Te Tāhuhu o te Mātauranga
Ministry of Education

Specification for Ten Year Property Plan High-level Specialist Reports

Electrical, drainage, plumbing, roofing and heating

Version 1.6 March 2025

Te Kāwanatanga o Aotearoa
New Zealand Government

Contents

Introduction

Purpose of this document

This document describes:

- the purpose of high-level specialist reports in the school 10-year property plan process and
- the information required from a high-level specialist report.

This document is to be used for electrical, drainage, plumbing, roofing, and heating reports (except boiler reports which are provided by the Ministry).

Application of this document

This document is to be used by

- consultants when engaging specialists and tendering for 10YPP
- specialists when quoting for and completing specialist reports
- the Ministry as part of any request for service from consultants
- the Ministry when reviewing and approving 10YPP.

Outcome of the specialist report process

The expected outcome is a high-level specialist report that:

- is fit for purpose
- follows Ministry policy
- identifies any capital work required to maintain the school or site
- identifies any minor operational maintenance items for the school board.

Further Information

For further information and resources refer to the Ministry's website or your 10YPP Consultant. The forms required are available on the website here:

- High-Level Specialist Report form and
- Minor Maintenance Items form.

Help

If you have queries about the 10YPP Portal, processes, or specifications, contact your 10-Year Property Plan consultant or the relevant Ministry of Education Property Advisor for the school.

Specialist reports

What are specialist reports?

Specialist reports are a high-level condition assessment of specific infrastructure elements at a school. They support the development of a school's 10-Year Property Plan.

Five high-level specialist reports are required for 10-Year plans. They are:

- electrical
- plumbing
- drainage
- roofing
- heating
    - includes radiators and central heating pipework
    - may exclude boiler reports and use those provided by the Ministry every 2 years.

Specialists, contracting and payment

Specialists are people or companies with the relevant qualifications or experience to inspect the condition of school infrastructure.

Specialist contractors are engaged directly by 10YPP consultants and specialists should invoice their 10YPP consultants directly.

Liability

1. Specialists must be able to certify that they are trade qualified in the relevant trades.

2. Specialists are expected to use their best endeavours to assess the condition of the relevant infrastructure.

3. Specialists are not liable for errors, if they have taken all reasonable steps to identify the condition of the assets and any work required. For example, failure to identify a problem with a heating system that later breaks down, or a planned project proves more complicated and costly than expected.

Report Format

1. The report shall be presented using the form provided by the Ministry and shall clearly show the contractor's name, organisation and contact details.

2. The contractor shall complete the form as set out in this document, and sign and date the form upon completion.

3. Contractors may provide additional reporting in any other format.

Scope and general services

Scope

This is a high-level inspection which should not involve invasive, destructive or underground inspections or testing, unless specified. The need for more detailed inspection (for example, camera inspection of drains) should be noted in the high-level inspection report.

Problems or issues identified by the specialist should be separated into:

Capital works — works estimated to cost more than $5,000 to resolve that will be dealt with through the 10YPP process using schools' 5-Year Agreement funding.

Maintenance works — minor maintenance works estimated to cost less than $5,000. Minor maintenance should be identified on a minor items form. Maintenance works will be managed by school boards and funded through school operational funding.

General services

1. Check with the 10YPP consultant, school and/or the school's contractor for information on known or suspected problems or issues at the school.

2. Carry out a high-level visual inspection of each element in the specialist area as outlined below.

3. Describe the condition of each element of the system and any health and safety, essential infrastructure, or lifecycle replacement work needed to maintain or bring the asset to a suitable condition. That is, undamaged, useable, in good repair, and fit for its intended purpose, with an estimated remaining useful life of at least 5 years.

4. Use the template provided to:

    a) Identify any problems and issues with the land, site, buildings or infrastructure, as appropriate.
    b) Record the location of the problem or issue by site or block.
    c) Confirm on the form that there is, or is not, a problem or issue with the site and each block.
    d) Provide a brief description of the problem or issue and include a Condition Assessment priority code (you may need to discuss this with your 10YPP consultant). The codes are:

1	Health and Safety	Work that if not done in the year shown will result in a breach of health and safety regulations.
2	High Operational Risk	Work that if not done in the year shown will result in a major failure that prevents continued operation of the school or a school programme
3	Asset Preservation	Work that if not done in the year shown will result in unacceptable deterioration of the school assets/buildings.
4	Low Operational Risk	Work that if not completed in the year shown could result in minor disruption to the school's operation or to a school programme, e.g. power loss to a block may close part of a school
5	Life-cycle Replacement	A work that is not a priority 1-4, but is required to ensure ongoing functionality of the asset or building.

    e) Confirm that a further detailed investigation is, or is not, required (for example, camera inspection of drains or inspection of underground heating pipes).
    f) Describe what action needs to be taken to resolve an identified problem or issue, or the extent of further investigation required.
    g) Indicate when the work needs to be completed – year 1, years 2-5, or years 6-10, year 10+.
    h) Estimate the cost to resolve the problem or issue or the cost of any further investigation.

i) Add any additional comments.
j) Provide photos where useful.

Health and safety issues

Any urgent or life-threatening health and safety issue that you identify should be recorded in the specialist form and reported immediately to the school and consultant for their attention. For example, exposed raw sewage.

Urgent is anything that involves an immediate health and safety risk that will close the school.

Where the matter is not urgent it should be noted on the specialist form and the school advised.

Specific services for drainage report

Purpose

The purpose of this inspection is to:

1. Ensure visible wastewater and storm water infrastructure is clear, well maintained, in good condition and operating as intended.
2. Price the inspection of underground services if indicated by asset or ground condition, or advice of problems from the school or others.
3. Provide necessary professional advice to determine if additional works or inspection is required to the Ministry or Schools.

Specification

1. Check with the 10YPP Consultant and school for any information on drainage issues, such as sewage or storm water overflow during wet weather.

2. Visually inspect all assets, outlets and treatment devices related to or connected to the waste water system as per the drainage inspection requirements.

3. Visually inspect all building and land-based stormwater systems, assets, outlets or treatment devices that are connected to the storm water system as per the drainage inspection requirements.

4. If pits and drains are not clear for inspection, use the Minor Maintenance Items form to have the school clear drains for inspection. Discuss with your 10YPP consultants and provide a quote for the school if applicable.

5. Inspect all treatment systems connected to or treating waste water and storm water
   Note: Proprietary, advanced, or aerated foul water treatment systems should be inspected by qualified inspectors.

6. If underground infrastructure is suspect and further investigation is required, record the investigation required and the cost to undertake the investigation in the report template. Also record the potential scope and likely cost to remediate the issues if possible.

Drainage Inspection Requirements

Waste water

General	• Material or construction of sewer lines • Total users • Disposal method (network utility operator or onsite treatment and disposal)
Gully traps	• Clear from debris and free flowing • 25mm above paved surfaces and 75mm above unpaved surfaces • Waste pipes discharge directly into gully trap • Grate is installed • Overflow pipes are not discharging • Stormwater is not discharged into gully traps • Mowing strip / protection of gully traps

Vents	• Located away from openings • Vents above eaves or roof
Pits or manholes	• Free from debris and blockages • Benching and/or pipe condition
Waste pipes	• Visual waste pipes under floor or on the exterior have fall and are adequately supported
Onsite treatment (if applicable)	• Type of treatment (primary, secondary) • Brand of system • Consent to discharge to land (if applicable)
Vegetation	• Are there vegetation or trees that may impact the drains or gully's operation
Storm water	
General	• Material or construction of stormwater lines • Disposal method (network utility operator or onsite disposal)
Risers	• Connected to the stormwater network • Have grates to avoid debris and vegetation
Strip and threshold drains	• Clear of debris • Correct fall to the outlet • Accessible for cleaning
Downpipes	• Secured using clips or other methods. • Free from damage • Grates are accessible for cleaning
Perforated drainage	• Accessible for cleaning • Discharging to a type 1 or 2 sump to avoid sediment downstream
Treatment and retention (if applicable)	• Size and condition of tank • Check sedimentation levels • First flush basins clean and operating as intended
Vegetation	• Are there vegetation or trees that may impact the drains or riser operation
Site drainage	• Areas of ponding due to rain or high water tables • Previous flooding issues

Specific services for roofing reports

Purpose

The purpose of this inspection is to:

- Identify any signs of roofing weakness, deterioration or hazard
- Identify any works needed ensure that roofs are weathertight, safe and properly fixed
- Provide information on refurbishment or repair options along with total replacement

Specification

General

- Direct roof inspection is preferred but drone inspection may be used to inspect roofs where access is difficult or prohibitively expensive. Check with your consultant.
- The cost of roof access or drone services should form part of your quote.
- Provide photos of elements to support report
- If issues or risks are identified, provide treatment options and the given life expectancy as a result along with replacement value.

Building interior

- Inspect for signs of water damage such as mould, mildew, drips, leaks, water stains, peeling paint, musty odours.
- If indicated by staining or exterior issues, an inspection of roof cavities may be required.

Exterior roofing

- Inspect, provide details for:
    - Type of roof (membrane, corrugate, trough etc)
    - Roof material (butynol, colorsteel, galvanised metal)
    - Fixing types (lead head, galvanised roofing nail)
    - Overall condition of all roofs for all blocks on site
    - Provide estimate of life remaining in roofing
    - visible damage and accumulated debris in gutters and drains
    - dirt, rust, lichen, moss etc
    - visible deterioration in coatings
    - deterioration of fascia, gutters and soffits
    - performance and condition of flashings (signs of wear or corrosion, gaps)
    - rust and its stage (surface, flake, holes)
- Check vents, skylights and other external components for damage, leaks, and flashing issues.
- Inspect skylights and document if they are old, brittle, easily accessible (1st or 2nd story), require replacement or safeguarding (netting or the likes)
- Pay particular attention to the state of clear materials on roof and skylights.
- Document services upon the roof (heat pump units, solar panels)

Flat roofs

- Inspect and provide details for:
    - Pitch or degree of roof
    - visible structural deformation

- continuity of roof covering, open lap seams, membrane shrinkage, holes, cracks, punctures or blisters
- failures on junctions between membrane roof and cladding, structure or other roofing elements
- evidence of water ponding
- fungus and moss.

Translucent or clear plastic sheet roofing

- Translucent plastic sheeting that is not installed according to the current Building Code must be identified and replaced in the first five years of the school's 10-Year Property Plan.
- Check that the translucent sheeting is compliant with the current Building Code and is either trafficable (and able to be clearly identified as compliant with the with the current AS/NZS standard) or laid over a safety mesh compliant with AS/NZS 4389: 2015 Roof safety mesh.
- Translucent plastic sheeting should also:
  - have a UV resistant coating
  - a minimum 20-year warranty maintaining trafficability and
  - be BRANZ appraised or have CodeMark product certification.
- Check the age of the product:
  - If it is past its warranted date, it should be replaced.
  - If the age of the product is unknown it should be replaced.
- Check for:
  - discolouration, cracks and brittleness
  - moss, mould, lichen
  - impact or traffic damage.

Specific services for plumbing reports

Purpose

The purpose is to ensure:

- plumbing systems are working correctly
- potable water systems are providing safe, clean water,
- warm water is available for hand washing
- bathrooms and other fixtures are clean and sanitary

All potable water systems

Visually inspect accessible parts of the system including:

- pipework
- piped water supply from the boundary of the property
- supply pipe and stop valves where the pipe enters the building
- locations of internal and external stopcocks
- rising main supply to cold water storage tanks, direct to kitchen and sanitary appliances, including the taps to which they connect
- cold water storage tanks, lids, bases, associated overflows and vents
- cold water distribution pipes from storage tanks to appliances
- piped drinking water supply such as drinking fountains
- condition of fittings.
- The taps are turned on to check for general operation.

Self-supplied potable water supply

In addition, if the water supply is self-supplied visually inspect:

- the state of bore heads
- storage tanks for condition, secure inspection and access hatches
- pumping and piping arrangements including adequate access
- filtering and UV light arrangement including adequate access.

This does not include water testing for quality (taste, smell and turbidity) or pathogens.

Water heating

Visually inspect water heating systems, including:

- hot water heating appliances providing hot water only (e.g. gas or electric water heaters, electric under-bench heater, etc
- hot water cylinder, expansion pipe, immersion heaters, cylinder thermostats and all distribution pipework
- note where warm water is not available to toilets.

Bathroom fittings

Bathroom fittings are visually inspected including:

- wash hand basins, their taps and wastes
- shower trays, their taps and wastes
- shower cubicles
- water closets (WC), their cisterns and overflows, including the actual junction between the WC outgo and the drainage pipe, but not the drainage pipe itself, toilet seats
- sealant between the appliance and the adjacent surfaces
- the taps are turned on to confirm warm water is connected and available (the tank is near to the toilet block) and
- toilets flushed to check for general operation in everyday use.

Kitchen fittings

Visually inspect the kitchen sink, including the taps slotted wastes, traps and waste pipes.

Turn on the taps to check for general operation.

Specific services for heating reports

Purpose

The purpose is to ensure heating systems are free from defects, performing as they should and/or programmed for replacement.

Specification

1. **All systems**

Inspect heaters, energy sources and flues or other equipment to identify and note:

- defects
- maintenance requirements
- any need for replacement
- date for replacement.

Check for maintenance contracts and maintenance logs.

2. **Central heating systems (all fuels)**

Boilers and associated boiler house components

Bi-annual boiler inspections have been completed by the Ministry and are loaded into MPlan as a Strategic Impact and can be used in lieu of a further boiler report. These reports include boilers, burners, pressure relief systems, pumps, flues, and general boiler house housekeeping, but not other system components.

Other components

Whether or not a separate boiler inspection is obtained, all other boiler heating system components shall be inspected, including hot water supply and return pipes, radiators, and valves.

If underground pipework is suspect and further investigation is required, record the investigation required and the cost to undertake the investigation in the report template. Also record the potential scope and likely cost to remediate the issue.

Specific services for electrical reports

Purpose

The purpose is to ensure electrical services are safe and fit for purpose.

Specification

Electrical installations shall be inspected according to the **Australian/New Zealand Standard *AS/NZS 3019:2022, SECTION 4 Visual Inspection and Limited Testing*.**

- A Form 1: Report of Periodic Assessment (Form 1) will be submitted to the Ministry.
- A Form 2: Schedule of test results will be submitted to the Ministry.
- A Ministry High-level Specialist Report Form - Electrical will be submitted to the Ministry.

All electrical and light fittings and fixed appliances shall be visually inspected for obsolesce or poor condition.

High-level report

The Ministry's high-level specialist report form shall be completed by the specialist and attached to the Form 1 Report of Periodic Assessment and will replace the 'Observations' box in the form. The report should note the Ministry Condition Assessment priority as described above in the Scope and General Services (Section 3 above).

Priority 1 — Health and Safety

Work required to repair installations that are electrically unsafe that would close the school, or part of the school, if they are not addressed. Priority 1 work will not feature in a 10YPP as it must be addressed immediately. How this is funded (operational or capital) depends on the type and size of the work.

Some possible examples:

- Missing blank-ways in an unlocked and accessible switchboard that could allow access to live contacts and basic insulation.
- Switchboard masking panel missing allowing access to live contacts and basic insulation.
- Heat damage to cable insulation due to insecure termination.
- Damage to double insulation so exposing basic insulation.
- A distribution board has old porcelain fuse holders installed or has an asbestos back board.

Priority 2, 3, 4 — High Operational Risk, Low Operational Risk or Asset Preservation

Work required to maintain the integrity of the building services. This is capital work only (those works estimated to cost more than $5,000) and does not include day-to-day preventative maintenance.

Examples of Priority 2, 3, 4 work:

- The installation is degrading and will become electrically unsafe if left in its current condition.
- For example, a distribution board has obsolete Lupus circuit breakers installed.
- A distribution board in a primary school with years 1 to 8 does not have RCD's protecting all socket outlet circuits.

Priority 5 — Life cycle replacement

- Replacing the installation is required to bring it in line with current safety standards (e.g. it no longer meets the standard under which it was installed and is inspected).

- Incandescent or T12 fluorescent lighting needs replacement because it is obsolete or in poor condition.

Minor items form

Minor maintenance work that requires to be attended to. This is work that will be done by the schools using their operational funding and may include:

- lamp or light fitting replacement
- lighting sensor replacement
- non-urgent replacement of electrical fittings.

Electrical safety

Energy Safety advise that 'Electrically Safe' and 'Electrically Unsafe' should not be treated as opposites but are better understood as defined points on a spectrum of risk of harm or damage to property.

- **Safe** is defined as no significant risk of harm or damage.
- **Unsafe** is defined as a significant risk of serious harm or significant damage.

Electrical (Safety) Regulations (ESR) 2010 Regulation 20 and Australian/New Zealand Standard AS/NZS 3019:2022 Section 2 - General requirements provides guidance on what electrical infrastructure needs to be reviewed and what should and should not be classed as electrically unsafe.

Anything Electrically Unsafe that is deemed a threat to the safety of people or buildings needs to be remediated and should be programmed to be completed as soon as possible.

Key safety hazards

As you complete your inspection keep in mind some of the key safety hazards identified in schools:

Elevated temperatures within some switchboards at points of termination — potential fire hazard, risk to property & life

- ✓ Old, deteriorated wiring identified within electrical switchboards — potential fire hazard, risk to property & life
- ✓ Poorly installed & protected electrical cabling — potential fire/ electric shock hazard, risk to property & life
- ✓ Old circuit protection of very questionable performance in the event of electrical faults — potential fire hazard, risk to property & life
- ✓ Some switchboard panels contain asbestos — potential asbestos contamination during upgrade or alterations
- ✓ Electrical equipment in hard technology areas not regularly safety verified (tested and tagged).

Energy efficiency

It can be difficult to assess school energy efficiency without access to energy use and cost data and comparative data from other schools. Some basic checks can be made, and improvements suggested, otherwise energy monitoring and targeting and/or energy audits may be needed. Simple checks and suggestions might be:

Lighting (internal and external)

- Is LED lighting in use?
- Can incandescent or fluorescent lamps be replaced with LEDs?
- Are LEDs being used when fittings are replaced?

Heat pumps

- How efficient are the installed heat pumps?
- When will they need replacing?
- Are more efficient models available?
- Are heat pumps able to be controlled centrally?

Other fixed electrical heating

- Condition of other fixed electrical heating (e.g. Skope fan convector heaters, panel heaters, infra-red heaters, ceiling mounted heaters, etc.).

Water heaters (including over bench)

- Are they time controlled?
- Do they run 24/7?

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