

## RESERVOIR MAINTENANCE SPECIALISTS



### **RAP** YOUR WATER ASSETS

**Inspection of assets is the first step in effective management and Aqualift's services are key to providing this. We will verify the condition status, compare it with previous information and identify future outcomes based on commonality and industry based experiences.**

**RECOGNISE** the available evidence during field inspections, based on previous experience and technical training.

**ASSESS** the findings through accurate photography and report writing.

**PRESENT** the information in an online data base format that is concise, easily available and is 'multi layered' to suit different areas of management.

**RAP** YOUR WATER ASSETS  
**RECOGNISE**  
**ASSESS**  
**PRESENT**



## RECOGNISE

It is important to understand the condition of service reservoirs in order to manage them effectively.

**Inspections** build a picture of the current and future operational requirements.

There are many levels of inspections, ranging from the very quick, everything looks okay following a storm event, through to a structured and formalised process that looks at all the main criteria of an operational storage tank. Security, water quality, safety and structural issues all have an effect on how well the asset is performing and what maintenance will be required both short and long term to comply with regulations and public expectations.

Drones allow quick and safe inspection access to most external areas of a tank, without the need for personnel to physically climb up onto the upper areas. This is where most water quality issues occur following a storm event or security breach. These inspections can be done by the client on a regular basis as circumstances change or new information is required.

A more structured and formalised process by experienced personnel should be carried out to set a benchmark for regulatory requirements and budgeting purposes. External inspections will be looking for evidence of:

1. Contamination points caused by vandalism, unsealed or unsecured hatches, damaged ventilation, poor roof drainage or bird and vermin entry.
2. Asset defects such as concrete spalling, coating deterioration, roof sheets damaged, unsecured fixings and aerials or external cracks and leakage.

Internal areas inspected by diving can identify corrosion issues, contamination, water stagnation and sediment loadings, which all help with understanding the function and performance of the tank. It also identifies what has to be dealt with immediately or programmed into the next budget period to ensure ongoing performance and future maintenance requirements are complied with.

A detailed structural examination may also be needed when issues are discovered which require a specialist's advice and informed decisions on how best to solve the problems, based on proven outcomes.



## Aqualift use a variety of supporting equipment to carry out their inspections

### CONCRETE TESTING

Monitoring structural integrity of storage tanks, through Carbonation/steel cover readings and Chloride sampling. This allows renovations to be undertaken while the asset is still repairable.

### DRONES

Can inspect areas of Tanks, Aqueducts and Dams which are not suitable or possible for personnel to access. They offer a detailed view of EMF hazard areas, roof edges, river crossings and the underside of bridges and supporting structures.

### DIVER PROPULSION VEHICLE

Is used to move efficiently and effectively inside larger tanks. This allows the diver to access upper and middle wall areas for detailed coating assessments.

### ROV

Allows 'real time' visual access to personnel who are not inside the tank environment during the diver inspection.

### DIVING

Still the most effective inspection medium for tanks. It allows efficient 'under roof' access, the ability to touch, feel and investigate defective areas further and allows repairs to be carried out, once identified.



RECOGNISE  
ASSESS  
PRESENT

# RECOGNISE ASSESS PRESENT

Aqualift personnel have been inspecting water storage assets for many years and have developed a system that is both simple and comprehensive. It ensures continuity for the next generation of management and allows asset information to be displayed in a variety of electronic reports to suit multiple levels of industry needs and compliance.

Inspections can be conducted on different levels, depending on client requirements.

## LEVEL 1

A complete external inspection of storages, with limited internal features that can be accessed above the water line, from the internal ladder. The main observations focus on contamination source points and potential structural failures. Drones are used for a detailed asset overview and for roof edge areas that are not accessible from the ground.

## LEVEL 2

This is an addition to Level 1 and can be done by either diving or using a Remote Operated Vehicle (ROV). It will verify sediment depth, contamination evidence, pipework configurations and provide a more detailed internal structural and coating condition assessment.

## LEVEL 3

The focus is on the roof structure areas and entails using an inflatable boat to assist and support independent engineering personnel. Many roof systems are now entering their final years of design life, so it is important to identify and rectify potential failures before they occur. Some newer aluminium roofing systems have also developed structural issues and early intervention can save on expensive rectification repairs or prevent a roof collapse.



## ASSESS & PRESENT

How the client receives the inspection information is as important as the inspection outcomes themselves.

Good photography compliments written information and provides physical evidence of the issues identified. It also allows others to make their own judgements about the validity of the inspection findings and suggested improvements.

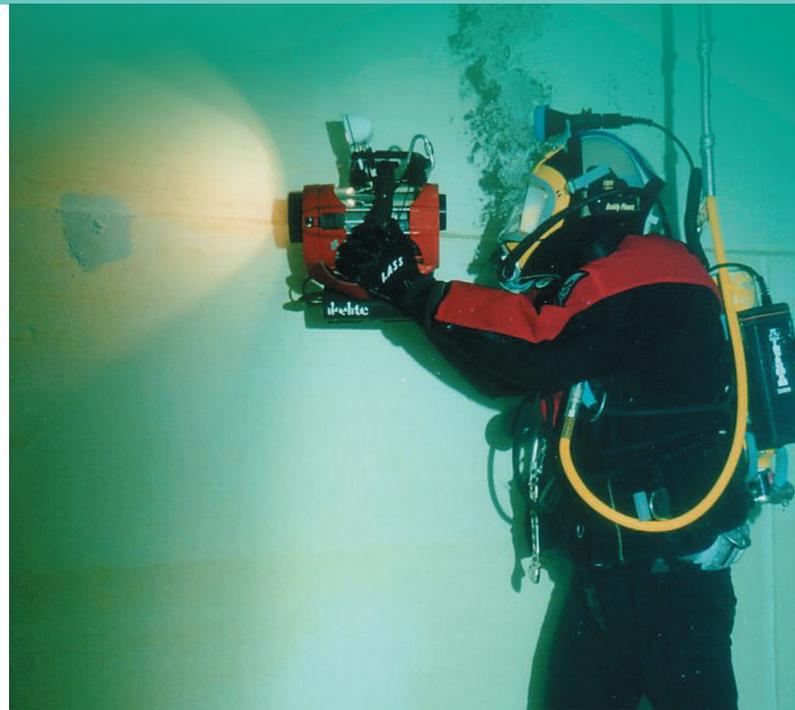
ASAM is an online data base that collects, searches, generates reports and stores information in a secure and independent environment. It has multiple levels of access and security from 'read only' through to 'editing' permission. It is solely based around water assets and this allows greater focus on the things that really matter to management within the water industry.

Asset histories are built with the input of both static data and field inspection information. Digital images, plans and operational documents are stored and easily accessed to provide additional evidence for the data management process.

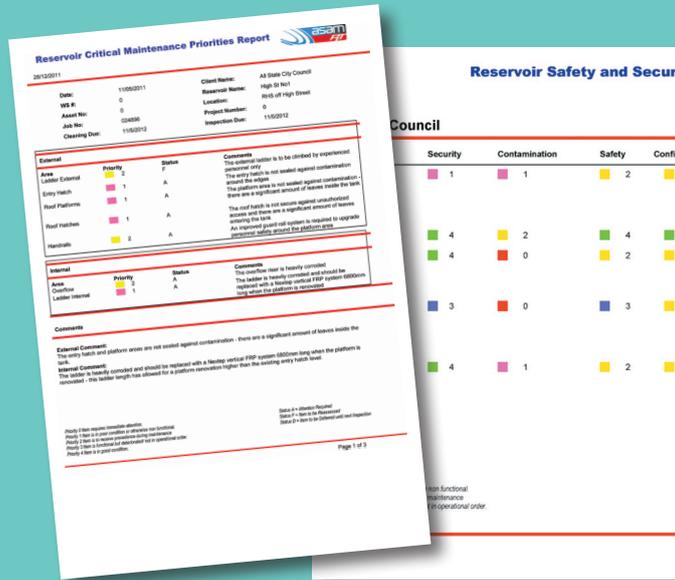
ASAM RT is coupled with a powerful search engine to retrieve information and generate a variety of specialised reports to suit operators, management and regulators within the water supply industry.

This information will enable the user to demonstrate both industry compliance and effective record keeping, whilst ensuring that long-term operational knowledge is accessible for future generations of management and staffs.

A real time tour of the programme is available by logging in (top tool bar > red button) and entering the supplied passwords for 'All State City Council', a fictional client. This is data cloned from real clients (with the identities changed for security purposes).



# RECOGNISE ASSESS PRESENT



# ASSESS & PRESENT

ASAM RT can generate a variety of reports to suit most areas of management interest. Priorities and Benchmarks are colour coded for easy comparison and the rating details are included on the end of each page. These reports can be viewed within the program, printed or exported into the various electronic formats.

Nine sample reports from 'All State City Council' can be downloaded and viewed as PDF

## Analysis Report

Listing multiple tanks with dates & intervals for cleaning and inspecting, along with sediment depth, time taken to clean and waste water volumes.

## Benchmark Comments report

One page per tank listing all of the benchmarks and appropriate comments.

## Critical Maintenance report

Displays the 0, 1 & 2 priority ratings and appropriate comments for each tank. Along with the Executive Summary, this report captures the most important features of the Aqualift inspection process.

## Executive Summary report

Summarises the four main areas of interest to management - Security, Water Quality, OH&S and Structural issues.

## General Details report

Listing multiple tank names & ID numbers, locations, shapes, depths, diameters, floor areas etc.

## Maintenance report

Lists all of the priorities and ratings from 0 to 4, along with appropriate comments for each tank,

more detailed than the Critical Maintenance report.

## Safety & Security report

Listing multiple tanks in a 'colour view' of benchmark priorities and appropriate comments on Security, Contamination, Safety and Confined Spaces.

## Structural report

Listing multiple tanks with the External and Internal Structural and coatings benchmarks, along with Carbonation results.

## Tank Inspection report

A detailed report of each tank which contains static details & safety information, pipework configurations and a listing of all the External/Internal priority ratings and appropriate comments.

For more information contact the team.



M 0418 762 420  
E david@aqualift.com.au  
W aqualift.com.au

