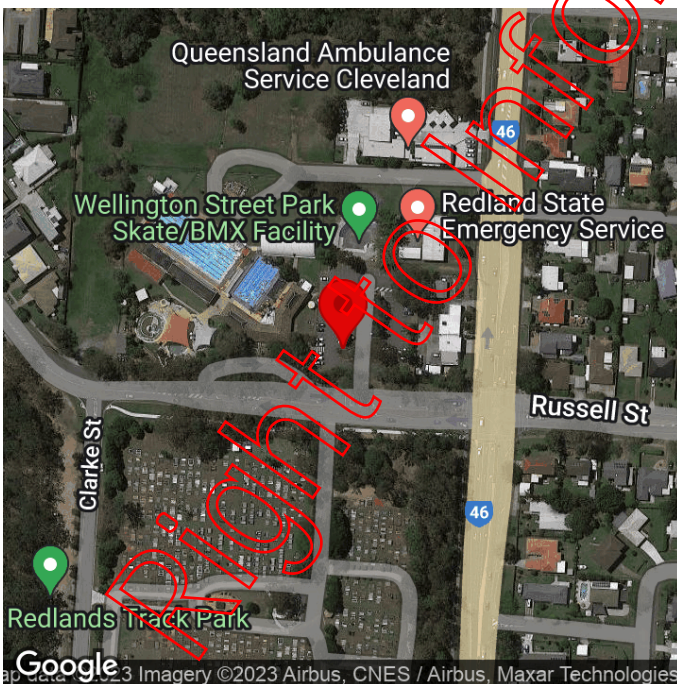


Aquatic Centre Condition Audit



Condition and compliance audit for an existing aquatic centre

Cleveland Aquatic Centre, July 19, 2023



CREATED

7/18/2023, 8:33:50 PM GMT+10

by Luke Bartlett

UPDATED

7/24/2023, 3:35:01 PM GMT+10

by Luke Bartlett

LOCATION

-27.529104, 153.254576

PROJECT

No Project

AUDIT DETAILS

Audit Reference	Cleveland Aquatic Centre
Job Number	0336
Audit Date	July 19, 2023
Auditor	

FACILITY DETAILS

Facility Name	Cleveland Aquatic Centre
Facility Address	222 Russell St, Cleveland Qld 4163
Facility History	The facility is understood to have originally opened in the early 1970's, with the 25m pool being added in the mid-90's. The dates for the play pool and river pool are not known but are suspected to be constructed around a similar time. Relatively little as-constructed documentation of the elements in the facility was available for viewing at the time of the inspection, primarily covering the 50m pool only.

Key Photos





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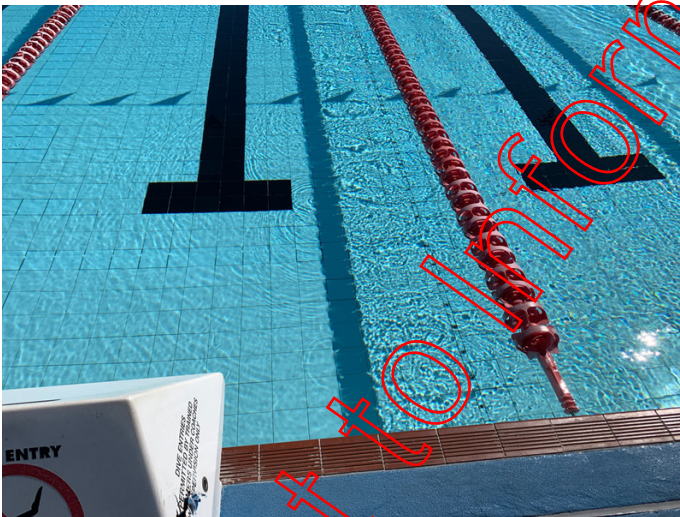
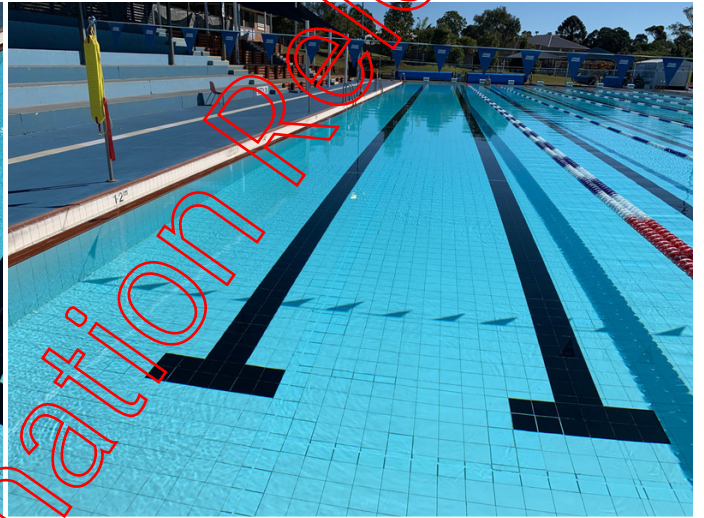
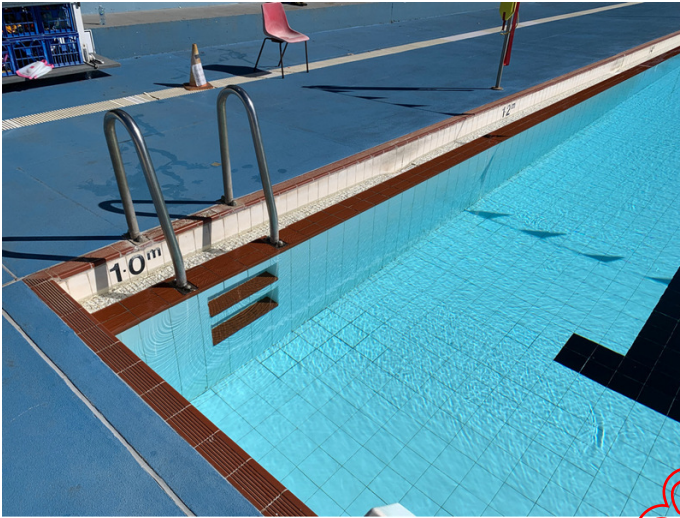
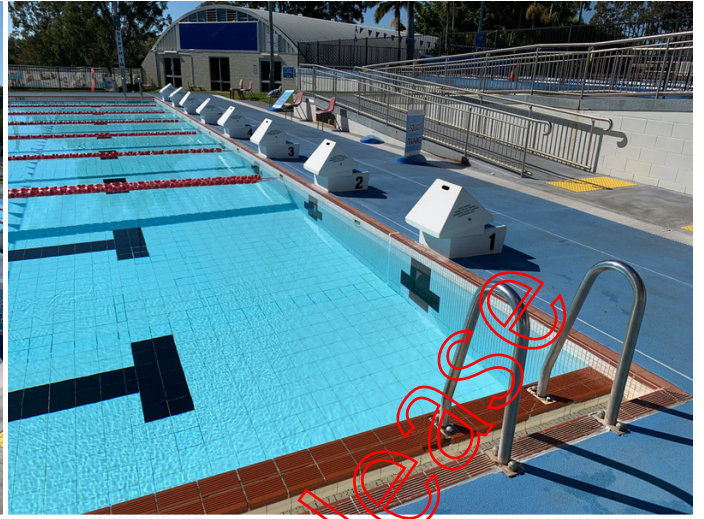
AQUATIC FACILITIES

OUTDOOR 50M POOL

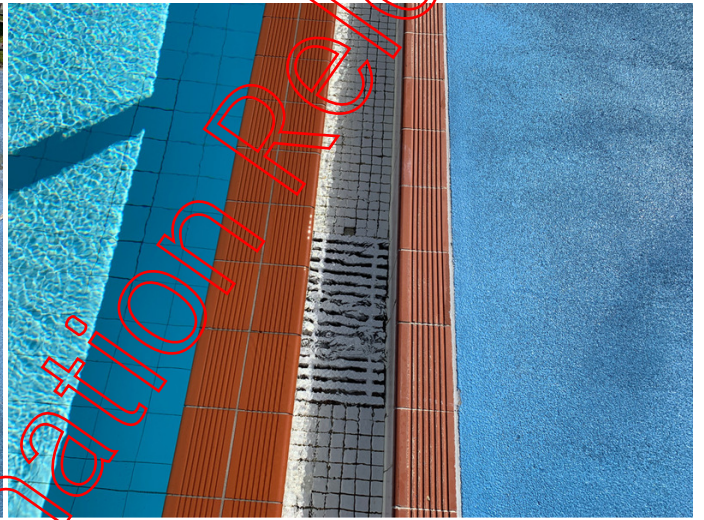
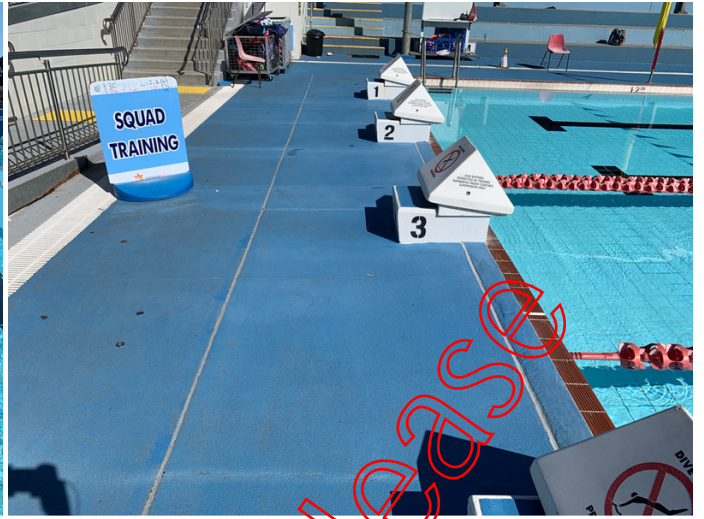
Element Name	Outdoor 50m Pool
General Description	The outdoor 50m pool is an 8-lane 50m fully tiled reinforced concrete lap pool. The pool is 20.5m wide, 1m deep at each end and grades to 2m deep in the centre. Wet decks are placed to the two long sides of the pool and raised hobs to the two ends. The pool is understood to be from the original construction of the site in the 1970's.
Pool Length (m)	50
Pool Width (m)	20.5
Pool Depth	1m deep at each end grading to 2m deep in the centre.
Finishes Description	Fully tiled with bathroom-style tiles
Circulation Description	<p>Filtered water is delivered into the pool through a center return channel running along the length of the pool, fitted with small outlet holes in the top surface.</p> <p>Soiled water overflows wet deck gutters to the two long sides of the pool. It collects in underground pipework and flows to the drawoff tank adjacent the north-eastern corner of the pool.</p> <p>Balance lines appear to connect the pool to the balance tank through the wall to prevent the tank running dry.</p>
Features Description	N/A
Element Condition	3 - Average
Remaining Life (Years)	15
Replacement Cost (\$)	2000000

Element Photos

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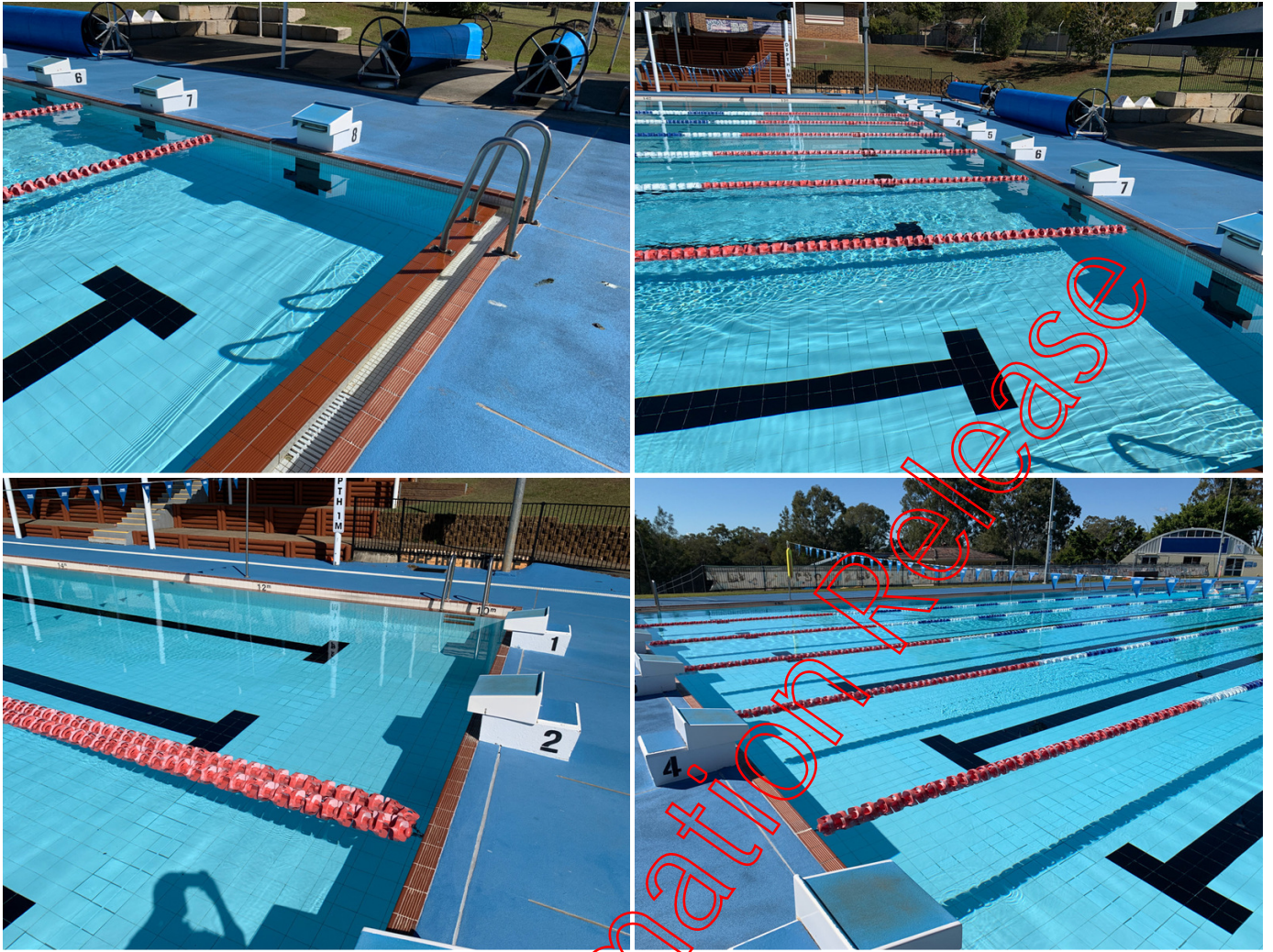


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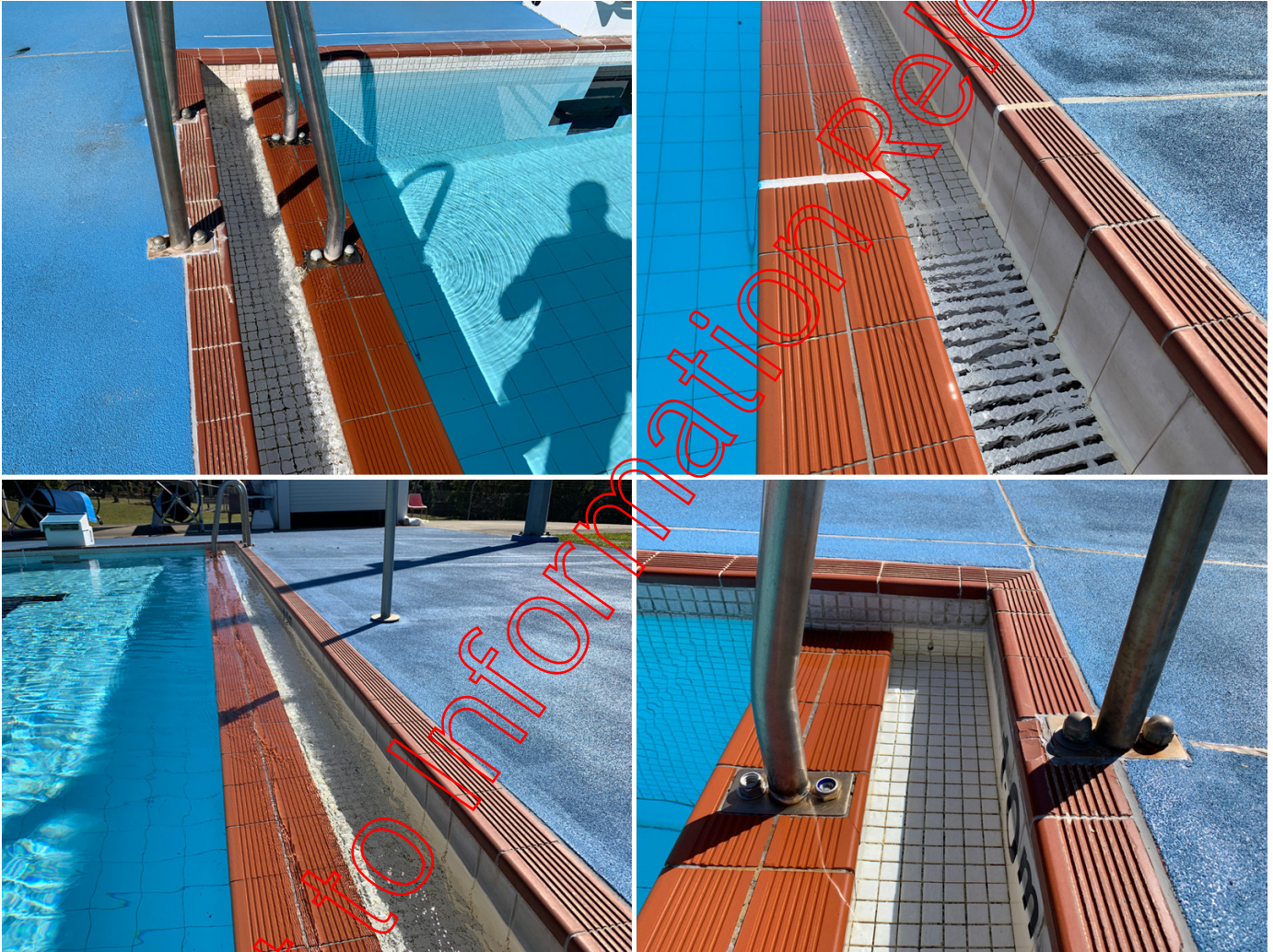
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SITE OBSERVATIONS

SCUM GUTTER

Observation Description	Scum Gutter
Observation Details	The scum gutter is of an aged design. The system is running full, indicating the flow is at maximum capacity. Additionally, more water is flowing over the northern wet edge, with this side being out of level along the length indicating structural movement of the pool.
Recommendations	Consider an upgrade to the 50m pool
Critical Item?	No

Observation Photos



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SITE OBSERVATIONS

DRAIN GRATING

Observation Description	Drain Grating
Observation Details	Wet deck grating covering the drain adjacent the pool is aging and broken in places
Recommendations	Replace the grating
Critical Item?	Yes

Observation Photos

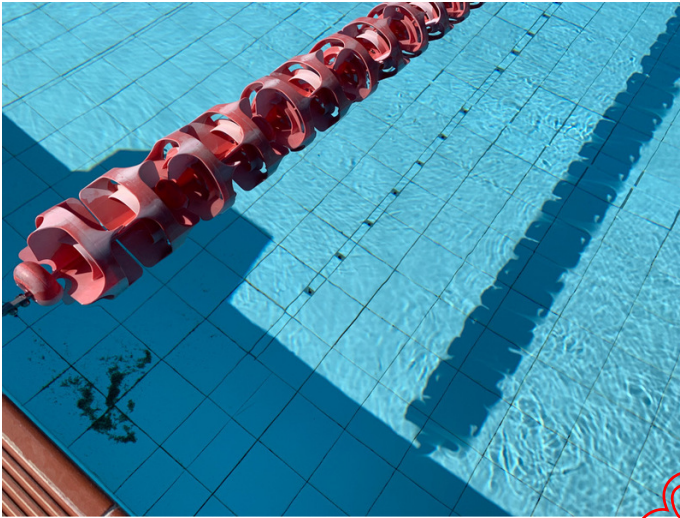


SITE OBSERVATIONS

FILTERED WATER RETURN

Observation Description	Filtered Water Return
Observation Details	Filtered water is delivered to a central channel along the pool which is fitted with small holes in the top to deliver water. This type of return will have little impact on pool circulation beyond the outlets.
Recommendations	Undertake a dye circulation test in accordance with the model aquatic health code to visualise and confirm the circulation. Undertake rectification works as required.
Critical Item?	No

Observation Photos



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SITE OBSERVATIONS

TILING

Observation Description	Tiling
Observation Details	The tiling provided in the pool is aging and not slip resistant. This is an issue for activities requiring grip on the pool floor
Recommendations	Replace the pool tiling
Critical Item?	No

Observation Photos



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SITE OBSERVATIONS

DEPTH AND WARNING SIGNAGE

Observation Description	Depth and Warning Signage
Observation Details	Applicable to all the pools onsite, current signage does not comply with the Royal Lifesaving guidelines. Depth markers are inconsistent or not legible whilst advisory signage is not provided.
Recommendations	Engage Royal Lifesaving to undertake a signage audit at the facility including pools and plant rooms
Critical Item?	Yes

Observation Photos





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SITE OBSERVATIONS

EQUIPOTENTIAL BONDING

Observation Description	Equipotential bonding
Observation Details	Conductive items are present within arms reach of most pools, requiring equipotential bonding. This extends to all pools.
Recommendations	If not provided within the past 12 months, engage an electrician to undertake an earth bonding test of all items as required by AS3000
Critical Item?	Yes

Observation Photos



AQUATIC FACILITIES

OUTDOOR 25M POOL

Element Name	Outdoor 25m Pool
General Description	The pool is a 25m long 6 lane lap pool, understood to be of concrete construction with a fiberglass internal lining. The pool is 1m deep at the shallow end, grading down to 1.2m at the deep end. An access ramp provides access to one side of the pool. The pool is a skimmer design pool. The pool is understood to have been constructed in the 1990's, replacing an existing wading pool.
Pool Length (m)	25
Pool Width (m)	13
Pool Depth	Pool grades from 1.0m deep at the shallow end to 1.2m deep at the deep end
Finishes Description	Pool is finished with a painted fibreglass liner, with coping tiles to the perimeter
Circulation Description	<p>Filtered water is delivered into the pool through a series of wall return fittings along both sides of the pool. The returns are currently open pipes and not provided with fittings.</p> <p>Soiled water is drawn into 10 skimmer boxes located along the two long sides of the pool. Pipework joins these skimmer boxes back to the equipment room.</p>
Features Description	N/A
Element Condition	4 - Poor
Remaining Life (Years)	5
Replacement Cost (\$)	1250000

Element Photos

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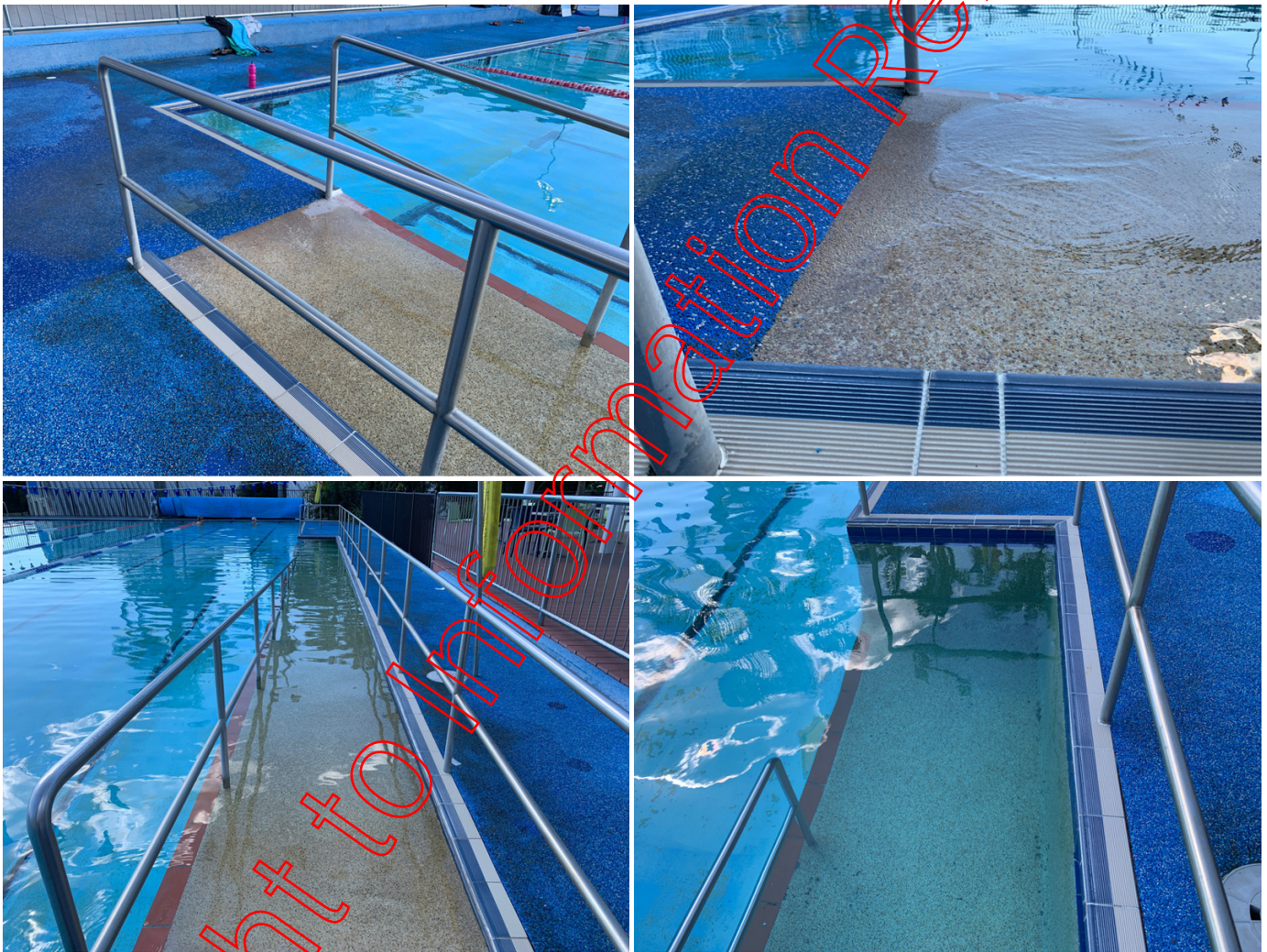
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SITE OBSERVATIONS

RAMP COMPLIANCE

Observation Description	Ramp Compliance
Observation Details	The disabled access ramp is not compliant with AS1926.3: <ul style="list-style-type: none">o No mid landing is providedo Only one handrail is provided, with the other handrail being non-complianto The entry to the ramp is too steepo The ramp delivers too deep
Recommendations	Replace the ramp. In the interim, provide signage to inform patrons of the issues with the ramp.
Critical Item?	No

Observation Photos





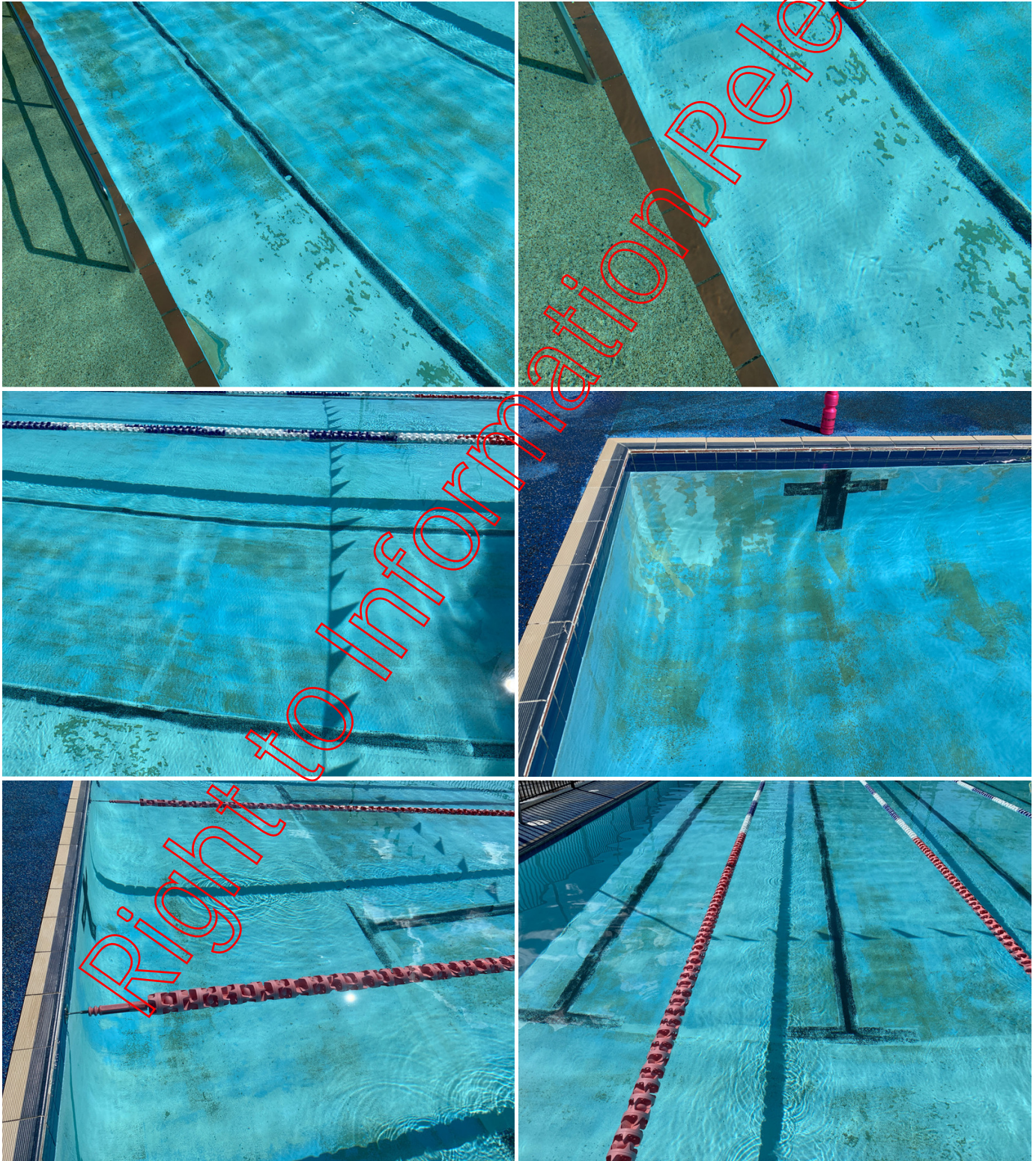
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SITE OBSERVATIONS

POOL FINISH

Observation Description	Pool Finish
Observation Details	The painted finish is in very poor condition with the underlying fibreglass liner appearing very worn in places.
Recommendations	Remove the fibreglass liner and refinish the pool
Critical Item?	No

Observation Photos



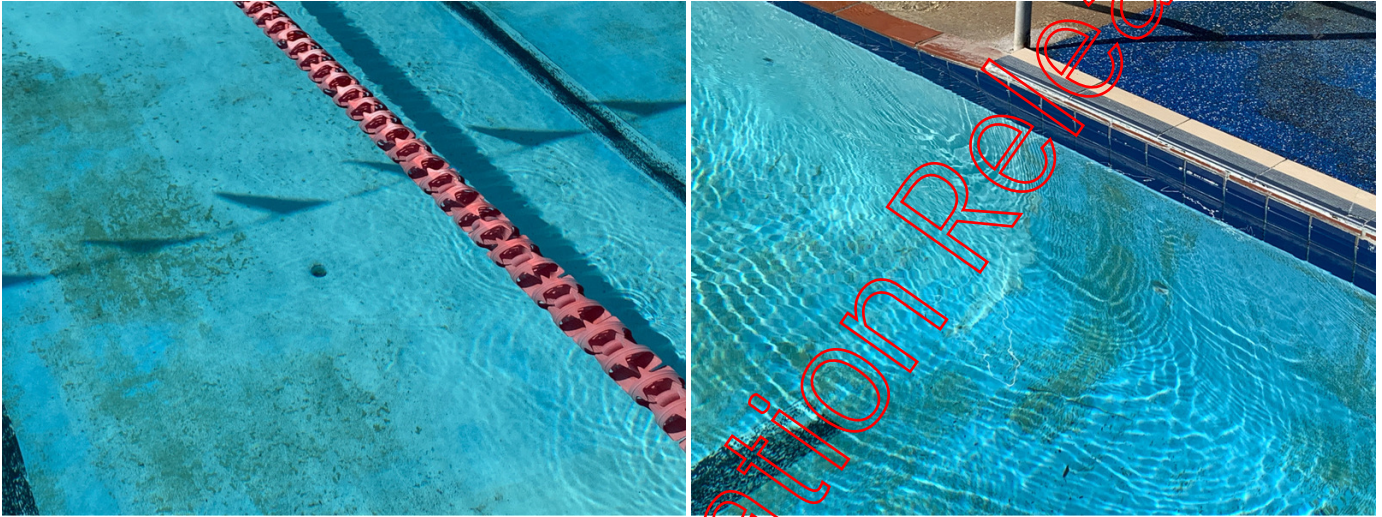
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SITE OBSERVATIONS

CIRCULATION FITTINGS

Observation Description	Circulation Fittings
Observation Details	The marjority of circulation fittings are missing in the pool with just bare pipe showing
Recommendations	Provide eyeball and floor rerun fittings to all bare pipes
Critical Item?	Yes

Observation Photos



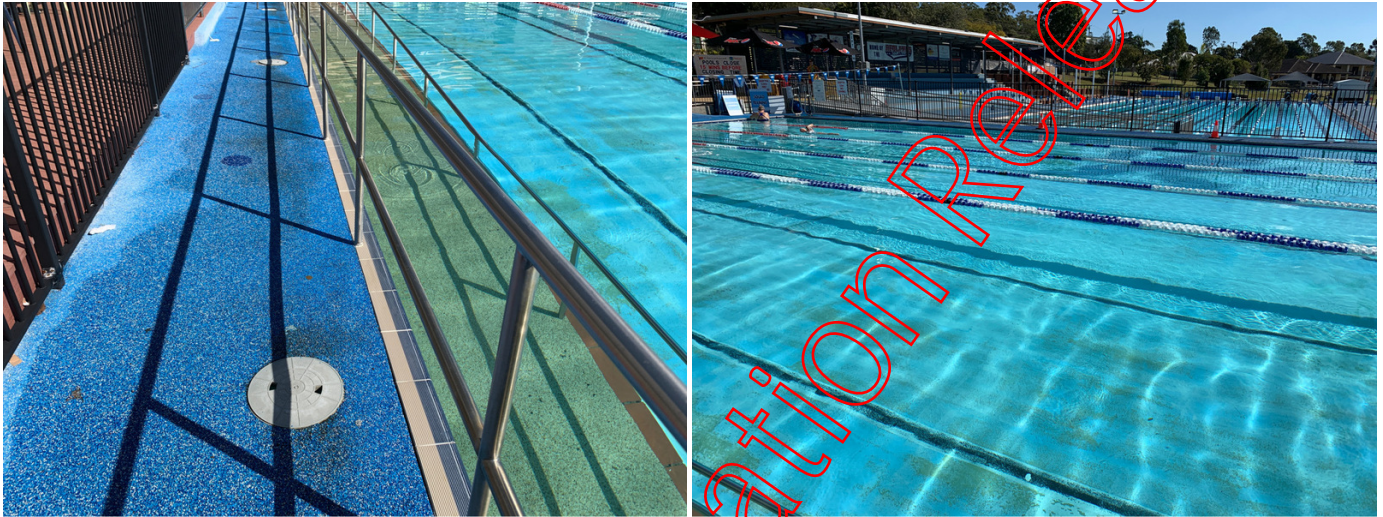
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SITE OBSERVATIONS

POOL CIRCULATION

Observation Description	Pool Circulation
Observation Details	Circulation through the pool is likely poor due to the low flow and the poor number of fittings
Recommendations	As with the 50m pool, provide a circulation dye test
Critical Item?	No

Observation Photos



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SITE OBSERVATIONS

CONCOURSE CIRCULATION AND CONDITION

Observation Description	Concourse Circulation and Condition
Observation Details	Concourse circulation space is very tight, especially with instructions from blankets. Additionally the rubberised coating is in poor conditions
Recommendations	Review circulation around the pool and look to improve. Replace the rubberised coating.
Critical Item?	Yes

Observation Photos



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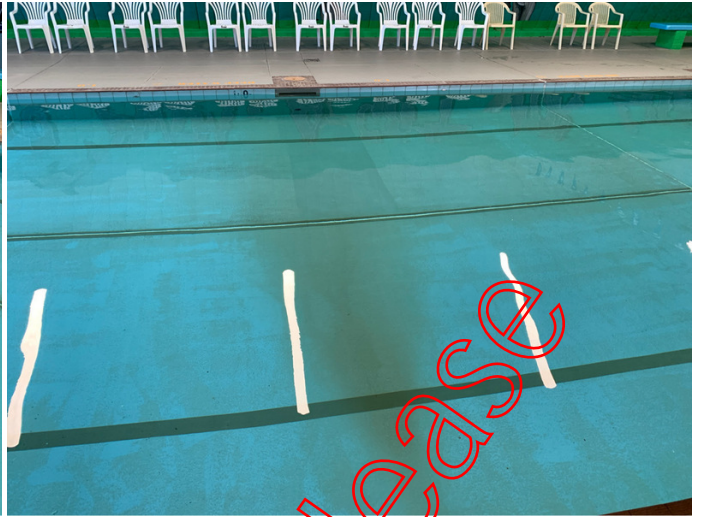
AQUATIC FACILITIES

INDOOR LTS POOL

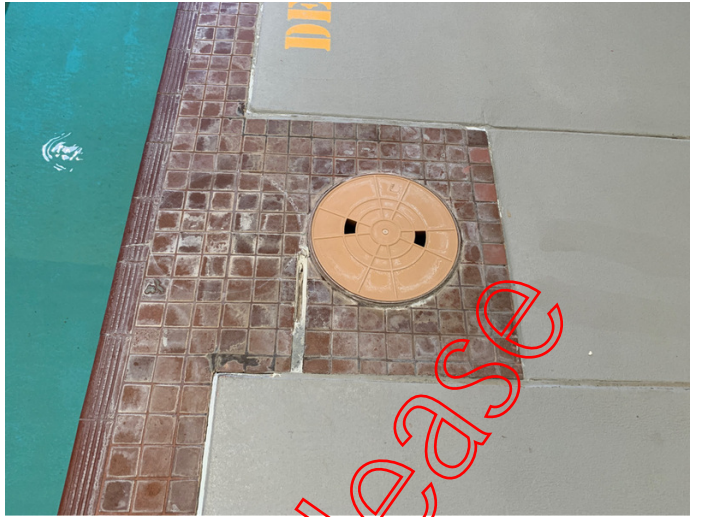
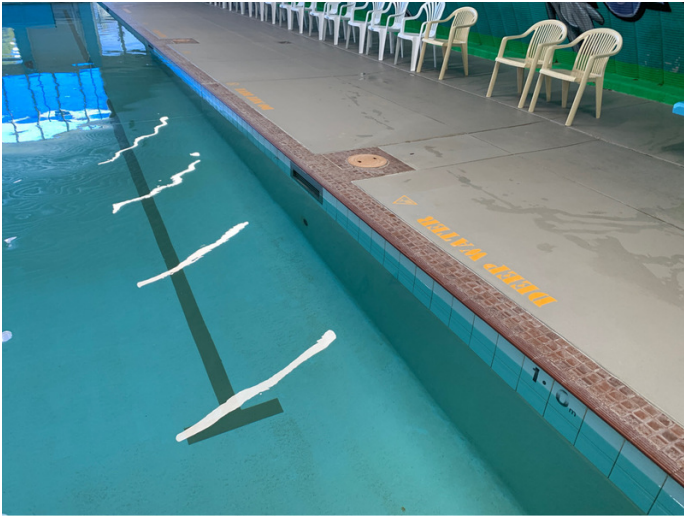
Element Name	Indoor LTS Pool
General Description	The pool is a 20m long x 6.8m wide (6m main body with 800mm wide bench) reinforced concrete pool fitted with a fiberglass internal liner. The pool is 1m deep to the full extent with a 250mm deep bench along one side. The pool is a skimmer design pool, understood to be from the original construction in the 1970's.
Pool Length (m)	20
Pool Width (m)	6.8
Pool Depth	1m to the full extent with a 250mm dep x 800mm wide bench along one wall
Finishes Description	Coping tiles with a painted fibreglass internal lines
Circulation Description	Filtered water is delivered into the pool through six wall return fittings generally installed along the bench but with one fitting installed in the corner of the pool. Soiled water is drawn into three skimmer boxes located along the long side of the pool opposite the bench. Pipework joins these skimmer boxes back to the equipment room.
Features Description	N/A
Element Condition	4 - Poor
Remaining Life (Years)	5
Replacement Cost (\$)	750000

Element Photos





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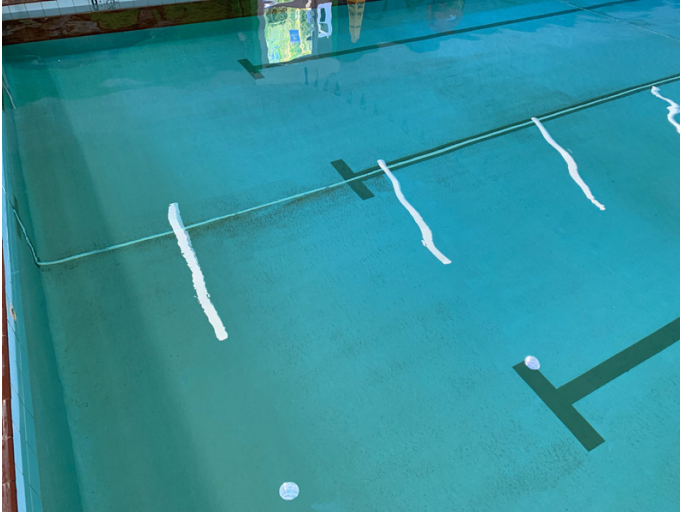
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SITE OBSERVATIONS

FINISHES CONDITION

Observation Description	Finishes Condition
Observation Details	The finishes are in poor condition overall. The painted finish has failed with fibreglass visible through. Grout on the bench is generally missing whilst coping tiles are stained.
Recommendations	Replace the pool finishes
Critical Item?	No

Observation Photos



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SITE OBSERVATIONS

STRUCTURAL CONDITION

Observation Description	Structural Condition
Observation Details	Concerns are raised regarding the structural condition of the pool. The pool is reported to leak by the operators, with the water level dropping noticeably on shutdown. Damage is observed to one corner of the pool whilst rust is observed from the end of the bench and the floor drain. Silicon in joints is in bad condition.
Recommendations	As a short term approach, replace silicon and investigate leaks. The presences of the fibreglass liner makes inspection of the concrete substructure difficult. In the long term, allow to replace the pool.
Critical Item?	No

Observation Photos





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SITE OBSERVATIONS

ANCHORS

Observation Description	Anchors
Observation Details	Lane rope anchors protrude from the wall which create a finger and toe entrapment risk
Recommendations	Replace with flush anchors
Critical Item?	Yes

Observation Photos



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SITE OBSERVATIONS

SKIMMER SUCTION FITTINGS

Observation Description	Skimmer Suction Fittings
Observation Details	Each skimmer appears to be connected to a suction fitting in the wall which is not fitted with an AS1923 compliant cover. This creates a suction entrapment risk and requires rectification urgently.
Recommendations	Block off fittings or provide compliant fittings.
Critical Item?	Yes

Observation Photos



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AQUATIC FACILITIES

OUTDOOR PLAY POOL

Element Name	Outdoor Play Pool
General Description	The pool is a freeform play pool, approximately 25m long x 20m wide overall. The pool is varying depth throughout and is fitted with a waterslide and various water toys. The pool is a skimmer design pool, understood to be constructed in the early 2000's.
Pool Length (m)	25
Pool Width (m)	20
Pool Depth	Beach entry to 1.8m
Finishes Description	Pebblecrete to the full interior extent
Circulation Description	<p>Filtered water is delivered into the pool through three rows of floor returns installed across the pool.</p> <p>Soiled water is drawn into a series of skimmer boxes placed around the walls of the pool. Pipework joins these skimmer boxes back to the equipment room.</p> <p>Wall suction are present in the pool. Whilst as-constructed documentation is not available and the pipework pathways could not be confirmed, it's assumed that some of these wall suction connect to the skimmers as relief lines whilst others connect to the feature suction pump.</p>
Features Description	Spray features are installed in the shallow regions of the pool whilst a fibreglass slide is installed in the deep area
Element Condition	3 - Average
Remaining Life (Years)	10
Replacement Cost (\$)	1000000
Element Photos	

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SITE OBSERVATIONS

WATERSLIDE START

Observation Description	Waterslide Start
Observation Details	A significant amount of rust is still present in the stairs leading to the waterslide start. This rust has increased in magnitude since the previous inspection.
Recommendations	Repair the rust as a priority
Critical Item?	Yes

Observation Photos



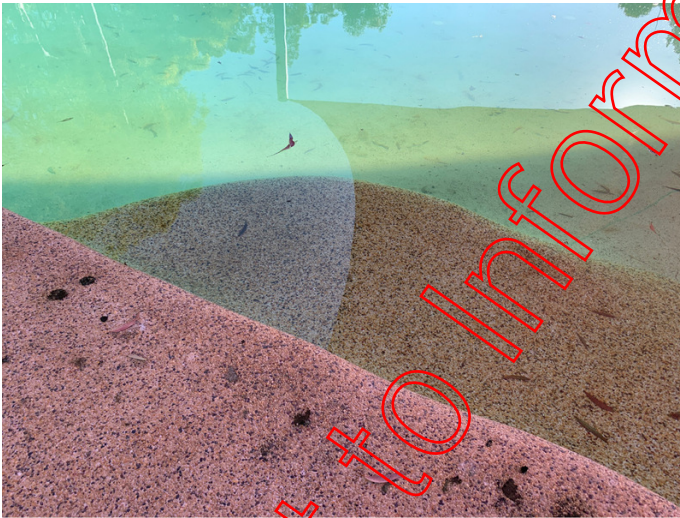


SITE OBSERVATIONS

POOL ACCESS

Observation Description	Pool Access
Observation Details	No compliant access point is provided in the deep end. A fibreglass step is present onto a swimout, however access does not continue to the flood of the pool nor are edge delineators provided to any steps or swimouts in the pool.
Recommendations	Add compliant ladders. Add edge delineation markers to all underwater edges.
Critical Item?	Yes

Observation Photos



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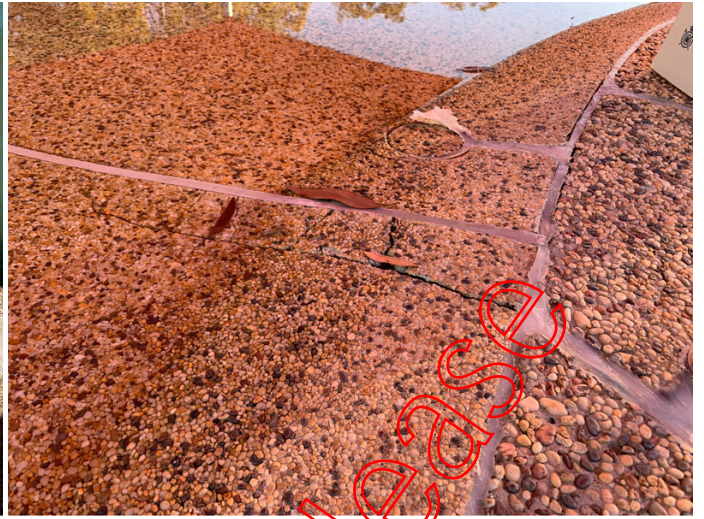
SITE OBSERVATIONS

COPING FINISHES CONDITION

Observation Description	Coping Finishes Condition
Observation Details	The coping finishes condition is poor, with notable cracking observed in the finishes. In some areas sections of the finish are missing or delaminated.
Recommendations	Remove all finishes and inspect the sub grade for condition. Provide new finishes. In the interim, remove any loose areas and make good.
Critical Item?	Yes

Observation Photos





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SITE OBSERVATIONS

POOL SILICON

Observation Description	Pool Silicon
Observation Details	Pool silicon requires replacement
Recommendations	Leak test and replace.
Critical Item?	No
Observation Photos	

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SITE OBSERVATIONS

CONCOURSE MOVEMENT

Observation Description	Concourse Movement
Observation Details	The concourse adjacent the small waterslide appears to have moved away from the pool approximately 10mm, indicating ground subsidence.
Recommendations	Reseal the joint and monitor for further movement or structural degradation of the concourse
Critical Item?	No

Observation Photos

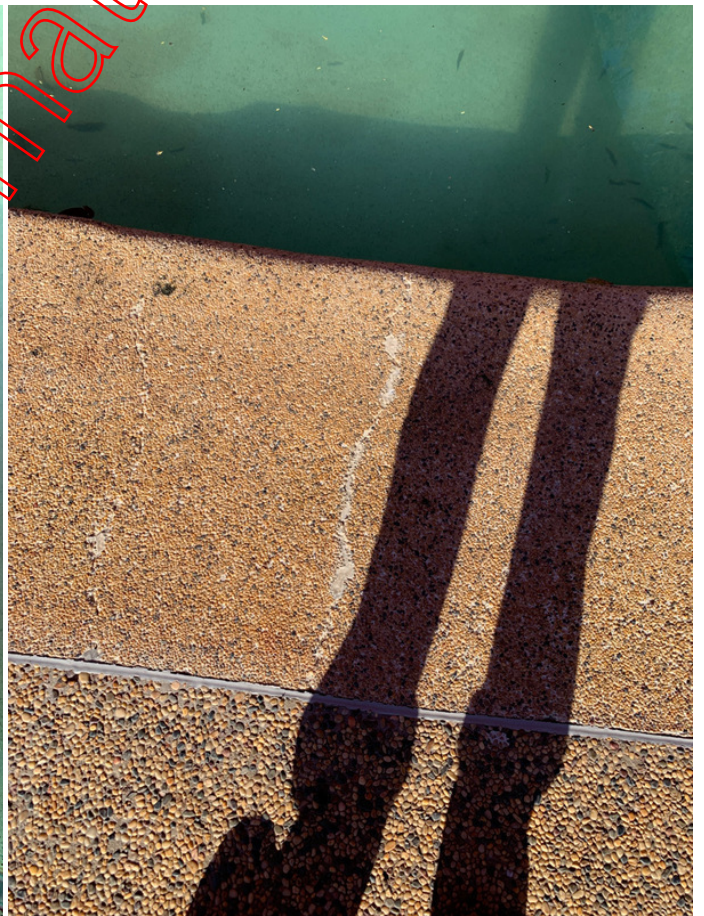


SITE OBSERVATIONS

STRUCTURE CRACK

Observation Description	Structure Crack
Observation Details	A structural crack is observed running across the deep end of the pool
Recommendations	Inspect the crack for leaks and seal the crack
Critical Item?	Yes
Observation Photos	

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SITE OBSERVATIONS

SUCTION FITTINGS

Observation Description	Suction Fittings
Observation Details	Old suction fittings are present in the wall of the pool.
Recommendations	Remove the fittings and replace with new AS1926.3 compliant items
Critical Item?	Yes

Observation Photos



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SITE OBSERVATIONS

WATERSLIDE SUPPORT

Observation Description	Waterslide Support
Observation Details	One of the legs of the waterslide is poorly supported half on a brick
Recommendations	Rectify the support
Critical Item?	Yes

Observation Photos



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SITE OBSERVATIONS

WATER TOY CONDITION

Observation Description	Water Toy Condition
Observation Details	The water play toys are aging
Recommendations	Refurbish the Waterplay toys
Critical Item?	No

Observation Photos



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AQUATIC FACILITIES

OUTDOOR RIVER POOL

Element Name	Outdoor River Pool
General Description	The pool is an ellipse-shaped river pool, approximately 17m long and 15m wide. The pool is of reinforced construction and is a constant depth to the perimeter of the 2.4m wide channel. The main feature for the pool is the channel flow system, where large pumps draw water from the side of the pool and inject into floor jets to circulate water around the channel. The pool is a semi-skimmer design pool, understood to be constructed in the early 2000's.
Pool Length (m)	17
Pool Width (m)	15
Pool Depth	Approx 1200
Finishes Description	Pebblecrete rollover hob to the perimeter of the pool with painted finish throughout
Circulation Description	<p>A large grated overflow sump is located in the wall of the pool adjacent the stairs. Water overflows into this sump. A large single suction fitting in this sump connects through pipework up to the plant room.</p> <p>The pipe splits at the plant room into two suction lines which appear in the pump well. The two main river circulation pumps connect to these pipes then tee together into a single line above these pipes before flowing back out to the pool. The pipework splits at the pool into series of river flow jets located in the floor of the pool.</p> <p>The filtration pumps draws water from the river pump outlets, and pumps through the filtration system in the plant room. The return water is then delivered back into the river pump outlet line downstream of a check valve. It appears as though previously this system was directly connected to the pool, as cut-off pipework is present nearby in the plant room.</p>
Features Description	Motive jets located in the walls provide the river current.
Element Condition	4 - Poor
Remaining Life (Years)	5
Replacement Cost (\$)	500000
Element Photos	

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SITE OBSERVATIONS

STRUCTURE CRACKS

Observation Description	Structure cracks
Observation Details	Numerous cracks are present in the structure, with many repairs observed. Whilst the majority of the cracks appear to be in the coping, some of the cracks continue down through the pool structure itself.
Recommendations	Consider replacement of the pool
Critical Item?	No

Observation Photos



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SITE OBSERVATIONS

FINISHES CONDITION

Observation Description	Finishes condition
Observation Details	The painted finish has failed
Recommendations	Replace the painted finish
Critical Item?	No

Observation Photos



SITE OBSERVATIONS

SURFACE SKIMMING

Observation Description	Surface Skimming
Observation Details	The outlet chamber is flooded at the time of the inspection. No surface skimming takes place. A large amount of leaf matter remains suspended in the pool
Recommendations	Consider replacement of the pool
Critical Item?	No

Observation Photos

