AQUATIC FACILITY GUIDELINES

6 Facility Management

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The Aquatic Facility Guidelines have been developed for use by aquatic managers. They provide detailed information covering the management and operation of an aquatic facility.

This document is a companion document to the Facility Management Manual which can be found on the Sport NZ website and the NZ Recreation Association website:

http://nzrecreation.co.nz/index.php/facilities-home/facilities-guidelines

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1 Introduction

Well developed asset management practices of aquatic facilities is as important as staff management, operational planning and financial planning processes, but has often been overlooked by facility operators who have little or no experience in maintaining swimming pool assets.

The aquatic facility is a significant investment in infrastructure and to ensure the longevity of the investment good management practices in terms of the asset are essential.

This chapter provides guidance in key areas of asset management planning, maintenance of the assets, monitoring performance and building compliance. It also provides exemplars and templates that can be used by asset managers. More information can be obtained from the Facility Management Manual, located on the NZ Recreation Association website.

Further information

http://nzrecreation.co.nz/index.php/facilities-home/facilities-guidelines

2 Asset Management Plan

An asset management plan provides a framework to manage a facility or asset in the most efficient way possible. The goal of asset management is to meet the right level of service in the most effective way through the creation, acquisition, maintenance, operation, rehabilitation and disposal of assets to provide for present and future customers. Most asset management plans identify maintenance and improvement work needed to be undertaken in the next 10 years, although some organisations require plans to look ahead over the entire life of the asset (20 to 50 years).

Planning involves balancing the desired levels of service and asset standards against costs and risk. The plan outlines how to:

- Anticipate, plan and prioritise spending on the asset
- Manage assets to achieve desired outcomes
- Optimise the life of the asset in the most economical way
- Ensure a smooth operation and continued sustainability of the asset
- Provide a basis for monitoring the performance of the asset
- Identify and minimise risks and liability from operating the asset

In general, local authority owned facilities will be covered by the overall Council asset management plans, depreciation and insurance policies. The manager will not necessarily be expected to prepare these documents, although they may be required to provide information for them.

As part of the annual monitoring and planning process, an evaluation of the asset management plan should be undertaken.

Template: Asset management plan evaluation

3 Asset Register

Establish a register containing information about the asset including:

- Overview and description of facility and amenities
- Asset details such as legal address, valuation reference, certificate of title, year of construction.

Also include information on all asset's components and elements (regardless of size or value), especially those that will require regular renewal (upgrading, refurbishing or replacing), as this will assist with the annual budgeting process. There are standard depreciation values and terms for items such as vehicles, computers, office furniture etc.

Template: Asset register

4 Asset Maintenance

While daily maintenance issues are generally covered within the operational plan, larger equipment and facility maintenance should be scheduled as part of the asset management plan. Condition surveys identify the life of individual assets and components and this will assist in predicting the wear and tear of the asset or component. It will enable planning for annual and major scheduled maintenance closures, and the duration of the closures.

The plan should outline all aspects of maintenance, replacement and capital improvements to be undertaken, and if possible the budget requirements for each. Plant and equipment maintenance needs to be addressed more regularly than other maintenance so a strategy for dealing with these, and emergency maintenance, needs to be included in the plan.

Through scheduled and proactive maintenance the risk of component failure can be minimised. However, it is prudent to develop strategies to deal with emergency maintenance and renewal issues within the asset management plan. Regular maintenance should reduce the likelihood of plant and equipment failure, which can have a big impact on the facility's ability to remain operational and service the customers' needs.

As part of the plan it is worth considering improvements, changes or additions to the facility and the impact this will have on the planning, budgeting and timing of other maintenance. Often it is cost effective to defer some maintenance and include it in the renovation or retrofit of a facility at a later date. The type of equipment and maintenance being deferred will determine whether this is appropriate or not. For example, deferring replacing a broken heat pump is not ideal, but deferring the replacement of external play equipment for a period may be suitable. Including an assessment of changing demands and possible future needs can assist with asset development. Changes in the population, public transport, zone changes, and school closures may all have an influence on the facility in the future.

Templates: Condition assessment: Starting blocks

Condition assessment: Water treatment equipment

4.1 Scheduled maintenance closures

A planned maintenance shutdown should be scheduled every 2 – 5 years depending on the facility. A partial shutdown can occur every 2 years, and a complete shutdown every 5 years to allow for major renewal of the plant room and facility. This allows for complete maintenance work, asset replacement and repair work to be undertaken. Activities to be undertaken during this time include:

- Pumps stripped, rings replaced, equipment cleaned
- Painting
- Tiles repaired and resealed
- Changing rooms renovated
- Windows repaired.

5 Building Compliance

A building Warrant of Fitness (BWoF) must be undertaken by an Independent Qualified Person (IQP) and includes the following checks:

Monthly checks

- Automatic sprinkler systems
- Emergency lighting
- Backflow preventers
- Fire alarms and smoke detection
- Firefighting equipment
- Means of escape
- Evacuation systems and signs
- Lifts and escalators
- Signs required for the building code (section 120 of the Building Act)

Six monthly checks

- Boiler room and air conditioning
- Evacuation/emergency exits
- Automated doors
- Aquatics backflow prevention from pool to mains water supply
- Electrical equipment such as RCDs

A building owner must supply a BWoF to the territorial authority on each anniversary of issuing the compliance schedule, using Form 12 of the Building (Forms) Regulations 2004. It must include generic information as well as the following:

- The location of the particular building
- Current lawfully established use, including number of occupants
- The owner of the building
- Original date the building was constructed
- The highest fire risk category for building use
- Certificates relating to inspections, maintenance and reporting.

The Building Act 2004 requires that:

- The BWoF must state that the inspection, maintenance and reporting procedures of the compliance schedule have been fully complied with for the previous 12 months
- A copy of each certificate issued by the IQP for each of the specified systems, along with any recommendations for amending the compliance schedule, must be attached to the BWoF provided to the territorial authority
- The owner must use the prescribed BWoF form in the Building (Forms) Regulations 2004, providing all the information and attachments required in that form.

An Independent Qualified Person (IQP) can provide building owners with a Certificate of Compliance verifying the inspection; maintenance and reporting procedures for each

specified system have been fully complied with. IQPs will issue the certificates on Form 12A of the Building (Forms) Amendment Regulations 2005.

Further information

http://www.dbh.govt.nz/bofficials-building-warrants-of-fitness

6 Monitoring of Performance

Monitoring the performance of the facility should be an ongoing activity and needs to include energy utilisation, staff performance and turnover, and the occupancy of the facility. There are many tools using current technology that can assist with this and increase efficiencies in this area.

Additional information can also be found in the Facility Management Manual, Chapter 9 – Monitoring and Evaluation.

6.1 Energy efficiency

Energy costs are a large component of an aquatic facility's overheads. These costs can be substantially reduced and carefully managed by undertaking energy efficient measures such as the use of motion sensor lights, blankets on pools overnight, and changing lighting systems.

Case study: Karori Pool

Karori Pool undertook energy saving plans to reduce their energy bill. As a result of the changes undertaken, their energy costs for the facility substantially reduced. Energy saving actions included:

- *Installing motion sensor lights for low use rooms such as plant rooms and staffing areas*
- *Installing lux sensor lights that turn lights on and off depending on the amount of natural light in the pool hall (this can be manually overridden is necessary)*
- *Changing to energy saving lightbulbs*
- *Placing blankets on the pools at night to reduce heat loss from the water*
- *Installing a heat recovery system*
- *Installing solar showers with solar panels on the roof. Excess heat is returned to the boiler. The return gained on the cost of the solar panels is equivalent to the life of the solar panels.*
- *Gravity feed for the pumps*
- *Speed controls on the pumps – slowing the speed down at night when pool use is low, and then speeding them up during the day when pool load increases.*

Templates: Facility energy checklist

Further information

Recreation Facility Management Manual http://nzrecreation.co.nz/index.php/facilities-home/facilities-guidelines

7 Templates and Worksheets

7.1 Asset management plan evaluation

7.2 Asset register

7.3 Condition assessment – Starting blocks

7.4 Condition assessment – Water treatment equipment

7.5 Facility energy checklist

7.1 Asset management plan evaluation

Topic	Considerations	Assessment Notes
Achievements	What was achieved? Were expected service levels met?	
Budget	How much did it cost? How accurate were estimates of maintenance and renewal? What needs to be adjusted?	
Maintenance	What maintenance was scheduled? What maintenance was reactive? How was maintenance managed? How can reactive maintenance be avoided?	
Risks	Health and safety? Financial? Customer perception?	
Stakeholders	Who are the stakeholders? What do they expect from the facility?	
Customers	Who are the customers? How do they view the facility? What are their expectations?	
Benchmarking	How does the facility benchmark against similar facilities?	
Forward planning	What adjustments and improvements can be made to the asset management plan? What are the future demands on the facility?	

7.2 Facility asset register

Critical Asset Scale: A - Critical to operation, **B** - Critical to specific area, **C** - Meets need in specific area **D**- Desirable to specific area, **E** - non critical

Asset	Location	Serial no. Asset no.	Date commissioned / inspection	Value estimated / actual	Expected lifetime (years)	Item warranty	Maintenance requirement	Demand	Capacity	How critical is asset	Expected replace date	Replacement value	Notes

7.3 Condition assessment – Starting blocks

Grade	Condition	General meaning
0	Non-existent	Blocks absent or no longer exists
1	Excellent	Sound blocks, constructed to current standards and well maintained with no defects. **No work required**
2	Good	As grade one but not constructed to current standards or showing minor wear, tear and deterioration e.g. hairline cracks in blocks, weathering of timber, discolouration of coating, but no corrosion of fastenings. Needs to be reinspected in two – three years. Deterioration has no significant impact on the safety and appearance of the blocks. **Only minor work required**
3	Average	Blocks functionally sound, but appearance affected by minor defects e.g. cracks in blocks, splitting of timber, minor corrosion of fastenings, damage to protective coatings. Some deterioration beginning to be reflected in the safety and appearance of the blocks. **Some work required**
4	Poor	Blocks functioning but with problems due to significant defects e.g. loss of surfacing and protective coating, cracks in blocks, decay of timber, corrosion of fastenings, likely to cause a marked deterioration in strength, safety and appearance in one – two years. **Some replacement or rehabilitation needed within one-two years**
5	Very poor	Block has serious problems and has failed or is about to fail in the near future, causing unacceptable strength, safety and appearance. **Urgent replacement/rehabilitation required**

7.4 Condition assessment – Water treatment

Grade	Condition	General meaning
0	Non-existent	System absent or no longer exists.
1	Excellent	System designed and installed to current standards, all operable and well maintained. **No work required**
2	Good	As grade one but not designed or installed to current standards, showing wear, tear and deterioration e.g. minor control system failures but no mechanical failures. Deterioration has no significant impact on the safety efficiency or operation of the system. **Only minor work required**
3	Average	System(s) functionally sound, but showing some wear, tear and deterioration e.g. wear of mechanical components, control system failures, staining of metal components, wear of seals and valves. Deterioration beginning to affect the safety, efficiency and operation of the system. **Some work required**
4	Poor	System functioning but with problems due to significant defects e.g. minor corrosion of metal parts, leaking seals, cracks in pipelines, faulty valves likely to cause marked deterioration in safety, efficiency and operation of the system within one year **Some replacement or rehabilitation needed within one year**
5	Very poor	Systems effective life exceeded and excessive maintenance required. A high risk of breakdown with a serious impact on the system's safety, efficiency and operation. **Urgent replacement/rehabilitation required**

7.5 Facility energy checklist

Building name: **Date:**

Pool areas	Checked	Further action required	Comments
Check pool covers are used at the end of the day, including spa pools			
Check the pool hall air temperature is 1°C above the water temperature			
Check that sauna and steam rooms are off at the end of the day			
Check that hoses used to rinse poolside areas are fully turned off when not in use			
Energy saving measures: • *Wash down hoses have auto shut off so water stops when not in use* • *Showers on pool deck have temperature controls* • *Power supplies switched off when not in use* • *Lighting switched off when not in use*			
Changing rooms			
Check hot water temperatures			
Turn off fans and lights at the end of the day			
Turn off unused taps or showers at regular intervals			
Energy saving measures: • *Ensure taps don't drip* • *Showers temperature turned down in summer*			

Building name: **Date:**

Fitness rooms	Checked	Further action required	Comments
Ensure air conditioning and/or heating is switched off at the end of the day			
Turn on air conditioning or heating as late as possible to meet comfort conditions			
Turn off all equipment overnight or when not in use			
Energy saving measures: • *Windows are closed when air conditioning is operating* • *Power supplies switched off when not in use* • *Lighting switched off when not in use.*			
External areas			
Check external lighting is off during the day			
Energy saving measures: • *Use floodlights only when there are customers using the external facilities*			


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