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RE Official Information Act request CDHB 9830

We refer to your email dated 10 April 2018 requesting the following information under the Official Information Act from Canterbury DHB.

1. **The summary or executive summary or conclusions section, and the recommendations section if any, of ANY report or advisory done for or received by the DHB or consultant to the DHB since 2011, into the weather-tightness of any of its current assets or assets demolished since 2004.**
- **in the absence of such a summary, then the full report itself as above**

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** a condition assessment report dated September 2016 obtained in respect of those buildings.

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

Document Revision History

REPORT TITLE	Door and Window Condition Assessment
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-	09/09/2016	Draft issue to client
1	15/09/2016	Issue to client

Authorisation for Issue

Signed (Author)



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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.



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.



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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)	19 th and 22 nd 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.



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 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. Cracking 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. <i>Note: Window consists of original manufacturers fixings.</i>	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. <i>Note: Window consists of original manufacturers fixings.</i>	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. <i>Note: Window consists of original manufacturers fixings.</i>	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. <i>Note: Window consists of original manufacturers fixings.</i>	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. Craziing 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. Craziing 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 craziing 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
	<i>Note mechanical extract fan inset to glazing.</i>				
W44	Steel framed single glazed fixed pane window and powdercoated finish. <i>Note: Window consists of original manufacturers fixings.</i>	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. <i>Note: Window consists of original manufacturers fixings.</i>	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. <i>Note: Window consists of original manufacturers fixings.</i>	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 wash down.	in-situ 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 wash down.	in-situ 448-452
AOV5	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 wash down.	in-situ 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 wash down. Install new fixings to frame where missing.	in-situ 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 wash down.	in-situ 460-461
AOV7	Aluminium framed single	None.	Reasonable/Satisfactory. Build-up of	Window requires thorough wash down.	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 single 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

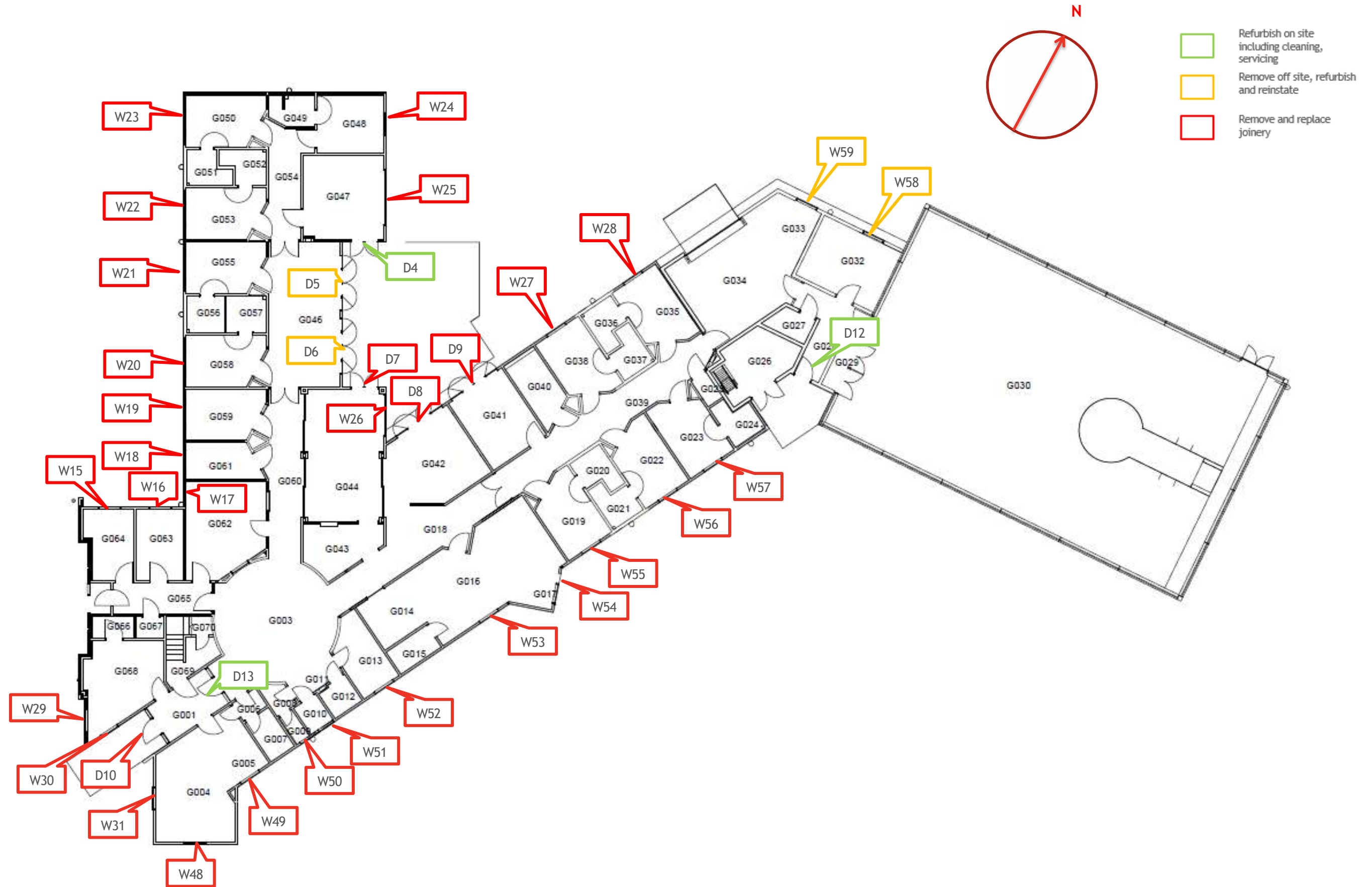
Te Whare Hohou Roko



Appendix B Site Plans - Window & Door Repair Strategy

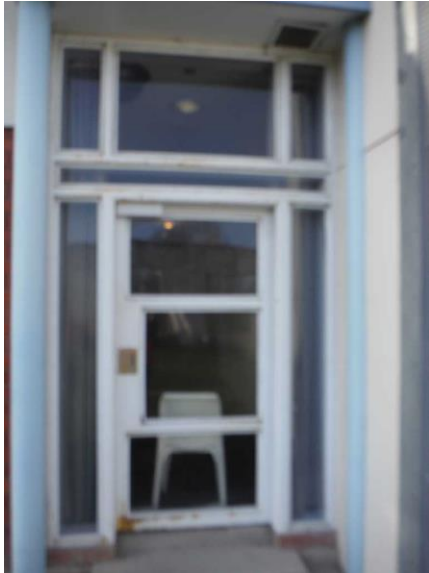


Te Whare Hohou Roko - Ground Floor





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



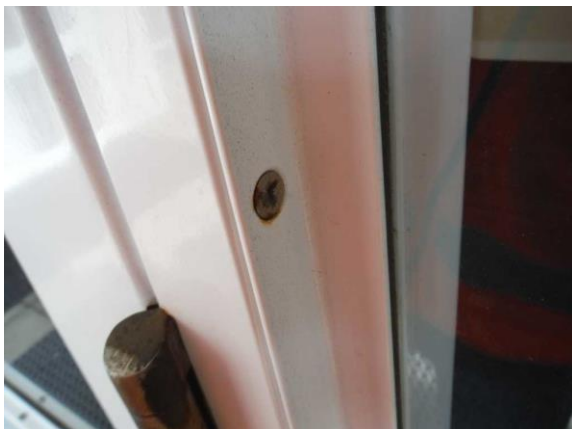
Photograph 36 Door 6



Photograph 37



Photograph 38



Photograph 39



Photograph 40



Photograph 41



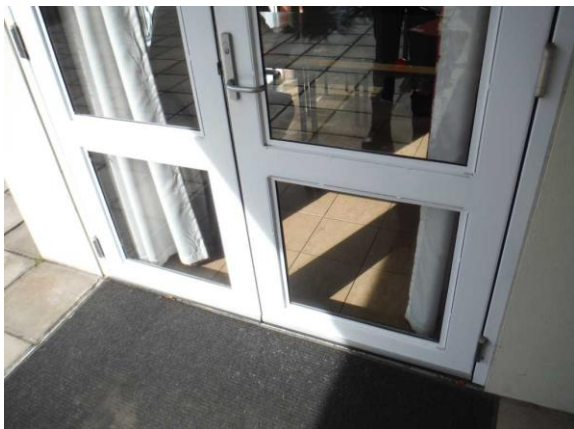
Photograph 42



Photograph 43



Photograph 44 Door 7



Photograph 45



Photograph 46



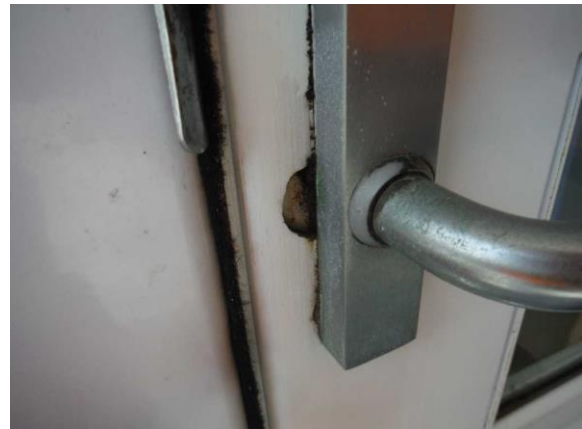
Photograph 47



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



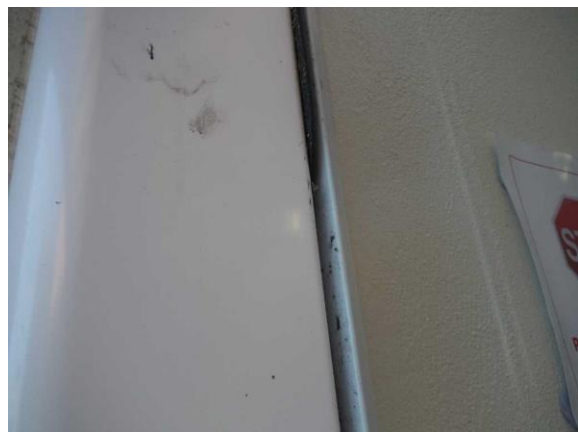
Photograph 91



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



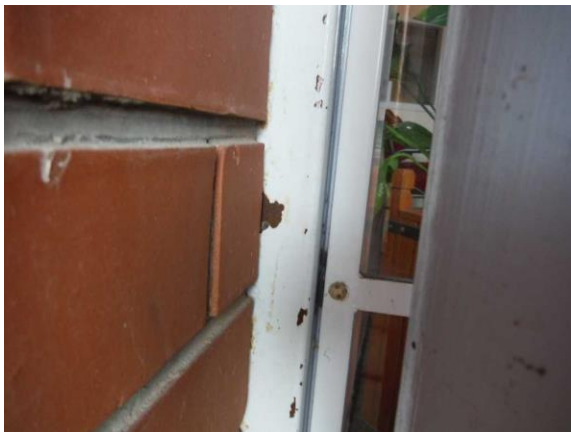
Photograph 114



Photograph 115



Photograph 116



Photograph 117



Photograph 118



Photograph 119



Photograph 120



Photograph 121 Door 12



Photograph 122



Photograph 123



Photograph 124



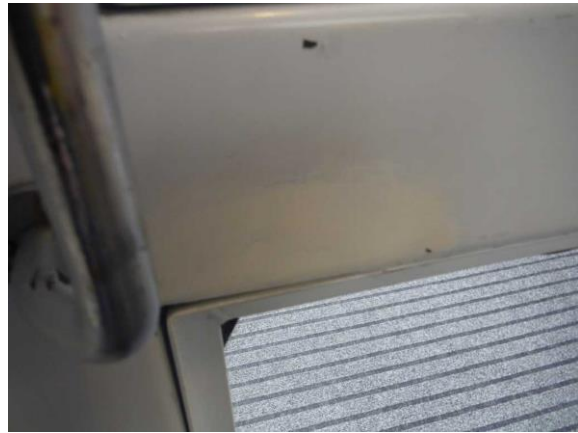
Photograph 125



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



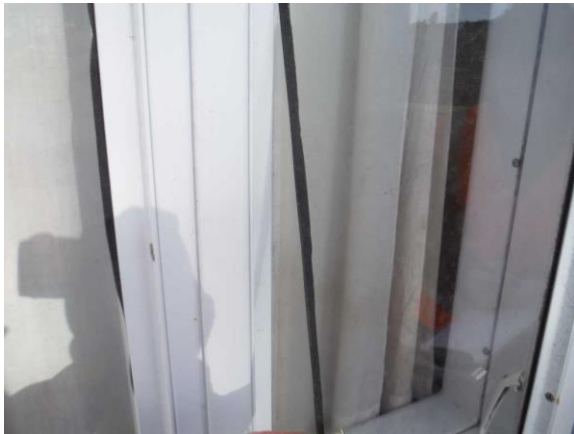
Photograph 160



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



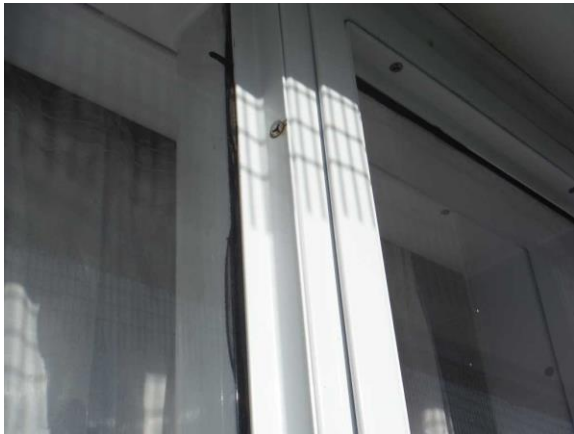
Photograph 172



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



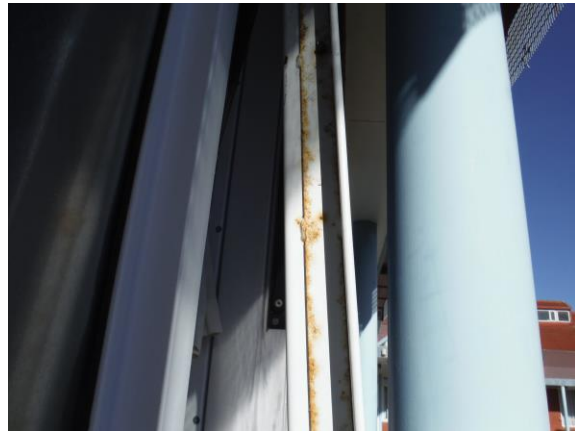
Photograph 239 Window 13



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



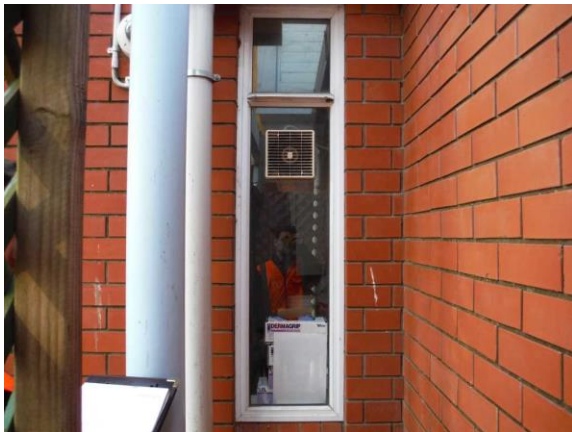
Photograph 366



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



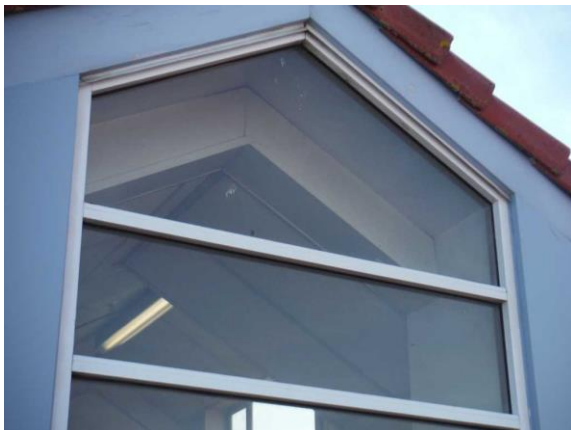
Photograph 462 AOV7



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



Photograph 487



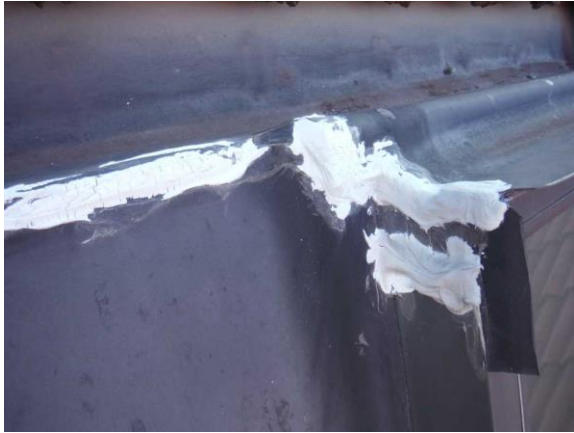
Photograph 488



Photograph 489



Photograph 490



Photograph 491



Photograph 492 W60



Photograph 493



Photograph 494



Photograph 495 W61



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