MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

Technical Briefing Note to Support the Weathertightness Remediation Inspection Report Template

Version 5.0, November 2019

This technical briefing note outlines the purpose of weathertightness remediation inspections and how the Ministry of Education's (the Ministry) template is to be used to generate a Weathertightness Remediation Inspection Report. This briefing accompanies Version 5.0 of the Weathertightness Remediation Inspection Report template.

The italicised words are terms defined in the Remediation Inspection Report Glossary.

1 Purpose of the Weathertightness Remediation Inspection Report

The Weathertightness Remediation Inspection Report is to:

- be a standalone report which identifies the *weathertightness failures* that are causing *consequential damage* to the building,
- recommend a likely scope of code compliant remedial works that is sufficient to enable the Ministry to engage a consultant to undertake the design and documentation required, and
- indicate a rough order of cost banding.

The recommendations in the Remediation Inspection Reports will range from maintenance of individual elements to re-cladding of one or all elevations to demolition of the building. The actual design and documentation of remediation and other works chosen by the Ministry will be undertaken by a suitably qualified person such as an Architect or Building Surveyor. This person will be responsible for preparing suitable contract documentation, assisting with engaging contractors and observing the construction etc. In these cases, this report becomes one of the inputs into the next stage of the Ministry's processes.

The Executive Summary may also include maintenance or end of life issues that the building surveyor has noted during their on-site inspection. However, the focus of this report is on the recommended remediation to repair the weathertightness failure and consequential damage, and not on identifying all required maintenance issues.

The inclusion of maintenance aspects does mean this report has benefits for the Ministry's role as the building asset manager.

It is important that this report is written to be a standalone report. Accordingly, relevant information from the *DT report* such as photos of timber decay (*consequential damage*) are reproduced in this report. This means readers such as the school Board of Trustees, Principals and staff should not need to refer back to the *DT report* to clearly understand the scope of the recommended remediation to fix the *weathertightness failure* and *consequential damage*.

It is noted that the Ministry has procedures for urgently attending to any building related issues that could compromise health and safety. If any such issues are observed as part of the Remediation Inspection Report process, the consultant must immediately draw it to the attention of the Ministry's representative.

This Remediation Inspection Report template covers both the one and two storey NZS3604 type buildings, which comprise a large proportion of school buildings. It has been found to also be

suitable for the larger multi-storey type buildings. The fundamental principles of the remediation inspection methodology of fixing the damage and what causes the damage and not fixing perceived high-risk features that have not failed, apply to all buildings.

2 Background

Since 2012 the Ministry's Building Improvement Programme had carried out weathertightness remediation work based on Destructive Testing (DT) reports. These *DT reports* were focused on the Ministry's policy of identifying factors that might lead to *weathertightness failure* of *building elements* at some stage, as well as actual *weathertightness failures* and *consequential damage*.

In most cases the *DT report* identified a specific and localised *weathertightness failure* but the remediation work carried out was often a "re-roof" or "re-clad" in order to address factors that might lead to *weathertightness failure* of *building elements* at some stage.

The Ministry has changed the focus of future *remedial work* to fix actual and proven *weathertightness failures*, along with fixing the *consequential damage*.

The Ministry has decided that factors that might lead to *weathertightness failure* of *building elements* at some stage in the future will not be included in the *remedial work* scope unless the factor is considered to be likely to cause *imminent failure*. Supporting observational and photographic evidence is required to be included in the report in such cases.

DT reports have evolved over time. This means not all *DT reports* adequately differentiate between actual and potential *weathertightness failures* when providing their repair proposals. As a consequence, some reports are unable to be used to establish the necessary and, in many cases, reduced scope of *remedial works* for actual *weathertightness failure* alone.

The Ministry accordingly instituted a primarily visual remediation inspection regime in 2016, as set out in the Ministry's Remediation and Regulatory Strategy dated July 2018, utilising the Remediation Inspection Report template, to identify the actual *weathertightness failures*, the *consequential damage* and the necessary *remedial work*. Learning from experience and feedback from Consultants, the report template has been updated to this present version.

3 Remediation Inspection Methodology

3.1 Information gathering

All available documentation to assist with the remediation inspection of the building is to be obtained. This can include (but is not necessarily limited to) the following:

- the *DT report* (usually previously undertaken)
- subsequent repairs undertaken to leaks and structural issues
- subsequent reports such as air tests, structural investigations or earlier iterations of Remediation Inspection Reports
- building plans
- up to date commentary from the Ministry's representative of the building's current condition including relevant comments from the school principal and staff, any other pertinent information e.g. building to be demolished in five years as part of major redevelopment.

Experience from previous remediation investigations is that repairs carried out between the DT and this report may not be well recorded. If the repair seems to be reasonably robust and still performing, as well as there being no health and safety concerns, the fact that the repair has been carried out should be recorded in this Remediation Inspection report with the note for ongoing monitoring by the school.

It is noted that while the Consultant may have an idea of the master planning aspects for the school buildings, this should not detract from the completion of the Remediation Inspection Report as a standalone exercise.

This above important information will typically be supplied by the relevant Ministry's representative. Although many reports are available in electronic form, some previous reports are hard copy only. Not all of the above information will be readily available.

3.2 Desktop analysis of existing information (before site visit)

Prior to the site visit it is intended the Consultant will conduct a desktop review of the existing information with the aim of populating as much as possible of Section 2 General Information, sub-sections 2.1 Building Overview and 2.2 Inspection Background. In addition, the information from the *DT report* should be input into columns 2-4 of Table 3.1 Weathertightness failures and remedial work summary, for further review as part of the onsite remediation inspection. In some cases, it makes sense to consolidate the *DT report's weathertightness failure* and damage items where there is duplication of the *weathertightness failure*.

Section 2.3 Building Location, is aimed at showing clearly which building is being referred to using an aerial photo or similar.

It is noted that to complete Table 3.1, the *DT report* analysis is combined with information from the Ministry's representative and information obtained from the onsite remediation inspection. This includes information from the Principal and staff, observations of the as-built construction and any *consequential damage*. This forms the basis of the conclusions regarding the *weathertightness failures* that have caused *consequential damage* to be recorded in Table 3.1, column 7.

3.3 Site visit

The site visit includes undertaking a primarily visual remediation inspection of the building. This includes reviewing the repair recommendations in the *DT report* as to whether they were in respect of *weathertightness failure*, or a response to factors that might lead to *weathertightness failure* of *building elements* at some stage. The damage recorded in the *DT report* is visually re-inspected to assess, if possible, whether there has been any increase in the extent of damage.

Although the Remediation Inspection report is based primarily on a visual site inspection, it does not preclude the building surveyor undertaking limited destructive testing during the site inspection e.g. a panel might be taken off if it can be readily removed and reinstalled by the surveyor to follow up on some particular suspected weathertightness issue. This does not include being accompanied by an assisting builder.

The site visit is focused on the *weathertightness failures* listed in the *DT report* and any other obvious failures observed from a visual inspection and/or reported by the Ministry and school representatives for the particular building. This is further described in the report template 'blue box for deletion' below Table 3.1. The Consultant is not expected to identify any *hidden damage* or defects on other buildings on the site unless they are identified from the meeting with the staff.

In cases where the building surveyor has recommended and the Ministry has approved further investigations after the first site inspection, the results of these further investigations are included in the Remediation Inspection report. This further information is included in the relevant sections of the report including the tables in section 3, the photos in Appendix A, the elevations showing the recommended remediation in Appendix B and the Executive Summary. The second site visit is also recorded in the Document acceptance table on the page after the cover page.

Where additional destructive investigations are recommended by the building surveyor, the Ministry's WT team should be notified and approval obtained from the relevant Ministry representative before undertaking the additional investigations.

Appendix C Additional information from further investigations, is used where the additional information obtained from further often destructive testing is outside the scope of other report sections. This can include items like laboratory timber test results and moisture content maps. Otherwise Appendix C is deleted.

3.4 Meetings with relevant school staff

An important aspect of the site visit is meeting with relevant school staff including the Principal, administration staff, caretaker and relevant teachers etc. It is important that appointments with the Principal and relevant staff are set up in advance of the site visit so that their knowledge and experiences can be obtained. Where leaking has previously been noted or new leaks are identified as part of the site visit, it is important that these areas of the building are inspected and the relevant staff member such as the classroom teacher is interviewed to obtain first-hand, up to date information. Detailed notes from these meetings are to be recorded in section 2.4 of the Remediation Inspection report.

3.5 Completing the report and associated tables

As discussed above, there are a number of aspects to be included before the conclusions regarding the *weathertightness failures* and *consequential damage* can be recorded in Table 3.1, column 7. This includes the *DT report* analysis and information from the Ministry's representative. It also includes information from the site visit, any additional items identified by the Ministry's representative and/or observed during the remediation inspection but not in the *DT report*, information obtained from the Principal and staff, observations of the as-built construction and any *consequential damage* items observed.

Table 3.1, column 8 summarises the recommended *remedial work* by reference to the *weathertightness failures* and *consequential damage* identified in Table 3.1, column 7 to provide an overview of the problems faced and requiring attention. Table 3.1, column 8 also includes repairs associated with the *adjacent works* that will have to be carried out to give effect to the *weathertightness repair*s and *damage repair*s.

Table 3.2 Rough order of cost banding, is designed to assist the Ministry with the scoping of the remediation and accordingly the dollar bands are relatively wide. A more detailed estimate will be prepared for all but the simple maintenance cases in the next stage of the Ministry's processes. The detailed estimate will often be undertaken by the person engaged to prepare suitable contract documentation, engaging contractors and observing the construction etc. A Quantity Surveyor will often be engaged to assist in preparing the detailed estimate.

The inclusion of the results of further investigations is described in section 3.3 above. Sometimes further investigations are programmed to be undertaken as part of the construction process.

Table 3.3 Other moisture related and/or ventilation causes, is to be used where the damage observed could be construed as being due to *weathertightness failure*, but is in fact likely to be due to other moisture related causes such as condensation or lack of adequate ventilation. Where there are no such causes, Table 3.3 should be left blank.

The *remedial repairs* comprising the *weathertightness repairs*, *damage repair* and *adjacent works* noted in Table 3.1, column 8 are the building works required to return the *building element* to its condition "*as when it was new*" using comparable current materials and construction techniques. Where it is believed that "*as when it was new*" is not code compliant, or for some other reason such as complying with the manufacturer's recommendations, the additional or alternative building work is recorded in Table 3.4.

With the change in the Ministry's approach for the *remedial work* to only fix actual and proven *weathertightness failures* and the *consequential damage,* this often means only parts of the

building will require remediation. However, in practical terms, if say more than 60-70% of an elevation or part elevation requires recladding, it may be more economic to reclad the whole elevation or part elevation. This is seen as taking a medium-term asset management view which will also be in the best interests of the Ministry as a long-term building owner.

Table 3.5 records as-built features or factors where there is expected to be *imminent failure* and that have supporting observational and photographic evidence.

3.6 Executive Summary

The Executive Summary shall be a summary of the types of the *remedial works* to describe and address the *weathertightness failure*, *consequential damage* and *adjacent works*. The Executive Summary shall describe the type and extent of repair by elevation or part elevation and/or building element (e.g. roofing element) basis. This must be consistent with the elevations in Appendix B showing the required remediation.

The Executive Summary may also include maintenance or end of life issues that the building surveyor has noted during their on-site inspection. However, the focus of this report is on the recommended remediation to repair the *weathertightness failure* and *consequential damage*, and not on identifying all required maintenance issues.

3.7 Photos and Annotated Elevations

The inclusion of suitably annotated photo images is considered particularly important to the readability and usefulness of the report. Images of all building elevations are to be included as the first series of photos in Appendix A even if there are no observed defects on an elevation. All photo images are to be comprehensively annotated. Use a maximum of two photo images per page to ensure clarity.

Appendix B showing recommended remediation, is to clearly show the extent of the required remediation on an elevational and/or *building element* basis including any roofing repairs. Photo images or elevations and roof drawings can be used, whichever is the more effective for showing the required *remedial work*.

3.8 Other building related issues such as deferred maintenance etc

This Remediation Inspection Report has the primary focus of weathertightness matters. Consultants at their discretion may note other building related issues which may have an effect on the report recommendations. These other building related items may include deferred maintenance issues, end of serviceable life, poor workmanship etc which are considered to need urgent attention. These may or may not be weathertightness related.

Notwithstanding the previous paragraph, experience with Remediation Inspection reports to date is that it is often the addition or alteration to an older building that has caused the weathertightness failure. Experience is that components of these older buildings such as timber window frames are failing as they are often well past their use by date. In such cases the Consultant should take account of this factor in their recommendations.

3.9 Health and safety issues

As noted above, any identified urgent health and safety issue must be communicated immediately to the Ministry's representative.

4 Submission of the Weathertightness Remediation Inspection Report

Upon completion of the inspection and preparation of the report, a draft version is to be submitted to the Ministry for review by their Weathertightness Team. This version should be denoted Revision 0, as per the revision history box on the second page of the template.

Following receipt of comments from the Ministry and making any necessary adjustments to the draft report, the final version (Revision 1) should be submitted to the Ministry.

All four action categories in the Document Acceptance table on the second page of the report are to be completed by representatives of the consulting company preparing the report. In some cases, it will be necessary for sole practitioners to have their report reviewed by an independent building surveyor.