Canterbury
District Health Board
Te Poari Hauora ō Waitaha

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6 June 2018

[redacted]

[redacted]

RE Official Information Act request CDHB 9834

We refer to your email dated 13 April 2018 requesting the following information under the Official Information Act from Canterbury DHB.

- **Does your DHB have any hospital buildings that require remediation (whether for weather-tightness, asbestos, sewage or other related issues)?**
- **If so can you please detail which buildings they are and what the issues are?**
- **And if yes, when and how were the issues reported to the Minister of Health, if at all?**

Weather Tightness
Canterbury DHB is not aware of any issues in design or construction that that would render any of its buildings "leaky buildings". Save as advised below, nor are we aware of any buildings with weather-tightness type issues. What we do have is a number of old buildings that have issues in the nature of maintenance. Those issues are addressed as part of a business as usual maintenance programme.

Canterbury DHB does have two buildings at its Hillmorton campus that have retrofitted steel frame security doors and windows that are in poor condition. Those doors and windows have anti-tamper screws installed through the steel frame that have compromised the durability of the powdercoat finish. As a result, there is some water ingress and corrosion of the steel frame reported. We attach as **Appendix 1** a condition assessment report dated September 2016 obtained in respect of those buildings.

Asbestos
Canterbury DHB is not aware of any asbestos or asbestos containing material within its facilities in a condition or state that poses an immediate health risk to staff, patients or the public.

Canterbury DHB has a large building portfolio of some 150 buildings that are separately identified on its facilities register. Most of these were constructed before 2000 and therefore have, or are presumed to have, asbestos or asbestos-containing material. Canterbury DHB has an existing asbestos policy setting out requirements and procedures for staff and contractors working within our facilities. We also have existing asbestos registers covering all of these facilities. Canterbury DHB is currently undertaking a review its policies and procedures following changes to Asbestos Regulations effective in April. This involves engaging external expertise to review existing information and re-survey facilities to assist with preparing and implementing a detailed asbestos management plan in respect of each building.

Sewage
Canterbury DHB has experienced issues with seepage from a sewer stack in its Christchurch Women's Hospital. This was caused by movement of pipework following the Canterbury Earthquakes. Full access to the pipework remains difficult because of ongoing operational constraints, however remedial work was undertaken to the problem areas at the time to address the seepage. Canterbury DHB's maintenance and engineering team continue to monitor the performance of the pipework.

Reporting
As could reasonably be expected with any aging building stock, a number of Canterbury DHB's buildings have remediation requirements of some form. These are, however, in our view generally in the nature of deferred maintenance and are therefore subject to a business as usual maintenance programme.

Canterbury DHB has a quarterly facilities report that gets provided to the Ministry of Health. This gives the Ministry a level of oversight of all such matters involving Canterbury DHB's facilities. Any issues can also be reported to Ministry of Health on an exception basis (i.e. outside of business as usual reporting).

We trust that this satisfies your interest in this matter.

Please note that this response, or an edited version of this response, may be published on the Canterbury DHB website.

Yours sincerely

Carolyn Gullery
Executive Director
Planning, Funding & Decision Support

Door and Window Condition Assessment

For and on behalf of
CANTERBURY DISTRICT HEALTH BOARD

Hillmorton Hospital
Te Whare Manaaki
Te Whare Roko

SEPTEMBER 2016
CDH0001.004

Hampton Jones

Document Control

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-	09/09/2016	Draft issue to client
1	15/09/2016	Issue to client

Authorisation for Issue

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For and on behalf of Hampton Jones Property Consultancy Limited.

Peer Reviewed

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Position Building Surveyor

For and on behalf of Hampton Jones Property Consultancy Limited.

Executive Summary

Report Overview

The report is written to provide comment on the condition and recommendation for repair of damaged and corroded powdercoated window and door joinery at the Hillmorton Hospital site.

Site and Building Description

The Hillmorton Hospital site consists of five buildings believed to be constructed circa 1990's. The forensic services blocks commonly known as Te Whare Manaaki and Te Whare Hohou Roko consist of a timber framed structure built over a concrete slab on grade foundation. Te Whare Manaaki is clad with clay facing brick veneer and a combination of pitched roofs finished with concrete tiles and butyl rubber flat roofs. Te Whare Hohou Roko is predominately finished in a Stucco façade system. The exterior joinery consists of powdercoated steel framed, and aluminium framed windows and doors.

Defect and Damage Summary

We understand that the powdercoated steel framed security window and door joinery fitted to Te Whare Manaaki and Te Whare Hohou Roko were modified prior to installation during circa 1995. The modifications carried out to the joinery involved installing a steel framed angle beading by drilling non-compatible Anti-tamper screws through the steel frame. We believe these window and door modifications were not part of the manufacturer's specification documents. In recent years, visual deterioration in the form of corrosion to the steel has caused the powdercoated surface to peel off the framing.

Recommended Repair Scope

The modified and damaged window and door joinery requires removal and refurbishment in isolation whilst isolated windows and doors are deemed no longer fit for refurbishment and need to be replaced. Please refer to section 2 within the main body of this report for a full condition assessment and repair/replacement recommendation for each window and door surveyed.

Contents

Section 1.0 General

1.1 Client Brief

As requested by Canterbury District Health Board, this report has been prepared in accordance with the following brief:

- Visit site to carry out a detailed visual survey of damaged external windows and doors at Hillmorton Hospital.
- Carefully review any internal windows and doors suffering from damage.
- Identify any further degradation to building fabric as a result of potential water ingress from the corroded windows and doors.
- Prepare a written and photographic report to cover any recommendations for further investigation, any findings, setting out condition and recommendation for repair or replacement to each window and door.

1.2 Survey Details

GENERAL PARTICULARS OF THIS REPORT ARE AS FOLLOWS:	
SITE ADDRESS	Hillmorton Hospital, Annex Road South, Middleton, Christchurch, 8024
INSPECTION DATE(S)	19th and 22nd August 2016
WEATHER AT TIME OF INSPECTION	Dry and sunny on both days
INSPECTION BY	Andrew Glendinning and Jonathan Stewart of Hampton Jones Property Consultancy
OTHER PERSONS PRESENT	Simon Hemmings and Maxwell Williams of Canterbury District Health Board on both days
DOCUMENTS REVIEWED	Floor plans and window schedule

1.3 Site Investigation Methodology

The survey work has been undertaken on a visual basis without any invasive investigation work or allowance for other professional reports other than those commissioned and directly referenced within our report.

In order to review the condition of high level windows and rooflights access was obtained to the flat roof by using a builder's ladder.

Non-invasive moisture readings were recorded in order to determine the extent (if any) moisture/water ingress within the internal fabric of the building below and adjacent window joinery.

In assessing the level of recommended remedial works we have had no regard to a standard insurance policy document. Where repair rather than replace has been deemed appropriate, we have applied three aspects in terms of the appropriate standards. These aspects consist of: (a) aesthetical, incorporating finish and material choice; (b) alignment, placement, positioning or level; (c) functional, physical performance characteristics.

A site plan can be found in Appendix A which indicates the subject buildings to be investigated and position in relation to the overall site. Specific areas of the building are identified as appropriate:

Our main investigation findings and detailed analysis of defect observations are set out in section 2.0. Additional supporting information and explanatory notes are included in relevant appendices.

To gain a full understanding of the matters raised by this report, it must be read in full and in conjunction with the photographs and supporting appendices, as detailed in the table of contents.

1.4 Reporting Conditions

This report is based on a visual inspection and covers powdercoated windows and doors only; no inspection or comment has been made on the building fabric, superstructure or any temporary fixtures, fittings or chattels on or at the property. No allowance has been made for upgrading or other maintenance-related repairs not associated with the known window and door damage to Te Whare Hohou Roko and Te Whare Manaaki of Hillmorton Hospital site.

For the avoidance of any doubt, this report is not a structural, environmental or geotechnical survey and does not cover the inspection or testing of any services unless specifically identified in the main body of the report. All comments relating to services are as a guide only and should not be taken as verification that they are installed in accordance with current regulations.

No intrusive or destructive investigation has been undertaken and as such we have not inspected woodwork, brick veneer or other parts of the structure or services which are covered, unexposed or inaccessible. We are therefore unable to report that any such part of the structure is free from defect.

This report is provided for the use of **Canterbury District Health Board** only and may not be used by others without the written permission of Hampton Jones who accepts no liability to third parties who may act on its contents.

1.5 Definitions

The following is a definition of the comments as to the condition of the elements surveyed:

Good: Items which have suffered minimal weathering, wear or decay, and should remain in such condition for at least another five to ten years if maintained according to good practice and as per the manufacturer's recommendations where applicable. No repair currently needed (minor dirt build-up and small defects may still exist).

Reasonable/ Satisfactory: Items that have worn through 'normal' use and weathering, and are in commensurate condition to the building's age and use. Maintenance is required to prevent premature deterioration from occurring.

Poor: Items that are considered defective, worn, decayed, or weathered, either due to age, abnormal use, poor design or lack of maintenance. Accelerated deterioration will occur unless remedial works are undertaken. These items generally represent significant defects, or health & safety items requiring further investigation, or urgent repair (items typically include location of element, weather-tightness issues, non-compliant modifications etc.).

1.6 Exclusions

This report specifically excludes any investigation or advice on the following:

- Value of the property
- Design of the property
- Code Compliance issues
- Design for maintenance or repair works
- Suitability for purpose of use, whether existing or proposed
- Statutory Notices such as Notice to Fix or Compulsory Purchase Orders
- LIM or PIM reports
- Identification of Illegal Works
- Contamination/ground stability issues
- Restrictive Covenants or Rights of Way
- Design or value of the surrounding area or environment
- Lease obligation and financial commitments.
- Budget costings and design work

1.7 Areas Not Accessed

All areas were accessed except for the following due to lack of safe access:

- All other window and door joinery to areas not part of this instruction.

1.8 Orientation

For the purposes of reading this report, all references to left, right, front and rear are written on the basis of the surveyor standing outside the front elevation. For ease of reference we have interpreted the front of Te Whare Manaaki to face south.

Section 2.0 Report

2.1 General Building Description

The Hillmorton Hospital site consists of five buildings believed to be constructed circa 1990's. The forensic services blocks commonly known as Te Whare Manaaki and Te Whare Hohou Roko consist of a timber framed structure built over a concrete slab on grade foundation. Te Whare Manaaki is clad with clay facing brick veneer and a combination of pitched roofs finished with concrete tiles and butyl rubber flat roofs. Te Whare Hohou Roko is predominately finished in a Stucco façade system. The exterior joinery consists of powdercoated steel framed, and aluminium framed windows and doors.

General Exterior Joinery Description

From review of the Architectural drawings prepared by Warren & Mahoney and marked for consent issue dated May 1995 we can state that the joinery surveyed on site consists of the following construction:

- Steel framed windows with a (white colour) powdercoated finish and 'Lexan MR10' single and double glazing, with micro venetians between panes. Isolated windows have top hung awning and casement windows.
- Steel framed doors with a (white colour) powdercoated finish and 'Lexan M10' glazing. Some doors have single glazed side lights and fan lights. Door hardware consists of Stainless steel and anodised ironmongery/ hardware. There are electromagnetic operated locks to the majority of doors.
- Aluminium framed windows with a white and silver powdercoated finish and single glazing.

2.2 Summary of External Joinery Defects & Damage

We understand that Te Whare Manaaki and Te Whare Hohou Roko had undergone building alterations during 1995. Alteration works included the widespread removal and replacement of the external and internal window and door joinery.

It has been brought to our attention that Architectural modifications were carried out to the new joinery during the supply and installation stage. These modifications consisted of installing a steel powdercoated angle beading by fixing anti-tamper screw through the frame. It is apparent from our visual inspection that these fixings have compromised the durability of the powdercoated finish to the frame resulting in a direct entry for water ingress and corrosion of the steel frame.

Upon closer inspection it was noted that isolated windows have received a touch up paint coating presumably to restrict further rusting. We are of the opinion that where the paint coating has been applied it has in effect exacerbated the damage further by trapping moisture between the steelwork and powdercoated finish resulting in further rusting and pitting of the steel frames.

It was also apparent from our survey that windows which are recessed by a generous soffit overhang have the least damage due to lack of weathering. Window and doors which are positioned flush with the external envelope and are largely exposed have the most damage.

Typical damage identified to isolated steel windows and doors included the following:

- Blistered and crazed powdercoated finish and in some case blown powdercoating.
- Minor to severe rusting, particularly to window bottom rails.
- Surface rusting to the inside edge of the top-hung awning windows.

— Localised spot rusting around fixings and frame.

— Neoprene seals partially dislodged and perished.

— Score marks to the Lexan glazing units.

— Chipping of powdercoated finish to internal doors.

— Broken handles and stays to openable casements.

— Severe rusting to external door frames.

— Warped hinges to openable casements.

2.3 Door and Window Condition Schedule

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
D1	Steel framed single door with glazing panels and powdercoated finish. Note door secured with mag lock. Stainless steel and anodised ironmongery /hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Isolated areas of severe rusting to the steel frame, particularly to bottom rail of door leaf. Localised crazing to the powdercoated finish. Neoprene seals to glazing displaced.	Doors to be removed and replaced with new steel framed, powdercoated door inclusive of double-glazed anti- bandit glazing, hardware and associated flashings.	1-11
D2	Glazed aluminium framed single door with glazed fan light and powdercoated finish. Note door secured with mag lock. Stainless steel and anodised ironmongery/ hardware.	None.	**Reasonable/Satisfactory.**	Door requires thorough in-situ wash down, and service of hinges and locking mechanisms.	12-13
D3	Glazed aluminium framed single door with glazed fan light and powdercoated finish. Note door secured with mag lock. Stainless steel and anodised ironmongery/ hardware.	None.	**Reasonable/Satisfactory.**	Door requires thorough in-situ wash down, and service of hinges and locking mechanisms.	14-17
D4	Steel framed double doors glazed top and bottom with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	None.	**Reasonable/Satisfactory.** Localised areas of minor spot rusting noted to the door frame. Rubber sealant partially displaced from aluminium threshold strip.	Doors requires thorough in-situ wash down and new rubber seals to aluminium threshold strips.	18-27
D5	Steel framed double doors, glazed top and bottom with sidelights and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of minor spot rusting noted to the door frame corners and around fixings.	Doors to be removed, sent away for refurbishment to include sand blasting, hot-dip galvanising and powdercoated finish, new seals and	28-35

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	Stainless steel and anodised ironmongery/ hardware.			reinstated.	
D6	Steel framed double doors, glazed top and bottom with sidelights and powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of minor spot rusting noted to the door frame corners and around fixings.	Doors to be removed, sent away for refurbishment to include sand blasting, hot-dip galvanising and powdercoated finish, new seals and reinstated.	36-43
D7	Steel framed double doors glazed top and bottom with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	None.	**Poor.** Hole to steel door frame directly adjacent handle. Localised area of severe rusting to steel frame at base. Localised areas of minor spot rusting noted to the door frame corners and around hinges.	Doors to be removed and replaced with new steel framed, powdercoated door inclusive of double-glazed anti- bandit glazing, hardware and associated flashings.	44-55
D8	Steel framed double doors glazed top and bottom with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that areas of severe rusting have received a protective paint coating.	**Poor.** Localised areas of severe rusting to steel frame and blistering of powdercoated finish. Partially displaced aluminium door threshold strip. Neoprene seals to glazing slightly displaced.	Doors to be removed and replaced with new steel framed, powdercoated door inclusive of double-glazed anti- bandit glazing, hardware and associated flashings.	56-69
D9	Steel framed double doors glazed top and bottom and fan lights with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that areas of severe rusting have received a protective paint coating.	**Poor.** Localised areas of severe rusting to steel frame and blistering of powdercoated finish. Localised areas of minor spot rusting. Partially displaced aluminium door threshold strip. Neoprene seals to glazing slightly displaced.	Doors to be removed and replaced with new steel framed, powdercoated door inclusive of double-glazed anti- bandit glazing, hardware and associated flashings.	70-81
D10	Steel framed single door and side lights with	Areas of severe rusting have received a protective paint	**Poor.** Localised areas of severe corrosion to the steel frame,	Door to be removed and replaced with new steel framed,	82-98

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	coating on the inside face.	particularly on the inside face to the base where a significant hole in the steel frame was identified. Localised areas of spot rusting around hinges and frame on the exterior face.	powdercoated door inclusive of double-glazed anti- bandit glazing, hardware and associated flashings.	
D11	Steel framed double door with glazing panels, side lights and powdercoated finish. Note door secured with mag lock. Stainless steel and anodised ironmongery /hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Frame damage from impact/forced entry.	**Poor.** Localised areas of severe rusting to the steel frame, particularly on the exterior face to the left-hand side and bottom rail. Localised areas of spot rusting and crazing around hinges and frame. General wear and tear with powdercoating chipped and localised scuff marks noted to the base of door and frame. Neoprene seals to glazing slightly displaced.	Doors to be removed and replaced inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	99-120
D12	Steel framed single door glazed top and bottom with powdercoated finish. Stainless steel and anodised ironmongery /hardware.	None.	**Reasonable/Satisfactory.** Localised areas of spot rusting around hinges. Partially displaced aluminium door threshold strip.	Doors to be refurbished in-situ to include new seals, aluminium threshold strip and minor paint touch ups to spot rusts.	121-126
D13	Steel framed internal single door and side lights with powdercoated finish. Stainless steel and anodised ironmongery /hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of wear and tear with powdercoating chipped and scuff marks to base. Neoprene seals to glazing perished.	Doors to be refurbished in-situ to include new seals and minor paint touch ups to chipped finish.	127-128
D14	Steel framed internal single door and side lights with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of wear and tear with powdercoating chipped and scuff marks to base. Neoprene seals to glazing perished.	Doors to be refurbished in-situ to include new seals and minor paint touch ups to chipped finish.	129-132

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
D15	Steel framed internal single door and side lights with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of wear and tear with powdercoating chipped and scuff marks to base. Neoprene seals to glazing perished.	Doors to be refurbished in-situ to include new seals and minor paint touch up to chipped finish.	133-136
D16	Steel framed internal single door and side lights with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of chipped powdercoating.	Door to be refurbished in-situ to carry out localised paint touch up.	137-140
D17	Steel framed internal single door and side lights with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of chipped powdercoating.	Door to be refurbished in-situ to carry out localised paint touch up.	141-142
D18	Steel framed external single door and side lights with powdercoated finish. Stainless steel and anodised ironmongery/ hardware.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe corrosion to the steel frame, particularly on the inside face to the side light base. Localised areas of spot rusting around hinges and frame on the exterior face. Neoprene glazing seals perished.	Door to be removed and replaced with new steel framed, powdercoated door inclusive of double-glazed anti- bandit glazing, hardware and associated flashings.	143-148
W1	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	**Poor.** Localised blistering and crazing noted to the casement frame internally and to the exterior face, particularly to the bottom rail. Neoprene seals to glazing displaced. Awning hinges warped; window not closing tightly to frame.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We recommend installing window restrictors to the top-hung awning casement to prevent it impacting against the column.	149-161
W2	Steel framed single glazed window complete with 1nr	Anti-tamper screws have been fixed through frame to install	**Poor.** Localised blistering and crazing noted to the casement frame internally	Window to be removed and replaced with new steel framed security	162-167

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	openable top hung awning casement and powdercoated finish.	powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	and to the exterior face, particularly to the bottom rail. Neoprene seals to glazing displaced. Awning hinges warped; window not closing tightly to frame	window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We recommend installing window restrictors to the top-hung awning casement to prevent it impacting against the column.	
W3	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	**Poor.** Localised spot rusting noted to the casement frame to the exterior face, particularly to the bottom rail and isolated Anti-tamper screws. Neoprene seals to glazing displaced. Awning hinges warped; window not closing tightly to frame	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We recommend installing window restrictors to the top-hung awning casement to prevent it impacting against the column.	168-175
W4	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install a powdercoated steel framed window beading.	**Poor.** Localised severe rusting noted to the casement frame internally and to the exterior face, particularly to the bottom rail. Localised minor spot rusting to awning window frame (right-hand side). Awning hinges warped; window not closing tightly to frame. Neoprene seals to glazing displaced. We also noted water to be tracking out of glazing bead/frame to bottom rail on to the brick veneer.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We recommend installing window restrictors to the top-hung awning casement to prevent it impacting against the column. We also recommend further investigation below the brickwork window sill to ensure there is no damage to the timber frame behind the brickwork.	176-191
W5	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. The window opening is too large in length and there is a gap to the right-hand side bottom	**Poor.** Localised severe rusting noted to the casement frame internally and to the exterior face, particularly to the bottom rail. Awning hinges warped; window not closing tightly to frame. Neoprene seals to glazing displaced. We also noted water to be tracking out	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We also recommend installing rubber protective adhesive strips to the top-	192-199

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
		corner.	of glazing bead/frame to bottom rail on to brick veneer. Score marks to the Lexan glazing.	hung awning window where it impacts against column.	
W6	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	**Reasonable/Satisfactory.** Minor localised rusting to the powdercoated finish at the bottom rail. Isolated rusting to the awning window frame. Awning hinges warped; window not closing tightly to frame. Neoprene seals to glazing displaced. Broken and cracked handles noted.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish. Allow for new hardware and glazing seals.	200-207
W7	Aluminium framed single glazed window with 3nr. openable casements and powdercoated finish.	None.	**Reasonable/Satisfactory.** The top awning window is stiff upon opening. 4no corners to the side-hung window frames are slightly bent.	Service hinges to openable casements to ensure correct operation. Optional, replace damaged side hung casements with new hardware.	208-211
W8	3nr. aluminium framed single glazed windows with 3nr. openable casements per window and powdercoated finish. Multiple aluminium framed single glazed fixed clerestory lights at high level.	None.	**Reasonable/Satisfactory.** 5no corners to the side-hung window frames are slightly bent. Loose handles, missing stays, and deteriorated rubber seals noted.	Left-hand side and right-hand side windows casements to be removed and refurbished in order to remediate warped frame and reinstate on completion complete with new hardware, window restrictors, handles and keepers.	212-215
W9	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against externally fixed steel security rail. Top-hung awning window	**Reasonable/Satisfactory.** Neoprene seals to glazing displaced. Score marks to the Lexan glazing. Black neoprene seals to awning window deteriorated and missing. Awning hinges warped; window not closing tightly to frame.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish. Allow for additional hinges to remediate window not closing properly plus new hardware and glazing seals.	216-221

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
		appears to have settled and/or warped.			
W10	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window is raked and drops down to the right-hand side. Top-hung awning window opens out to strike against externally fixed steel security rail.	**Reasonable/Satisfactory.** Minor rust crazing to bottom window rail, around awning window edges and bottom edge of casement frame. Loose handles noted. Awning hinges warped; window not closing tightly to frame. Neoprene seals to glazing displaced. Black foam strips to awning window deteriorated and missing. Localised rust marks to mid-section of frame.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish. Allow for additional hinges to remediate window not closing properly plus new hardware and glazing seals.	222-229
W11	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	**Reasonable/Satisfactory.** Localised blistering/flaking to powdercoated finish and severe rusting to bottom window rail. Localised minor rust pitting to inside edges of awning window. Awning hinges warped; window not closing tightly to frame. Neoprene seals to glazing displaced and perished.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish. Allow for additional hinges to remediate window not closing properly plus new hardware and glazing seals.	230-234
W12	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	**Poor.** Localised blistering/flaking to powdercoated finish and severe rusting to bottom window rail. Localised areas of minor blistering and spot crazing. Awning hinges warped; window not closing tightly to frame. Neoprene seals to glazing displaced and perished.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We also recommend installing rubber protective adhesive strips to the top-hung awning window where it impacts against column.	235-238
W13	Steel framed single glazed	Anti-tamper screws have been	**Poor.** Localised blistering/flaking to	Window to be removed and replaced	239-244

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	window complete with 1nr openable top hung awning casement and powdercoated finish.	fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	powdercoated finish and severe rusting to bottom window rail. Localised areas of minor blistering and crazing to inside edges of awning window. The awning window is raked and does not close tight against frame. Neoprene seals to glazing displaced.	with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We also recommend installing rubber protective adhesive strips to the top-hung awning window where it impacts against column.	
W14	Steel framed single glazed window complete with 1nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning window opens out to strike against exterior column.	**Poor.** Localised blistering/flaking to powdercoated finish and severe rusting to bottom window rail. Awning window is raked and not closing tightly against frame. Neoprene seals to glazing displaced. Rusting to bottom rail appears to have been rubbed down.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We also recommend installing rubber protective adhesive strips to the top-hung awning window where it impacts against column.	245-248
W15	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised minor crazing to bottom rail of window casement. Localised spot rusting to bottom left-hand side corner. Neoprene seals to glazing displaced.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. Optional, fit trickle ventilation through frame.	249-252
W16	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Reasonable/Satisfactory.** Localised areas of blistering and crazing to mid-section of casement frame. Neoprene seals to glazing displaced.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	253-256

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
W17	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of rusting to bottom rail of window casement. Rusting to bottom rail appears to have been rubbed down. Small localised area of minor crazing to bottom right-hand side corner of casement. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	257-260
W18	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of rusting to bottom rail of window casement. Rusting to bottom rail appears to have been rubbed down. Localised area of crazing to the top left-hand side corner of the casement frame. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	261-264
W19	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting noted to bottom rail of window casement. Rusting to bottom rail appears to have been rubbed down. Small localised areas of crazing and spot rusting. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We also recommend installing rubber protective adhesive strips to the top-hung awning window where it impacts against column. Optional, fit trickle ventilation through frame.	265-268
W20	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting noted to bottom rail of window casement. Small localised areas of crazing and spot rusting. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	269-272
W21	Steel framed single glazed fixed pane window and	Anti-tamper screws have been fixed through frame to install	**Poor.** Localised areas of severe rusting noted to bottom rail of window	Window to be removed and replaced with new steel framed security	273-276

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	powdercoated finish.	powdercoated steel framed window beading.	casement. Small localised area of spot rusting to top casement corners. Neoprene seals to glazing displaced.	window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	
W22	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting noted to bottom rail of window casement. Small localised areas of crazing and spot rusting to top casement corners. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	277-280
W23	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting noted to bottom rail of window casement. Small localised areas of crazing and spot rusting to top casement corners. Neoprene seals to glazing slightly displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	281-284
W24	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised area of severe rusting/pitting to bottom rail of window casement. Neoprene seals to glazing slightly displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	285-288
W25	Steel framed single glazed window complete with 4nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Top-hung awning windows open out to strike against externally fixed steel security rail.	**Poor.** Localised areas of severe rusting to the steel frame and pitting to the powdercoated finish to bottom rail of window casements. Localised minor rust spots and crazing. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. We also recommend installing rubber protective adhesive strips to the top-hung awning window where it impacts against security bar.	289-296

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
W26	Steel framed single glazed window complete with 3nr openable top hung awning casement and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to the steel frame and pitting to the powdercoated finish to the middle rail and bottom rail of the window casement. Localised minor rust spots and crazing. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	297-302
W27	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to the steel frame and pitting to the powdercoated finish to the bottom rail of window casement. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	303-306
W28	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to the steel frame to the bottom rail of window casement. Localised areas of minor spot rusting. Neoprene seals to glazing displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	307-310
W29	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to the steel frame and pitting to the powdercoated finish to the bottom rail of window casement. Light rusting staining noted to the powdercoated finish to the top rail of the window casement. Neoprene seals to glazing displaced. Sealant has been applied to the junction between glazing angle beading and casement frame.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	311-314
W30	Steel framed single glazed	Anti-tamper screws have been	**Poor.** Localised areas of severe rusting	Window to be removed and replaced	315-318

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	fixed pane window and powdercoated finish.	fixed through frame to install powdercoated steel framed window beading.	to the steel frame and pitting to the bottom rail of window casement. Crazing of powdercoated finish to bottom rail. Localised areas of minor spot rusting around fixings.	with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	
W31	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of surface rusting/pitting to bottom rail of window casement. Neoprene seals to glazing slightly displaced.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	319-322
W32	Steel framed single glazed fixed pane window and powdercoated finish. *Note: Window consists of original manufacturers fixings.*	Note that bottom rail has received a protective paint coating.	**Reasonable/Satisfactory.** Localised areas of minor spot rusting around fixings. Neoprene seals to glazing slightly displaced.	Fit new neoprene seals where deteriorated or loose. Optional, fit trickle ventilation through frame.	323-326
W33	Steel framed single glazed fixed pane window and powdercoated finish. *Note: Window consists of original manufacturers fixings.*	Note that bottom rail has received a protective paint coating.	**Reasonable/Satisfactory.** Localised areas of minor spot rusting around fixings. Isolated loose window fixings. Neoprene seals to glazing slightly displaced. Window jamb sealant deteriorated and partially displaced to left-hand side.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame. Note: A new appropriate sealant should be applied to the window jamb and loose fixings replaced.	327-330
W34	3x aluminium framed single glazed windows with aluminium window guard.	Window guard fixed through aluminium frame creating a direct path for water ingress via	**Reasonable/Satisfactory.** Localised loose and missing screws to window guard and missing fixings to window	New fixings are required where loose or missing. Window requires thorough in-situ wash down.	331-336

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
		capillary action. Window guard restricts general maintenance activities i.e. cleaning, sealant.	casement.		
W35	Steel framed single glazed fixed pane window and powdercoated finish. *Note: Window consists of original manufacturers fixings.*	Note that bottom rail has received a protective paint coating.	**Reasonable/Satisfactory.** Localised areas of minor spot rusting around fixings. Isolated loose window fixings. Light pitting of powdercoated finish. Neoprene seals to glazing slightly displaced.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	337-340
W36	Steel framed single glazed fixed pane window and powdercoated finish. *Note: Window consists of original manufacturers fixings.*	Note that bottom rail has received a protective paint coating.	**Reasonable/Satisfactory.** Localised areas of minor spot rusting around fixings. Isolated loose window fixings. Light pitting of powdercoated finish. Neoprene seals to glazing slightly displaced. Score marks to Lexan glazing.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	341-344
W37	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting to bottom rail of window casement. Isolated loose window fixings. Neoprene seals to glazing slightly displaced. Localised areas of minor spot rusting.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	345-348
W38	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting to bottom rail of window casement. Isolated loose window fixings. Neoprene seals to glazing slightly displaced. Localised areas of minor spot rusting.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	349-352

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
W39	Steel framed double glazed window with integrated venetian blinds and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom rail of window casement and powdercoated finish flaked. Crazing noted to the powdercoated finish.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	353-356
W40	Steel framed double glazed window with integrated venetian blinds and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Severe rusting to bottom spacer and fixings of window cavity. Localised areas of severe rusting and pitting to bottom rail of window casement. Crazing noted to the powdercoated finish. Note that bottom rail has received a protective paint coating.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	357-360
W41	Steel framed double glazed window and powdercoated finish.	The external secure moulded steel glazing bead and external window pane has been removed.	**Reasonable/Satisfactory**. Localised areas of minor surface rusting to bottom rail.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	361-364
W42	Steel framed single glazed fixed pane window with powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting to bottom rail of window casement. Localised areas of minor spot rusting around fixings. Light crazing to isolated areas of powdercoated finish. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	365-368
W43	Aluminium framed single glazed fixed pane window with powdercoated finish.	Sealant applied to perimeter glazing beading.	**Reasonable/Satisfactory**. Extensive atmospheric smut build-up.	Window requires thorough in-situ wash down.	369-372

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	Note mechanical extract fan inset to glazing.				
W44	Steel framed single glazed fixed pane window and powdercoated finish. *Note: Window consists of original manufacturers fixings.*	None.	**Reasonable/Satisfactory**. Isolated loose fixings to window frame. Localised surface rusting to bottom rail. Minor spot rusting noted around fixings. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	373-376
W45	3x aluminium framed single glazed fixed pane windows with aluminium mesh window guard externally.	Window guard fixed through aluminium frame creating a direct path for water ingress via capillary action. Window guard restricts general maintenance activities i.e. cleaning, sealant.	**Reasonable/Satisfactory**. Localised loose and missing screws to window guard and missing fixings to window casement.	New fixings are required where loose or missing. Window requires thorough in-situ wash down.	377-380
W46	Steel framed single glazed fixed pane window and powdercoated finish. *Note: Window consists of original manufacturers fixings.*	None.	**Reasonable/Satisfactory**. Localised loose and missing fixings to window casement. Localised areas of severe crazing to powdercoated finish. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	381-384
W47	Steel framed single glazed fixed pane window and powdercoated finish. *Note: Window consists of original manufacturers fixings.*	None.	**Reasonable/Satisfactory**. Localised areas of crazing to powdercoated finish, particularly around fixings. Neoprene seals to glazing slightly displaced and deteriorated. Score marks to Lexan glazing.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle	385-388

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
				ventilation through frame.	
W48	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom rail of window casement. Localised areas of minor spot rusting around fixings. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	389-392
W49	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe corrosion to bottom rail of window casement. Localised areas of spot rusting to window casement. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	393-396
W50	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom and top rail of window casement and pitting to powdercoated finish. Neoprene seals to glazing deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	397-400
W51	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom and top rail of window casement and pitting to powdercoated finish. Neoprene seals to glazing deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	401-404
W52	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed	**Poor.** Localised areas of severe corrosion to bottom rail of window casement. Localised areas of spot	Window to be removed and replaced with new steel framed security window inclusive of double-glazed	405-408

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
		window beading. Note that bottom rail has received a protective paint coating.	rusting to window casement. Neoprene seals to glazing slightly displaced and deteriorated.	anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	
W53	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe corrosion to bottom rail of window casement. Localised areas of rust staining to powdercoated finish. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	409-412
W54	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom and top rail of window casement and pitting to powdercoated finish. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	413-416
W55	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom rail of window casement and pitting to powdercoated finish. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	417-420
W56	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom rail of window casement and pitting to powdercoated finish. Localised areas of minor spot rusting to casement frame. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	421-424

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
W57	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Localised areas of severe rusting to bottom rail of window casement and pitting to powdercoated finish. Localised areas of minor spot rusting to casement frame. Neoprene seals to glazing slightly displaced and deteriorated.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings. Optional, fit trickle ventilation through frame.	425-428
W58	Steel framed single glazed fixed pane window and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Reasonable/Satisfactory**. Localised areas of spot rusting to bottom rail of window casement.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	429-432
W59	Steel framed single glazed fixed pane window and powdercoated finish with aluminium mesh window guard internally.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Reasonable/Satisfactory**. Localised areas of spot rusting to bottom rail of window casement.	Window to be removed and refurbished by sand blasting, hot-dip galvanising and powdercoated finish reinstated on completion. Allow for new hardware and glazing seals. New fixings are required where loose or missing. Optional, fit trickle ventilation through frame.	433-436
AOV1	Aluminium framed single glazed window with powdercoated finish. Note that window incorporates an Automated Opening Vent (AOV).	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	437-441
AOV2	Aluminium framed single glazed window with powdercoated finish. Note	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	442

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	that window incorporates an Automated Opening Vent (AOV).				
AOV3	Aluminium framed single glazed window with powdercoated finish. Note that window incorporates an Automated Opening Vent (AOV).	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	443-447
AOV4	Aluminium framed single glazed window with powdercoated finish. Note that window incorporates an Automated Opening Vent (AOV).	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	448-452
AOV5	Aluminium framed sing glazed window with powdercoated finish. Note that window incorporates an Automated Opening Vent (AOV).	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	453-456
AW1	Aluminium framed single glazed 2nr. fixed pane window with powdercoated finish.	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window. Isolated missing fixing to window frame.	Window requires thorough in-situ wash down. Install new fixings to frame where missing.	457-459
AOV6	Aluminium framed single glazed window with powdercoated finish. Note that window incorporates an Automated Opening Vent (AOV).	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	460-461
AOV7	Aluminium framed single	None.	**Reasonable/Satisfactory**. Build-up of	Window requires thorough in-situ	462

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	glazed window with powdercoated finish. Note that window incorporates an Automated Opening Vent (AOV).		atmospheric smut to frame and window.	wash down.	
AW2	Aluminium framed songle glazed 4nr. fixed pane window with powdercoated finish.	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	463-465
AW3	Aluminium framed window with powdercoated finish.	None.	**Reasonable/Satisfactory**. Build-up of atmospheric smut to frame and window.	Window requires thorough in-situ wash down.	466
TW1	Steel framed single glazed fixed pane triangular window with powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting to bottom rail of window casement. Localised areas of spot rusting to casement frame and around fixings.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	467-472
TW2	Steel framed single glazed fixed pane triangular window with powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading.	**Poor.** Localised areas of severe rusting to bottom rail of window casement. Localised areas of spot rusting to casement frame and around fixings.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	473-476
RL1	Aluminium Velux rooflight with powdercoated finish and butyl membrane upstand flashings.	Lapped joints to butyl membrane flashings not sealed.	**Reasonable/Satisfactory**.	As a temporary repair, we recommend applying a bitumen jointing tape to the lapped joints in order to prevent future water ingress. Ideally, the butyl around the rooflight upstands should be removed and new pre-fabricated aluminium flashings installed.	477-478
RL2	Aluminium Velux rooflight with powdercoated finish	Lapped joints to butyl membrane flashings not sealed.	**Reasonable/Satisfactory**.	As a temporary repair, we recommend applying a bitumen	479-480

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	and butyl membrane upstand flashings.			jointing tape to the lapped joints in order to prevent future water ingress. Ideally, the butyl around the rooflight upstands should be removed and new pre-fabricated aluminium flashings installed.	
RL3	3x aluminium Velux rooflight with powdercoated finish and butyl membrane upstand flashings.	Localised areas of loose butyl flashings. Isolated lapped joints to butyl membrane flashings not sealed.	**Reasonable/Satisfactory**. Deteriorated sealant to butyl lapped joints. Minor crazing to rooflight glazing bead to localised area.	As a temporary repair, we recommend applying a bitumen jointing tape to the lapped joints not already sealed and touch up deteriorated sealant. Ideally, the butyl around the rooflight upstands should be removed and new pre-fabricated aluminium flashings installed.	481-484
RL4	3x aluminium Velux rooflight with powdercoated finish and butyl membrane upstand flashings.	Localised areas of loose butyl flashings. Isolated lapped joints to butyl membrane flashings not sealed.	**Reasonable/Satisfactory**. Deteriorated sealant to butyl lapped joints.	As a temporary repair, we recommend applying a bitumen jointing tape to the lapped joints not already sealed and touch up deteriorated sealant. Ideally, the butyl around the rooflight upstands should be removed and new pre-fabricated aluminium flashings installed.	485-491
W60	Steel framed double glazed window with integrated venetian blinds and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Severe rusting to bottom spacer and fixings of window cavity. Localised areas of severe rusting and pitting to bottom rail of window casement. Crazing noted to the powdercoated finish. Note that bottom rail has received a protective paint coating.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	492-494
W61	Steel framed double glazed	Anti-tamper screws have been	**Poor.** Severe rusting to bottom spacer	Window to be removed and replaced	495

ITEM	CONSTRUCTION	DEFECT	CONDITION	RECOMMENDATION	PHOTO REFERENCE
	window with integrated venetian blinds and powdercoated finish.	fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	and fixings of window cavity. Localised areas of severe rusting and pitting to bottom rail of window casement. Crazing noted to the powdercoated finish. Note that bottom rail has received a protective paint coating.	with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	
W62	Steel framed double glazed window with integrated venetian blinds and powdercoated finish.	Anti-tamper screws have been fixed through frame to install powdercoated steel framed window beading. Note that bottom rail has received a protective paint coating.	**Poor.** Severe rusting to bottom spacer and fixings of window cavity. Localised areas of severe rusting and pitting to bottom rail of window casement. Crazing noted to the powdercoated finish. Note that bottom rail has received a protective paint coating.	Window to be removed and replaced with new steel framed security window inclusive of double-glazed anti-bandit glazing, hardware and associated flashings.	No photograph available

Section 3.0 Recommendation

3.1 Summary of Observations and Findings

From our site survey we have identified considerable damage to the majority of the powdercoated steel framed windows and doors at Hillmorton Hospital. Together with long term weathering and non-compliant modifications carried out to the joinery units this has led to the subsequent corrosion of the frame.

3.2 Recommendation

It is recommended that the majority of the steel windows and doors noted to be in a poor condition due to severe rusting of the frame are removed and replaced. The new joinery units should consist of steel framed security windows and doors with a powdercoated finish including anti-bandit glazing to meet the security requirements of the site.

Isolated steel windows and doors noted to be in a reasonable/satisfactory condition can be removed off-site and refurbished to include sand blasting and hot-dip galvanising of the frames, new glazing seals, hardware and powdercoated finish. Minor damage has been recorded to these joinery units generally in the form of light spot rusting/crazing to the powdercoated finish and dislodged neoprene glazing seals etc.

All other remaining windows and doors surveyed as part of our instruction can be refurbished, cleaned and/or serviced on-site due to minor defects such as loose or missing fixings and extensive build-up of atmospheric smut.

Following review of the NZ Building Act 2004 '*Building work that does not require a building consent*' we understand that a building consent application may not have to be lodged for the proposed repair and replacement of window and door joinery. Exemption 8 of the NZ Building Act 2004 states that "*if the door or window is older than 15 years and you are replacing it because it has rotted out, then this work will not require a building consent*.

Although the powdercoated finish to the steel framed windows and doors appears to have failed within the first 15 years from installation the windows and doors essentially remain fit for purpose. We would recommend obtaining confirmation from the local council regarding this exemption requirement.

Appendices

Appendix A Aerial View

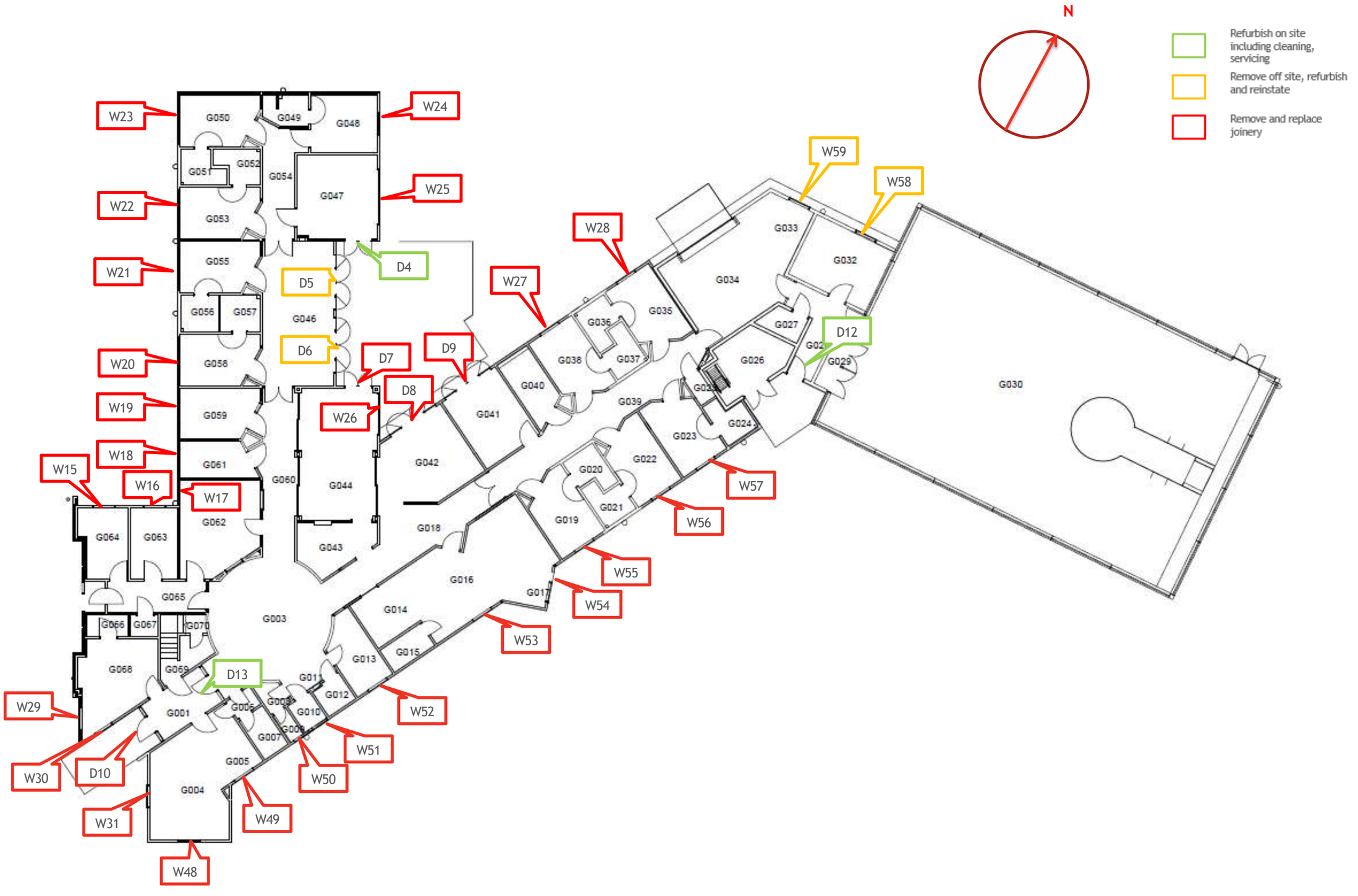
Te Whare Manaaki

Te Whare Hohou Roko

Appendix B Site Plans - Window & Door Repair Strategy

Te Whare Manaaki - Ground Floor

Te Whare Hohou Roko - Ground Floor



Appendix C Photographs

Photograph 1 Door 1

Photograph 2

Photograph 3

Photograph 4

Photograph 5

Photograph 6

Photograph 7

Photograph 8

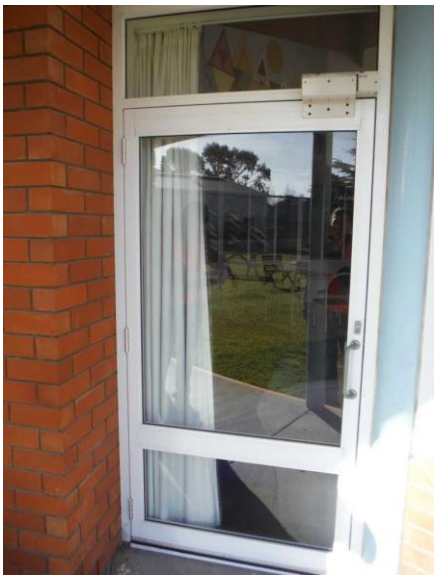
Photograph 9

Photograph 10

Photograph 11

Photograph 12 Door 2

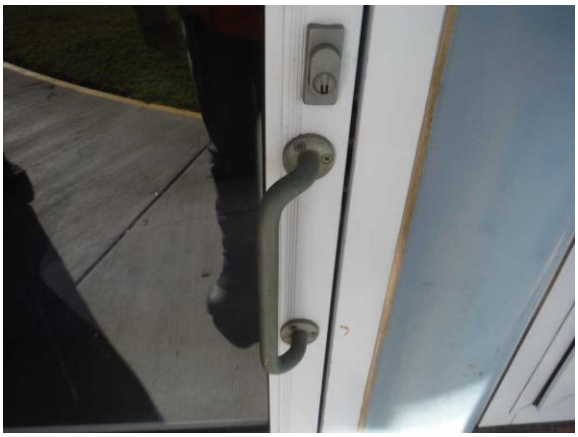
Photograph 13



Photograph 14 Door 3

Photograph 15

Photograph 16



Photograph 17

Photograph 18 Door 4

Photograph 19

Photograph 20

Photograph 21

Photograph 22

Photograph 23

Photograph 24

Photograph 25

Photograph 26

Photograph 27

Photograph 28 Door 5

Photograph 29

Photograph 30

Photograph 31

Photograph 32

Photograph 33

Photograph 34

Photograph 35

Photograph 36 Door 6

Photograph 37

Photograph 38

Photograph 39

Photograph 40

Photograph 41

Photograph 42

Photograph 43

Photograph 44 Door 7

Photograph 45

Photograph 46

Photograph 47

Photograph 48

Photograph 49

Photograph 50

Photograph 51

Photograph 52

Photograph 53

Photograph 54

Photograph 55

Photograph 56 Door 8

Photograph 57

Photograph 58

Photograph 59

Photograph 60

Photograph 61

Photograph 62

Photograph 63

Photograph 64

Photograph 65

Photograph 66

Photograph 67

Photograph 68

Photograph 69

Photograph 70 Door 9

Photograph 71

Photograph 72

Photograph 73

Photograph 74

Photograph 75

Photograph 76

Photograph 77

Photograph 78

Photograph 79

Photograph 80

Photograph 81

Photograph 82 Door 10

Photograph 83

Photograph 84

Photograph 85

Photograph 86

Photograph 87

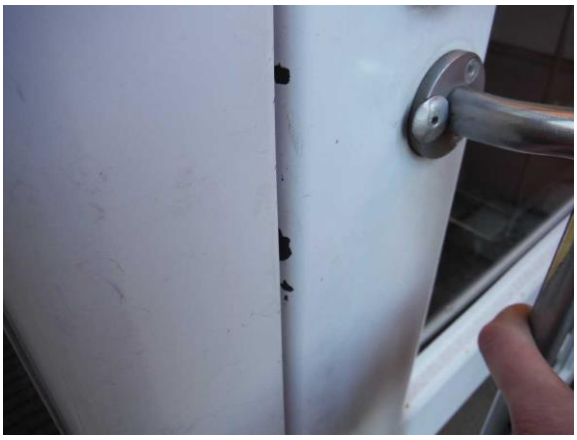
Photograph 88

Photograph 89

Photograph 90

Photograph 91

Photograph 92



Photograph 93

Photograph 94

Photograph 95

Photograph 96

Photograph 97

Photograph 98

Photograph 99 Door 11

Photograph 100

Photograph 101

Photograph 102

Photograph 103

Photograph 104

Photograph 105

Photograph 106

Photograph 107

Photograph 108

Photograph 109

Photograph 110

Photograph 111

Photograph 112

Photograph 113

Photograph 114

Photograph 115

Photograph 116

Photograph 117

Photograph 118

Photograph 119

Photograph 120

Photograph 121 Door 12

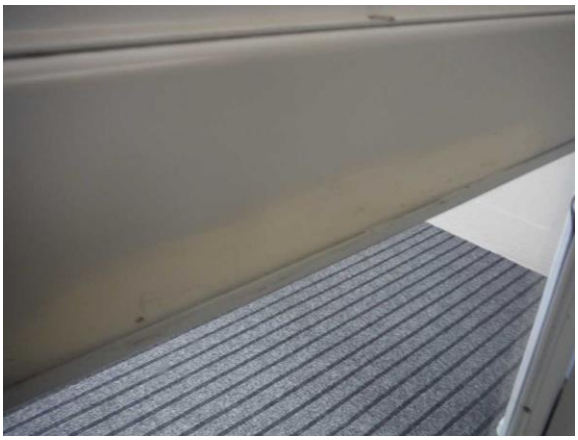
Photograph 122

Photograph 123

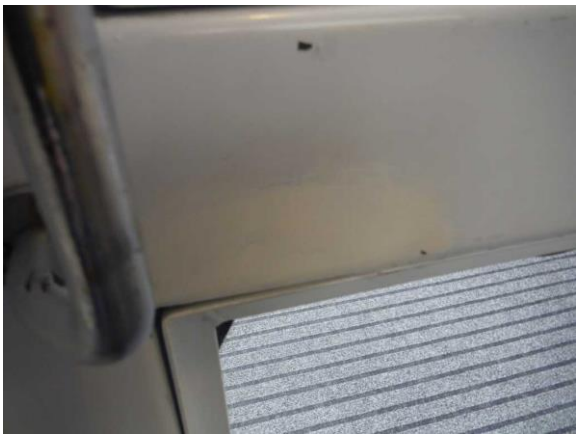
Photograph 124

Photograph 125

Photograph 126



Photograph 127 Door 13



Photograph 128

Photograph 129 Door 14

Photograph 130

Photograph 131

Photograph 132

Photograph 133 Door 15

Photograph 134

Photograph 135

Photograph 136

Photograph 137 Door 16

Photograph 138

Photograph 139

Photograph 140

Photograph 141 Door 17

Photograph 142

Photograph 143 Door 18

Photograph 144

Photograph 145

Photograph 146

Photograph 147

Photograph 148

Photograph 149 Window 1

Photograph 150

Photograph 151

Photograph 152

Photograph 153

Photograph 154

Photograph 155

Photograph 156

Photograph 157

Photograph 158

Photograph 159

Photograph 160

Photograph 161

Photograph 162 Window 2

Photograph 163

Photograph 164

Photograph 165

Photograph 166

Photograph 167

Photograph 168 Window 3

Photograph 169

Photograph 170

Photograph 171

Photograph 172

Photograph 173

Photograph 174

Photograph 175

Photograph 176 Window 4

Photograph 177

Photograph 178

Photograph 179

Photograph 180

Photograph 181

Photograph 182

Photograph 183

Photograph 184

Photograph 185

Photograph 186

Photograph 187

Photograph 188

Photograph 189

Photograph 190

Photograph 191

Photograph 192 Window 5

Photograph 193

Photograph 194

Photograph 195

Photograph 196

Photograph 197

Photograph 198

Photograph 199

Photograph 200 Window 6

Photograph 201

Photograph 202

Photograph 203

Photograph 204

Photograph 205

Photograph 206

Photograph 207

Photograph 208 Window 7

Photograph 209

Photograph 210

Photograph 211

Photograph 212 Window 8

Photograph 213

Photograph 214

Photograph 215

Photograph 216 Window 9

Photograph 217

Photograph 218

Photograph 219

Photograph 220

Photograph 221

Photograph 222 Window 10

Photograph 223

Photograph 224

Photograph 225

Photograph 226

Photograph 227

Photograph 228

Photograph 229

Photograph 230 Window 11

Photograph 231

Photograph 232

Photograph 233

Photograph 234

Photograph 235 Window 12

Photograph 236

Photograph 237

Photograph 238

Photograph 239 Window 13

Photograph 240

Photograph 241

Photograph 242

Photograph 243

Photograph 244

Photograph 245 Window 14

Photograph 246

Photograph 247

Photograph 248

Photograph 249 Window 15

Photograph 250

Photograph 251

Photograph 252

Photograph 253 Window 16

Photograph 254

Photograph 255

Photograph 256

Photograph 257 Window 17

Photograph 258

Photograph 259

Photograph 260

Photograph 261 Window 18

Photograph 262

Photograph 263

Photograph 264

Photograph 265 Window 19

Photograph 266

Photograph 267

Photograph 268

Photograph 269 Window 20

Photograph 270

Photograph 271

Photograph 272

Photograph 273 Window 21

Photograph 274

Photograph 275

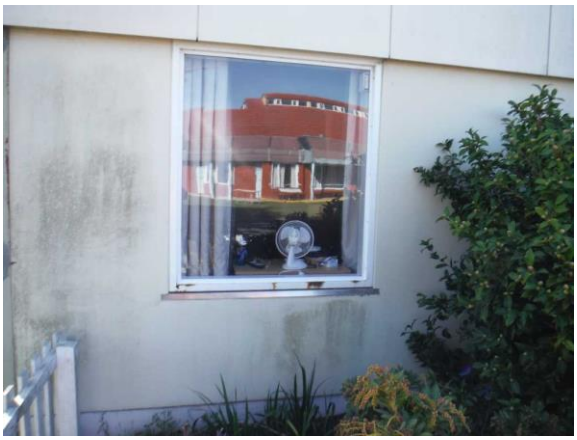
Photograph 276

Photograph 277 Window 22

Photograph 278

Photograph 279

Photograph 280



Photograph 281 Window 23

Photograph 282

Photograph 283

Photograph 284

Photograph 285 Window 24

Photograph 286

Photograph 287

Photograph 288

Photograph 289 Window 25

Photograph 290

Photograph 291

Photograph 292

Photograph 293

Photograph 294

Photograph 295

Photograph 296

Photograph 297 Window 26

Photograph 298

Photograph 299

Photograph 300

Photograph 301

Photograph 302

Photograph 303 Window 27

Photograph 304

Photograph 305

Photograph 306

Photograph 307 Window 28

Photograph 308

Photograph 309

Photograph 310

Photograph 311 Window 29

Photograph 312

Photograph 313

Photograph 314

Photograph 315 Window 30

Photograph 316

Photograph 317

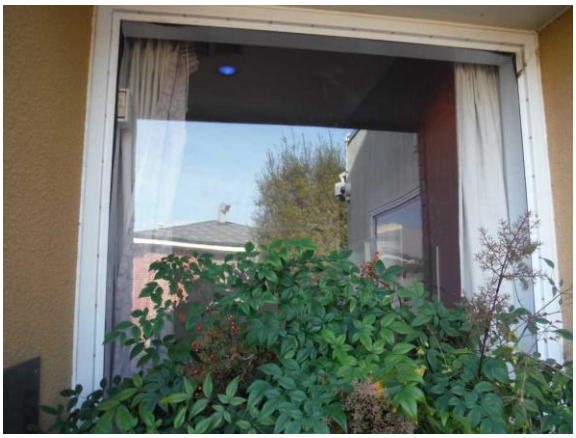
Photograph 318

Photograph 319 Window 31

Photograph 320

Photograph 321

Photograph 322



Photograph 323 Window 32

Photograph 324

Photograph 325

Photograph 326

Photograph 327 Window 33

Photograph 328

Photograph 329

Photograph 330

Photograph 331 Window 34

Photograph 332

Photograph 333

Photograph 334

Photograph 335

Photograph 336

Photograph 337 Window 35

Photograph 338

Photograph 339

Photograph 340

Photograph 341 Window 36

Photograph 342

Photograph 343

Photograph 344

Photograph 345 Window 37

Photograph 346

Photograph 347

Photograph 348

Photograph 349 Window 38

Photograph 350

Photograph 351

Photograph 352

Photograph 353 Window 39

Photograph 354

Photograph 355

Photograph 356

Photograph 357 Window 40

Photograph 358

Photograph 359

Photograph 360

Photograph 361 Window 41

Photograph 362

Photograph 363

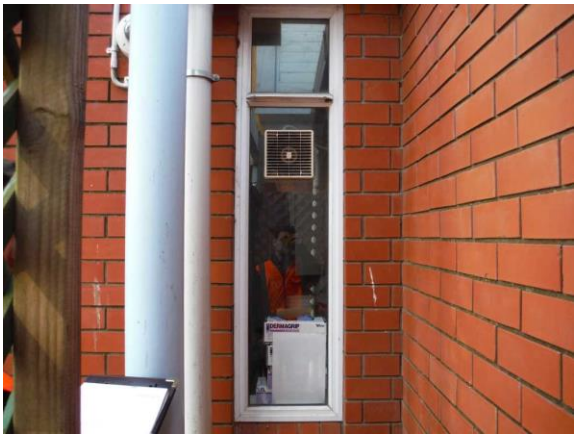
Photograph 364

Photograph 365 Window 42

Photograph 366

Photograph 367

Photograph 368



Photograph 369 Window 43

Photograph 370

Photograph 371

Photograph 372

Photograph 373 Window 44

Photograph 374

Photograph 375

Photograph 376

Photograph 377 Window 45

Photograph 378

Photograph 379

Photograph 380

Photograph 381 Window 46

Photograph 382

Photograph 383

Photograph 384

Photograph 385 Window 47

Photograph 386

Photograph 387

Photograph 388

Photograph 389 Window 48

Photograph 390

Photograph 391

Photograph 392

Photograph 393 Window 49

Photograph 394

Photograph 395

Photograph 396

Photograph 397 Window 50

Photograph 398

Photograph 399

Photograph 400

Photograph 401 Window 51

Photograph 402

Photograph 403

Photograph 404

Photograph 405 Window 52

Photograph 406

Photograph 407

Photograph 408

Photograph 409 Window 53

Photograph 410

Photograph 411

Photograph 412

Photograph 413 Window 54

Photograph 414

Photograph 415

Photograph 416

Photograph 417 Window 55

Photograph 418

Photograph 419

Photograph 420

Photograph 421 Window 56

Photograph 422

Photograph 423

Photograph 424

Photograph 425 Window 57

Photograph 426

Photograph 427

Photograph 428

Photograph 429 Window 58

Photograph 430

Photograph 431

Photograph 432

Photograph 433 Window 59

Photograph 434

Photograph 435

Photograph 436

Photograph 437 AOV 1

Photograph 438

Photograph 439

Photograph 440

Photograph 441

Photograph 442 AOV 2

Photograph 443 AOV 3

Photograph 444

Photograph 445

Photograph 446

Photograph 447

Photograph 448 AOV 4

Photograph 449

Photograph 450

Photograph 451

Photograph 452

Photograph 453 AOV 5

Photograph 454

Photograph 455

Photograph 456

Photograph 457 AW1

Photograph 458

Photograph 459

Photograph 460 AOV6

Photograph 461

Photograph 462 AOV7

Photograph 463 AW2

Photograph 464

Photograph 465

Photograph 466 AW3

Photograph 467 TW1

Photograph 468

Photograph 469

Photograph 470

Photograph 471

Photograph 472

Photograph 473 TW2

Photograph 474

Photograph 475

Photograph 476

Photograph 477 RL1

Photograph 478

Photograph 479 RL2

Photograph 480

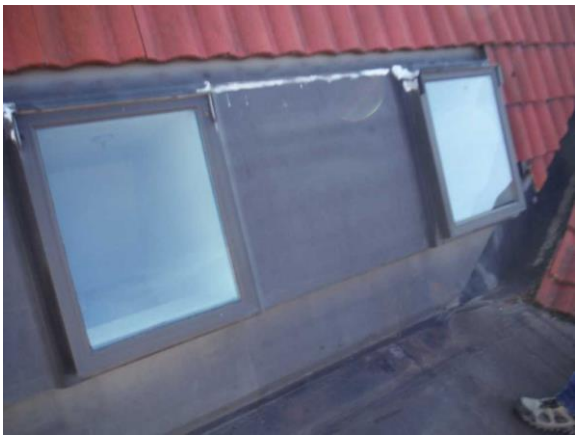
Photograph 481 RL3

Photograph 482

Photograph 483

Photograph 484

Photograph 485 RL4



Photograph 486

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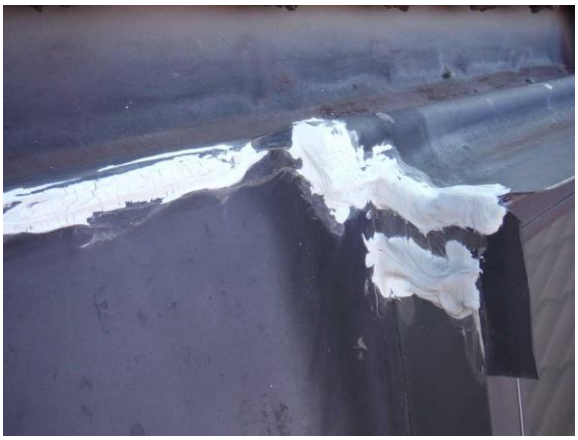
Photograph 488

Photograph 489

Photograph 490



Photograph 491

Photograph 492 W60

Photograph 493

Photograph 494

Photograph 495 W61

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