



Specification for Ten Year Property Plan High-level Specialist Reports

Electrical, drainage, plumbing, roofing and heating

Contents

| | |
|---|-----------|
| Introduction..... | 1 |
| Specialist reports..... | 2 |
| Scope and general services..... | 3 |
| Specific services for drainage report..... | 5 |
| Specific services for roofing reports..... | 6 |
| Specific services for plumbing reports..... | 8 |
| Specific services for heating reports | 10 |
| Specific services for electrical reports | 11 |
| Glossary | 14 |

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 of 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

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

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

Describe the condition of each element of the system and any health and safety, essential infrastructure or life cycle 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.

Use the template provided to:

1. Identify any problems and issues with the land, site, buildings or infrastructure, as appropriate.
2. Record the location of the problem or issue by site or block.
3. Confirm on the form that there is, or is not, a problem or issue with the site and each block.
4. 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. |

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

- Ensure visible waste water and storm water infrastructure is clear, well maintained, in good condition, and compliant with the Building Code.
- Price the inspection of underground services if indicated by asset or ground condition, or advice of problems from the school or others.

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. All systems inspected should comply with the New Zealand Building Code.
3. Visually inspect all gully traps etc for blockage or missing covers or grates and check that they are elevated above ground level and comply with the New Zealand Building Code.
4. Visually inspect all building and land based stormwater systems including gutters, spouting, downpipes, sumps, pits and surface water drains where possible, lifting grates and covers as needed, to ensure they are in good working order and clear from blockage. Check that the surface water system is compliant with the New Zealand Building Code.
5. 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.
6. Inspect all septic systems including ground disposal systems and note any maintenance or replacement required.
Note: Proprietary, advanced or aerated foul water treatment systems should be inspected by qualified inspectors.
7. If further visual inspection of underground infrastructure is indicated following a high-level visual inspection or from information received from the school, note this on the high-level specialist report form. Provide a quote for visual inspection. Visual inspection should be treated as a separate detailed inspection and will require approval from the Ministry.
8. If the visual inspection of drains is approved, consider the use of GPS-linked cameras to confirm or locate drainage on the current site plan. This will enable the consultant to update the existing drainage plans or to complete a new drainage plan.

Specific services for roofing reports

Purpose

The purpose of this inspection is to identify any signs of roofing weakness, deterioration or hazard, and to identify any works needed ensure that roofs are weathertight, safe and properly fixed.

Specification

Building interior

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

Exterior roofing

3. Inspect for:
 - a. Overall condition of all roofs (metal, membrane and other) for all blocks on site
 - b. Provide estimate of life remaining in roofing
 - c. visible damage and accumulated debris in gutters and drains
 - d. dirt, rust, lichen, moss etc
 - e. visible deterioration in coatings
 - f. deterioration of fascia, gutters and soffits
 - g. performance and condition of flashings (signs of wear or corrosion, gaps)
 - h. rust, loose fixings.
4. Check vents, skylights and other external components for damage, leaks, and flashing issues.
5. Pay particular attention to the state of clear materials on roof and skylights.

Flat roofs

6. Inspect for:
 - a. visible structural deformation
 - b. continuity of roof covering, open lap seams, membrane shrinkage, holes, punctures or blisters
 - c. evidence of water ponding
 - d. 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 schools 10-Year Plan process.

7. 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.
8. Translucent plastic sheeting should also:
 - a. have a UV resistant coating
 - b. a minimum 20 year warranty maintaining trafficability and
 - c. be BRANZ appraised or have CodeMark product certification.
9. Check the age of the product.
 - a. If it is past its warranted date it should be replaced.
 - b. If the age of the product is unknown it should be replaced.
10. Check for:
 - a. discolouration, cracks and brittleness

- b. moss, mould, lichen
- c. impact or traffic damage.

Method of inspection

11. 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.
12. The cost of roof access or drone services should form part of your quote.
13. Provide photos.

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, sanitary and meet the Building Code or other relevant AS/NZS standards.

All potable water systems

1. Visually inspect accessible parts of the system including:
 - a. Pipework
 - b. Piped water supply from the boundary of the property
 - c. supply pipe and stop valves where the pipe enters the building
 - d. locations of internal and external stopcocks
 - e. rising main supply to cold water storage tanks, direct to kitchen and sanitary appliances, including the taps to which they connect
 - f. cold water storage tanks, lids, bases, associated overflows and vents
 - g. cold water distribution pipes from storage tanks to appliances
 - h. piped drinking water supply such as drinking fountains
 - i. condition of fittings.
2. The taps are turned on to check for general operation.

Self-supplied potable water supply

3. In addition, if the water supply is self-supplied visually inspect:
 - a. the state of bore heads
 - b. storage tanks for condition, secure inspection and access hatches
 - c. pumping and piping arrangements including adequate access
 - d. filtering and UV light arrangement including adequate access.

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

Water heating

4. Water heating systems are visually inspected including:
 - a. hot water heating appliances providing hot water only (e.g. gas or electric water heaters, electric under-bench heater, etc
 - b. hot water cylinder, expansion pipe, immersion heaters, cylinder thermostats and all distribution pipework
 - c. note where warm water is not available to toilets.

Bathroom fittings

5. Bathroom fittings are visually inspected including:
 - a. Wash hand basins, their taps and wastes
 - b. shower trays, their taps and wastes
 - c. shower cubicles

- d. 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
 - e. sealant between the appliance and the adjacent surfaces
6. The taps are turned on to confirm warm water is connected and available (the tank is near to the toilet block) and
 7. toilets flushed to check for general operation in everyday use

Kitchen fittings

8. Visually inspect the kitchen sink, including the taps slotted wastes, traps and waste pipes.
9. 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

All systems

1. Inspect heaters, energy sources and flues or other equipment to identify and note:
 - a. defects
 - b. maintenance requirements
 - c. any need for replacement
 - d. date for replacement.
2. Check for maintenance contracts and maintenance logs.

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

3. 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.
4. If underground pipework is suspect and further investigation is required, cost and seek approval from your 10YPP consultant.

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 3019:2007, SECTION 5 Verification by basic visual inspection.**

1. A Certificate of Periodic Verification (the certificate) will be produced.
2. A schedule of test results will be produced if testing is completed.
3. A Ministry *High-level Specialist Report Form - Electrical* will be produced.

In addition, thermal imaging of all switchboards is recommended.

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

High-level report

The Ministry's high-level specialist report form shall be completed by the specialist and attached to the Certificate of Periodic Verification and will replace the 'Observations' box in the certificate. 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 or 4 work include:

- 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

Upgrading 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).

For example, 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 AS/NZS 3017:2007 Section 2 - Visual Inspection 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 containing 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?

Glossary

| Term | Definition |
|--------------------------|--|
| 5YA | Five Year Funding Agreement. |
| 10YPP | 10 Year Property Plan. |
| 10YPP Consultant | A project manager who has completed the Ministry's Introductory and Advanced Condition Assessment and 10YPP training. Trained 10YPP Consultants are published on the Ministry's website. |
| Asbestos Management Plan | For information about the Ministry's requirements for asbestos management refer to the Ministry website at managing asbestos at schools . |
| CAP | Condition Assessment code for capital maintenance works |
| Condition Assessment | Condition Assessment refers to the WebFM methodology and on-line tool (MPlan) for condition assessments. |
| Consultant Webpages | http://education.govt.nz/school/property-and-transport/suppliers/10ypp/ |
| CYC | Condition Assessment code for cyclical works (painting only). |
| Development plan | A long-term, holistic overview of a school's property to determine how the property can best serve a school's vision, goals and desired educational outcome. |
| EQR | Earthquake Strengthening works included in a Condition Assessment. |
| Hazard Register | For information about the Ministry's requirements for Hazard Registers and hazard identification, refer to the http://education.govt.nz/school/health-safety-and-wellbeing/managing-risks-and-hazards-at-school/risk-identification-assessment-and-management/ . |
| Helios Portal | The Helios portal is a webpage through which Project Managers, 10YPP Consultants and others interact with the Ministry's asset management tools. |
| K2 | The Ministry's core property management data base. |
| LSC | Learning Support Coordinators |
| PRO | Condition Assessment code for work (painting only) undertaken through a programme maintenance contract. |
| Quality Assurance Panel | The Ministry's national panel which reviews 10YPPs if schools qualify for top up funding as part of their 5YA budget or a 10YPP includes a footprint extension. |
| Rationalisation Plan | A plan to work out what property to dispose of or remove and the best way to do so when a school has more property than it's entitled to under the School Property Guide (SPG). |
| RFQ | Request for Quotation (RFQ) documentation which the Ministry uses to engage consultants. Documentation includes the IPENZ Short Form Model Conditions of Engagement and Ministry Special Conditions and 10YPP Specification and can be downloaded from the http://education.govt.nz/school/property-and-transport/projects-and-design/procurement/contracts/#TenYPPSchool . |
| RTL | Resource Teacher Learning & Behaviour. |
| SEPE and DQLS | Work that addresses deficiencies (e.g. acoustics or air quality issues, or improving the alignment of the spatial plan with the school's teaching and learning approaches) identified in the School Evaluation of Physical Environment (SEPE) Assessment Tool. |

| | |
|--------------------------------|--|
| Specialist Reports, Additional | Specialist reports that are not one of the five high-level specialist reports. |
| Specialist Reports, Detailed | Detailed reports compiled by a qualified specialist (e.g. electrician, plumber) following identification of a problem or issue in a Condition Assessment, usually following a high-level specialist report. |
| Specialist Reports, High-Level | Mandatory 10YPP high-level reports undertaken by qualified specialists to confirm that there are or are not any known problems or issues with key infrastructure services at a school. The template can be downloaded from http://education.govt.nz/school/property-and-transport/suppliers/10ypp/10ypp-tools-and-resources/ . |
| Three waters | Drinking water, waste or foul water, and storm or surface water. |
| WTP | Weathertightness works included in a Condition Assessment. |



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kia **rangatira** ai, kia **mana taurite** ai ōna **huanga**