MJ ENGINEERING PROJECTS

GENERAL CONDITION OF CONTRACT FOR:

SP67851

200 WILLIAM STREET, WOOLLOOMOOLOO NSW 2011- REMEDIATION WORKS TO BALCONY AND BUILDING FACADE

Prepared By:
MJ Engineering Projects Pty Ltd
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0. Summary

Site Address	200 William Street, Woolloomooloo NSW 2011
Strata Plan	SP67851
Client	Ascendcorp Strata Pty Ltd
Reference Number	0324SP67851

0. Revision History

Issue	Revision	Date	Purpose of Issue	Prepared by	Reviewed by
01	00	15-03-2024	Issued for internal review	MJ	DJ
01	00	18-03-2024	Issued to client	MJ	DJ

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1. General

1.1 Preamble

The rectification work to the building is including the following items:

- The waterproofing of balconies
- The replacement of balcony doors
- The removal and tiles on building façade
- The waterproofing of planter boxes (only if required)
- The removal and replacement of balcony balustrades (only if required)
- The repairing of cracking
- The repairing of concrete spalling
- The repairing of delaminated render
- The application of wall cavity flashing
- The rendering of balcony slab edges (optional)
- The application of medium build acrylic (only if required)
- The application of low sheen acrylic (only if required)
- The application of joint sealant (As required)
- The sealing of window gasket (only if required)
- The rectification of metal awnings (only if required)
- The Modification of Existing Balustrades
- The Removal & Replacement of Balcony Balustrades

The Superintendent or a representative of the Superintendent will attend the site regularly during execution of the work, to inspect certain and at critical stages of the works; **however, the Day-to-Day work supervision and quality assurance is the responsibility of the Contractor**. The Contractor's access equipment shall be made available to the Superintendent and representatives of the Superintendent for such inspections.

THIS IS A COMBINED LUMP SUM / SCHEDULE OF RATES TENDER,

NOT SUBJECT TO RISE AND FALL.

1.2 Observance of Specification

The whole of the work described in, or referred to in, or deemed to be included in, or implied by the Specification, is to be done and executed in every detail in strict accordance with the provisions of these documents, present conditions and the relevant Australian Standards. **The contractor is fully responsible to strictly adhere and comply with the relevant Australian Standards in all aspects of the work carried out for this project.**

1.3 Contractors Risk

The Contractor shall take upon himself the whole risk of executing the work in accordance with the Specifications, drawings, these conditions and the relevant Australian Standards and in so doing shall observe the provisions of all relevant statutes, regulations and by-laws and shall comply with the requirements of any municipal, local or other authority with regard thereto.

1.4 Program

The contractor shall submit a program with the quotation identifying a proposed sequence of activities and duration of time allowed for various activities.

2. Conditions Of Contract

2.1 Definitions

The Principal:	The Proprietors – SP67851
The Occupiers:	Members of SP67851, occupiers and their visitors (200 William Street, Woolloomooloo NSW 2011)
The Superintendent:	MJ Engineering Projects Pty. Ltd.

2.2 Contract Documents

The contract shall be under the form of AS 4000-1997 as modified by the annexures and shall comprise of items (a) to (g) below. All of the Contract Documents shall be read together as being mutually explanations.

In the case of any ambiguity or inconsistency between the documents forming the Contract, the Superintendent shall direct the Contractor as to the interpretation to be as followed.

(a) Consumer Building Guide (by Office of Fair Trading)

(b) These general conditions of contract

(c) AS 4000-1997 (as published by the Standards Association of Australia)

(d) Annexure to AS 4000-1997; instrument of agreement

(e) The tender offer of the successful contractor

(f) The scope of works

(g) The letter of acceptance

2.3 Contract to Bind Contractors Jointly and Severally

If the Contractor is more than one person all agreements and obligations herein contained and on the part of the Contractor to be observed or performed shall be read and construed as binding each and every such person severally and any and every two or more of them jointly.

2.4 Licence

Contractor must provide their licence number in accordance with the home building act 1989 Act.

2.5 Insurance

Before commencing any work under this Contract, the Contractor shall effect the insurances nominated in the Contract documents (specifically clauses 16, 17, 18 and19 of AS4000-1997).

Before any work is commenced on site, the policies of insurance shall be produced to the Principal by the Contractor and the Contractor shall produce the premium receipts and such

other documentary evidence as the Principal may demand in proof from time to time of the existence and continuity of such insurances until the work is completed.

In the event of the Contractor failing to fulfil any of his obligations under this clause the Principal may, without notice to the Contractor, effect any such insurance and recover the cost thereof from the Contractor.

2.6 Indemnity of Principal

None of the conditions of the Contract shall be varied, waived, discharged or released either at law or in equity, unless by the express consent of the Principal testified in writing under the Principal's hand.

2.7 Price

Firm prices are required for all items of work.

This is a lump sum/schedule of rates contract, not subject to rise and fall.

Nothing in these documents shall be construed as indicating specific quantities in relation to any part of the work.

The amount included in the Contract Sum for set up, access and administration will be paid on a pro-rata basis throughout the contract (i.e., the amount shall be paid in equal instalment with each progress claim), and not as a single payment with the first progress claim.

2.8 Warranty

The statutory warranties applying to the work are as follows:

(i) a warranty that the work will be performed in a proper and workmanlike manner and in accordance with the plans and scope of works set out in the contract;

(ii) a warranty that all materials supplied by the licence holder or person will be good and suitable for the purpose for which they are used and that, unless otherwise stated in the contract, those materials will be new;

(iii) a warranty that the work will be done in accordance with, and will comply with, the Home Building Act 1989 (NSW) and any other law;

(iv) a warranty that the work will be done with due diligence and within the time stipulated in the contract, or if no time is stipulated, within a reasonable time;

(v) a warranty that, if the work consists of the construction of a dwelling, the making of alterations or additions to a dwelling or the repairing, renovation, decoration or

(vi) protective treatment of a dwelling, the work will result, to the extent of the work conducted, in a dwelling that is reasonably fit for occupation as a dwelling;

(vii) a warranty that the work and any materials used in doing the work will be reasonably fit for the specified purpose or result, if the person for whom the work is done expressly makes known to the holder of the licence or person required to hold a licence, or another person with express or apparent authority to enter into or vary contractual arrangements on behalf of the holder or person, the particular purpose for which the work is required or the result that the owner desires the work to achieve, so as to show that the owner relies on the holder's or person's skill and judgment.

Manufacturer's warranties shall also be provided.

The Contractor shall provide the warranties in the name of the Principal.

All warranty periods shall commence from the date of Practical Completion and remain in force for the periods specified. All warranties shall state that workmanship, materials and installation and/or application are warranted by the Contractor for the required period.

2.9 Timing

The Contractor shall be notified at least 2 weeks prior to commencement on site. If it becomes apparent that the work will not be completed by the practical completion date, which is adjusted from time-to-time in accordance with the contract, the contractor shall provide whatever manpower or resources are necessary to bring completion forward to the practical completion date. This shall be done without making any extra charge on the Principal.

If delays are experienced during the work that are beyond the control of the Contractor, and are due to a cause specified in clause 34 of AS4000 (as modified by this provision), then a claim for an extension of time can be provided to the Superintendent for review.

2.10 Inspection

The Contractor shall be deemed to have inspected the building and to have satisfied himself as to the nature and extent of the work, present condition of the building and all other local information required.

No payment as an extra will be made for necessary work unforeseen by the Contractor.

2.11 Closing Date

Tenders close on or before **AS Per Tender Form,** Tenders must be submitted electronically by email to **(info@mjengineeringprojects.com.au)**

2.12 Labour

All labour used shall be full time employees or subcontractors of the Contractor, and shall be experienced in the materials and techniques to be used. Proof of such experience may be required by the Superintendent. The tenderer shall state the full name(s) of any Trade Union(s) to be employed on site (if any) in this tender. Tenderers must state whether or not they subscribe to the Building Workers' Long Service Leave Act, 1974.

Work shall only be carried out between 7:00 a.m. and 5:00 p.m. Monday to Friday (inclusive) and between 8:00a.m. and 12:00 p.m. on Saturdays. No external work shall be permitted on Sundays. The approved hours of work and the 24 hour telephone number must be prominently displayed at all times on the building site and must be visible from a public street or public place. Any agreements to pay overtime rates shall not be a charge on the Principal. The Superintendent's permission must be obtained at all times for any work to be carried out outside these working hours. Before commencing any work the Contractor shall provide the Superintendent with details of his normal working hours, but they must always comply with any local council requirements or working hours specified elsewhere in these documents.

Overtime work shall not be grounds for an adjustment to the Contract Sum. Whether or not instructed by the Principal or Superintendent to work overtime, the Contractor shall notify them and give reasonable notice of his intention to carry out work outside normal working hours. The Contractor must work diligently from the date of commencement of execution of the Works until Practical Completion.

The Contractor shall arrange overtime beyond the normal week which is necessary to maintain progress in accordance with the programmed date for commencement and completion of each section of the Works, as established by the construction program.

2.13 Contractor's Representative

The Contractor at all times during the progress of the work shall have a responsible representative in charge to receive instructions from the Superintendent and to represent the Contractor for all purposes of the Contract, as described in Clause 22 of AS 4000-1997. The name of such person shall be provided to the Superintendent before any work commences on site. Except in an emergency, such as illness, the Contractor shall give the Superintendent at least one week's notice of any change in supervisory personnel. The Contractor shall provide his representative with a mobile phone, which shall be switched on and kept in the possession of the Contractors representative at all times whilst he is on site.

2.14 Construction Program

Within one week of acceptance, the Contractor shall submit to the Superintendent for approval three copies of his Construction Program as described in Clause 32 of AS 4000-1997. This program shall specifically detail the works to be completed at the end of each week for the duration of the Contract. No work shall commence until such time as the program has been received and approved.

The Superintendent shall have full power to direct in what order, and point of time, the various parts of the work shall be carried out.

The program shall be in the form of a linked bar chart showing duration and relationships of key activities and identifying key milestone dates.

The Contractor shall update the program from time to time as progress of the works dictate or when so required by the Superintendent.

2.15 Safety

A copy of the Contractor's Safe Work Method Statement shall be submitted to the Superintendent 5 working days prior to establishment on site. Any significant changes to that document shall be brought to the Superintendent's notice, in writing, immediately that the changes are made. All requirements of the Contractor as outlined in the OHS regulation 2019 shall be strictly adhered to.

The Contractor must rope off, barricade, scaffold or otherwise provide at his cost, protection for the Principal, Occupiers and the Public against any hazard arising out of the work. In particular the Contractor shall ensure that people using footpaths, driveways, or other public areas are protected against falling debris.

The details of the proposed protection system shall be provided with the tender.
Where scaffolding is used, the scaffold is to be made safe at the end of each days work. This shall include the removal of ladders so as to prevent unauthorised access to the scaffold while the Contractor is away from the site.
Where swinging stages are used, power to the winches is to be disconnected at the Principal's power outlet at the end of each days work, and the electrical lead securely locked away. The stage shall be securely and safely parked in a location not readily accessible to unauthorised persons. Winch ropes shall be coiled up where necessary so as not to create an inconvenience or a hazard to the Principal.

All winch motors or other electrical equipment shall be connected to the power supply through residual current devices. All power leads are to be tagged by a licensed electrician, and shall be regularly inspected.

If swinging stages are used to provide access to the work, the Contractor shall supply evidence that winch motors have been serviced or inspected by an appropriate authority no more than three months prior to the commencement of work. The serial numbers and brands of all winch motors to be used on the site shall be provided prior to the commencement of work, and winch motors will not be replaced at any time during the works without prior approval of the Superintendent. Any winch motors taken on site after the work has commenced shall meet the requirements detailed above. Any request to replace winch motors, or add to winches or cables on site shall be made in writing, with any relevant service or inspection information.

All cables for swinging stages will be in good condition, free of any kinks or frayed wires. The Contractor will provide evidence that cable diameters are in accordance with the requirements of the winch manufacturer, and that they have not worn excessively.

The Superintendent may, at his discretion, tag winch motors or cables to ensure that changes to equipment on site are not made without prior approval. The Superintendent may direct that part or all of the swinging stage equipment be repaired or replaced at any time during the works. He may further direct that all associated works cease on site until such time as the equipment is made good and any costs resulting from these delays shall be borne by the Contractor.

When mast climbers are used, the power to the climber shall be disconnected at the Principal's outlet at the end of each days work. The working platform shall be safely parked in a location not readily accessible to the unauthorised persons.

The cost of hoarding, scaffolding, or other access equipment for all work must be included in the cost, and contractor must plan their work in such a way as to use scaffolding or other equipment for all work in the area in which it has been erected before it is dismantled and removed to another location on the site unless agreed otherwise with the Superintendent.

It will be necessary to erect a catch scaffold (hoarding) over any walkways or other areas normally accessible to the Principal, their visitors and the Public, or otherwise barricade such areas to prevent public access during the course of the work.

Any costs associated with Council, and other permits must be included, along with approvals for scaffolding and other temporary site works. Note that proof shall be supplied to the Superintendent prior to the commencement of any demolition or building work on site that a Hoarding permit has been obtained from Council for the purposes of erection of a hoarding. Any hoarding is to be erected to Council's satisfaction and traffic lights, kerb ramps and access to public utility service covers shall not be obstructed. Structural certification by an appropriately qualified practising Structural Engineer stating that any hoarding complies with the relevant building codes and industry standards shall be required to be provided to the satisfaction of the Council. The cost associated with this work will be borne by the Contractor. It should be noted also that the public way must not be obstructed by any materials, vehicles refuse skips or the like, under any circumstances.

The Contractor must ensure at all times that no debris created by him, or water or other materials which he is using can cause any hazard to any persons on the site, or to other parts of the building.

All hand tools must be securely fastened to the mast climber, stage or scaffolding with loose straps such that if they are accidentally dropped they will not cause injury or damage, or create any other hazard.

2.16 Protection

The Contractor shall provide adequate protection for all existing surfaces, fitments and services, both internal and external while work is in progress. Existing floors and pavements in work or access areas shall be fully covered and appropriate protection shall be provided against ingress of water.

Any damage to new or existing work during construction is to be made good by the Contractor at his own expense.

Where any item is specified for re-use and it is lost or damaged during demolition or construction it is to be replaced with a new item at the Contractor's own expense.

2.17 Interruption to Existing Services

Any work in connection with existing services shall be carried out at times agreed upon with the Principal in order that interruptions to existing services are minimised.

Should existing services need to be temporarily disconnected, the Contractor shall provide and maintain at his cost, adequate supplies of temporary electric power and/or gas as necessary until such time as permanent supplies are reconnected to the Works.

At least 14 days prior to the disconnection of or temporary shutdown of any building service or facility, the Contractor shall submit to the Superintendent in writing, details of the work proposed including duration of activity for the Superintendent's approval.

2.18 Noise

The use of noisy implements such as compressors, air and electric hammers and so on, shall be limited to equipment which has been especially muffled or silenced so as to generate the least possible amount of noise.

Should a complaint of noise be made whether from the Building under repair or adjacent buildings, the Superintendent will investigate the complaint and if the level of noise found to be higher than the level of noise set in the EPA guidelines then the Superintendent will instruct the Contractor to cease work forthwith and not commence work, with the exception of protection and screening works, until other times as is deemed acceptable by the Superintendent. No consideration of claims for additional time or costs associated with such instructions shall be considered.

If the Superintendent should direct that any noisy equipment (proven to produces higher level of noise than the ones indicated in the EPA guidelines) to be replaced with less noisy equipment, this shall be done at cost to the Contractor.

In addition, any Local Council or other Statutory Authority requirements shall be met.

2.19 Facilities

The Principal will make available to the Contractor water and 240 v. power where the Contractor is able to access House Power supplies. The Contractor shall provide his own messing facilities, and these shall be located on the site in a position approved by the Principal. The Contractor shall provide reasonable facilities for site meetings. The Contractor shall provide an industrial rubbish bin on site, large enough to store all debris and other rubbish generated in the period between removal. This shall be located in a position approved by the Principal.

2.20 Parking

Car parking on site is pending the Principal approval. Parking is available in the adjoining streets.

2.21 Dilapidation Survey

The Contractor shall carry out a dilapidation survey before commencing work in any location to record all existing damage or defects. A copy of this record shall be handed to the Superintendent before work commences in any location. The purpose of this dilapidation survey is to protect both the Principal and Contractor against loss or damage caused by others. Failure of the Contractor to present the details of this survey prior to the commencement of work shall render them liable for any damage encountered during the course of the work by any cause whatsoever, without the need for the Principal to establish the cause of the damage or whether or not the damage has occurred during the course of the work.

2.22 Maintenance After Completion

The Contractor shall at his own cost maintain the work in good order until the work shall have been taken over as complete by the Superintendent and the Principal.

2.23 Cleanliness

All work must be carried out in a clean, tidy and orderly manner, and so as to create the least inconvenience to the Principal and the Occupiers. All debris generated shall be placed in the waste bin at the end of each day's work and shall not be allowed to accumulate on site. In particular, no debris shall be left on scaffolding or stages at the end of any days work. The rubbish bin shall be emptied frequently enough to ensure that rubbish does not accumulate on site.

No water shall be permitted to flow across the surface of the site, except to reach designated drains and shall be in accordance with Council's standard requirements and to the Council's satisfaction. The Contractor shall indemnify the Principal against any damage caused by accidental release of water or any other action of the Contractor which may damage any of the Principal's property, the property of visitors to the site, the property of neighbouring buildings or of motor vehicles parked near the site. The Contractor shall also ensure that the requirements of the EPA are met at all times, and shall indemnify the Principal against any costs that may arise from their own failure to comply.

Care shall be taken to ensure that no debris lodges in drains or other areas where it will interrupt free flow of water away from the site.

2.24 Cleaning up

The Contractor must clean all windows, brickwork, floors and other parts of the building free from paint splashes, smears or blemishes caused by himself or his employees in carrying out the work and remove all debris from the premises, in accordance with those requirements detailed in the scope of works. He shall at all times keep the entrances, roadways, etc. clean and free from debris and upon completion of the work the Contractor must remove all temporary buildings etc. which he may have erected whilst carrying out the work as well as all rubbish, and leave the whole in a clean and tidy condition fit for immediate use.

On completion the Contractor is to -

(a) clean up as above

(b) check all services as operational

(c) arrange for final inspection

(d) hand over any keys and warranties etc. when work is accepted as complete.

2.25 Standard Condition

Where a Tenderer submits a tender accompanied by a printed form of "Standard Conditions", no condition so submitted shall take precedence over any requirement of these document unless at the time of entering into a contract resulting from the receipt of tenders the Principal agrees in writing to be bound by any one or all of the conditions so contained on the tender submission.

2.26 Hazardous Materials

Should any hazardous materials including, but not limited to, Asbestos, flammable or explosive gases or liquids or noxious or explosive chemicals be identified, the Contractor shall cease work in the immediate vicinity and seek direction from the Superintendent.

2.27 Verification of Pre-existing Conditions

The Contractor shall verify all existing arrangements, materials, equipment, conditions and services locations prior to carrying out any work. The Contractor shall also ensure that he is well aware of any conditions which may be imposed by the Principal as far as access to certain areas are concerned. No claim by the Contractor for extra payment due to access restrictions shall be entertained. Currently there are no known conditions that may affect the contractor.

2.28 Site Meetings

Site meetings, attended by the Principal, the Superintendent and the Contractor, shall be held throughout the duration of the Contract at weekly intervals or at a frequency determined by agreement between the Superintendent and Contractor.

2.29 Communications

Appropriate procedures will be agreed between the Contractors Representative and the Superintendent for day to day communications for all Contract related matters. These will be recorded and followed by the parties.

2.30 Proprietary Products and Trade Names

The scope of works of a proprietary item or trade name shall be deemed to indicate the required type, quality, appearance, composition and the like.

2.31 Fire Precautions

The use of equipment or methods which may create a fire hazard is prohibited except with the express approval of the Superintendent. Requests under this clause shall be made a minimum of 48 hours in advance and not implemented without approval.

2.32 Site Traffic

The Contractor, staff and all delivery and associated persons shall at all times observe the safety and traffic control requirements of the local council and any other statutory body.

2.33 Emergency Contact

The Contractor will be required to make available the name and contact phone number of a person who may be contacted out of hours in the event of an emergency and who has the full authority of the Contractor to act on their behalf, as may be required.

2.34 Meeting Prior to Commencement of Work

The Superintendent and Contractor shall agree on the location of an initial meeting prior to the commencement of any work. The purpose of this meeting is to ensure that the Contractor's representative on site is well aware of all rules and regulations stipulated within this contract.

PART A

Annexure to the AS 4000-1997

1) The Principal: (Clause 1)	The Proprietors – SP67851 200 William Street, Woolloomooloo NSW 2011
2) The address of the Principal:	C\ Ascendcorp Strata PTY LTD PO Box 419 NORTH SYDNEY NSW 0297991111 sarah@ascendcorpstrata.com.au
3) The Contractor (Clause 1)	As per Instrument of agreement
4) The address of the Contractor	As per Instrument of agreement
5) The Superintendent: (Clause 1)	MJ Engineering Projects Pty. Ltd.
6) The address of the Superintendent:	Suite 3, 401 Pacific Highway Artarmon NSW 2064
7) Period of time for practical completion (Clause 1)	As per quotation (weather permitting)
8) Governing low (page 5, Clause 1 (h))	New South Wales

9) a) Currency (page 5, Clause 1 (g)) b) Place for payments (page 5, Clause 1 (g))	Sydney - New South Wales
c) Place for business bank (page 3, Clause 1 (d))	
10) Bill of Quantities-the alternative applying: (subclause 2.2)	N/A
11) Limits of accuracy applying to quantities for which the Principal accepted a rate or rates: (subclause 2.5 (b))	50%
12) Provisional sum, The percentage for profit and attendance: (Clause 3)	20 percentum
13) Contractor shall provide security in the amount of: (Clause 5)	Only Retention Moneys will be held as securities
c) Retention Moneys on:(Clause 5 subclause 37.2)	(a) work incorporated in the Works and any work or items for which a different amount of retention is not provided, 5% of the Contract Sum is held; (b) items on Site but not yet incorporated in the Works, as 'a' above; (c) items off Site but in Australia, N/A; (d) items not in Australia, N/A; (e) disbursements incurred by the Contractor for customs duties, freight, marine insurance, primage, landing and transport in respect of the work under the Contract, N/A

The percentage to which the entitlement to security and retention moneys is reduced: (Clause 5)	50% of retention moneys at practical completion
14) Principal shall provide security in the amount of: (Clause 5)	N/A
15) Principal-Supplied documents (subclause 8.2)	N/A
16) The time within which the Superintendent must give a decision and return the Contractor's copies: (subclause 8.3)	14 days
17) Work which cannot be subcontracted without approval: (subclause 9.2)	No work to be sub-contracted without approval
18) Novation (subclause 9.4)	N/A
19) Legislative requirements (subclause 11.1)	N/A

20) Insurance of the Works (Clause 16)	
a) the alternative applying	1
b) Provision for the costs of demolition and removal of debris, or	As per quotation
c) Provision for consultants' fees, or	As per fee proposal
d) The value of materials to be supplied by the Principal, or	N/A
e) The additional amount or percentage	Nil
21) Public Liability Insurance (Clause 17)	
a) The alternative applying	1
b) The amount of Public Liability Insurance shall be not less than	$20,000,000
22) The time for giving possession of the Site: (subclause 24.1)	One week from the date of signing the Contract
23) Qualifying causes of delay Causes of delay for which EOTs will not be granted (page 3, paragraph (b) (iii) of clause 1 and subclause 34.3)	A claim for an extension of time will not be permitted for industrial conditions, changes in law or delays by authorities
24) Liquidated Damages per day: (subclause 34.7)	$200.00
Limit of Liquidated Damages	Unlimited

25) Bonus per day for early Practical Completion: (Clause 34.8)	Nil
26) Compensation for Delay Costs: (page 1, clause 1 and subclause 34.9)	$200 per day
27) The Defects Liability Period: (Clause 35)	12 Months
28) Times for Payment of Claims: (subclause 37.1)	Last day of each month (to be processed and paid within 14 calendar days)
29) Unfixed Plant and Materials for which payment claims may be made not withstanding that they are not incorporated in the Works: (subclause 37.3)	Nil
30) The rate of interest on overdue payments: (subclause 37.5)	1.5% per month
31) The delay in giving possession of the Site which shall be a substantial breach: (subclause 39.7)	30 Days
32) The person to nominate an arbitrator: (subclause 42.3)	N/A

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Technical Specification For:

SP67851

200 WILLIAM STREET, WOOLLOOMOOLOO NSW 2011- REMEDIATION WORKS TO BALCONY AND BUILDING FACADE

Prepared By:
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2. Preamble

2.1 General

The rectifications works is inclusive of the following:

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- The rectification of metal awnings (only if required)
- The Modification of Existing Balustrades
- The Removal & Replacement of Balcony Balustrades

The contractor's access equipment shall be made available to the Superintendent during normal working hours. **In instances where the Superintendent is required to inspect or quantify work, the contractor shall give one full working days' notice for the Superintendent attendance.**

2.2 Supervision

The Superintendent shall inspect the work at various stages, both to measure and certify quantities, and to check the work for compliance with the Specification. **However, the Day-to-Day work supervision and quality assurance is the responsibility of the Contractor**.

A number of specific requirements regarding supervision and testing are described in the Specification.

Should the Contractor find that the quantity of work in any area exceeds that agreed with the Superintendent, then work shall be ceased, and the Superintendent shall carry out a further inspection, and determine whether there is a legitimate need for the work to exceed the original quantity agreed. Should the Contractor carry out work in excess of that agreed with the Superintendent without first agreeing an increase to the quantity with the Superintendent, then it shall be deemed that the additional work was not necessary, and no additional payment shall be made.

The Superintendent shall also attend site at other times, without giving advance notice to the Contractor, to carry out inspections of the work being carried out at that time. These inspections shall be carried out using the Contractor access equipment, if necessary.
Inspections without notice shall be carried out at a frequency of approximately twice per week, unless the quality of work is such that more frequent inspections are necessary. The Contractor shall not make any charge against the proprietor for time lost, nor for any other cost incurred as a result of these inspections.

2.3 Waterproofing During Works

The Contractor shall ensure that all areas of the building that they are working on are, at all times, waterproofed, to prevent any substantial water entry. In the event of any such water entry that results from the Contractor failing to take sufficient care, all necessary rectification shall be carried out at the Contractor's cost. Such waterproofing shall be put in place at the completion of any day's work on which the building facade is opened up. It shall be left in place until such time as repair work in that location is completed, and removal authorised by the Superintendent. If rain or wind interrupts work on any day, the waterproofing shall be put in place prior to the builder leaving site.

2.4 Site Diary

The Contractor's representative shall keep a site diary, for recording the times and dates of all items of work. On completion of each day's work, the Contractor's representative shall record the work carried out on that day, by location as well as by type. This diary shall be made available to the Superintendent on request.

3. Specification

3.1 The Waterproofing of Balconies/Common Areas

The application of the waterproofing membrane shall include the follows:

A) The removal of all tiles, skirting tiles, existing topping, soft/hardscape, and any other materials such as, paint or liquid membrane to fully expose concrete substrate shall be removed and disposed by the contractor in strict accordance with the requirement of the EPA or any other relevant statutory authority. Special care shall be taken by the contractor not to penetrate through the slab during the removal of tiles and topping. When this work has been completed, the substrate shall be inspected for any damages as a consequence of the removal of the tiles and topping. Any damages found by the Superintendent to the substrate surface shall be rectified by the contractor at no additional cost to the Principal. This shall be carried out on the upper surface of the concrete in above mentioned areas.

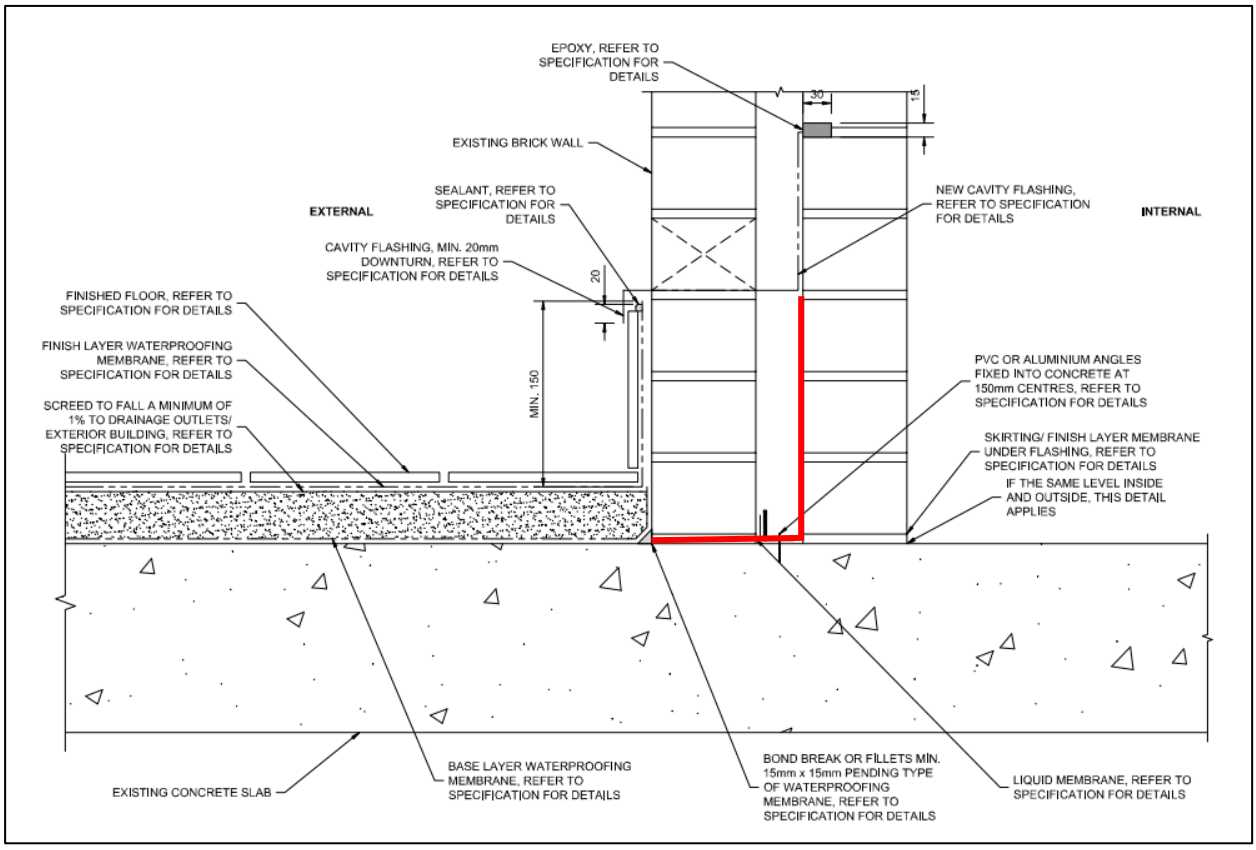
B) The contractor shall allow for the cost of through grinding of the concrete substrate to remove the liquid membrane, paint, and other material to fully expose the upper side of the concrete floor.

C) The adequate preparation of concrete slab to receive new waterproofing membrane in strict accordance with the product manufacturer's specification and recommendation.

D) The application of screeding material of sand: cement bed to all work areas to create the correct fall to drain outlets to comply with Australian Standards (prior to the application of finishing layer of the waterproofing membrane), and the falls on the finished surface shall be a minimum of 10mm per meter of horizontal run (1% minimum). This is to ensure correct water drainage in these areas. ***The screed shall be a minimum of 25mm thick and reinforced with steel or PVC mesh to comply with Australian Standards***.

E) The Installation of aluminium angle fixed to balcony floor directly behind the cladding after been removed. The angle shall be 100mm wide X 200mm high with a minimum of 3mm in thickness. The angle shall be fixed with adequate concrete fasteners spaced at 150mm centers, refer to drawing illustration below:

F) The angle shall also be sealed with sealant to ensure watertightness.



3.1.1 Areas Included

Option 1:

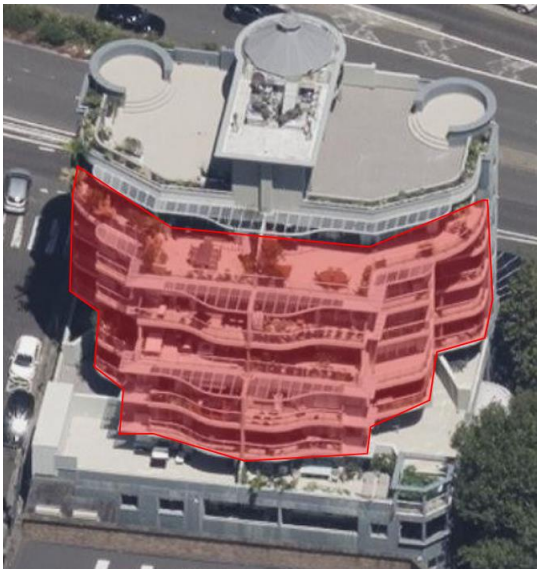
- Unit 104 balcony area (lot 9).

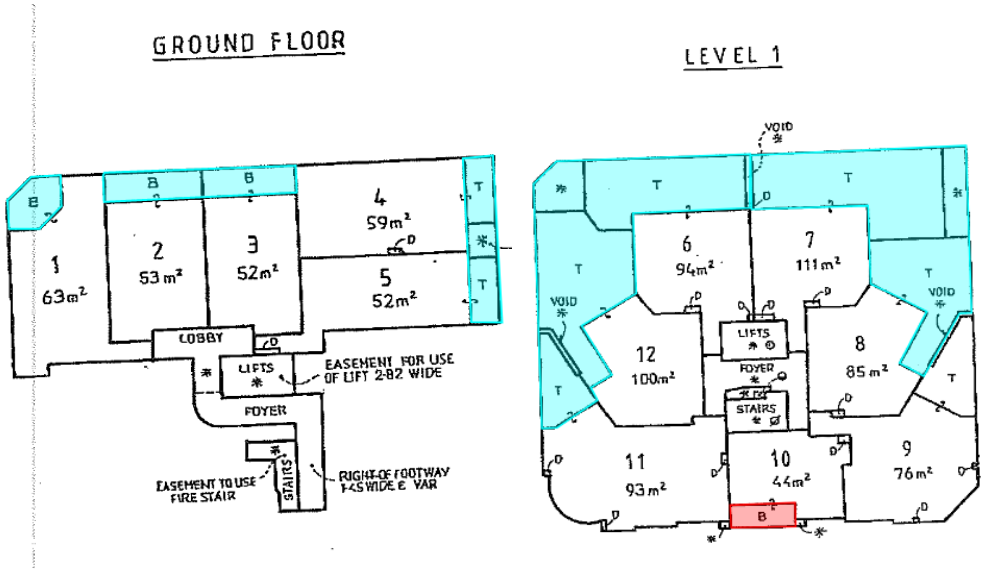
Option 2:

- All areas highlighted blue as seen in mark ups below.

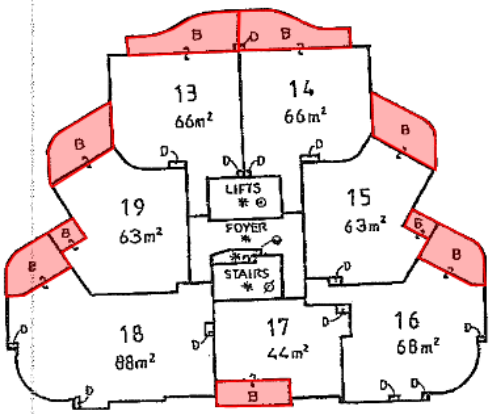
Option 3:

- All areas highlighted blue and red as seen in mark ups below.

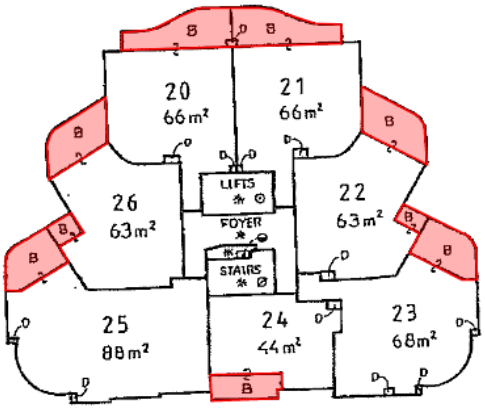




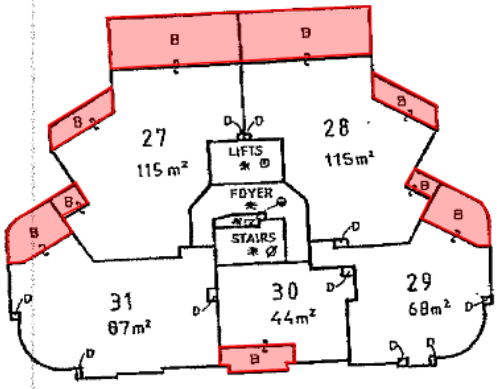
LEVEL 2



LEVEL 3



LEVEL 4



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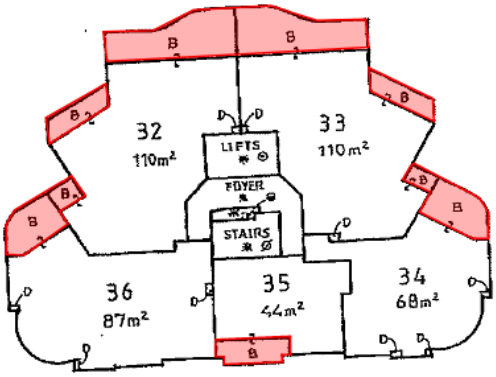
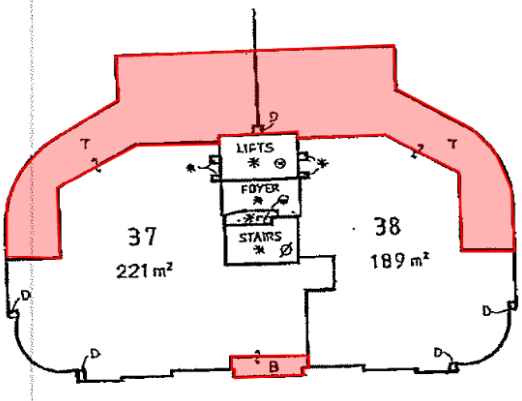


LEVEL 6



3.1.2 Surface Preparation

The area to be waterproofed shall be prepared appropriately in accordance with the manufactures recommendation so it can adequately receive the sheet membrane screeding. This may be achieved by any manual or mechanical means. Care should be taken to ensure that no damage is caused to the building interior. The Contractor shall allow for the removal of any material including tiles, skirting tiles adhesives, tiles bedding, old liquid membrane, bitumen material etc to the original substrate. The contractor shall allow for the cost of grinding the concrete substrate to remove the liquid membrane, paint and other material to fully expose the upper side of the concrete floor. No debris shall be allowed to accumulate on the roof overnight that may be prone to movement by wind.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

<u>Photographic Evidence:</u>
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.1.3 The Application of Waterproofing Membrane

Three types of edge detailing shall be used **individually or in combination**, as follows:

Type I. Proprietary pressure seal as detailed by the membrane manufacturer.
Type II. Or a cut into the substrate, adequate adhesive and aluminium angle/overflashing pressure seal.
Type III. Turn down into U shaped channel (with smooth edges) cut in slab and then resealed with appropriate floor sealer as per manufacturer's recommendation.

The contractor shall allow for the application of individual and/or combination of the above termination methods as per manufacturer's recommendation and/or Superintendent instructions.

A 35 mm x 35 mm, 15x15mm fillets and/or in accordance with product recommendation to ensure full warranties shall be used on internal corners. All internal and external corners are to be double detailed in accordance with the manufacturer's recommendations.

Once the leveling topping has been cleaned, dry and free of any major defects or contaminants, the topping shall be primed with **ARDEX WA 98 Adhesive or alternative product from Ardex Australia**. The primer is to be applied to the surface of the substrate at the rate recommended by the manufacturer.

Note:

The contractor shall allow for the removal of any paint and/or render (if any) on vertical termination surfaces on the boundary walls to allow for adhering the membrane to substrate. The contractor shall also allow for cutting the concrete walls/threshold to install the waterproofing membrane and or termination angles seals around the boundary.

The contractor shall also allow for the reinstalment of render and/or filling bricks mortar joints as required to ensure adequate waterproofing within the balconies as well as inside the wall cavities. Application of wall cavity flashing shall be carried out in-conjunction with this works to ensure adequate watertightness.

3.1.4 Application of Base Waterproofing Membrane

The application of screeding material of sand:cement bed to all affected areas to create the correct fall **(if required)** to drain outlets and/or to outside the building to comply with Australian Standards (prior to the application of waterproofing membrane), and the falls on the finished surface shall be a minimum of 10mm per meter of horizontal run (1% minimum). This is to ensure correct water drainage in these areas. ***The screed shall be a minimum of 25mm thick and reinforced with steel or PVC mesh to comply with Australian Standards***.

The contractor shall allow for the application of base waterproofing membrane which shall consist of **two layers of WPM002 by Ardex**. **Application of primer prior to the application of the waterproofing membrane shall also be allowed for.**

(Refer to the attached MJ Engineering Regulated Designs TBA)

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.1.5 Topping Over Base Membrane

The concrete substrate is to be checked to ensure correct fall to drain outlets. The contractor to allow for the application of base topping mixed with ARDEX WPM 405 polymer additive as per Ardex specification on top of the substrate to ensure 1% minimum fall to drain outlets prior to application of the sheet membrane.

3.1.6 Expansion Joints

A series of joints shall be provided in the topping, at points of restraint. These shall be located adjacent to square corners and at other points where drying shrinkage cracking is likely to occur. This shall be carried out to accommodate any tile growth on the balconies.

Joints in the topping shall be made by way of tooled joints cut in the fresh topping to a depth of no less than one third of the topping thickness at that location. Where topping work terminates at the completion of a day's work, a construction joint shall be included in the work. This shall be in the form of a jointing strip (Jointex or similar). This shall be placed against the surface of the hardened topping prior to the placing of the adjacent section.

Expansion joints shall be made in the tiling work to coincide with the joints in the topping. This includes all joints, both sawn and formed. In addition, joints shall be placed at 3 metre centres in each direction. **Expansion joints shall also be placed at boundary where tiling abuts the walls of the building and perimeter walls as per AS3958.1.**

Expansion joints in the tiling and the topping shall be filled with a one-part ***tile expansion joint and perimeter sealant – ARDEX SE Silicone (for ceramic / porcelain tiles) or ARDEX ST Silicone (for sensitive stone),*** applied in accordance with the manufacturer's directions. This shall be carried out to act as a bridge to accommodate for the application of the sheet membrane to the upper surface of the topping.

The precise details for this work and the materials to be used shall be nominated by the Contractor prior to commencement, and no work shall proceed on the balconies until approved has been obtained from the Superintendent.

A joint layout plan shall be agreed between the contractor and the Superintendent prior to the placement of the topping.

Note:

The waterproofing membrane shall be turned up by a minimum of 150mm above finishing tiles level and up to waterproof doors threshold. Therefore, the contractor shall allow for the application of skirting tiles to all waterproofed areas. All skirting tiles shall be finished with a paintable polyurethane sealant as per this technical specification.

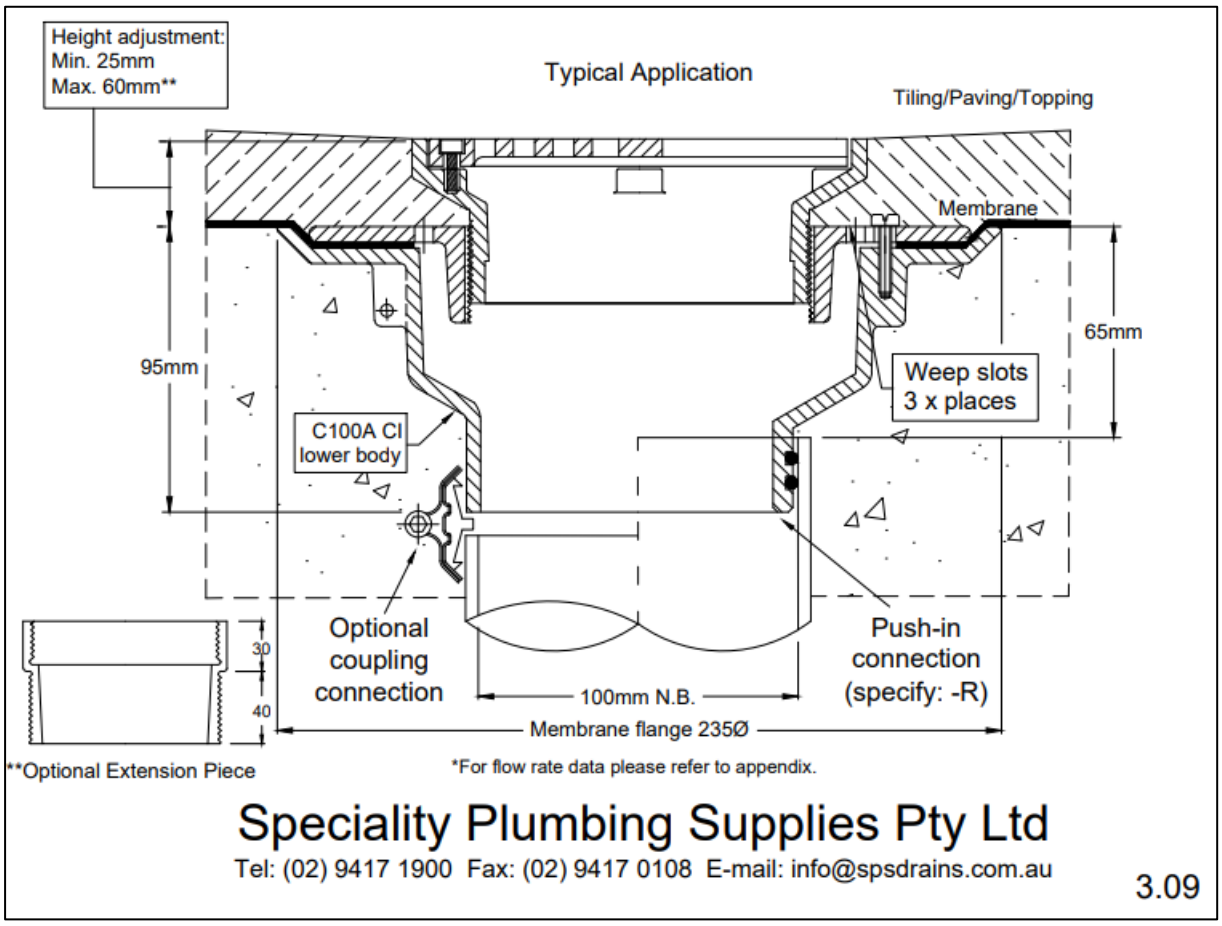
Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.1.7 Installation of New Open Drain Outlets

At each existing drainage outlets, the contractor shall also allow to upgrade the drainage outlets to install SPS style PVC drainage flanges with clamping rings. This shall be recessed into the concrete substrate so that it is set flush. The flanges shall be fixed in place in strict accordance with the manufacturer's specifications. In addition, a new SPS Vari-level vertical drain outlet (complete with new stain 316 stainless steel grates 150mm x 150mm **round or square** or as selected by the Principal) shall be installed, as illustrated below. The drain outlets shall be connected to the existing pipes in the manner recommended by the supplier of the drain outlets.

The new drain shall be compatible with the waterproofing membrane. The contractor shall ensure that the new drain outlets mate with the existing drainpipes and are sealed in accordance with the manufacturer's requirements. The drainage outlet MUST NOT come into contact with any steel reinforcing in the concrete. If any reinforcement is exposed in the process of installing the new drains, this shall be drawn to the attention of the superintendent, and a suitable remedy will be agreed.



Note:

The contractor shall also allow for installation of overflow/emergency spitter pipes as follows:

-A minimum of 3 spitter pipes spread out equally and/or as instructed by the Superintendent.

-The spitter pipes shall be installed 20mm above finishing level of the balcony floor.

-The spitter pipes shall be a PVC with minimum internal diameter of 75mm.

-The spitter pipes shall be waterproofed in accordance with this technical specification.

-The spitter pipes shall be extended/protruding by a minimum of 100m from the façade

As per MJ Engineering Projects Regulated Designs as attached with this technical specification.

3.1.8 Application of Finish Waterproofing Membrane

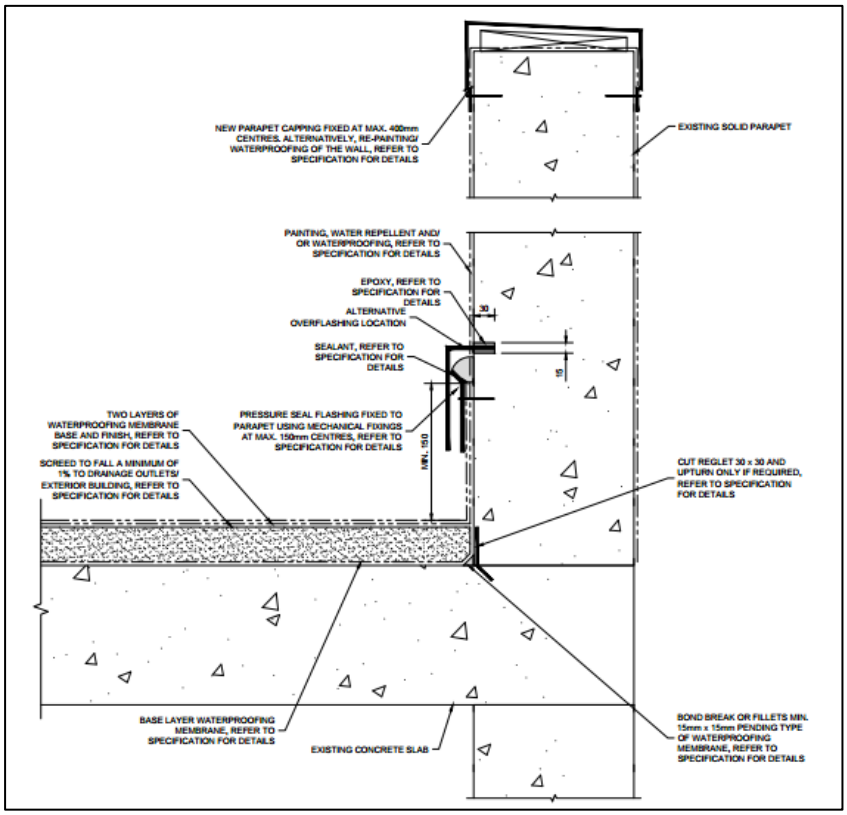
The waterproofing shall be built up using a 1.2 mm thick weld-tec polypropylene-liner membrane.

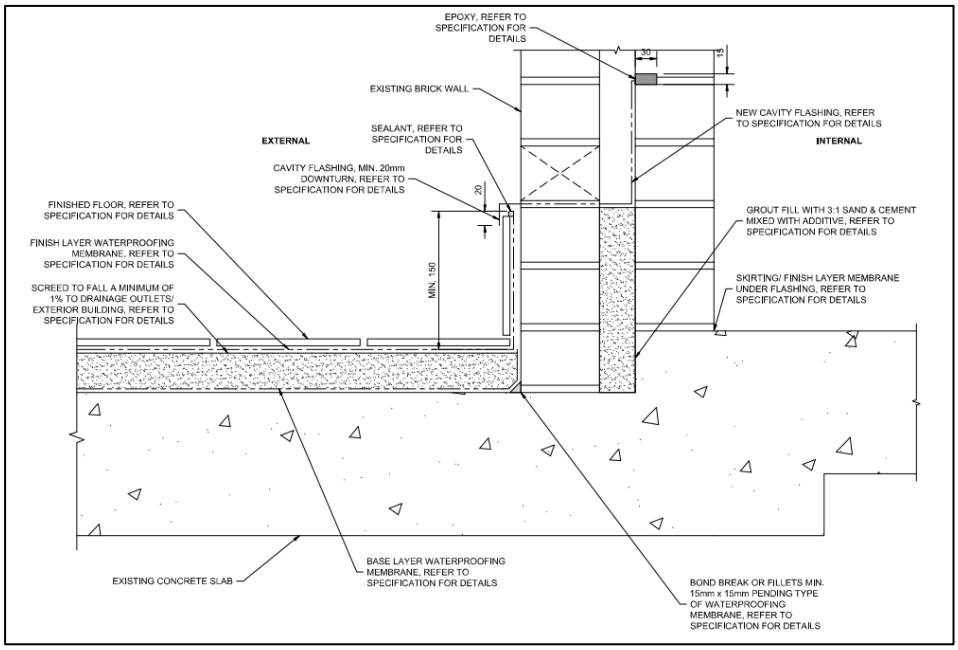
The waterproofing sheet membrane layer shall be ARDEX WPM 1000 by Ardex Australia

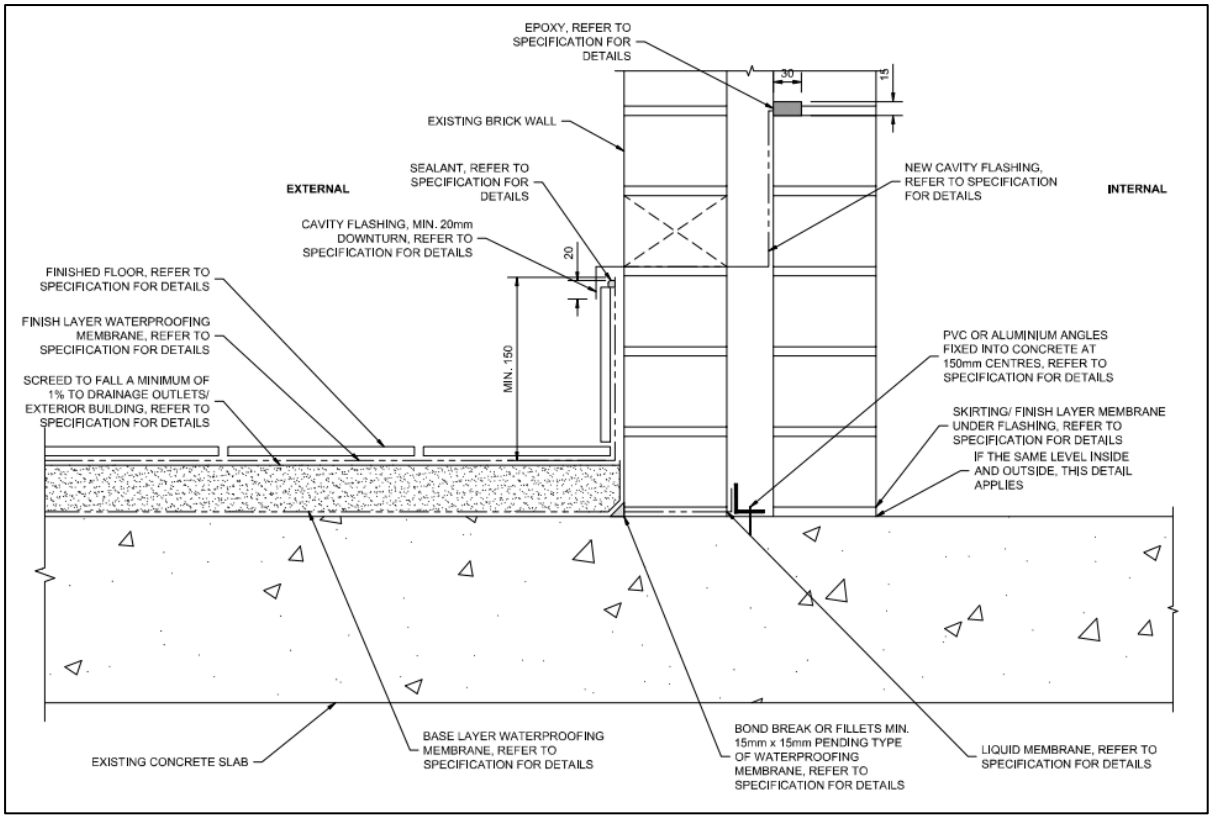
or equivalent.

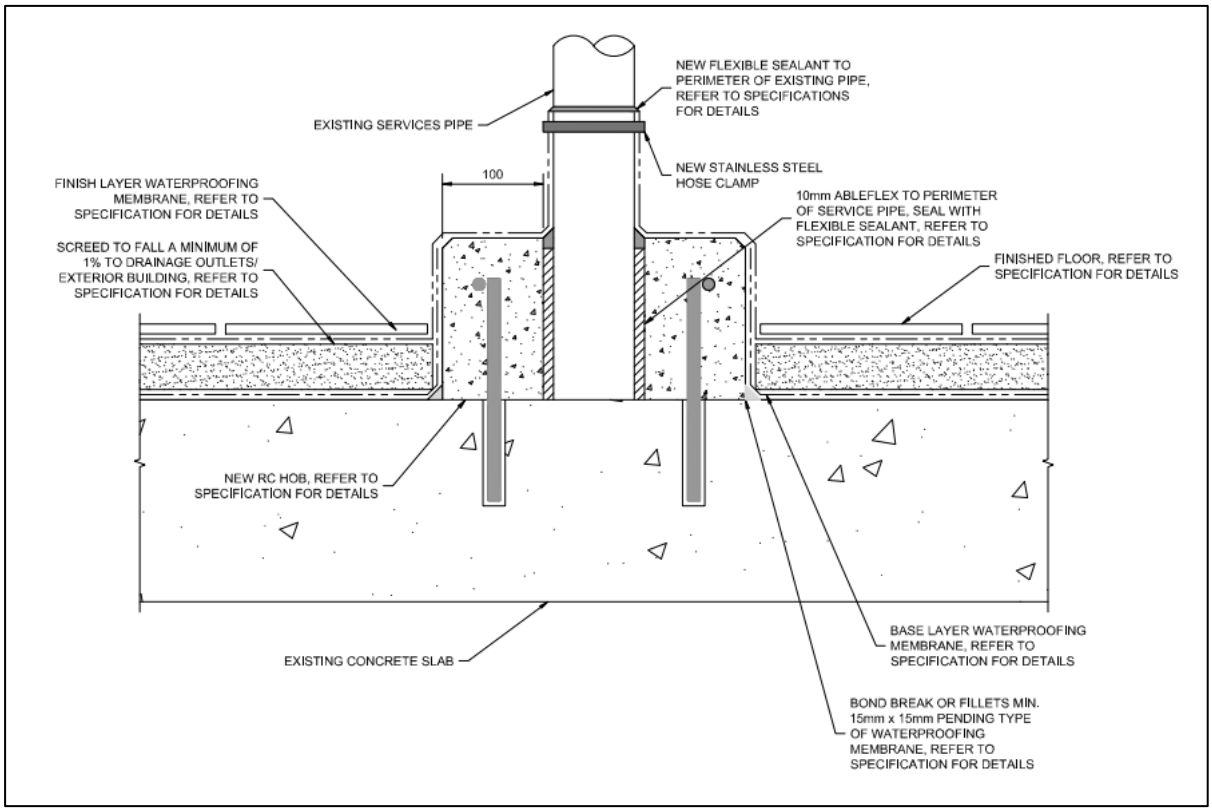
The sheet membrane should be bonded to the substrate surface and carried up all walls and penetrations to a height at least 150 mm above the finishing level. Side overlaps must be 70 mm wide, end laps must be 150 mm wide and all overlaps to be fully heat welded.

(Refer to the attached MJ Engineering Regulated Designs Job No. TBA)



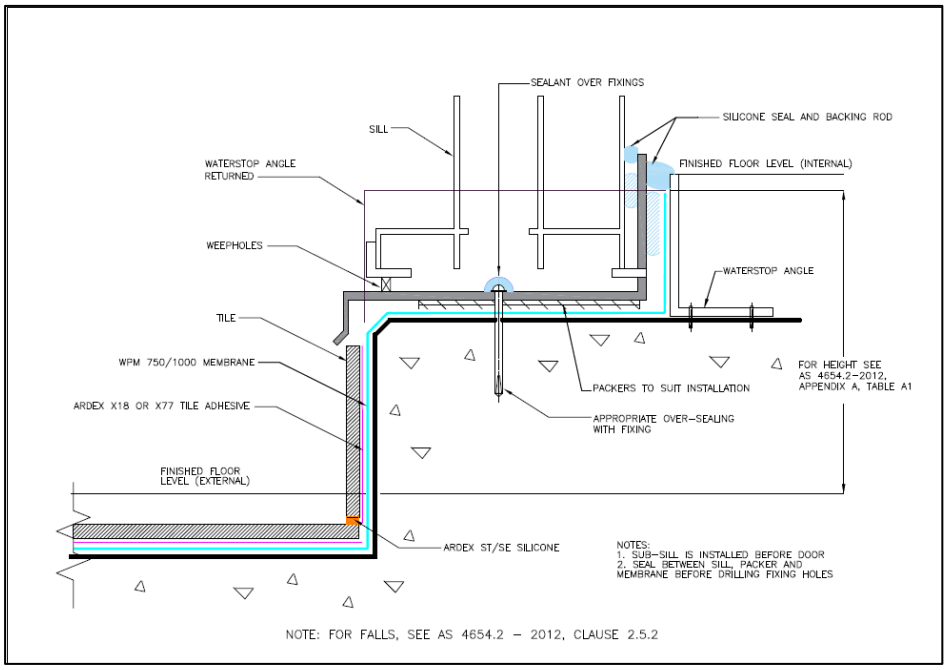

EPOXY, REFER TO SPECIFICATION FOR DETAILS
30
15
EXISTING BRICK WALL
NEW CAVITY FLASHING, REFER TO SPECIFICATION FOR DETAILS
EXTERNAL
SEALANT, REFER TO SPECIFICATION FOR DETAILS
INTERNAL
CAVITY FLASHING, MIN. 20mm DOWNTURN, REFER TO SPECIFICATION FOR DETAILS
20
FINISHED FLOOR, REFER TO SPECIFICATION FOR DETAILS
GROUT FILL WITH 3:1 SAND & CEMENT MIXED WITH ADDITIVE, REFER TO SPECIFICATION FOR DETAILS
FINISH LAYER WATERPROOFING MEMBRANE, REFER TO SPECIFICATION FOR DETAILS
MIN. 150
SKIRTING/ FINISH LAYER MEMBRANE UNDER FLASHING, REFER TO SPECIFICATION FOR DETAILS
SCREED TO FALL A MINIMUM OF 1% TO DRAINAGE OUTLETS/ EXTERIOR BUILDING, REFER TO SPECIFICATION FOR DETAILS
EXISTING CONCRETE SLAB
BASE LAYER WATERPROOFING MEMBRANE, REFER TO SPECIFICATION FOR DETAILS
BOND BREAK OR FILLETS MIN. 15mm x 15mm PENDING TYPE OF WATERPROOFING MEMBRANE, REFER TO SPECIFICATION FOR DETAILS


EPOXY, REFER TO SPECIFICATION FOR DETAILS
30
15
EXISTING BRICK WALL
EXTERNAL
SEALANT, REFER TO SPECIFICATION FOR DETAILS
NEW CAVITY FLASHING, REFER TO SPECIFICATION FOR DETAILS
INTERNAL
CAVITY FLASHING, MIN. 20mm DOWNTURN, REFER TO SPECIFICATION FOR DETAILS
20
FINISHED FLOOR, REFER TO SPECIFICATION FOR DETAILS
FINISH LAYER WATERPROOFING MEMBRANE, REFER TO SPECIFICATION FOR DETAILS
MIN. 150
PVC OR ALUMINIUM ANGLES FIXED INTO CONCRETE AT 150mm CENTRES, REFER TO SPECIFICATION FOR DETAILS
SCREED TO FALL A MINIMUM OF 1% TO DRAINAGE OUTLETS/ EXTERIOR BUILDING, REFER TO SPECIFICATION FOR DETAILS
SKIRTING/ FINISH LAYER MEMBRANE UNDER FLASHING, REFER TO SPECIFICATION FOR DETAILS
IF THE SAME LEVEL INSIDE AND OUTSIDE, THIS DETAIL APPLIES
EXISTING CONCRETE SLAB
BASE LAYER WATERPROOFING MEMBRANE, REFER TO SPECIFICATION FOR DETAILS
BOND BREAK OR FILLETS MIN. 15mm x 15mm PENDING TYPE OF WATERPROOFING MEMBRANE, REFER TO SPECIFICATION FOR DETAILS
LIQUID MEMBRANE, REFER TO SPECIFICATION FOR DETAILS

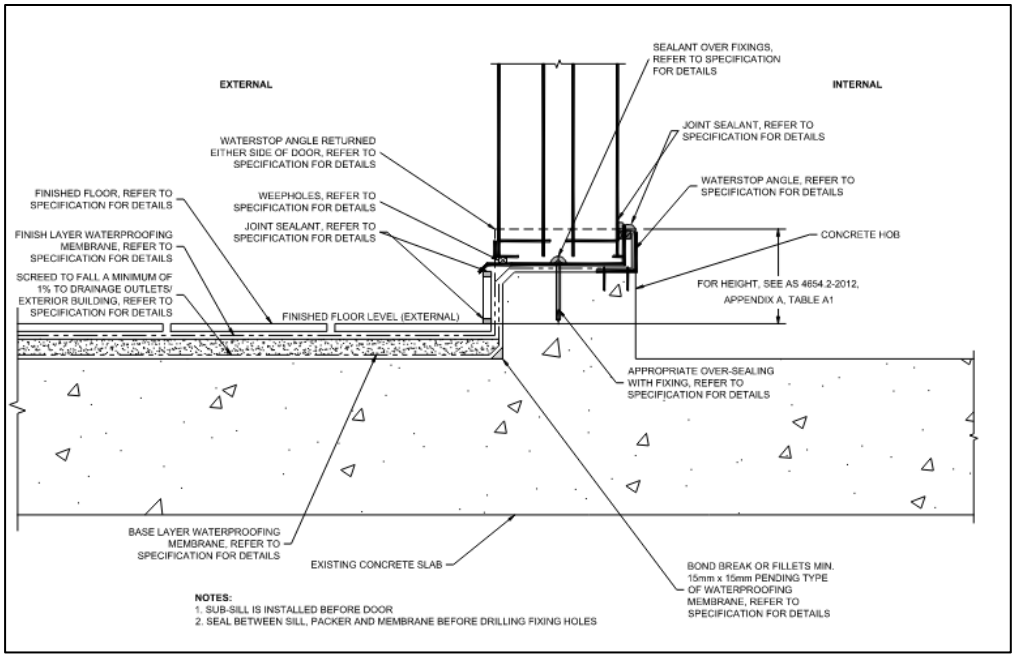


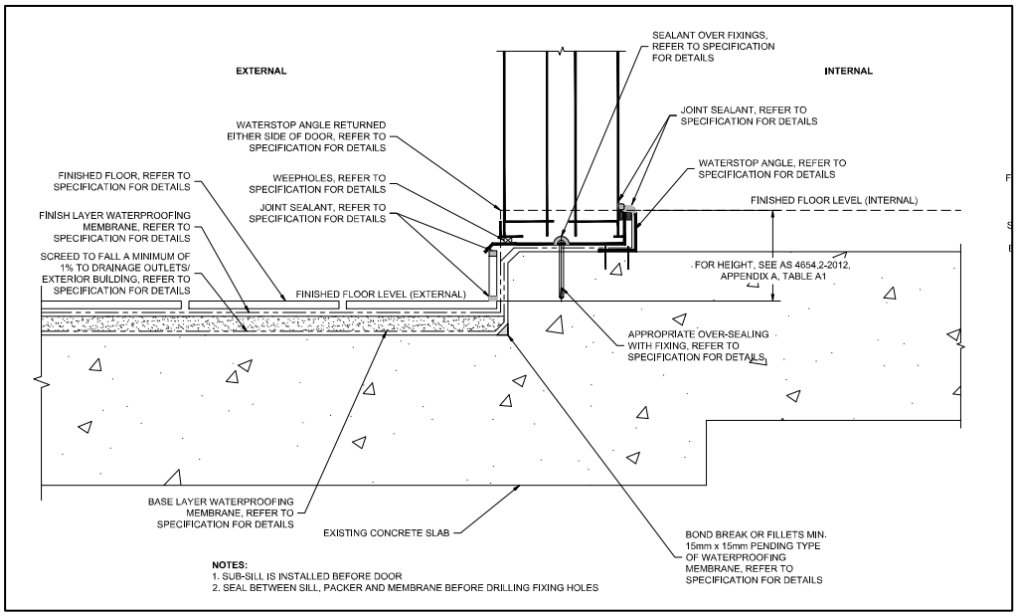
Note:
The contractor shall allow in his tender price for the removal of balcony door and fixed panels to carry out the installation of water stop angles and waterproofing membrane in strict accordance with (AS4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation). This shall also be inclusive of removal, replacement, reinstatement of current door or modification of door threshold to comply with the Australian Standards.

The contractor to allow for the installation of new door threshold with a minimum height of 100mm from finishing floor as well as the modification or replacement of the of door to accommodate the installation of the new threshold.



(Refer to the attached MJ Engineering Regulated Designs Job No. TBA).





Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

<u>Photographic Evidence:</u>
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.1.9 Tiling

All tiling work shall be carried out in compliance with the provisions of following Australian Standards and rules and regulations:

- National Construction Code (Volume One) 2019
- AS3958.1:2007-Ceramic Tiles: Guide to the Installation of Ceramic Tiles
- AS4654.1:2012-Waterproofing membranes for external above-ground use
- AS4654.2:2012-Waterproofing membranes for external above-ground use

The tiles shall be glued to the waterproof membrane on top of the screed using a flexible glue that is compatible with the liquid waterproof membrane and will not affect the integrity of the waterproof membrane. A suitable product is:

Tile Adhesive – ***ARDEX X18*** with the addition of ***ARDEX E90*** polymer additive

or equivalent

The tiles shall be selected by the Principal prior to any work commencement. The Contractor shall allow in his tender for the purchase and laying of these tiles, and the allowance shall be based on a purchase cost/price of $100 per square metre. The tiles shall have **P4/R11 slip resistance rating** and the least moisture expansion factor to minimise the effect of tile growth. The Principal shall select the tiles and provide details to Contractor for purchasing.

If the Principal selected tiles that cost less than the allowance of $100, then cost reduction shall be credit back to the Principal by the Contractor which equivalent to the rate multiplied by the total area for the tiling. However, in the event of that the Principal selecting tiles that is above the allowed amount, the Principal shall pay the additional cost to the Contractor. The allowance of $100 is equal to the tiles purchasing cost inclusive of GST and exclusive of the Contractor profit margin, (that margin is in accordance with the contract).

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.1.10 Grouting and Cleaning
Tiles grout shall be:

Tile Grout – ***ARDEX FG 8*** with the addition of ***ARDEX Grout Booster***

or equivalent

The Principal shall select between the cement neutral colour or the off-white colour that can be produced using this type of grout.

No grout shall be applied prior to the Principal selection and Superintendent approval. Once the grouting process is completed, the tiled area and surrounding areas shall be cleaned in accordance with the manufacturer's specification.

3.1.11 Cleaning After Installation

The contractor shall allow for a professional detailed commercial cleaning to be carried out on all new tiles after the installation is completed.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.2 The Replacement of Balcony/Common Area Doors

3.2.1 Scope of Works

This clause will be required when needed in conjunction with waterproofing of balconies/common areas in strict accordance with Australian Standards and as stated in clause 3.1 of this technical specification.

Option 1:

- Unit 104 balcony area (lot 9).

Option 2:

- All areas highlighted blue as seen in mark ups in item 3.1.

Option 3:

- All areas highlighted blue and red as seen in mark ups in item 3.1.

3.2.2 Removal of Debris

The Contractor shall remove all demolition materials and debris from site, aluminium jambs, doors, aluminium angles, glass panels and any other material generated by the removal process. The Contractor shall allow in his tender for the cost of disposing of the debris completely, in strict accordance with the requirements of the EPA or any other relevant statutory authority. The Contractor shall indemnify the principal and the Superintendent against any claim that may result from the methods used by the Contractor to dispose of this debris.

3.2.3 Method of Selection and Installation

The doors and fixed panels shall be manufactured by an approved manufacturer and shall meet the requirements and in strict accordance with:

- **AS2047-1999 (Windows in Buildings-Selection and Installation)**.
- **AS1170.2-2011 (Structural design actions-Wind actions).**
- **AS1288-2006 (Glass in Building-Selection and Installation).**
- **AS 2904:1995 (Damp-Proof courses and flashings).**

3.2.5 Doors Profile

The Doors shall be manufactured based on (doors as detailed below). The final approval of the Principal is required prior to any ordering, purchase, and supply of the new windows.

Suitable Doors:

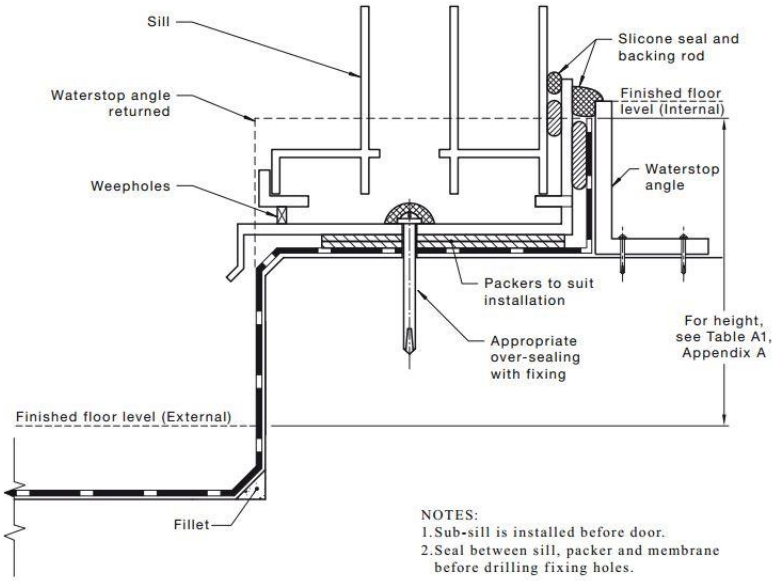
AGS Commercial 900 Series Sliding Doors System by Capral Aluminium
AGS Commercial 225 Hinged Doors by Capral Aluminium
And/ or
Compatible with 400 Narrowline and 425 Narrowline Glazed sections by Capral Aluminium
Or Equivalent

3.2.6 General Construction

Install in accordance with manufacturer's written instructions and recommendations. Adjust for proper operation after installation. Install so that the frames:

- ***Are plumb, level, straight and true within acceptable building tolerances***
- ***Are adequately fixed or anchored to the building structure***
- ***Will not carry any building loads, including loads caused by structural deflection or shortening***
- ***The Contractor is to provide shop drawings of all assemblies, showing hardware locations for approval by the Superintendent prior to manufacture.***
- ***The Contractor is to provide samples of frame finishes for review / approval of the Owners prior to manufacture***

The contractor shall allow in his tender price for the removal of balcony doors to carry out the installation of water stop angles and waterproofing membrane in strict accordance of (AS4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation). The contractor to allow for the installation of new concrete threshold with a minimum height of 100mm from finishing floor as well as the modification or replacement of the of door to accommodate the installation of the new threshold. The new threshold to be connected to existing concrete slab with N12 bars spaced at maximum of 150mm centres. Horizontal N12 bar should also be installed in every threshold.



3.2.7 Doors Measurements

It is the responsibly of the contractor to ensure that all individual measurements are taken on site by the manufacturer prior to ordering, supplying and installation.

3.2.8 Doors Flashing

Install flashings, weather bars, drips, storm moulds, caulking and pointing so that water is prevented from penetrating the building between the door frame and the building structure under the prevailing service conditions, including normal structural movement of the building.

Note:

Doors head-sill and bottom-sill shall be installed to all doors to ensure watertightness. The contractor to allow for the cost of installing the above elements.

Following the removal of the existing doors, clean out the wall cavity as required and box the cavity flashings which abut the reveals. Seal the cavity flashings to the window and doors flashings using a compatible sealant. Seal box ends in flashings to the vertical doors reveals and to any sub-sill flashings.

Materials: Provide flashings and weathering's which are corrosion resistant, compatible with the other materials in the installation and coated with a non-staining compound where necessary. Use Alcor aluminium/bitumen coated flashings.

Jamb Flashing

The Contractor shall ensure all jambs in the cavity are flashed and sealed to prevent water penetrating between the doors jambs and the external wall skin. Flashing shall ensure that penetrating water is directed only to the sill flashing, and hence to the exterior.

Sill Flashing

The Contractor shall provide new folded sill flashings to match the existing profile. Materials: Colour powder coated aluminium to match the window frames.

Internal Angles

The Contractor shall fix a colour powder coated 50 x 3mm aluminium equal angle at the internal face of the door frame. The vertical leg of the sill flashing shall be sandwiched between the angle and the door frame and sealed with a polyurethane sealant.
Materials: Colour powder coated aluminium to match the window frames

Weather Angles

The contractor shall provide colour powder coated aluminium angles to the perimeter of all doors. The finish of the storm moulds shall match the new doors and be pop-riveted on one side only. The back faces of both sides shall be primed and sealed with **Sikaflex-PRO 2HP** prior to installation and then pressed in placed. Ensure minimum joint width is maintained and excess mastic is removed.

Fixing

Packing: Pack behind fixing points with durable full width packing.

Prepared masonry openings: Conceal fasteners when fastening through the frame face is necessary, sink the fastener heads below the surface and/or ensure fasteners are the same colour as the door frames.

Fasteners: Conceal fasteners. Spacing to be in accordance with manufacturer's specifications.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.2.9 Doors Grading

The doors shall be replaced with commercial grade doors, shall match the existing unit and wall configurations, and shall be designed to withstand the level of exposure of the site (including wind, rain and salt spray in strict accordance with **AS2047-1999**.

3.2.10 Doors Material

The new doors frames shall be finished such as:

Powder Coating Dulux Duratec® Zeus By Dulux

(To meet AAMA 2603. Product must be applied by a Dulux Registered Aluminium Applicator and must offer a 20 year colour warranty)

or equivalent

The finishing colour shall be nominated by the Principal. The doors shall be manufactured to measurements taken on site. The Contractor shall ensure that the doors is handled and installed with care, and that damage to the powder coat finish is prevented. However, should damage occur, it shall be repaired using a method and material as nominated by the doors manufacturer. The Superintendent shall inspect the doors after installation, and any with excessive coating

repair may be rejected. The Superintendent shall also direct the Contractor to rectify any areas where coating repair work is unsatisfactory.

3.2.11 Frame Size
The frame size for the new doors shall be 75-100 or suitable for the existing profile of the building façade.

3.2.12 Water Penetration Rating
The new doors shall have a minimum of 450Pa water penetration resistance.

3.2.13 Wind Rating
The new doors shall have a minimum of **N3** (as per **AS4055 - Wind loads for housing**).

3.2.14 Wind Pressure Serviceability
The serviceability wind design shall be a minimum of 1500Pa.

3.2.15 Wind Pressure Ultimate
The ultimate wind design shall be a minimum of 2200Pa.

3.2.16 Doors Acoustic Rating
The new doors shall have a minimum acoustic rating of Rw32.

3.2.17 Glass Type
The glass shall be:

As per **AS1288-2006 (Glass in Building-Selection and Installation).**

- Grade A safety glass
- Clear laminated glass
- With a minimum thickness of 6.38mm for single glazing
- Freestanding glass panels (if any) shall be A grade toughen safety glass with minimum thickness of 12 mm glass panels.
- As recommended and in strict accordance with the windows manufacture's technical specification.

Note:

All above design rating values are pending a wind load assessment to be carried out by the contractor. The contractor shall allow for engaging Australian Window Association or a structural engineer to carry out wind load assessment to confirm these values prior to any work commencement on site.

3.2.18 Doors Drainage System

The doors shall be installed with adequate sub-sill and head-sill to provide sufficient drainage system.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.2.19 Trim Angles and Making Good

Every effort shall be made to avoid breaking any surrounding surfaces in both the removal and installation of the doors. The contractor shall allow for the application of trim angles to internal surfaces as required. The contractor shall also allow for any repair of any damaged surfaces such as tiles, render and paint which may occur during the removal and replacement of the doors. The make good will be the responsibility of the contractor.

In addition, the contractor will also be responsible for the removal and reinstatement of any blind system and plantation shutters currently attached to the existing doors/doors reveal system that may hinder the rectification process.

3.2.20 Locks and Hardware & Safety Devices

All doors shall be supplied with a key locking mechanism to ensure security of the property.

The hardware for the new windows shall be:

Capral Hardware Accessories and Handles

Lockwood Hardware Accessories and Handles

Or Equivalent

The hardware shall be selected by the Principal prior to ordering.

3.2.21 Fly Screens

The contractor to install fly screens to all doors which shall integrate and form part of the windows and doors system.

3.2.22 Water Testing:

Once the new doors are installed, the contractor shall carry out water testing on each door to ensure water tightness. Method of water testing will be as instructed by the Superintendent and in accordance with Australian Standards. Any door found to be not watertight will need to be rectified immediately at the cost of the contractor.

3.2.23 Cleaning After Installation

The contractor shall allow for a professional detailed commercial cleaning to be carried out on all new doors after the installation is completed.

The contractor shall allow for a professional detailed commercial cleaning to be carried out on all new doors after the installation is completed.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

<u>Photographic Evidence:</u>
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.3 The Removal of Tiles & Cladding on Building Façade

3.3.1 Scope of Works

The tiles located on different elevations within the building façade are delaminating and are currently de-bonded. All tiles shall be removed and replaced.

3.3.2 Removal of Debris

The Contractor shall remove all demolition materials and debris from site, tiles, adhesive, aluminium angles, and any other material generated by the removal process. The Contractor shall allow in his tender for the cost of disposing of the debris completely, in strict accordance with the requirements of the EPA or any other relevant statutory authority. The Contractor shall indemnify the principal and the Superintendent against any claim that may result from the methods used by the Contractor to dispose of this debris.

Note:

Once the tiles are removed, the façade shall be checked by the Superintendent for any voids, services and any deficiencies prior to any works commencing to the next stage.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show the unit/area number/location and progressively record work progress within each area.

3.3.3 Areas Included

- All tiles on the building façade.
- All combustible cladding as seen in markup below.

Once the tiles are removed completely. The substrate will be rendered with acrylic render.

The contractor shall allow for the cost of grinding off all paint coating (If any) to fully expose the substrate prior to any new rendering)

The new render shall be applied behind the down pipes on the building facade and behind power line in the immediate area to fixing (if any). The contractor shall include in his tender all costs to deal with down pipes and power lines in accordance with Workcover regulation and any local authority OH&S rules and regulations.

The cost for the removal and replacement of all window/door security grilles shall also be included in the tender. The grills shall be replaced with 3mm thick sections aluminium grills or similar gauge to existing grills

3.3.4 Surface Preparation

Before applying any materials, all surfaces shall be cleaned down with a water jet at a pressure of approximately (1500-2500psi) so as to remove all dirt, detritus and loose material. Efflorescence or mould on concrete surfaces must be treated. Further, preparation for application of render shall be carried in accordance with the manufacturer's specification.

The preparation of the substrate and the application of the acrylic render system shall be strictly in accordance with the manufacturer's recommendations and guidelines.

3.3.5 Application of Base layer

The prepared surfaces shall be applied with suitable base layer from Rockcote Render System such as

Quick Render Non-Combustible by Rockcote Australia

Or

Equivalent

The application of this product will be in strict accordance with the manufacturer's recommendation and data sheet

3.3.6 Application of Primer

Once the application of the base layer is completed and product is dried in accordance with the manufacturers' date sheet, the base layer shall be applied with colour tinted primer. The colour shall be as selected for the final finish by the Principal. Suitable primer:

Texprime Tinted by Rockcote Australia

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.3.7 Type of Finish Material

The primed surfaces shall be allowed to dry prior to the application of the final finishing layer.

All the above surfaces are to be rendered with acrylic rendering system such as:

Rockcote QuickSand by Rockcote Australia

Or

Rockcote QuickSand Coarse by Rockcote Australia

Or

Rockote Sandcote by Rockcote Australia

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

The application of the Rockcote Render System shall be in strict accordance with the manufacturer's recommendation and technical specification.

3.3.8 Application of Protection Coat

Final coat to be applied to the finishing layer to ensure weather protection and water repelling.

Suitable product is:

Clearcoat by Rockcote Australia

Or

Repel by Rockcote Australia

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

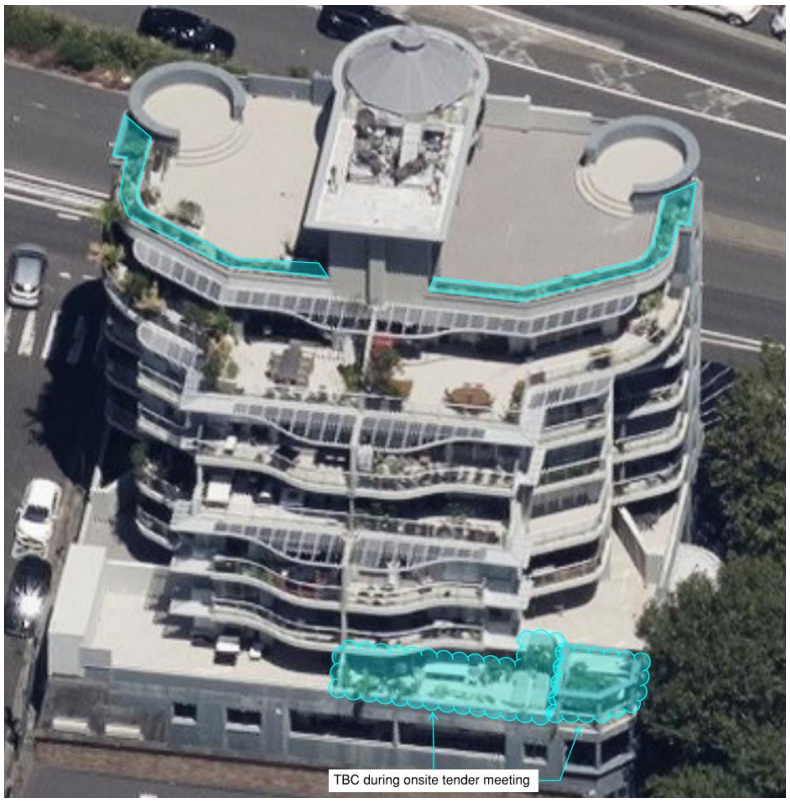
<u>Photographic Evidence:</u>
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.4 The Waterproofing of Planter Boxes (only if required)

The planter boxes located within common courtyards within the building may not be currently watertight and may need rectification (pending further investigations).

3.4.1 Areas Included

- All planter boxes within common courtyards as seen in mark-up below.



3.4.2 The Removal and Reinstatement of Soil

The removal and reinstatement of landscaping materials, plants, trees and decorative pebble (if any) **will be arranged by the Contractor to provide free access to the planter boxes.**

The planter boxes shall be emptied from the soil by the contractor to expose the substrate walls and base of the planter box. The soil shall be removed from site and adequately disposed. ***The contractor to allow for new soil, plants, and trees.***

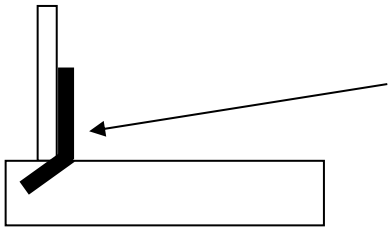
The contractor shall allow for a PC item of $20,000 shall be applied for the purchasing the plants and trees.

3.4.3 Surface Preparation

The area to be waterproofed within the planter boxes shall be prepared in strict accordance with the manufactures recommendation so it can adequately receive the waterproofing membrane. This may be achieved by any manual or mechanical means **(i.e. grinding of the substrate surfaces).** The Contractor shall allow for the removal of any material including adhesives, old liquid membrane, bitumen material etc... to the original masonry and/or concrete substrates.

Note:

The contractor shall also allow for the cost of cutting a 45 degree angle reglet 30x30mm into the internal walls and create an upturn (approximately 100mm) at the junction between the internal wall of the planter box and the terrace slab to prevent any water penetration underneath the planter box from the terrace. The reglet shall be filled with Vadex Uni Mortar



Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

<u>Photographic Evidence:</u>
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.4.4 Removal of Debris

The Contractor shall allow in his tender for the cost of removing and disposing of the debris completely, in strict accordance with the requirements of the EPA, local council and/or any other relevant statutory authority. The Contractor shall indemnify the principal and the Superintendent against any claims that may result from the methods used by the Contractor to remove and dispose of this debris.

3.4.5 Application of Leveling Topping and Fillet

A 35 mm x 35 mm fillet shall be used on internal corners to ensure smooth transition of the waterproofing membrane upturns. The fillet material shall be in accordance with the manufacturer's recommendations. The top surface of these areas shall be screeded with sand/cement mix to create a minimum 1% fall to drains outlet to ensure correct water drainage from these areas. The surface preparation and the application of screed material shall be applied in accordance with the manufacturers specification.

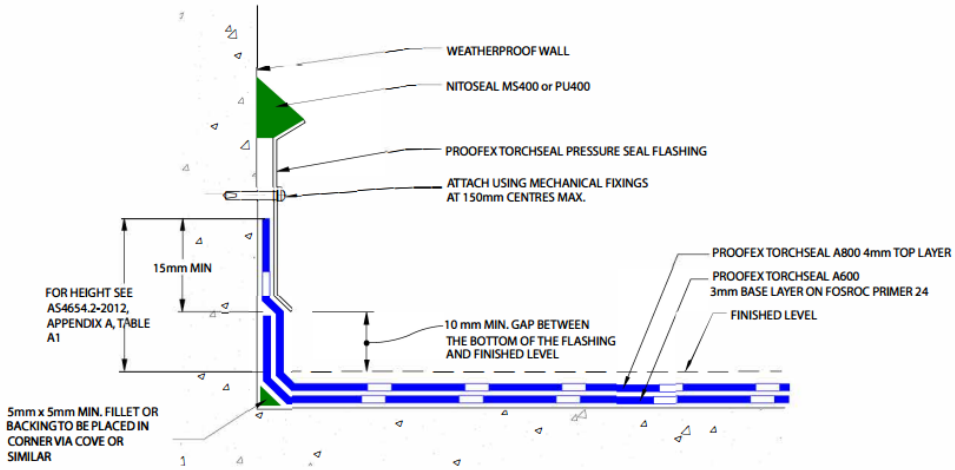
This is a preliminary bonded leveling topping to ensure the torch-on membrane is correctly falling to the drain outlets. ***The thickness and the fall of the of the screed shall be to a minimum in accordance with AS4654 (Waterproofing membranes for external above-ground use)***

3.4.6 Waterproofing

Three types of edge detailing shall be used **individually or in combination**, as follows:

Type I. Proprietary pressure seal as detailed by the membrane manufacturer. Or a cut into the substrate, adequate adhesive and aluminium angle pressure seal.
Type II Turn down into U shaped channel (with smooth edges) cut in slab and then resealed with appropriate floor sealer such as Nitoflor products by Fosroc
Type III Combined with reinforced fabric bandage and liquid membrane
The contractor shall allow in his tender for the cost of applying all above detailing as required and as instructed by the Superintend
As per MJ Engineering Projects Regulated Designs as attached with this technical specification.

See illustrations below as an example:



ROOF/ PODIUM DECK WATERPROOFING
TYPICAL VERTICAL UPWARD TERMINATION DETAIL
(a) PRESSURE SEAL

SCALE:- NTS
DRAWN BY:- BELMONT
DATE:- 8/7/10
LATEST AMENDMENT:- PJ
DATE:- 07/10/19

TSD/W-RPSD13 ISSUE NUMBER 4

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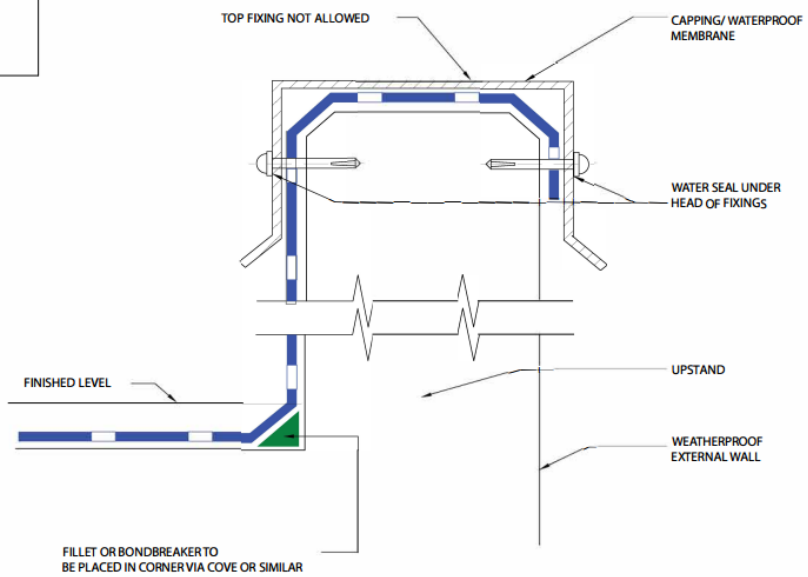

PROOFEX TORCHSEAL - EDGE PROTECTION OVER A PARAPET

SCALE:- NTS
DRAWN BY:- EC
DATE:- 8/7/10
LATEST AMENDMENT:- PJ
DATE:- 28/09/21

TSD/W-ISD02 ISSUE NUMBER 4

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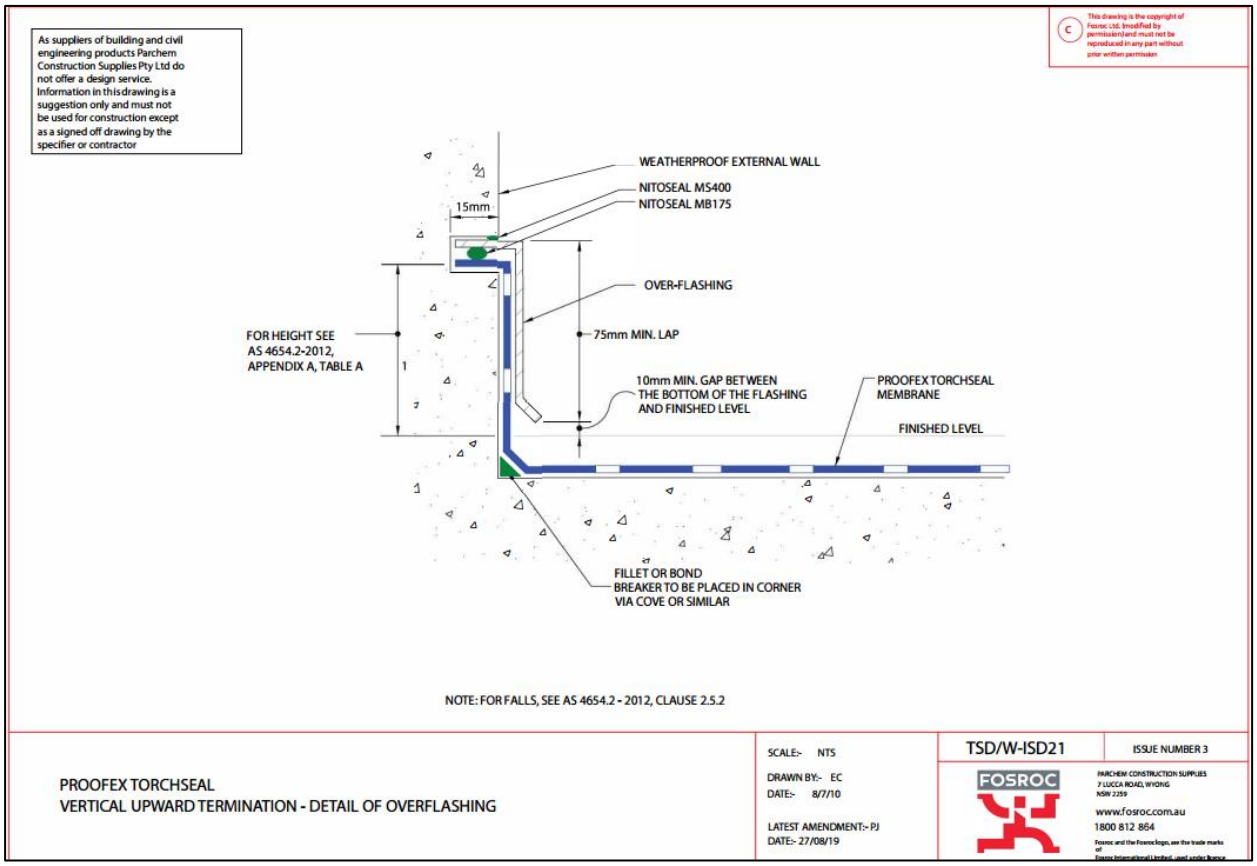


Once the leveling topping has been cleaned, dry and free of any major defects or contaminants, the topping shall be primed with **Prime 24 By Fosroc Australia**. The primer is to be applied to the surface of the substrate at the rate recommended by the manufacturer.

Note:

The contractor shall allow for the removal of any render on vertical termination surfaces on the boundary threshold to allow for adhering the membrane to substrate. The contractor shall also allow for cutting the concrete walls to install pressure seals around the boundary.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

<u>Photographic Evidence:</u>
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.4.7 Application of Base Layer

The waterproofing shall be built up using a base layer of 4 mm thick elasto-plastomeric polymer bitumen membrane based on distilled bitumen blended with both APP and SBS polymers and reinforced with non-woven polyester fabric containing longitudinal glass fibre strands.

The base layer shall be:

Torchseal A800 By Fosroc Australia

or equivalent.

The base layer waterproofing membrane must have been tested in accordance with UEAtc directive January 1984, and have a longitudinal and transverse tensile strength of 600 N/50 mm and 400 N/50 mm respectively, an ultimate L/T elongation in excess of 40% and flexibility at low temperature to -10^{0}C.

The sheet membrane should be bonded to the substrate surface and carried up all walls and penetrations to a height at least 200 mm above the concrete slab level. Side overlaps must be 70 mm wide, end laps must be 150 mm wide and all overlaps to be fully flame welded.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.4.8 Application of Top Layer

The final waterproofing layer shall be laid astride and parallel with the previous layer and must be fully bonded. The membrane shall be 4 mm thick elasto-plastomeric polymer bitumen membrane based on distilled bitumen blended with both APP and SBS polymers and reinforced with a “non-woven” spunbonded polyester fabric.

The top layer shall be:

Proofex Torchseal A700 By Fosroc Australia

or equivalent.

The top layer waterproofing membrane must have been tested in accordance with UEAtc directive January 1984, and have a longitudinal and transverse strength of 750 N/50 mm and 650 N/50 mm respectively, an ultimate L/T elongation in excess of 50%, flexibility at low temperature to -15^{0}C, flexibility after thermal aging to -5^{0}C.

The membrane must have a softening point above 145^{0}C and must not fail when exposed to 1000 fatigue cycles on an active fissure which opens to 3 mm in both transverse and longitudinal directions every 100 seconds at a temperature of 20^{0}C.

Side overlaps must be 70 mm wide, end laps must be 150 mm wide with all overlaps to be fully flame welded. Vertical sections must rise at least 200 mm above finished floor level. Vertical sections of membrane having exposed edges must be protected with flashing, protrusions and up-stands must be sealed at the membrane edge with a fillet bead of **Prime 24 By Fosroc Australia** or equivalent.

Both the product manufacturer and the product supplier must be accredited to ISO9001. The waterproofing must be installed by a Contractor suitably experienced with the installation of membrane systems.

Note:

The contractor shall also allow to upgrade the drainage outlets to install gatic style non-corrosive metal drainage flanges with clamping rings. This shall be recessed into the concrete substrate so that it is set flush. The flanges shall be fixed in place in strict accordance with the manufacturer's specifications.

Hold Point:
Contractor to contact MJ Engineering to arrange for site inspection prior to proceeding to next stage of the works. A 48 hour notice period is required.

Photographic Evidence:
A minimum of 10 progressive photographic evidence of each balcony and/or work area is required to be provided by the contractor. These shall be submitted to MJ Engineering promptly and progressively for record keeping and quality control. This photographic evidence shall show unit number and progressively record work progress within each area.

3.4.9 Membrane Protection and Drainage System

The internal surfaces of the membrane shall be lined with 5mm thick Coreflute/protection board to protect against damage. This shall be loosely spot bonded to the membrane to hold it in place whilst the soil and plants are placed. The top edge of the membrane shall be finished with a proprietary termination method in strict accordance with the manufacturer's recommendation.

The contractor shall allow in his price for the application of suitable:

- ***Drainage system. The contractor shall propose a suitable drainage cell and geofabric system to be placed into the planter box, and this shall be installed by the contractor prior to the reinstatement of the soil and plants.***
- ***Garden watering system to be installed at the completion of the remediation works***

3.5 The Repair of Wall Cracking

There are numerous amounts of cracks on the brickworks adjacent the balconies as well as on the building façade, this needs rectifying. The rectification method of these cracks can be one or a combination of the following methods, these are as follows:

3.5.1 Cracks Stitching Using Helibars.

This method of rectification maybe used to control cracks within the brickworks that are long, non-patterned cracks, diagonal, ladder effect cracks and extensive cracks or as instructed by the Superintendent. The product preparation and installation of these Helibars shall be in strict accordance with the Helifix (Australia) Pty Ltd technical data using **8mm diameter Helibars by Helifix Australia**. Reinstate brickwork mortar at the completion of the rectification.

3.5.2 Application of Self Inserted Brick Ties.

All brickworks surfaces shall be checked by the Superintendent for any signs of de-bonding and delamination between the outer and inner brickwork skins. Any area found to be debonded away from the inner brickwork skin, then self-inserted brickwork ties shall be applied to secure and attached both skins together. The area of application, number of ties to be applied and spacing shall be as instructed by the Superintendent.

A suitable self-inserted ties include:

8mm Stainless Steel Dryfix by Helifix Australia

The method of installation of these self-inserted ties shall be in strict accordance with the manufacturer's specification and guidelines.

Note 1:

The contractor shall take all necessary precautions to prevent any damages to the internal surfaces inside the building during installation of the ties. Any accidental damages shall be repaired by the contractor at no additional cost to the Principal.

Note 2:

The contractor shall also allow for patch render repairs to match surroundings.

3.6 Repair of Spalling Concrete

This clause deals with the remediation of the concrete spalling if any concrete substrate.

Note: The Contractor shall seek the approval of the Superintendent prior to proceeding to next stage at these critical inspection points. These are as follows:
• ***After the excavation of the concrete spalling*** • ***After cleaning the reinforcing bar*** • ***After priming the reinforcing bar*** • ***After patching of the spall repair***

3.6.1 Definition of Spall

For the purpose of this Specification, "spalled concrete" shall refer to any part of the surface of any concrete element in the structure which has been dislodged from its integral position in that element by the growth of corrosion products around any reinforcing bar(s) immediately beneath the spalled area, or concrete marked by rust stains, or cracked, or having any other evidence of the presence of corroding reinforcement, or any other area so determined by the Superintendent. This definition shall also refer to exposed bars or bar-ends, and previous repairs that are nominated by the Superintendent for removal and repair.

The builder shall also repair any investigation damage, such as core holes, or similar.

3.6.2 Extent of Opening Concrete for Repair

Any loose concrete not already completely dislodged by the corrosion mechanism shall be removed. Special care shall be taken to remove any bony concrete back to sound, dense material. Patching material shall not be applied to any as-finished surfaces, only to newly prepared surfaces. The concrete shall be further cut away to such an extent as will expose the bar for a sufficient length to reveal the full extent of corrosion, plus an additional 30mm of un-rusted bar at each end and undercut sufficiently to expose the full periphery of the bar. Under-cutting shall be such as will provide just sufficient access to carry out the work specified in Sections 3.7.6 and 3.7.8 below, but in any case, not less than 30mm everywhere. Where spalling continues over a considerable length, the Superintendent may give permission for the whole or some part of the bar to be removed and/or replaced.

3.6.3 Method of Preparing Edges of Repairs

The edges of all cut-out sections shall be square to the face of the concrete for a minimum depth of 30mm to avoid featheredging of patches.

3.6.4 Minimum Cover

Any bar not having a clear cover of 30mm following preparation shall be brought to the notice of the Superintendent. Bar ends which are exposed shall be cut back a sufficient distance as will provide a minimum clear cover of patching material of 30mm, and the surrounding concrete cut back a minimum 30mm below the cut end of the bar.

3.6.5 Procedure in Case of Delays During Repair Process

Where there is a delay between any of the operations specified in Sections 3.7.2 to 3.7.5, the area involved shall be thoroughly washed out before proceeding to the next operation.

3.6.6 Cleaning Reinforcement Bars

The exposed section of bar shall be cleaned of all loose rust for its full periphery and full exposed length by means of grit blasting, wire brushing, abrasive papers, or other method approved by the Superintendent.

Any bar whose diameter can be shown to have been reduced by more than one quarter as a result of corrosive action shall be brought to the notice of the Superintendent before proceeding to any further work on that section. Where the builder is not able to proceed to the work specified in Section 3.7.9 (preparation of areas for priming) on the same day, he shall clean the bar again with an abrasive paper or other approved method immediately before commencing the work in Section 3.7.11 (application of mortar).

3.6.7 Additional Support for Large Patches

Where, in the Superintendent 's opinion, large patches need additional support, he may instruct that the concrete be pinned. Pins shall be of 8mm diameter, L-shaped 316 (marine graded) stainless steel. Pins shall be set in an epoxy resin binder in 10 to 12mm diameter holes drilled a minimum 30mm deep into the concrete. The pins shall be so placed as to have a minimum cover of 12mm to the outside face of the finished patch. If any hole drilled for this purpose encounters reinforcement/cables, a new hole shall be drilled to ensure that there is no contact between the

pins and the reinforcement. The pins shall have a maximum spacing of 300 mm in any direction. Where pins are required, some number of pins shall be placed so as to give a maximum distance of 100 mm from any edge of a given patch to those pins.

3.6.8 Repair Materials

Materials used for general spall repair shall be chosen from the following list and as directed by the Superintendent.

Material	***Supplier***
Sikatop 110 primer and Monotop 615HB / 620 mortar	*Sika Australia*
Nitoprime Zincrich primer and Renderoc HB40 mortar	*Parchem Australia*
Nitoprime Zincrich primer and Renderoc LA55 mortar	*Parchem Australia*

Other materials may be proposed, but for the purposes of the tender, a price shall be submitted based on one of the above materials. ***Other materials shall be permitted only subject to the Superintendent written authorisation.***

Notwithstanding the following considerations, the manufacturer's requirements for use of their product shall be strictly adhered to.

3.6.9 Method of Preparing Primer

The primer shall be made up in accordance with the manufacturer's recommendations.

The primer shall evenly coat the bar, and if there is any evidence of drips or thickening or any other defect in the coating the Superintendent may require its removal and reinstatement so as to comply with the requirements of this clause.

Two coats of primer shall be applied. The first coat shall be applied as soon as possible after completing work specified in Section 3.7.6 but always within 3 hours. The second coat shall be applied before carrying out the patching specified in Section 3.7.10, the prepared surfaces shall be primed with the nominated primer. This shall be applied in such a manner as to completely

coat the bar, and to completely wet the inside of all blowholes and other interstices in the concrete surface. Cracks, checks or surface pitting in the primer shall not be acceptable.

3.6.10 Timing of Application of Mortar

Within a further one hour, or before the primer on the concrete ceases to be tacky, whichever is the lesser, the cut-out section around the bar shall be filled with an approved mortar.

Note: Any repair material falling outside the repair area shall be cleaned immediately.

3.6.11 Mortar Mix for Large Patches

In larger patches the Superintendent may require that an amount of 10mm coarse aggregate be added to the patching mortar.

3.6.12 Preparing the Mortar

The mix shall use the nominated material. Just sufficient potable water shall be added as to produce a workable mix suitable for the purpose.

It is important to keep the added water to an absolute minimum in order to prevent plastic shrinkage cracking as this shall render the repair liable for rejection.

All mortar shall be mixed by hand or by a minimum of machine mixing and shall be used within any such time as will avoid the possibility of stiffening caused by the included polymers.

MACHINE RE-MIXING SHALL NOT BE PERMITTED.

Note- Polymer modified mixes may stiffen faster than ordinary mortar on standing. It may be re-mixed by hand to restore workability, provided no additional water is used.

Where required, evidence shall be provided to the Superintendent that none of the products used have exceeded any shelf life stated by the Supplier, and that they have been stored within temperature and humidity conditions specified by the Supplier.

3.6.13 Application of Mortar

The mortar shall be so placed as to completely surround the reinforcing bar, and as to come into intimate and full contact with all cut surfaces of the concrete, and in such a manner as will promote full and complete bond between the old and new materials. Care shall be taken to ensure that the mortar does not slump away from the cavity which is being filled. If necessary, the patch shall be built up in layers. Any patch which shows any evidence of lack of bond whatsoever shall be rejected.

Where a patch is built up in layers, the earlier section of patch shall be coated with the primer used in Section 3.7.9, and in the manner spelled out in Section 3.7.13. Special care shall be taken in overhead work to ensure that full bond is achieved.

Notching of layers with the end of a trowel is not an acceptable means of giving a good bond to future layers. This is because of the fact that it is unlikely that the next layer will be able to entirely fill the notches. Any attempts at notching the surface of the mortar shall be done so as to give broad notches no less than 8 mm wide at their base and shall regardless be rejected if it is shown that the following layer has not entirely filled the notches.

3.6.14 Standard of Mortar Finish

Patches shall be finished flush with the undisturbed concrete surface and shall be provided with a finish compatible and consistent with the existing surface.

3.6.15 Restrictions for the Application of Mortar

No mortar shall be placed in any part of the structure when the ambient temperature is below $10^{O}C$ or above $32^{O}C$, or any other such temperature limitations placed on its use by the Supplier of the latex admixture.

3.6.16 Curing the Mortar

Generally, latex modified mortars need no curing after placement and finishing, but the builder must protect the work at all times against dehydration by strong winds or direct sunlight.

3.7 The Repairing of Delaminated Render

The slab edges, balcony walls, planter boxes walls and soffits within all unit's balconies are delaminated in isolated locations, the render may have become drummy, cracked, and dislodged which needs addressing.

The Superintendent shall nominate all areas where the render is to be removed and replaced.

3.7.1 Removal of Render

Sections of render shall be marked by the Superintendent for removal, and these shall be removed. Render removal shall be limited to the areas marked, and any additional render removed by the contractor shall not be paid for.

The Contractor shall make a saw cut or grinder cut through the render at the perimeter of the marked area. This shall be cut through the render and just into the base brickwork. This cut is required so that the action of removing the render shall not transfer significant vibration from the defective sections into the sections that are bonded.

Once the cut has been made, the render within the area of the cut shall be removed using a method that imparts minimal impact into the brickwork (e.g. hammer and chisel). The purpose in keeping impact to a minimum is to reduce the likelihood of further delamination to a minimum.

3.7.2 Cleaning the Surface Prior to Rendering

The exposed surface shall be cleaned of any detritus or environmental deposition by water blasting (1500-2500 Psi). The affected areas shall then be re-rendered using the render system nominated in this Clause.

3.7.3 Priming

The cleaned surface shall be primed with one coat of an approved bonding agent and shall thereafter be allowed to cure as per the manufacturer's instructions. Acceptable materials include:

Rheomix 121 Supplied by BASF Australia

Sika Top 77 Supplied by Sika Australia

Or any other equivalent product

3.7.4 Application of Render

The render shall be applied over the primed area and finished flush with the existing rendered surfaces**.** ***The new finish shall match the surrounding existing finish.***

3.7.5 Type of Render

The render to be used shall be a 3:1, sand:cement render or polymer modified render such as ***Quick Render PM100 High Build* by *Rockcote Australia***. The render shall contain the same bonding agent as in clause 3.8.3, used at the rate of 10% of the cement content. Note that the sand shall be free of roots, charcoal, or other deleterious material. It should also be free of sulphates and chlorides. Prior to the application of the render a layer of fibre glass mesh shall be applied in strict accordance with the manufacturer's recommendation. Suitable mesh is:

Blue-board Fiberglass mesh by Build Smart Pty Ltd or equivalent.

3.7.6 Curing

These types of renders do not normally require curing, except in the event of unusually dry weather conditions. It shall be the Contractor's responsibility to be aware of any such weather conditions, and take steps to ensure that cracking does not occur due to rapid early drying.

3.8 The Application of Wall Cavity Flashing

In conjunction with waterproofing of balconies and the rectification work to be carried out within all balconies, the application of the new cavity flashing shall be carried out on all balconies to ensure the water tightness of the building's walls on the balconies and to comply with Design and Practitioner's Act.

3.8.1 Scope of Works

It is possible that the existing cavity flashing on the balconies are defective and no longer functional. These areas require the removal and replacement of cavity flashing, these include:

- Option 1: All affected balconies (ground floor access) as instructed by the Superintendent.
- Option 2: All affected façade elevations (access requirements to be considered in pricing with abseiling will being allowed.) as instructed by the Superintendent.

3.8.2 Removal

Allow to cut out the bottom 2-3 courses in the brick wall to remove all mortar spills and the existing aluminium and/or other flashings. Provide support to the brickwork in lengths appropriate to the extent of bricks removed at any one time.

Note:

The contractor shall allow for sand cement screeding to be taken into the cavity to raise the level of the cavity floor. The cost of replacement shall be inclusive of the raising of the base of the cavity (say by average of one brick height) and the application of waterproofing material inside the cavity space and onto the screeding material to ensure water tightness of the bottom of the wall cavity.

The flashings detailed in the following section shall then be installed and the brickwork reinstated.

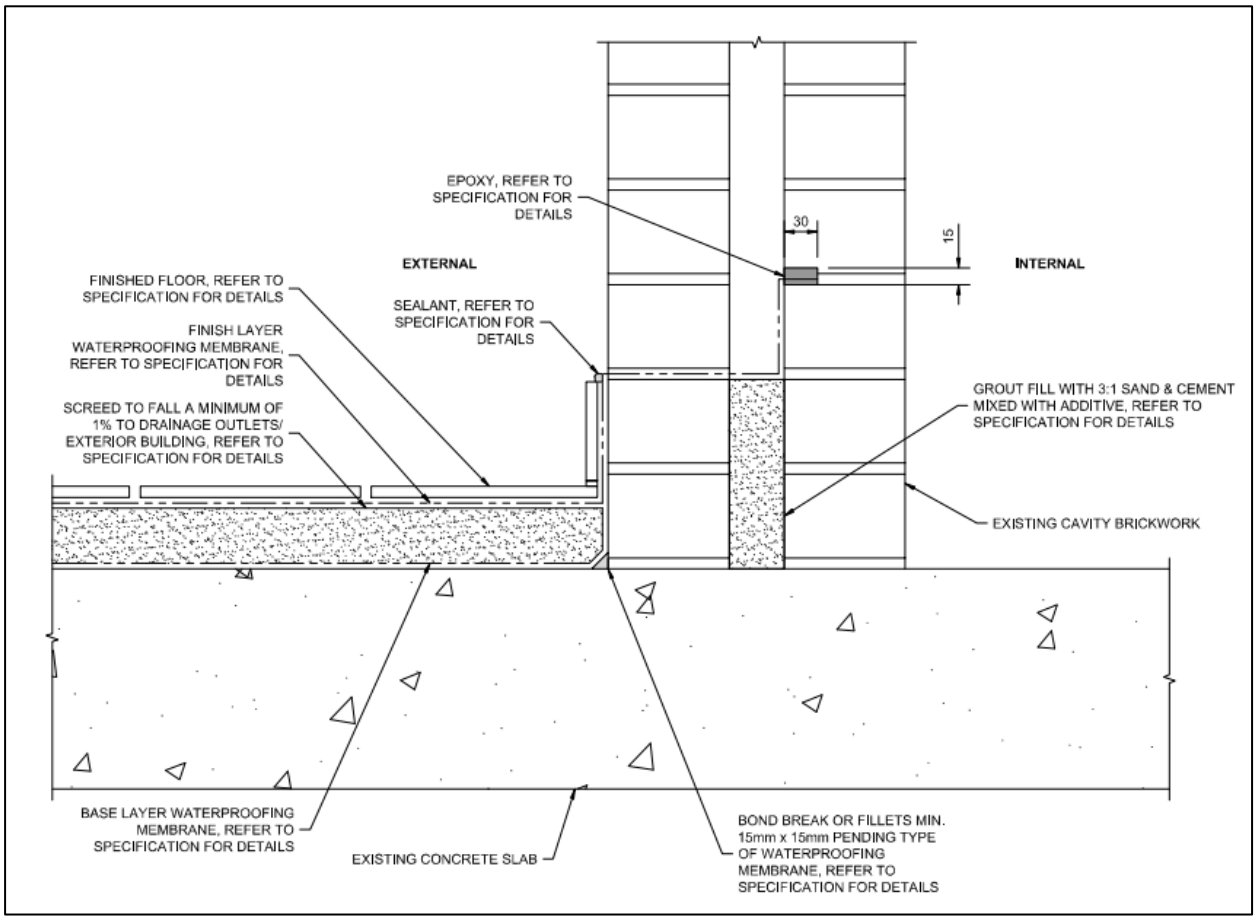
3.8.3 Flashing

Provide and install new 20kg m^2 lead flashing **and/or carry out the waterproofing finishing layer as per clause 3.1 of this technical specification from the balcony slab into the wall cavity**.

Flashings are to be installed in the bed joint in the inner skin between the second and third courses of brickwork above the level of the topping in the cavity floor (or above the slab level). This joint is to be saw cut 15mm wide, and to a depth of 30mm (or as specified by the manufacturers). The new flashing is to be set in sand cement mortar in this saw cut.

If led flashing used, allow to turn the flashing down over the brick by no less than 10mm, and then be trim off to a neat horizontal line with the brick mortar. Laps in the run of the flashing are to be 150mm long and coated with bitumen compound to seal it adequately (Such as Plastiseal by Parchem).

(Refer to the attached MJ Engineering Regulated Designs Job No. 032024SP67851 as per Details illustrated below).



All terminations/end of the cavity flashing shall be boxed by turnup with minimum height of 50mm to prevent any lateral water movement to prevent any water ingress into the building.

Alternatively, at corners, and in areas where the new flashing terminates, the flashing shall be turned down to meet the flashing in the adjoining section of wall. If necessary, additional brickwork shall be removed to allow this. Where new and old flashings meet, they shall be lapped and coated as detailed above.

3.8.4 Reinstatement of Brickwork

Replace brickwork with new matching bricks bedded in cement and lime mortar complying with the provisions of Australian Standard 3700, with every fourth perpend joint fully raked out to act as a weep hole. The contractor shall always ensure that mortar or any other construction debris does not block any sections of the new cavity and that all weep holes shall be functional. Clean off the brickwork on completion.

The mortar shall contain lime. Bicol, or any other air entraining admixture is not to be used in this mortar. If replacement bricks are used, samples shall be submitted to the Superintendent for approval at least 2 weeks before work commences. Bricks shall have a characteristic unconfined compressive strength in excess of 30 MPa and shall be capable of passing a 40-cycle test for resistance to salt attack. Test data from the manufacturer will be acceptable as verification of these properties.

3.9 The Rendering of Balcony Slab edges (optional)

The slab edges on all relevant balconies shall be rendered with the acrylic rendering system.

3.9.1 Areas to be Rendered

This is to include the following:

- Option 1: All affected balconies/façade elevations as instructed by the Superintendent.

3.9.2 Surface Preparation

Before applying any materials, all surfaces shall be grinded off mechanically to remove paint and cleaned down with a water jet at a pressure of approximately (1500-2500psi) so as to remove all dirt, detritus and loose material. Efflorescence or mould on concrete surfaces must be treated. Further, preparation for application of render shall be carried in accordance with the manufacturer's specification.

The preparation of the substrate and the application of the acrylic render system shall be strictly in accordance with the manufacturer's recommendations and guidelines.

3.9.3 Application of Base layer

The prepared surfaces shall be applied with a suitable base layer from Rockcote Render System such as

Quick Render Non Combustible by Rockcote Australia

Or

Equivalent

The application of this product will be in strict accordance with the manufacturer's recommendation and data sheet.

3.9.4 Application of Primer

Once the application of the base layer is completed and the product is dried in accordance with the manufacturers' data sheets, the base layer shall be applied with colour tinted primer.

The colour shall be as selected for the final finish by the Principal. Suitable primer is:

Texprime Tinted by Rockcote Australia

3.9.5 Type of Finish Material

The primed surfaces shall be allowed to dry prior to the application of the final finishing layer.

All the above surfaces are to be rendered with acrylic rendering system such as:

Rockcote QuickSand by Rockcote Australia

Or

Rockcote QuickSand Coarse by Rockcote Australia

Or

Rockote Sandcote by Rockcote Australia

Or

The application of the Rockcote Render System shall be in strict accordance with the manufacturer's recommendation and technical specification.

3.9.6 Application of Protection Coat

Final coat to be applied to the finishing layer to ensure weather protection and water repelling.

Suitable product is:

Clearcoat by Rockcote Australia

Or

Repel by Rockcote Australia

3.10 The Application of Medium Build Acrylic

3.10.1 Areas to be Coated.

Within entire building façade

- Any painted render.
- Painted threshold, planter box external walls and parapets.
- Newly rendered threshold and solid balustrade.
- All painted walls within the balconies.
- All painted columns and beams.

3.10.2 Preparing the Concrete Surface for Painting

Before applying any materials, all surfaces shall be cleaned down with a water jet at a pressure of approximately 10MPa so as to remove all dirt, detritus, and loose material.

3.10.3 Application of Sealer

The surface so prepared shall be given one coat of a clear sealer compatible with the finishing coat and applied at the rate of 6 m^2 per litre, or whatever other rate is specified by the Supplier. This sealer shall be applied no earlier than 6 hours after blow hole filling has been completed in the area to be sealed. This sealer shall be approved by the Superintendent before application.

3.10.4 Type of Finish Material

The final finish material shall be approved by the Superintendent before application, and the Contractor shall provide evidence of satisfactory performance of the proposed material or similar work. Suitable materials include -

Acratex 955 Acrashield **Supplied by Dulux Australia**

Or any other equivalent product

Tenderer's may submit alternative prices on materials not listed or other techniques not specified but full details of any such material or technique, together with evidence of its successful use in similar work, must accompany the tender. Such details shall include the method proposed for preparation of the concrete surface prior to the application of the

material. In any case, a price must be submitted based on the use of one of the listed materials.

3.10.5 Number of Coats and Thickness of Finish Material

Two coats of the final finish material shall be brush or roller applied to the prepared surfaces not less than 2 hours or any other period stipulated by the manufacturer after sealing as in Section 3.10.3. The colour used shall be nominated by the Principal.

The total dry thickness of both coats shall be 0.25mm minimum. Every care shall be taken to avoid uneven thickness. The two finish coats shall be of slightly different colour to assist in achieving full coverage.

3.10.6 Application of Coating by Brush or Roller

Where brush application is chosen, a wide brush shall be used. Where a roller is used, it shall have a medium nap, and shall be able to achieve the coverage rates specified below. It shall be fully loaded with paint, and the paint shall be applied in such a manner that it will be laid on and not brushed or rolled out, and such that it will provide a coating 0.1-0.2mm thick. All strokes shall be in the one direction. The second coat shall be applied in the same manner, but with all strokes being in a direction at right angles to those used for applying the first coat.

3.10.7 Application of Coating by Spray

Spray Application Shall NOT Be Allowed.

3.10.8 Restrictions on the Application of Coating

The paint shall not be applied when the ambient temperature is less than $5^{O}C$ or greater than $45^{O}C$, or in damp or rainy weather or any other conditions stated by the manufacturer.

3.10.9 Final Appearance of Coating

The painted surface shall be completely free of pin holes, holidays, and other surface defects.

3.10.10 Protecting the Surface of the New Coating during the Curing Process

Whatever material is used for surface coating, the Contractor shall ensure that it is so protected during its curing period as to prevent deposition of dust, detritus or other material which may spoil the smooth surface texture.

3.10.11 Quality Control

The contractor to provide a certification by independent organisation for testing of the adhesion of the surface coating to the base concrete, the dry thickness of the finished coating to conform with the manufacturer's specification. This shall be incorporated into the overall costing for this item.

Where any paint is rejected because of deficiency in thickness the Superintendent may permit the required thickness to be achieved by the application of additional coats at cost to the Contractor.

Where any paint is rejected because of inadequate bond, the paint shall be removed, and the surface re-painted in accordance with Sections 3.11.4 to 3.11.10. Any work carried out to repair defective thickness or bond shall be at cost to the Contractor.

3.11 The Application of Low Sheen Acrylic

3.11.1 Areas to be Painted

The areas to be painted are as follows:

- All soffits within the building façade.

3.11.2 Preparing the Concrete Surface for Painting

Before applying any materials, all surfaces shall be cleaned down with a water jet at a pressure of approximately 10MPa (1500psi) so as to remove all dirt, detritus, and loose material. Efflorescence or mould on concrete surfaces must be treated. Further, preparation for application of render shall be carried in accordance with the manufacturer's specification.

Check the adhesion of existing paint prior to painting.

3.11.3 Type of Finish Material

The final finish material shall be approved by the Superintendent before application, and the Contractor shall provide evidence of satisfactory performance of the proposed material or similar work. Suitable materials include:

Weathershield Extreme Low Sheen -Supplied by Dulux Australia, Padstow

Tenderer's may submit alternative prices on materials not listed or other techniques not specified but full details of any such material or technique, together with evidence of its successful use in similar work, must accompany the tender. Such details shall include the method proposed for preparation of the concrete surface prior to the application of the material. In any case, a price must be submitted based on the use of one of the listed materials.

3.11.4 Number of Coats and Thickness of Finish Material

Two coats of the final finish material shall be brush or roller applied to the prepared surfaces. The colour used shall be nominated by the Principal.

The total thickness of each dry coat shall be 50 Micrometres minimum. Every care shall be taken to avoid uneven thickness. The two finish coats shall be of slightly different colour to assist in achieving full coverage.

3.11.5 Application of Coating by Brush or Roller

Where brush application is chosen, a wide brush shall be used. Where a roller is used, it shall have a medium nap, and shall be able to achieve the coverage rates specified below. It shall be fully loaded with paint, and the paint shall be applied in such a manner that it will be laid on and not brushed or rolled out, and such that it will provide a coating with a spread rate of 16.0 square metres per litre. All strokes shall be in the one direction. The second coat shall be applied in the same manner, but with all strokes being in a direction at right angles to those used for applying the first coat.

3.11.6 Application of Coating by Spray

Spray Application Shall NOT be allowed.

3.11.7 Restrictions on the Application of Coating

The paint shall not be applied when the ambient temperature is less than $10^{O}C$ or greater than $45^{O}C$, or in damp or rainy weather or any other conditions stated by the manufacturer.

3.11.8 Final Appearance of Coating

The painted surface shall be completely free of paint holidays.

3.11.9 Protecting the Surface of the New Coating during the Curing Process

Whatever material is used for surface coating, the Contractor shall ensure that it is so protected during its curing period as to prevent deposition of dust, detritus or other material which may spoil the smooth surface texture.

3.12 The Application of Joint Sealant (As Required)

There are several locations around the balconies and building façade where joint sealant is missing, damaged or omitted. These areas shall be sealed with a joint sealant to ensure water tightness as nominated by the Superintendent.

The Contractor shall ensure the proposed sealant is compatible with the existing and proposed coating to be applied.

3.12.1 Preparation of joint substrate

The existing sealant and joint substrate is contaminated by the existing filler or non-existent. The existing filler shall be removed, and the stripped substrate (inclusive of window frames) shall be thoroughly cleaned (by mechanical means if required) to remove all remnants of the old material, sealant, and any other deleterious material, to leave the surfaces clean and free of contaminants.

3.12.2 Application of Primer and backing material

Ensure the surface is clean and dry before priming. The prepared surface shall be primed with the primer specified by the sealant supplier. Care shall be taken to ensure adjacent surfaces are not contaminated.

If required a closed cell polyethylene backing rod shall be inserted, sized to suit the joint dimensions to a depth that will result in the depth to width ratios of the sealant complying with the manufacturer's recommendations. The backing rod shall be compressed approximately 25% to fit.

Alternatively, an inert backing tape shall be installed at the rear of the joint ensuring that no contaminated matter remains within the joint.

3.12.3 Sealant Installation

The Contractor shall be responsible for ensuring the correct depth to width ratios of the sealant are achieved. As a guide, joints less than 12mm wide will have a sealant depth to width ratio of 1:1, and joints wider than 12mmwill have a sealant depth to width ratio of 1:2.

The sealant shall be finished with a slight concave profile and stepped back from the outer façade line.

Acceptable sealants are:

Nitoseal SC600	**Supplied by Fosroc Australia**
SikaSeal®-305	**Supplied by Sika Australia**

3.12.4 Quality Control

The Superintendent will make checks from time-to-time of sealant depth and adhesion to surfaces, and may, at his option, check hardness.

Sealant depth shall be measured by removal of a short section of sealant. The Contractor shall replace the section of sealant removed at no cost to the Principal.

Not less than 14 days after placing any section of sealant chosen for testing, its adhesion to the concrete surfaces shall be measured by making a knife cut across it, and two knife cuts along the sealant as near to the joint faces as possible, and each about 50mm long. The section of sealant bounded by the three knife cuts shall be lifted out of the joint and used as a handle to apply a hand pull to the sealant at 90^{o} to the face of the building. A mark shall be placed on the sealant 25mm from the ends of the longitudinal cuts, and the adhesion of the sealant checked both when the mark is pulled 25mm away from the face of the wall and 50mm away.

Hardness shall be measured with a Shore A Durometer and shall fall between 15 and 20 on the Shore A scale.

There shall be no voids or bubbling in the sealant bead.

The Contractor shall not make any charge on the Principal whatsoever with respect to any costs related to any testing carried out by the Superintendent or for any costs related to reinstatement of the sealant at the tested areas.

3.12.5 Sealant which does not Pass the Superintendent's Test

Where any section of sealant fails any of the above tests, two further tests shall be carried out at random on sealant placed on the same day as the failed sealant. The Contractor shall maintain a diary on site such that any day's sealing can be readily identified. If both sections of sealant pass the test in question the whole of that day's work shall be accepted. If either re-test fails, the whole day's work may be rejected. Such rejection shall be solely at the Superintendent's discretion.

Any rejected sealant shall be removed by the Contractor and replaced all at no cost to the Principal.

The Contractor shall not make any charge on the Principal whatsoever with respect to any costs related to any testing carried out by the Superintendent or for any costs related to reinstatement of the sealant at the tested areas.

3.13 The Sealing of Window's Gasket (Only If Required)

The existing glazing gaskets installed to the external face of the glazing panels within all windows may be defective and no longer functional. These will need to be removed and replaced with new neoprene gaskets.

3.13.1 Scope of Work.

All existing glazing gaskets applied to the external face of the glazing panels within all windows shall be removed and replaced with new glazing gaskets.

3.13.2 Removal and Disposal

All removed glazing gaskets shall be removed and disposed from site. The removal and disposal shall be in strict requirements of Workcover, EPA or any other relevant statutory authority. The Contractor shall indemnify the principal and the Superintendent against any claim that may result from the methods used by the Contractor to remove and dispose of the gasket debris.

3.13.3 Type of New Glazing Gasket

At the completion of the rectification work, a new neoprene gasket with a 60-70 shore-A hardness value shall be applied. The selection of the gasket shall be in strict accordance with BS4255.1-1986 (**Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets)**. The installation and application of the new glazing gasket shall be in accordance with AS1288-2006 (glass in buildings, selection and installation).

3.13.4 Gasket Profile

The profile for the new gasket shall be customized for this project to ensure adequate sealing of the windows and the stabilization of the glass panels of all windows. It is required that the gasket is snugly filled and applied in such way to enclose all sides around the glass panel leaving no gaps. A sample of gasket profile shall be submitted to the Superintendent for review and approval. The purchasing and application of glazing gasket shall not proceed until the Superintendent has approved the sample and certificates of compliance in writing.

3.13.5 Quality Control

Each glazing gasket for every glass panel shall be inspected and approved by the Superintendent. Any found to be loosely fitted and not encasing the entire glass panel will be rejected. Any rejected gaskets shall be replaced by the contractor at no additional cost to the Principal.

3.13.6 The Application of Structural Glazing Silicone

Once the neoprene gasket, the Contractor shall apply structural glazing silicone to the bottom track as well as any joints within the new gasket as required to comply with the Australian Standards AS1288-2006 in addressing the following:

Suitable material such as:

Sikasil SG-20 by Sika or equivalent

Each rectified panel shall be inspected and signed off by the Superintendent prior to work commence with other panels.

3.13.7 The Cleaning of Weep Holes and Installation of New Weep Holes

The contractor to allow for cleaning any weep holes within the windows as well as In conjunction of the cleaning of existing window weep holes, conduct the alteration of subsills by adding additional weepholes. This is to allow for the relief of wind driven rain to the exterior and to avoid the overflowing of the subsill to internal areas.

Important Note:

The contractor shall allow for a professional detailed commercial cleaning to be carried out on all windows after all rectification works are completed.

3.14 The Rectification of Metal Awnings

The steel awnings around the building facade are showing signs of surface rust, steel corrosion, and paint delamination. These deteriorated steel elements shall be cleaned thoroughly to remove all surface rusting, corrosion, flaking paint and then treated with anti-corrosion primer and finally to be repainted with appropriate heavy duty coating system. This clause deals with the rectification of these steel elements.

3.14.1 Areas Included

- All steel elements within the awnings located around the building façade are included in this rectification works. This is a PC item.

Option 1: Insitu Method of Rectification

In this option, all steel elements will be treated on site without removing any of the elements.

3.14.2 Surface Preparation

Before applying any materials, ensure all the elements are structurally sound and well constructed and connected. All surfaces shall be cleaned down by scraping, wire brushing, needle guns, sanding, power tool clean to AS1627:2 $St2^{1/2}$ and finally with water blasting (minimum of 3000psi) to remove any loose or flaky paint, dirt, detritus and steel rust/corrosion to provide a surface suitable for accepting the nominated paint system. In addition, preparation for application of paint shall be carried in accordance with the manufacturer's specification.

Where flakey paint is removed, any steps at the edges of the paint work shall be further sanded to provide a smooth edge that will not be detectable once the final paint coat is applied. Efflorescence or mould on surfaces must be treated prior to any painting.

Alternatively, the Principal may select a second option which involves the complete removal of existing paint system to expose the steel substrate underneath it, and then treat all surface rust and corrosion in accordance with this technical specification. Therefore, the contractors shall allow for the cost of using heavy duty industrial paint striper to remove all existing paint for this option.

The contractor shall allow for the cost of handling, isolation, catch scaffolding protection, wastewater catchments, removal and disposal of all debris in strict requirements of Workcover, EPA or any other relevant statutory authority. The Contractor shall indemnify the principal and the Superintendent against any claim that may result from the methods used by the Contractor to remove and dispose of the paint debris.

3.14.3 Removal of Surface Rust and Steel Corrosion

As mentioned in the previous clause, all surface rust and corrosion shall removed mechanical means and methods to ensure adequate cleaning. Accordingly, remove all surface rust and steel corrosion using adequate mechanical mean such as the MXB Grinder/Blaster Vacuum System or similar systems. All steel dust and or other debris generated from the grinding process shall be well contained by the vacuuming system attachment.

3.14.4 Application of Migrating Corrosion Inhibitor

The interface of base plates of all columns and interconnecting face of the building walls shall be flooded with migrating corrosion inhibitor. Suitable material such as **MCI 2020 by MCI Australia** or equivalent shall be applied. The application of this material shall be in strict accordance with the manufacturer's technical date sheets and specifications.

Prior to primer coating, the surface shall be thoroughly water blasted at a pressure of approximately (1500-3000 psi) to remove any surface residue.

3.14.5 Removal and Replacement of Wall Bracket

Only if required, badly corroded wall brackets, shall be replaced. Prior to the removal of the bracket, the awnings connected to this bracket shall be supported to relief the load from currently been applied to the bracket. This will allow the replacement process to be carried out and also to compensate for the support that is currently provided by the wall bracket.

Tenderer's shall allow in their tender for the cost of engaging a structural engineer to design the replacement bracket to meet the requirement, additional temporary supports and to provide all necessary information/certification as required. The contractor shall submit full details of the

design, techniques to be used and certification to the Superintendent for approval prior to any work commencement.

Note:

The contractor shall allow for the removal and reinstatement and/or replacement of glazing panels as required to fully access steel elements of the awnings.

3.14.6 Application of Primer

The surface so prepared shall be primed / sealed with zinc rich epoxy primer at coverage rate as specified by the product Supplier and in accordance with the recommended method of application. This sealer shall be applied no earlier than 6 hours after surface imperfection filling has been completed in the area to be sealed. This sealer shall be compatible with the finishing coat and approved by the Superintendent before application. The thickness of the coat shall be a minimum of **75 microns** dry film coat

Suitable material includes:

Barrier , Grey Supplied by JOTUN Australia

Or Equivalent

3.14.7 Type of Intermediate Material

The intermediate material shall be approved by the Superintendent before application, and the Contractor shall provide evidence of satisfactory performance of the proposed material or similar work. Suitable material includes -

Jotacote 910 MIO, Grey MIO. Supplied by JOTUN Australia

Or Equivalent

Tenderer's may submit alternative prices on materials not listed or other techniques not specified but full details of any such material or technique, together with evidence of its successful use in similar work, must accompany the tender. Such details shall include the method

proposed for preparation of the steel surface prior to the application of the material. In any case, a price must be submitted based on the listed material.

3.14.8 Number of Coats and Thickness of Intermediate Material

One or two (if necessary to achieve thickness) coats of the intermediate material shall be Sprayed (using airless spray), brush or roller applied to the prepared surfaces not less than 16 hours or any other period stipulated by the manufacturer after sealing as in Section 3.15.6.

The thickness of coat shall be a minimum of **200 microns** dry film coat thickness. Every care shall be taken to avoid uneven thickness.

3.14.9 Application of Top Finish Coat

Two coats of the final finish material shall be Sprayed (using airless spray), brush or roller applied to the prepared surfaces as stipulated by the manufacturer after intermediate coat application as in Section 3.15.8. The colour used shall be nominated by the Principal.

Suitable material includes -

Hardtop Ultra - Supplied by JOTUN Australia

The minimum thickness of each coat shall be 4**0 microns** dry film coat thickness with total thickness for both coats being a minimum of 8**0 microns** dry film coat thickness. Every care shall be taken to avoid uneven thickness

3.14.10 Restrictions on the Application of Coating

The paint shall not be applied when the ambient temperature is less than 10^{O}C or greater than 45^{O}C, or in damp or rainy weather or any other conditions stated by the manufacturer.

3.14.11 Application of Coating

Airless spray or brush application shall be used for this coating or in strict accordance with the manufacturer's specifications and recommendation. It shall be applied at rate as specified by the manufacturer. If brush is used, all strokes shall be in the one direction.

3.14.12 Application of Coating by Spray

Spray application using airless spray will be allowed in strict accordance with the manufacturer's specifications.

3.14.13 Final Appearance of Coating

The painted surface shall be completely free of pin holes, holidays and other surface defects.

3.14.14 Protecting the Surface of the New Coating during the Curing Process

Whatever material is used for surface coating, the Contractor shall ensure that it is so protected during its curing period as to prevent deposition of dust, detritus or other material which may spoil the smooth surface texture.

3.14.15 Quality Control

The Superintendent may, at his option, check the adhesion of the surface coating to the substrate, or the thickness of the finished coating at any time.

Where any paint is rejected because of deficiency in thickness the Superintendent may permit the required thickness to be achieved by the application of additional coats at cost to the Contractor.

Where any paint is rejected because of inadequate bond, the paint shall be removed, and the surface re-painted in accordance with Sections 3.15.6 to 3.15.14. Any work carried out to repair defective thickness or bond shall be at cost to the Contractor.

Option 2: Progressive Removal and Replacement Method of Rectification

In this method, the contractor shall allow in their tender to progressively remove and replace all awnings. Tenderer's shall allow in their tender for the cost of engaging a structural engineer to design the additional temporary supports to enable the removal and reinstate process progressively. The contractor shall also allow for the cost of providing all necessary information/certification and design as required. The contractor shall submit full details of the design, techniques to be used and the required structural certification to the Superintendent for approval prior to any work commencement on site.

3.15 The Modification of Existing Balustrades

The current solid balustrades within relevant balconies and private terraces does not comply with the current Australian Standards and National Construction Code NCC. Therefore, a glass panel balustrade shall be side fixed to the internal face of the current solid balustrade to bring it to conformance. In addition, The metal posts/handrail balustrades are to be removed and disposed of following the requirements of this Clause (3.15).

Note:

Any posts' remaining and fixings for the balustrade embedded into the concrete slabs and in the adjoining brickwork shall also be completely removed and the brickwork and concrete made good. The contractors shall allow for this work in their tender price good prior to any new installation.

Prior to any work commencing on site, the Contractor shall ensure that the building residents' access to balconies will be denied during carrying out the works to prevent any risk of falling.

3.15.1 Areas Included

Option 1:

- Unit 104 balcony area (lot 9).

Option 2:

- All areas with solid balustrades and handrails highlighted blue as seen in mark ups in item 3.1.

Option 3:

- All areas with solid balustrades and handrails highlighted blue and red as seen in mark ups in item 3.1.

3.15.2 Removal of Debris.

The Contractor shall remove all demolition materials and debris from site, metal handrails/posts, glass panels and any other material generated by the demolition process. The Contractor shall allow in his tender for the cost of disposing of the debris completely, in strict accordance with

the requirements of the EPA or any other relevant statutory authority. The Contractor shall indemnify the principal and the Superintendent against any claim that may result from the methods used by the Contractor to dispose of this debris.

3.15.3 Type of Glass Panels
The new glass panels shall be:

As per **AS1288-2006 (Glass in Building-Selection and Installation).**

- Grade A safety glass
- Clear toughened laminated glass
- With a minimum thickness of 12mm as recommended and in strict accordance with the glass balustrade manufacturers' technical specification.

The overall balustrade system shall be manufactured by an approved manufacturer, shall comply with relevant Australian Standards and the specific design shall be agreed with the Principal prior to the purchase of the balustrade system.

The contractor shall nominate the name and model of glass panels standoff system that they propose, as well as the manufacturer, at the time of quotation.

3.15.4 Method of Fixing
The glass panels shall be side fixed to the existing solid balustrade by four stainless steel standoffs in strict accordance with the manufacturers' recommendation and their technical specification.

The standoffs shall be of 75mm diameter mirror finish 316 marine grade stainless steel with 50mm body. Fixings will need to be chemically fixed into the solid with approved epoxy as per manufacturers' warranty and recommendation.

The fixings shall be with minimum distance of 120-200mm from the top of the solid balustrade and a maximum of 200mm from the side of the glazing panels or as recommended by the glass balustrade manufacturer.

The gaps between the adjoining glass panels shall not exceed 20mm and shall be equally spaced throughout the entire project.

3.15.5 The Overall Height

The overall height of the glass balustrade shall be a minimum overall height of **1100mm** from finishing floor levels any adjoining horizontal surface (I.e. finishing level of planter boxes, internal face of the planter boxes, any steps adjoining the new glass balustrade, permanent built seats etc…)

3.15.6 Cleaning

Once the work is completed, the contractor to allow for commercial cleaning of the glass balustrade prior to leaving the site.

3.16 The Removal & Replacement of Balcony Balustrades

3.4.1 Scope of Work

The balustrades and bracket support system currently installed to all balconies, common walkways and external common stairways on the building facade are to be removed following the requirements of this Clause (3.16).

Any posts' remaining and fixings for the balustrade system embedded into the concrete slabs (as well as side plates/brackets) and in the adjoining brickwork shall also be completely removed and the brickwork and concrete made good.

Prior to any work commencing on site, the Contractor shall ensure that occupant access to balconies will be denied during the entire project to prevent any risk of falling.

3.16.2 Included Areas

Option 1:

- Unit 104 balcony area (lot 9).

Option 2:

- All areas with glass balustrades highlighted blue as seen in mark ups in item 3.1.

Option 3:

- All areas with glass balustrades highlighted blue and red as seen in mark ups in item 3.1.

3.16.3 Removal of Debris.

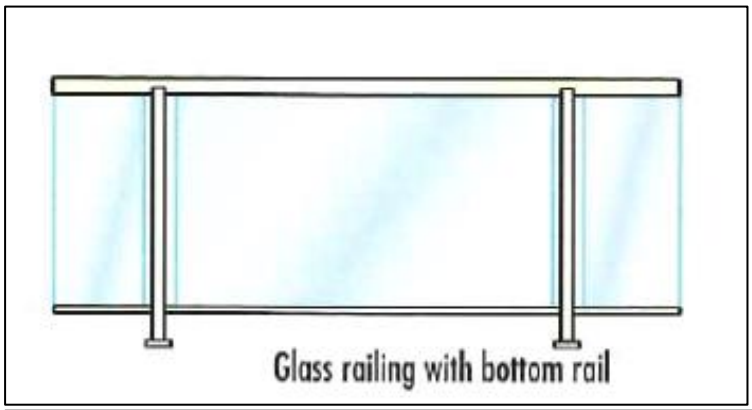
The Contractor shall remove all demolition materials and debris from site, metal handrails/posts, side fix metal plates, any fixings within brickworks, glass panels and any other material generated by the demolition process. The Contractor shall allow in his tender for the cost of disposing of the debris completely, in strict accordance with the requirements of the EPA or any other relevant statutory authority. The Contractor shall indemnify the principal and the Superintendent against any claim that may result from the methods used by the Contractor to dispose of this debris.

3.16.4 Replacement of Balcony Balustrade

The contractor shall supply and install a new powder coated aluminium framed glass balustrades to balconies as indicated in clause 3.16. The balustrade system shall be manufactured by an approved manufacturer, shall comply with all relevant Australian Standards and the specific design shall be agreed with the Principal prior to the purchase of the balustrade system.

The contractor shall nominate the name and model of the balustrade system that they propose, as well as the manufacturer, prior to signing the contract. Sample of the balustrade shall be provided for final approval by the Principal.

The contractors shall allow in their tender prices for the installation of semi framed aluminium glass balustrades (similar to the balustrade design illustration and photo below)



3.16.5 Method of Selection and Installation

The balustrade system shall be manufactured by an approved manufacturer and shall meet the requirements and in strict accordance with:

- National Construction Code (Building Code of Australia) 2019
- AS1170.1:2002-Loading Requirements, Section 3.6 – Barriers
- AS/NZS 2208:1996-Safety glazing materials in buildings
- AS1288:2006-Glass in Buildings.

3.16.6 Design Specifications

The followings are required:

- The balustrades posts shall either supported by 60mm round posts or 45 x 45 x 3mm (thick section)
- Glass infill panels shall be A grade toughen safety glass with minimum thickness of 12 mm glass panels.
- Clear glass panels to all balustrades.
- The supporting posts shall be installed using 12mm stainless steel studs chemically anchored into the concrete slab to a minimum depth of 80-100mm using suitable epoxy material such as Hilti HIT 150 epoxy mortar by Hilti or equivalent. Alternatively, the posts could be cored and embedded into the concrete using suitable epoxy resin as stated above.
- The balustrade overall height shall be 1050mm from the finishing surfaces of the balconies.
- The shape of the top rails shall be selected by the Principal prior to ordering.
- The aluminium frame shall be finished in a Dulux Ultra powder-coat finish such as:

Powder Coating Dulux Duratec® Zeus By Dulux

(To meet AAMA 2603. Product must be applied by a Dulux Registered Aluminium Applicator and must offer a 20 years durability warranty)

- The finishing colour shall be nominated by the Principal.
- The balustrade shall be manufactured to measurements taken on site.

The Contractor shall ensure that the balustrade is handled and installed with care, and that damage to the powder coat finish is prevented. However, should damage occur, it shall be repaired using a method and material as nominated by the baluster manufacturer. The Superintendent shall inspect the balustrade after installation, and any with excessive coating repair may be rejected. The Superintendent shall also direct the Contractor to rectify any areas where coating repair work is unsatisfactory.

3.16.7 Waterproofing

The area surrounding the posts of the new baluster system, shall be waterproofed with an approved waterproof membrane, applied to the substrate around the new posts in accordance with clause 3.1 of this technical specification. The application of the membrane shall be in strict accordance with the manufacturer's specification, thickness requirement and coverage rate.