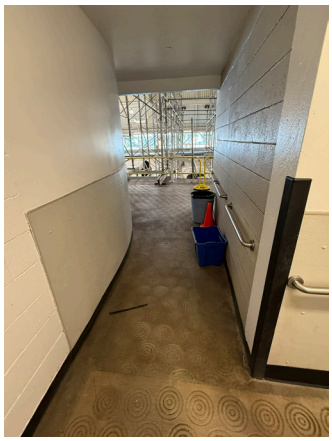
- Space includes counters with mirrors, towel hooks at two heights, a swimsuit spinner, a diaper changing station, and a low wooden bench.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- At the time of SEA's in-person assessment it was indicated that the hairdryers at each mirrored counter tend to overheat and brake frequently, and wall mounted dryers would be preferred.
- FRP, wall base, and door backers need to be replaced. Lighting needs to be upgraded.
- Replace existing hair dryers with wall mounted dryers.

ACCESSIBILITY UPGRADES:

- The operable parts of the swimsuit spinner need to be located between 34"-46" from the floor for an obstructed high side reach. Currently at 51" from floor.
- The diaper changing table needs to have 38"x42" clear space for a forward approach.

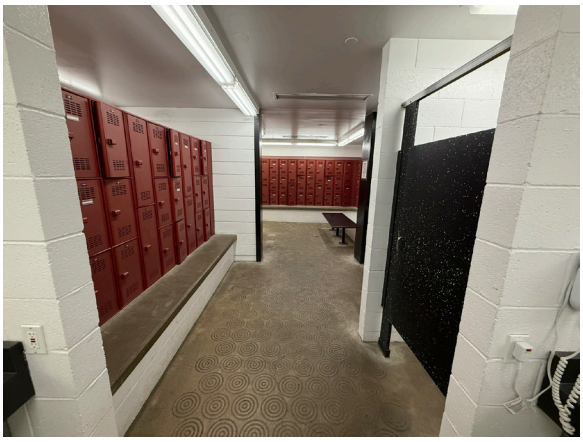


SPACE DESCRIPTION AND ASSESSMENT:
Entry to natatorium within Mens Locker Room.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Add a door for separation of conditioned areas.

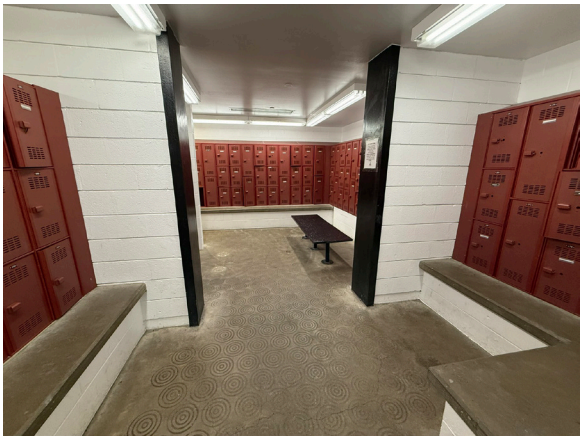
17. MENS LOCKER ROOM LOCKERS

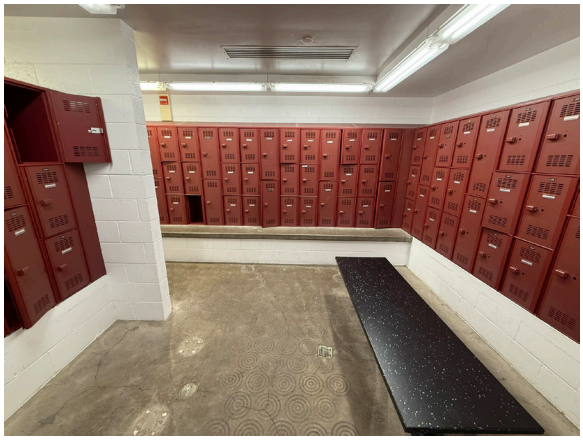


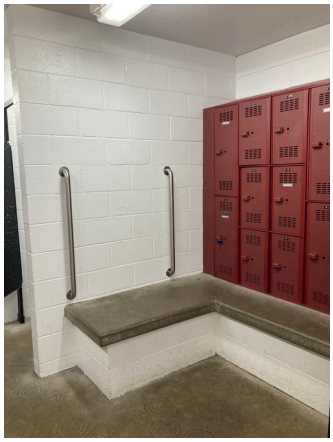
SPACE DESCRIPTION AND ASSESSMENT:
The Mens Locker Room locker area contains multiple benches, towel hooks, and two private changing rooms.

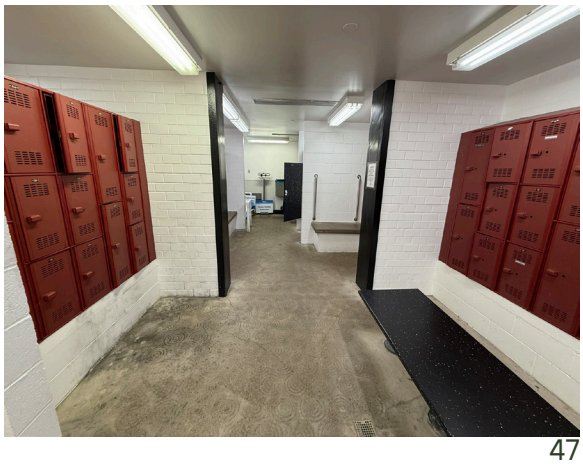
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- The private changing rooms are often utilized.
- Facility staff indicated that they are interested in a locking solution for lockers that does not require a padlock or keys.
- Plastic lockers should be replaced.
- Provide locking system that is digital or numeric code based.









18. MENS LOCKER ROOM TOILETS

SPACE DESCRIPTION AND ASSESSMENT:
There are four toilet stalls, four urinals, and three sinks within the Mens Locker Room.

- Contains one ambulatory stall and one accessible stall.

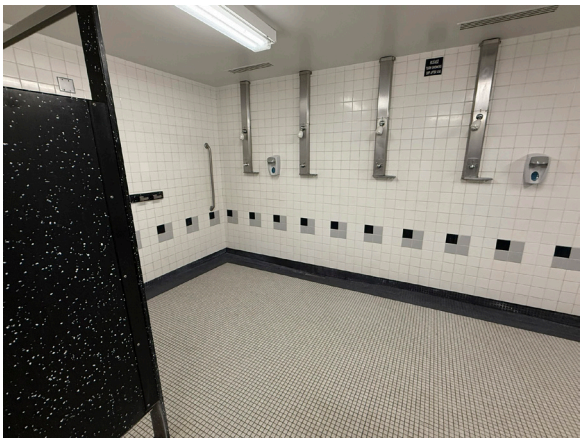
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

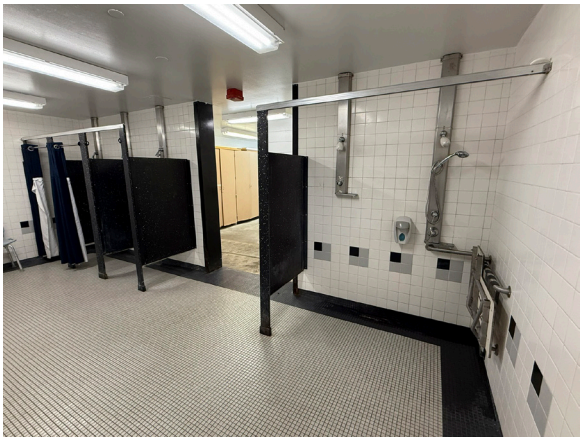
- Lavatory fixtures should all be the same model.
- Rusty access panels need to be replaced.
- Lighting fixtures need to be upgraded.

ACCESSIBILITY UPGRADES:

- All under-sink piping must be covered with a temperature controlled slip-covers.
- Replace existing grab bar with updated set of grab bars, at accessible toilet stall should including 18" vertical grab bar.
- Confirm that clear floor area from masonry wall to inside of stall partition is indeed 60" clear.
- Toilet accessories, including TP dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

19. MENS LOCKER ROOM SHOWERS





SPACE DESCRIPTION AND ASSESSMENT:
The Mens Locker Room showers contain seven open shower heads with a trench drain, and five shower heads with shower curtain and separation panels.

- The floor is made up of 2x2" tile, very gently sloped towards the trench drain.
- The one of the two outermost private showers each have a fold-able bench for seated showers.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- At the time of SEA's in-person assessment it was indicated that the shower controls are Italian and are hard to fix or replace.
- Soap frequently runs out.
- Replace shower controls.
- Replace rusty bases.

ACCESSIBILITY UPGRADES:

- The transfer-style shower does not actually provide a full, clear 36" opening for a transfer from a chair. 48" of clear space is needed from the control wall for a transfer.
- Controls needs to be on opposite wall of seat.
- Confirm operable parts of soap dispensers are no higher than 48" from the floor.
- Operable parts of shower controls should be between 36"-48" from the floor.

SPACE DESCRIPTION AND ASSESSMENT:
Seat transfer style shower without fold-able seat bench (shower chair provided)

SPACE DESCRIPTION:
Roll-in style shower

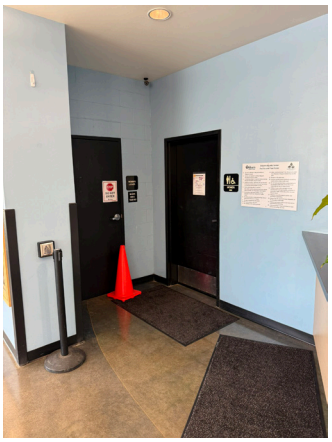
20. VESTIBULE

SPACE DESCRIPTION AND ASSESSMENT:
The building vestibule is not enclosed, and creates a direct connection to the lobby.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Install storefront glazing and storefront doors to create an enclosed vestibule.
- At the time of SEA's in-person assessment it was indicated that the walk off mats at the vestibule work well, but queuing to the reception desk can go all the was back to the doors on busy days.

21. LOBBY

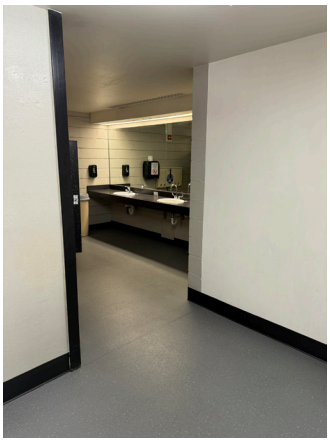


SPACE DESCRIPTION AND ASSESSMENT:
The lobby includes non-fixed seating and tables, as well as direct access to the Womens Restroom and Locker Room.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Underutilized area within the lobby could be used as a new location for the pro shop.
- Specific area should be designated for swim meet vendor sale location.
- Facility staff indicated that the polished concrete flooring tends to be slick, and that the walk off mat is much more functional for the space.
- 3-4 vendors set up in the Lobby during swim meets.
- Refinish the faded concrete floor.
- Automated door button to Mens Locker Room was not working at the time of SEA's in-person assessment.

22. WOMENS LOBBY RESTROOM



SPACE DESCRIPTION AND ASSESSMENT:
The Womens Restroom is accessible from the Lobby.

- The space includes 3 stalls, one of them accessible, as well as two sinks, a baby changing station.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Room needs a new coat of paint.
- Lighting needs to be upgraded.

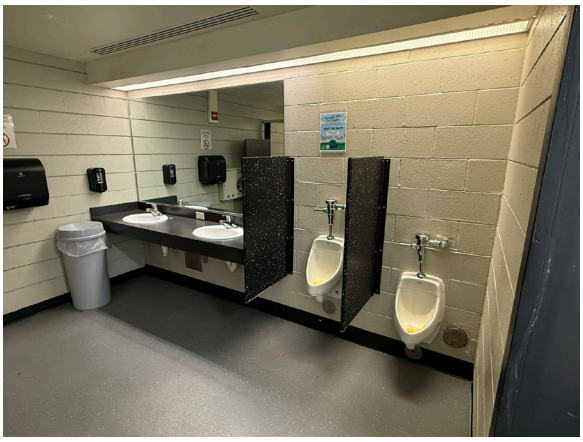
ACCESSIBILITY UPGRADES:

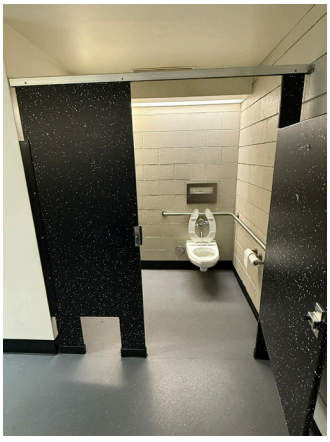
- Confirm there is less than 8" of clear space between front of counter and sink bowl. Sink bowl need to be moved back to provide clear knee space. Overhang lip of counter needs to be at least 27" from the floor.
- All under-sink piping must be covered with a temperature controlled slip-cover.
- Replace existing grab bar at accessible stall with updated set of grab bars, including 18" vertical grab bar.
- Confirm that clear floor area from masonry wall to inside of stall partition is indeed 60" clear.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

BUILDING CODE UPGRADES:

- Additional womens water closets need to be added to the Aquatic Center to meet minimum fixture counts based on calculated occupancy.

23. MENS LOBBY RESTROOM





SPACE DESCRIPTION AND ASSESSMENT:
The restroom includes one accessible toilet stall, two urinals, two sinks, and one baby changing station.

- The Mens Restroom is directly accessible from the lobby, adjacent to the stair vestibule.

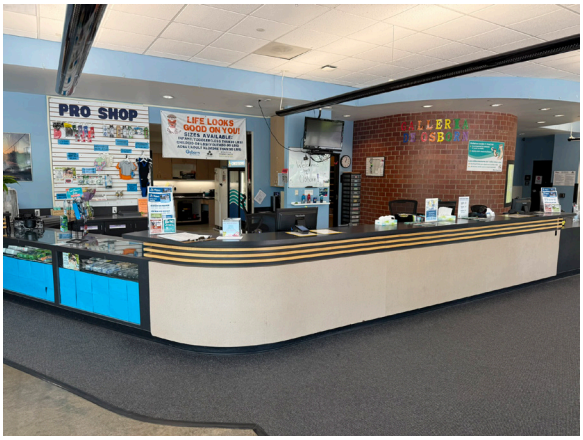
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Room needs a new coat of paint. Lighting needs to be upgraded.

ACCESSIBILITY UPGRADES:

- Accessible height urinal needs a clear front approach of 36" from masonry wall to surface of partition panel. Measures only 28".
- Replace existing grab bar at accessible stall with updated set of grab bars, including 18" vertical grab bar.
- Confirm that clear floor area from masonry wall to inside of stall partition is indeed 60" clear.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.
- Confirm there is less than 8" of clear space between front of counter and sink bowl. Measures only 3" Sink bowl need to be moved back to provide clear knee space.
- Overhang lip of counter needs to be at least 27" from the floor.
- All under-sink piping must be covered with a temperature controlled slip-cover.

24. RECEPTION



SPACE DESCRIPTION AND ASSESSMENT:
The reception area includes the front desk and pro shop with a staff work area behind the desk, and access to the hallway leading to staff office space.

- There are 4 stations at the reception desk.

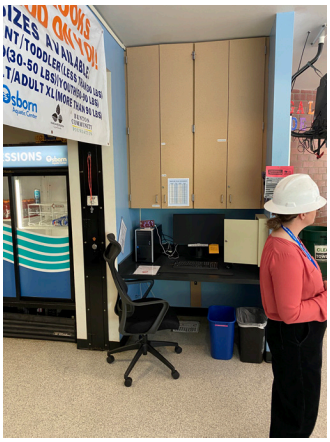
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- At the time of SEA's in-person visit, facility staff indicated that the reception desk stations were not very ergonomic, and it would be preferred that working stations were lower.
- It was also indicated that security and control of check-in was a concern, as there is plenty of room on either side of the desk to breeze through.
- The polished concrete flooring tends to be slick
- The walk off mat is much more functional for the space.
- Way-finding signage could be improved in the lobby.
- Damaged Formica on desk should be replaced.
- Vinyl composition tiles should be replaced where cracked.
- Overhead lighting fixtures should be upgraded.
- Concessions should be relocated to be made more visible.
- Locate television screens in this area to stream swim meet coverage, entry prices, and other information.

SPACE DESCRIPTION AND ASSESSMENT:
Reception Desk and Access to Staff Admin Area

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:
Through a redesign of the desk, quick intake for varying visitors should include the following:

- Drop off payment
- New Memberships
- Parents in to watch kids swimming
- Scan in stations



25. RECEPTION WORK AREA

SPACE DESCRIPTION AND ASSESSMENT:
The work area accessed by staff from behind the reception desk currently serves as the Lost & Found and the Staff Kitchen.

- The space is not used at full capacity.
- Facility staff indicated that there are typically 100-200 seasonal staff in summer.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Area could be converted into a staff break room with alternate access in a central administrative space renovation.

ACCESSIBILITY UPGRADES:

- Clear floor space positioned for a forward approach is not provided at sinks. Knee and toe clearance needs to be provided.
- Tops of working surfaces for accessible staff use should only be between 28"-34" from the floor.

26. RECEPTION STORAGE ROOM

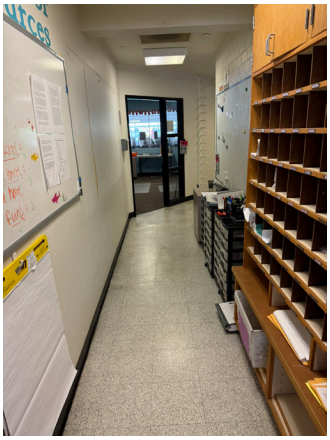
SPACE DESCRIPTION AND ASSESSMENT:
This space was originally designated as a Janitor Room but is currently being used as a Storage Room.

- The mop sink and other custodial items are not used in this space.
- This room is currently only used for storage.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Merge room into renovation of administrative area.

27. STAFF HALLWAY

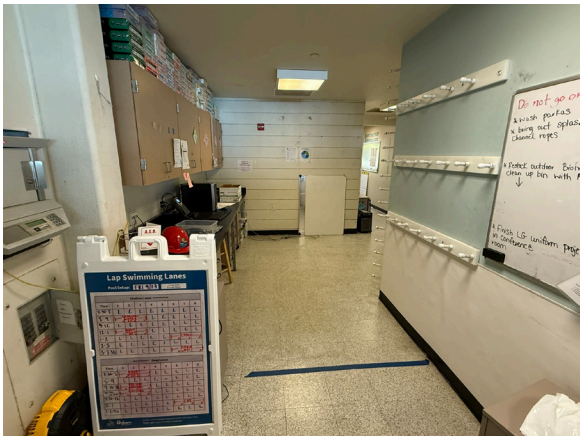


SPACE DESCRIPTION AND ASSESSMENT:
The hallway can be accessed from behind the reception desk, and connects the reception area to the Aquatics Office and Staff Space.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Relocate staff document storage.
- Hallway may be relocated for more direct access to staff space and offices in central administrative suite renovation.
- Shelving for staff documents creates a cramped condition.

28. STAFF POOL VIEWING AREA



SPACE DESCRIPTION AND ASSESSMENT:
The staff area, accessed via the hallway behind the reception desk, had shelving and casework space, as well as a view out to the natatorium.

- At the time of SEA's in-person assessment it was indicated that there are 17 lifeguards in summer on each shift, not including teaching staff.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Lifeguards using space to do their time-sheets creates bottleneck.
- It is recommended that the central administrative areas be redesigned and renovated. The reworked space would include:
    - General staff work area with copy room
    - Private offices for coordinators
    - Meeting area for lifeguards
    - Small Conference room
    - Acoustic separation
    - Functional storage

29. AQUATICS OFFICE

SPACE DESCRIPTION AND ASSESSMENT:
The aquatics office has been used by the Operations Coordinator and the Instructional Programs Coordinator, as well as multiple part-time program assistants.

- The space is accessed from the staff hallway, and has interior visibility out to the staff space.
- Coordinators do not currently have their own office.
- It was indicated that the room does not have good acoustic separation.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Space should be separated into individual staff offices high STC rated walls.
- Offices need to be adjacent to a small conference room.

30. STAIR 1

SPACE DESCRIPTION AND ASSESSMENT:
One set of stairs connects the lobby to the mezzanine floor viewing area.

- This space is currently being used as the IT closet.

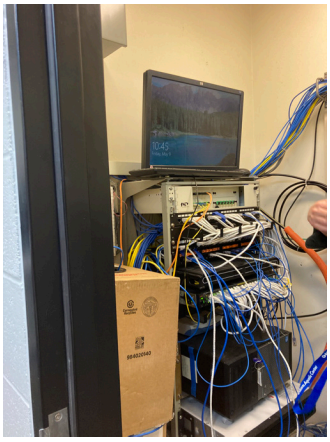
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Repaint walls in stairwell.
- Find a permanent home for the tech storage that is currently housed at the base of the stair.

ACCESSIBILITY UPGRADES:

- There is no accessible access to second floor/ mezzanine level.

31. DATA/COMM ROOM



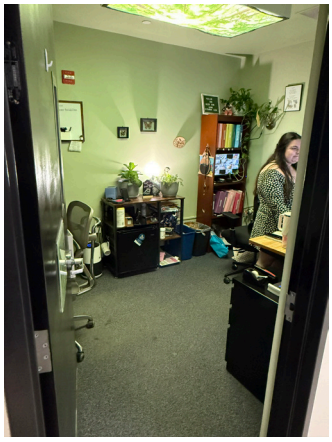
SPACE DESCRIPTION AND ASSESSMENT:
EMS System is located within this room

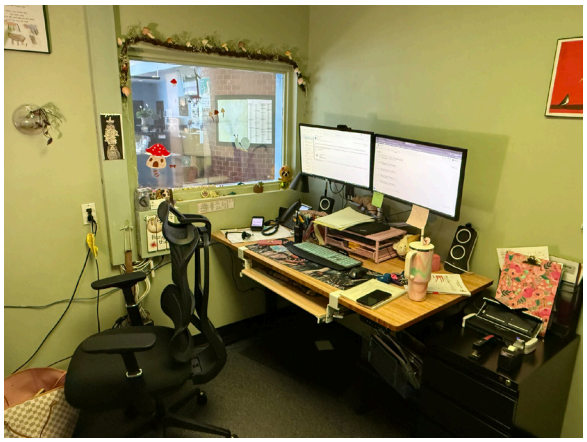
- The location is problematic for staff, as it can only be accessed from within the Mens Locker Room hallway.

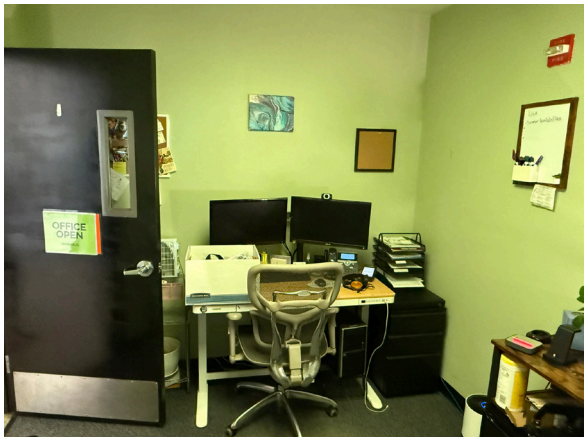
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Provide access from outside of Mens Locker Room or relocate to another part of the building.

32. LOBBY OFFICE







SPACE DESCRIPTION AND ASSESSMENT:
While the space had been indicated to be a physical therapy office in original building plan drawings, it is used as a staff office for the Aquatics Support Specialist and the Office Assistant.

- There is no built-in casework in the room.
- Includes window out to lobby.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Offices for staff should integrate into revised administrative suite.
- Replace carpet with alternative flooring material.

BUILDING CODE UPGRADES:

- Business occupancy spaces required 150 gross sq ft per worker.

33. ACTIVITY ROOM STORAGE

SPACE DESCRIPTION AND ASSESSMENT:
Used to store equipment for activity room functions. Accessed from inside Activity Room 1.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Upgrade lighting.
- Relocate general building storage elsewhere in the building.

34. ACTIVITY ROOM 1

SPACE DESCRIPTION AND ASSESSMENT:
The room is currently used for staff operations, but can be used for birthday parties, lifeguard or first-aid training, and exercise classes.

- Activity Room 1 includes visibility out to the front exterior of the building via daylight windows.
- The room finishes include an ACT ceiling, vinyl flooring, a screen projector, and built-in casework.
- A storage room (33) can be accessed from inside.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Install blinds for privacy needs depending on type of class.
- Upgrade audio/visual components.
- Upgrade lighting.

35. ACTIVITY ROOM 2

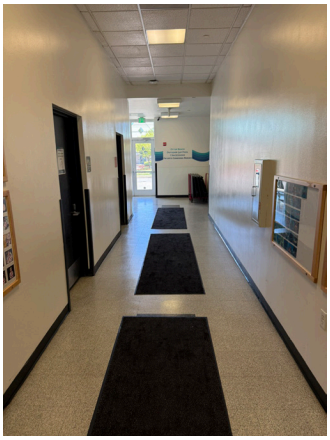
SPACE DESCRIPTION AND ASSESSMENT:
The room is currently serving as the as the main administrative office, but can be used for exercise classes, birthday parties, lifeguard/first-aid training, etc.

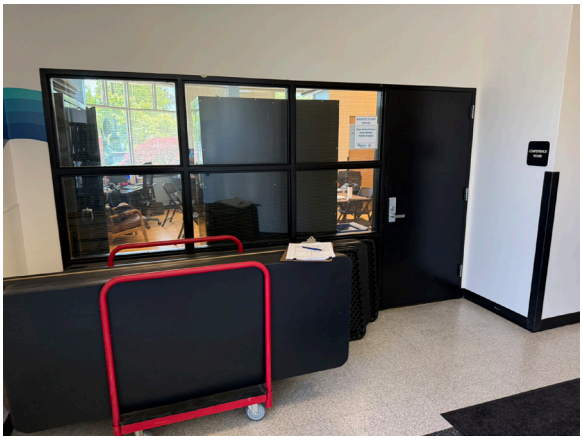
- Activity Room 2 has visibility through daylight windows out to the exterior of the building at the corner of NW Highland Dr.
- The room finishes include an ACT ceiling, vinyl flooring, a screen projector, and built-in casework.

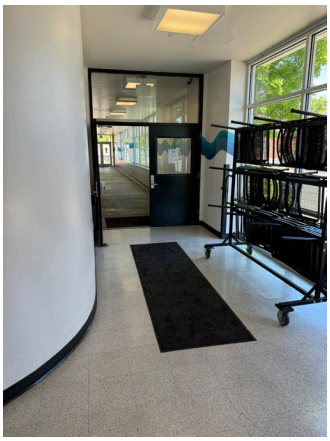
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Upgrade blinds and overhead lighting in room.
- Repaint room.
- Upgrade audio/visual components.

36. LOBBY HALLWAY







SPACE DESCRIPTION AND ASSESSMENT:
This hallway connects the lobby and reception area to the family changing wing.

- The activity rooms, the individual toilet room, and the janitor's closet can be accessed from this hallway.

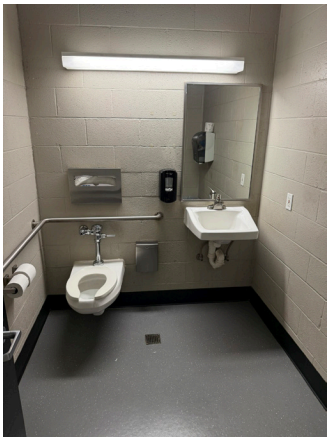
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Replace poor condition ACT flooring with a wet/dry carpet material.
- Replace overhead lighting fixtures.

ACCESSIBILITY UPGRADES:

- Drinking fountain requires cane detection, as it is protruding more than 4" into an accessible circulation route.

37. SINGLE-USER RESTROOM



SPACE DESCRIPTION AND ASSESSMENT:
Non-accessible, single occupancy toilet room.

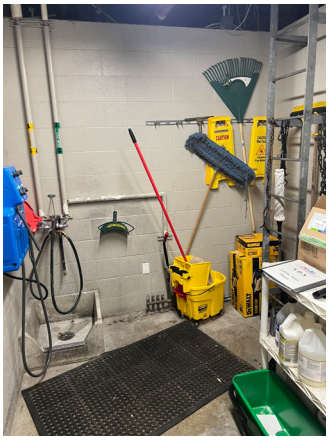
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Room should get a new coat of paint.
- Vanity light fixture should be replaced and an overhead light added.

ACCESSIBILITY UPGRADES:

- Sink protrudes into 60”x 56” clear space required at toilet.
- Replace existing grab bar with updated set of grab bars, including 18” vertical grab bar.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.
- Install automated door opener.

38. CUSTODIAL CLOSET



SPACE DESCRIPTION AND ASSESSMENT:
Room includes mop sink floor drain, steel ladder to access roof hatch, and fire sprinkler system controls.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Install upper cabinets, equipment hooks, and other organizational systems to address clutter and intrusion into fire sprinkler system control clearance.

39. FAMILY CHANGING ROOM 1

SPACE DESCRIPTION AND ASSESSMENT:
Family changing room with door lock includes bench, transfer-style shower, baby changing station, toilet, and sink.

- Floor is tile with a central floor drain.
- Sink and toilet fixtures do not provide enough clear space for accessible use.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- All family changing room showers should receive liners. New coat of paint needed.
- Door is difficult to open at all changing rooms.
- Locking hardware at doors should be consistent.
- Vanity light should be replaced, and overhead lighting added.

ACCESSIBILITY UPGRADES:

- Sink protrudes into 60"x 56" clear space required at toilet.
- Replace existing grab bar with updated set of grab bars, including 18" vertical grab bar.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

40. FAMILY CHANGING ROOM 2

SPACE DESCRIPTION AND ASSESSMENT:
Family changing room with door lock includes bench, roll-in-style shower, baby changing station, toilet, and sink.

- Floor is tile with a central floor drain.
- Sink and toilet fixtures do not provide enough clear space for accessible use.

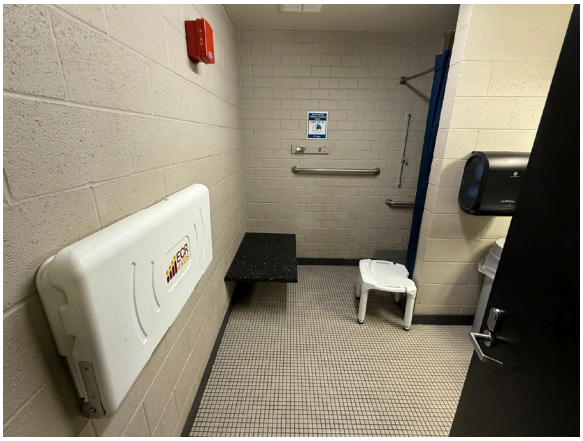
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

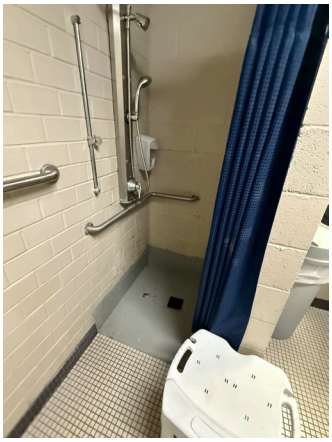
- All family changing room showers should receive liners. New coat of paint needed.
- Door is difficult to open at all changing rooms.
- Locking hardware at doors should be consistent.
- Vanity light should be replaced, and overhead lighting added.

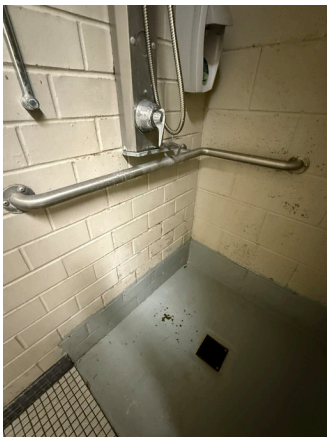
ACCESSIBILITY UPGRADES:

- Sink protrudes into 60"x 56" clear space required at toilet.
- Replace existing grab bar with updated set of grab bars, including 18" vertical grab bar.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

41. FAMILY CHANGING ROOM 3







SPACE DESCRIPTION AND ASSESSMENT:
Family changing room with door lock includes bench, transfer-style shower, baby changing station, toilet, and sink.

- Floor is tile with a central floor drain.
- Sink and toilet fixtures do not provide enough clear space for accessible use.

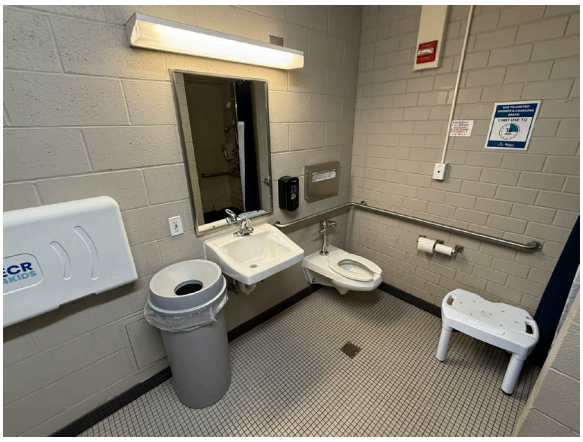
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

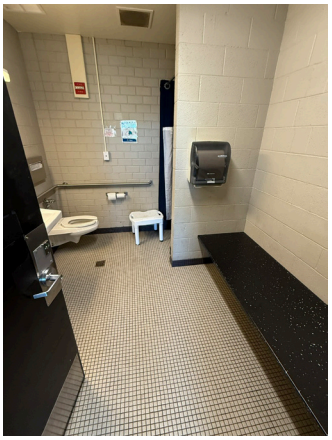
- All family changing room showers should receive liners. New coat of paint needed.
- Door is difficult to open at all changing rooms. Locking hardware at doors should be consistent.
- Vanity light should be replaced, and overhead lighting added.

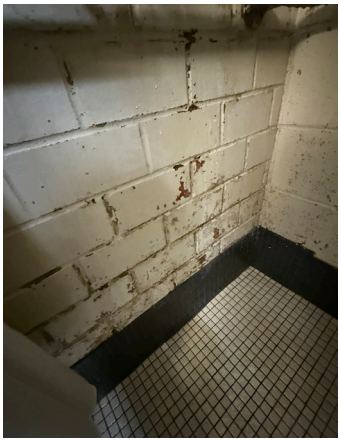
ACCESSIBILITY UPGRADES:

- Sink protrudes into 60"x 56" clear space required at toilet.
- Replace existing grab bar with updated set of grab bars, including 18" vertical grab bar.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

42. FAMILY CHANGING ROOM 4







SPACE DESCRIPTION AND ASSESSMENT:
Family changing room with door lock includes bench, transfer-style shower, baby changing station, toilet, and sink.

- Floor is tile with a central floor drain.
- Sink and toilet fixtures do not provide enough clear space for accessible use.

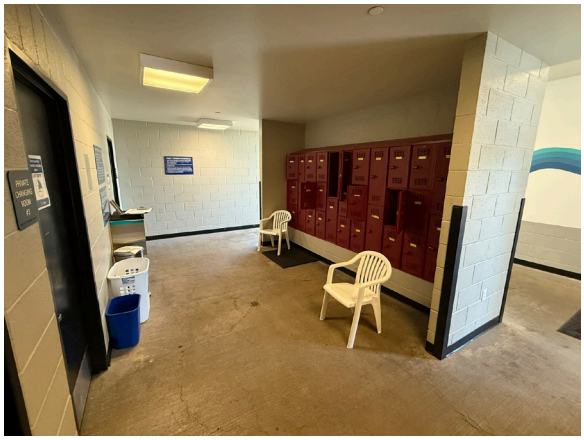
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- All family changing room showers should receive liners. New coat of paint needed.
- Door is difficult to open at all changing rooms.
- Locking hardware at doors should be consistent.
- Vanity light should be replaced, and overhead lighting added.

ACCESSIBILITY UPGRADES:

- Sink protrudes into 60”x 56” clear space required at toilet.
- Replace existing grab bar with updated set of grab bars, including 18” vertical grab bar.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

43. FAMILY CHANGING LOCKERS



SPACE DESCRIPTION AND ASSESSMENT:
The area includes access to the four family changing rooms, lockers, and a swim suit spinner.

- The family lockers can be accessed from the east corridor.
- Operable lid of suit spinner is located at 40" from the floor with is an allowed accessible reach.
- Because of the popularity of the family changing rooms, there are time-limits for use posted on the doors.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Plastic lockers should be replaced.
- Locking system should not require padlocks or keys.
- Upgrade overhead lighting fixture.

ACCESSIBILITY UPGRADES:

- An accessible bench is required within any dressing room or locker room.

44. STORAGE ROOM

SPACE DESCRIPTION AND ASSESSMENT:
This space is used for pool equipment storage.

- Room is accessed through double doors from the natatorium entry/exit corridor.
- There are electrical panels and conduits within this room.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Overhead lighting should be upgraded.

45. CUSTODIAL SUPPLIES STORAGE

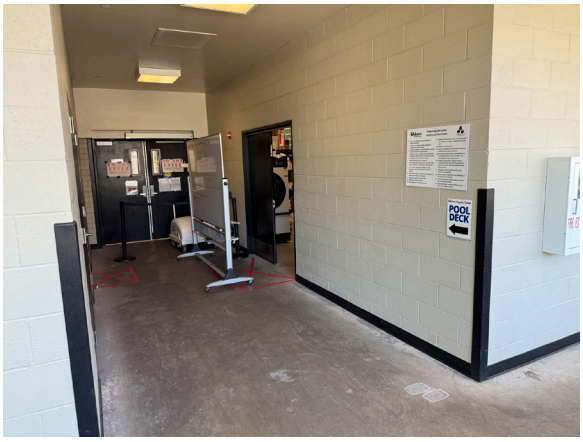
SPACE DESCRIPTION AND ASSESSMENT:
This space is used for storage and previously utilized telecom wiring.

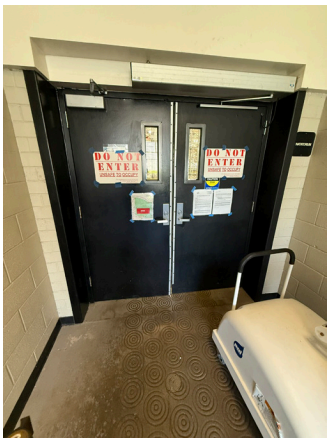
- The telecom wiring is defunct.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Overhead lighting should be upgraded.
- Remove defunct telecom wiring.
- Could be utilized as office or operational space.

46. NATATORIUM ENTRY/EXIT CORRIDOR





SPACE DESCRIPTION AND ASSESSMENT:
Provides connection between main east building corridor and natatorium through double doors.

- Rooms 44, 45, and 47 can be accessed directly from this corridor.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Wall needs repairs in a few locations.
- A new coat of paint should be applied.
- Apply signage to rooms 44, 45, 47, and 48 that reflects current functions.

47. POOL STORAGE & LAUNDRY

SPACE DESCRIPTION AND ASSESSMENT:
This space is used for laundry and pro-shop storage.

- While indicated on the original floor plans that this is a staff office, it is not utilized this way.

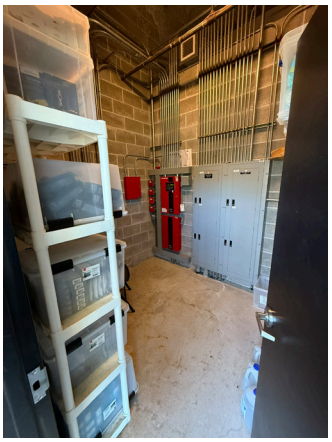
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Reorganize for better efficiency.
- Add furniture system for storage.

ACCESSIBILITY UPGRADES:

- Front loading laundry machines require 36" x 48" clear space offset 24" max from center of door opening.

48. EAST WING ELECTRICAL ROOM

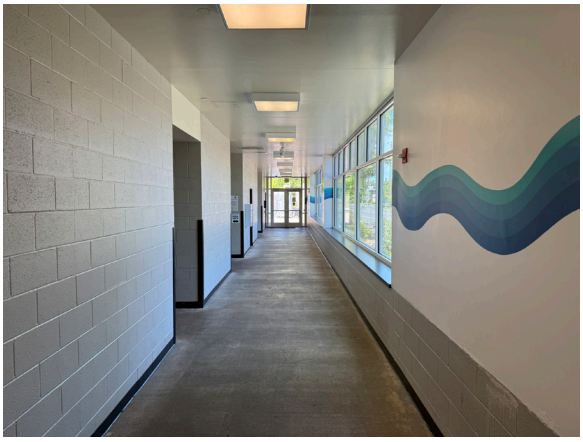


SPACE DESCRIPTION AND ASSESSMENT:
Room contains wall mounted electrical panels serving the adjacent rooms.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Remove stored equipment not used for primary space function.

49. EAST WING CORRIDOR



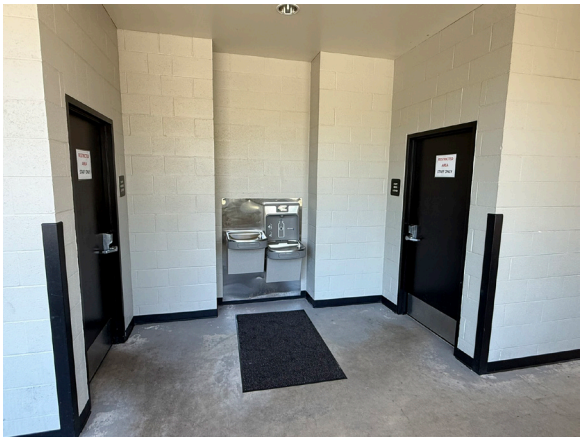
SPACE DESCRIPTION AND ASSESSMENT:
This corridor provides connection between the hallway coming from the lobby to the family changing area, the east natatorium exit, the staff locker rooms, and the outdoor pools.

- Windows are located along the east side of the building, with visibility out to NW Highland Dr.
- The concrete floor has lots of cracks

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Upgrade the lighting fixtures along the ceiling.
- Add an enclosed vestibule at the exterior door.
- The fire extinguisher cabinet should be recessed so as to not project more than 4" into an accessible circulation route.
- Window sills and windows need repairs.
- Provide slip-resistant material cover along floor.

50. STAFF LOCKER VESTIBULE



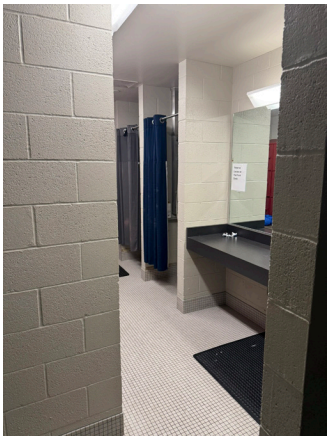
SPACE DESCRIPTION AND ASSESSMENT:
Entry/exit area outside of staff locker rooms.

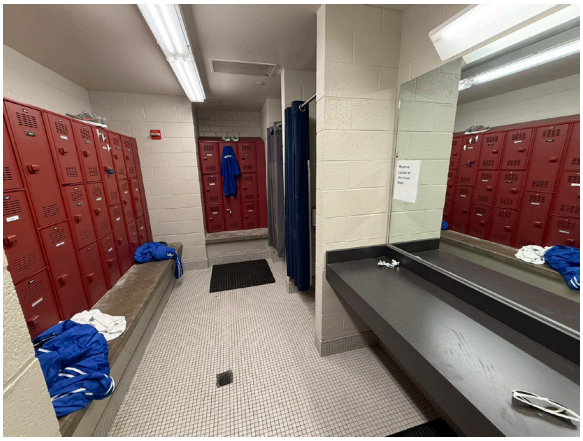
- Includes a drinking fountain at accessible height with a bottle filler.
- Staff locker rooms are accessed with a numeric code.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Upgrade overhead lighting.

51. WOMENS STAFF LOCKER ROOM





SPACE DESCRIPTION AND ASSESSMENT:
The staff lockers, utilized by lifeguards and swim instructors, include lockers, benches, a mirror and counter, and two showers, one of which is a transfer-style shower with a fold-down seat.

- Does not include sinks or toilets.

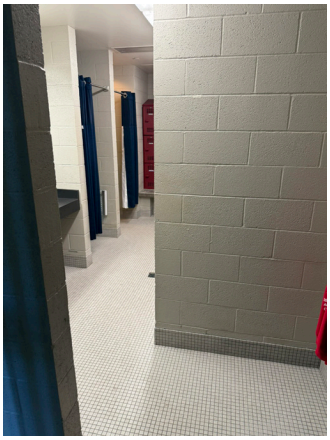
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Add sinks and toilet stalls.
- Upgrade lighting fixtures.
- Replace existing hair dyers with wall mounted fixtures.

ACCESSIBILITY UPGRADES:

- Confirm operable parts of soap dispensers are no higher than 48" from the floor.
- Operable parts of shower controls should be between 36"-48" from the floor.

52. MENS STAFF LOCKER ROOM



SPACE DESCRIPTION AND ASSESSMENT:
The staff lockers, utilized by lifeguards and swim instructors, include lockers, benches, a mirror and counter, and two showers, one of which is a transfer-style shower with a fold-down seat.

- Does not include sinks or toilets.

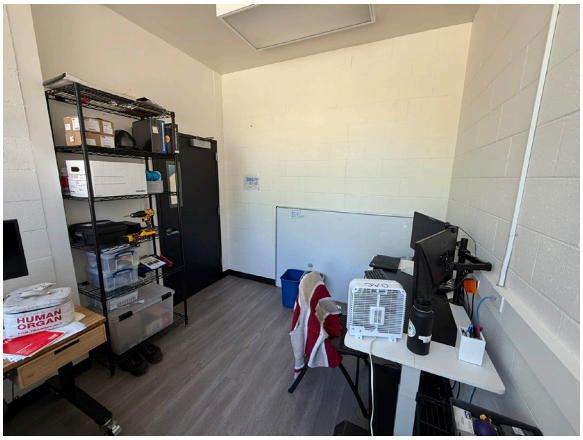
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Add sinks and toilet stalls.
- Upgrade lighting fixtures.
- Replace existing hair dryers with wall mounted dryers.

ACCESSIBILITY UPGRADES:

- Confirm operable parts of soap dispensers are no higher than 48" from the floor.
- Operable parts of shower controls should be between 36"-48" from the floor.

53. EAST WING OFFICE



SPACE DESCRIPTION AND ASSESSMENT:
Serves as office space for facilities and marketing.

- The office space can be accessed from the end of the east building corridor, and has visibility to the outdoor pool area.
- Houses two workstations and shelving.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Add curved mirrors at edge of window to view pool activity.

BUILDING CODE UPGRADES:

- Business occupancy spaces required 150 gross sq ft per worker.

54. SPA MECHANICAL ROOM

SPACE DESCRIPTION AND ASSESSMENT:
This space is designated for the future installation of an outdoor spa.

- The room is accessed from the exterior of the building.
- Currently being used as for concessions storage.

55. MEZZANINE VESTIBULE

SPACE DESCRIPTION AND ASSESSMENT:
Circulation space.

- Connects top of main Stair 1 with Mezzanine Viewing Area.
- Electrical outlets and power hookups are located along right wall.

56. MEZZANINE OFFICE

SPACE DESCRIPTION AND ASSESSMENT:
Admin area currently used by Aquatics Supervisor.

- Originally two offices, center wall has been punched out.
- Windows face out to natatorium.
- Includes workstation, storage, and meeting area.
- Requires a step up to enter the room.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Add shades to windows for privacy.

BUILDING CODE UPGRADES:

- Business occupancy spaces required 150 gross sq ft per worker.

57. MEZZANINE VIEWING AREA

SPACE DESCRIPTION AND ASSESSMENT:
Main area of assembly for viewing swim meets.

- Three rows of metal bleacher seats accessed via tiered polished concrete stairs.
- Seating is underutilized adjacent to Supervisor's Office where the view is furthest away from the starting blocks.
- Offices are located at each end of the viewing area, which require a step up into the rooms.
- Right in the middle of the viewing area, a metal panel replaces the glass where ductwork is visible.

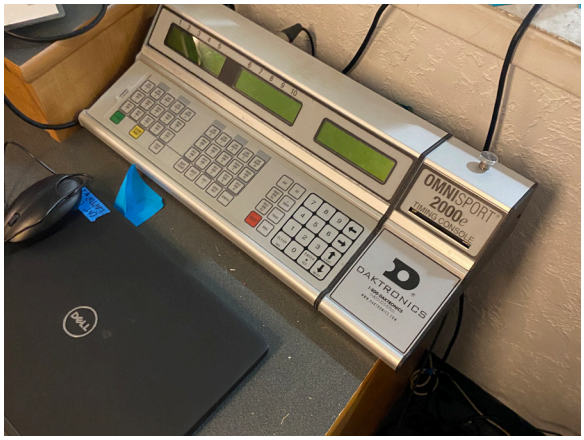
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

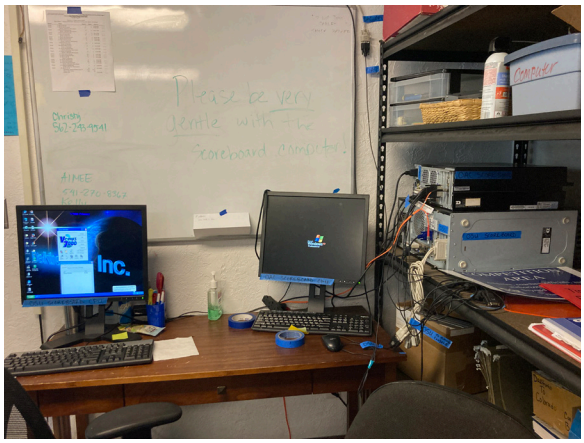
- Speaker system and overhead lighting should be upgraded.
- With the addition of an elevator, the upper mezzanine floor could be used for administrative space or an exercise room, especially where seating is underutilized.

ACCESSIBILITY UPGRADES:

- In assembly areas with 301 to 500 seats, the OSSC requires a minimum of 6 wheelchair spaces.
- At least one companion seat shall be provided for each wheelchair space.
- They must be dispersed evenly with opportunities for premium viewing choice.

58. MEET MANAGEMENT OFFICE





SPACE DESCRIPTION AND ASSESSMENT:
Currently used for meet management and office space by for swim teams.

- Houses two workstations, as well as the meet management hardware.
- Requires a step up to enter the room.

BUILDING CODE UPGRADES:
Business occupancy spaces require 150 gross sq ft per worker.

59. STAIR 2

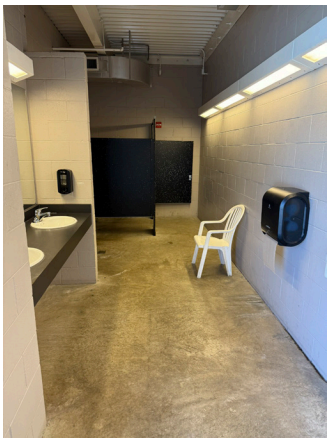
SPACE DESCRIPTION AND ASSESSMENT:
Includes hallway to stairs, and an exterior exit out to the front of the building.

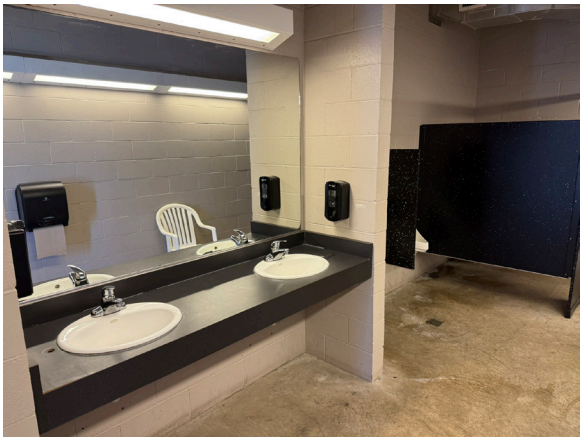
- Accessed from Mezzanine Viewing Area.

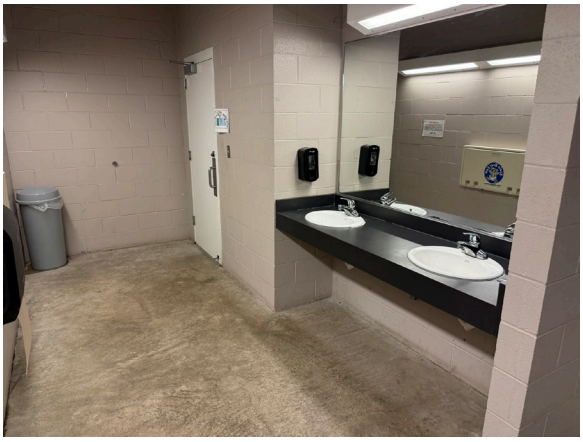
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

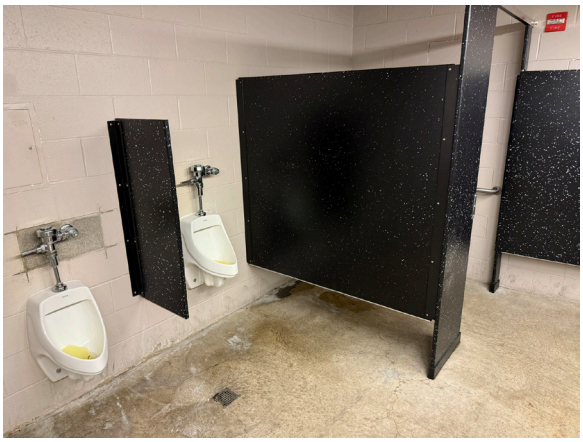
- No accessible egress from second floor (no accessible entry to begin with though).

60. OUTDOOR POOL BUILDING MENS RESTROOM









SPACE DESCRIPTION AND ASSESSMENT:
Restroom space includes two sinks, two urinals (one at accessible height), and one toilet stall are provided.

- Accessed from the outdoor pool deck in the Pool Building,

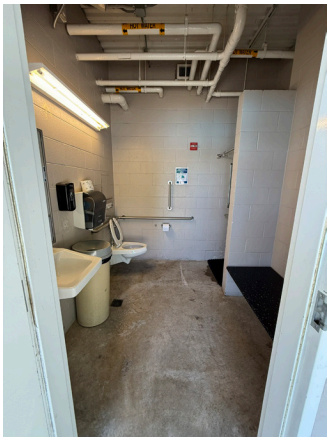
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

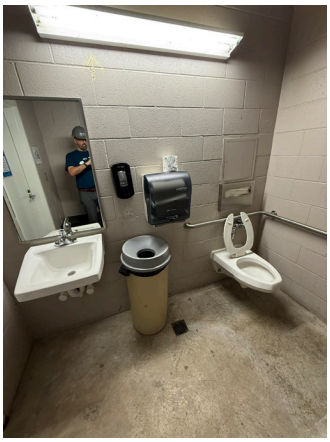
- Apply a new coat of paint to room.

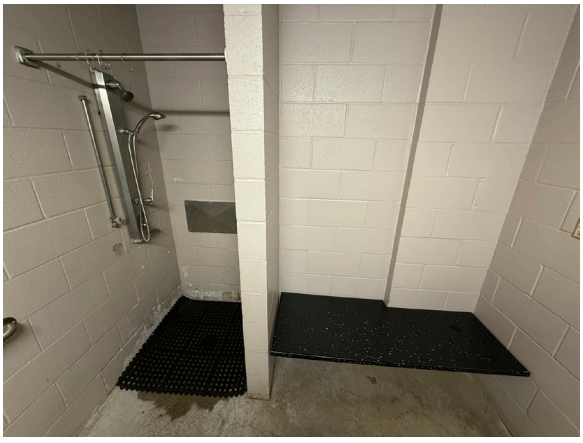
ACCESSIBILITY UPGRADES:

- All under-sink piping must be covered with a temperature controlled slip-cover.
- Wheelchair toilet compartments with a door swinging in from of the wall partition are required to have 42" clear of walkway space outside of the stall from surface of partition to surface of wall. Floor plans indicate only 38" is provided. Verify in field. Could replace with a compartment that extends all the way to the masonry wall in front, with a door from the side swinging into the compartment.
- Replace existing grab bar in accessible stall with updated set of grab bars, including 18" vertical grab bar. Confirm that clear floor area from masonry wall to inside of stall partition is indeed 60" clear.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

61. OUTDOOR POOL BUILDING FAMILY CHANGING ROOM







SPACE DESCRIPTION AND ASSESSMENT:
Restroom space includes bench, shower, sink, and toilet.

- Accessed from the outdoor pool deck in the Pool Building.

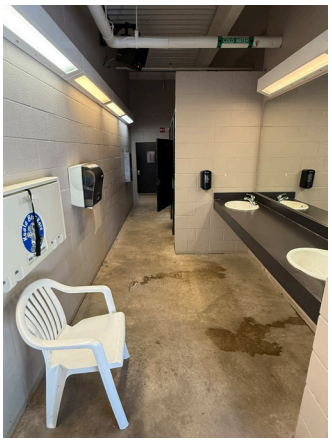
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

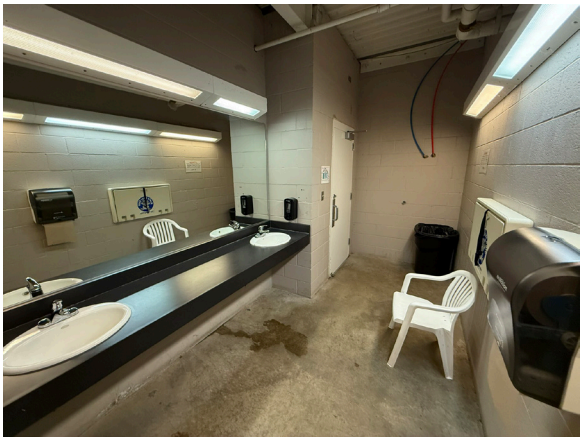
- Apply a new coat of paint to room. Apply tile, FRP, or other lining material within shower.

ACCESSIBILITY UPGRADES:

- Replace existing grab bar with updated set of grab bars, including 18" vertical grab bar.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.
- Paper towels dispenser should not protrude more than 4" into 60" x 56" toilet clearance.

62. OUTDOOR POOL BUILDING WOMENS RESTROOM





SPACE DESCRIPTION AND ASSESSMENT:
Restroom space includes two sinks and three toilet stalls are provided.

- Accessed from the outdoor pool deck in the Pool Building.

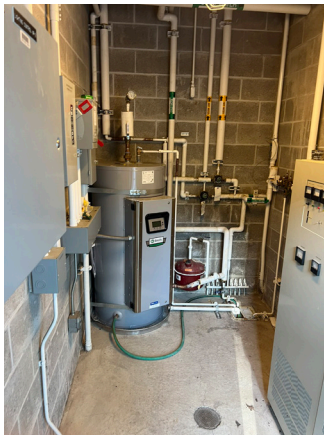
SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Apply a new coat of paint to room.

ACCESSIBILITY UPGRADES:

- All under-sink piping must be covered with a temperature controlled slip-cover.
- Wheelchair toilet compartments with a door swinging in from of the wall partition are required to have 42" clear of walkway space outside of the stall from surface of partition to surface of wall. Floor plans indicate only 41" is provided. Verify in field. Could replace with a compartment that extends all the way to the masonry wall in front, with a door from the side swinging into the compartment.
- Replace existing grab bar in accessible stall with updated set of grab bars, including 18" vertical grab bar. Confirm that clear floor area from masonry wall to inside of stall partition is indeed 60" clear.
- Toilet accessories, including toilet paper dispenser, toilet seat cover dispenser, and sanitary napkin disposal container must be within accessible reach range - meeting ANSI Sec 604.7 Dispenser Outlet Location.

63. OUTDOOR POOL BUILDING ELECTRICAL ROOM



SPACE DESCRIPTION AND ASSESSMENT:
This room is used to house the hot water boiler for the adjacent restrooms and changing room.

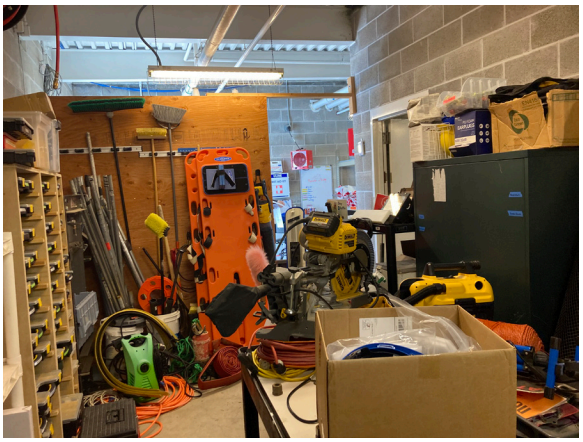
- Multiple electrical panels are wall-mounted to serve the outdoor pool building.
- There is no additional pool equipment storage in this room.

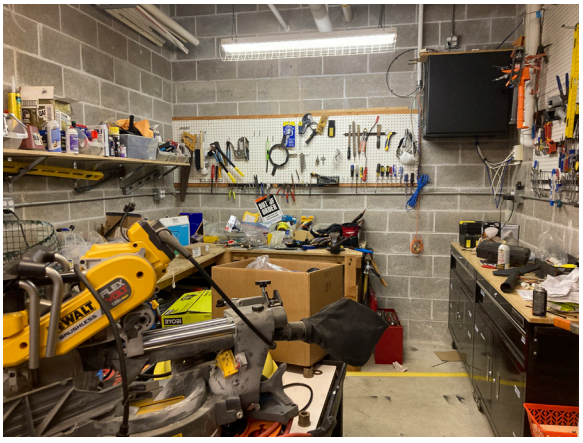
64. OUTDOOR POOL BUILDING BOILER ROOM

SPACE DESCRIPTION AND ASSESSMENT:
Space includes heating mechanical units for outdoor pools.

- Accessible from within Pool Building Storage Room.
- Single man-door access out to exterior on west side.

65. OUTDOOR POOL BUILDING STORAGE ROOM





SPACE DESCRIPTION AND ASSESSMENT:
Currently used as a staff break area, a first-aid supplies storage area, and a workshop.

- Accessed from outdoor pool deck.

SPACE RECOMMENDATIONS AND OPTIONS FOR FURTHER STUDY:

- Install wall-mounted storage systems for tool and equipment organization.

66. OUTDOOR POOL BUILDING CHEMICAL STORAGE ROOM

SPACE DESCRIPTION AND ASSESSMENT:
This space is being used for pool chlorinator systems.

- Accessed from west of side of building exterior only.

67. OUTDOOR POOL BUILDING MECHANICAL ROOM

SPACE DESCRIPTION AND ASSESSMENT:
Space holds MEP equipment for outdoor pools.

- Accessed from outdoor pool deck.

Aquatics - Counsilman-Hunsaker

Osborn Aquatic Center
Swimming Pool Audit

Scott Edwards Architecture, LLP

Counsilman · Hunsaker
AQUATICS FOR LIFE

Report Outline

A. EXECUTIVE SUMMARY

B. POOL INFORMATION

C. POOL ITEMS

1. Pool Floor Slopes & Diving Envelope (All Pools)
2. Pool Shell Structure and Finish (50-Meter Pool)
3. Pool Shell Structure and Finish (Therapy Pool)
4. Pool Shell Structure and Finish (25-Meter Pool)
5. Pool Shell Structure and Finish (Leisure Pool)
6. Movable Bulkhead (50-Meter Pool)
7. Perimeter Overflow System (50-Meter Pool)
8. Perimeter Overflow System (Therapy Pool)
9. Perimeter Overflow System (25-Meter Pool)
10. Perimeter Overflow System (Leisure Pool)
11. Main Drains (50-Meter Pool)
12. Main Drains (Therapy Pool)
13. Main Drains (25-Meter Pool)
14. Main Drains (Leisure Pool)
15. Inlets (50-Meter Pool)
16. Inlets (Therapy Pool)
17. Inlets (25-Meter Pool)
18. Inlets (Leisure Pool)
19. Underwater Lights (50-Meter Pool)
20. Underwater Lights (Therapy Pool)
21. Underwater Lights (25-Meter Pool)
22. Underwater Lights (Leisure Pool)
23. Ingress and Egress (50-Meter Pool)
24. Ingress and Egress (Therapy Pool)
25. Ingress and Egress (25-Meter Pool)
26. Ingress and Egress (Leisure Pool)
27. Markings and Anchors (50-Meter Pool)
28. Markings and Anchors (Therapy Pool)
29. Markings and Anchors (25-Meter Pool)
30. Markings and Anchors (Leisure Pool)
31. Pool Features (Leisure Pool)

D. DECK ITEMS

1. Deck (Indoor Pools)
2. Deck (Outdoor Pools)

3. Diving Boards (50-Meter Pool)
4. Starting Blocks (50-Meter Pool and 25-Meter Pool)
5. False Start and Backstroke Stanchions (50-Meter Pool and 25-Meter Pool)
6. Safety Equipment (All Pools)
7. Timing System (50-Meter Pool)

E. POOL MECHANICAL ITEMS

1. Piping and Valves (Indoor Pools)
2. Piping and Valves (Outdoor Pools)
3. Pumps (50-Meter Pool)
4. Pumps (Therapy Pool)
5. Pumps (25-Meter Pool)
6. Pumps (Leisure Pool)
7. Filtration (50-Meter Pool)
8. Filtration (Therapy Pool)
9. Filtration (25-Meter Pool)
10. Filtration (Leisure Pool)
11. Surge Tanks (Outdoor Pools)
12. Chemical Treatment (All Pools)
13. Chemical Controllers (All Pools)
14. UV Treatment (Indoor Pools)
15. Pool Heating (Indoor Pools)
16. Pool Heating (Outdoor Pools)
17. Make-up Water (Indoor Pools)
18. Make-up Water (Outdoor Pools)
19. Indoor Pool Mechanical Room (Overall Conditions)
20. Outdoor Pool Mechanical Room (Overall Conditions)

F. CONCLUSION

A. EXECUTIVE SUMMARY

Scott Edwards Architecture, authorized by Corvallis School District and City of Corvallis, commissioned Counsilman-Hunsaker to provide a swimming pool audit in April, 2025. The indoor swimming pools at Osborn Aquatic Center were constructed in 1977. Improvements have been made to the pools and mechanical systems over the years with the most significant renovation in 2000 with the addition of the outdoor leisure pool and lap pool.

The primary objective of the audit was to evaluate the physical condition, operational performance, and regulatory compliance of the aquatic facility's multiple pools and mechanical systems, and to provide recommendations.

Osborn Aquatic Center, in addition to the expansion in 2000, has undergone several more minor updates to keep the facility running long-term. While various systems and surfaces have been repaired or replaced over time, most infrastructure elements are nearing or exceeding their useful life. This report identifies numerous areas where deferred maintenance and aging infrastructure compromise safety, code compliance, operational efficiency, and aesthetics. Key findings of the most significant recommendations are summarized below by priority. Detailed observations and recommendations for each aspect of the pools and respective mechanical systems are provided in subsequent report sections.

It is critical to note that the 50-Meter Pool and Therapy Pool are nearly 50 years old, which is typically considered the maximum intended life for a concrete pool shell. The pools have been well maintained, but the age and programming requirements of each pool need to be considered when planning for the facility’s future. The failure of a pool structure is nearly impossible to predict, but the risk increases over time. Complete replacement of these pools is listed as priority 3, but it should be emphasized that a plan for replacement or retirement of these pools should occur in the short term and be informed by the complete report by Scott Edwards Architecture.

1. **Address immediately**
    a. Ensure VGBA/ANSI compliance for suction outlets in all pools.
    b. Configure accessible lifts for all pools to comply with ADA requirements.
    c. Replace finishes and underwater lights in 50-Meter Pool.
    d. Replace bulkhead in 50-Meter Pool.
    e. Replace finishes and underwater lights in Therapy Pool.
    f. Replace components of pool mechanical systems that are at end of useful life.

*Opinion of probable cost is expressed in present value dollars as of the date of this report.

Counsilman · Hunsaker
AQUATICS FOR LIFE

Osborn Aquatic Center-Corvallis, OR
*PRELIMINARY Opinion of Probable Construction Cost 7/10/2025

ITEM		COST	
Indoor 50-Meter Pool		$758,748.73	
Deck Equipment		$17,800.00	
Loose Equipment		$7,555.56	
	Pool Subtotal		$784,104.29
Indoor Therapy Pool		$107,889.43	
Deck Equipment		$4,888.89	
	Pool Subtotal		$112,778.32
Outdoor 25-Meter Pool		$11,546.67	
Deck Equipment		$2,611.11	
	Pool Subtotal		$14,157.78
Outdoor Leisure Pool		$12,077.33	
Deck Equipment		$2,611.11	
	Pool Subtotal		$14,688.44
TOTAL AQUATICS COST ESTIMATE (Inflation & general contractor mark-up not included)			$925,728.83
Contingency	5%		$972,015.27
TOTAL AQUATICS COST ESTIMATE			$973,000.00

The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable cost are representative only of the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinion of probable costs.

2. **Address within five to ten years**
    a. Replace 50-Meter Pool recirculation and water treatment equipment.
    b. Replace Therapy Pool recirculation and water treatment equipment.
    c. Replace spray features, waterslide, and play structure in the Leisure Pool.
    d. Replace timing system and any deck equipment that is at the end of its useful life.

*Opinion of probable cost is expressed in present value dollars as of the date of this report.

Counsilman · Hunsaker
AQUATICS FOR LIFE

Osborn Aquatic Center-Corvallis, OR
*PRELIMINARY Opinion of Probable Construction Cost — 8/13/2025

ITEM		COST	
Indoor 50-Meter Pool		$467,431.38	
Deck Equipment		$155,800.00	
Loose Equipment		$26,000.00	
Maintenance Equipment		$8,944.44	
Safety Equipment		$4,027.78	
Timing System and Scoreboard		$143,866.67	
	Pool Subtotal		$806,070.27
Indoor Therapy Pool		$159,054.71	
Deck Equipment		$22,333.33	
Maintenance Equipment		$8,805.56	
Safety Equipment		$3,583.33	
	Pool Subtotal		$193,776.93
Outdoor 25-Meter Pool		$22,997.33	
Deck Equipment		$78,744.44	
Loose Equipment		$10,555.56	
Maintenance Equipment		$8,944.44	
Safety Equipment		$3,883.33	
	Pool Subtotal		$125,125.11
Outdoor Leisure Pool		$37,893.33	
Deck Equipment		$31,833.33	
Loose Equipment		$0.00	
Maintenance Equipment		$8,944.44	
Safety Equipment		$4,027.78	
Waterslide		$252,377.78	
Play Structure		$181,631.11	
Spray Features		$45,000.00	
	Pool Subtotal		$561,707.78
TOTAL AQUATICS COST ESTIMATE (Inflation & general contractor mark-up not included)			$1,686,680.09
Contingency	5%		$1,771,014.09
TOTAL AQUATICS COST ESTIMATE			$1,772,000.00

The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable cost are representative only of the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinion of probable costs.

3. **Address within ten to twenty years**
    a. Replace the concrete shells of the 50-Meter Pool and Therapy pools. Reconfigure pool designs to suit the current needs of the facility.
    b. Replace 50-Meter Pool and Therapy pool piping, recirculation and water treatment equipment in conjunction with replacement of the pool vessels.
    c. Assess and renovate the 25-Meter Pool and Leisure Pool finishes, and recirculation and water treatment equipment.

*Opinion of probable cost is expressed in present value dollars as of the date of this report.

Counsilman · Hunsaker
AQUATICS FOR LIFE

Osborn Aquatic Center-Corvallis, OR
*PRELIMINARY Opinion of Probable Construction Cost 7/10/2025

ITEM		COST	
Indoor 50-Meter Pool		$2,510,862.02	
Deck Equipment		$171,077.78	
Loose Equipment		$26,000.00	
Maintenance Equipment		$8,944.44	
Safety Equipment		$4,027.78	
Timing System and Scoreboard		$119,422.22	
	Pool Subtotal		$2,840,334.24
Indoor Therapy Pool		$413,667.91	
Deck Equipment		$24,277.78	
Loose Equipment		$0.00	
Maintenance Equipment		$8,805.56	
Safety Equipment		$3,583.33	
	Pool Subtotal		$450,334.58
Outdoor 25-Meter Pool		$203,522.88	
Deck Equipment		$76,800.00	
Loose Equipment		$10,555.56	
Maintenance Equipment		$8,944.44	
Safety Equipment		$3,883.33	
Timing System and Scoreboard		$71,422.22	
	Pool Subtotal		$375,128.43
Outdoor Leisure Pool		$394,719.15	
Deck Equipment		$29,888.89	
Loose Equipment		$0.00	
Maintenance Equipment		$8,944.44	
Safety Equipment		$4,027.78	
Waterslide		$253,820.63	
Play Structure		$184,930.16	
Spray Features		$45,000.00	
	Pool Subtotal		$921,331.05
TOTAL AQUATICS COST ESTIMATE (Inflation & general contractor mark-up not included)			$4,587,128.30
Contingency	5%		$4,816,484.72
TOTAL AQUATICS COST ESTIMATE			$4,817,000.00

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4. **Address within twenty to fifty years***
    a. Replace the pool shells of the outdoor pools and reconfigure pool designs to suit needs of the facility.
    b. Reassess all pool structures, finishes, and equipment against current facility conditions and needs.

*Priority 4 items represent many unknowns that are too far into the future for a meaningful opinion of probable cost at the present time.

B. POOL INFORMATION

1. Indoor 50-Meter Pool
    a. Dimensions – 166’-3” length by 56’-0” width
    b. Surface Area – 9,310 square feet
    c. Depth – 13 feet depth at deep end, 3.5 feet depth at shallow end
    d. Number of Lanes – 8
    e. Lane Width – 7 feet
    f. Volume – 473,000 gallons
    g. Perimeter – 444’-6”
    h. Diving – 1-meter and 3-meter springboards

2. Indoor Therapy Pool
    a. Dimensions – 38’-0” length by 22’-0” width
    b. Surface Area – 836 square feet surface area
    c. Depth – 2 feet depth at the stair entry, 4.5 feet depth at the deep end
    d. Volume – 18,720 gallons
    e. Perimeter – 120 feet

3. Outdoor 25-Meter Pool
    a. Dimensions – 82’-1” length by 42’-0” width
    b. Surface Area – 3,520 square feet surface area
    c. Depth – 3’-6” depth at shallow end, 6’-0” depth at deep end
    d. Number of Lanes – 6
    e. Lane Width – 7 feet
    f. Volume – 122,450 gallons
    g. Perimeter – 258 feet

4. Outdoor Leisure Pool
    a. Dimensions – Freeform with approximately 110 feet overall length, 80 feet overall width
    b. Surface Area – 5,800 square feet surface area
    c. Depth – Large zero depth entry, 3’-6” depth at deepest point
    d. Volume – 76,050 gallons
    e. Features – Waterslide, current channel, bubble bench, spray features, play structure

Dimensions and volumes taken from as-builts provided.

C. POOL ITEMS

CH Observations, Comments and Recommendations:

1. Pool Floor Slopes & Diving Envelope (All Pools)

Observations and Comments:

a) For the purposes of this report, the pools will be compared against the current Oregon health code OAR-333-060-1000 as well as governing rulebooks from World Aquatics, USA Swimming, USA Diving, and NFHS.

b) Bottom Slope: Oregon code restricts the pool bottom sloping as follows:

4.5.2.1A Under Five Feet In water depths under 5 feet (1.5 m), the slope of the floor of all POOLS shall not exceed 1 foot (30.5 cm) vertical drop for every 12 feet (3.7 m) horizontal.

4.5.2.2 Five Feet or Over In water depths 5 foot (1.5 m) and greater, the slope of the floors of all POOLS shall not exceed 1 foot (30.5 cm) vertical to 3 feet (0.9 m) horizontal. Exception: POOLS designed and used for competitive diving shall be designed to meet the STANDARDS of the sanctioning organization (such as NFHS, NCAA, USA Diving, or FINA).

c) The 50-Meter Pool was constructed in 1977, predating most modern aquatic codes, and it should be noted that the floor and sloping of this pool does not conform to current Oregon Health Authority code. The horizontal distance between the 7’ and 13’ depth contour was measured on site to be 13’-6”, a slope of 1.33:3 that exceeds the 1:3 maximum.

d) The Therapy Pool was constructed with the 50-Meter Pool in 1977. The 25-Meter Pool and Leisure Pool were constructed together in 1999. These three pools conform to current Oregon code requirements for bottom slope.

e) According to available plans, the 50-Meter Pool meets the diving envelope requirements for 1-meter and 3-meter springboard in its current configuration, provided that the bulkhead is parked minimum 34’-1 ½” from the pool wall.

f) Both the 50-Meter Pool and 25-Meter Pool conform to USA Swimming depth requirements for racing starts in their current configuration.

Recommendations:

a) If Osborn Aquatic Cener is to pursue a significant renovation of the 50-Meter Pool, it is recommended to pursue a variance to allow for the pool bottom slope to deviate from current code. Altering the pool bottom slope to comply with current codes would require a complete replacement of the pool shell, and full

compliance would be excessively costly and burdensome. Considering the age of the pool, a complete replacement would be more cost effective than an effort to alter the pool shell in any significant way.

2. Pool Shell Structure and Finish (50-Meter Pool)

Observations and Comments:

a) The 50-Meter pool is constructed of reinforced concrete; the overflow system consists of a fully-recessed gutter, also constructed of reinforced concrete. Overall, the concrete structure appears to be in good condition. No major cracking or spalling was observed. Only minor and isolated cracking was observed on areas of bare concrete areas such as inside the gutter troughs.

b) The facility operators were not able to comment on the exact water usage of the pool over time, but they reported that makeup water is not running excessively, and there is little concern that the pool shell is losing a significant amount of water over time.

c) The 50-Meter Pool has two (2) elastomeric expansion joints that run perpendicular to the racing lanes and roughly divide the pool in three. The joints are in fair condition and have been redone several times over the lifespan of the pool.

d) The interior of the pool is a plaster finish applied to the concrete structure with 1" tile inlay floor markings, wall markings, and perimeter that wraps from the vertical wall above water level to the horizontal deck. The gutter lip has a handhold tile around the perimeter at water level. The vertical tileband above water level interfaces with the horizontal perimeter tileband with a secondary handhold tile at deck level.

    i. The plaster finish in the 50-meter pool has reportedly not been replaced since 1999 and is well beyond its intended lifespan. Plaster finishes for pool interiors are generally recommended to be redone every 7-10 years. The plaster in this pool is in poor condition with extreme discoloration and staining throughout. The plaster has been dry since October 2024 when roof structure concerns necessitated that the pool be drained so shoring could be installed from the pool floor.

    ii. The pool floor tile inlays and grout are original to the pool and are in fair condition with minor staining and very few loose or missing tiles. Refer to section Pool Markings and Anchors (50-Meter Pool) for additional observations regarding wall targets, lane markings, and depth-indicating contrasting tile bands.

    iii. The tile band wrapping between the vertical perimeter, deck-level handhold, and horizontal deck perimeter is original to the pool and in relatively poor condition. There is significant calcification throughout and multiple areas of missing, broken, or patched tile that causes an unsightly condition.

Recommendations:

a) After the roof is repaired and shoring is removed, the pool plaster needs to be replaced without question. The current plaster is well beyond its intended lifespan and will not perform after being dry for such an extended period. It is recommended to remove all existing plaster and apply new plaster from bare concrete.

b) Remove and replace caulk sealant in the pool expansion joints in conjunction with replaster work. Monitor and maintain all sealant installations.

c) Replace perimeter tile band that wraps between deck level and vertical and associated handhold. Replace handhold tile at water level.

d) Clean existing tiles and grout in existing pool floor inlays. Replace tiles and grout where needed. For additional recommendations, refer to section Pool Markings and Anchors (50-Meter Pool)

e) Consider a Myrtha RenovAction refurbishment as an alternative to replacing finishes. By this process, the existing pool walls are retrofitted with Myrtha's proprietary stainless-steel panels, and the pool floor receives a PVC liner. This eliminates the need for all future refinishing.

3. Pool Shell Structure and Finish (Therapy Pool)

Observations and Comments:

a) The Therapy pool is constructed of reinforced concrete; the overflow system consists of a rollout-style gutter trough, also constructed of reinforced concrete. Overall, the concrete structure of the Therapy pool appears to be in very good condition with only minimal hairline cracking appearing where the pool shell meets the deck.

b) As with the other pools, water loss from the Therapy Pool is not metered. However, there is not an alarming amount of makeup water being used and leakage through the pool shell is not a major concern.

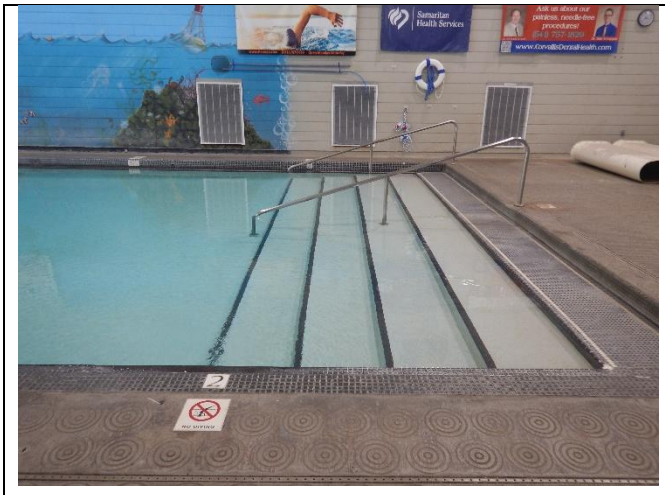
c) The Therapy Pool has a quartz cement finish that was applied in 2011. The plaster is in good condition for its age with only minor blemishes and discoloration.

d) A 1" tile perimeter wraps from the water line into the gutter trough and up to deck level around the pool perimeter. The top tread of the pool stair is also tile. The tile in the Therapy Pool is in fair to poor condition and is showing significant wear with areas of chipping, areas of patch putty repair, and discoloration throughout. The associated grout is in fair condition. The tile has an overall unsightly appearance.

Recommendations:

a) The quartz cement plaster finish in the Therapy Pool is at the end of its intended service life and is due for replacement. It is recommended to strip the existing plaster and apply new finish to bare concrete.

b) Due to the significant wear on the tile finish and multiple patches of missing tile, it is recommended to replace the tile and grout in conjunction with replastering.



	 4 1/2 NO DIVING
	

4. Pool Shell Structure and Finish (25-Meter Pool)

Observations and Comments:

a) The outdoor 25-Meter Pool is a Myrtha system that was installed as part of the 1999 expansion of the facility. It consists of a reinforced concrete slab floor with stainless steel panel walls anchored and buttressed to the concrete slab. The deck-level gutter is a stainless-steel trough that is integrated with the pool walls with ceramic tile waterline and ceramic handhold around the overflow perimeter. Both the pool floor and stainless-steel walls appear to be in excellent condition. The perimeter tile is in very good condition, with only minor staining in the grout.

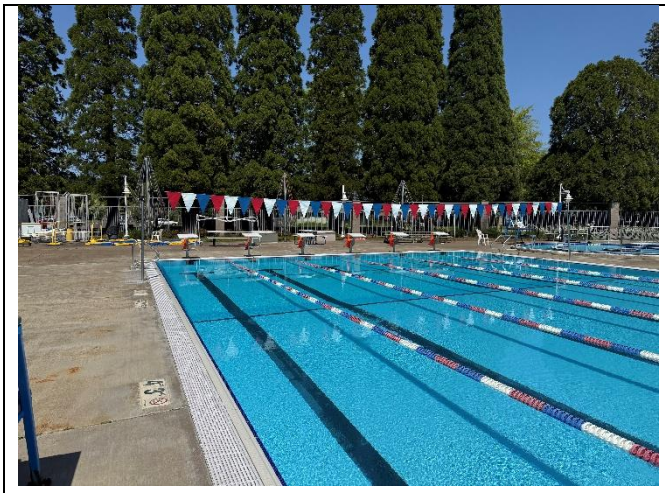
b) The 25-Meter Pool finish is an adhered PVC liner with contrasting black wall targets and lane markers. The liner material was reportedly replaced in 2021 and is in very good condition.

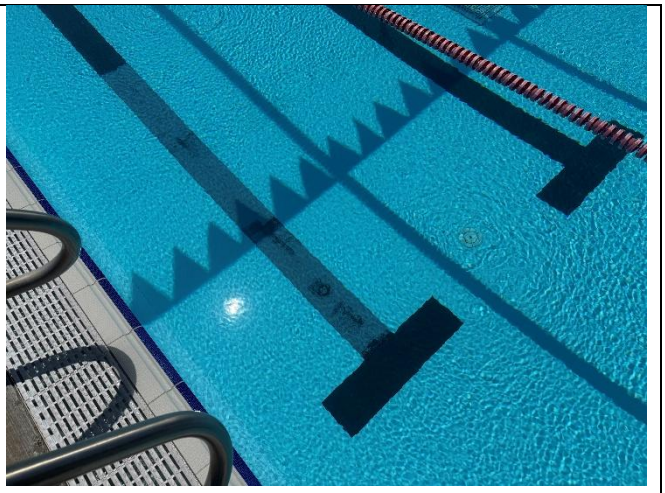
   i. The contrasting black wall targets and floor markings are rapidly fading from sun and chemical exposure. This fading is uneven and easily seen from the deck and by swimmers under the water surface.

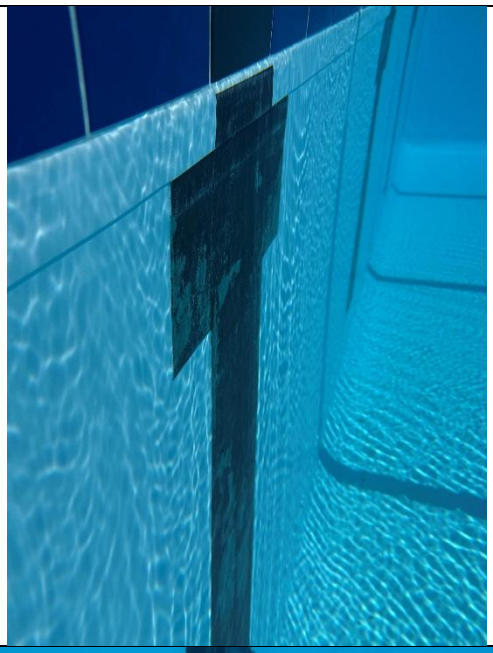
Recommendations:

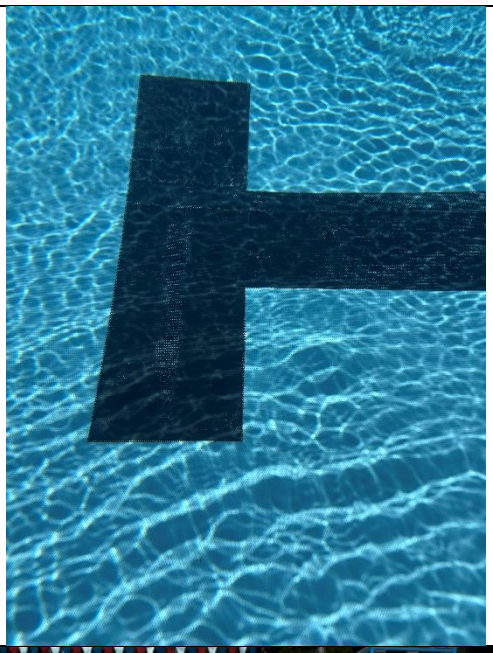
a) Continue to maintain the pool structure and PVC liner according to manufacturer recommendations. Monitor for any delamination or damage to perimeter tile.

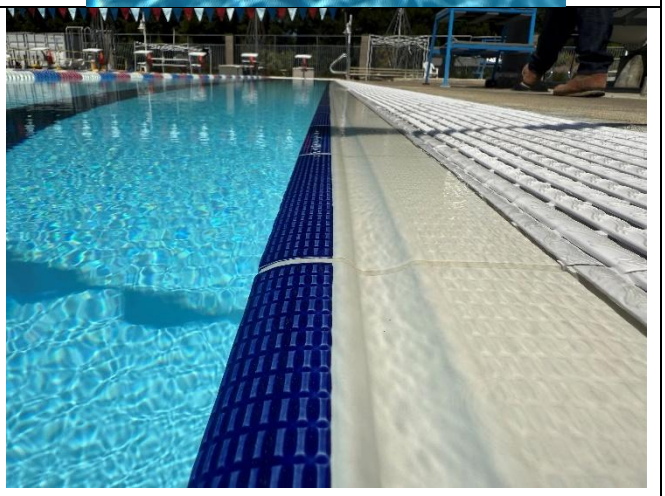
b) Repair or replace the fading lane markings and wall targets. It may be necessary to remove the existing markings and adhere a new layer of black PVC liner.











5. Pool Shell Structure and Finish (Leisure Pool)

Observations and Comments:

a) Like the 25-Meter Pool, the outdoor Leisure Pool is a Myrtha system that was installed as part of the 1999 expansion. It consists of a reinforced concrete slab floor with stainless steel panel walls anchored and buttressed to the concrete slab. The deck-level gutter is a stainless-steel trough that is integrated with the pool walls with a ceramic tile waterline and ceramic handhold around the overflow perimeter. Both the pool floor and stainless-steel walls appear to be in excellent condition.

b) The Leisure Pool finish is an adhered PVC liner with a textured grip finish at the zero entry. The liner was replaced in recent years and is in very good condition.

c) The Leisure Pool has a waterslide, a current channel around an island, and a bubble lounge. In the area of these features, the perimeter transitions to skimmer overflow. There is a deck curb to accommodate the deck level to water level freeboard. The waterline and handhold tile in this area is uniform with that of the gutter perimeter.

    i. The deck curb in the slide and current channel area was observed to have some cracking perpendicular to the pool walls. The current channel island deck also showed cracking.

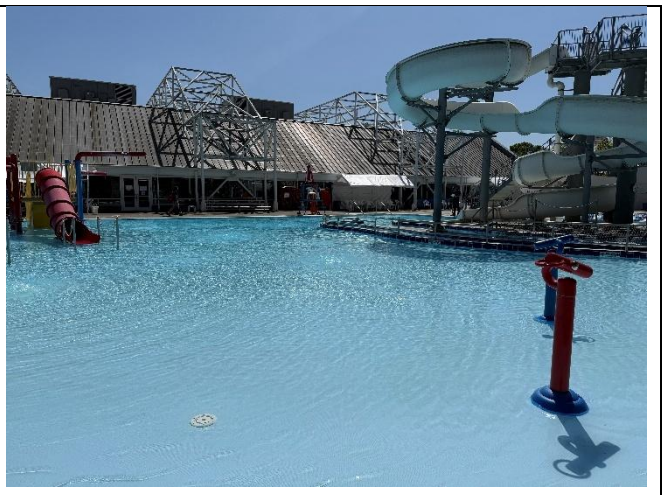
    ii. The handhold tile and grout in this area showed significantly more staining compared to the other areas of the pool where the handhold tile is at the pool's overflow rim. The sealant between the handhold tile and the deck is cracking and failing.

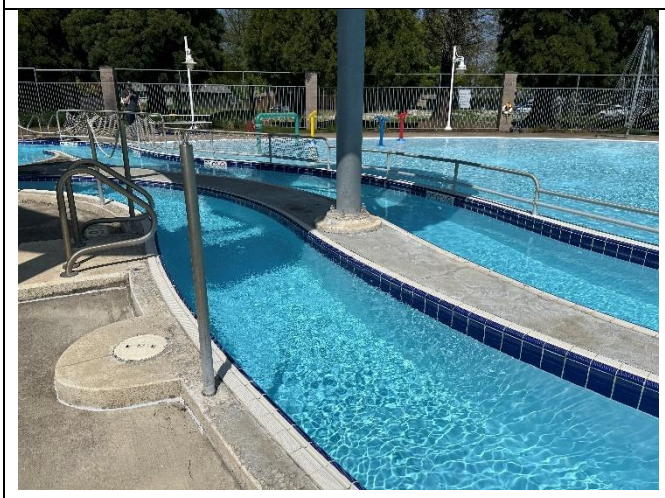
Recommendations:

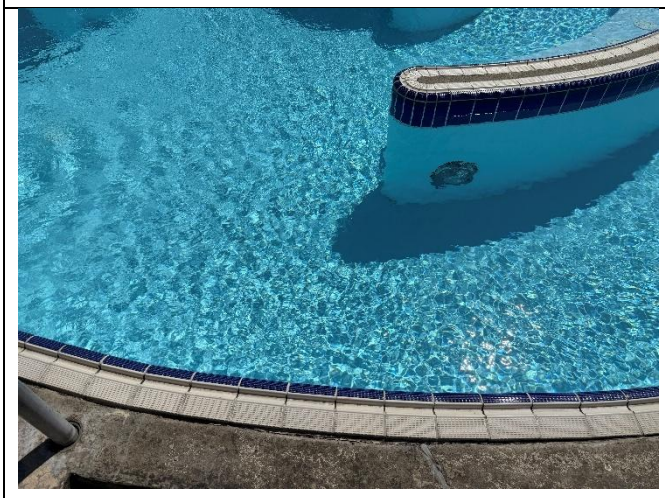
a) Continue to maintain the pool structure and PVC liner according to manufacturer recommendations. Monitor for any delamination or damage to perimeter tile.

b) Clean the waterline and handhold tile and grout in the current channel and slide area. Remove and replace the sealant between the handold tile and the deck. Replace any damaged tiles or grout where necessary.


0 FT 0 IN








3 FT 6 IN
NO DIVING

6. Movable Bulkhead (50-Meter Pool)

Observations and Comments:

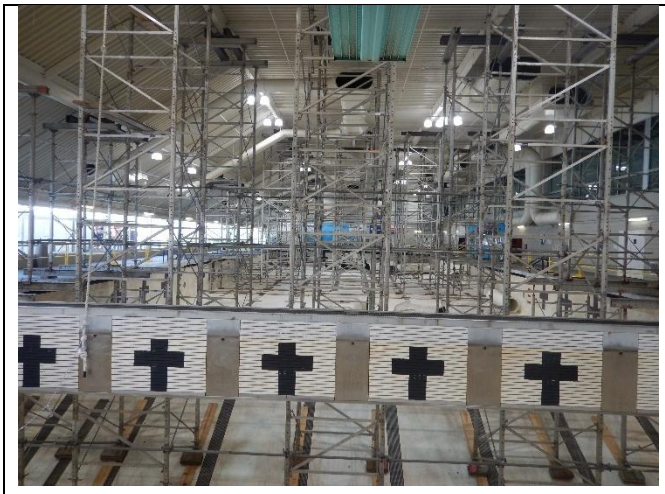
a) The 50-Meter Pool is equipped with a moveable flow-through stainless steel bulkhead that is two feet wide. The bulkhead is critical for pool programming as it allows for several configurations for competition swimming, lap swimming, and diving. The bulkhead is in generally poor condition.

   i. The bulkhead is moved by inflating a floating assembly on each end to reduce bulkhead weight from the pool walls via buoyant force. The bulkhead can then be shifted along the length of the pool on rollers to the desired park location. Osborn Aquatic Center operators reported that the floating assemblies leak, preventing the bulkhead from floating appropriately. This makes the bulkhead difficult to move and has caused significant wear and tear on the roller components.

   ii. The bulkhead also has cosmetic issues including staining on the flowthrough grating and corrosion on the stainless-steel finish. This creates an unsightly condition that is not desirable in a pool that hosts statewide and livestreamed competitions.

Recommendations:

a) Due to the critical nature of the bulkhead for Osborn Aquatic Center operations, it is recommended to replace the entire bulkhead for both ease of operation and aesthetic reasons. A properly operating bulkhead will also help to protect the pool shell and any new finishes applied to the pool perimeter. Engage an aquatics consultant and bulkhead manufacturer to ensure the replacement bulkhead meets the necessary tolerances to preserve swimming course integrity and accommodates timing system needs.



7. Perimeter Overflow System (50-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool overflows into concrete gutter troughs around the perimeter of the pool over a C shaped bullnose tile. The gutter drains through grates into gravity piping to the stilling chamber in the mechanical room. Full perimeter overflow is a code requirement for a pool of this size. Perimeter overflow is vital for wave quelling and a necessity for any pool where aquatic training and competition take place.

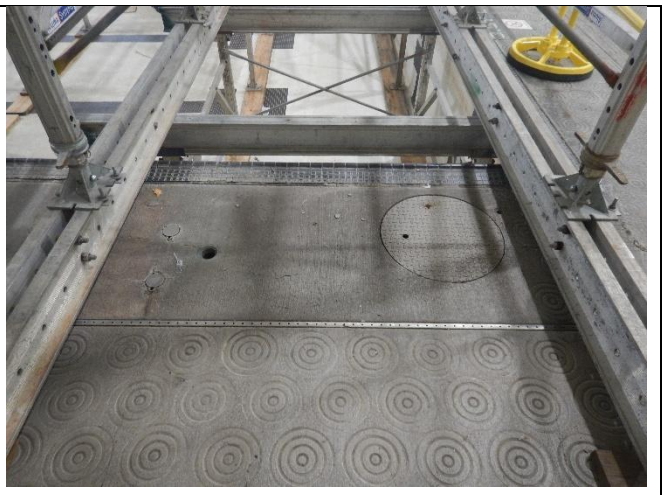
b) Skimming action could not be verified at the time of inspection due to the pool being drained, but operators noted that prior to draining, the pool had very reliable and even skimming action around the entire perimeter, indicating that the gutter system is level and stable.

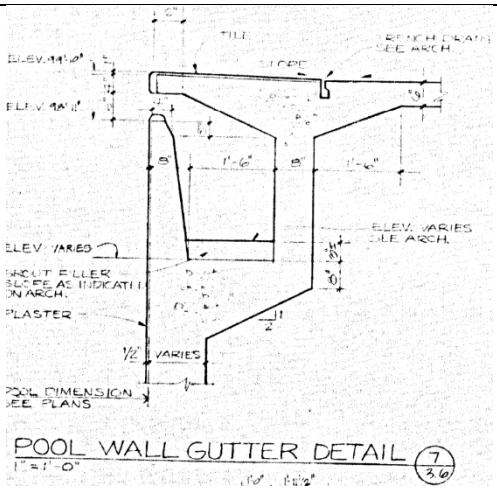
c) The gutter troughs were measured to be over 24 inches deep and 18 inches wide at the bottom, which is ample capacity for a pool of its size. The gutter troughs slope from the center of each pool wall to a gutter drain at each corner.

d) There are four gravity drain outlets with metallic grates, one in each corner of the perimeter gutter. According to archive pool plans, each grate connects to an 8" drain pipe. The drains combine from east and west as two 10" drains into the DE filter tank. The drain grates appear to be original to the pool and are heavily corroded. Each drain is accessed for cleaning by a round steel lid.

Recommendations:

a) Replace drain grates. Monitor skimming performance after pool renovations and continue to clear gutters of debris.




TILE
COPE
SEE ARCH.
ELEV. VARIES
SEE ARCH.
PLASTER
½"
VARIES
POOL DIMENSION
SEE PLANS
POOL WALL GUTTER DETAIL
1" = 1'-0"

8. Perimeter Overflow System (Therapy Pool)

Observations and Comments:

a) The Therapy Pool achieves full perimeter overflow with a small rollout-style formed concrete gutter trough with a 1" tile finish. The gutter drains through grates into gravity piping to the pool's stilling chamber.

b) Skimming action was observed to be occurring around the perimeter of the pool, but slightly unevenly due to minor fluctuations in height of the gutter lip. The pool was empty and calm at the time of inspection due to the natatorium closure, and the uneven skimming action would not be noticeable with bathers in the pool.

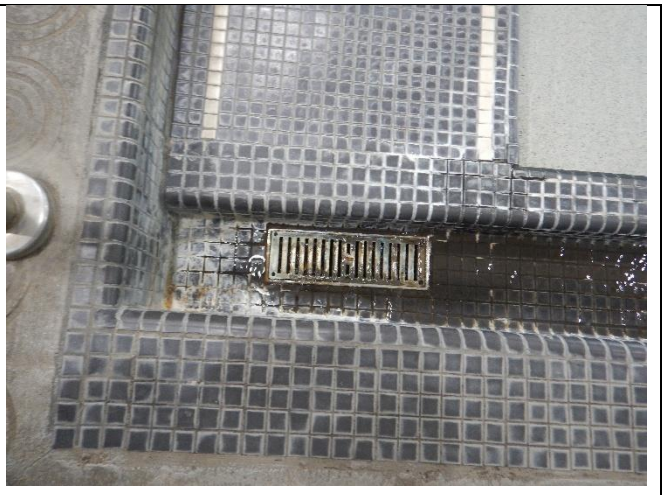
c) The Therapy Pool overflow trough is only 8" wide by 3" deep, which is less capacity than current standards would call for. Gutter flooding due to bather surge was not an issue noted by the operators.

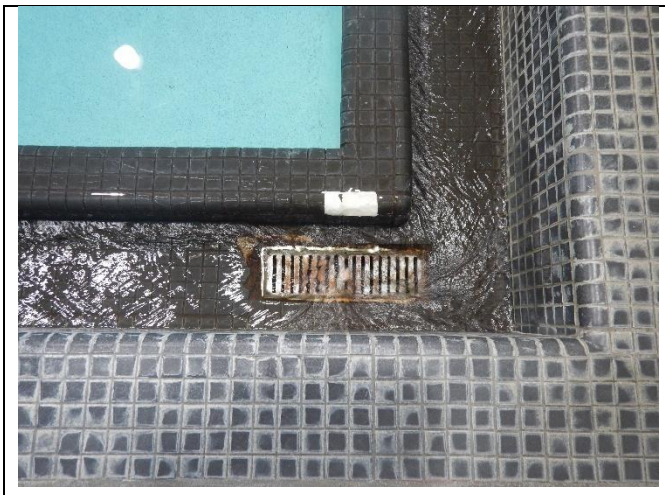
d) There are four exposed gravity drain outlets in the gutter trough, one in each corner of the pool. Each has a metallic grate connecting to an 4" gravity pipe. The pipes combine to a 6" gutter drain pipe to the DE filter tank, according to archive pool plans. The drain grates are in fair condition with only minor surface corrosion. The two gutter drains at the north (deep) end of the pool were observed to be accepting noticeably more flow than the two gutter drains at the south (stair) end.

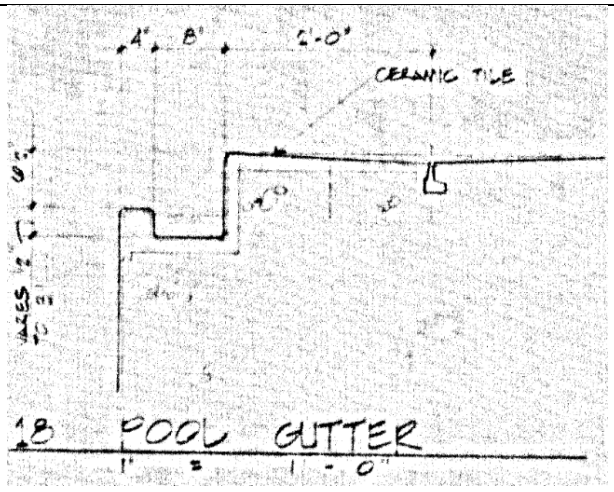
Recommendations:

a) In the case of perimeter refinishing (refer to section "Pool Shell Structure and Finish (Therapy Pool)" ensure that the new finishes create a level flood rim for even and effective skimming action.

b) Replace drain grates with non-corroding material.






4"
B"
1'-0"
CERAMIC TILE
AXES
1B POOL GUTTER
1" = 1 - 0"

9. Perimeter Overflow System (25-Meter Pool)

Observations and Comments:

a) The 25-Meter Pool has full perimeter overflow with a deck-level Myrtha stainless-steel gutter that is integrated with the stainless-steel wall system. The gutters drain to four gutter dropout boxes, two on each long side of the pool. These drain by gravity to the pool's surge tank beneath the mechanical room floor.

b) The gutter trough is covered with a parallel PVC Myrtha grating that was replaced in recent years and is in very good condition. Only minor material failures were seen in isolated locations around the pool.

c) Operators pointed out an issue with the gutter dropout near the southeast corner of the pool that was observed during the site visit. Over the course of one to two minutes, the dropout would slowly flood, bubble, then flush all at once. The bubbling and rush of water would splash out of the gutter trough onto the deck.

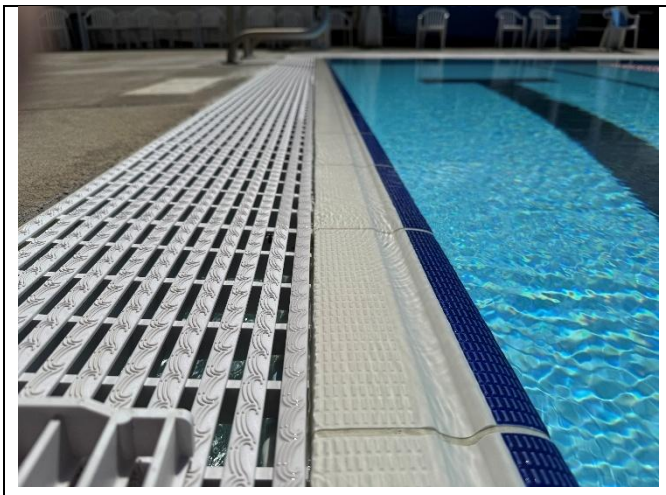
    i. The splash out on the deck after the flushing action is particularly an issue in the winter when the consistent splashing accumulates in a hazardous sheet of ice.

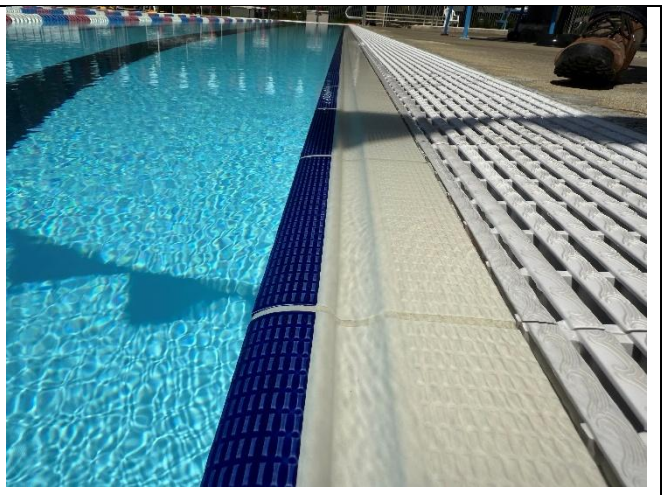
    ii. This issue is most likely due to an issue in the gutter drain piping. A sag or blockage in the pipe could be preventing smooth gravity drainage in such a way that is only overcome by the slight buildup of pressure when water collects in the trough.

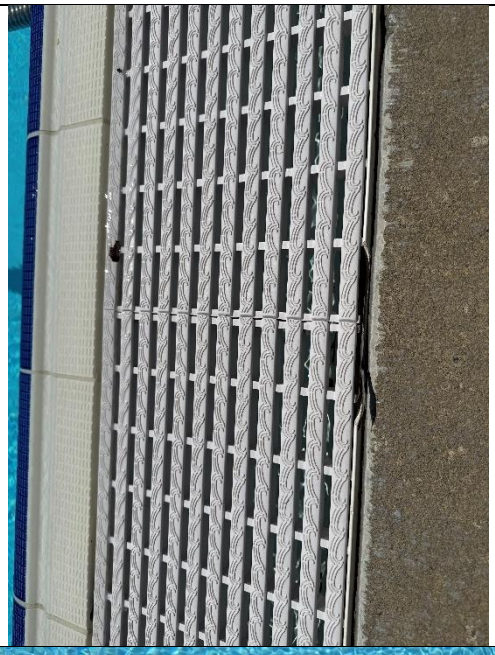
Recommendations:

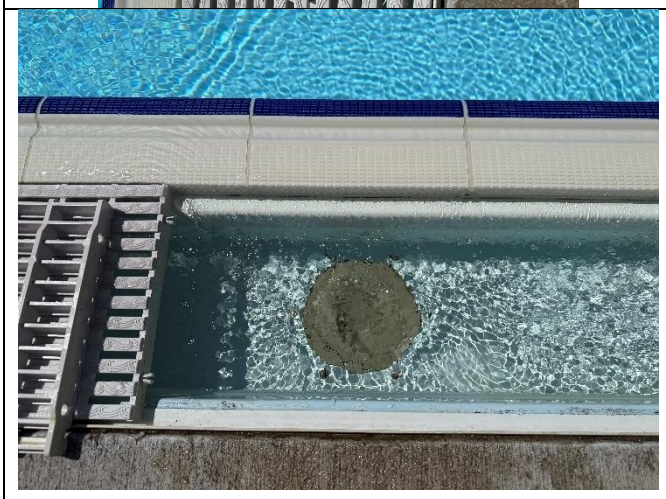
a) Continue maintaining the gutter trough and grating per manufacturer recommendations. Replace grating again when material failures create a hazardous or unsightly condition.

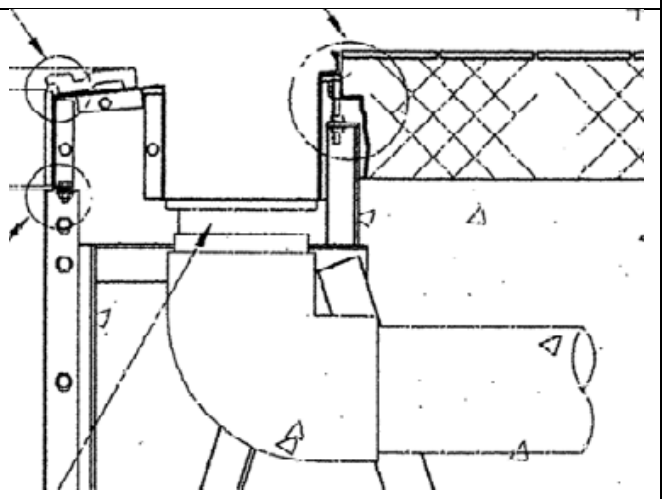
b) A camera probe inspection is recommended from the gutter dropout pipe in the southeast corner. If a blockage is present, a resolution may be possible without costly repairs.











10. Perimeter Overflow System (Leisure Pool)

Observations and Comments:

a) The Leisure Pool, like the 25-Meter Pool, has full perimeter overflow with a deck-level Myrtha stainless-steel gutter that is integrated with the stainless-steel wall system. The gutters drain to dropout boxes, the quantity of which could not be determined by available plans. These drain by gravity to the pool's surge tank beneath the mechanical room floor. Additionally, four skimmers provide surface skimming in the current channel area where there is no deck level gutter.

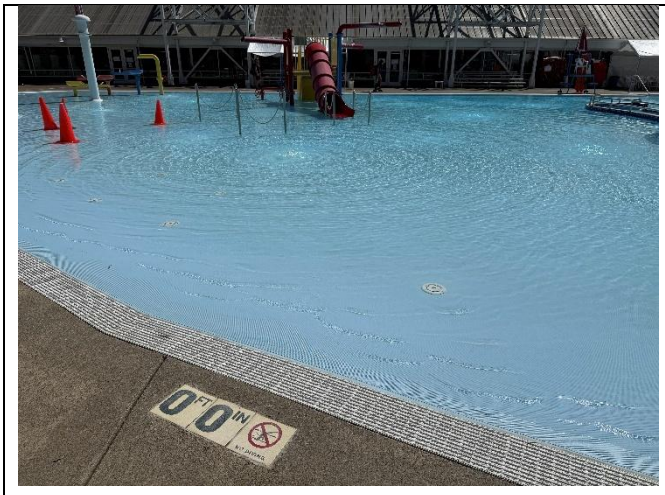
b) As in the 25-Meter Pool, the gutter trough is covered with a parallel PVC Myrtha grating that was replaced in recent years and is in very good condition.

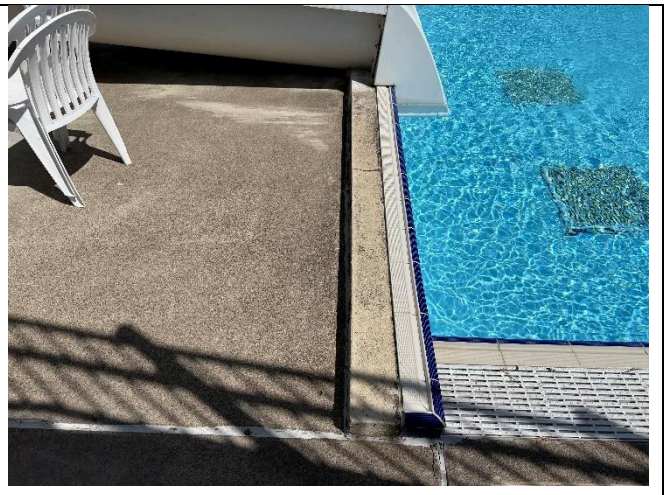
c) The skimmer under the slide tower was observed to be missing its weir. Most pool contaminants float on the surface. The skimmer weir allows for only the very surface of the water to flow into the skimmer throat, simultaneously directing contaminants into the recirculation system and drawing additional surface water toward the skimmer. Without the weir, the skimmer is flooded with subsurface water and contaminants are not removed from the pool as effectively.

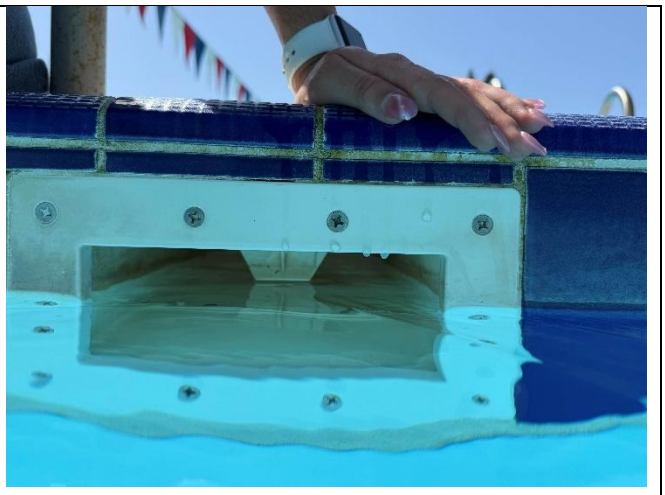
Recommendations:

a) Continue maintaining the gutter trough and grating per manufacturer recommendations. Replace grating again when material failures create hazardous or unsightly conditions.

b) Replace missing skimmer weir. Monitor skimming performance in the current channel area.







11. Main Drains (50-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool has two (2) main drain sumps, each measuring 18”x36”x24” deep, cast into the reinforced concrete pool floor. According to plans, the sumps are connected to each other, then flow to the stilling chamber by a 12” pipe. Prior to draining, each sump was covered with two (2) 18”x18” covers, marked with the NSF logo and ANSI/APSP/ICC-16 2011.

b) The federal law referred to as the Virginia-Graeme Baker Act (VGBA) requires all pools to install entrapment-resistant covers that have been tested and certified to the criteria set forth in ANSI/APSP/ICC-16-2017.

   i. Because VGBA is federal law, the main drains in the 50-Meter Pool are required to conform to the ANSI standard as Suction Outlet Fitting Assemblies (“SOFAs”).

   ii. Because the main drain piping terminates in the DE filter’s stilling chamber, which is open to atmosphere, and does not connect directly to the recirculation pump suction, the pool’s recirculation meets the ANSI definition of “Indirect Suction.”

c) Each main drain sump is equipped with a hydrostatic relief valve to allow groundwater into the pool vessel, protecting the pool structure against a pressure differential. This is critical for the 50-Meter Pool in its current long-term empty condition without pool water counteracting hydrostatic pressure. The hydrostatic relief valves were functioning as intended at the time of the visit. A temporary sump pump was placed in the north main drain to remove groundwater.

d) The sump interiors appear to be bare concrete in fair condition, but their watertightness is unknown.

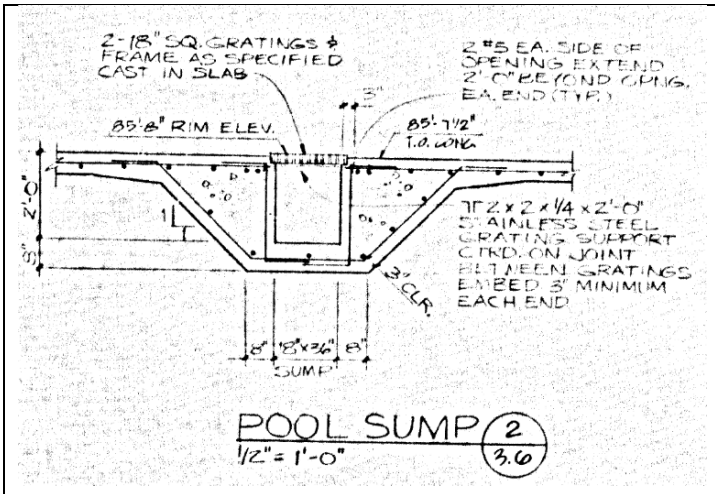
Recommendations:

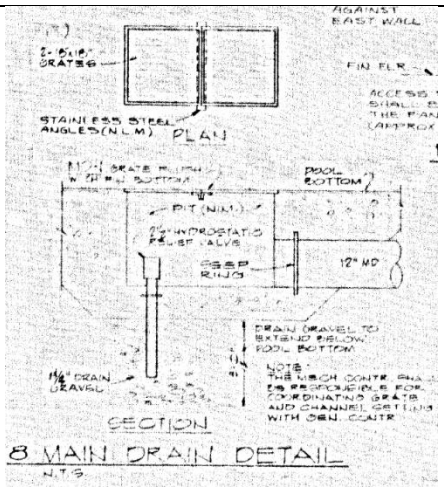
a) Replace main drain covers. Covers certified as non-blockable are always recommended even in a multiple-drain configuration. Ensure new covers comply with VGBA/ANSI and follow manufacturer instructions, with special attention to allowable flow rate through the cover. According to ANSI/APSP/ICC-16 2017 Section 3.3.2, “Replacement cover/grates for existing pools. Manufacturer’s of replacement cover/grates and other SOFA components intended for installation on existing pools with unknown sumps and mud frames shall provide replacement specific instructions for identifying when it is acceptable to attach the new cover/grate and how to confirm the attachment was successful.”

b) Continue to replace covers prior to manufacturer expiration (typically 10 years) or if they become damaged in any way. Maintain installation records and VGBA letters of compliance for all installed covers.

c) Apply new waterproofing to sump interiors to prevent water loss to surrounding grade. Standard main drain sump finishes include epoxy paint and crystalline waterproofing.

d) Confirm the function and condition of hydrostatic relief valves and replace as necessary.


2-18" SQ. GRATINGS & FRAME AS SPECIFIED CAST IN SLAB
2 #5 EA. SIDE OF OPENING EXTEND 2' O.C. BEYOND OPNG. EA. END (TYP.)
85'-8" RIM ELEV.
85'-7 1/2" T.O. CONC.
3" CLR.
TT 2 x 2 x 1/4 x 2'-0" STAINLESS STEEL GRATING SUPPORT CTRD. ON JOINT BETWEEN GRATINGS EMBED 3" MINIMUM EACH END
8" 18"x36" 8"
SUMP
POOL SUMP
1/2" = 1'-0"
2
3.6


AGAINST EAST WALL
2-2'-0" GRATES
STAINLESS STEEL ANGLES (N.L.M.)
PLAN
POOL BOTTOM
PIT (N.I.M.)
2" HYDROSTATIC RELIEF VALVE
SS&P RING
12" MD
DRAIN GRAVEL TO EXTEND BELOW POOL BOTTOM
1 1/4" DRAIN GRAVEL
SECTION
8 MAIN DRAIN DETAIL
N.T.S.

12. Main Drains (Therapy Pool)

Observations and Comments:

a) The Therapy Pool has one (1) main drain sump, measuring 18”x36”x24” deep (according to plans), cast into the reinforced concrete pool floor. The sump is connected to a 6” pipe that flows to the pool filter’s stilling chamber.

b) Refer to VGBA/ANSI/APSP requirements noted in section “Main Drains (50-Meter Pool)”. This pool’s drain would also be categorized as a SOFA under indirect suction. However, there is only a single main drain sump. Current design standards always include SOFA redundancy.

c) Original plans indicate that this sump is equipped with a hydrostatic relief valve. This could not be verified on site.

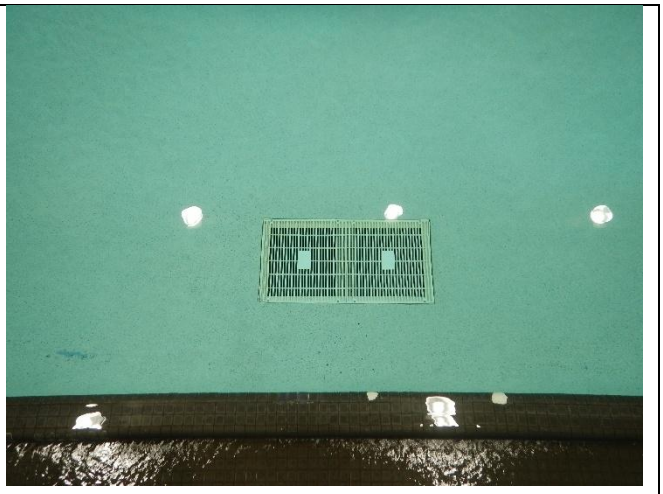
Recommendations:

a) Verify that the main drain cover is not expired and replace if necessary. Non-blockable covers are critical for this pool because there is only one SOFA.

b) Continue to replace covers prior to manufacturer expiration (typically 10 years) or if they become damaged in any way. Maintain installation records and VGBA letters of compliance for all installed covers.

c) Apply new waterproofing to sump interiors to prevent water loss to surrounding grade. Standard main drain sump finishes include epoxy paint and crystalline waterproofing.

d) Confirm the function and condition of hydrostatic relief valves and replace as necessary.



13. Main Drains (25-Meter Pool)

Observations and Comments:

a) The 25-Meter Pool has three (3) main drain sumps, each roughly 18”x18” and covered by a single drain cover. The depth of the sumps and size of the connecting recirculation piping could not be verified by available plans, but the suction piping was seen terminating in the pool’s surge tank.

b) Refer to VGBA/ANSI/APSP requirements noted in section “Main Drains (50-Meter Pool)”. Because the main drain pipe terminates in a vented surge tank, this pool’s main drains are classified as an indirect-suction SOFA. The drain covers did not appear to be common industry-standard VGBA/ANSI/APSP SOFA covers.

c) Operators confirmed that the 25-Meter Pool main drains are equipped with hydrostatic relief valves, but their function and condition could not be verified while the pool system was running.

Recommendations:

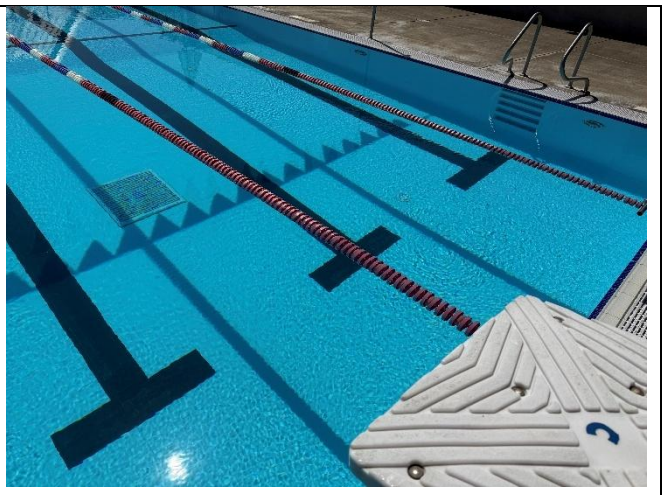
a) Ensure that the drain covers are compliant with the current ANSI standard.

   i. If documentation cannot be found to support compliance, replace all covers immediately with an NSF-listed ANSI-certified drain cover appropriate for the sump size and recirculation flow rate.

   ii. For a three-drain configuration, each drain cover must be rated for half of the recirculation flow rate per VGBA and Oregon code.

b) Continue to replace covers prior to manufacturer expiration (typically 10 years) or if they become damaged in any way. Maintain installation records and VGBA letters of compliance for all installed covers.

c) Confirm the function and condition of hydrostatic relief valves and replace as necessary.



14. Main Drains (Leisure Pool)

Observations and Comments:

a) The Leisure Pool has six (6) main drains for recirculation and feature suction, two (2) beneath the slide flume entry, and four (4) in the open area between the stairs and the zero entry. The available plans did not indicate sump depth or piping configuration to the pool mechanical room. It is presumed that the two main drains under the slide flume entry are for recirculation, and the four near the stairs are for features.

b) The recirculation main drains would be classified as indirect suction SOFAS because the suction piping terminates in the Leisure Pool's vented surge tank. The four feature main drains would be classified as direct-suction SOFAs because they are piped directly to the four feature pump inlets.

c) A twister effect was observed at the water surface centered over the four feature-serving main drains while the feature pumps were running. This indicates a potentially concerning pressure differential in this area of the pool when paired with the knowledge that these main drains are under direct suction with no SOFA redundancy.

d) The Leisure Pool main drains are equipped with hydrostatic relief valves according to available plans.

Recommendations:

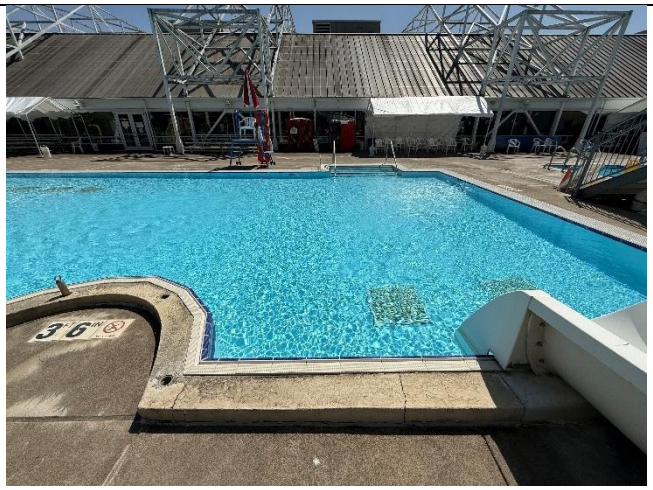
a) Ensure that all six drain covers are compliant with the current ANSI standard.

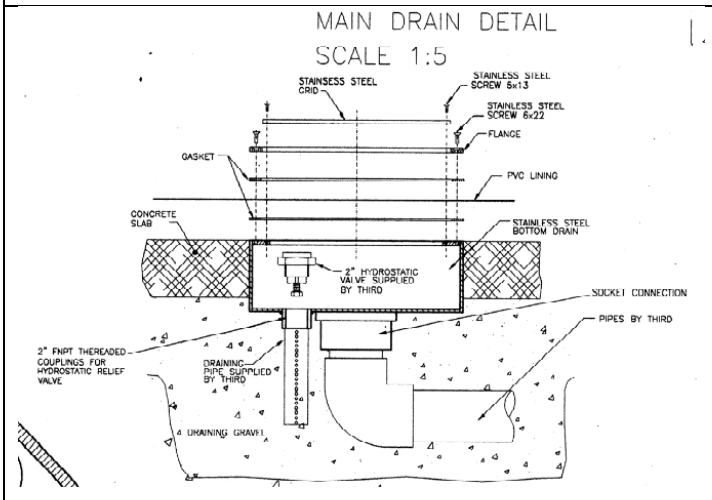
    i. If documentation cannot be found to support compliance, replace each cover immediately with an NSF-listed ANSI-certified non-blockable drain cover appropriate for the sump size and recirculation flow rate.

    ii. In the case of the recirculation main drains, VGBA and Oregon code require that each main drain cover is rated for the full recirculation rate of the pool.

b) Because the feature main drains are direct suction SOFAs with no redundancy, it is Counsilman-Hunsaker's recommendation that the sumps be remediated to comply with all standards set forth in ANSI/APSP/ICC-16-2017 with each suction line connected at full size to two appropriately-spaced SOFAs, or alternatively install a safety vacuum release system (SVRS) at each pump. Sump remediation is not generally required by VGBA, but it will create a safer condition for bathers than what is currently present.

c) Confirm the function and condition of hydrostatic relief valves and replace as necessary.





15. Inlets (50-Meter Pool)

Observations and Comments:

a) Filtered and treated water is provided to the 50-Meter Pool by fourty-four (44) wall inlets. According to plan, each inlet connects to the return loop around the pool by a 1-1/2" pipe.

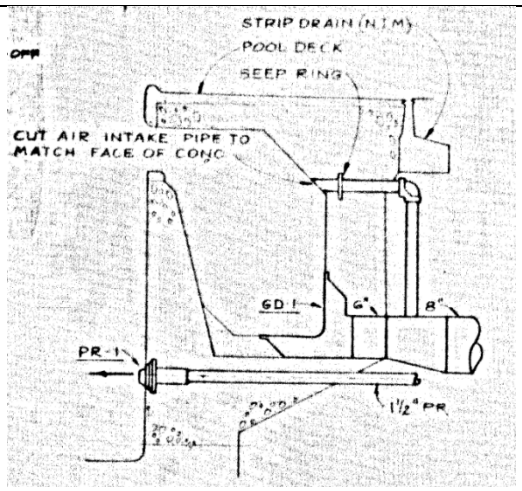
b) Wall inlets are in varying condition. Many are in good condition, but some are heavily stained. It has been observed that air had been rising through some inlets prior to the pool being drained.

c) The 50-Meter Pool does not have floor inlets, which is **not in compliance with state code**. OAR 333-060-1000 states, "4.7.1.3.1.3.1 Greater Than Fifty Feet Wide For POOLS greater than 50 feet wide (15.2 m), floor INLETS shall be required."

Recommendations:

a) It is recommended to replace all inlet fittings with eyeball inlet fittings for the best possible distribution of filtered and chemically treated water throughout the pool.

b) If the 50-Meter Pool undergoes substantial renovation, it may be possible to pursue a variance to accept the lack of floor inlets. The pool is 56 feet wide, only 6 feet over the criteria to require floor inlets, and has operated with exceptional water quality for decades.


STRIP DRAIN (N.I.M.)
POOL DECK
SEEP RING
CUT AIR INTAKE PIPE TO
MATCH FACE OF CONC
GD 1
6"
8"
PR-1
1½" PR

16. Inlets (Therapy Pool)

Observations and Comments:

a) The Therapy Pool receives filtered, treated water through eleven (11) wall inlets. These appear to be in fair condition for their age and operators did not report any issues.

Recommendations:

a) It is recommended to replace all inlet fittings with eyeball inlet fittings for the best possible return water distribution throughout the pool.

17. Inlets (25-Meter Pool)

Observations and Comments:

a) The 25-Meter Pool receives filtered, treated water from eighteen (18) inlets that are evenly distributed on the pool floor in a 3x8 grid. The inlets appear to be in good condition, meet code spacing, and operators did not note any issues with performance.

Recommendations:

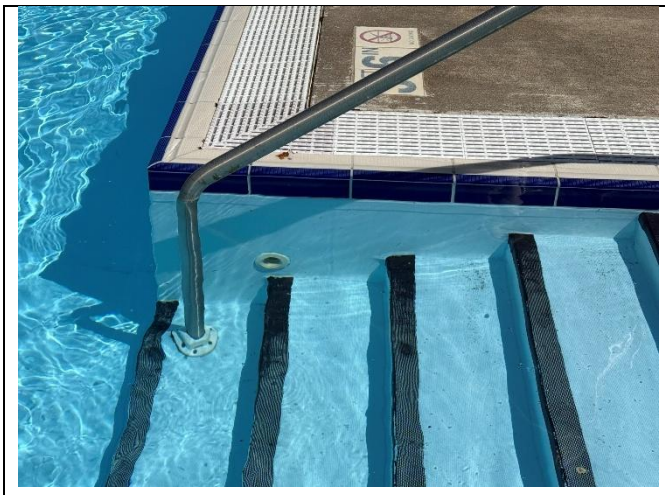
a) No recommended action.

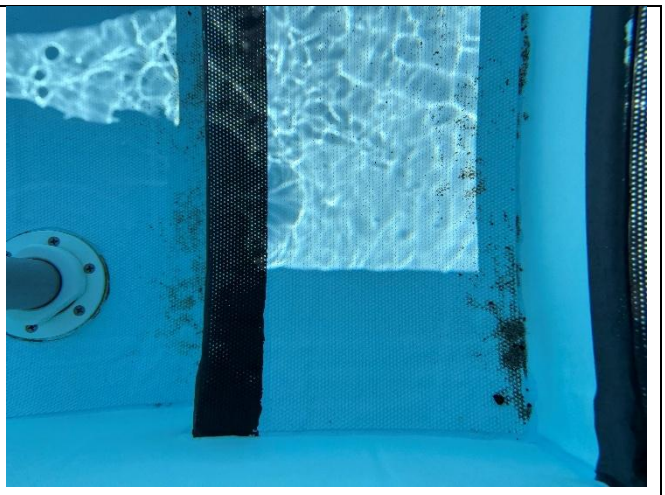
18. Inlets (Leisure Pool)

Observations and Comments:

a) The Leisure Pool receives filtered, treated water from inlets that are evenly distributed on the pool floor, spaced as evenly as the pool shape allows. Available plans show twenty-three (23) inlets. The inlets appear to be in good condition, meet code spacing, and operators did not note any significant issues with performance.

b) In addition to the floor inlets, there is one (1) wall inlet located near the second lowest stair tread to supply treated water to the stair entry volume. Some stagnation debris was observed on the higher pool stairs, which is very common around the geometry of stairs.





Recommendations:

a) Consider replacing the wall inlet near the stairs with an eyeball fitting that can be directed to minimize stagnation in the stair volume.

19. Underwater Lights (50-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool is equipped with thirty-one (31) underwater lights, seven (7) on the deep end wall and twelve (12) on each long wall. According to operators, the lighting system is operational and is used extensively for competition as well as unique programming like family movie nights in the natatorium.

b) The light fixtures were observed to be in fair condition at best. Most niche faceplates show significant corrosion, and the outer glass is in varying states of discoloration. At least one niche had water inside. Several of the lamps have gone out according to operators.

Recommendations:

a) Replace underwater lights with new niches and fixtures. Rewire lighting system if necessary.

20. Underwater Lights (Therapy Pool)

Observations and Comments:

a) The Therapy Pool has two underwater lights on the deep end wall. The lights and niches are outdated and are in only fair condition.

Recommendations:

a) Replace Therapy Pool lights with new niches and fixtures.

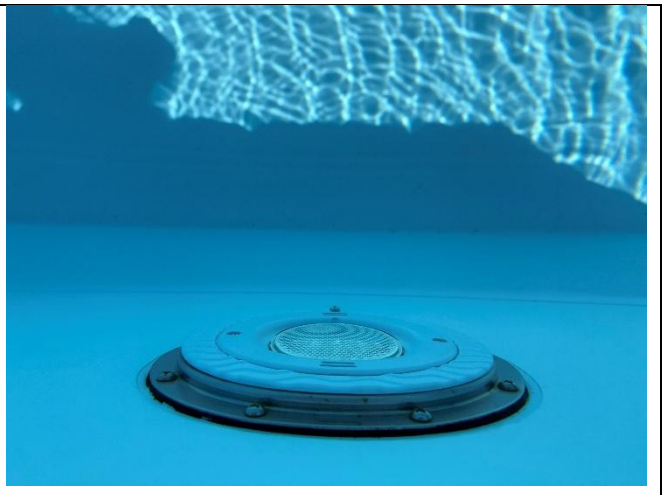
21. Underwater Lights (25-Meter Pool)

Observations and Comments:

a) The 25-Meter Pool has eight (8) underwater lights, four on each long side of the pool, and are used extensively. Operators reported the two lights near the south wall of the pool were replaced recently with 12-volt lamps. All niches, fixtures, and lamps were observed to be in excellent condition.

Recommendations:

a) No immediate action recommended. Consider swapping fixtures for uniformity when current fixtures reach their end of life.



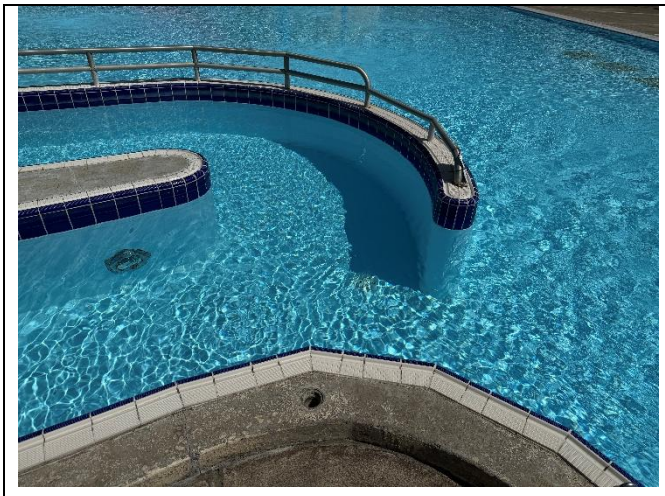
22. Underwater Lights (Leisure Pool)

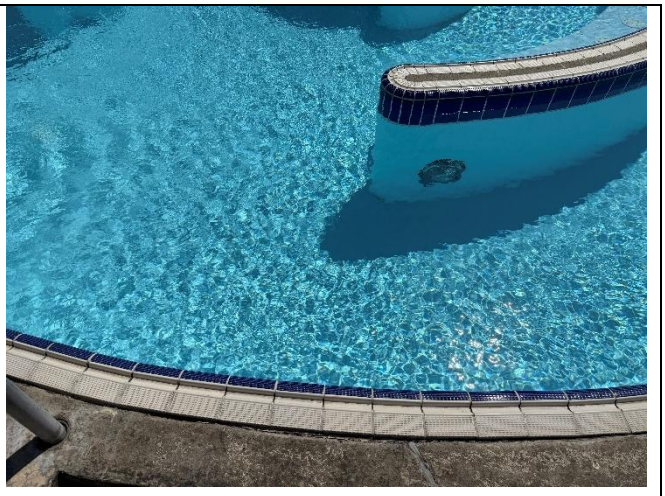
Observations and Comments:

a) The Leisure Pool has eleven (11) underwater lights that are original to the pool and in generally fair condition, however a few lights are not operating.

Recommendations:

a) Replace lamps as needed and replace fixtures as they reach their end of life.





23. Ingress and Egress (50-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool has one (1) fixed accessible pool lift near the southeast corner of the pool. The lift is anchored in the deck and has been kept functioning by staff, but the design is obsolete, and replacement parts are no longer available.

b) The natatorium has two (2) additional movable lifts that are shared with the Therapy Pool. These lifts were in storage due to the state of the natatorium but were described as in good working condition. The lifts are typically staged at the pools depending on programming needs. No parking anchors were observed near the 50-meter pool.

c) The 50-Meter Pool has grab rails and recessed steps at eight (8) locations, four on each long side of the pool. These fulfill code-required means of access/egress. Grab rails are stainless steel anchored into the deck. The grab rails are generally anchored sturdily, but rails show significant surface corrosion. Operators reported difficulty in removing the grab rails from their anchors. The prefabricated recessed steps have complete structural integrity but show significant staining from years of use.

d) The pool has no permanent ramp or stairs, but there is a removable stainless-steel stair assembly that can be placed in the shallow end and anchors in the deck. The stairs are stored in the corner of the pool deck and appear to be in fair condition.

Recommendations:

a) Replace the fixed lift in the southeast corner of the pool with a new model for reliable performance and improved appearance.

b) ADA requires that pools over 300 feet in perimeter have two permitted means of pool access. This is currently achieved when at least one moveable lift is placed for use in the 50-Meter Pool. However, movable lifts must be placed in a parking anchor to comply. Therefore, it is recommended to install parking anchors at any locations moveable lifts are used. Park a movable lift in its anchor at all times the 50-meter pool is in use to be in full compliance with ADA.

c) Replace all grab rails and anchors in kind for ease of operation and a polished appearance. Maintain grab rails with stainless-steel cleaning products. Acid wash all recessed steps to remove staining. Replace steps if they become broken or if appearance cannot be improved.

d) Continue maintaining removable stair assembly if it is important for programming needs. Replace when it becomes excessively corroded or its structure no longer allows for safe and confident access to the pool.


5′ ½′


EXIT

24. Ingress and Egress (Therapy Pool)

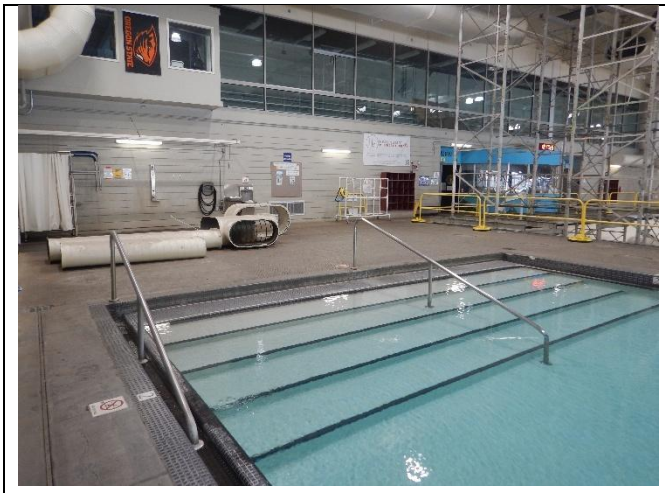
Observations and Comments:

a) The only means of access and egress to the Therapy Pool is a pool stair at the shallow end. The stair features large 24” treads and lands at a depth of two feet. The stairs meet the requirements for general (non-ADA) access and egress because of the small size of the pool.

b) No ADA access was directly observed in the Therapy Pool, but operators reported that there are two (2) movable lifts shared with the 50-Meter pool that are staged according to programming needs. No parking anchors were observed near the Therapy Pool.

Recommendations:

a) Install a parking anchor for compliant usage of a movable lift. Park a movable lift in the anchor at all times the Therapy Pool is open to be in full compliance with ADA.



25. Ingress and Egress (25-Meter Pool)

Observations and Comments:

a) The 25-Meter Pool is accessed by a pool staircase as well as grab rails and recessed steps at three (3) locations. The grab rails show only cosmetic surface corrosion and are anchored very well. The pool stairs, stair railings, and recessed steps are all in very good condition. The entry points meet code required quantity and spacing for general (non-ADA) pool access and egress.

b) The 25-Meter Pool has a perimeter greater than 300 linear feet and therefore requires two ADA-permitted means of pool access. There were no ADA-permitted means of access at the time of inspection.

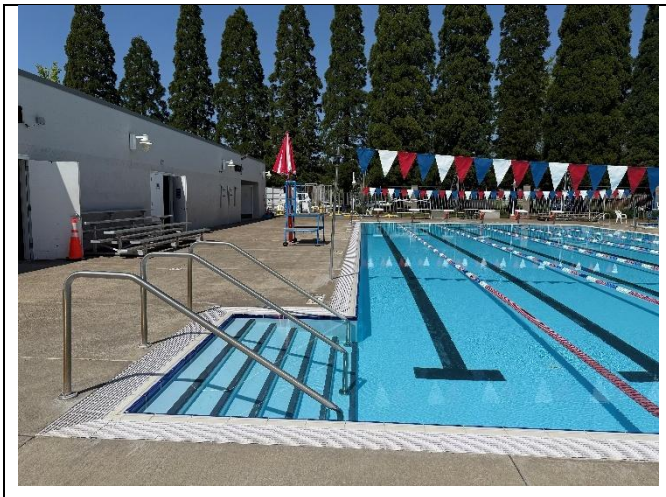
   i. A movable pool lift was present on the pool deck but was not parked by the pool for use. No parking anchors were observed. Therefore, the pool did not have a primary means of ADA access.

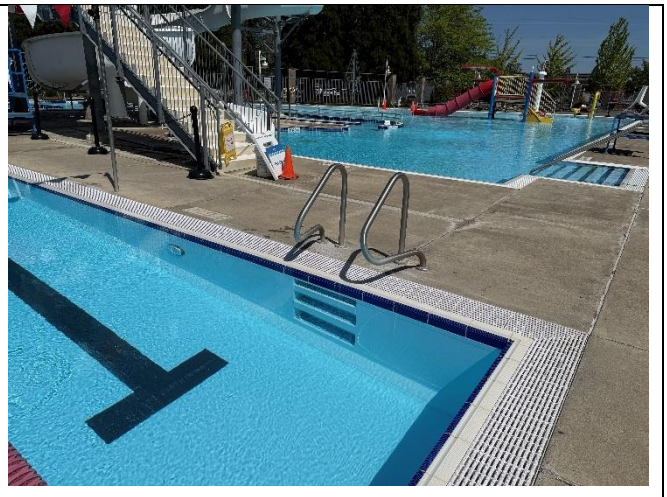
   ii. The pool stairs do not qualify as a permitted means of access due to the spacing of the railings. The railings were measured to have clear spacings of 3'-5 ½" and 3'-7." A stair that qualifies as a secondary access must have railings with a clear spacing of 20"-24."

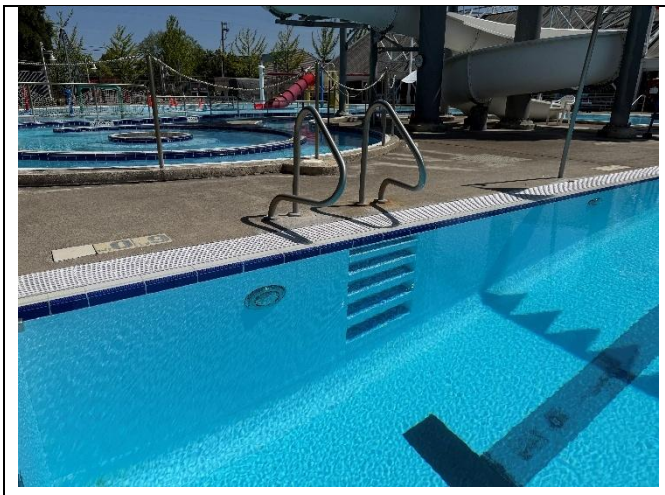
Recommendations:

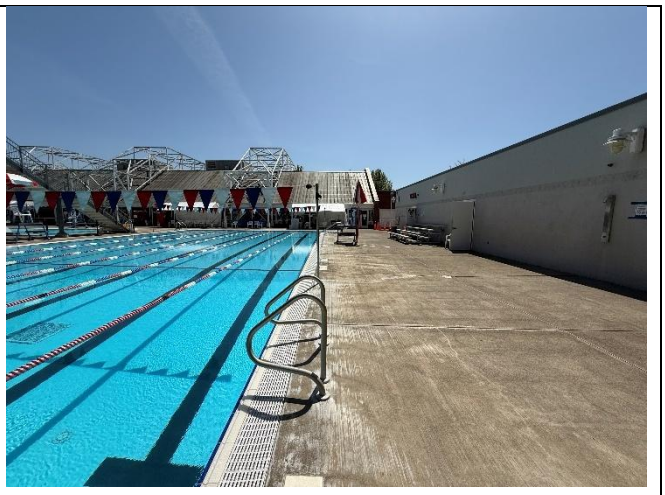
a) Install parking anchors at any locations movable lifts are used. Park the lift in the anchor at all times the pool is in use. Alternatively, install a fixed pool lift to always be in compliance with ADA. A second lift is required if the pool does not have any other secondary permitted means of entry.

b) Consider relocating the center stair rail to qualify the stairs as a secondary means of entry. The stair treads and risers already comply with ADA requirements.










Swim Team
BEAKER

26. Ingress and Egress (Leisure Pool)

Observations and Comments:

a) The Leisure Pool is accessed by a pool staircase, a zero-depth entry, and three (3) locations with grab rails and recessed steps. All access points are in good working condition and meet the code-requirements for general (non-ADA) access and egress.

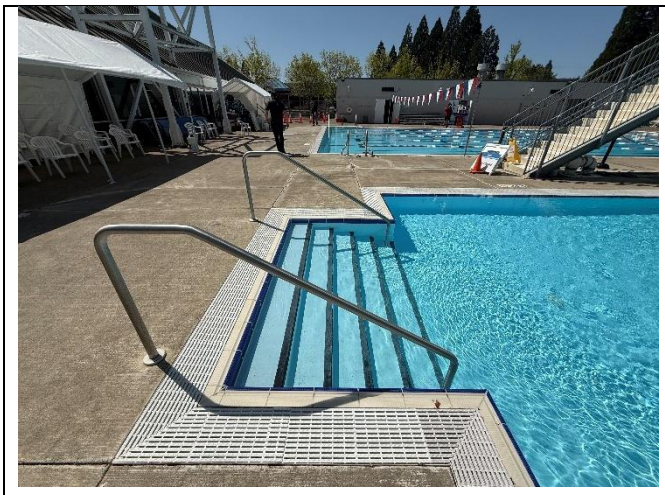
b) There was a movable pool lift on the outdoor pool deck that was in good working condition. The lift was stored under shelter while the Leisure Pool was closed for the season. There were no parking anchors observed near the leisure pool.

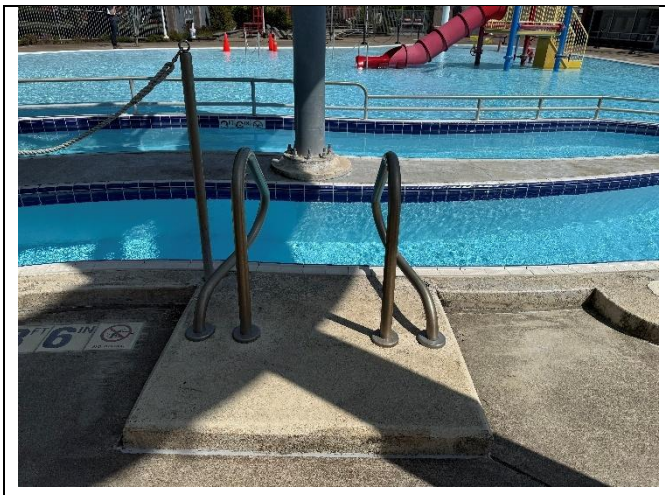
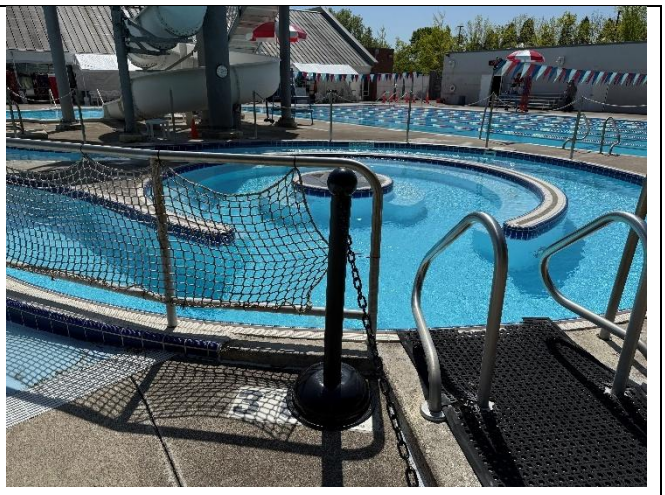
Recommendations:

a) It is recommended to install a fixed battery-operated lift near the pool stairs to always have at least one primary accessible means of pool access. Alternatively, a dedicated movable lift could also fill the requirement and allow for more flexibility for maintenance activities. Parking anchors are required for the use of movable lifts.

b) Consider installing a third railing on the pool stairs to qualify them as a secondary means of access. Install an identical railing and anchors with 20”-24” clear spacing to an existing one to qualify the stairs as a secondary means of ADA-permitted pool entry.

c) Continue maintaining grab rails and recessed steps. Replace grab rails or anchors if they become loose or excessively corroded.



27. Markings and Anchors (50-Meter Pool)

Observations and Comments:

a) The 50-Meter pool has depth markers and NO DIVING warning signs around the pool perimeter. The depth signage is a mixture of at least four different types as seen in the images below, most or all of which are not in compliance with current Oregon code.

   i. Depth markers must be clearly marked. Some markers shown as white tile in black field inlay are not clearly legible due to worn and calcified tiles.

   ii. Depth markers must be marked in feet and inches. Fractional and decimal feet are not in compliance.

   iii. Depth markers must have letters and numbers with a minimum height of 4 inches. Characters shown on a 4" tile are not large enough.

b) Contrasting indicator lines are present at depths of 7 feet and 13 feet where slope breaks are present in the pool floor. Current code requires the line extend vertically up the pool walls in this location.

c) Lane ropes and safety lines are anchored by eye hooks drilled directly into the back of the gutter trough or into the cantilevered deck above. Hooks are in varying conditions, and some concrete material had been chipped away surrounding some of the anchors.

d) Lane markings and wall targets are available for eight (8) lanes in multiple swimming courses in the form of black tile inlays in contrast to the plaster field.

   i. Tile inlays are in fair condition, with few observed areas of chipped or missing tile and worn or missing grout. With roof shoring on the pool floor at the time of visit, the lane markings could not be assessed comprehensively, and it may be possible that the inlays are damaged by the shoring itself.

   ii. Lane markings terminate at the outdated standard of 5 feet from the end of each course. The current standard for World Aquatics, USA Swimming, and NFHS is 2 meters, or 6'-7."

e) Wall targets are available for eight (8) competition lanes on each end wall and both sides of the bulkhead as well as eight (8) cross-course lap swim lanes. Tile inlays are in fair condition. Current wall target dimensions are outdated but typical. This is less critical than floor markers due to the use of touchpads for competition.

f) Stanchion anchors for backstroke flags are present for multiple swimming courses. Anchors are corroding but functional.

Recommendations:

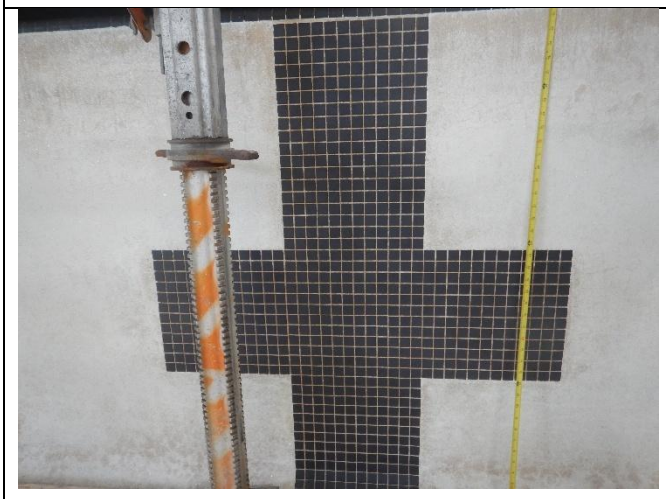
a) Due to the mismatched nature and varying condition of signage around the pool, it is recommended to replace all depth signage and NO DIVING signs in a uniform, cohesive layout that meets code-required depth indication, spacing, and symbology.

b) Extend the contrasting line at the 7 feet slope break up the walls of the pool in conjunction with pool refinishing.

c) Reassess the condition of the lane marker inlays after shoring is removed. Clean all tile and grouting and replace any broken or missing tiles. Consider replacing tile inlays if damage is considerable and/or the following recommendation is taken.

d) Because Osborn Aquatic Center is such an important swimming facility for the region and state, it is recommended to update the floor lane markings to terminate 6'-7" from the wall for all swimming courses, bringing it to the current standard of World Aquatics and USA Swimming.


NO DIVING



28. Markings and Anchors (Therapy Pool)

Observations and Comments:

a) The Therapy Pool has depth markers and NO DIVING warning signs at nine (9) locations around the pool perimeter. Depth is indicated with 4”x4” slip-resistant tiles in the vertical and horizontal perimeter tileband. Each location has a 7”x7” slip-resistant tile warning sign in the concrete deck behind the tileband displaying NO DIVING and the international no diving symbol. Signs are in readable condition except for the 0” depth indicator and associated NO DIVING sign at the stair wall.

b) The depth markers are not in compliance with current state code due for a few reasons described below.

   i. Depth is indicated at 0 feet, 2 feet, 3.5 feet, and 4 feet only. Current code requires depth to be marked at every foot change in depth for water less than 5 feet.

   ii. Depth indicators must have letters and numbers with a minimum height of 4 inches. The current characters fit on 4 inch tiles; the numbers are therefore too small.

   iii. Depth must be marked in explicit units of feet and inches. There are no units indicated on the depth markers, only numbers.

c) The NO DIVING signs meet code requirements, but their presence behind the tileband has an incohesive appearance.

d) The Therapy pool has several cup anchors in the vertical wall above the gutter trough that are in fair to poor condition. Because the pool is entirely less than 5 feet of water depth, safety lines are not necessary. However, float ropes are used for programming reasons according to operators.

Recommendations:

a) Replace all depth markers in conjunction with perimeter tileband work. Ensure new vertical and horizontal depth markers comply with state code requirements for size, spacing, and abbreviations.

b) Include NO DIVING signs in the perimeter tileband for a cohesive appearance. Ensure new signage meets code requirements.

c) Replace cup anchors and relocate if necessary to maximize programming benefits.


NO DIVING


2
NO DIVING


4 ½
NO DIVING


THAYER
DESIGN + BUILD

29. Markings and Anchors (25-Meter Pool)

Observations and Comments:

a) Depth markings and warning signs were observed around the pool perimeter in 6" slip-resistant tiles. The signs and signage strategy meets code requirements, but several markers are significantly faded and worn, making them difficult to read. The depth markers indicating greater than 5 feet of depth appear to have been altered to remove the NO DIVING warning signs.

b) A contrasting line in black PVC liner was observed at 5 feet of depth where there is a slope break. The line is on the floor only and does not extend up the pool walls, which is now a state code requirement.

c) Lane markings and wall targets are present for six (6) lanes in the lap pool in the form of black contrasting PVC liner. The black liner is fading considerably in several locations from sun and chemicals.

d) Lane markings terminate at the outdated standard of 5 feet from the end of each course. The current standard for World Aquatics, USA Swimming, and NFHS is 2 meters, or 6'-7."

e) Lane rope and safety float line anchors are integrated into the Myrtha wall system and are in excellent condition.

f) Backstroke flags and stanchion anchors were observed to be in fair working condition.

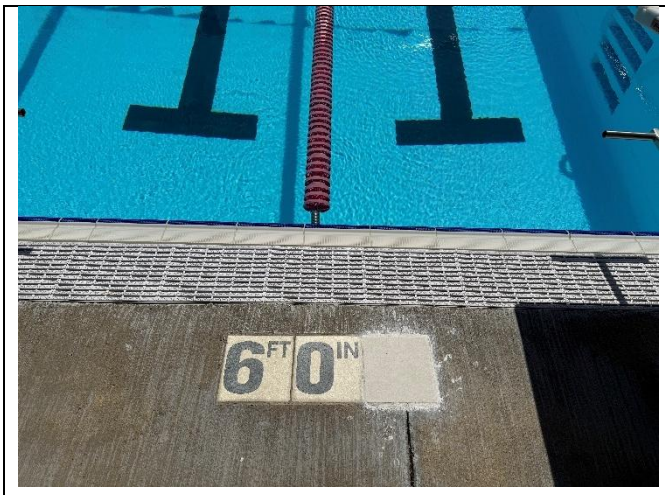
g) At least five floor anchors were observed in the 25-Meter Pool. As per operators and available plans, these were installed for the use of floatable play features but are not used.

Recommendations:

a) Replace any depth markers and NO DIVING signs that are too faded to easily read or cause an unsightly condition.

b) If the PVC liner is repaired or replaced in the future, add a vertical contrasting line to the pool walls where the floor slope breaks at 5 feet of depth.

c) If the PVC liner is repaired or replaced in the future, update the lane markings to the current 6'-7" standard.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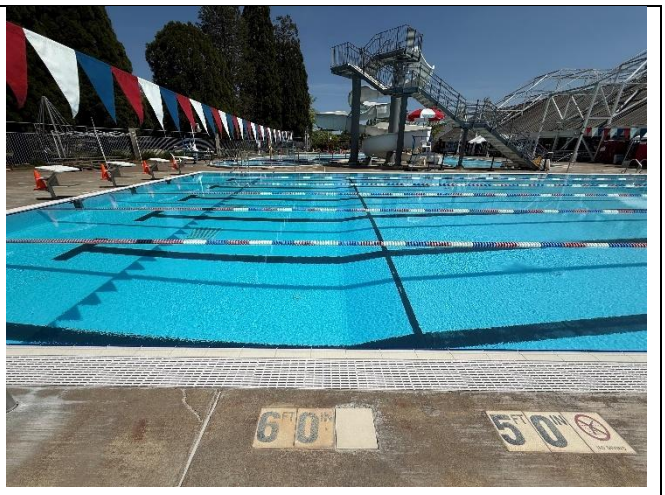
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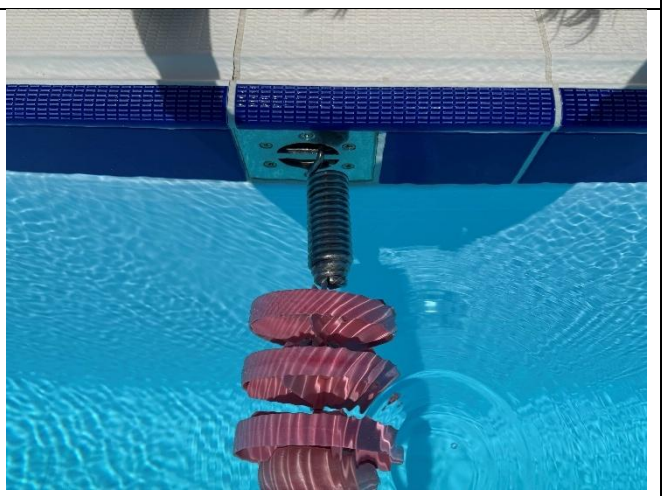


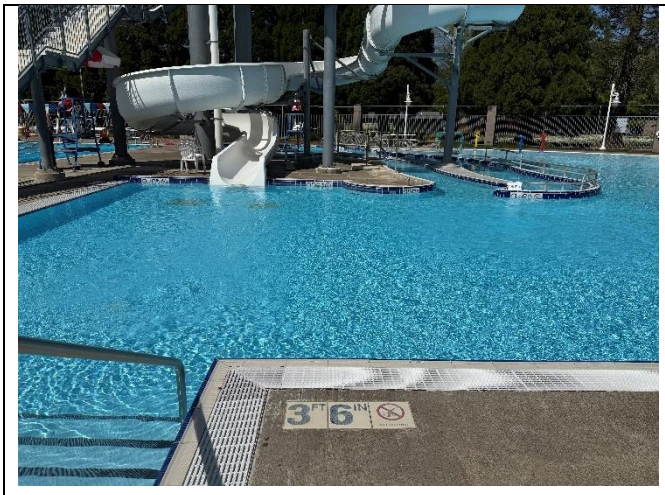
30. Markings and Anchors (Leisure Pool)

Observations and Comments:

a) Similarly to the 25-Meter Pool, the depth markers and NO DIVING warning signage in the Leisure Pool are present in 6” slip-resistant tiles. Signage is laid out in code-compliant quantity and spacing, but the tiles are in varying degrees of fading and legibility.

Recommendations:

a) Replace any depth markers and NO DIVING signs that are too faded to easily read or cause an unsightly condition.



31. Pool Features (Leisure Pool)

Observations and Comments:

a) The Leisure Pool has several features for recreation and enjoyment that are important attractions for families and users of all ages. Generally, the interactive elements of spray features are no longer operable so spray effects are continuous and less engaging than when they were new.

b) The Waterslide is an open-flume slide on a 20-foot tower. Operators reported replacing a small section of the flume around ten years ago, but the rest is original to the pool. Sections of the fiberglass stairs are replaced every few years due to consistent wear and tear. It is also reported that hornets nest under the stairs.

c) The Current Channel is quite narrow at 5 feet wide, but offers the floating experience as designed.

d) Bubble Lounge has thirty (30) bubbler inlets fed by a blower in the pool mechanical room to two concentric benches. The blower is extremely loud when in the pool mechanical room, but the bubblers otherwise work as intended.

e) The Kid Slide had been removed for maintenance and refinishing just prior to inspection. In its place were traffic cones protecting the anchor points and water connection.

f) The Play Structure has multiple spray features and a slide and is in generally poor condition. The interactivity of spray elements are non-functioning and spray out continuously. The attached slide flume has been replaced once; the top and bottom flume sections were replaced again more recently as a result of improper supporting to the pool floor.

g) The Leisure Pool has multiple additional spray features in varying conditions.

    i. A cascade feature is in fair condition, but the tow guards are no longer in place. The valving interaction is no longer operable, but the dam features are still mostly in place.

    ii. The tumble bucket feature column is in fair condition and has its toe guard in place. However, the buckets have been removed and are no longer replaceable, so the feature now sprays upward continuously when in operation.

    iii. The underwater geyser sprays are in fair condition and operate as intended.

iv. The spray cannons are in good condition with toeguards intact and operate as intended, including the rotational spray restriction.

v. The arch spray produces a substantial spray, and can still be affected by the interactive operator.

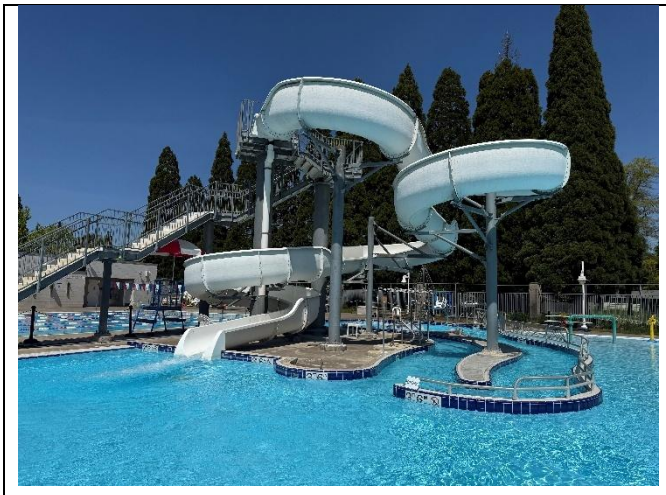
Recommendations:

a) Replace Waterslide flume at the end of its useful life. Manufacturers now offer restoration services that may also be an option.

b) Reinstall Kid Slide and continue periodic maintenance.

c) Replace Play Structure for cosmetic improvement and to restore the interactivity of spray features for young children.

d) Replace tumble buckets and cascade features with equivalent new features.



D. DECK ITEMS

CH Observations, Comments and Recommendations:

1. Deck (Indoor Pools)

Observations and Comments:

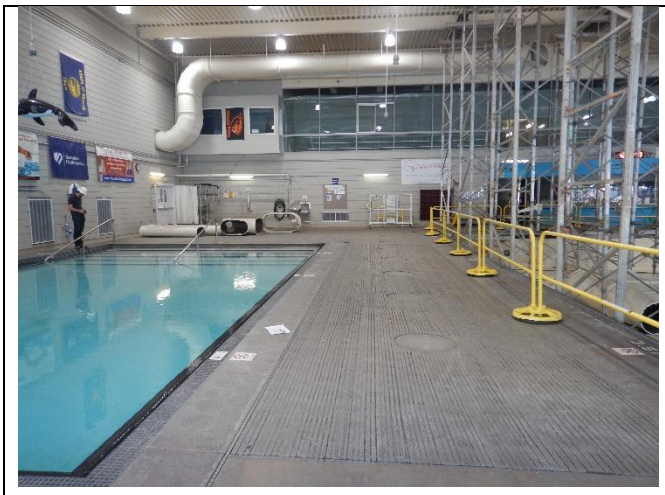
a) The deck in the natatorium is a brushed non-slip concrete finish with areas of stamped nonslip finish between the pools and around the Therapy Pool. The deck finish is showing significant wear and has minor cracking in multiple areas.

b) Deck drainage consists of slot drains around each pool with area drains in each corner and along the long side of the 50-Meter Pool. Operators reported that deck drainage is mostly sufficient but requires significant preventive maintenance. If drains are not blown out periodically, stagnant water causes drain flies.

Recommendations:

a) If Osborn Aquatic Center pursues a significant renovation of the 50-Meter Pool, it is recommended to redo the decks and deck drainage in conjunction with the pool renovation.

b) Refer to architectural and structural assessments for additional recommendations regarding the pool deck.

2. Deck (Outdoor Pools)

Observations and Comments:

a) The pool deck surrounding the 25-Meter Pool and the Leisure Pool is a brushed non-slip concrete and is in fair condition with only minor cracking observed. The elastomeric sealant in the deck's expansion joints was observed to be cracking.

b) There are area drains surrounding both pools and a slot drain in the deck between the two pools. Operators did not report any significant issues with drainage of the outdoor pool decks.

Recommendations:

c) Remove and reapply elastomeric sealant to the deck expansion joints in areas where cracking or excessively worn.

d) Refer to architectural and structural assessments for recommendations regarding the pool deck.

3. Diving Boards (50-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool is equipped with one (1) 1-meter springboard and one (1) 3-meter springboard.

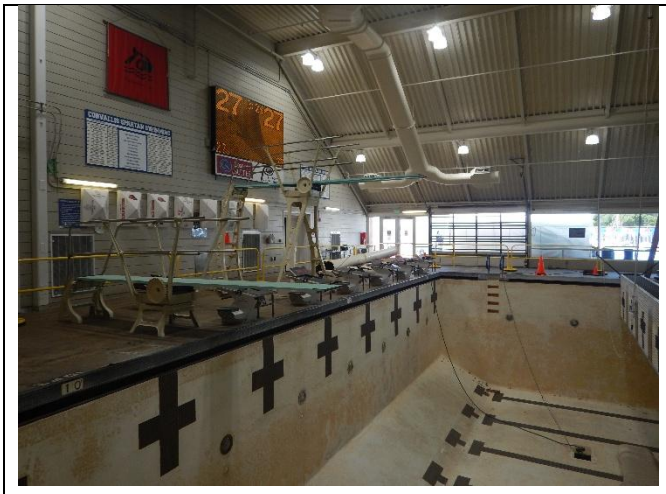
b) The powder coat was recently redone and is in good condition for both stands. The springboards are in good condition, with only minor visible surface wear. The handrails on both stands are showing some surface corrosion. Bonding of the dive stands could not be verified.

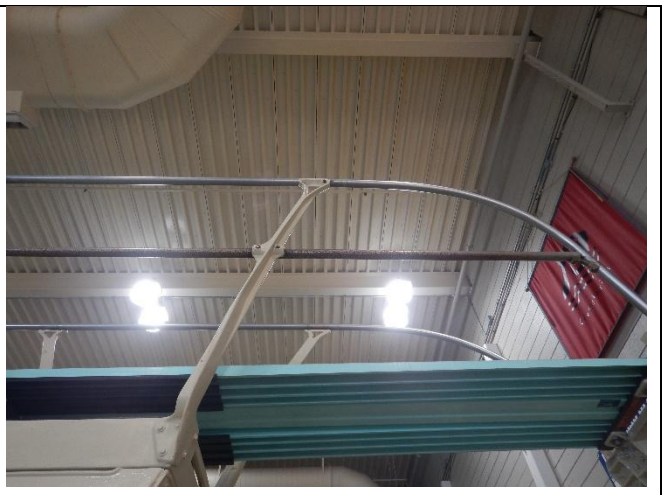
c) The fulcrum was operable on the 1-meter dive stand but was difficult to move on the 3-meter dive stand.

Recommendations:

a) Replace springboards when surface begins flaking or losing its non-slip texture. Maintain fulcrum assemblies per manufacturer instructions.

b) Verify bonding of dive stands in the case of natatorium deck renovation.






10 FT

4. Starting Blocks (50-Meter Pool and 25-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool is equipped with competition starting blocks with non-slip grit surface, hand rails, and adjustable rear foot wedge. These blocks are anchored well and in good condition, showing only minor cosmetic wear and staining.

b) The 25-Meter Pool is equipped with Paragon single-post blocks with molded plastic top surface and step. These blocks are anchored well and are in good condition. Backstroke handle grips were observed to be missing. One block was measured to be 2'-7 ½" above the water surface, which is two inches too high.

Recommendations:

a) Continue to maintain starting blocks per manufacturer recommendations and replace at the end of their useful life. Replace 25-Meter Pool blocks if a competitive upgrade is desired.

b) When replacing 25-Meter Pool starting blocks, ensure the Myrtha gutter's freeboard is compensated for to achieve a leading edge dimension of 2'-5 ½" above the water surface.

5. False Start and Backstroke Stanchions (50-Meter Pool and 25-Meter Pool)

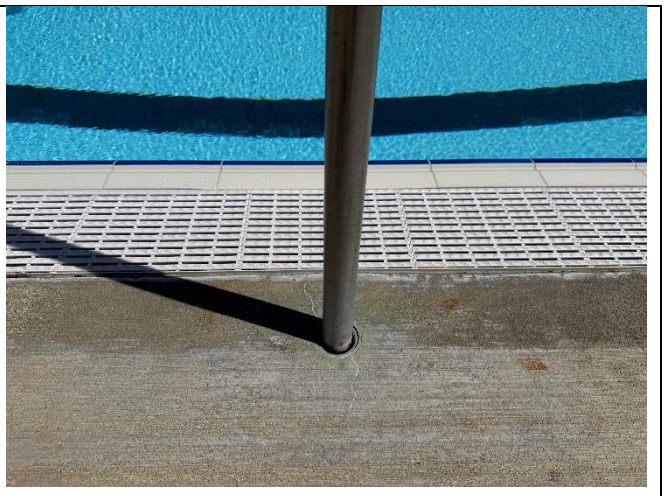
Observations and Comments:

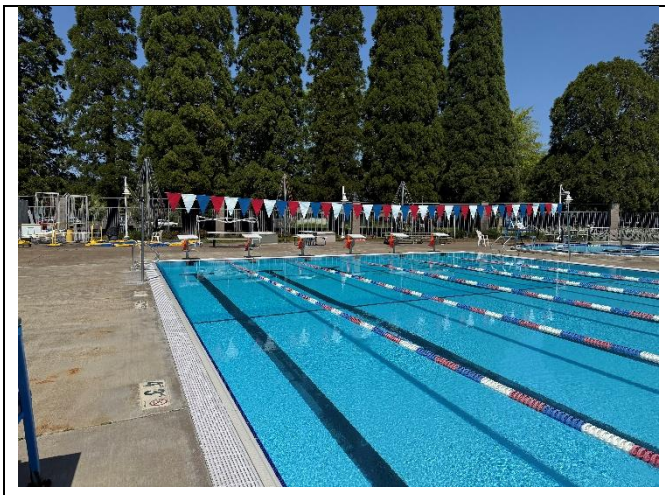
a) False start and backstroke stanchions are provided for the 50-meter pool and are anchored in the concrete deck outside the perimeter tileband. The stanchions and pennants were stored away at the time of the visit and were not observed. Anchors for backstroke flag stanchions were covered but observed to be in fair condition. The anchors and covers suffered from cosmetic surface corrosion and staining.

b) Backstroke stanchions for the 25-Meter Pool are anchored in the concrete deck outside of the Myrtha gutter. The stanchions were observed to be in fair condition with some minor surface corrosion. At least one stanchion was observed to be slightly bent. Anchors and pennants were observed to be in good condition.

Recommendations:

a) Replace all false start and backstroke stanchion anchors for the 50-meter pool in the case of improvements to the pool deck. Replace stanchions and pennants for both pools at the end of their useful life.





6. Safety Equipment (All Pools)

Observations and Comments:

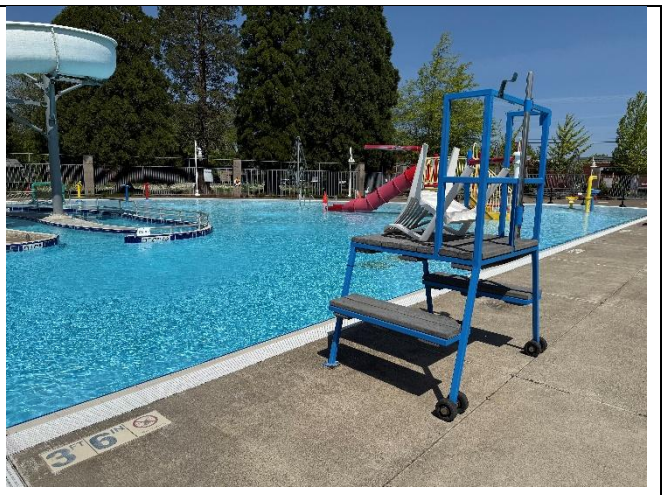
a) Most safety equipment for the indoor pools had been stored due to the natatorium closure, but a ring buoy and shepherd crook was observed on the east wall above the therapy pool as well as the south wall near the 50-Meter Pool.

b) A ring buoy and shepherd crook were mounted on the exterior wall of the outdoor pool mechanical room. An additional ring buoy was mounted on the fence near the Leisure Pool beach entry. The equipment appeared to be in good working condition.

c) One movable guard stand with a backboard was observed on the west side of the 25-Meter Pool. Two guard stands were observed on the south side of the Leisure Pool, however one did not have a chair or sun umbrella. Neither guard chair had a backboard at the time due to the Leisure pool being closed for the season.

Recommendations:

a) Continue to stock and maintain safety equipment according to operational requirements.

7. Timing System (50-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool uses an above deck cable harness and Daktronics touchpads for competition swimming. The harness, touchpads, and starting device were observed in the storage room to be in fair condition.

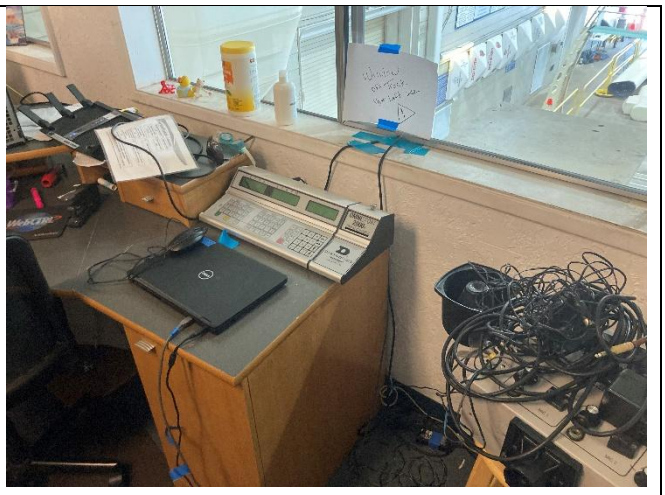
b) The natatorium is equipped with a Daktronics Galaxy LED display scoreboard

c) The timing console, scoreboard control, and two meet manager computers were in a control room on the natatorium mezzanine level. The equipment is reportedly still functioning but is dated and does not inspire confidence.

Recommendations:

a) Due to the importance of Osborn Aquatic Center as a regional and state facility for competition, it is recommended to replace all timing system components including touchpads, scoreboard, and consoles with a new industry standard system.

b) If a renovation of the pool deck is to take place, it is recommended to install an in-deck timing conduit with deck plates for simpler, and more polished operation.

E. POOL MECHANICAL ITEMS

CH Observations, Comments and Recommendations:

1. Piping and Valves (Indoor Pools)

Observations and Comments:

a) Piping in the mechanical room serving the indoor pools is a mix of steel, schedule 40 PVC, and schedule 80 PVC in varying but generally poor condition. No leaking was observed due to the 50-Meter Pool being drained; operators reported known minor leaks in the recirculation piping. The Therapy Pool recirculation system was running, and similarly minor leaks were observed. Several piping sections were marked for replacement many years ago, but the project never took place.

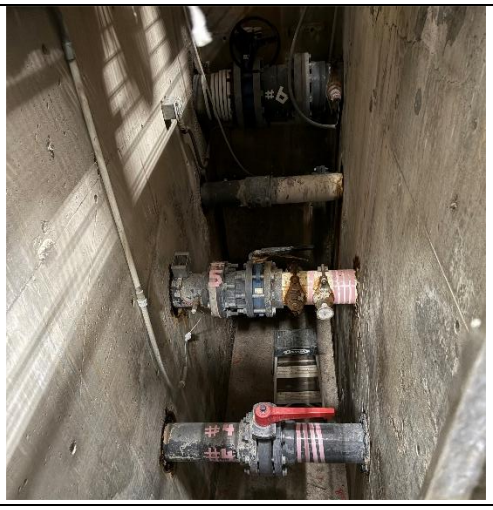
b) Valves in the indoor pool mechanical room were of similarly mixed material and condition. Most valves are reportedly operable but some need replacement.

c) A valve pit is present in the mechanical room for isolation of the pools from their respective mechanical equipment. The pit is located between the pools and the filter tanks with suction, gravity overflow, and return piping all passing through the pit. Most valves herein are at the end of their useful life.

d) Piping was not observed to have content labels or flow direction, leading to uncertainty particularly in the valve pit.

Recommendations:

a) It is recommended that all piping and valving serving the indoor pools be replaced as part of a greater mechanical system renovation. Aquatic designer will specify new piping and labeling requirements.



2. Piping and Valves (Outdoor Pools)

Observations and Comments:

a) Piping and valving in the outdoor pool mechanical room is uniformly schedule 80 PVC and is in good condition. Operators have reported replacing some valves as needed in recent years. Piping is labelled with contents and flow direction.

Recommendations:

a) Continue monitoring valve performance and replace when they no longer operate smoothly or isolate effectively.

3. Pumps (50-Meter Pool)

Observations and Comments:

a) The 50-Meter Pool is recirculated by a Paco 30-horsepower, flooded-suction pump. Both the impeller housing and motor housing are showing significant corrosion.

b) The pump's housekeeping pad is cracking. Operators recalled an instance in the past where the housekeeping pad needed to be reworked because of excessively destructive pump vibration.

c) The pump operates on a VFD that is reportedly approaching 20 years old.

Recommendations:

a) Replace recirculation pump, motor, and VFD as part of a greater mechanical system renovation. VFDs continue to be recommended for recirculation pumps for energy savings and motor longevity.

4. Pumps (Therapy Pool)

Observations and Comments:

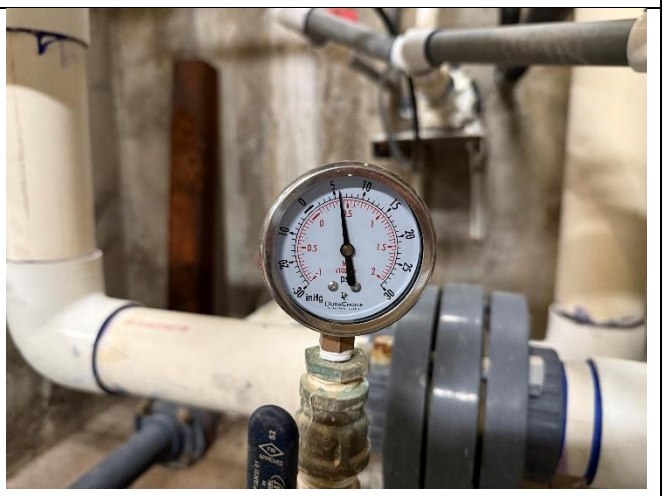
a) The Therapy Pool is recirculated by a Paco 5-horsepower, flooded-suction pump. Both the motor and impeller housing show significant corrosion, as well as the anchors to the pump's housekeeping pad.

b) Vacuum and pressure gauges were available at the pump suction and discharge.

c) The pump operates on a VFD that is reportedly approaching 20 years old.

Recommendations:

a) Replace recirculation pump, motor, and VFD as part of a greater mechanical system renovation. VFDs continue to be recommended for new recirculation pumps for energy savings and motor longevity.



5. Pumps (25-Meter Pool)

Observations and Comments:

a) The 25-Meter Pool is recirculated by a 15-horsepower flooded-suction Paco pump. Both the motor housing and impeller housing is in good condition.

b) The pump has a basket strainer, isolation valves, as well as suction and pressure gauges. The suction gauge is corroded and at risk of failure.

c) The 25-Meter Pool recirculation pump is equipped with a VFD that was replaced recently and is in excellent condition.

Recommendations:

a) Replace compound gauge at pump suction.

6. Pumps (Leisure Pool)

Observations and Comments:

a) The Leisure Pool is served by five (5) flooded-suction metallic Paco pumps. The recirculation pump is 25-horsepower. The pump driving the current channel and the pump that serves the kid slide and several other spray features are both 20-horsepower. The pump that serves the waterslide and the pump that serves the play structure and remaining spray features are both 15-horsepower. The impeller housing and motor housing for all pumps are in fair condition.

b) All pumps have strainer baskets, suction and pressure gauges, and housekeeping pads. Some gauges are corroding but the rest are in fair working order.

c) The recirculation pump has a VFD on the main pool mechanical level that is at the end of its useful life.

d) Pumps are started by a large panel on the main mechanical room level. Contact selectors need to be frequently replaced according to operators.

Recommendations:

a) It is recommended to immediately install safety vacuum release systems (SVRS) on each of the four feature pumps due to their direct-suction connection to Leisure Pool SOFAs—refer to section “Main Drains (Leisure Pool).”

b) Replace corroding pressure gauges when they fail.

c) Replace recirculation pump VFD.

d) It is recommended to consider adding VFDs for all feature pumps. The ability to adjust pump speed can provide energy savings and help with the longevity of motors and electrical infrastructure.

7. Filtration (50-Meter Pool)

Observations and Comments:

a) The 50-Meter pool is filtered by a diatomaceous earth (DE) vacuum system that consists of media-coated filter laterals in a concrete tank upstream of the recirculation pump suction. The system is original to the pool and is dated but well-maintained. Operators reported consistently excellent water clarity in the pool prior to being drained.

b) The concrete tank, filter frame, and laterals are in fair condition. Waterproofing in the tank interior was redone in recent years.

c) Several bags of filter media was observed in the mechanical room. Operators described a method of applying new media to minimize DE release into atmosphere using modified barrels.

Recommendations:

a) It is recommended to consider replacing the 50-Meter Pool's DE filter system with a more modern system with equivalent performance for ease of operation. A properly designed regenerative media system could serve a pool this size with a single unit, with automatic bump cycles and media changes that are far less labor intensive. Replacing the DE system with a high-rate sand system would likely not be possible due to space constraints in the pool mechanical room.

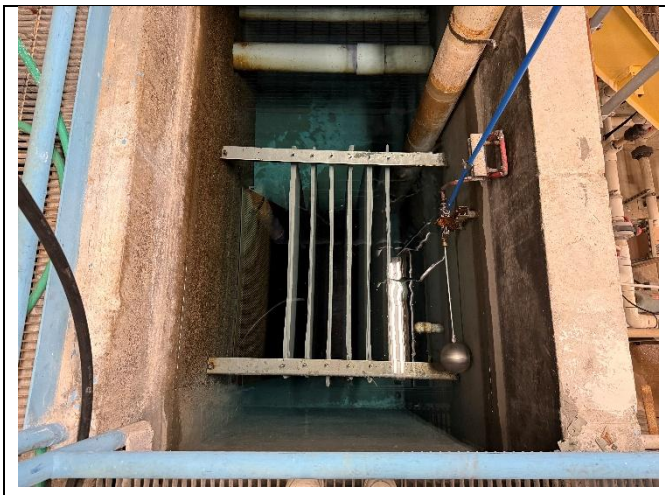
8. Filtration (Therapy Pool)

Observations and Comments:

a) The Therapy Pool is filtered by a vacuum-DE system that is original to the pool, similarly to the 50-Meter Pool. It has been maintained very well and has produced excellent water clarity, but it is a dated and labor-intensive system.

Recommendations:

a) It is recommended to consider replacing the Therapy Pool's DE filter system with a more modern system for ease of operation. A high-rate sand system may be possible due to the pool's comparatively small size, but a regenerative media system would likely be the best option.



9. Filtration (25-Meter Pool)

Observations and Comments:

a) The 25-Meter Pool is filtered by two (2) Neptune-Benson SHFFG4848 fiberglass high-rate sand filter tanks that are original to the pool. They were observed to have no leaks and be in good condition.

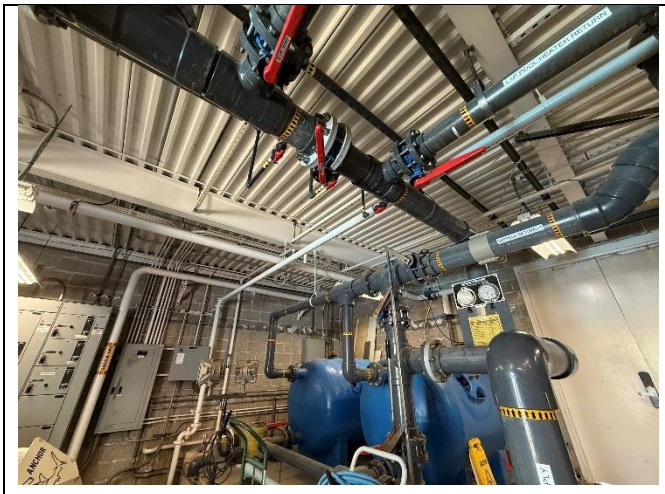
b) Filter backwash from the 25-Meter Pool tees with backwash from the Leisure pool and discharges to a vertical sanitary pipe through an air gap. Current code requires pool systems for different bodies of water to be entirely separate, and the combined backwash discharge is not in compliance.

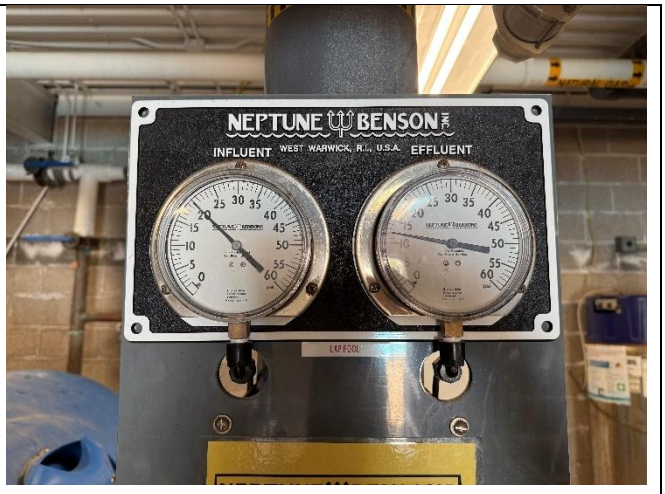
c) The filters have clearly labeled influent and effluent pressure gauges. The backwash valves are in good condition and have a single-turn linkage for simplicity of operation.

d) Filter laterals have been repaired in the past and media has been changed every few years.

Recommendations:

a) In the case of substantial alteration to the 25-Meter Pool, the backwash discharge needs to be re-routed to sanitary through a dedicated air gap separate from the Leisure Pool backwash pipe.





10. Filtration (Leisure Pool)

Observations and Comments:

a) The Leisure Pool is filtered by three (3) Neptune-Benson SHFFG4872 fiberglass high-rate sand filter tanks that are original to the pool. They were observed to have no leaks and be in good condition.

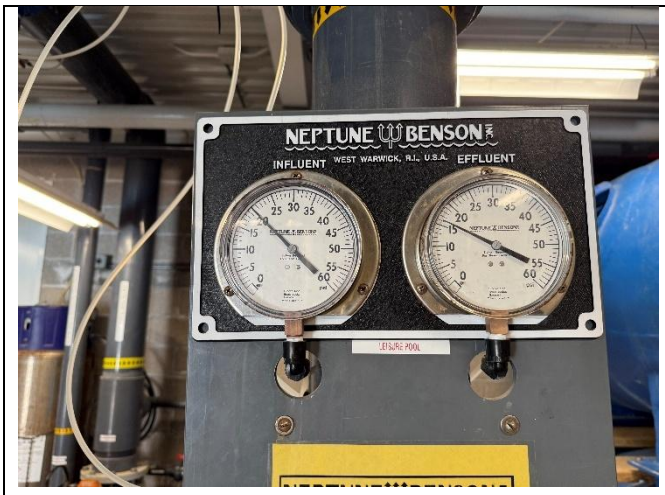
b) As mentioned in the previous section, filter backwash discharge tees in with the 25-Meter Pool backwash and is not in compliance with current code.

c) The filters have clearly labeled influent and effluent pressure gauges. The backwash valves are in good condition.

d) Filter laterals have been repaired in the past and media has been changed every few years.

Recommendations:

a) In the case of substantial alteration to the Leisure Pool, the backwash discharge needs to be re-routed to sanitary through a dedicated air gap separate from the 25-Meter Pool backwash pipe.

 NEPTUNE BENSON INC INFLUENT WEST WARWICK, R.I., U.S.A. EFFLUENT	

11. Surge Tanks (Outdoor Pools)

Observations and Comments:

a) The recirculation for the 25-Meter Pool and Leisure Pool are each modulated inside of a concrete surge tank below the mechanical room floor. The surge tanks are adequately sized for each pool.

b) Each surge tank is accessed by a steel hatch. The hinges and latches are significantly corroded. The Leisure Pool's hatch hardware is at risk of failure, and the Lap Pool's hardware has failed completely.

c) The float valves in each tank appear to be in fair condition and are modulating effectively.

d) Extensions are available to operate surge tank valves through the mechanical room floor but appear to be corroding.

e) Each surge tank is vented by an overflow pipe out the top that elbows down over the pump pit grating. Operators reported this has caused costly flooding in the pump pit in the past.

Recommendations:

a) Replace hatches and hatch hardware for both surge tanks.

b) Route surge tank overflows to sanitary through a dedicated air gap.

 CAUTION CONFINED SPACE	

12. Chemical Treatment (All Pools)

Observations and Comments:

a) Each pool has an Accutab erosion feeder that sanitizes the pool using calcium hypochlorite (tablet chlorine). The feeders consist of an erosion chamber and a booster pump that is piped into a bypass teed off from the pool recirculation piping.

    a. The Accutab units serving the indoor pools are in fair condition. Operators report frequent failures of the booster pumps and leaking at the pipe collars. Failures are common enough that Osborn Aquatic Center has been sourcing replacements online and keeping backup units on hand.

    b. Large quantities of calcium hypochlorite is stored in the indoor pool mechanical room.

    c. The Accutab units serving the outdoor pools are in good condition and are located in a dedicated room also used for calcium hypochlorite storage.

b) Each pool uses CO_2 as a pH buffer. CO_2 is stored in large tanks outside and delivered by feed units mounted next to each pool's chemical controller. CO_2 is then injected to the pool recirculation piping.

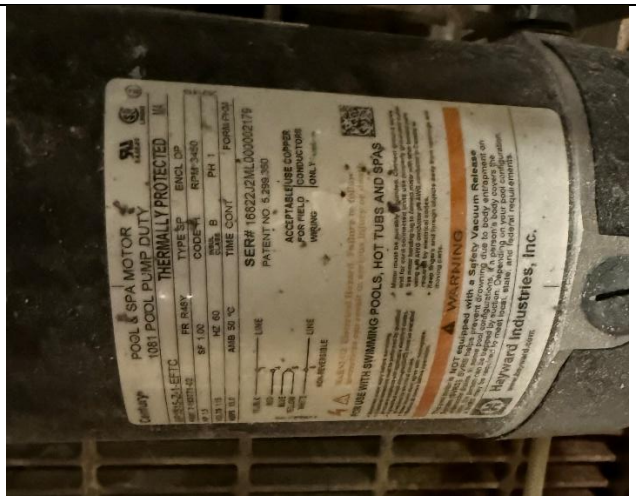
    a. CO_2 has been an effective pH buffer at Osborn Aquatic Center and has likely helped to preserve the equipment and spaces by avoiding the use of muriatic acid.

    b. The usage of CO_2 reportedly increased exponentially when the UV systems were installed.

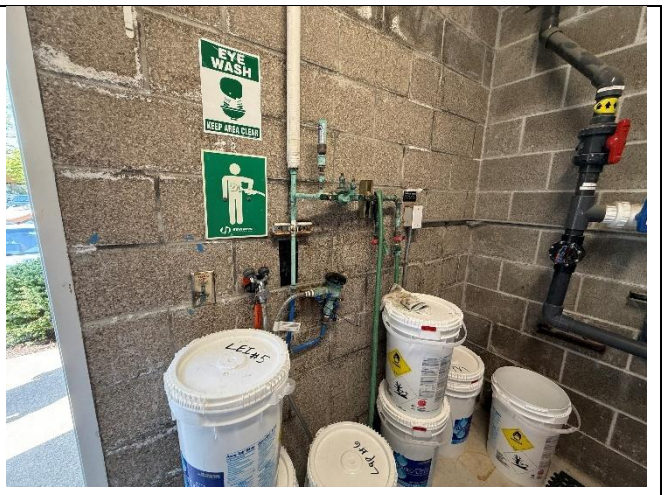
    c. CO_2 is injected into the 50-Meter Pool recirculation piping in the valve pit. Because this is a low, small-volume area, the possibility of a CO_2 leak presents a serious hazard.

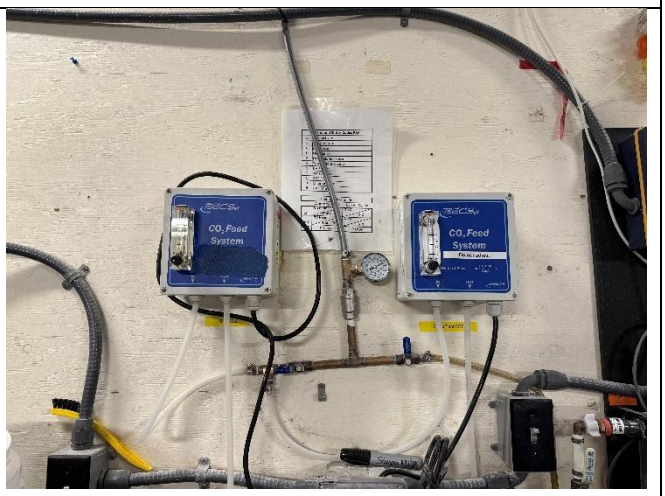
Recommendations:

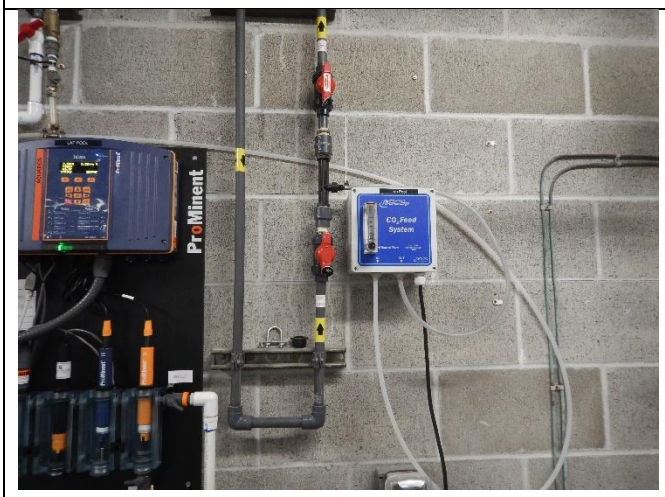
a) Install a CO_2 monitor inside the valve pit as near as possible to the gas injection. In the case of alarm, operators should know there is a potential suffocation risk in the valve pit.


POOL & SPA MOTOR
1081 POOL PUMP DUTY
THERMALLY PROTECTED
Hayward Industries, Inc.


HAYWARD
POWERFLO LX


EYE WASH
KEEP AREA CLEAR


CO2 Feed System
CO2 Feed System


ProMinent
CO2 Feed System


ProMinent
TEK™
CO2 FEED SYSTEM

13. Chemical Controllers (All Pools)

Observations and Comments:

a) Chemical or Water Chemistry controllers are a requirement of current Oregon code for new construction or substantial alteration of aquatic facilities. Water chemistry for each pool is currently controlled by a Prominent DCM5 chemical controller. The four controllers vary greatly in age and condition.

b) The 50-Meter Pool chemical controller is tied to the pool's calcium hypochlorite feed, CO_2 feed, and UV system. It is functional but aging and due for replacement.

c) The Therapy Pool chemical controller is similarly in command of the pool's calcium hypochlorite feed, CO2 feed, and UV system. Like the 50-Meter Pool's controller, it is functional but aging and due for replacement.

d) The 25-Meter Pool and Leisure Pool chemical controllers are tied to each pool's calcium hypochlorite and CO_2 systems. They were replaced very recently and are in new condition.

Recommendations:

a) It is recommended to replace the chemical controllers for the 50-Meter Pool and Therapy Pool as both are at their end of life.

14. UV Treatment (Indoor Pools)

Observations and Comments:

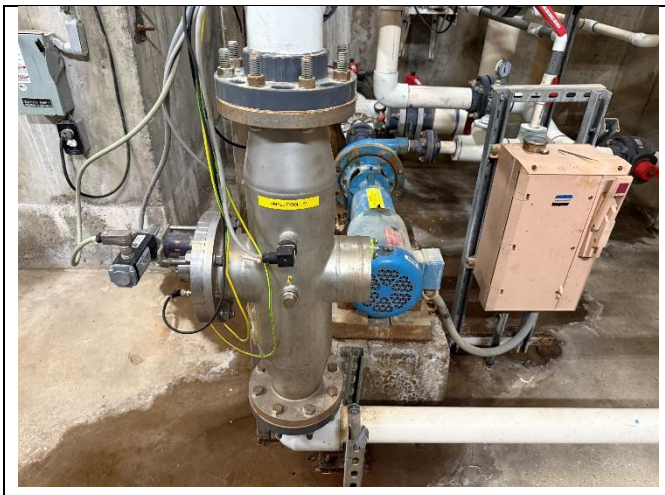
a) The 50-Meter Pool is equipped with a Prominent medium-pressure UV treatment system for supplementary disinfection and chloramine reduction. The UV lamp module is installed on a bypass in the pool recirculation system in the pump pit. The module shows some surface corrosion but is in fair condition. Its controller is located on the main mechanical room level and is in very good condition.

b) The Therapy Pool similarly has a UV lamp module installed on a bypass in the pump pit in fair condition. The associated controller is also on the main mechanical room floor and is in very good condition.

c) Operators reported a tremendous improvement in natatorium air quality when the UV systems were installed.

Recommendations:

a) It is recommended to consider replacement of both UV systems in the case of a mechanical system renovation. Reuse of current systems could be considered as a cost-saving measure.

	 ProMaqua® a ProMinent Brand

15. Pool Heating (Indoor Pools)

Observations and Comments:

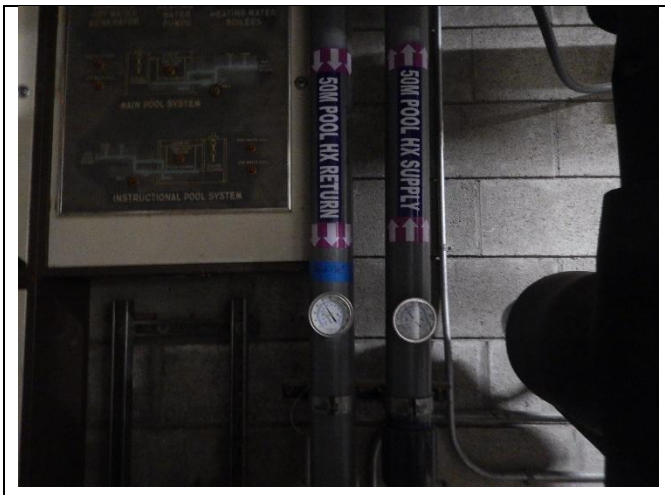
a) Each indoor pool has a heat injection loop in the return piping that goes through a heat exchanger. Heat is provided to the heat exchangers by three (3) Hydrotherm KN-20 condensing boilers that also serve other building systems.

b) The 50-Meter Pool has a 3-inch heating loop going between its return piping and a Xylem/Bell & Gosset plate-and-frame heat exchanger. The heat exchanger is in good condition.

c) The Therapy Pool is heated through a 1-inch heating loop between the pool return piping and a Xylem heat exchanger similarly to the 50-Meter Pool. The heat exchanger serving the Therapy Pool is also in good condition.

Recommendations:

a) In the case of mechanical systems renovation, pool heating needs must be coordinated between aquatic designer and building mechanical designer.

 50M POOL HX RETURN 50M POOL HX SUPPLY	 KN-20

16. Pool Heating (Outdoor Pools)

Observations and Comments:

a) The 25-Meter Pool and Leisure Pool are each heated by a Laars Mighty-Therm gas-fired pool heater rated for 4,050,000 BTU/hour. The two heaters are located in a room adjacent to the pool mechanical room and were in aging condition and require frequent repairs.

b) The Leisure Pool heater was reportedly replaced in between Counsilman-Hunsaker's visit and publication of this report.

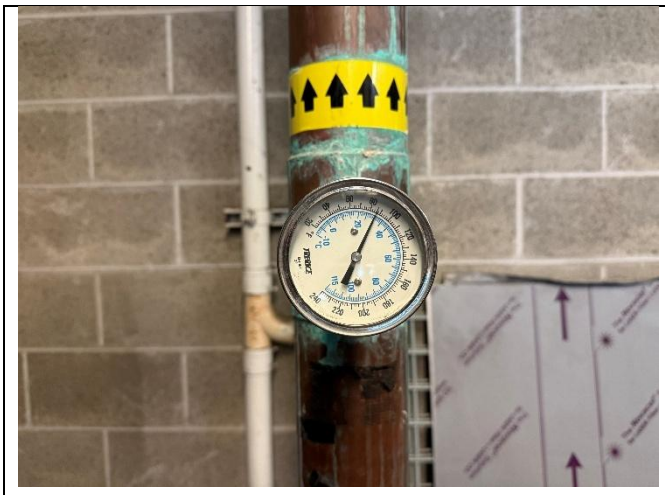
c) Heat is injected through a schedule 80 PVC loop to each pool's return header. Piping transitions to copper prior to entering the pool heater room.

d) Flow meters on both heater units have failed and need to be replaced.

Recommendations:

a) Replace failed flow meters on pool heaters.

b) Replace 25-Meter Pool heater at the end of its useful life.

17. Make-up Water (Indoor Pools)

Observations and Comments:

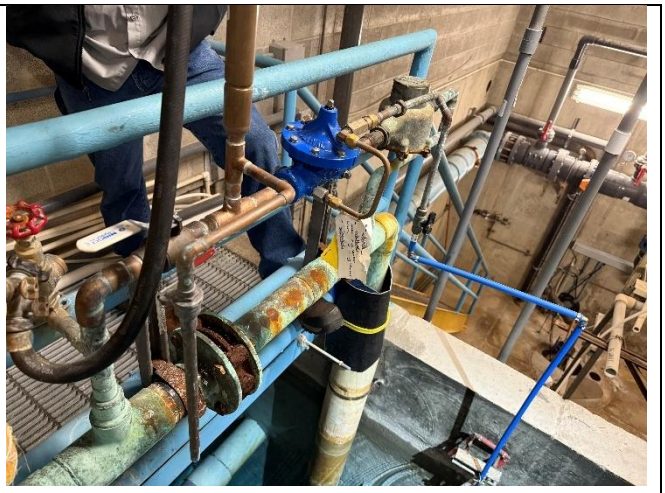
a) Makeup water for the 50-Meter Pool and Therapy Pool is delivered to each pool's filter tank using a valve actuated by a float in the tank. The autofill valves were replaced in recent years and are in good condition.

b) The meters for makeup water monitoring are not functioning.

Recommendations:

a) It will be necessary to replace the autofill systems for both pools if a greater mechanical system renovation is to take place.

b) It is recommended to install new meters to monitor makeup water usage for both pools.



18. Make-up Water (Outdoor Pools)

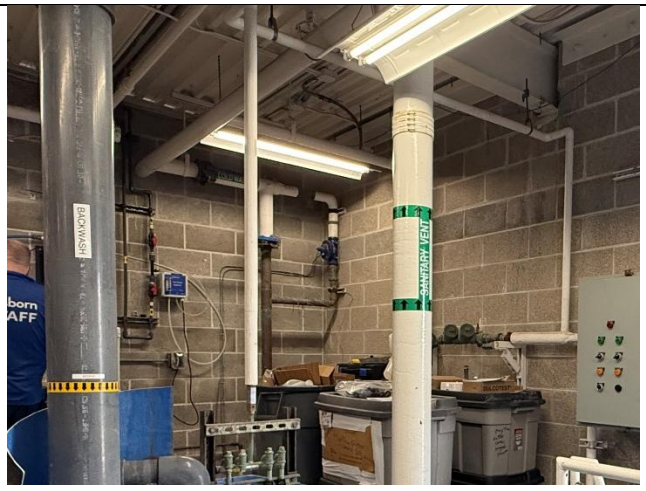
Observations and Comments:

a) Makeup water for each outdoor pool is provided to the surge tank through a domestic water connection controlled by an autofill controller and float.

b) The Leisure Pool autofill is no longer functioning and the pool needs to be filled by manual valve.

Recommendations:

a) Repair the makeup water valve in both pools with a solenoid actuated by a water level controller. Repair the water level controller probe in each surge tank with conduit running to the controller.



19. Indoor Pool Mechanical Room (Overall Conditions)

Observations and Comments:

a) The mechanical space serving the indoor pools is in good condition considering its age. The general condition of the space and equipment is greatly benefitted by the absence of muriatic acid in the pool systems.

b) The mechanical space contains some electrical infrastructure from abandoned systems that no longer serve any function and would cause confusion to an operator who is not already familiar with the facility.

Recommendations:

a) Remove abandoned systems and organize conduit runs along the mechanical room walls and ceiling.

b) Refer to architectural and structural assessments for additional recommendations.

20. Outdoor Pool Mechanical Room (Overall Conditions)

Observations and Comments:

a) Pumps serving the outdoor pools are located in a pump pit below the mechanical room floor and is covered by stainless-steel grating. The pit is accessible by a ships ladder, but there are no special considerations for motor removal.

Recommendations:

a) With the large quantity of pumps in the outdoor pool mechanical room pump pit, consider adding an overhead crane for ease of pump maintenance and motor removal.

F. CONCLUSION

The Osborn Aquatic Center remains a valuable community resource, but the facility is now operating well beyond its original design life. The audit findings highlight numerous critical deficiencies in the pools and associated mechanical systems that support daily operations. While many systems continue to function, their age, condition, and inefficiencies present increasing risks of failure, higher maintenance costs, and potential safety concerns if left unaddressed.

It should be noted that the facility's maintenance team has done an excellent job keeping the pools and supporting systems operational despite the age of the infrastructure and the challenges of deferred replacement. Their ongoing efforts have extended the useful life of the facility and allowed the community to continue benefitting from it up to and beyond its intended lifespan.

Addressing immediate safety hazards, particularly those related to code compliance, should be a top priority. Beyond urgent repairs, the city and school district should consider a phased approach to renovation or a comprehensive reinvestment strategy to ensure the long-term sustainability of the facility. Modernizing major systems will not only improve safety and reliability but also reduce operational costs, enhance energy efficiency, and provide a better experience for the community.

Ultimately, decisions regarding the Osborn Aquatic Center should weigh the cost of continued maintenance and incremental repairs against the benefits of significant capital improvements. Proactive investment now will extend the useful life of the facility, protect public safety, and secure the pool's role as a vital resource for years to come.

Structure - WDY

WDY visited the subject site on March 21, 2025 to observe the exposed to view structural condition of the existing building. The purpose of our visit was to familiarize ourselves with the existing structure to provide an opinion of structural conditions and possible structural deficiencies.

As part of this assessment we have been provided with the following documents related to structure:

- A partial set of the 1977 permit drawings.
- A partial set of the 1999 permit drawings.
- 2018 Building Facilities Assessment
- 9-2024 Natatorium Inspection and Addendum
- 12-2024 Cause and Origin Report
- 5-2-2025 Roof Repair Structural Drawings

SUMMARY:

Except for roof space truss repairs designed and detailed by others, the building appears to have successfully supported past gravity and lateral forces. Our structural recommendations for structural repairs are primarily maintenance related.

The focus of this report is the following recommendations for immediate repairs:

- Permit and construct roof repairs as indicated on the MCE stamped drawings.
- Remove rust and repaint exterior and interior steel elements.
- Add bracing to unbraced tanks and piping.
- Seal the south concrete wall and wall penetrations of the natatorium to mitigate moisture penetration.
- Repair, repoint, and seal damaged brick veneer at the north ends of the 1977 parapets to mitigate moisture penetration.
- Repoint CMU mortar joint in the east corridor.
- Caulk and seal CMU cracks in the detached pool building exterior walls to mitigate moisture penetration.

Long-term considerations:

- Monitor interior and exterior steel for deterioration.
- Remove and replace unreinforced 4” CMU wall with reinforced CMU or light gauge construction.
- Evaluate and retrofit north wall steel braced frames for improved ductility.

BUILDING DISCRIPTION:

1977 Building:

The Osborn Aquatic Center was built in two phases. The first phase consists of the natatorium, mechanical rooms, locker rooms and a small reception area and lifeguard station. The natatorium structure has an acoustical structural metal deck supported by structural steel beams and purlins suspended from three external steel space trusses that clear-span the building north-south. A cast-in-place concrete second floor viewing platform is located along the south side of the natatorium. The roof structure for the locker rooms and mechanical rooms is cast-in-

place concrete one-way slab and beams. The north wall of the natatorium is steel post and beam. The south wall of the natatorium is cast-in-place concrete. The exterior east and west walls of the natatorium are 12" reinforced concrete block masonry (CMU) with brick veneer. The south wall of the locker and mechanical rooms is 8" reinforced CMU with brick veneer. Non-structural interior CMU partitions are indicated as braced above the ceiling on record drawings. Non-structural interior 4" CMU partitions are likely unreinforced. The primary lateral force resisting systems for wind and seismic resistance are the south natatorium concrete wall and the building exterior CMU walls. Foundations for the building are conventional continuous shallow footings. Record drawings indicate footings are underlain with 12" of compacted granular fill.

1999 Building Addition:

The second phase consists of an addition to the full east and a portion of the south sides of the original building, a detached pool building, and improvements to the existing natatorium lateral force resisting system (seismic upgrades). The 1999 record drawings indicate the design was based on the 1997 Uniform Building Code (UBC) with 80 miles per hour (fastest mile) wind speed and seismic zone 3 with an importance factor of 1.0.

The single-story addition roof structure is structural metal deck over steel beams. Beams are supported by both new and existing reinforced CMU walls and new post and beam construction. The primary lateral force resisting systems for wind and seismic resistance are existing and new reinforced CMU walls. Foundations for the addition are conventional shallow spread and continuous footings.

The detached pool building is a single-story building with metal deck over steel beams roof structure supported on interior and exterior reinforced CMU walls. The CMU walls also provide the lateral force resisting system for the building. A recessed grating topped surge tank is located at the south end of the pool building with reinforced concrete walls. Foundations for the pool building are conventional shallow spread and continuous footings.

Improvements to the natatorium's lateral force-resisting system were part of the 1999 project drawings. These improvements included new structural roof metal deck for the first joist bay by the full length of the south side of the roof, new attachment of the roof deck to the south concrete wall, new structural roof metal deck at the first two joist bays of the north side of the roof for approximately 137 feet, and three new inverted chevron concentrically braced frames aligning with each existing roof space truss at the north window wall.

OBSERVATIONS:

1977 Building:

- At the time of my visit the natatorium roof structure was shored in place due to deterioration of the external roof space trusses where they penetrate the roof.
- Rust was noted at the north wall exterior beams and columns.
- Discoloration was noted on the inside face of the south wall of the natatorium above the viewing area.
- Some piping and tanks are unbraced in the mechanical room.
- The exterior brick veneer is damaged at the parapet in the northwest and northeast corners of the building.

1999 Addition:

- Non-structural CMU walls in the east hallway have a horizontal mortar joint crack two to three bed joints below the ceiling. Structural return wall has a vertical crack approximately 24" from the hall wall. Record drawings do not indicate foundations below the non-structural CMU walls.
- Minor wallboard cracking is present in the east hallway ceiling.

1999 Pool Building

- Exterior walls have multiple minor vertical shrinkage and stepped settlement cracks.

PROPOSED ROOF REPAIRS:

WDY, Inc. has received a copy of the stamped permit structural drawings and calculations prepared by Miller Consulting Engineers (MCE) dated May 2, 2025 for the repair of the damaged roof structure. Our review is limited to review of the documents for structural concept. The document details the repair and replacement of damaged roof truss elements and tab plates. WDY takes no exception to the concepts of the proposed repairs as presented.

SEISMIC CONSIDERATIONS:

The 1999 addition, detached pool building, and lateral upgrades to the 1977 building were designed and constructed using the 1997 Uniform Building Code (UBC). The American Society of Civil Engineers (ASCE) document "Seismic Evaluation and Retrofit of Existing Buildings" ASCE41 identifies buildings of steel, masonry, and concrete construction designed or improved under the 1997 UBC as benchmark buildings. Benchmark buildings are deemed to comply with the seismic evaluation provisions of ASCE41. Although the building may comply with the benchmark requirements it is unlikely to meet the detailing requirements of the current building code for ductility for elements as braced frame connections and special wall reinforcing.

RECOMMENDATIONS:

The focus of this report is the following recommendations for immediate repairs:

- Permit and construct roof repairs as indicated on the MCE stamped drawings.
- Remove rust and repaint exterior and interior steel elements.
- Add bracing to unbraced tanks and piping.
- Seal the south concrete wall and wall penetrations of the natatorium to mitigate moisture penetration.
- Repair, repoint, and seal damaged brick veneer at the north ends of the 1977 parapets to mitigate moisture penetration.
- Repoint CMU mortar joint in the east corridor.
- Caulk and seal CMU cracks in the detached pool building exterior walls to mitigate moisture penetration.

Long-term considerations:

- Monitor interior and exterior steel for deterioration.
- Remove and replace unreinforced 4” CMU wall with reinforced CMU or light gauge construction.
- Evaluate and retrofit north wall steel braced frames for improved ductility.

LIMITATIONS:

This report is intended to identify possible structural conditions within the scope that may be deficient. This report is based on our site observation of exposed-to-view structural members, review of available record drawings, and proposed repairs by others. Repairs designed by others are the sole responsibility of the engineer stamping the repair drawings and calculations.

This report is not a design for mitigating noted repairs. WDY, Inc. provides no warranty or guarantee either expressed or implied other than our work is performed with the usual thoroughness and competence of the engineering profession providing similar services at the time services are performed.

PHOTOGRAPHS

Existing natatorium roof shoring.

Deteriorated natatorium space truss joint.

Surface rust at natatorium north wall braced frame column base.

Natatorium north wall connection deterioration.

Evidence of interior moisture at natatorium south wall.

Partially braced tank.

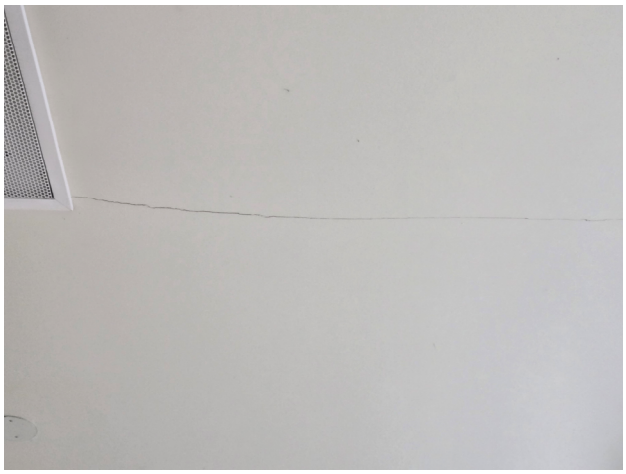
Unbraced tank in natatorium mechanical room (photo rotated).

Northwest parapet veneer damage.

Northeast parapet veneer damage.

Horizontal crack in non-structural CMU wall.

Vertical CMU crack (photo rotated).



Ceiling Wallboard crack.

Examples of CMU cracking at detached pool building.

Building Enclosure - RDH


Osborn
Osborn

1 Executive Summary

The following bullet point list highlights the building enclosure-related recommendations at the end of this report. Further information on our observations, the documents reviewed, and a more detailed explanation of how these recommendations were developed is provided in the subsequent sections of this report.

1.1 Short Term Recommendations (Within next 1-2 Years)

1. Repair all noted deficiencies in the steel roof structure per Miller Engineering's drawings:
    - Thermal Isolation Bearing Pad is key to reducing condensation risk which is primary the cause of the current deterioration
    - Ensure the entire steel structure is seal-welded, with repairs made as needed to prevent water intrusion
2. Replace all roofs in conjunction with the steel structure repairs:
    - Replace all flat roof assemblies with a 2-ply SBS fully adhered roof assembly with R-30 continuous insulation
    - Replace all steep sloped roof assemblies with new metal panel roofing to match similar aesthetic with R-30 continuous insulation
    - Sealing the base of each HSS penetration through all roof assemblies is key.
3. Repair damage brick cladding, in particular along the North Elevation
4. Repair known leaking windows (south office, north pool ribbon window). Perform a full maintenance scope for all windows, including replace all broken, damaged or missing gaskets, seals and window components.
5. Full sealant replacement around all window, doors and penetrations at all exterior walls.

1.2 Mid-Term Recommendations (Within next 5-10 years)

1. Replace all windows with new storefront style aluminum frame similar to existing
2. Tuck and repointing of all brick cladding walls including brick sealer
3. Exterior insulate and over-clad all exterior concrete pre-cast concrete walls

1.3 Long Term Recommendations (Within next 11-50 years)

1. Replace all roofs every 25 to 30 years

2 Introduction

2.1 Terms of Reference

RDH Building Science Inc. (RDH) was retained by Scott Edwards Architecture to undertake an assessment of the current condition of the building enclosure of the complex known as Osborn Aquatic Center, located at 1940 NW Highland Dr., Corvallis, OR.

This report documents the current condition of elements of the building enclosure. It may also provide information related to the specific sources of moisture or other physical factors which have resulted in the conditions observed.

This report has been undertaken for Scott Edwards Architecture on behalf of the Owners, Corvallis School District, and is not to be relied on by others.

2.2 Report Organization

Background information relevant to this building and the assessment of the condition is provided in Section 2 of this report.

The report is organized in accordance with five primary elements of the building enclosure as well as interior operating conditions:

1) Interior Conditions
2) Exterior Walls
3) Windows and Doors
4) At-Grade Assemblies
5) Auxiliary Maintenance Building
6) Roofs (Peer Review of Previously Prepared Work)

Our specific observations and other factual data related to these elements are contained in an appendix that corresponds to each of these elements. Section 3 discusses our observations and the implications with respect to current and future building enclosure performance. Further, observations regarding specific maintenance items may be made if they relate to a proposed rehabilitation or renewals recommendation; however, this report does not constitute an overall maintenance and renewals plan.

The recommendations for rehabilitation and renewal are summarized in Section 4. Proposed timing associated with the recommendations made are presented with a discussion of alternate conceptual approaches, phasing and advantages of various implementation scenarios where appropriate.

3 Data Collection and Investigation

3.1 Documents Reviewed

The documents provided to and reviewed by RDH are listed in Table 3.1.

TABLE 3.1 DOCUMENTS REVIEWED	
DOCUMENT DESCRIPTION	
Architectural Drawings - Original Plans	1977
Renovation Architectural Drawings	1999
City of Corvallis – Building Facilities Assessment Plan	November 2018
City of Corvallis – Citywide Facilities Strategy	January 2022
Solar Proposal and Helioscope Reports	April 08, 2023
Energy Trust of Oregon – Technical Analysis Study	March 1, 2024
Corvallis School District – Major Maintenance Project Spreadsheet	Updated April, 2024
Branch Engineering – Roof Structural Observation Report	September 30, 2024
Construction Science Forensics, LLC – Roof Condition Assessment Report	December 6, 2024
Branch Engineering – Follow-up Roof Structural Observation Report	January 31, 2025

The documents below were provided separately as it related to scope development to the roof replacement issued to and reviewed by RDH are listed in Table 2.2.

TABLE 3.2 ROOF SCOPE DOCUMENTS REVIEWED	
DOCUMENT DESCRIPTION	
Construction Science Forensics, LLC – Roof Replacement Manual	February 17, 2025
Miller Engineering Inc. – Structural Drawings and Calculations for Roof Structure Repairs	May 5, 2025

3.2 Building Description

A description of the buildings is provided in Table 3.3. The building is in general a rectangular shape with a curved front lower entrance and office space located at the southeast corner. Photographs of the principal elevations of the buildings are provided in Figure 3.1.

TABLE 3.3 DESCRIPTION OF BUILDING	
Name	Osborn Aquatic Center
Address	1940 NW Highland Dr., Corvallis, OR 97330
Date of construction	1977 and major expansion in 1999
Floor area	39,064 GSF (Aquatic Center) + 2,600 GSF (Outdoor Pool Building)
Type of construction	Structural Steel and CMU Block
Sprinklered	Yes

Figure 3.1

Front (south) elevation.

Figure 3.2

West elevation

3.1 Building History

A brief history of activities and events relating to the building enclosure assemblies as reported to us or as described in the documents reviewed is listed in Table 3.4.

TABLE 3.4 BUILDING ACTIVITIES RELATED TO ENCLOSURE PERFORMANCE	
DATE	
1977	Construction
1999	Major Expansion and Renovation
2023	Main Low-sloped Roof Replacement (Including Auxiliary Building)
December 2024	Building closed due to investigation findings of corrosion to steel roof structure connections and temporary scaffolding erected inside.

3.2 Summary of Field Review

On March 21, 2025, RDH performed an initial walk and performed a review of the interior and exterior conditions as it relates to the building enclosure. A summary of RDH field review efforts is recorded in Table 3.5 below.

TABLE 3.5	
Date	Work Description
March 21, 2025	Purpose: Building enclosure and building interiors reviews RDH: Samuel Chipperfield Other sub-consultants were present at the time of the review

4 Discussion of Building Enclosure Performance

4.1 Interior Operating Conditions

4.1.1 Interior Finishes

The main interior wall assembly varies from finished framed walls with sheetrock and paint at the front entry lobby and offices which were all built as part of the 1999 expansion. At the main pool interior pool area, the interior wall is primarily unpainted CMU and concrete walls with select sections of interior walls painted, in particular the wall above the second level seating area. Along the north elevation there are sections of exposed concrete stem walls under the ribbon storefront windows which has been painted.

In general, the interior conditions show minor cracking that appears to be attributed to typical building settlement. Areas of water staining and leaks are related to the adjacent exterior wall or window assembly and explain in further detail in subsequent sections in this report.

4.1.2 Observations

The following conditions are noted during our interior observations of the building and the building documents review:

- → Interior scaffolding has been erected within the main interior pool area as a temporary measure to support the primary roof structure as the noted deficiencies in previous roof investigations warranted this until repairs could be made.
- → The main pool had been drained, and the regular building heating had been turned off as the building was vacated at the time of the site walk.
- → Minor cracking below storefront windows along east corridor.
- → Minor staining and leaks reported at front office units around windows located on the south elevation.
- → Leaks and rust staining around the storefront window finishes along the north elevation of the main pool area.
- → Efflorescence and staining below large louvers above the second level seating area.
- → Damage to interior window surround trim.

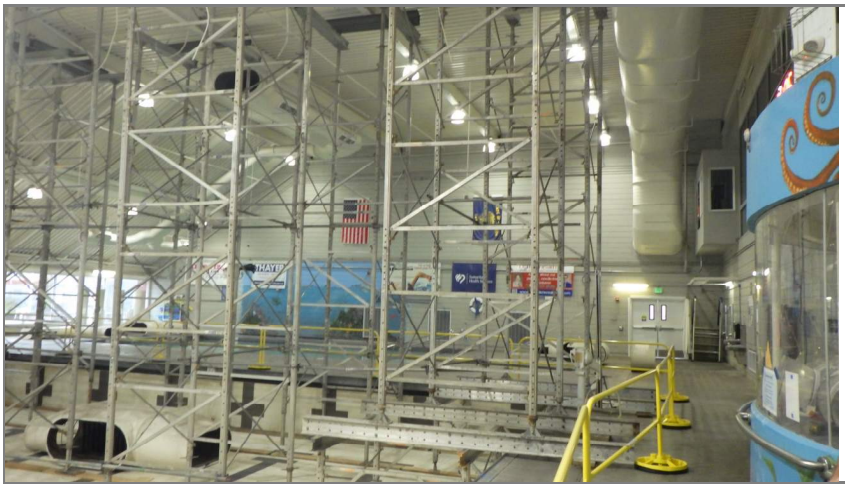


Figure 4.1

Main pool area.

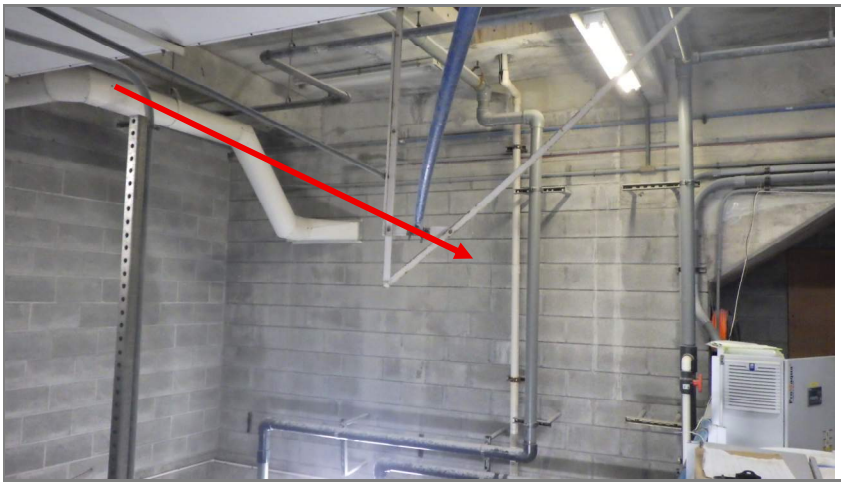


Figure 4.2

Interior pump roof with streaks showing on exposed CMU walls.

Figure 4.3

Cracks and stains at the concrete stem wall underneath the storefront ribbon windows on the north elevation.

Figure 4.4

Efflorescence and staining on interior side of concrete wall above the second-floor seating area.

Figure 4.5

Building settlement cracking on interior wall.

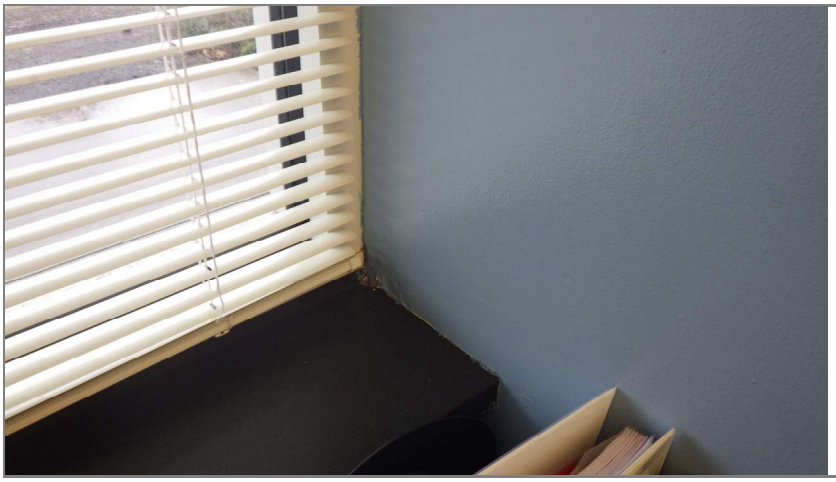


Figure 4.6

Area of window leak at inside corner of office unit.

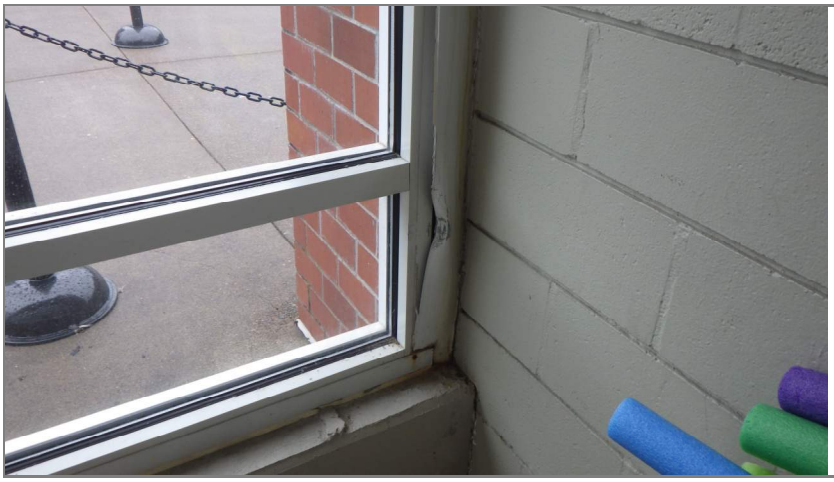


Figure 4.7

Damaged interior window surround trim.

4.2 Exterior Walls

Conditions and performance of the exterior wall assemblies at interfaces that occur at the walls are discussed in this section. Other major elements of the enclosure (windows and roofs) are discussed in later sections of this report.

4.2.1 CMU and Concrete walls

The main exterior wall assemblies at the Osborn Aquatic Center Building consists of concrete masonry unit (CMU) block walls clad with brick veneer with select sections of exposed cast-in-place concrete. The majority of the exterior surface of the CMU walls is clad with brick veneer discussed in the next section. The concrete walls appear to be bare, exposed concrete; however, we note in the 1999 plans that the existing concrete walls are to be "blast clean and waterproof." It is unknown if this scope was performed and/or what products were utilized.

Based on a review of the exterior wall types on sheet A2.4 from the 1999 architectural drawings, the exterior CMU wall assemblies has potential some insulation either placed on the interior or exterior between the CMU and brick veneer along with a damp-proofing membrane. At the time of the review, both of these conditions were concealed and could not be confirmed. The only existing concrete wall assembly shown is a bare concrete wall with nothing noted on the interior or exterior.

In general, the condition of the exterior walls was observed to be in moderate to good condition considering the age of the building and structure. The CMU and concrete walls appear to be performing as intended, with minimal cracking or broken and/or spalled units. The main louver penetrations on the south elevation wall which extends from the first level roof over the front lobby to the second level main pool area roof were noticeably leaking with heavy streaks and water stains. It is unclear if leaks are a result of a failed louver or improper seals around the louver to the concrete wall.

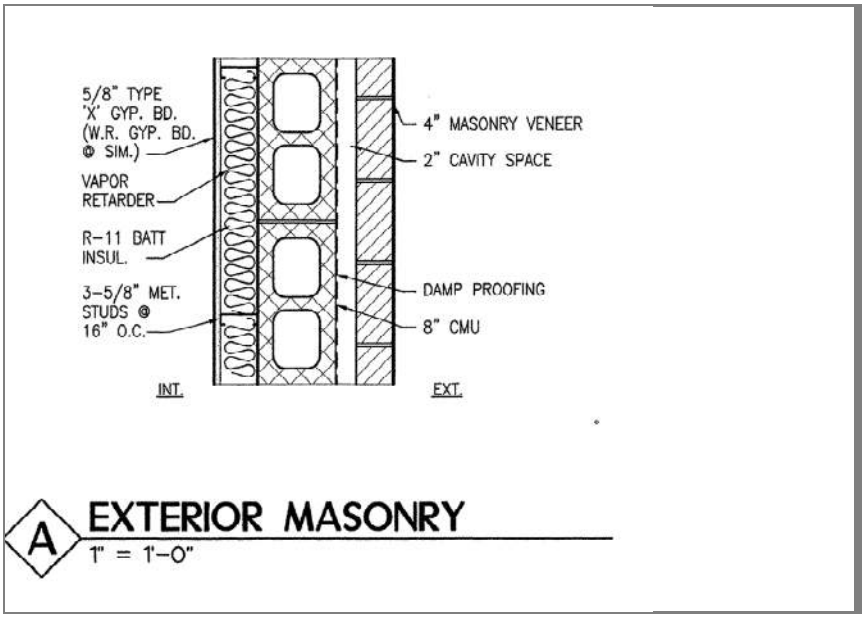


Figure 4.8

Existing exterior CMU Wall assembly with insulation shown on the interior.

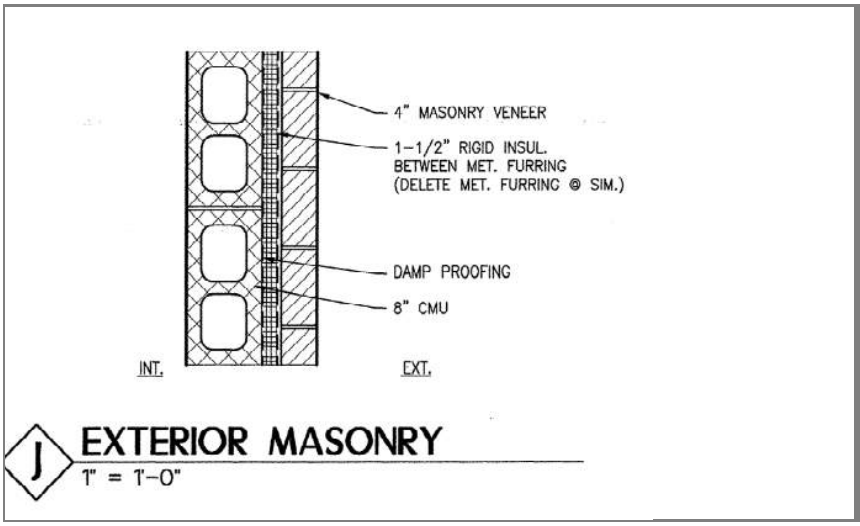


Figure 4.9

Existing exterior CMU Wall assembly with insulation shown on the exterior.

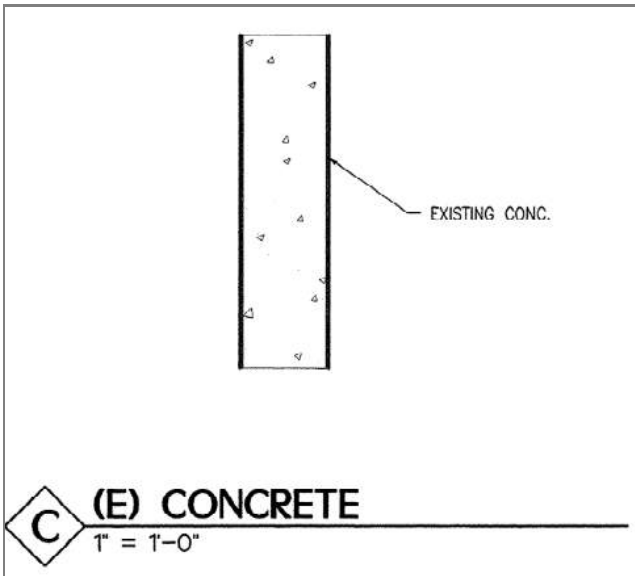


Figure 4.10

Existing exterior Concrete Wall assembly with nothing shown on both interior and exterior faces.

Figure 4.11

Exterior walls are a combination of CMU and CMU clad with brick veneer.

Figure 4.12

Overview of the concrete walls and brick.

Figure 4.13

Close-up of the concrete walls with louvers.

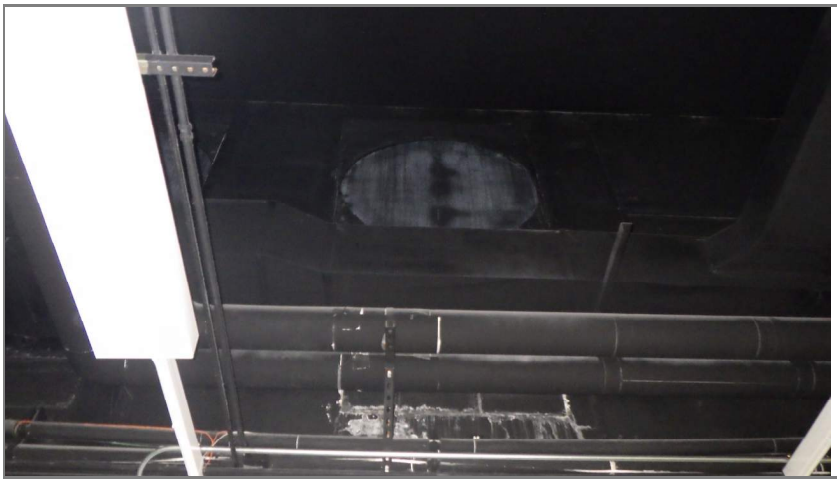


Figure 4.14

Interior view of the concrete wall with louver penetration.

Figure 4.15

Water stains and inconsistent texture on the exterior wall.

4.2.2 Brick Veneer Cladding

The majority of the exterior cladding is a brick veneer placed over the CMU wall. The 1999 drawings show the brick veneer placed over an air cavity over a damp-proofing layer. These layers were hidden from view during our on-site review; however, it would appear to be providing moderate to decent protection as there were limited areas of cracking or water staining on the interior field of exterior walls. There were visible weep holes at the base of the majority of the brick clad areas.

There were multiple areas of sealant failure primarily around door and window penetrations, and areas of efflorescence and moss building up on brick surfaces. The efflorescence as observed appeared to be typical for this type of construction. Some penetrations had a sheet metal flashing install at the head, but were bent, backsloped and maybe preventing water from draining out and instead diverting water back into the walls. Additionally, there were select areas showing signs of significant cracking in the mortar and brick at columns along the north elevation which may signify a larger problem requiring repair. At the time of review it is unclear if there is a leak related to the roof which is resulting in the damage to the brick wall area, it is recommended that during the repairs a review occurs to confirm the integration and detailing relating to the roof and coping detailing around this area.

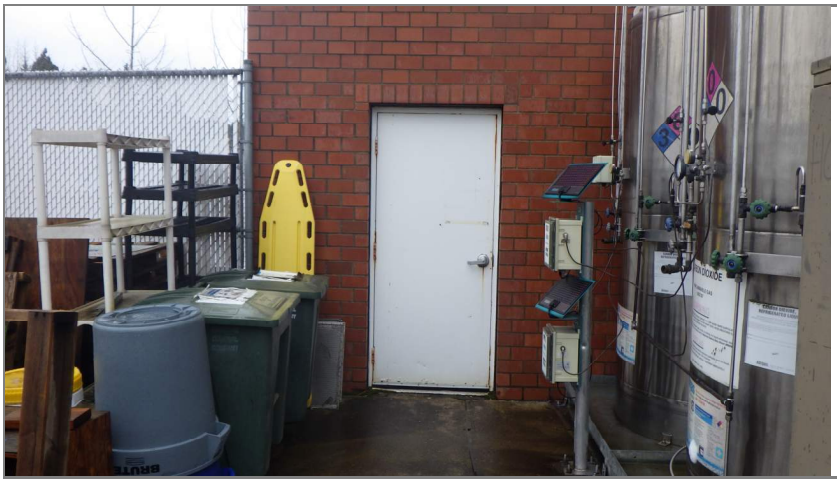


Figure 4.16

Typical door penetration within the brick cladding.

Figure 4.17

Typically, most penetrations had a sheet metal flashing at the head, but the perimeter sealant was noted to be hardened and weathered.

Figure 4.18

Metal roof saddle at inside corner with water stains.

Figure 4.19

Efflorescence within the field of the brick implies water is able to get in behind the brick.

Figure 4.20

Outside corners were noticeably darkened with moss build up within mortar joints.

Figure 4.21

Staining and failed sealant joints between window surrounds and brick cladding.

Figure 4.22

Weeps were consistently present along the base of brick clad walls.

Figure 4.23

At certain areas, water was pooling along the base of brick clad walls on top of the hardscape. It was unclear if the water is from the adjacent downspout or from another source.

Figure 4.24

Area of significant damage to the brick cladding and in need of repair.

Figure 4.25

Alternate angle of the damaged mortar and brick.

4.3 Windows

The primary window assembly consists of aluminum ribbon storefront windows on the north, east, and south elevations. The windows on the north elevation separate the main pool area from the exterior. The east-facing windows align with an interior corridor, while the south-facing units serve offices and the main entrance lobby. RDH understands all of these windows were installed during the 1999 renovation, but it is unclear who the manufacturer is and/or if any repairs have been made since then.

In general, the windows are nearing the end of their useful service life as was evident by several failed insulated glazing units (IGU) resulting in foggy or misted appearance as well as reported leaks at windows within the offices. Typically, window assemblies of this type can expect to perform around 25 to 30 years from original installation before planning for replacement. Based on the current observed conditions, with a maintenance program implemented the current systems could achieve approximately an additional five to ten years.

The perimeter sealant beads around the exterior of the windows is hard, weathered and failed in multiple locations. In most locations a sheet metal flashing was installed at the windowsill which was backsloped and shedding water back into the window unit.

The ribbon storefront window and door system which extends the full width of the north elevation along the main pool area was the most weathered window system for the entire building. This is expected as the windows are the direct separator between the hot and humid pool area and exterior conditions. RDH observed heavy stained sealant around the windows, rusted frames, leaks between the CMU walls as well as rusted steel elements at the window head. All of these conditions point to the system nearing the end of useful life and should be planned for replacement and in the interim planned for targeted maintenance repairs as noted in the following section.

Figure 4.26

Storefront Window system along the North elevation.

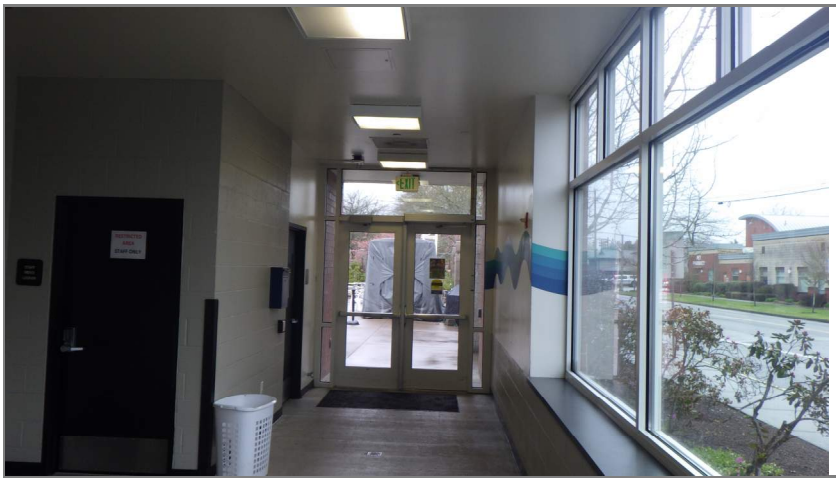


Figure 4.27

Storefront window system along the east corridor.

Figure 4.28

Storefront window system along the south office and entrance areas.

Figure 4.29

Staining at windowsill and rusted fastener at back angle.

Figure 4.30

Observed leak around the window to CMU transition at the northeast corner.

Figure 4.31

Close up of water stains and leak around the window head.

Figure 4.32

Heavy rust stains at steel head above storefront window.

Figure 4.33

Stains within panel of storefront window.

Figure 4.34

Windowsill metal flashing bent and backsloped.

Figure 4.35

Most build up at inside corner of metal sill flashing and failed sealant between window frame and CMU wall.

4.4 Roofs

The Osborn Aquatic Center has three primary roof assemblies; the main low sloped roofs which have recently been overlayed with a new white single ply membrane, the steep sloped roofs with sheet metal panels that were added as part of the 1999 renovation, and the front entrance metal canopy roofs also added as part of the 1999 renovation. Below is an overview of each roofing type.

At the time of writing, RDH has not been on the roofs to review firsthand these conditions and solely relying on the reports provided as noted in page 2 of this document.

4.4.1 Low Sloped Single-Ply Membrane Roofs

The low-sloped roofs reside over the front entrance lobby and offices as well as above the main pool area. We understand a single-ply PVC roofing membrane is installed as an overlay over the original BUR (built-up roofing) assembly. The overlay project was reportedly installed in 2023. We understand the main reason the roof was repaired is that it regularly leaked over the main pool area onto the swimmers and based on a review of the Major Maintenance Project 12/2017 overview for the City of Corvallis budget, it appears the low sloped roofs were intended to be replaced. However, we understand the City was provided with the option to perform an overlay in lieu of a replacement which resulted in about $200K in savings.

Since the roof overlay project occurred, we understand that additional leaks and issues started to occur, noticeably with rusting streaks within the main HSS structure over the main pool area. RDH understands that when some overhead lights were replaced over the main swimming pool area, during routine maintenance, the structure was observed to be significantly rusted, and an unknown engineer was brought to site to review from the interior.

Based on the review from the interior and the persistent leaks, The City of Corvallis hired Construction Science Forensics LLC (CSF) to perform a targeted investigation within the roof and provided a report dated December 6, 2024. Based on a review of the report, we understand the primary issue to be the HSS post penetrations through the roof assembly creating a thermal bridge (a direct path from interior to exterior) bypassing the roof insulation and condensation on the steel. Over time the condensation has deteriorated the steel members to the point where emergency scaffolding had to be erected to provide temporary support of the structure until repairs could be made.

Based on a review of the initial report by CSF, it appears that no additional insulation was added to the roof assemblies leading us to believe that this condition has more than likely been consistent since initial construction, relating to condensation but misinterpreted as roof leaks. Upon review of Branch Engineering's follow-up report dated January 31, 2025, we would agree that CSF's report *"... provides only limited documentation of the structural condition of the critical steel tension tubes supporting the natatorium roof framing. It indicates that four openings were cut through the roofing and that the steel tubes were typically corroded and deteriorated. There was one photograph of a screwdriver stuck through the wall of one of the steel tubes just above the metal roof decking. However, there was no indication of the extent of the decay around the periphery of the tube or up its height."*

A critical element in every roof is how air and vapor are managed, in particular where roofs are on top of a hot and humid conditioned space such as a natatorium. There is no mention in CSF's report which describes the presence of an existing vapor barrier and/or its condition. Based on a photo within the report, it appears that a substrate board and black fluid applied membrane are present but unclear how it was detailed around the base of the post as it had been removed. We note based on a review of the roof assemblies as shown in the 1999 drawings, sheet A9.10, detail A, the original roof assembly consisted of:

- *Exterior to Interior*
- A single ply membrane
- Coverboard

- 2.7” insulation adhered
- Vapor barrier
- ½” roof board mechanically fastened to the 3” acoustic steel deck.

Based on a review of the documents provided, it is unclear to what extent the noted structural deterioration extends to all locations, and how much of the deterioration is a result of poor detailing and vapor control around the base of each HSS penetration further exasperating the thermal bridge impact leading to higher levels of condensation or a result of active leaks. RDH recommends additional investigation should occur to confirm if the similar HSS penetrations in the standing seam steep sloped roofs are faring in a similar manner.


Front Elevation

Figure 4.36

Overview of main low sloped roof areas.

Photo credit: Construction Science Forensics report dated 12/06/2024.


Rear Elevation

Figure 4.37

Alternate view of the main low sloped roof over main pool area.

Photo credit: Construction Science Forensics report dated 12/06/2024.

Figure 4.38

Example of the HSS structure over and penetrating the low slope roof assembly.

Photo credit: Construction Science Forensics report dated 12/06/2024.

Figure 4.39

Interior view of rust stains directly below a HSS post penetration.

Photo credit: Construction Science Forensics report dated 12/06/2024.

Figure 4.40

Second roof cut within the low sloped roof area which shows the single ply PVC overlayed over the existing BUR roofing system. It is not clear how the vapor retarder in the roof assembly was tied into the HSS.

Photo credit: Construction Science Forensics report dated 12/06/2024.

4.4.2 Steep Sloped Metal Roofs

In addition to the low sloped roof areas, there are two steep sloped roof sections that are covered with a standing seam metal panel. It is unknown if there are any issues of leaks with this roof assembly or if there have been any records of repairs or maintenance.

Based on a review of CSF's report there were no openings or investigations or comments about how the existing or roof overlay systems integrated with the metal steep sloped roofs but are included to be replaced in their scope of work dated February 17, 2025. RDH does note that the same HSS penetrations as noted to be deficient in the low sloped roofs are present within the steep sloped roofs, however, there does not appear to be any investigation or confirmation on their current condition. Additional investigation should be undertaken to verify their current condition and need to be replaced.

Figure 4.41

Steep sloped metal roofs are covered with standing seam metal panel.

Photo credit: Construction Science Forensics report dated 12/06/2024.

4.4.3 Front Entrance Metal Canopy Roofs

The third roof assembly is a metal steel canopy that wraps around the south elevation over the front entrance and offices. The metal roof is entirely exterior, sloped away from the building and drains into a gutter and downspout system. It is unknown if there is a membrane on top of the roof, but noted on the 1999 plans, sheet A4.1, there is a "special coating" which was intended to be applied over this entire roof section. While on site, RDH notes that there were multiple areas where the canopy roof was draining water back to the building, along the brick façade and potentially compromising the window system below, notably the one window leak as described in the window section above. The field of the canopy appears to be shedding water away from the building as intended.

Figure 4.42

Metal canopy roof on south elevation.

Figure 4.43

Signs of leaks towards the transition back to building.

Figure 4.44

Termination saddle transition of metal roof to brick veneer cladding,

Figure 4.45

Signs of roof leaks in canopy directly over window assembly.

4.5 Secondary Maintenance Building

A second auxiliary building was added as part of the 1999 renovation. This is an unconditioned pump and maintenance building. The exterior walls are painted CMU block with single and double metal swing doors with metal head flashing similar to the primary building. The roof is a low sloped single ply membrane overlay over the original BUR roof similar to the main building. Minor staining and cracking was observed at select areas on the exterior walls.

Figure 4.46

Overall view of the auxiliary maintenance building.

Figure 4.47

Typical head detailing above metal doors.

Figure 4.48

Staining above metal head flashing over swing door.

Figure 4.49

Overall view of the west elevation.

Figure 4.50

Minor cracks in the exterior walls.

5 Recommendations

5.1 Summary of Rehabilitation Needs

Our recommendations are based on a combination of factors, including a review of design drawings and other available documentation, information collected at the building through visual observations and exploratory openings, as well as experience and knowledge gained from investigations of many other buildings with similar assemblies and details.

In general, the majority of the building is performing as expected considering its age and overall age of most of the building enclosure systems we observed on site, apart from the main roofs. The main roofs and the deterioration of the primary steel structure that penetrates the roof are a life safety risk and should be replaced as soon as possible. Additional investigation should be carried out to verify the extent of the deterioration and if this extends to all similar penetrations notably within the steep sloped standing seam roof areas. After the investigation, if it does indicate all conditions are similar, then a full roof replacement with a new roof assembly that is insulated to meet current code, R-30 continuous at both the low sloped and steep sloped areas should occur. In conjunction with the roof replacement project, repairs to the existing steel structure should be performed as noted in the Miller Consulting Engineers repair drawings dated May 05, 2025. We assume that the dead loading used in Miller Engineering's calculation package assumes this additional dead load of increasing insulation from R-15 to R-30 since upgrading insulation to meet current codes is required when replacing roof assemblies. Even if this is a targeted immediate repair, without full roof replacement, the design should assume full roof replacement in the future.

As shown on Miller Engineer's drawings, a thermal isolation bearing pad is provided utilizing ClimaSpec CI material between two base plates. This creates a thermal separation between the base of the HSS post into the middle of the new roof assembly insulation layer which reduces the risk for condensation and eliminating the resultant damage to occur again. The remaining existing HSS structure should also be reviewed to verify and confirm that all exterior seams are seal-welded with repairs performed where seals may have opened up over time and allowing a direct path for moisture migration into the system.

Currently what is being proposed in the written scope of work narrative on page 11 of Construction Science Forensics document dated February 17, 2025, only states to infill the repaired HSS tube steel with spray foam to the height of the new roof system. Based on Miller's drawings, this is not required and not recommended to be performed as part of the repair. In neither the written scope of work nor under Section 14 work descriptions does it describe what the overall thickness or insulation value of the new roof assemblies are to be. The scope of work also proposes to change from a standing seam metal roof system on the steep sloped roof sections to a single ply ribbon system to simulate a standing seam aesthetic.

Due to the long-term performance and durability expected of the roof assembly for a civic building such as the Osborn Aquatic Center, it is RDH's recommendation to consider utilizing a 2-ply SBS roofing system over the low sloped roof areas along with a new standing seam metal roof for the steel sloped areas. A high-performance standing seam roof assembly will also likely include a compact roof assembly under the standing seam. In conjunction, all roof areas should receive a new substrate board over acoustical metal deck, fully adhered air barrier/vapor retarder and R-30 continuous insulation to meet current energy code. In our opinion the roof assembly must include an air barrier on the warm side of the insulation. As such, we recommend the self-adhered vapor barrier membrane, detailed to control both vapor and air flow at this level of the assembly in order to mitigate any potential for interior conditioned high humidity air from migrating into the roof assembly. The air barrier/vapor retarder must be tied-in and sealed at all penetrations through the roof assembly, particularly the new structural steel connections.

Following the repairs to the roofing systems, the next highest priority would be to perform repairs to the brick veneer walls that were noted to be damaged. Additionally, RDH recommends a full-sealant replacement maintenance project at all control joints, penetrations, windows and doors and transitions.

The ribbon storefront window systems are nearing the end of their useful life and should be anticipated to be replaced within the next five to ten years. A heightened maintenance plan can help improve performance and life expectancy of these systems, which would include a full gasket, seal and glass replacement where they are noted to have failed. Additionally replacing all exterior and interior perimeter sealant joints will provide improved protection at these areas.

Lastly, similar to the brick veneer cladding areas, replace seals, and sealant joints around penetrations with the concrete walls, including the large louvers on the south elevation. For the concrete walls, it is also recommended to add an exterior coating to provide a water shedding surface. For long term durability and performance adding exterior insulation with over cladding such as metal panels) would significantly improve the overall thermal efficiency of this wall type and align it with the other exterior walls around the building.

5.2 Next Steps

The condition assessment report presents conceptual-level recommendations with respect to rehabilitation and renewal activities. It is important to understand that these recommendations do not provide a basis for implementing remedial work. Conceptual recommendations need to be developed, refined, and documented in detail before the construction work can be tendered to contractors or obtained a building permit.

RDH is available to meet with you and discuss our findings, recommendations, and next steps at your request.

Yours truly,

Samuel Chipperfield
Associate, Senior Consultant
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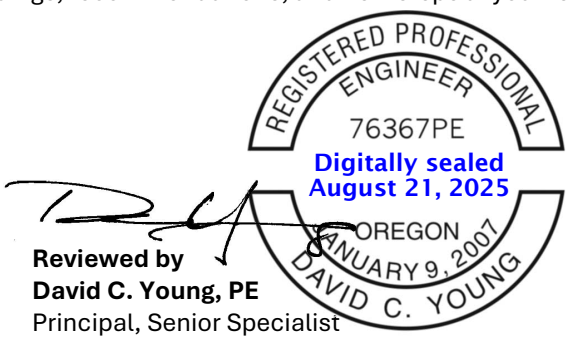

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Executive Summary

BUILDING/PROJECT DESCRIPTION

The Osborn Aquatic Center is a 42,844 SF natatorium facility located at 1940 NW Highland Drive, Corvallis, Oregon. The main building includes a competition pool, wading pool, locker rooms, storage, offices, lobby, and other support spaces. This facility was shut down in 2024 due to structural steel deterioration.

This report is an evaluation of the existing conditions of the HVAC, Plumbing, Electrical, Technology, Lighting, Fire Sprinkler/Alarm, and Low Voltage Technology systems, offering recommendations for immediate repairs to sustain the facility for the next 5 years. This report also includes recommendations on the advantages and disadvantages of a full scale remodel of the building rather than targeted upgrades. This report does not address pool mechanical systems, as those will be covered in the Aquatic Consultant's report.

SUMMARY OF RECOMMENDATIONS

Mechanical

Short Term Recommendations (5-10 Years)

- Primary Building Heating Water System – Natural Gas Boilers
  - We recommend inspecting and commissioning the boiler systems to determine the remaining useful life span. Replacement may be required (see "Long Term" section below)
  - Consideration should be given for potentially combining the separate "indoor" and "outdoor" boiler systems into one common boiler plant.
  - Alternatively, pool water heating can be entirely de-coupled from the HVAC and domestic hot water systems and utilize a separate pool heating system.
  - Any new equipment including a new variable Frequency Drive (VFD) should be provided with line reactors integral to each VFD to help with harmonics in the electric system (dirty power).
- Natatorium - Dehumidification
  - We recommend replacing the two existing Gaylord rooftop air handlers with new rooftop new rooftop dehumidification units (DHUs), by Seresco (or equal), which utilize outside air as the primary dehumidification means, in lieu of mechanical cooling. Per the original equipment schedules, each DHU will supply 24,000 CFM of airflow and will include heating water coils, served by the primary boiler system. The new DHUs would also include some means of energy recovery, likely via a glycol run-around loop, integral to the unit.
  - We recommend replicating the layout of the previous air distribution/ductwork design, reusing as much of the existing ductwork as possible and thoroughly cleaning it.
  - We recommend adding a physical separation (doors) between the locker rooms and the natatorium. If desired, an air curtain can also be utilized at the threshold.
  - Any new equipment including a new variable Frequency Drive (VFD) should be provided with line reactors integral to each VFD to help with harmonics in the electric system (dirty power).

- Spectator Seating - HVAC
  - We recommend replacing the existing Trane air handlers, and associated DX split systems (cooling), with new indoor air handlers including a new cooling section. Existing ductwork can likely be reused but should be thoroughly cleaned.
  - Alternatively, in lieu of indoor air handlers, two new packaged rooftop HVAC units (DX cooling and gas heat) can serve the east and west ends of the existing spectator space. Then the existing round louvers on the exterior wall can be blanked off and insulated.
  - Any new equipment including a new variable Frequency Drive (VFD) should be provided with line reactors integral to each VFD to help with harmonics in the electric system (dirty power).
- 1999 Expansion - HVAC
  - We recommend replacing RTU-2, 3 & 4 with new packaged rooftop units (DX cooling and gas heat).
  - Any new equipment including a new variable Frequency Drive (VFD) should be provided with line reactors integral to each VFD to help with harmonics in the electric system (dirty power).

Long Term Recommendations (50 Years)

- Primary Building Heating Water System – Natural Gas Boilers
  - We recommend replacing, and potentially redesigning, the central boiler systems, to provide a more cohesive and coordinated system to serve the entire building. Taking all associated systems into account will result in a more efficient and effective heating water system.
    - This may lead to a separation of pool heating systems from space and domestic water heating systems. Further investigation and discussion with stakeholders will be an important aspect of this design.
- HVAC Controls
  - We understand that the current building automation system (BAS) is a proprietary system, and repairs or upgrades can only be performed by specific authorized contractors. We also understand that this BAS covers several municipal buildings beyond the Osborn Aquatic Center.
    - Because of the proprietary nature of the HVAC controls system, we recommend considering migrating to an open-protocol system, installed by a non-proprietary manufacturer.
    - However, we understand that this could affect building systems outside of the Osborn Aquatic Center, which would lead to additional cost to the City, so this recommendation should be carefully considered and vetted with all stakeholders.
- Ductwork and Piping
  - Because the majority of existing ductwork and piping have been in place, at a minimum, since the 1999 expansion work, in order to remain in good working condition for another 50 years, we recommend examining and replacing any existing ductwork and piping currently showing any signs of deterioration.

Plumbing

Short Term Recommendations (5-10 Years)

- Original Building - Natatorium
  - We recommend inspecting and commissioning the boiler systems to determine the remaining useful life span. Replacement may be required.
    - One option is that pool water heating can be entirely de-coupled from the HVAC and domestic hot water systems and utilize a separate pool heating system.
  - We recommend that circulation pumps next to the domestic water storage tank be replaced with variable speed pumps.
  - We recommend that the plumbing fixtures that are part of the original building that include the locker rooms be replaced with new fixtures. New faucets and flushometers could be sensor operated for water savings and hands-free operation.
  - Domestic water and sanitary piping should be replaced as needed during replacement of the plumbing fixtures. Original piping should probably be replaced where possible.
  - Hose bibs and drinking fountains located around the pool deck are in fair condition and should be replaced only as needed if walls around the pool deck are being replaced.
  - The grates on the pool trench drain should be replaced due to being warped/bent.
  - We recommend replacing the pump in the pool mechanical room that removes ground water due to issues handling water during extreme weather events.
- 1999 Expansion
  - Since the plumbing fixtures installed as part of this expansion are still in good condition, these fixtures should only be replaced as needed or desired. Faucets and flushometers could be replaced with sensor operated fixtures if desired for hands-free operation and additional water savings.
  - Piping at the outbuilding in the chemical room serving the emergency eye wash should be replaced.

Long Term Recommendations (50 Years)

- We recommend replacing the trench drain on the pool deck along with drinking fountains and hose bibs in the pool area.
- We recommend replacing all original water piping.
- We recommend replacing all components of the domestic hot water system equipment.
- We recommend replacing the plumbing fixtures in the 1999 expansion.

Fire Protection

Short Term Recommendations (5-10 Years)

- Replace aging and hard to read hydraulic identification tags and placards.
- Inspect upright sprinklers throughout the building and sprinklers within the natatorium space.
- Replace sprinklers showing excessive signs of corrosion or failed inspection.
- Visually inspect all concealed sprinkler cover plates, and replace any that are missing or sagging.
- Clear debris and storage surrounding fire riser assembly.

Long Term Recommendations (50 Years)

- Full replacement of wet-pipe sprinkler system, including all piping, fittings, associated valves, and sprinklers.

Electrical

Short Term Recommendations (5-10 Years)

- Replacement/Upgrade of Existing Electrical Equipment
  - We recommend replacing all electrical equipment and power wiring original to the building.
- Code Deficiencies
  - We recommend replacing all exterior receptacle covers with weatherproof while-in-use type covers.
  - We recommend adding panic hardware to both doors to the main electrical room and arranging doors to swing outwards from the electrical room.
- Emergency Power System
  - We recommend replacing the faulty lighting inverter (located in the exterior pool mechanical building) to ensure the exterior emergency egress lighting is provided with a proper emergency power supply.
  - We recommend investigating and compiling an as-built one-line diagram of what the existing generator provides backup power to, for facility records.
- Tests and As-Builts
  - For all equipment and wiring original to the building in 1977, if the owner opts to leave it installed as is:
    - We recommend testing the breakers for any electrical equipment that is not being replaced, to verify they are operational. All GFCI breakers protecting pool lighting circuits are recommended to be tested as well.
    - We recommend testing the insulation of any of the wiring installed in 1977 that is planned to remain.
    - We recommend that an electrician investigate all electrical equipment, feeders, and breaker sizes to compile a record set of drawings (containing at a minimum: equipment locations on a floor plan, panel schedules, and a one-line diagram indicating equipment ratings and feeder wire sizes).
- Lighting
  - We recommend replacing all existing exit signs, due to them being poorly lit.
  - Fluorescent lamps have been banned in Oregon. We recommend replacing all fluorescent lamps or the entire fixture with LED type lamps or lights.
  - A few natatorium LED drivers appear to have failed causing the light to blink. It is recommended to replace the drivers, or the assembly as a whole.
  - For any spaces where lighting will be replaced, the lighting control system will need to be replaced with a modern digital lighting control system to meet current energy code requirements.

Long Term Recommendations (50 Years)

- In the pool natatorium, we recommend moving the LED high-bay luminaires so that they are not mounted directly over the water, since current locations are problematic for safety and maintenance reasons.
- Replace existing lighting control system with an integrated networked system to enable system wide lighting control monitoring and tie-in with an energy management system.
- Demolish abandoned or potentially live but unused electrical boxes and wires.
- Relocate the utility service transformer, or relocate equipment adjacent to the utility transformer to meet Pacific Powers service requirements.
- Complete a harmonics analysis study of the electrical system to determine the source of harmonic voltages and currents in the system.
- Provide line reactors upstream of all existing to remain VFDs to provide power filtering to extend the life of the VFDs.
- There is a significant amount of south facing unshaded viable roof space available to install a solar photovoltaic system. Installing a solar PV system will help offset rising energy costs.

Telecommunications

Short Term Recommendations (5-10 Years)

- Telecommunications Infrastructure
  - We recommend establishing or expanding dedicated Telecom Rooms (TRs) that comply with TIA-569-E-1 standards, including adequate space, cooling, and grounding/bonding. More than one TR may be required to meet horizontal cabling distance limitations. We recommend evaluating the fiber cabling for scalability to accommodate future growth. A comprehensive wireless network improvement plan should be developed using the heat map data provided by the city.
- Security Systems
  - We recommend transitioning the access control system and replacing the current video surveillance system with PoE Verkada cloud-based systems.
  - We recommend installation of a Verkada intrusion detection system.
  - We recommend the construction of a security vestibule at the main entrance to enhance occupant safety and climate control.
- Audio Visual System
  - Replacement of the existing paging and PA system is required. A new robust multi-zone system capable of clear voice communication, announcements, and music playback distributed across multiple zones with properly positioned speakers must be designed and implemented. Additional conduits should be installed at the pool deck starting blocks to facilitate future technology upgrades or system expansions.

Long Term Recommendations (50 Years)

- Telecommunications Infrastructure
  - The lifespan of Category 6/6A cabling is generally 15-25 years for most enterprise applications. In 50 years, twisted-pair copper will likely be phased out in favor of fiber-to-the-outlet architectures as bandwidth demands exceed 10Gb/s.

  - Singlemode fiber will likely remain physically viable for 50+ years, but connectorization standards and active equipment compatibility will evolve.
  - Significant growth in device density will require an overhaul of in-building wireless with every new generation (Wi-Fi 6, 7, 8, and beyond), requiring ongoing cable replacement, AP density redesign, and increased pathway capacity.
- Security Systems
  - Physical door hardware (electrified strikes, maglocks, crash bars) will be worn mechanically within 15-20 years, depending on duty cycle. Expect at least two full hardware refresh cycles in 50 years.
  - Current credential technologies (13.56 MHz smart cards, mobile credentials, Bluetooth/NFC mobile access) will likely be obsolete or insecure within 10-20 years. Long-term plan must include system architectures that allow credential technology migration without replacing all physical readers or control boards.
  - Verkada IDS (or any current IP-based IDS platform) will require upgrades every 7- 10 years due to evolving firmware, processor obsolescence, and security protocol standards.
  - Access control, intercom, duress, and video surveillance systems will likely require full replacement every 15-20 years.
  - VMS licensing models will drive recurring operating costs. Hardware (cameras, servers, storage) will likely require full replacement every 7-10 years.
  - Camera hardware lifespan is generally 7-10 years before replacement due to increased resolution, AI analytics advancements, and firmware/hardware support lifecycles.
- Audio Visual System
  - Paging Systems: Amps, DSP processors zone controllers have a practical operation lifespan of 10-15 years due to component aging, firmware end-of-life, and obsolescence.
  - Copper speaker cabling may remain serviceable for 25-35 years.
  - Well-installed commercial-grade ceiling and wall speakers may remain functional for 25-30 years.
  - Paging microphones, zone selector panels, and user interfaces typically require replacement or modernization every 10-15 years to maintain user functionality.

Fire Alarm

Short Term Recommendations (5-10 Years)

- Recommendations for System
  - We recommend replacing the obsolete Silent Knight Model 5820 Addressable Fire Alarm Control System. This should include the SKE-300 Series Voice/Paging Control unit and the fire alarm annunciator.
  - The Silent Knight fire alarm communicator transmitter should be replaced with a new cellular transmitter.
  - The manual pull station, smoke detector, duct mounted smoke detectors, and addressable modules can all be replaced on a one-for-one basis. Additional devices may be required for any upgrades to the building mechanical systems.
  - The existing speaker strobe and strobe only appliances should be replaced. Additional appliances should be considered to meet requirements of the current codes.

Long Term Recommendations (50 Years)

- As the building fire alarm system has an expected life of 20 years, we recommend that the long term plan include at least one complete replacement of the building fire alarm system. Devices and appliances exposed to pool chemicals and excessive humidity may need more frequent replacement.

Existing Conditions Overview

MECHANICAL - EXISTING CONDITIONS

Building Overview

The Osborn Aquatic Center was originally constructed in the late 1970s and was subsequently expanded in 1999. The expansion project primarily consisted of a new lobby/reception space, activity rooms, offices, lockers/showers, and support spaces. The indoor natatorium is original to the building and is served by two large rooftop dehumidification units located directly above the pool. The indoor natatorium includes a large competition pool, as well as a smaller recreation pool. On a mezzanine level, south of the natatorium, a spectator seating area is physically separated from the pools with a viewing window. This spectator area is served by two separate air handling units. The expansion areas are served by several packaged rooftop air conditioning units. In addition to the indoor natatorium, outdoor recreation pools were added as part of the expansion project in 1999.

Original Building - Natatorium

The original building heating system is served by three natural gas HydroTherm, model KN-20 boilers. In addition to building space heating, these boilers supply heat for the pool water and domestic hot water systems as well, via individual plate-and-frame heat exchangers. Each individual heating water system requires different temperature setpoints, which can make the central boiler operation challenging.

The primary natatorium dehumidification system is comprised of two large custom dehumidification units, manufactured by Gaylord, located on the roof directly above the natatorium. These Gaylord units were installed as part of the 1999 expansion and are past their useful life. The existing dehumidification units include heating water coils, served by the KN-20 boilers, but do not include mechanical cooling (via compressors or chilled water). Instead, these Gaylord units utilize outside air for dehumidification. Per conversations with staff, the operation of the Gaylord units has worked well, in terms of removing chloramines and managing indoor air quality in the natatorium spaces. However, their physical condition has deteriorated over the years and corrosion has become a serious concern, in terms of physical and structural integrity. Air distribution associated with these Gaylord units is provided by large overhead rigid sheet metal ductwork, in lieu of fabric ductwork. We understand that the current air distribution strategy has worked well to ensure that pool chemicals are effectively removed, and occupant comfort is maintained. Unfortunately, as part of the temporary shoring needed to keep the natatorium structurally safe, large sections of ductwork have been removed to accommodate the shoring towers that are currently in place.

Per conversations with staff, we understand that the primary challenge with indoor air quality, relative to the natatorium is where the Men's and Women's locker rooms open into the natatorium. Currently, there is no physical separation (doors) between the two spaces, causing natatorium air to be pulled into the locker room spaces, which are served by separate packaged rooftop HVAC systems. This leads to pool chemicals in the air being pulled back through non-aquatic HVAC equipment.

Original Building – Spectator Seating

Above the ground floor, a mezzanine spectator seating area includes a large seating space for swimming competition spectators, as well as small office spaces at either end. The spectator seating area is physically separated from the natatorium with glass windows. HVAC for this seating area is provided by two Trane air handler units located at the east and west ends of the space, above the offices. These two air handlers are original to the building and were initially heating-only, served by the boiler system. In 1999, direct expansion (DX) cooling was added, via two individual split systems (one per air handler), consisting of outdoor/remote condensing units and indoor DX cooling coils. Refrigerant piping routes between the indoor coil and outdoor condensing unit. These two systems serving the spectator seating area are beyond their useful life and are no longer operating as originally intended.

In addition to the two Trane air handlers, a series of round exterior wall louvers (qty. 8) are installed on the south face of the building and communicate airflow with the upper mezzanine spectator area. Currently these louvers include a fabric material on the interior side of the louver but are otherwise permanently open to the exterior. This is detrimental to the overall building energy efficiency, particularly when outdoor temperatures are extreme, and should be corrected.

1999 Expansion

The newer areas of the building, constructed in 1999, are served by four packaged rooftop HVAC units, manufactured by AAON. All units, apart from RTU-4, range from 10- to 30-tons cooling capacity. RTU-4 does not include a cooling section. All but one of these AAON units were manufactured in 2000. RTU-1, serving the east side of the expansion area, was replaced in 2022. The original units, RTU-2, 3, & 4, are beyond their useful life. Per conversations with staff, RTU-2 & 3 are the most problematic, from a performance and maintenance perspective. These four AAON units are not connected to the main building boiler heating water system. Instead, these units utilize natural gas for heating and include heat wheels for energy recovery. The women's locker room HVAC is currently the only occupied space not served by one of the AAON units listed above.

PLUMBING - EXISTING CONDITIONS

Building Overview

The Osborn Aquatic Center was originally constructed in the late 1970s and was subsequently expanded in the late 1990s. The expansion project primarily consisted of a new lobby/reception space, activity rooms, offices, lockers/showers, and support spaces. The indoor natatorium is original to the building and is served by two large rooftop dehumidification units located directly above the pool. The indoor natatorium includes a large competition pool, as well as a smaller recreation pool. On a mezzanine level, south of the natatorium, a spectator seating area is physically separated from the pools with a viewing

window. Domestic hot water is provided by a central boiler system. In addition to the indoor natatorium, outdoor pools were added as part of the expansion project in 1999.

Original Building - Natatorium

The existing domestic water service system enters the building Highland Drive. There is an existing natural gas meter and regulator that provides 5# natural gas to the building domestic hot water system and mechanical equipment. Sanitary sewer is routed throughout the building and connects to the city sanitary sewer system in Highland Drive.

The original building domestic hot water system is served by three natural gas HydroTherm, model KN-20 boilers. In addition to the domestic hot water system, these boilers supply heat for the pool water and building space heating as well, via individual plate-and-frame heat exchangers. Each individual heating water system requires different temperature setpoints, which can make the central boiler operation challenging. There is an existing storage tank that stores the domestic hot water. This stored water is utilized to provide domestic hot water throughout the building. The building domestic hot water system is circulated throughout the building with circulation pumps installed near the storage tanks. The circulation pumps are constant volume and are repaired frequently as they are not able to adjust as needed to the different flow rates seen at various times throughout the day. Hot water return piping is routed through a heat exchanger to raise temperature and provides re-heat to the domestic water storage tank.

The plumbing fixtures that are part of the original building that includes the locker rooms are in poor condition. All faucets and flushometers are manual operated.

Domestic water piping that was visible appears to be in fair/good condition. Per conversations with staff, there have not been any issues with domestic water piping. Same goes for sanitary sewer piping.

Hose bibs and drinking fountains located around the pool deck are in fair condition with some leaking observed.

Trench drain around the pool deck is a slot drain with grates/catch basins at various locations along the slop drain. The slot drain is in fair condition and shows signs of wear. The grates at the slot drain catch basins are in poor condition and are dented.

Sump pump in pool mechanical room serving ground water has issues during heavy weather events.

1999 Expansion

The domestic hot water boiler system located in the original building also serves the 1999 expansion portion of the building. At the new outbuilding, the domestic hot water system is served by an electric water heater. The electric water heater is in good condition.

New plumbing fixtures installed as part of this expansion appear to be in good condition. All faucet and flushometers are manual operated. This also applies to the new restrooms installed as part of the new outbuilding on the deck of the outside pool areas.

Domestic water piping that was visible appears to be good condition in the main building and the outbuilding. Per conversations with staff, there have not been any issues with domestic water piping.

Same goes for sanitary sewer piping. The only location where domestic water piping was in poor condition was the piping serving the emergency eye wash in the outbuilding chemical storage room. Piping shows visible signs of corrosion due to the chemicals stored in the room.

FIRE PROTECTION - EXISTING CONDITIONS

Building Overview

The existing building is protected throughout by a hydraulically design, NFPA 13 compliant wet-pipe fire sprinkler system. The single fire riser is located within a dedicate fire riser/water entry room with immediate exterior access. The building Fire Department Connection (FDC) is located away from the building and on-site.

Fire Protection System

A single incoming underground fire main, approx. 6" dia. enters the building within a dedicate fire riser/water entry room. An FDC connection is routed from the fire riser assembly to the outside FDC located on-site.

The fire riser assembly is complete with a dedicated backflow preventer, water flow alarm, supervisory switch and main test and drain capabilities. Inspection tags indicate the system is yearly inspected and tested. Hydraulic placards indicate the existing system is hydraulically designed to a Light Hazard density (0.10/1500sqft), flowing 169-gpm at 43-psi.

Sprinkler piping throughout the building appears to be black steel threaded schedule 40 or grooved schedule 10 with mechanical fittings. Hangers, seismic bracing, and restraints appear to be installed in appropriate locations and manner. No piping deficiencies were noted.

Sprinkler heads vary depending on the space protected. Back of house areas and non-public areas without ceilings are provided with quick-response, upright sprinklers with a brass finish. Public areas with finished ceilings are provided with quick-response, flat plate concealed sprinklers, with a white finish. Numerous upright sprinklers behind house areas exhibited signs of advanced corrosion and should be tested and/or replaced per NFPA 25.

Within the Natatorium (pool areas) sprinkler piping is painted white to match the ceiling and reduce corrosion. Sprinkler heads are quick-response, pendent type with a black finish installed tight to the branch line piping. Sprinkler heads in highly corrosive environments such as natatorium spaces should receive a corrosive resistant coating such as stainless steel or PTFE (Teflon) coating. Electroless-nickel coating is not recommended for natatorium environments.

ELECTRICAL - EXISTING CONDITIONS

Electrical System Overview

The electric service is provided by Pacific Power. The Utility Service Transformer is located exterior to the building on a pad with a vault below it. The clearance around the utility transformer does not meet Pacific

Powers Electric Service Requirement standard of 4' clear on left, back and right sides. The utility meter (#70 185 875) is mounted to an exterior wall on the south side of the building. The service voltage is 208Y/120V 3-phase 4-wire and is rated at 2500A.

During the site visit, we were unable to open the covers of the electrical gear to investigate the interior conditions of the electrical gear. The following observations are based on surface observations only.

The utility transformer feeds a General Electric (GE) 2500A 208Y/277V 3-phase 4-wire 35kA AIC main switchboard (MHS1A) located in the main electrical room. The main switchboard and additional electrical distribution equipment was installed in 1999 as part of an expansion project. The original 1200A 208Y/120V 3-phase 4-wire main electrical board installed in 1977 remained through the expansion and is now fed by a 400A breaker in main switchboard MHS1A.

The main switchboard MHS1A contains 3 sections:

- Section 1: Utility Pull Section.
- Section 2: Utility CT compartment, utility meter, and 2500A main service disconnect breaker. Panel E's feeder is tapped upstream of the main circuit breaker and terminates in a 100A fused service disconnect switch adjacent to the main switchboard.
- Section 3: Distribution section with feeder breakers:
    - Panel L1A: 400A
    - Panel L1B: 100A
    - Panel L1E: 100A
    - Panel LRM: 800A
    - Motor Control center MCC-M1A: 1000A
    - Existing Switchboard: 400A
    - Spare Breaker: 400A
    - 50M UV System: 40A
        - Note: This breaker is labeled in pencil and is not referenced in the 1999 set of drawings.

The original 1977 switchboard is located in a boiler room and contains 3 sections:

- Section 1: Pull section
- Section 2: Distribution Section with 4 fused disconnect switches:
    - Panel A: 300A
    - Panel B: 300A (in off position)
    - Motor Control Center: 600A
    - Unlabeled: 200A
- Section 3: Distribution section with 1 fused disconnect switch, feeder breakers, and lighting contractors:
    - Fused disconnect switch that provides protection to downstream bus with feeder breakers in same section: 150A
    - Feeder breakers:
        - Panel P1: 30A
        - Panel P2: 30A
        - Panel P3: 40A
        - Panel P4: 30A

- Panel P5: 40A
- Panel P6: 40A
- Panel P7: 40A
- Panel P7 Top GFI Outlet: 20A
- LTG Control: 15A

- The lighting contractors open & close the feeders to panels P1, P2, P3, P4, P5, P6, and P7.

The building is served by a 30 kW emergency generator equipped with a 100A Square D output breaker. An automatic transfer switch is located in the main electrical room adjacent to the main switchboard. Based on site observations it is unclear what the generator system provides backup power to. The 1999 drawings do not include the generator system in the one-line diagram. It is assumed that it provides backup power to Panel E.

Main Building and Natatorium

The general lights, receptacle, and small mechanical equipment circuits are distributed power by panels L1A, L1AA, L1B, and L1E which are located throughout the building. These panels were installed in 1999. Panel L1A (400A, 2 sections) & L1E (225A) are located in a sub-electrical room 152. Panel L1AA (225A), fed from L1A, is located in the spa mechanical room 157. (Panel L1B (100A) is located in the main electrical room.

The natatorium & underwater lighting is fed from panels P1 through P7. These panels are distributed throughout the building recessed in walls and are original to the building in 1977. The natatorium emergency lights are fed from panel E. The emergency power source used to be battery powered lighting inverters; however, it is now assumed that backup power is provided by the generator.

HVAC equipment is fed power from panel LRM (1000A) located on the roof above the lobby area. Panel LRM was installed in 1999.

Pool equipment is fed power from a Motor Control Center (6000A). This motor control center was installed original to the building in 1977.

Exterior Pool Mechanical Building

The pool mechanical building and outdoor pool area is distributed power by a motor control center MCC-M1A (1000A) located in the pool mechanical building boiler & pump room. The motor control center distributes power to pool equipment dedicated for the outdoor pool area as well as panels L1C and L1D. All equipment in the pool mechanical building was installed in 1999. Panels L1C (225A) and L1D (100A) distribute power to lights, receptacles, and mechanical equipment. A lighting inverter fed from panel L1D was observed to be in a fault condition and is not operational. Facility staff noted that the lighting inverter had been non-operational for some time.

Lighting

The existing lighting design was observed to be a fluorescent light source lighting throughout all spaces, excluding the natatorium area which contains round acrylic or glass LED high-bay luminaires. Within the interior of the building there are numerous surface mounted troffers, suspended perforated linear

luminaires, and wall mounted luminaires of varying age. Some luminaires have aged polycarbonate lenses that have yellowed due to UV damage or dirt build-up or by being exposed to a harsh environment such as a natatorium. Some LED high-bay luminaires in the natatorium were observed to be blinking.

Exit signs are operational but are poorly lit.

Lighting Control

Existing lighting controls in general spaces were observed to be a combination of line-voltage manual on/off switches, line-voltage & power pack type occupancy sensors, and fluorescent dimmer controls. The natatorium lights are controlled by a "newer" wireless Lutron dimming control system. Exterior lighting is controlled by relay lighting control panels with contactors.

TELECOMMUNICATIONS – EXISTING CONDITIONS

Telecommunications Infrastructure

The facility currently uses a Cisco VoIP telephone system, which is in good operational condition. However, the existing Telecom Rooms (TRs) are undersized, lack adequate cooling, and proper grounding/bonding, making them unsuitable for future expansions or technological upgrades. The City of Corvallis provides fiber cabling to the site, which currently meets existing needs. Wireless coverage at the facility is currently insufficient both indoors and outdoors. The City of Corvallis is deploying Aruba Network Wireless Access Points (WAPs) and has completed a detailed heat map survey.

Security Systems

The facility has a Genetec-based access control system managing two battery-powered Schlage door locks equipped with numeric keypad entry at two locations. The video surveillance system is a residential-grade solution and does not meet city standards. Currently, there is no intrusion detection system installed at the facility.

Audio-Visual Systems

The paging and Public Address (PA) system is malfunctioning and needs replacement. The timing system used for swim meets is semi-operational and in poor condition.

FIRE ALARM – EXISTING CONDITIONS

Fire Alarm System

The building is served by a Silent Knight Model 5820 Addressable Fire Alarm Control System. The panel was in a normal state and appears to have been inspected recently by Synergy Security Solutions.

A Silent Knight fire alarm communicator transmitter adjacent to the Fire Alarm Control Panel appears to utilize telephone lines for off-site monitoring.

A Silent Knight SKE-300 Series Voice Evacuation/Paging Control unit and a Silent Knight Fire Alarm Annunciator were observed at the main entry.

According to the published points list, the fire alarm system includes a lobby manual pull station, a smoke detector above the control panel, two fire sprinkler risers and six duct mounted smoke detectors at air systems. It also monitors two mechanical room high water sensors.

Occupant notification is accomplished by Wheelock combination speaker strobe appliances and strobe only appliances located throughout the building.

Recommendations

MECHANICAL - RECOMMENDATIONS

Primary Building Heating Water System – Natural Gas Boilers

Per conversations with staff, we understand that there have been some concerns with heating water response time, as well as complexity in operating the boilers efficiently, due to the various heating water temperature set points for the connected systems (pool water, domestic hot water, and HVAC heating water). Additionally, we understand that boiler #3 (B-3) has had performance and maintenance issues. At a minimum, we recommend inspecting and commissioning these systems to determine the remaining useful life span of these boilers. Replacement may be required if they are no longer operating at optimal efficiency or if there are significant maintenance concerns.

In addition to the three primary boilers for the building, two original boilers are installed in the separate mechanical space, adjacent to the outdoor pool. These two boilers appear to be original to the building and are beyond their useful life. We understand that one of these two boilers is currently slated for replacement.

Consideration should be given for potentially combining these separate “indoor” and “outdoor” boiler systems into one common boiler plant, which may provide improved efficiency throughout the entire heating water system. Alternatively, pool water heating can be entirely de-coupled from the HVAC and domestic hot water systems and utilize a separate pool heating system. This would simplify the current approach utilizing various water temperature setpoints all being controlled by a common boiler system, via three separate plate-and-frame heat exchangers.

Natatorium - Dehumidification

Due to the age and condition of the two existing Gaylord rooftop air handlers, we recommend replacing these units with new rooftop dehumidification systems. Special consideration, and associated costs, will need to be taken into account when removing these units, as their physical condition and location will make removal particularly challenging. Locating a crane and maneuvering between the rooftop structure will likely add cost and complexity.

Based on previous conversations with staff, we understand that the general dehumidification approach that these units have utilized works well and should likely be reproduced. The performance of these units

has been a positive experience, generally speaking. We recommend installing new rooftop dehumidification units (DHUs), by Seresco (or equal), and utilizing outside air as the primary dehumidification means, in lieu of mechanical cooling. Per the original equipment schedules, each DHU will supply 24,000 CFM of airflow and will include heating water coils, served by the primary boiler system. The new DHUs would also include some means of energy recovery, likely via a glycol run-around loop, integral to the unit.

Because the previous air distribution/ductwork design, inside the natatorium, has worked well in the past, we recommend replicating this layout, reusing as much of the existing ductwork as possible, assuming it is in good working condition. All existing ductwork should be thoroughly cleaned.

Finally, due to infiltration of natatorium airflow into the locker room spaces, leading to chloramines spreading to adjacent non-aquatic HVAC systems, we recommend adding a physical separation (doors) between the locker rooms and the natatorium. If desired, an air curtain can also be utilized at the threshold to mitigate migration of separate air streams.

Spectator Seating - HVAC

Due to the age and condition of the existing Trane air handlers, and associated DX split systems (cooling), we recommend replacing these systems with new indoor air handlers including a new cooling section. Existing ductwork can likely be reused but should be thoroughly cleaned.

Alternatively, in lieu of indoor air handlers, two new packaged rooftop HVAC units (DX cooling and gas heat) can serve the east and west ends of the existing spectator space. These units can be installed on the newer low roof above the 1999 expansion portion of the building and connect to the existing ductwork inside.

This approach will provide heating, cooling, and ventilation to the space, and will allow the existing round louvers on the exterior wall to be blanked off and insulated, which will improve building energy efficiency.

1999 Expansion - HVAC

Due to the age and condition of RTU-2, 3 & 4, we recommend replacing these with new packaged rooftop units (DX cooling and gas heat). RTU-1 is approximately 3 years old and should be in good working condition. Replacement packaged rooftop HVAC units will be installed in the same rooftop location and will tie-into the existing ductwork below. A new dedicated rooftop HVAC unit should also be provided to serve the women's locker room, which is currently the only occupied space not served by a packaged rooftop HVAC unit.

PLUMBING - RECOMMENDATIONS

Original Building - Natatorium

Per conversations with staff, we understand that there have been some concerns with heating water response time, as well as complexity in operating the boilers efficiently, due to the various heating water temperature set points for the connected systems (pool water, domestic hot water, and HVAC heating water). Additionally, we understand that boiler #3 (B-3) has had performance and maintenance issues. At a

minimum, we recommend inspecting and commissioning these systems to determine the remaining useful life span of these boilers. Replacement may be required if they are no longer operating at optimal efficiency or if there are significant maintenance concerns.

One option is that pool water heating can be entirely de-coupled from the HVAC and domestic hot water systems and utilize a separate pool heating system. This would simplify the current approach utilizing various water temperature setpoints all being controlled by a common boiler system, via three separate plate-and-frame heat exchangers. Also, it is recommended that circulation pumps next to the domestic water storage tank be replaced with variable speed pumps to be able to adjust with the different flow rates that occur at various times during the day.

It is recommended that the plumbing fixtures that are part of the original building that include the locker rooms be replaced with new fixtures (water closets, urinals, sinks, and showers). All faucets and flushometers should be replaced as well. New faucets and flushometers could be sensor operated for water savings and hands-free operation.

Domestic water and sanitary piping should be replaced as needed during replacement of the plumbing fixtures. Original piping should probably be replaced where possible since it is most likely nearing the end of its useful life.

Hose bibs and drinking fountains located around the pool deck are in fair condition and should be replaced only as needed if walls around the pool deck are being replaced. Some in-deck hose bibs were observed to be leaking and should be repaired/replaced as needed.

The trench drain system around the pool deck is recommended to be replaced with a new trench drain system.

Replace ground water sump pump in pool mechanical room to handle higher flows during heavy weather events.

1999 Expansion

Since the plumbing fixtures installed as part of this expansion are still in good condition, these fixtures should only be replaced as needed or desired. Faucets and flushometers could be replaced with sensor operated fixtures if desired for hands-free operation and additional water savings.

Piping at the outbuilding in the chemical room serving the emergency eye wash should be replaced.

FIRE PROTECTION - RECOMMENDATIONS

Recommendations for System

Replace aging and hard to read hydraulic identification tags and placards.

Inspect upright sprinklers throughout the building and sprinklers within the natatorium space in accordance with NFPA 25 requirements.

Replace sprinklers showing excessive signs of corrosion or failed inspection. When replacing sprinklers, replace all the same type within a compartment/space.

Visually inspect all concealed sprinkler cover plates, replace missing or sagging cover plates with new.

Clear debris and storage surrounding fire riser assembly; minimum clearance recommended to be 30-inches.

ELECTRICAL - RECOMMENDATIONS

Replacement/Upgrade of Existing Electrical Equipment

The clearance around the utility transformer does not meet Pacific Powers Electric Service Requirement standard of 4' clear on left, back and right sides. It is recommended to relocate the equipment adjacent to the transformer to provide the appropriate clearance. This is a potential safety hazard for utility personnel who may need to service the equipment while energized. The door of the utility transformer will not be able to open all the way due to the proximity of the equipment to the left of the transformer. This is also a potential operations issue as Pacific Power may refuse to provide maintenance on the transformer if they deem the conditions unsafe for their personnel.

The switchboard and electrical panels installed original to the building in (1977) are beyond their serviceable life.

The existing switchboard is no longer supported by the original manufacturer. Because of this, any renovations that require modifications to the electrical system will require new electrical equipment. As breakers age, they can become less reliable and may not function properly when necessary to clear a fault condition. This is a potential fire hazard.

The pool lighting panels P1 through P7 include GFCI type breakers that appear to be original to the building installation in 1977. Overtime breakers and GFCI devices decay and become less reliable. This may lead to a mechanical failure in the breaker and/or GFCI device that can lead to an unsafe condition for occupants.

Original wiring installed in 1977 is beyond its expected life span. Wire insulation can break down leading to potential fault conditions. This is a potential fire hazard.

Recommendations:

It is recommended to replace all electrical equipment original to the 1977 construction of the building. All power wiring original to the building installation is recommended to be replaced. At a minimum it is recommended to test the insulation of the wiring, see Tests and As-builts section below. All new electrical equipment is recommended to be NEMA 4X rated due to the corrosive environment.

The addition of a solar photovoltaic system should be considered for the long-term goals of this facility. There is a significant amount of viable unshaded south facing roof space where a solar array could be installed. A solar analysis report was completed in 2023 estimating the solar array size at 123 kW reporting a payback of 12 years, and a total cumulative cash flow of $187,757 by year 25. This projection is in line with current PV system payback estimates.

Code Deficiencies

Exterior receptacles located at the exterior pool deck and other locations include covers that are not weatherproof while-in use type. This is a safety issue. Recommendation is to replace all covers with weatherproof while-in use type covers per NEC 406.9.

The main electrical room doors do not have the code required panic hardware installed (NEC 110.26). This is an occupant safety issue. Recommendation is to add panic hardware to both doors. One electrical room door swings inwards. It is recommended to change the orientation of the door to swing outwards to comply with code (NEC 110.26).

Emergency Power System

The lighting inverter located in the exterior pool mechanical building is in fault condition and is not operational. This lighting inverter is past is serviceable life. This is an occupant safety issue as there is not an emergency power source providing backup power to egress lighting on the exterior pool deck.

Based on site observations and the available as-builts, it is not clear what the existing generator provides backup power to. It is recommended to investigate and compile an as-built one-line diagram for facility records. See Tests and As-builts section in this report for additional information.

Tests and As-Builts

For any electrical equipment that is not being replaced, both gear installed in 1999 and 1977, it is recommended to test the breakers to verify they are operational. This can be accomplished via an injection testing method to inject a current into the breaker. All GFCI breakers protecting pool lighting circuits are recommended to be tested as well.

If any wiring installed in 1977 is planned to remain, it is recommended to test the insulation of the wiring. This shall be done via a megger test to measure the resistance between a conductor and ground.

Between the original installation drawings from 1977 and the expansion project in 1999, there does not exist a complete as-built set of drawings. We recommend that an electrician investigate all electrical equipment, feeders, and breaker sizes to compile a record set of drawings. The record set of drawings should at a minimum include equipment locations on a floor plan, panel schedules, and a one-line diagram indicating equipment ratings and feeder wire sizes.

Facility Staff Reported Issues

Existing VFDs have been noted to fail due to “dirty power.” Noise in the electrical system is a known issue that can cause VFDs to go to a fault condition or fail and break down faster than their expected life span. It is recommended to complete a harmonic analysis study to determine the source of the harmonics in the system. If they are created within the site electric system, then the report will recommend actions to correct these issues, such as adding in line reactors at the input of VFDs to filter out harmonics. If the utility is delivering “dirty power,” then it is recommended to talk to a utility representative and discuss the standards of IEEE 519-2014 which defines the voltage and current harmonics distortion criteria for both the utility company and the customer at the point of connection. If the utility has adopted the IEEE

standard, the utility may be required to make changes in their distribution system to remedy the harmonics in the power system at the point of delivery.

It was noted that some electrical boxes that have no use or have been abandoned contain wires that are still energized. It is recommended to investigate and identify all abandoned systems. Demolish all wiring, exposed boxes, and raceway that is no longer in use.

Exit Signs

In the event of a power outage, the existing exit signs may not be able to lead the residence's safely out of the building due to them being poorly lit. We recommend replacing all exit signs.

Lighting

Our recommendation for the lighting design is divided into two options, one option for the short term, 5-10 years, and one option for the long term, 10+ years. The short term option is to replace only the lamps and possibly the ballasts of the existing luminaries with new LED versions of the lamp shape. The long term option is to replace the existing luminaires with new LED luminaires, thus renovating the whole lighting design of the building.

The short term option of replacing the lamps and possibly the ballasts is an effective method of bringing the whole lighting system up into a more energy efficient design. LED technology is more efficacious than fluorescent light sources, meaning less power would be used overall. Depending on the type of LED lamp that is used the ballast of the existing luminaire may need to be removed in order for the new lamp to operate, some LED lamps use the same ballast as the existing fluorescents, and some LED lamps require the fluorescent ballast to be removed, and a new LED driver installed. There are benefits and drawbacks to using this approach:

Benefits:

- LED lamps have a higher lifespan than fluorescent lamps, LED lamps have an approximate average lifespan of 36,000 hours compared to an average of 24,000 hours for fluorescent lamps.
- Costs are drastically lower than providing a full new lighting design for the whole building.
- Improved color rendering and stability of the color temperature means more accurate colors of objects within the spaces.
- Lower energy usage compared to the fluorescent design.
- LED lamps are available in the market in the state of Oregon, Fluorescents are no longer obtainable as of the start of 2025.

Drawbacks:

- LED lamps have a slightly higher lumen output compared to fluorescent lamps; however, the spaces will not see a drastic difference in illumination. If there are areas of the project that are lacking in illumination with the fluorescent design, the new LED lamp design will not solve that issue.
- Any glare that is already in the space with the fluorescent system will still be there with the LED system.

- Control of the luminaires will remain unchanged; the energy savings of new projects is mostly obtained through advancements in the lighting controls to dim luminaries when there is ample daylight or when spaces are not inhabited.
- The luminaire housing and lens will remain unchanged; if the housing or lens is damaged or has deteriorated over time the lighting upgrade will not solve, replace, refurbish, or maintain the existing hardware.

The long term option of replacing the existing fluorescent luminaries with new LED luminaires is a way to refresh the building's interior and to provide energy savings with LED technology and current lighting controls. New LED luminaires have more optical control of light allowing for better spacing of the luminaires as well as providing more illumination to all areas of the rooms, including walls and corners. New luminaires also having more finetuned dimming capabilities which will allow higher energy saving when there is daylight available in the spaces. Updating the luminaires will also allow for aesthetic changes to the style of the luminaires themselves, meaning the design could be aesthetically pleasing for the next several decades of use. There are benefits and drawbacks to using this approach:

Benefits:

- LED luminaires have a higher lifespan than fluorescent lamps, LED luminaries have an approximate average lifespan of 80,000 hours compared to an average of 24,000 hours for fluorescent lamps.
- Improved color rendering and stability of the color temperature means more accurate colors of objects within the spaces.
- Lower energy usage compared to the fluorescent design.
- Old luminaires that are weathered or have deteriorated over time will be replaced with new hardware, thus cleaning up the look of the building.
- Controls for the luminaries will be updated to allow users more control over the spaces they work within. Advanced lighting controls will also cut down on energy usage through daylight harvesting or by reducing the lumen output when spaces area unoccupied.
- New luminaires can be built to deal with harsh environments such as a pool natatorium.

Drawbacks:

- Fully replacing the existing lighting system will have a large associated cost to complete.
- The existing building's ceiling heights and underlying systems may impact the style of luminaires that can be used or may impact the spacing of luminaires.
- Routing of power to and from the luminaires might have impact on the availability to replace certain luminaires in a clean and effective manner. This is especially important to consider if no ceiling modifications are taking place.

The pool natatorium itself is illuminated with round acrylic or glass LED high-bay luminaires. While this is a usable system it also means that the luminaires are mounted directly over the water which leads to veiling reflections and unwanted glare which may be dangerous as it could obscure vision to users under the water's surface. Mounting over the water's surface also leads to maintenance issues as reaching the luminaires is problematic.

Some existing LED high-bay luminaires in the natatorium were blinking. We recommend testing to see if the driver has failed. If the driver has failed, it is recommended to replace the drivers if possible, or to replace the whole assembly.

Excerpt from ANSI/IES RP-6-22 Lighting Sport and Recreational Area – Section 5.27 Swimming (Water Sports):

> Water is a good transmitter and diffuser of light. However, the surface of water also acts as a reflector of incident light. The degree of reflection depends on the angle of incidence. Moreover, swimming action causes surface turbulence, which produces scattered reflections. In practice, at any one moment, a major part of the water surface is not disturbed by more than 20 degrees from the horizontal.
>
> As the light strikes the water at increasingly shallower angles, the reflected component increases until virtually no light penetrates the water surface. This reflection of light causes veiling reflections, making it difficult to see into the water to observe swimmers and divers [see Figure 5-12(c)]. It is therefore necessary to control reflections from luminaires or daylight through windows on the water surface to ensure a good penetration of light into the water [see Figure 5-12(b)]. As a general rule, it is desirable to locate all overhead light sources so that the angle of incidence of the main light beam is less than 50 degrees from vertical; Figure 5-12(a) provides general guidance. Light from above is required to illuminate pool deck areas, diving platforms, sport action occurring above the water surface (e.g., in water polo), and to provide light penetration into the water basin.
>
> Luminaires should be placed at locations that permit an adequate portion of the incident light to penetrate the water and not be reflected into the eyes of observers. Luminaires located near the pool edges are easy to maintain and can still provide good light penetration. Luminaires should not be placed inside a 20-degree cone extending above the diving platform.

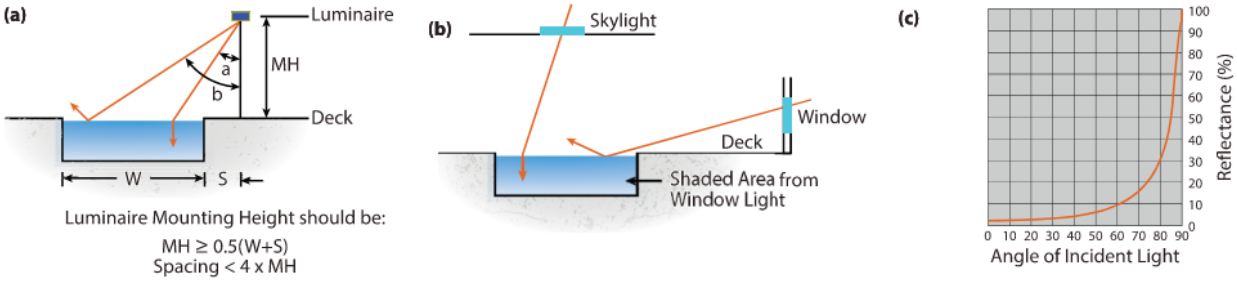

Figure 5-12. Swimming pool reflections. (Note: MH = mounting height of luminaire above pool deck.) (Image courtesy of the IES Sports and Recreational Area Lighting Committee)

Lighting Control

In spaces where lights will be replaced, the existing lighting controls must be replaced to meet modern energy code requirements. A wired digital lighting control system is recommended to meet occupancy, time of use, daylight dimming, and receptacle plug load control needs. A space by space room type controller will be sufficient to meet current energy code requirements.

Alternatively it is recommended for a facility of this size to provide a networked lighting control system that is capable of being connected to an energy management system. This will provide the owner with valuable operation metrics: energy usage, how often spaces are utilized, and detection of faulty control devices. It will also provide them with the ability to revise system wide control sequence of operations.

Scene type controls can be programed to set lighting in the natatorium to precise light levels with the press of a button instead of manually raising and lowering the light levels.

TELECOMMUNICATIONS – RECOMMENDATIONS

Telecommunications Infrastructure

Establishing or expanding dedicated Telecom Rooms (TRs) that comply with TIA-569-E-1 standards, including adequate space, cooling, and grounding/bonding, is necessary. Depending on cable distances and facility layout, more than one TR may be required to meet horizontal cabling distance limitations. The fiber cabling provided by the City should be evaluated for scalability to accommodate future growth. A comprehensive wireless network improvement plan should be developed using the heat map data provided by the city. This plan will ensure thorough indoor and outdoor wireless coverage through the strategic placement of Aruba WAPs.

Security Systems

The access control system must transition to the Verkada cloud-based solution per City of Corvallis standards, requiring a full design and installation plan. Similarly, a complete replacement of the current video surveillance system with a PoE Verkada cloud-based system is required. Installation of a Verkada Intrusion Detection System with motion detection capability is required. Additionally, the construction of a security vestibule at the main entrance is desired to enhance occupant safety and climate control.

Audio Visual System

Replacement of the existing paging and PA system is required. A new robust multi-zone system capable of clear voice communication, announcements, and music playback distributed across multiple zones with properly positioned speakers must be designed and implemented. Additional conduits should be installed at the pool deck starting blocks to facilitate future technology upgrades or system expansions.

FIRE ALARM - RECOMMENDATIONS

Recommendations for System

The Silent Knight Model 5820 Addressable Fire Alarm Control System is over 20 years old, obsolete, and should be replaced. This should include the SKE-300 Series Voice/Paging Control unit and the fire alarm annunciator.

The Silent Knight fire alarm communicator transmitter should be replaced with a new cellular transmitter as telephone lines are no longer considered a reliable means for transmission. Other standalone transmitter technologies can also be considered.

The manual pull station, smoke detector, duct mounted smoke detectors, and addressable modules can all be replaced on a one-for-one basis. Additional devices may be required for any upgrades to the building mechanical systems.

The existing speaker strobe and strobe only appliances should be replaced. Additional appliances should be considered to achieve the minimum audibility and intelligibility requirements of the current codes.

Civil & Landscape - HHPR

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Exterior Civil ADA Site Assessment Memorandum

The purpose of this memo is to document the existing exterior private site conditions as they relate to current ADA standards at Osborn Aquatic Center, 1940 NW Highland Dr, Corvallis, OR 97330. The existing site is an indoor and outdoor recreational swimming complex and associated parking. This assessment is specific to the exterior conditions in the immediate vicinity of the aquatic center and the existing ADA parking, accessible routes, and connection to the public sidewalk on NW Highland Dr. within the immediate vicinity of this unit. It includes an assessment of ADA parking access and routes connecting from other buildings within the complex. This assessment covers a sidewalk access route to the building from NW Highland Drive, however, does not address access within the existing building. The standards referenced herein are the most current 'ADA Design Standards' (ODOT Standard Drawing RD900s & 2020, Roadway Tech Bulletin RD19-02B), 2010 Department of Justice (DOJ) ADA Standards for Accessible Design, and the 'Standards for Accessible Parking Spaces' (2023, Oregon Transportation Commission). The site was visited on May 13th, 2025 by HHPR. The accessible parking stall, aisle, and routes to and from the main entry of Osborn Aquatic Center were assessed. A "Smart Level" and tape measure were used to determine the slopes and dimensions of the site's components. The Smart Level was calibrated per manufacturer's instructions directly before the site visit. Please see the attached site plan showing the accessible site elements evaluated. See Exhibit A for an aerial map and photos, and Exhibit B for a summary of detailed accessible components. See Exhibit C for applicable Oregon Transportation Commission (OTC) standards for accessible stalls, aisles, and signage.

Short-Term Recommendations

HHPR recommends that some of the non-compliant items identified below such as ADA striping and signage be repaired and replaced with the current standards in the near term. Cracks and gaps exceeding ADA tolerances can be filled with concrete joint filler. These items are relatively inexpensive and easy to accomplish.

Long-Term Recommendations

HHPR recommends the non-compliant ADA items listed in this memo be repaired as the Department has funds to achieve the work. This scope of work predominantly includes, but is not limited to, things such as: sawcutting and replacing existing asphalt parking pavement, removing and replacing existing concrete sidewalks, replacing existing concrete ADA ramps and truncated domes along the routes identified in the memo below.

ACCESSIBLE STALL, AISLE, & SIGNAGE:

Item	Compliant	Notes
Number of accessible stalls	Yes	Using the assumed parking counts in the immediate vicinity of the building, the existing site provides 3 accessible stalls. Per ADA Standards for Accessible Design table 208.2, sites providing 51-75 parking stalls must designate a minimum of 3 stalls as accessible and a minimum of 1 van accessible spaces. This standard is met. See Photo 1.
Accessible Stall Dimensions	No	Stall dimensions on the north end are 17' L x 8.5' W. Stall dimensions on the south end are 18' L x 9' W. Minimum stall width is 9'.
Accessible Stall Slopes	No	3 of the stalls exceeded 2.0% running slope.
Accessible Aisle Dimensions	No	North Aisle Dimensions are 18'L x 8'W. South Aisle serves as a path from a stairwell to the parking lot and is 18'L x 6'W. Aisles must be at least 6' wide, but since the aisle is adjacent to is a 'Van-Accessible' space, the access aisle shall be at least 8' wide (OTC).
Accessible Aisle Slopes	No	Portions of the aisle exceed 2.0% slope. 2.3% running slope was observed adjacent to the face of curb.
Accessible Aisle Striping	Not current	Existing aisle striping is not current with the 2023 OTC standards and is missing the "NO PARKING" lettering in the aisle.
Accessible Signage	No	Signs are mounted at incorrect height and signage location is outdated. See Exhibit C, Figure 5 for current standards.

ACCESSIBLE ROUTES:

ROUTE 1: West Ramp through East Ramp to Main Entry (West Access)

Item	Compliant	Notes
Accessible Route Width	Yes	Minimum width provided is adequate. Provided with varies from 11' to 16'
Accessible Route Cross Slope	Yes	No portions of the route exceed 2.0% cross slope.
Accessible Route Longitudinal Slope	No	Two ramped longitudinal slopes exceeded 5.0% and do not provide handrails. 8.1% and 8.4% running slopes were observed on approach from the landing. Running slopes do not meet ADA standards. See photo 3.
Holes > 0.25"	No	Gaps = 1" noted between panels in the accessible route. See photo 4.
Lips > 0.25"	Yes	None observed.
Protrusions into accessible route	Yes	None observed.
Slip surfaces	Yes	Water Valve lid in route. Minimum route width is met to maintain clear width minimums

Ramps	No	West Ramp Running slope exceeds 8.33%. 9.1% running slope was observed. Landing dimensions do not meet minimum requirements. Existing Landing on the West Ramp is 4.6'L x 3.5 ' W. One Running slope is 3.3%, maximum is 2.3%. Existing Landing on the East Ramp is 5.1'L x 3.7' W. Minimum width is 4.5'. No detectable warning surfaces on either ramp.

ROUTE 2: West through East Ramp to Main Entry (Southwest Access)

Item	Compliant	Notes
Accessible Route Width	Yes	Minimum width provided is adequate. The provided width is approximately 9'.
Accessible Route Cross Slope	No	Portions of the route exceed 2.0% cross slope. Cross slopes ranging from 2.4% to 6.1% were observed east of the ramp along the sidewalk to the main entry of the building.
Accessible Route Longitudinal Slope	Yes	No ramped longitudinal slopes exceeding 5.0% were observed. See 'Ramps' below. See photo 8 for route.
Holes > 0.25"	Yes	Gaps = 1" noted between panels in the accessible route. See photo 5.
Lips > 0.25"	No	Lip > 0.25" observed on the East Ramp. See photo 6.
Protrusions into accessible route	Yes	Signs installed on the sidewalk maintained clear width minimums.
Slip surfaces	Yes	Storm Sewer cleanout lid located in route between ramps. However, the minimum route width required is available adjacent to manhole lid.
Ramps	No	West Ramp cross slope at the landing is 3.5%. East Ramp cross slope at the landing is 5.1%. Cross slopes cannot exceed 2.0% at landing locations. West and East Ramp Running slopes exceed 8.33%. 11.0% and 8.5% running slopes were observed respectively. No detectable warning surfaces are present on either ramp. See photo 7.

ROUTE 3: South through North Ramp to Main Entry (South Access)

Item	Compliant	Notes
Accessible Route Width	Yes	Minimum width provided is adequate. Provided width is approximately 9'. Accessible route is the same as Route 2 to the main entry.
Accessible Route Cross Slope	No	Portions of the route exceed 2.0% cross slope. Cross slopes ranging from 2.4% to 3.3% were observed along the access route to the main entry of the building.
Accessible Route Longitudinal Slope	Yes	No ramped longitudinal slopes exceeding 5.0% were observed.
Holes > 0.25"	No	Gaps = 1" and Longitudinal cracks noted between panels in the accessible route. See photo 11.

Lips > 0.25”	No	Lip = 0.5” in accessible route between panels. See photo 9.
Protrusions into accessible route	Yes	None observed.
Slip surfaces	Yes	None observed.
Ramps	No	South and North ramp widths are greater than 4.5’. Running slopes at ramps cannot exceed 8.33%. One running slope on the north ramp was observed as 8.7%. Cross slope cannot exceed 2.0%. Max cross slope observed was 2.1%. One landing slope on the north ramp was observed as 2.5%. No detectable warning surfaces are present on either ramp. See photo 10 for route.

ROUTE 4: Accessible Stall & Aisle 1

Item	**Compliant**	**Notes**
Accessible Route Width	Yes	Minimum width provided is adequate. Access aisle is 9’W, Access route is 10’W.
Accessible Route Cross Slope	No	Portions of the route exceed 2.0% cross slope. Cross slopes ranging from 2.5%-3.0% were observed along the west access to the main entry of the building.
Accessible Route Longitudinal Slope	Yes	No ramped longitudinal slopes exceeding 5.0% were observed. See photo 12 for route.
Holes > 0.25”	No	Gaps = 1” present in the accessible route between panels.
Lips > 0.25”	Yes	None observed.
Protrusions into accessible route	Yes	None observed.
Slip surfaces	Yes	None observed.
Ramps	No	Ramp from access aisle to access route is compliant. Detectable warning surfaces may be required.

ROUTE 5: Accessible Stall & Aisle 2

Item	Compliant	Notes
Accessible Route Width	Yes	Minimum width provided is adequate. Access aisle is 9'W, Access route is 10'W.
Accessible Route Cross Slope	No	Portions of the route exceed 2.0% cross slope. Cross slopes ranging from 2.5%-3.0% were observed along the west access to the main entry of the building.
Accessible Route Longitudinal Slope	Yes	No ramped longitudinal slopes exceeding 5.0% were observed. See photo 13 for route.
Holes > 0.25"	No	Gaps = 1" present in the accessible route between panels.
Lips > 0.25"	Yes	None observed.
Protrusions into accessible route	Yes	None observed.
Slip surfaces	Yes	None observed.
Ramps	No	Ramp from access aisle to access route is compliant. Detectable warning surfaces may be required.

ROUTE 6: Accessible Stall & Aisle 3 to Main Entry Ramp

Item	Compliant	Notes
Accessible Route Width	No	Minimum width is a pathway from a stairwell. Provided width is approximately 6.2'. Aisles must be at least 6' wide, but since the aisle is adjacent to a 'Van-Accessible' space, the access aisle shall be at least 8' wide (OTC). See photo 14 for route.
Accessible Route Cross Slope	Yes	Cross slopes do not exceed 2.0% and are adequate.
Accessible Route Longitudinal Slope	Yes	No longitudinal slopes exceeding 5.0% were observed in the access route other than at the ramp. See 'Ramps' below.
Holes > 0.25"	Yes	None observed.
Lips > 0.25"	Yes	None observed.
Protrusions into accessible route	Yes	None observed.
Slip surfaces	Yes	Brick pavers approx. 20'W x 16'L are present at the main entrance to the building, but do not appear to present a slip hazard. See photo 15.
Ramps	No	Ramp run slopes are less than 8.3%. Max running slope of 6.3% was observed. Cross slopes are less than 2.0%. Max cross slope of 0.8% was observed. No detectable warning surface is present at the ramp. Access route is 8'W at ramp throat.

ROUTE 7: NW Highland Drive Sidewalk to Main Entry (Southeast Access)

Item	Compliant	Notes
Accessible Route Width	Yes	Minimum width provided is adequate. Provided width is approximately 8'.
Accessible Route Cross Slope	No	Portions of the route exceed 2.0% cross slope. Cross slopes ranging from 2.5% to 4.2% were observed along southeast access to the main entry of the building.
Accessible Route Longitudinal Slope	Yes	No ramped longitudinal slopes exceeding 5.0% were observed.
Holes > 0.25"	No	Gaps = 1" present in the accessible route between panels.
Lips > 0.25"	Yes	None observed.
Protrusions into accessible route	Yes	Existing Fire Riser observed in access route, but a clear width minimum of 4' or greater is present. See photos 16 & 17 for route.
Slip surfaces	Yes	None observed.
Ramps	No	East Ramp at crosswalk exceeds 2.0% cross slope at face of curb. 2.6% cross slope was observed. No detectable warning surface is present. See photo 18 for reference.

ROUTE 8: NW Highland Drive Sidewalk to Main Entry (East Access)

Item	Compliant	Notes
Accessible Route Width	Yes	Minimum width provided is adequate. Provided width is approximately 9'. See photo 19 for route.
Accessible Route Cross Slope	No	Portions of the route exceed 2.0% cross slope. Cross slopes ranging from 2.2% to 4.8% were observed along the south entry of the building.
Accessible Route Longitudinal Slope	No	One ramped longitudinal slope exceeded 5.0%. 9.0% running slope was observed west of the existing sanitary manhole lid.
Holes > 0.25"	Yes	None observed
Lips > 0.25"	Yes	None observed.
Protrusions into accessible route	Yes	None observed.
Slip surfaces	No	Storm Sewer Manhole lid in route. Minimum route width must be at least 4' either side of the lid. 3.3' and 3.8' clear width on either side of the lid is not adequate. See photo 20. 2 existing cleanouts are in the access route, but clear width is greater than 4'.
Ramps	N/A	No ramps on this route.

ROUTE 9: Circle Boulevard Sidewalk Access to Main Entry (Northwest Access)

This route was not physically assessed with a smart level and tape measure. However, it was visually assessed as the route starts at the Circle Boulevard intersection and continues East to West along the Northwest corner of Osborn and turns to run North and South parallel with the West side of the property. Along the route there were numerous panels that needed repair due to lips, gaps, major cracks, and holes in the existing accessible route. Although the accessible route may have provided the minimum route width and acceptable slopes, the remaining visual items appeared to be non-compliant. See photos for Route 9 below for more detail. See route detail in Exhibit A attached.

SITE PHOTOS

Photo 1: Existing accessible stalls, aisles, and signage (See Routes 4 & 5 for more detail)

Photo 2: Route 1 West through East Ramp

Photo 3: Route 1 East Ramp longitudinal approach not compliant with ADA Standards

Photo 4: Longitudinal cracks and gaps present in Route 1

Photo 5: Longitudinal cracks and gaps present in Route 2

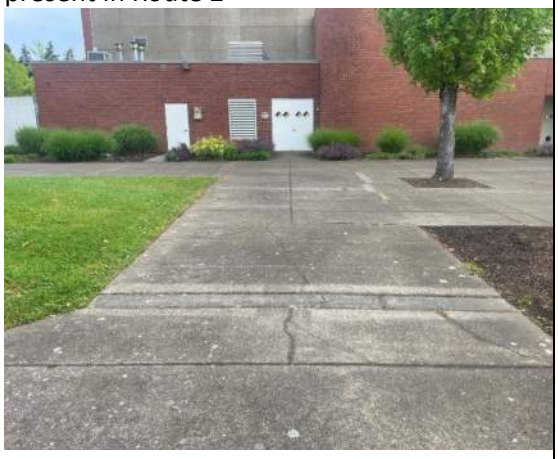


Photo 6: Route 2 East Ramp Run not compliant with ADA Standards (Lip > 0.25”)

Photo 7: Route 2 East Ramp Run not compliant with ADA Standards (Ramp Run > 8.3%)

Photo 8: Route 2 West through East Ramp

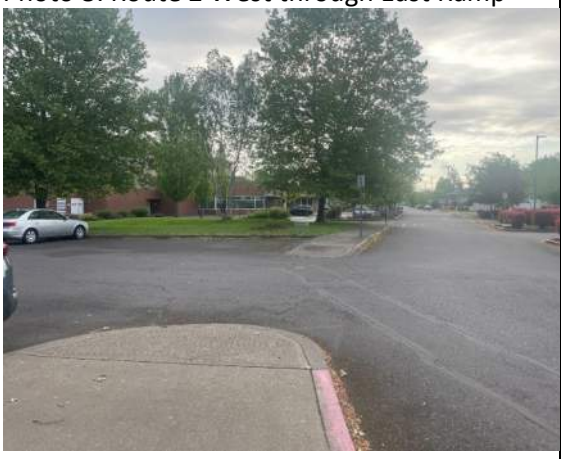


Photo 9: Route 3 Access Route Lip = 0.5”

Photo 10: Route 3 South through North Ramp

Photo 11: Longitudinal Crack in Route 3

Photo 12: Route 4 Access Stall & Aisle

Photo 13: Route 5 Access Stall & Aisle

Photo 14: Route 6 Access Stall and Aisle to Main Entry

Photo 15: Route 6 Ramp at Main Entry

Photo 16: Route 7 to Main Entry

Photo 17: Route 7 Continued

Photo 18: Crosswalk connection to Route 7

Photo 19: Route 8 to Main Entry 	Photo 20: Route 8 Storm Sewer Lid and Cleanouts 
Photo 21: Route 9 from Circle Blvd 	Photo 22: Route 9 path along NW corner of Property 

Photo 23: Route 9 North-South Path	Photo 24: Route 9 North-South Path
	

Note: Additional photos of cracks, lips, and gaps can be sent upon request as many overlapping access routes were not compliant.

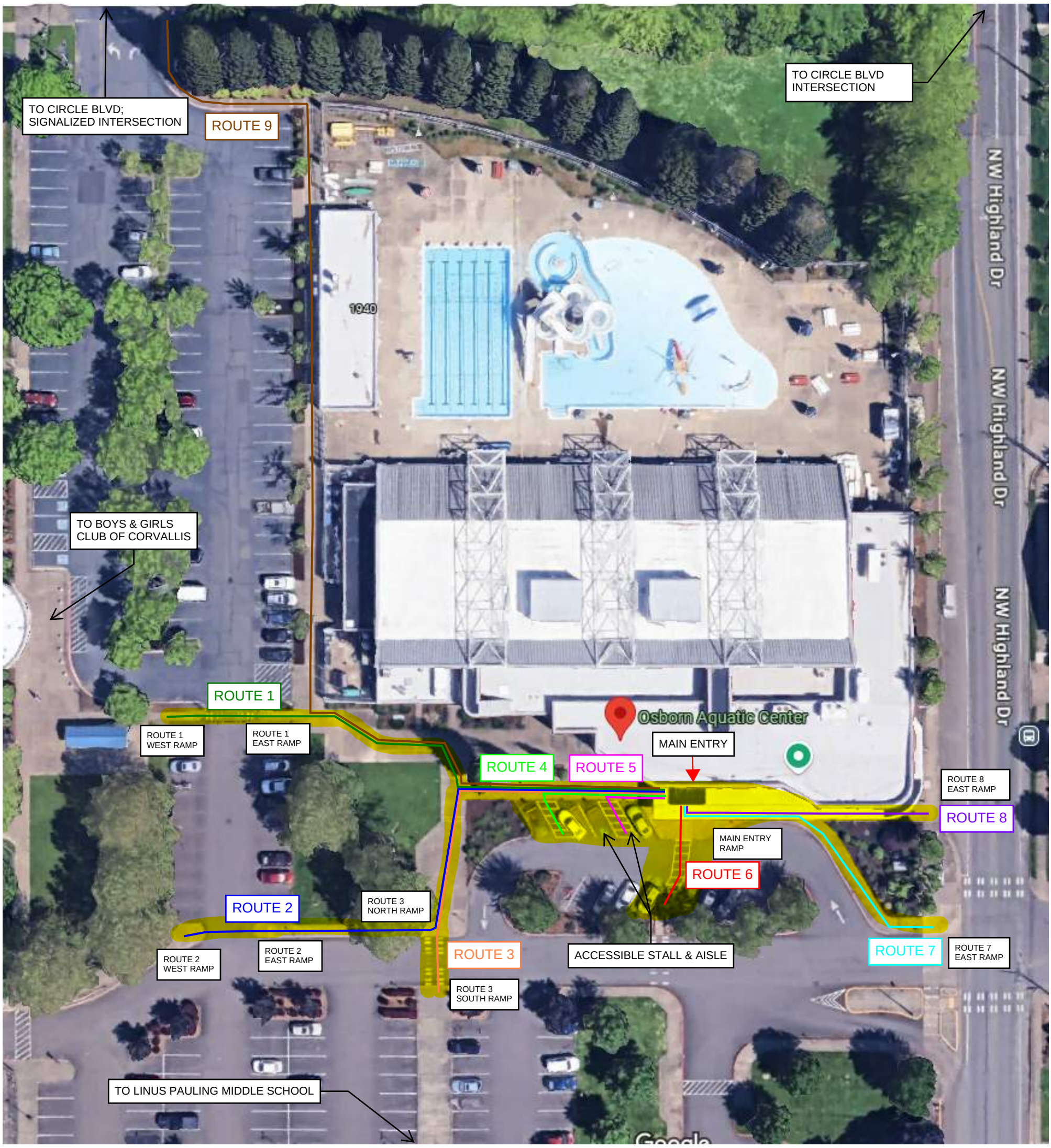
LEGEND:

Route 1
Route 2
Route 3
Route 4
Route 5
Route 6
Route 7
Route 8
Route 9

Exhibit A - Site Map

NOT TO SCALE

N



AERIAL IMAGE FROM GOOGLE MAPS

EXHIBIT B

Harper Houf Peterson Righellis Inc.
ENGINEERS ♦ PLANNERS
LANDSCAPE ARCHITECTS ♦ SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
PHONE: 503.221.1131 www.hhpr.com FAX: 503.221.1171

ADA Assessment Field Sheet

ADA Conditions:

1. Stalls & Aisles:
    a. Stall Depth = Full depth
    b. Stall Width = 9' min.
    c. Aisle Depth = Full depth of stall
    d. Aisle Width = 8' Min.
    e. Stall slope < 2.0%, all directions?
    f. Aisle slope <2.0%, all directions?

2. Wheel stops located at correct location?

3. Accessible Signage:
    a. Correct type (i.e. van accessible where required)?
    b. Sign height 7' clear?

4. Site Ramps:
    a. Ramp width min. 4.5'?
    b. Ramp longitudinal slope < 8.33% ? Or per DOJ Table 405.2?
    c. Cross slope <2.0%
    d. Landing slope <2.0%
    e. Compliant landing size and type?

5. Accessible routes:
    a. Route between accessible stalls & Main Entry:
        i. Minimum Width > 3'
        ii. Cross slope <2.0%?
        iii. Longitudinal slope <5.0%?
        iv. Are there any holes > 0.25"?
        v. Are there any lips > 0.25"?
        vi. Any protrusions > 4" between 27"-80" vert?
        vii. Are there slip surfaces within route?
    b. Route between public R.O.W. & Main Entry:
        i. Minimum Width > 3'
        ii. Cross slope <2.0%?
        iii. Longitudinal slope <5.0%?
        iv. Are there any holes > 0.25"?
        v. Are there any lips > 0.25"?
        vi. Any protrusions > 4" between 27"-80" vert?
        vii. Are there slip surfaces within route?

Figure 5: Parallel - Accessible Parking layout

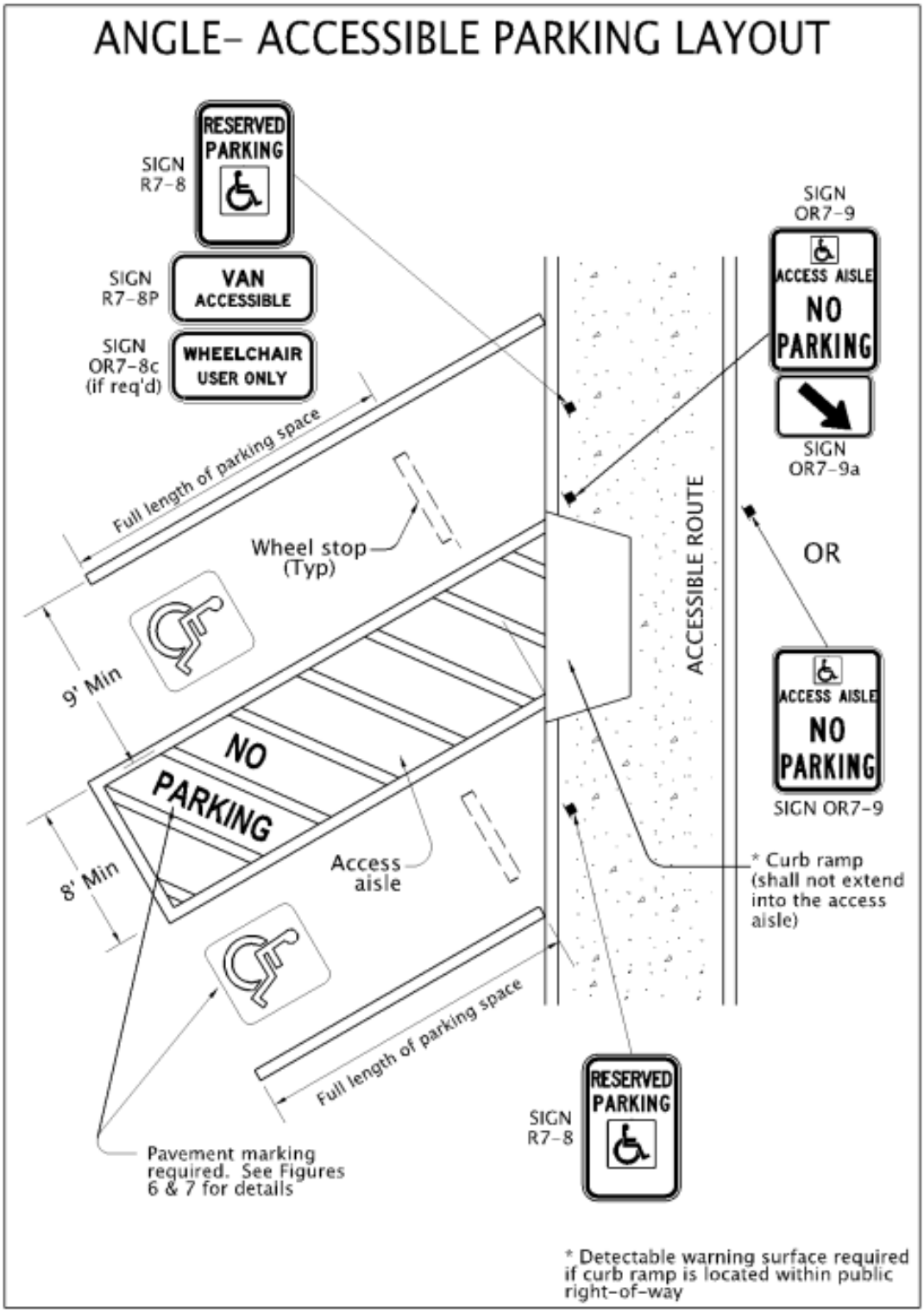
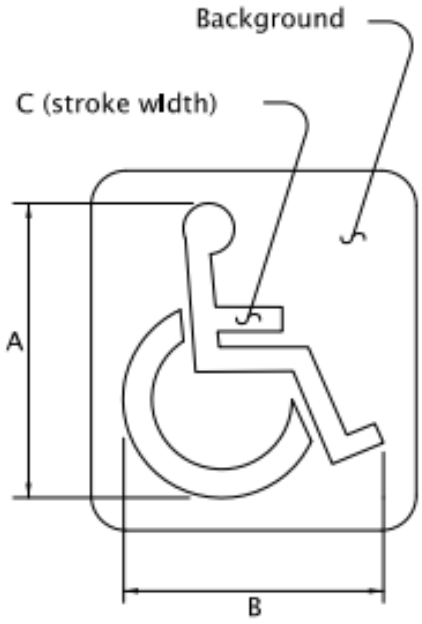


Figure 6: Pavement Marking Stencil for an Accessible Parking Spot

PAVEMENT MARKING STENCIL



Pavement Marking Background: Optional: Blue, Retroreflective

Pavement Marking Stencil: White, Retroreflective

LEGEND	DIMENSIONS (INCHES)						
	A	B	C	D	E	F	G
MINIMUM	28	24	3				
STANDARD	41	36	4				

The pavement marking stencil shall be used to designate an accessible parking area reserved for vehicles with DMV permits.

Figure 8: Sign design details for an accessible parking spot

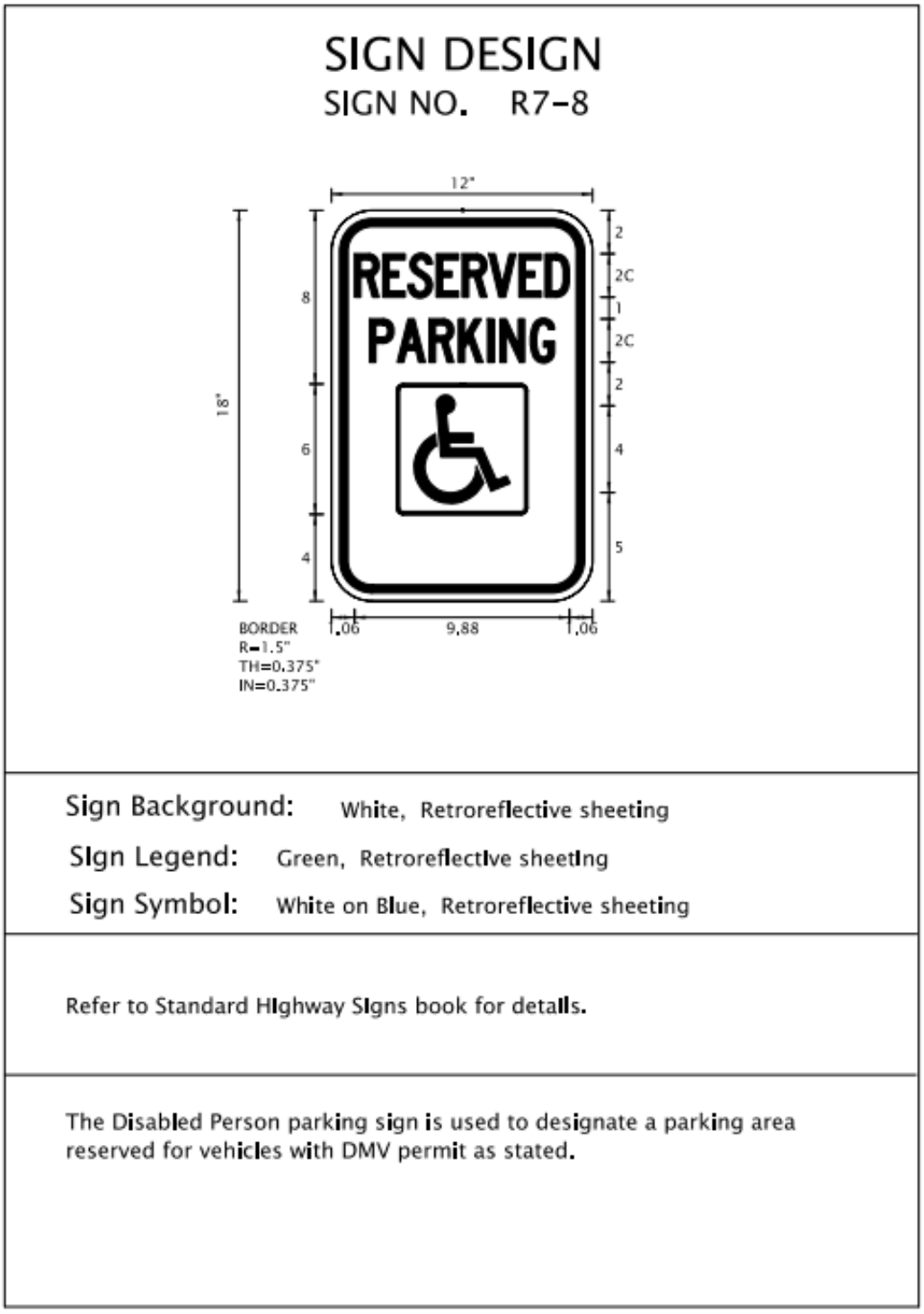


Figure 9: Sign design details for a sign rider to denote a van accessible parking spot

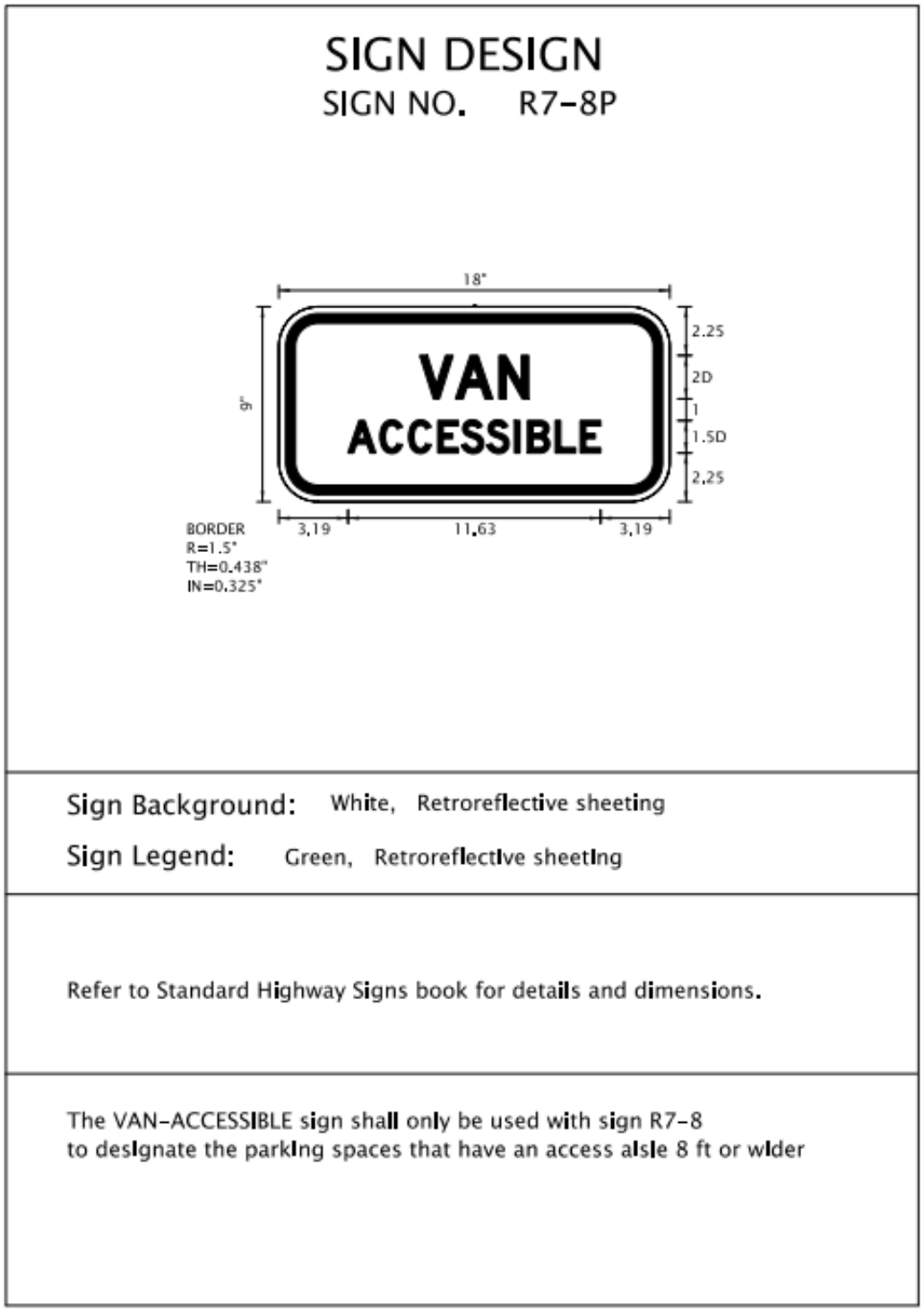
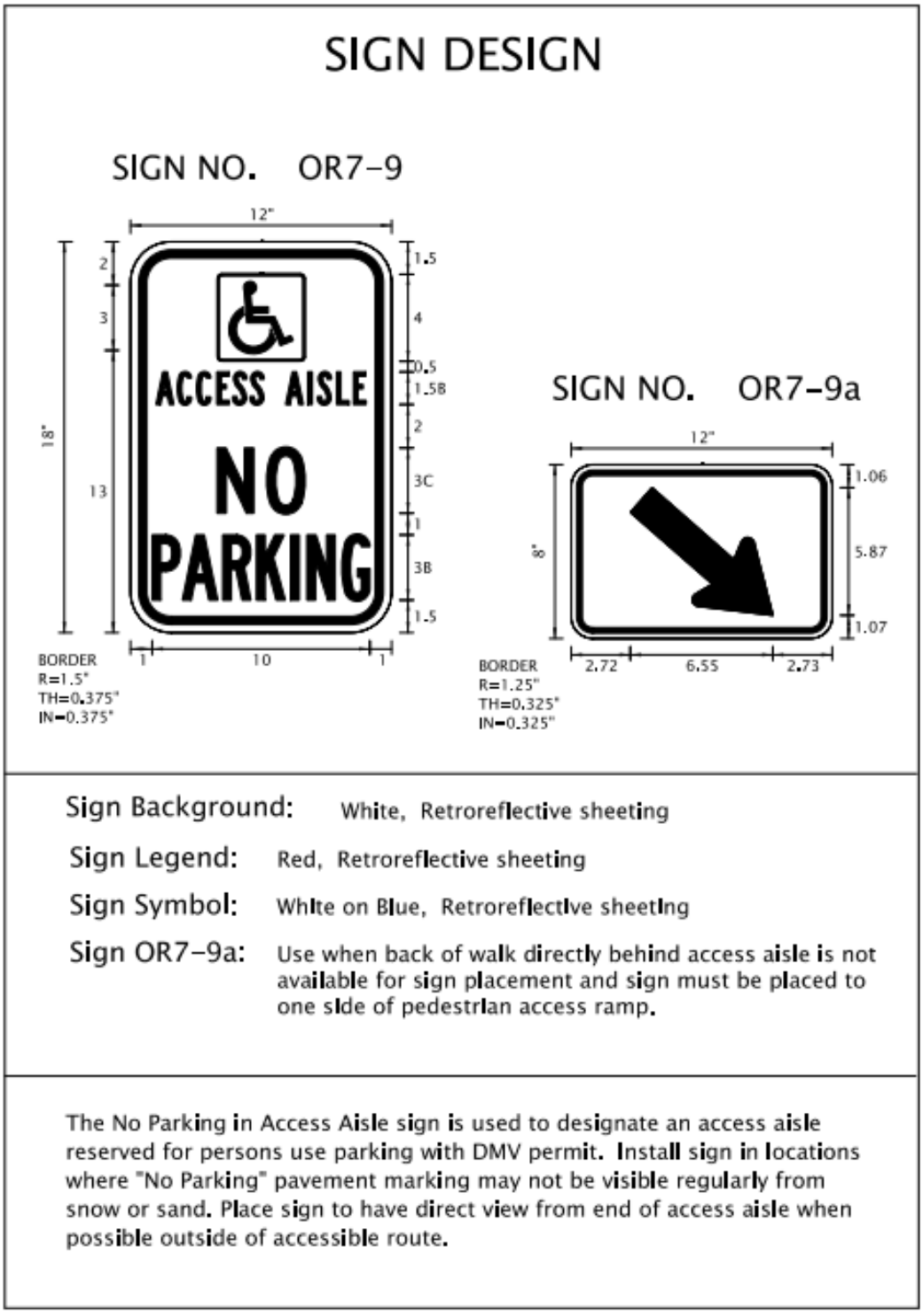


Figure 11: Sign design details for a sign and rider to denote an access aisle where parking is prohibited



END OF REPORT