Education
School Infrastructure

Proactive Maintenance Inspection Checklist

Service #34 Water Quality Testing

SCOPE OF WORKS	
Title	Proactive Service #34 Water Quality Testing

Scope	The key purpose of this service is to monitor school sites that manage their drinking water supply through the use of rainwater or water carting. This includes a biannual water sampling regime.
	• NSW schools that rely on tank water have been equipped with Water Filtration Systems (WFS) installed for each water tank or interconnected tanks providing drinking (potable) water.
	• Monitoring is required to assess the suitability for drinking to ensure compliance with the following:
	  ○ Water Supply Quality Assurance Program NSW Department of Education
	  ○ National Health and Medical Research Council/Natural Resources Management Ministerial Council Australian Drinking Water Guidelines 6 2011 (Version 4.0 – updated 2025) (the ADWG), for human health and aesthetics.
	• Testing requirements are listed at Table 1.1.
	• Undertake comprehensive water testing on sites identified in South Western Sydney
	• Report on observations of the water filtration system
	• Provision of 1 hygienist contractor to attend each applicable site during operating school hours (weekdays 8 am – 4 pm).

Deliverables	**Pre-Site Attendance**
	• Prepare a Safe Work Method Statement (SWMS) which is to be carried on site at all times.
	• Provide a comprehensive program of site visits to the Principal's representative to allow the Principal's representative sufficient time to communicate to sites (minimum of 1 week's notice).
	
	Notification Requirements (before site attendance)
	• SINSW will complete initial communications via email (with dates as provided in the schedule) to schools in preparation of site assessments – hygienist will be included in this email.
	• Hygienist to provide a minimum of 48 hours' notice to the school to confirm attendance and access requirements (this should include a phone call and confirmation email).
	• If the specified "Site Attendance Date" falls on a school holiday, the hygienist must contact the school prior to the start of the school holidays.
	
	Site Attendance and Sampling Methodology
	• Attend the site office and sign in to the visitor register
	• Unless otherwise approved in writing by the Principal's representative the service involves attending each applicable site identified in South Western Sydney on one occasion –
	  ○ Initial testing period –
	  ○ Followup testing – as required
	• The following general methodology provided by DoE is to be undertaken at each school:
	• Identify (and exclude from sampling) any tanks and outlets that are not connected to a drinking water source and confirm how the tank or outlet is

identified as not being available / suitable for drinking, e.g. signposting, vandal-proof tap, etc.

- Identify each outlet that is receiving water from each tank where practicable;
- Take detailed photos of each complete system (including ID plates or stickers related to model/serial numbers/service dates, etc) for;
  - Each tank;
  - Each WFS unit;
  - Each sample point;
  - Each treatment point i.e. First Flush Diverter, Header Tank, UV disinfection system, UV alarm buzzer and warning light.
- Inspect proper functionality of the water tank, leaf screens, first flush devices and mosquito/vermin mesh on overflows and screens
- Inspect water filtration unit to assess for any potential issues which may affect water quality, e.g. aged equipment
- Inspect and confirm the **number and type (micron size) of filtration cartridges installed**, i.e.
  - **Stage 1 – 20-micron filter**
  - **Stage 2 – 1-micron filter**
  - **Stage 3 – 0.5-micron carbon filter**
- Inspect UV disinfection system, including audio and visual alarms for functionality;
- Confirm each water usage point is suitably labelled as required
- Identify any risks to the system, e.g. corrosion, vandalism etc.
- Identify aspects of the drinking water system which may be the cause of, or contribute to, any water quality issues;
- Sample each outlet as per Table 3.1 below
- Organise sample analysis e.g. NATA accredited testing as required.

Sampling Numbers

- Allow up to 6 samples to be taken and analysed for each school site. All unused samples shall be adjusted at final invoicing.
- Where additional samples are required, please provide the following details within the invoicing report (refer to **Invoicing**) below.

School Name	School Code	Tank No.	Outlet	Unique Lab Reference	Cost (Ex GST)
Fairfield Public School	*2133*	*2*	*Staff Kitchen sink*	*EZLabs-13332-S1*	
				Total Cost Ex GST	
				Total Cost Inc GST	

Notification of Exceedances

- Where preliminary laboratory results indicate health-related exceedances, the hygienist is to immediately phone the Principal's representative to provide advice on the exceedance detected and required intervention strategies, e.g. advice on Make Safe remediation, isolation of drinking water outlets; and remediation works required to resolve the exceedance, etc.
- An email confirming this advice is required to be provided to the Principal's representative within 48 hours.

Reporting Requirements

- Drinking water quality reports for each school site are to be prepared to provide analysis of testing results, recommendations on remediation where necessary, and any on-site observations to assist with management of the drinking water supply.
- Reports are to be labelled using the following DoE naming convention – SchoolNo_WAT_TestingDate_SchoolName(abbrev)_TankWaterTestingReport

- Eg *1793_WAT_140225_DungowanPS_TankWaterTestingReport*
- **No additional notations should be in the labelling, e.g. Version 2**

- Reports are to clearly tabulate the analysis results for both health and aesthetic guidelines against the ADWG criteria. Tabulation must also clearly identify the tank and description of the tank location, e.g. Tank 1 is adjacent to Building A; a description of the location of the outlet and the use of the outlet, e.g. sink outlet in Building A kitchen.
- Any reports for subsequent testing following remediation are to be separate reports from the original testing report, however, are to tabulate previous sampling results to show the history of the sampling (from non-compliances until compliance).
- Reports are to include a site plan illustrating the number and locations of tanks (both potable and non-potable), water filtration systems (WFS), and where possible, which outlets feed from which tank. Referencing on the site plan is to correlate to the details provided in the results table.
- Photographs are to clearly cross reference to specific sampling points to allow easy identification for remediation;
- Reports are to be provided within 3 weeks of the receipt of laboratory results.
- Reports are to include NATA accredited laboratory certificates of analysis.

Report Format

- Reports are to include the following, but not be limited to –
- Details of the school tested
- Date tested
- Table to clearly show results and any exceedances to either health or aesthetic guidelines for all tested locations. **The results table is to appear on the first page of the report.** Entries in the results table are to be colour coded for ease of interpretation as per the following –

Red	**Health exceedance registered**
Amber	**Aesthetic exceedance registered**
Green	**Sample complies with ADWG – no exceedances**

- Details of the sample locations
  - A site plan showing site features, including accurate location of –
  - All buildings, e.g. Building A, etc
  - All water tanks, e.g. Tank 1, Tank 2, etc
  - Bores (if applicable)
  - Hydra panels (if applicable)
  - Water filtration systems (WFS)
  - All sample points, e.g. SP from Tank 1
- Sampling methodology
- Details of the number and type (micron size) of filtration cartridges installed
- Any relevant on-site observations or communications with school staff
- Comment on review of any on-site maintenance reports and observations to include a professional opinion on the state of the current filtration / UV disinfection equipment, and/or the advice of the absence of necessary equipment
- Recommendations for remediation works to be carried out where any exceedances have been detected.
- A compressed file of all site photos taken on the day of sampling is also to be provided.
- Table 3.1 provides a more detailed sampling methodology required for each WFS. To allow comparison with historic monitoring data, sampling will remain consistent with the previous round(s) of monitoring at each site unless changes to the WFS and tank network are identified.

Invoicing

- An MS Excel report is to be provided with final invoicing to clearly tabulate the number of samples tested per school site in comparison with the number of samples allowed for.

Table 1.1 – **Testing Requirements**

1.1.1 Sampling and analysis required for -

Characteristic	Health	Aesthetic	Comments
E.coli	>1 CFU/ 100mL	N/A	• E.coli is an indicator organism of other potentially harmful pathogens • Not able to be detected without laboratory analysis
Copper	2000 µg/L or 2mg/L	1000 µg/L or 1 mg/L	• Generally caused by corrosion of pipes/fittings by salts and low pH water. • High concentrations colour water blue/green • >1 mg/L may stain fittings • >2 mg/L can cause ill effects in some people • Taste threshold 3 mg/L
Lead	5 µg/L or 0.005 mg/L	N/A	• Occurs in water via dissolution from natural sources or plumbing installations containing lead (e.g. roofing, tanks, pipes, solder etc)

1.1.2 Sampling and onsite analysis required for –

Characteristic	Health	Aesthetic	Comments
pH	*c*	pH 6.5 to 8.5	• <6.5 may be corrosive • >8.5 may cause scale and taste problems
Turbidity (NTU)	*c*	<5NTU	• 5 NTU is just noticeable in a glass • <1 NTU is the target for effective disinfection
Total Dissolved Solids (TDS)	Not necessary	600	• Drinking water quality based on taste: o <600 mg/L good quality o 600-900 mg/L fair quality o 900-1200 mg/L poor quality o >1200 mg/L unacceptable
Electrical Conductivity (EC)			• EC can be a trigger result related to total dissolved solids • Also related to the concentration of ions that make up salt contributing to metal corrosion
Temperature (ºC)	Not necessary	No value set	• Generally impractical to control; rapid changes can bring complaints. • Temperature can create conditions that increase the likelihood of pathogen survival and transmission

c – Insufficient data to set a guideline value based on health considerations

Table 2.1 – **Sampling Sites**

Refer to applicable schools in South Western Sydney on proactive pricing sheet

Table 3.1 – Sampling Methodology

The investigation is to include sampling and analysis of multiple points through the school (following a three-minute flush) -

SAMPLE LOCATION	SAMPLE TYPE

Pre-filtration (Raw)	Representative sample of tank water. If pre-filter sample is downstream from tank, preliminary flushing should be performed as appropriate to ensure tank water is sampled
Post-filtration testing from the outlet nearest to the filter	Sample taken after three-minute flush
Post-filtration testing from the outlet furthest from the filter	Sample taken after three-minute flush

During Sampling

- The work is to be undertaken on a date/start time mutually agreed between site representatives, the Principal's representative and the hygienist;
- Where reasonably practicable, compliance to contractor's safe working practices;
- The proposed services would be conducted in accordance and with reference to the following legislation and guidance documentations (where applicable):
  - NSW Work Health and Safety Act 2011 (WHS Act).
  - NSW Work Health and Safety Regulation 2017 (WHS Regulation).
  - NSW Government Education, Water Supply Quality Assurance Program NSW Department of Education.
  - National Health and Medical Research Council/Natural Resources Management Ministerial Council Australian Drinking Water Guidelines 6 2011 (Version 4.0 – updated 2025) (the ADWG), for human health and aesthetics.
  - Scope of Services: SINSW1340-20 Hygienist Schedule of Rates Contract.

Additional Reference Information

- NSW Health – Managing pathogen risks in drinking water: response protocol for water utilities and public health units – Water quality (nsw.gov.au)
- NSW Health – Drinking water in rural and regional NSW – Water quality