

Attn: Proper Officer
Northview Corporate PTY. Limited (ACN 167 677 189)
c/o- Austamoy Accounting
U 711, 401 Sussex Street
Sydney NSW 2000

Service: By express post and by email to [REDACTED]

11 January 2024

Building Work Rectification Order

Section 33 of the Residential Apartment Buildings (Compliance and Enforcement Powers) Act 2020

Northview Corporate PTY. Limited ACN 167 677 189 is being given this Building Work Rectification Order (Order) in relation to 35-39 Balmoral Street, Waitara NSW 2077 (SP95301) (the Building).

Northview Corporate PTY. Limited ACN 167 677 189 is required to cause building work to be carried out to remediate the potential serious defects as set out in paragraphs 8 to 39 of this Order.

Failure to comply with this Order is a criminal offence.

Background

1. The Department of Customer Service (**the Department**) administers the Residential Apartment Buildings (Compliance and Enforcement Powers) Act 2020 (**the Act**).
2. Under section 33 of the Act, if the Secretary of the Department or their authorised delegate has a reasonable belief that building work was carried out in a manner that could result in a serious defect in the Building or that the Building has a serious defect, they may order the developer to rectify building work to remediate the serious defect or potential defect.
3. Elizabeth Stewart, Acting Executive Director Building Operations and Assistant Building Commissioner, Department of Customer Service is an authorised delegate of the Secretary of the Department. With the consent of the owners corporation, a third party consultant engaged by the Department attended the Building (**Investigator**) on 8 November 2022. The Investigator prepared a report on serious defects in the Building (**Audit Report**).
4. Northview Corporate PTY. Limited ACN 167 677 189 is the developer of the residential apartment building at 35 Balmoral Street, Waitara NSW 2077 (**SP95301**) (**the Building**) for the purposes of section 4 of the Act.
5. Under section 3 of the Act a serious defect in relation to a building, means –
 - (a) a defect in a building element that is attributable to a failure to comply with the performance requirements of the *Building Code of Australia*, the relevant Australian Standards or the relevant approved plans, or
 - (b) a defect in a building product or building element that

- (i) is attributable to defective design, defective or faulty workmanship or defective materials, and
- (ii) causes or is likely to cause—
 - (A) the inability to inhabit or use the building (or part of the building) for its intended purpose, or
 - (B) the destruction of the building or any part of the building, or
 - (C) a threat of collapse of the building or any part of the building, or
- (c) a defect of a kind that is prescribed by the regulations as a serious defect, or
- (d) the use of a building product (within the meaning of the *Building Products (Safety) Act 2017*) in contravention of that Act.

6. Under s 6(1) of the *Design and Building Practitioners Act 2020* a building element means any of the following:

- (a) the fire safety systems for a building within the meaning of the *Building Code of Australia*,
- (b) waterproofing,
- (c) an internal or external load-bearing component of a building that is essential to the stability of the building, or a part of it (including but not limited to in-ground and other foundations and footings, floors, walls, roofs, columns and beams),
- (d) a component of a building that is part of the building enclosure,
- (e) those aspects of the mechanical, plumbing and electrical services for a building that are required to achieve compliance with the *Building Code of Australia*,
- (f) other things prescribed by the regulations for the purposes of this section.

Decision to issue a building work rectification order

7. I, Elizabeth Stewart, am the decision maker for this Building Work Rectification Order (**the Order**). I have considered the Audit Report and have decided to issue the Order to Northview Corporate PTY. Limited ACN 167 677 189 because I have formed a reasonable belief under s 33(1) of the Act the Building has a serious defects as set out in this Order.

Descriptions of serious defects

NOTE: The Design and Building Practitioners Act 2020 applies to the remediation work under this Order. In brief, it requires that there be declared designs by registered practitioners before building work commences and that the designs be uploaded to the NSW Planning Portal. Any variations made to the building work must be reflected in the declared and uploaded designs.

8. Defect 1 – Waterproofing			
Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting basement walls of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> 1. Inadequate waterproofing and drainage provisions below the concrete slab for the purposes of relieving hydrostatic pressure. 2. Uncontrolled cracks which the Investigator noted allow groundwater seepage through cracks and joints in the basement external wall concrete. 3. Some of the ground water seepage had a rust-coloured leaching emanating through the soffit and wall junction appearance. <p>I have formed the belief that the uncontrolled water ingress and inadequate subsoil drainage and as described above is a serious defect because it is a defect in a building element (waterproofing) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard 3500.3 Plumbing and drainage – Stormwater drainage appears as a standard referenced in the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Deemed-to-Satisfy provision F1.1 Stormwater drainage, which states:</p> <p><i>“Stormwater drainage must comply with AS/NZS 3500.3.”</i></p> <p>And</p> <p>The inadequate subsoil drainage installation within the basement demonstrates a failure to comply with Australian Standard 3500.3, Plumbing and drainage – Stormwater drainage, Section 6 Surface and subsoil drainage systems - installation, 6.4 Subsoil drains, 6.4.1 General, which states:</p> <p><i>“Subsoil drains shall be laid –</i></p> <ol style="list-style-type: none"> <i>(a) so any pipe or geo-composite drain can be flushed out;</i> <i>(b) with protection to prevent damage;</i> <i>(c) with clean-out points for pipes or geocomposite drains-</i> <ol style="list-style-type: none"> 1. <i>located at their topmost ends (or heads)</i> 2. <i>located at each change of direction greater than 70°;</i> 3. <i>that intersect the drain at an angle not greater than 45°.</i> 4. <i>that extend vertically to the top of the paved</i> 	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Prevent the uncontrolled penetration of water into the basements in accordance with the BCA Volume One. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

	<p><i>surfaces or within 300 mm of an unfinished paved surface; and</i></p> <p>5. that terminate with a screw cap legibly marked 'SW'</p> <p><i>Any pipes and fittings in such drains shall be-</i></p> <p>(a) <i>cleaned internally prior to installation and commissioning</i></p> <p>(b) <i>continuously supported by embedment (see clause 6.3.5); and</i></p> <p>(c) <i>jointed using fittings where applicable."</i></p> <p>And</p> <p>The uncontrolled water ingress demonstrates a failure to comply with the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.4 which states:</p> <p><i>"A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause-</i></p> <p>(a) <i>Unhealthy or dangerous conditions, or loss of amenity for occupants; and</i></p> <p>(b) <i>Undue dampness or deterioration of building elements."</i></p>		
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9. Defect 2 – Waterproofing

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building the Investigator observed moisture damaged interior linings and finishes. Further, the Investigator noted that they were wet to touch and stained.</p> <p>I have formed the belief that the uncontrolled water ingress and as described above is a serious defect because it is a defect in a building element (waterproofing) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.4 which states:</p> <p><i>“A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause- Unhealthy or dangerous conditions, or loss of amenity for occupants; and Undue dampness or deterioration of building elements.”</i></p> <p>and</p> <p>The uncontrolled water ingress demonstrates a failure to comply with the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.3, which states:</p> <p><i>“A drainage system for the disposal of surface water resulting from a storm having an average recurrence interval of—</i></p> <p class="list-item-l1">(a) <i>20 years must—</i></p> <p class="list-item-l2">a. <i>convey surface water to an appropriate outfall; and</i></p> <p class="list-item-l2">b. <i>avoid surface water damaging the building; and</i></p> <p class="list-item-l1">(b) <i>100 years must avoid the entry of surface water into a building.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Prevent the uncontrolled penetration of water into the common areas in accordance with the BCA Volume One. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

10. Defect 3 – Waterproofing

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the ground floor of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> No overflows were provided to the planter boxes. The membrane did not have a compliant termination detail. <p>I have formed the belief that the inadequate planter construction with the lack of protection boards, non-compliant membrane termination detail and the lack of stormwater drainage systems as described above is a serious defect because it is a defect in a building element (waterproofing) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 4654.2-2012: Waterproofing membranes for external above ground use: Part 2 – Design and Installation, 2.13 Planter Boxes, which states:</p> <p><i>"The membrane shall be sealed to the drainage outlet. It shall extend vertically to a height of 100 mm above the soil or fill level.</i></p> <p><i>Falls in the base of the planter shall be in accordance with Clause 2.5.2.</i></p> <p>NOTES:</p> <ol style="list-style-type: none"> The planter box should be provided with a suitable overflow. Protection boards should be provided to minimise root damage to the waterproofing membrane. The suitability of the plants to be installed should be considered, as certain rooting systems are aggressive and may penetrate the membrane. <i>Mulch should be considered when determining the soil fill level.</i> <i>Externally exposed walls of planter boxes should be waterproofed to prevent failure of the internal planterbox membrane.</i> <i>A typical example of waterproofing inside a planter box is shown in Figure 2.17."</i> <p>And</p> <p>The Australian Standard AS 4654.2-2012 Waterproofing membranes for external above-ground use – Design and installation, Part 2 Design and installation, 2.8 Termination of membranes, 2.8.1 Upward terminations which states:</p> <p>"2.8.1.2 Anchoring</p> <p><i>Sheet membranes shall be secured along the top edge or bottom edge.</i></p> <p>NOTE: <i>The method of securing is dependent on the membrane type.</i></p> <p>2.8.1.3 Membrane termination finishing</p>	<p>Developer to rectify the drainage in accordance with the BCA Volume One and the Australian Standard AS 4654.2 Waterproofing membranes for external above ground use, design, and installation.</p> <p>Particular attention to be given, but not limited to:</p> <ol style="list-style-type: none"> Providing suitable overflows. Terminating and lapping the membranes Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

	<p><i>The sheet membrane shall be finished with over-flashing or cover- flashing.</i></p> <p><i>NOTE: Typical membrane finishing with over-flashing is shown in Figure 2.2.</i></p> <p><i>The termination of a pressure seal flashing shall comply with the following:</i></p> <ol style="list-style-type: none"> <i>1. Pressure seal flashing shall be attached using mechanical fixing to the bottom edge of the pressure seal flashing shall be a minimum of 15mm.</i> <i>2. Sealant shall be used to encapsulate the pressure seal flashing to the weatherproof wall.</i> <i>3. There shall be a minimum 10mm gap between the bottom of the flashing and finished level.</i> <p><i>NOTE: Typical details of pressure seal flashing are shown in Figure 2.3.</i></p> <p><i>The termination of an over-flashing shall comply with the following:</i></p> <ol style="list-style-type: none"> <i>(i) The over-flashing shall be attached into the waterproof wall via a reglet of minimum 15mm and shall be fixed in place and sealed with sealant.</i> <i>(ii) The lap from the top edge of the sealed reglet to the bottom of the fully bonded membrane shall be a minimum of 75mm.</i> <p><i>There shall be a minimum 10mm gap between the bottom of the flashing and finished level.</i></p> <p><i>For balconies with a fully bonded membrane, the membrane may be terminated at the drip groove.</i></p> <p><i>NOTE: For a typical treatment, see Figure(b)."</i></p> <p>In the absence of any documented performance based alternative solution, compliance with the relevant Australian Standard AS 4654.2 demonstrates a pathway that can satisfy the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.4 which states:</p> <p><i>"A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause-</i></p> <ol style="list-style-type: none"> <i>(a) Unhealthy or dangerous conditions, or loss of amenity for occupants; and</i> <i>(b) Undue dampness or deterioration of building elements."</i> 	
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	Therefore, because the installation does not comply with the relevant Australian Standard AS 4654.2, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.		
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11. Defect 4 – Waterproofing

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the building of the Building the Investigator made the following observations:</p> <ol style="list-style-type: none"> 1. That there was no evidence of waterproofing on the bed of the balcony rock garden floor. 2. There was no balcony membrane terminating up the wall. <p>Further the Investigator noted that although he did not have access to the roof deck, the Investigator was advised by a resident of the Building that significant water ingress issues occur during heavy rain.</p> <p>I have formed the belief that the insufficient waterproofing system and as described above is a serious defect because it is a defect in a building element (waterproofing) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 4654.2-2012 Waterproofing membranes for external above-ground use: Part 2 – Design and installation, Appendix A Vertical upward termination which states:</p> <p><i>“The vertical height may be determined by either of the following methods:</i></p> <p><i>(a) Vertical upward termination to be at a height above finished level not less than specified in Table A1.”</i></p> <p>Appendix A is referred to in the Australian Standard AS 4654.2 Waterproofing membranes for external above-ground use: Part 2 Design and installation, 2.8 Termination of membranes, 2.8.1 Upward terminations, 2.8.1.1 Height which states:</p> <p><i>“Where the membrane termination is to prevent water entry, the finished height of the membrane above the finished surface level shall be sufficient to prevent water, including wind driven, flowing over the top of the membrane.</i></p> <p><i>NOTE: For information on termination heights, see Appendix A.”</i></p> <p>Australian Standard AS 4654.2 appears as a standard referenced in the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Deemed-to-Satisfy provision F1.4 which states:</p> <p><i>“Waterproof membranes for external above ground use must comply with AS4654 Parts 1 and 2.”</i></p> <p>Deemed-to-Satisfy provision F1.4 is a pathway that can satisfy the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.4 which states:</p> <p><i>“A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause-</i></p> <p><i>(a) Unhealthy or dangerous conditions, or loss of amenity for occupants; and</i></p> <p><i>(b) Undue dampness or deterioration of building elements.”</i></p>	<p>Developer to rectify the building enclosure in accordance with the BCA Volume One, the Australian Standard AS 4654.2 Waterproofing membranes for external above-ground use – Design and installation and the Australian Standard AS 3700 Masonry structures.</p> <p>Particular attention to be given, but not limited to:</p> <ol style="list-style-type: none"> 1. The drainage of the balcony. 2. The prevention of water entry into the building through wall. 3. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

	<p>Therefore, because the installation does not comply with the referenced Australian Standard AS 4654.2, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.</p> <p>And</p> <p>Australian Standard AS 3700-2011 Masonry Structures, Section 4 General design aspects, 4.7 Prevention of moisture penetration, 4.7.3 Damp- proof courses (DPCs) and flashings which states:</p> <p><i>“DPCs or flashings shall be incorporated into masonry construction where it is necessary –</i></p> <ul style="list-style-type: none"> <i>(a) to provide a barrier to the upward or downward passage of moisture through masonry;</i> <i>(b) to prevent moisture from entering into the interior of a building from the exterior;</i> <i>(c) to prevent moisture passing across a cavity to the inner leaf; or to shed moisture through masonry to the outer face.”</i> <p>Therefore, because the installation does not comply with the referenced Australian Standard AS 4654.2, the BCA Volume One Deemed-to-Satisfy provision cannot be shown to have been satisfied.</p>		
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12. Defect 5 – Waterproofing			
Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the roof terrace and balcony of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> 1. Unable to detect sufficient drainage on the roof top. 2. All the drain grids were leaning against the wall without proper installation. 3. Some balcony terraces had no overflow provisions or balconies had insufficient overflow provisions. <p>I have formed the belief that the lack of drainage provisions for adequate overflow capacity to the external wet areas of the Building and as described above is a serious defect because it is a defect in a building element (waterproofing) that is attributable to a failure to comply with the following:</p>	<ol style="list-style-type: none"> 1. The Australian Standard 3500.3 Plumbing and Drainage, Part 3: Stormwater drainage, Section 3.8 Balcony and Terrace Areas, which states: <p><i>“Systems for draining balconies and terraces shall be designed for –</i> <i>In Australia –</i> <i>(i) 5 % AEP (20 years ARI) intensity; and</i> <i>(ii) 1 % AEP (100 years ARI) rainfall intensity for overflow”.</i></p> <p>and,</p> <ol style="list-style-type: none"> 2. The BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.4 which states: <p><i>“A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause-</i> <i>(a) Unhealthy or dangerous conditions, or loss of amenity for occupants; and</i> <i>(b) Undue dampness or deterioration of building elements.”</i></p> <p>And</p> <p>Water ingress through the external roof and building envelope demonstrates a failure to comply with the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.3 which states:</p> <p><i>“A drainage system for the disposal of surface water resulting from a storm having an average recurrence interval of—</i> <i>(a) 20 years must—</i> <i>(a) convey surface water to an appropriate outfall; and</i> <i>(b) avoid surface water damaging the building; and</i> <i>(b) 100 years must avoid the entry of surface water into a building.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Provide overflows and adequate drainage to the roof, balconies and terrace to comply with the BCA Volume One. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

13. Defect 6 – Waterproofing

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting level 4 and 5 of the Building the Investigator observed stains and mould propagation to internal linings.</p> <p>I have formed the belief that the water ingress through the external roof and building envelope and as described above is a serious defect because it is a defect in a building element (waterproofing) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section F Health and amenity, Part F1 Damp and weatherproofing, Performance requirement FP1.4 Weatherproofing, which states:</p> <p><i>“A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause—</i></p> <p>(a) unhealthy or dangerous conditions, or loss of amenity for occupants; and</p> <p>(b) undue dampness or deterioration of building elements”</p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Demonstrate compliance with the BCA Volume One 2. Rectify internal damage as a result of water ingress. 3. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 150 days of issuance of this Order.</p>

14. Defect 7 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> The fire stopping of penetrations in the fire resisting wall/ floor elements had not been installed using a known tested fire stopping methodology to prevent the spread of fire (fire rated collar, etc). There were multiple redundant penetrations which had been partially filled with cementitious mortar and not provided with fire tags / stickers by a qualified certifier. Service penetrations extending through block wall compromising the fire rating level of the compartment. Soffit mounted copper and galvanised pipes penetrating the slab without a tested fire stopping methodology. The pipes had been sealed however the material had not been tagged. Penetrations in the slab for services in the basement car park, electrical main switch room, pump room and level 3 corridor. <p>I have formed the belief that the unprotected penetrations and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section 3 Fire resistance, Part C3 Protection of openings, Deemed-to-satisfy provision C3.15 Openings for service installations, which states in part:</p> <p><i>“Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that installation must comply with any one of the following:</i></p> <p><i>(a) Tested systems</i></p> <p><i>The service, building element and any protection method at the penetration are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire”.</i></p> <p>Deemed-to-satisfy provision C3.15 Openings for service installations is a pathway that can satisfy the BCA Volume One, Section C Fire resistance, Performance Requirement CP8, which states in part:</p> <p><i>“Any building element provided to resist the spread of fire must be protected, to the degree necessary, so that an adequate level of performance is maintained—</i></p> <p><i>(i) where openings, construction joints and the like occur; and</i></p> <p><i>(ii) where penetrations occur for building services”.</i></p> <p>Therefore, as the penetrations do not comply with Deemed-to- satisfy provision C3.15 Openings for service installations, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.</p>	<p>Developer to:</p> <ol style="list-style-type: none"> Carry out rectification for the protection of service penetrations to comply with the BCA Volume One. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

15. Defect 8 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the basement main switch room of the Building the Investigator observed that the sprinklers spray was obstructed by cable trays and did not achieve the minimum of 500mm clearance.</p> <p>I have formed the belief that the absence of a sprinkler coverage system as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2118.1 Automatic fire sprinkler systems Part 1 General systems</p> <p>5.7.7 Clear space below sprinklers, which states</p> <p><i>“Except as provided in Clause 5.7.9 and Sections 11, 12 and 13, a clear space shall be maintained below the level of the sprinkler deflectors throughout the compartment of not less than—</i></p> <p>(a) <i>for High Hazard storage, 900 mm.</i></p> <p>(b) <i>for rolling storage cabinets, 100 mm, provided the maximum area coverage is reduced to 9 m² per sprinkler; and</i></p> <p>(c) <i>for washrooms and toilet cubicles, 250 mm; and</i></p> <p>(d) <i>in all other cases, 500 mm.</i></p> <p><i>NOTE: Where sloping ceilings or roofs are concerned, stored goods may follow the slope, provided the above clearances are maintained”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Demonstrate compliance with the fire sprinkler system requirements specified under the BCA Volume One Section E1.5, Specification E1.5 and in accordance with the fire safety schedule requirement. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 150 days of issuance of this Order.</p>

16. Defect 9 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the basement carpark of the Building the Investigator observed that the sprinkler was installed under the duct work without any mechanical protection.</p> <p>I have formed the belief that the absence of a sprinkler coverage system and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2118.1 Automatic fire sprinkler systems Part 1: General systems - 5.7.7 6.9 Sprinkler guards, which states</p> <p><i>“Where sprinklers are installed in locations where they are likely to suffer mechanical damage, they shall be fitted with metal guards. Guards shall be designed so as not to interfere with the normal spray pattern of the sprinkler”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Demonstrate compliance of the fire sprinkler system requirements as specified in the Australian Standard AS 2118.1 Automatic fire sprinkler system. 2. Rectify non-compliances to comply with BCA Volume One and AS 2118. 3. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

17. Defect 10 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the level 1 basement of the Building the Investigator observed no labels identifying the dampers installed in the mechanical ductwork throughout the fire resisting structure / concrete soffit in car park basement.</p> <p>I have formed the belief that the absence of labelling as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 4254.2 – 2012 Ductwork for air handling systems in buildings Part 2: Rigid duct, Section 2 Duct construction and installation, 2.1 Ductwork, 2.1.1 General, states in part:</p> <p><i>"Where ducts penetrate walls that are required to have a FRL, walls shall be protected by fire dampers complying with AS 1682 series of Standards".</i></p> <p>Australian Standard AS 1682.2-2015 Fire, smoke and air dampers, Part 2; Installation, Section 7 Commissioning, 7.6 Installation label, 7.6.1 General, states in part:</p> <p><i>"Dampers shall be permanently, legibly and indelibly marked by means of a durable label complying with Clause 7.6.2. Colours that contrast with the background to assist reading under poor lighting conditions shall be used.</i></p> <p><i>The installation label shall be located so it is easily read during routine maintenance inspections".</i></p> <p>Australian Standard AS 1682.2-2015 Fire, smoke and air dampers, Part 2; Installation, Section 7 Commissioning, 7.6 Installation label, 7.6.2 Labelling, states:</p> <p><i>"The following text shall be included on the installation label:</i></p> <ul style="list-style-type: none"> <i>(a) The installation contractor.</i> <i>(b) Name and licence number (if applicable) of person responsible for installing the damper.</i> <i>(c) Name and licence number (if applicable) of person responsible for approving the installation.</i> <i>(d) Date of installation.</i> <i>(e) Where the damper manufacturer's label is not visible, the make and model of the damper.</i> <i>(f) Reference identification code for dampers as required in baseline data.</i> 	<p>Developer to:</p> <ol style="list-style-type: none"> Rectify the ductwork installation to comply with the BCA Volume One and Australian Standard AS 1682.2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

	<p><i>Permanent marking pen shall be used to apply the required information on the label".</i></p> <p>Australian Standard AS 4254.2 appears as a standard referenced in the BCA Volume One, Section C Fire resistance, Specification C1.10 Fire hazard properties, 5. Air-handling ductwork, which states:</p> <p><i>"Rigid and flexible ductwork in a Class 2 to 9 building must comply with the fire hazard properties set out in AS 4254.1 and AS 4254.2."</i></p>		
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18. Defect 11 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> No fire separation between the gas meter cupboard and the common corridor which was leading to a required exit / fire safety door (fire stair). Motor Room Less (MRL) lift control panels were installed in the path of travel within the common area of the top floor of each block. <p>I have formed the belief that the absence of fire separation and the installation of MRL lift control panels in the path of travel as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume 1 Section D2.7 Installations in exits and paths of travel, which states in part:</p> <p><i>(a) Access to service shafts and services other than to firefighting or detection equipment as permitted in the Deemed-to-Satisfy Provisions of Section E, must not be provided from a fire- isolated stairway, fire- isolated passageway or fire- isolated ramp.</i></p> <p><i>(b) An opening to any chute or duct intended to convey hot products of combustion from a boiler, incinerator, fireplace or the like, must not be located in any part of a required exit or any corridor, hallway, lobby or the like leading to a required exit.</i></p> <p><i>(c) Gas or other fuel services must not be installed in a required exit.</i></p> <p><i>(d) Services or equipment comprising—</i></p> <p><i>(i) electricity meters, distribution boards or ducts; or</i></p> <p><i>(ii) central telecommunications distribution boards or equipment; or</i></p> <p><i>(iii) electrical motors or other motors serving equipment in the building,</i></p> <p><i>may be installed in—</i></p> <p><i>(iv) a required exit, except for fire-isolated exits specified in (a); or</i></p> <p><i>(v) in any corridor, hallway, lobby or the like leading to a required exit, if the services or equipment are enclosed by non-combustible construction or a fire protective covering with doorways or openings suitably sealed against smoke spreading from the enclosure.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> Demonstrate compliance gas meter cupboard and Motor Room Less lift control panels with BCA Volume 1 Section D2.7 Installations in exits and paths of travel. Rectify defects to comply with the BCA Volume One Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

19. Defect 12 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the ground floor water meter of the Building the Investigator made the following observations:</p> <ol style="list-style-type: none"> 1. Fire Hose reels were connected to the potable metered water service with a pump and water meter and isolation valves were installed at the property boundary. 2. Water Meter Isolation valves were not observed to have been locked in the open position. <p>I have formed the belief that the inadequate installation of padlocks to isolation valves that can prevent flow of water and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2441 - 2005 Installation of fire hose reels, Section 6 Water Supply, 6.2 Metered water supply which states:</p> <p><i>"Where a fire hose reel is connected to a metered water supply, it shall comply with the following requirements:</i></p> <p>(b) ...</p> <p>(c) ...</p> <p>(d) <i>Any valve that can prevent flow of water to the hose reel shall be secured and padlocked in the open position. It shall be marked on an attached corrosion- resistant and durable tag, with the following in nominal 8 mm upper case text:</i></p> <p>FIRE SERVICE VALVE</p> <p>CLOSE ONLY TO SERVICE FIRE HOSE REELS</p> <p>....."</p> <p>Australian Standard AS 2441 appears as a standard referenced in the BCA Volume One, Section E Services and equipment, Part E1.4 Fire Hose Reels, which states in part:</p> <p><i>"(c) The fire hose reel system must—</i></p> <p>i. <i>have fire hose reels installed in accordance with AS 2441;"</i></p> <p>Deemed-to-Satisfy provision E1.4 is a pathway that can satisfy the BCA Volume One, Section E Services and equipment, Part E1 Firefighting equipment, Performance Requirement EP1.1, which states:</p> <p><i>"A fire hose reel system must be installed to the degree necessary to allow occupants to safely undertake initial attack on a fire appropriate to—</i></p> <p>(a) the size of the fire compartment; and</p> <p>(b) the function or use of the building; and</p> <p>(c) any other fire safety systems installed in the building; and</p> <p>(d) the fire hazard".</p>	<p>Developer to:</p> <p>Rectify the installation in accordance with the BCA Volume One and Australian Standard AS 2441 Installation of fire hose reels.</p> <p>Particular attention to be given, but not limited to the following:</p> <ol style="list-style-type: none"> 1. Secure and provide approved keyed padlock to required fire service isolation valves. 2. Provide tag to valve with required permanent text. 3. Make good any resultant consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 60 days of issuance of this Order.</p>

	Therefore, because the fire hose installation doesn't comply with the referenced Australian Standard AS 2441, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.		
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20. Defect 13 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the ground floor booster assembly of the Building the Investigator observed no small-bore suction was provided at the booster assembly from the fire hydrant water storage tanks.</p> <p>I have formed the belief that the hydrant pipework and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2419.1 - Fire hydrant installations Part 1: system design, installation and commissioning, Section 5 Water Storage, 5.4.3 Small bore suction connection which states in part:</p> <p><i>“Where a large bore suction connection is to be installed, each tank shall be also fitted with a minimum of two small bore connections (DN 65) 400 mm above the large bore connection, each comprising a lever-operated ball or butterfly valve or a gate valve, and each with a DN 65 hose connection with blank cap and chain (see Note 1).</i></p> <p><i>The use of valves with loose jumpers shall not be permitted for this purpose.</i></p> <p><i>Where a tank is not located in a secure area, all valves shall be locked in the closed position with a padlock key suitable to the needs of the local fire brigade.</i></p> <p>NOTES:</p> <p>(a) <i>For a typical arrangement, see Figure 5.4.2.</i></p> <p>(b) <i>Multiple water storage tanks may be interconnected using a manifold with a valve at each tank.”</i></p> <p>Australian Standard AS 2419.1 appears as a standard referenced in the BCA Volume One, Section E Services and equipment, Part E1.3 Fire hydrants, which states in part:</p> <p><i>“(b) The fire hydrant system—</i></p> <p><i>must be installed in accordance with AS2419.1,”</i></p> <p>Deemed-to-Satisfy provision E1.3 is a pathway that can satisfy the BCA Volume One, Section E Services and equipment, Part E1 Fire fighting equipment, Performance Requirement EP1.3, which states:</p> <p><i>“A fire hydrant system must be provided to the degree necessary to facilitate the needs of the fire brigade appropriate to—</i></p> <p>(a) <i>fire-fighting operations; and</i></p> <p>(b) <i>the floor area of the building; and</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify the hydrant pipework installation in accordance with the BCA Volume One and Australian Standard AS 2419.1. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

	<p>(c) the fire hazard".</p> <p>Therefore, because the hydrant pipework installation does not comply with the referenced Australian Standard AS 2419.1, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.</p>		
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21. Defect 14 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the ground floor booster assembly of the Building the Investigator observed that the information shown on the Fire hydrant block plan did not comply with the requirements of AS 2419.</p> <p>The Investigator further noted that the required information was not shown, and provided examples of missing information, being; year of installation, capacity of tanks, size and location of water authorities mains, location of electrical switch room and connection of fire hydrant suction.</p> <p>I have formed the belief that the hydrant pipework installation and non-compliant fire hydrant block plan and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2419.1 - Fire hydrant installations Part 1: System design, installation and commissioning, Section 7 Fire Brigade Booster Assembly, 7.11 Block plan which states in part:</p> <p><i>"A block plan, A3 minimum size, shall be fixed within the booster cabinet, enclosure, recess, fire control room and pump room where it can be readily seen.</i></p> <p><i>NOTE: Typical block plans are shown in Figures 7.4 and 7.11.</i></p> <p><i>The block plan shall be water- and fade-resistant and display the following:</i></p> <p><i>(a) A diagrammatic layout of the protected buildings or open yards and adjacent streets.</i></p> <p><i>(b) A diagram showing—</i></p> <ul style="list-style-type: none"> <i>i. size and location of water supply authorities mains and street fire hydrants (dimensioned);</i> <i>ii. valves and connections for non-industrial purposes;</i> <i>iii. location and size of on-site fire mains;</i> <i>iv. location and capacities of water storage tanks;</i> <i>v. location of pumps.</i> <i>vi. location and total number of fire hydrants;</i> <i>vii. location of all fire brigade booster assemblies.</i> <i>viii. location of isolating and non-return valves.</i> <i>ix. any connections to other installed fire protection systems;</i> <i>x. pressure and flow rating of pumps (kPa and L/s);</i> <i>xi. location of main electrical switchroom;</i> <i>xii. location of LPG tanks and gas supply shutdown valve; and</i> <i>xiii. location of all flammable storage areas.</i> <p><i>(c) The year of installation of the system, any major extensions thereto, and any</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> Rectify the hydrant block plan to comply with the BCA Volume One and Australian Standard AS 2419.1. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 60 days of issuance of this Order.</p>

	<p><i>unusual</i></p> <ul style="list-style-type: none"> <i>i. features of the installation, and—</i> <i>ii. the name of the contractor who installed or modified the system;</i> <i>iii. the system design and commissioning pressure and flow rate; and</i> <i>iv. the height of the highest fire hydrant outlet above the lowest booster inlet connection.”</i> <p>Australian Standard AS 2419.1 appears as a standard referenced in the BCA Volume One, Section E Services and equipment, Part E1.3 Fire hydrants, which states in part:</p> <p style="padding-left: 40px;"><i>“(b) The fire hydrant system—</i></p> <p style="padding-left: 80px;"><i>must be installed in accordance with AS 2419.1,”</i></p> <p>Deemed-to-Satisfy provision E1.3 is a pathway that can satisfy the BCA Volume One, Section E Services and equipment, Part E1 Fire fighting equipment, Performance Requirement EP1.3, which states:</p> <p style="padding-left: 40px;"><i>“A fire hydrant system must be provided to the degree necessary to facilitate the needs of the fire brigade appropriate to—</i></p> <ul style="list-style-type: none"> <i>(a) fire-fighting operations; and</i> <i>(b) the floor area of the building; and</i> <i>(c) the fire hazard”.</i> <p>Therefore, because the hydrant pipework installation does not comply with the referenced Australian Standard AS 2419.1, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.</p>		
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22. Defect 15 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the level 4 and 5 fire stairs of the Building the Investigator observed that hydrants were installed without pressure gauges at the most disadvantaged fire hydrant in any pressure zone.</p> <p>I have formed the belief that the inadequate fire hydrant installation and hydrant pipework and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2419.1 - Fire hydrant installations Part 1: System design, installation and commissioning, Section 9 Ancillary equipment, 9.3.2 Location of pressure gauges which states in part:</p> <p><i>“Pressure gauges shall be installed on a fire hydrant system as follows:</i></p> <p><i>(a) For all installations—</i></p> <p><i>(iii) on the suction and delivery side of any booster pump;</i></p> <p><i>(iv) adjacent to any fire brigade booster assembly inlet connection [see Figure 7.4(a), (b) or (c)];</i></p> <p><i>(v) on the delivery side of any pressure maintenance pump; and</i></p> <p><i>(vi) at each pressure switch.</i></p> <p><i>(b) For buildings with an effective height of not more than 25 m, at the hydraulically most disadvantaged fire hydrant in any installation with more than six fire hydrants.</i></p> <p><i>(c) For buildings with an effective height greater than 25 m—</i></p> <p><i>i. at the hydraulically most disadvantaged fire hydrant in any pressure zone; and</i></p> <p><i>ii. immediately upstream and downstream of any pressure-reducing valve.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify the hydrant pipework installation to comply with the BCA Volume One and Australian Standard AS 2419.1. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

23. Defect 16 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building the Investigator observed that the cross-linked Polyethylene (PEX) gas pipe serving the Sole Occupancy Unit installed in the gas cupboard was connected to the copper riser within 2 meters of the floor penetration.</p> <p>I have formed the belief that the PEX pipe connecting to the copper riser within 2 meters of the floor penetration and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section 3 Fire resistance, Specification C3.15 Penetration of walls, floors and ceilings by services, Deemed-to-satisfy provision 3. Metal pipe systems, which states in part:</p> <p><i>“(a) A pipe system comprised entirely of metal (excluding pipe seals or the like) that is not normally filled with liquid must not be located within 100 mm, for a distance of 2 m from the penetration, of any combustible building element or a position where combustible material may be located, and must be constructed of—</i></p> <p><i>(a) copper alloy or stainless steel with a wall thickness of at least 1 mm; or</i></p> <p><i>(b) cast iron or steel (other than stainless steel) with a wall thickness of at least 2 mm”.</i></p> <p>Deemed-to-satisfy provision 3. Metal pipe systems is a pathway that can satisfy the BCA Volume One, Section C Fire resistance, Performance Requirement CP2, which states in part:</p> <p><i>“(a) A building must have elements which will, to the degree necessary, avoid the spread of fire—</i></p> <p><i>iii. to exits; and</i></p> <p><i>iv. to sole-occupancy units and public corridors; and</i></p> <p><i>v. between buildings; and</i></p> <p><i>vi. in a building”.</i></p> <p>Therefore, as the metal pipe installation does not comply with Deemed-to-satisfy provision 3. Metal pipe systems, the BCA Volume One Performance Requirement cannot be shown to have been satisfied.</p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify the pipe installation to comply with the BCA Volume One. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

24. Defect 17 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the upper basement garbage room of the Building the Investigator observed that the garbage room opening was not fire-rated, and the opening was larger than the ductwork.</p> <p>I have formed the belief that the unprotected penetrations and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section 3 Fire resistance, Part C3 Protection of openings, Deemed-to-satisfy provision C3.15 Openings for service installations, which states in part:</p> <p><i>“Where an electrical, electronic, plumbing, mechanical ventilation, air-conditioning or other service penetrates a building element (other than an external wall or roof) that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that installation must comply with any one of the following:</i></p> <p><i>(a) Tested systems</i></p> <p><i>The service, building element and any protection method at the penetration are identical with a prototype assembly of the service, building element and protection method which has been tested in accordance with AS 4072.1 and AS 1530.4 and has achieved the required FRL or resistance to the incipient spread of fire”.</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify the non-compliant opening to comply with the BCA Volume One. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

25. Defect 18 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the ground floor booster assembly of the Building the Investigator observed that the booster assembly was connected to the Sydney water main while there is an onsite tank and suction installed.</p> <p>I have formed the belief that the hydrant pipework and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2419.1 - Fire hydrant installations Part 1: System design, installation and commissioning, Section 5 Water Storage – Typical Arrangement of Fire Brigade Connection.</p>	<p>Require further onsite investigation of the existing system installed and direction from Fire Engineer and/or Fire Rescue New South Wales.</p>	<p>Within 120 days of issuance of this Order.</p>

26. Defect 19 – Fire Safety Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the ground floor booster assembly and lower basement of the Building the Investigator observed that the fire hydrant water storage tank was located approximately 6.5 meters below ground and it exceeded the maximum vertical lift of 3 metres.</p> <p>The Investigator further noted that AS 2419.2021 further clarifies the suction lift and that there was a potential for system failure during onsite operation.</p> <p>I have formed the belief that the hydrant pipework and as described above is a serious defect because it is a defect in a building element (fire safety systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard AS 2419.1 - Fire hydrant installations Part 1: System design, installation and commissioning, Section 5 Water Storage – 5.1 General which states in part:</p> <p><i>“C5.1 Tanks containing water for firefighting may be internal or external to the building. If external, the tank should be located a minimum distance of 10 m from any building to ensure access and protection from radiant heat and additional distance may be necessary depending on the building structure. Such tanks are used as pump suction tanks for on-site pump sets where installed and for connection to attending fire brigade pumping appliances. The use of in-ground storage tanks requires special consideration.”</i></p> <p>In this instance the below ground tanks require special consideration and special input from fire brigade prior installation as this will affect the operational requirement of the system.</p> <p>And</p> <p>The hydrant pipework installation demonstrates a failure to comply with Australian Standard AS 2419.1 - Fire hydrant installations Part 1: System design, installation and commissioning, Appendix D Fire Brigade Appliance and Strategies which states in part:</p> <p><i>“Appliance pump performance is compromised when operating with a negative suction pressure.”</i></p> <p>And</p> <p>This has been further elaborated in Australian Standard AS 2419.1 Figure G.4.8 - Fire hydrant installations Part 1 – 2021 standard.</p>	<p>Require further onsite investigation of the existing system installed and direction from Fire Rescue New South Wales.</p>	<p>Within 120 days of issuance of this Order.</p>

27. Defect 20 – Structural Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the upper basement carpark of the Building the Investigator made the following observations:</p> <ol style="list-style-type: none"> Uncontrolled cracking to the floor surface and the soffit of the suspended concrete slab throughout the basements and ground floor. The cracks appeared through the full depth of the suspended concrete slab. Some cracks appeared to be partly rectified. <p>I have formed the belief that the uncontrolled cracking and building work and as described above is a serious defect because it is a defect in a building element (structural systems) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section B, Structure and the Australian Standard AS 3600.</p> <p>The Deem to satisfy provisions of the BCA Volume One Section B1.4, Determination of structural resistance of materials and forms of construction states:</p> <p><i>“The structural resistance of materials and forms of construction must be determined in accordance with the following, as appropriate:</i></p> <p>(b) Concrete:</p> <p><i>Concrete construction (including reinforced and prestressed concrete): AS 3600.”</i></p> <p>The Australian Standard AS 3600 Concrete structures, Section 2 Design procedures, actions and loads, 2.3, Design for serviceability, 2.3.3, Cracking states:</p> <p><i>“2.3.3.1 General</i> <i>Cracking in concrete structures shall be controlled so that structural performance, durability and appearance of the structure are not compromised.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> Rectify the uncontrolled cracking to comply with the BCA Volume One and Australian Standard AS 3600. Make good any consequential damage. <p>Developer to demonstrate compliance of rectification work by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

28. Defect 21 – Structural Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the upper basement and lower basement carpark of the Building the Investigator made the following observations:</p> <ol style="list-style-type: none"> Shoring wall was comprised of multiple concrete placements resulting in cold joints. Multiple concrete pours in the shoring wall had not provided a monolithic concrete mass. <p>I have formed the belief that the nonuniformed concrete wall and presence of multiple cold joints and as described above is a serious defect because it is a defect in a building element (structural systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard 3600-2009, Concrete structures, Section 17 Material and construction requirement, 17.4 Construction requirements for joints and embedded items</p> <p>17.4.1 Location of construction joints which states:</p> <p><i>“(a) Construction joints designed in accordance with Clause 14.1.2 shall be located to facilitate the placement of concrete in accordance with Clause 17.1.3”.</i></p> <p>17.1.3 Handling, placing and compacting of concrete states;</p> <p><i>“Concrete shall be handled, placed and compacted so as to-</i></p> <p>(a)</p> <p>(b)</p> <p>(c) <i>produce a monolithic mass between planned joints or the extremities of members, or both;”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> Demonstrate compliance with AS 3600 and the BCA Volume One. Rectify defects to comply with the requirements of AS 3600 and the BCA Volume One Make good any consequential damage. <p>Developer to demonstrate compliance of rectification work by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 150 days of issuance of this Order.</p>

29. Defect 22 – Structural Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the upper basement carpark adjacent to the electrical switch room of the Building the Investigator observed exposed/ unprotected tendons in the shoring wall in the basement.</p> <p>I have formed the belief that the unprotected tendons and as described above is a serious defect because it is a defect in a building element (structural systems) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard 3600- 2009, Concrete structures, Section 4, Design for durability 4.10 Requirements for cover to reinforcing steel and tendons, 4.10.3 Cover for corrosion protection 10.4.3.1 General which states:</p> <p><i>“For corrosion protection, the cover shall be not less than the value given in accordance with Clauses 4.10.3.2 to 4.10.3.7.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify the defect by grout filling the anchor holes in accordance with the BCA Volume One and Australian Standard 3600 – Concrete Structures. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of rectification work by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

30. Defect 23 – Structural Systems

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the upper basement communications room of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> No visible evidence that masonry had been connected or tied at the corners or to other structural members. Large gaps evident at the change of direction in masonry walls. <p>I have formed the belief that the large gaps at the change of direction in the masonry walls and as described above is a serious defect because it is a defect in a building element (structural systems) that is attributable to a failure to comply with the following:</p>	<p>AS 3700 Masonry Structures, Section 4 General Design Aspects, 4.11 Bonding, Tying and Supporting, 4.11.3. Tying with connectors, 4.11.3.1 Other than diaphragm walls and walls of geometric section, which states in part:</p> <p><i>“For other than diaphragm walls and walls of geometric section, connectors used at an interface to obtain monolithic structural action shall comply with the following:</i></p> <ol style="list-style-type: none"> <ol style="list-style-type: none"> <i>Connectors shall be placed in aligning mortar bed joints to tie the masonry members or components together across the interface, and built into the masonry in accordance with Clause 12.4.7.”</i> <p>12.4.7 Building in states in part:</p> <p><i>“Wall ties and accessories embedded in mortar joints shall be built in as the construction proceeds”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> Demonstrate the masonry walls have been constructed in accordance with the requirements of AS 3700 Masonry Structures. Rectify any defects to comply with AS 3700 Masonry Structures Make good any consequential damage. <p>Developer also to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 150 days of issuance of this Order.</p>

31. Defect 24 – Building Enclosure

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building and in particular the external cladding of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> 1. Significant water ingress through cladding on multiple locations. 2. Severe damage on external wall cladding. <p>I have formed the belief that the uncontrolled water ingress and as described above is a serious defect because it is a defect in a building element (building enclosure) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.4 which states:</p> <p>“A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause-</p> <ol style="list-style-type: none"> (a) <i>Unhealthy or dangerous conditions, or loss of amenity for occupants; and</i> (b) <i>Undue dampness or deterioration of building elements.”</i> 	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify defective cladding. 2. Undertake water pressure testing of the façade in accordance with the requirements of Australian Standard AS/NZS 4284:2008 Testing of building facades, 8.5 Water penetration test by static pressure and 8.6 Water penetration test by cyclic pressure. 3. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

32. Defect 25 – Building Enclosure

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building the Investigator observed the following:</p> <ol style="list-style-type: none"> 1. Cold air and water ingress through the external window glass and façade. 2. That water-proofing systems were not provided or failed on multiple units. <p>I have formed the belief that the uncontrolled water ingress and as described above is a serious defect because it is a defect in a building element (building enclosure) that is attributable to a failure to comply with the following:</p>	<p>AS 2047 Windows and external glazed doors in buildings and BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Performance Requirement FP1.4, which states:</p> <p><i>“A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause-</i></p> <ol style="list-style-type: none"> (a) <i>Unhealthy or dangerous conditions, or loss of amenity for occupants; and</i> (b) <i>Undue dampness or deterioration of building elements.”</i> 	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Demonstrate external doors and windows have been installed in compliance with the manufacturer's guidelines, AS 2047 and BCA Volume One. 2. Rectify defective work to comply with manufacturer's guidelines, AS 2047 and BCA Volume One. 3. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

33. Defect 26 – Building Enclosure

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building and in particular the external wall of the Building the Investigator observed uncontrolled cracks in the external walls generally.</p> <p>I have formed the belief that the uncontrolled cracking as described above is a serious defect because it is a defect in a building element (building enclosure) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section B Structure, Deemed-to- Satisfy provision B1.4 - Determination of structural resistance of materials and forms of construction which states in part -</p> <p><i>“The structural resistance of materials and forms of construction must be determined in accordance with the following, as appropriate: ... (b) Concrete: (i) Concrete construction (including reinforced and prestressed concrete): AS 3600”.</i></p> <p>Australian Standard 3600 appears as a standard referenced in the BCA Volume One.</p> <p>The referenced Australian Standard 3600-2009 Concrete structures, Section 2 Design procedures, actions and loads, 2.3, Design for serviceability, 2.3.3, Cracking states in part -</p> <p><i>“2.3.3.1 General Cracking in concrete structures shall be controlled so that structural performance, durability and appearance of the structure are not compromised.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Seek structural design engineers recommendations to rectify the defects in accordance with the BCA Volume One and Australian Standard 3600 - Concrete structures. 2. Prepare and execute a rectification methodology to the structural concrete walls in consultation with the structural design engineer. 3. Ensure the repair methodology is capable of sustaining anticipated movement and control of cracking throughout the service life of the structure. 4. Make good any consequential damage. <p>Demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates.</p>	<p>Within 180 days of issuance of this Order.</p>

34. Defect 27 – Building Essential Services

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building and in particular the common area corridors of the Building the Investigator made the following observations:</p> <ol style="list-style-type: none"> Consumer gas meters for each apartment were observed installed within cupboards opening to the common area corridors on Levels. Louvered ventilation openings were observed to each gas meter cupboard providing natural ventilation of the gas meter cupboards to the adjacent common area enclosed corridor. Permanent, mechanical or natural ventilation openings within the common area corridors to the outside of the building was not observed to be installed. <p>I have formed the belief that the inadequate ventilation for the gas meter cupboards and as described above is a serious defect because it is a defect in a building element (building essential services) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard 4645.1 – 2018 Gas distribution networks, Part 1: Network management, Appendix I – Design requirements for consumer meter assemblies, I7 Consumer meter assemblies in buildings, Section I7.4 Meter Room Ventilation, Clause I7.4.3 Natural Ventilation via adjacent room which states:</p> <p><i>“Where the ventilation is to an adjacent room, the adjacent room shall not be a room used for the prime purpose of sleeping and the free area of each opening shall be twice the requirement of Paragraph I7.4.2. These requirements shall apply to all subsequent rooms until a room is ventilated directly to the outside in accordance with Paragraph I7.4.2”</i></p>	<p>Developer to carry out rectification of the inadequate ventilation of the gas meter cupboards with the BCA Volume One, Australian Standard 4645.1: 2018 Network management.</p> <p>Particular attention to be given, but not limited to the following areas:</p> <ol style="list-style-type: none"> Developer to demonstrate evidence that ventilation to outside of the building has been provided to satisfy the gas meter room ventilation requirements. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

35. Defect 28 – Building Essential Services

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the Building and in particular the fire stairs of the Building the Investigator observed unprotected pipework and cabling installed in the fire isolated stair way other than fire services or pipework for fire services.</p> <p>I have formed the belief that the unprotected pipework and cabling installed in fire isolated stair and as described above is a serious defect because it is a defect in a building element (building essential services) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume One, Section C – Service Penetration in fire isolated exit - C3.9 Service penetrations in fire-isolated exits which states:</p> <p><i>“Fire-isolated exits must not be penetrated by any services other than—</i></p> <p><i>(a) electrical wiring permitted by D2.7(e) to be installed within the exit; or</i></p> <p><i>(b) ducting associated with a pressurisation system if it—</i></p> <p><i>(i) is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and</i></p> <p><i>(ii) does not open into any other part of the building; or</i></p> <p><i>(c) water supply pipes for fire services”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify defects to comply with BCA Volume One. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

36. Defect 29 – Building Essential Services

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the lower basement carpark of the Building the Investigator observed sewer and stormwater pipes installed without adequate fall.</p> <p>I have formed the belief that the inadequate pipe installation as described above is a serious defect because it is a defect in a building element (building essential services) that is attributable to a failure to comply with the following:</p>	<p>BCA Volume 3 Plumbing Code and the Australian Standard AS 3500.2 Part 2: Sanitary plumbing and drainage, 3.4 Grades of drains, 3.4.1 Minimum grade which states</p> <p><i>“The nominal minimum grade of vented and unvented drains shall be given in Table 3.4.1 Minimum grade of drains”</i> Refer to Image 5.4.2</p> <p>And</p> <p>AS3500.3 Plumbing and drainage Part 3: Stormwater drainage, Section 6 Surface and subsoil drainage systems – Installation, Clause 6.3.4 Gradients, which states</p> <p><i>“The minimum gradient of a site stormwater drain shall be given in Table 6.3.4”</i> Refer to Image 5.4.3.</p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify inadequate or negative fall to comply with BCA Volume Three and AS 3500. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 180 days of issuance of this Order.</p>

37. Defect 30 – Building Essential Services

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the lower basement of the Building the Investigator made the following observations:</p> <ol style="list-style-type: none"> The subsoil drainage pipe installation within the perimeter drainage channels throughout the lower basement were observed to be uneven and without consistent falls to outlets. The subsoil drainpipe installation within the perimeter drainage channel was observed to be discontinuous & incomplete. The drainage outlet is higher than the concrete floor slab, thus impeding water drainage. <p>I have formed the belief that the inadequate subsoil drainage and as described above is a serious defect because it is a defect in a building element (building essential services) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard 3500.3:2018, Plumbing and drainage – Stormwater drainage, Section 6 Surface and subsoil drainage systems - installation, 6.4 Subsoil drains,</p> <p>5.6.2 General, which states:</p> <p><i>“Subsoil drains shall be laid –</i></p> <p><i>(a) so any pipe or geo-composite drain can be flushed out;</i></p> <p><i>(b) with protection to prevent damage;</i></p> <p><i>(c) with clean-out points for pipes or geocomposite drains-</i></p> <p><i>(i) located at their topmost ends (or heads)</i></p> <p><i>(ii) located at each change of direction greater than 70°; (iii) that intersect the drain at an angle not greater than 45°.</i></p> <p><i>(iv) that extend vertically to the top of the paved surfaces or within 300 mm of an unfinished paved surface; and</i></p> <p><i>(v) that terminate with a screw cap legibly marked ‘SW’</i></p> <p><i>Any pipes and fittings in such drains shall be-</i></p> <p><i>(A) cleaned internally prior to installation and commissioning</i></p> <p><i>(B) continuously supported by embedment (see clause 6.3.5); and</i></p> <p><i>(C) jointed using fittings where applicable.”</i></p> <p>And</p> <p>Australian Standard 3500.3 appears as a standard referenced in the BCA Volume One, Section F Health and Amenity, Part F1 Damp and Weatherproofing, Deemed-to-Satisfy provision F1.1 Stormwater drainage, which states:</p> <p><i>“Stormwater drainage must comply with AS/NZS 3500.3.”</i></p> <p>Deemed-to-Satisfy provision F1.1 is a pathway that can satisfy the BCA Volume One, Section F Health and Amenity, Part F1 Damp and</p>	<p>Developer to:</p> <ol style="list-style-type: none"> Carry out rectification of the sub-surface and surface drainage defects in accordance with the BCA Volume One and Australian Standard 3500.3 Plumbing and drainage – Stormwater drainage and the approved plans. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 150 days of issuance of this Order.</p>

	<p>Weatherproofing, Performance Requirements: : FP1.3 Rainwater drainage systems, which states:</p> <p><i>"A drainage system for the disposal of surface water resulting from a storm having an average recurrence interval of—</i></p> <p><i>(a) 20 years must—</i></p> <p><i>(i) convey surface water to an appropriate outfall; and</i></p> <p><i>(ii) avoid surface water damaging the building; and</i></p> <p><i>(b) 100 years must avoid the entry of surface water into a building."</i></p>		
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38. Defect 31 – Building Essential Services

Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the whole of the building and in particular the external balcony of the Building the Investigator made the following observations:</p> <ol style="list-style-type: none"> 1. The condensate drain serving the outdoor unit was not connected to a tundish or approved nearest drainage on the balcony. 2. The outdoor unit base installation did not meet the manufacturers guidelines for installation of outdoor units to hold the weight of the unit. <p>I have formed the belief that the installations and as described above is a serious defect because it is a defect in a building element (building essential services) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard 3500.2 Sanitary plumbing and drainage 13.15 Refrigerated air conditioners, heat pumps, refrigerators, deep-freeze cabinets, commercial coffeemaking machines and ice-making machines, which states:</p> <p><i>“Outlet pipes from refrigerated air conditioners, heat pumps, refrigerators, deep-freeze cabinets, commercial coffee-making machines and ice-making machines shall be connected to a tundish installed in accordance with Clause 13.21 or discharge above the inlet to a self-sealing device.”</i></p> <p>And</p> <p>“13.21 CONNECTION OF TUNDISHES</p> <p><i>Tundishes may be connected—</i></p> <p><i>(a) to a waste pipe, not smaller than DN 25, in accordance with Clause 4.6.7.8;</i></p> <p><i>(b) to a trapped waste pipe, not smaller than DN 40, in accordance with Appendix B; or</i></p> <p><i>(c) to a fixture trap.</i></p> <p><i>When the tundish and discharge pipe is connected to a fixture trap—</i></p> <p><i>(a) the connection shall be made above the level of the water seal; and</i></p> <p><i>(b) the top of the tundish shall be above the flood level rim of the fixture.</i></p> <p><i>Pipes discharging over a tundish shall have an air gap of a size at least twice the internal diameter of the discharging pipe.</i></p> <p><i>Tundishes shall be accessible.”</i></p> <p>And</p> <p>The installation demonstrates a failure to comply with Australian Standard 5141:2018 Residential heating and cooling systems – Minimum applications and requirements for energy efficiency, performance and comfort criteria, Section 3 Installation requirements, 3.3 Pipework, 3.3.4 Condensate drains, 3.3.4.1</p>	<p>Developer to rectify the defects in accordance with the BCA Volume 1, Australian Standard 3500.2 Plumbing and drainage – Sanitary plumbing and drainage. Particular attention, but not limited to the following areas:</p> <ol style="list-style-type: none"> (a) Route the air conditioning condensate drain lines to a suitable location for connection at a tundish; and (b) Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 90 days of issuance of this Order.</p>

	<p>General, which states:</p> <p><i>"Condensate drains shall be installed to ensure safe and reliable discharge of condensate from air conditioning systems and condensing gas heaters."</i></p> <p>And</p> <p>Hitachi Split Type Air Conditioners, Installation and maintenance manual which states – refer to Image 5.7.3: and Image 5.7.4 – Extract from Hitachi Air Conditioners installation and maintenance manual indicating the installation requirements for the base of unit.</p>		
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39. Defect 32 – Building Essential Services

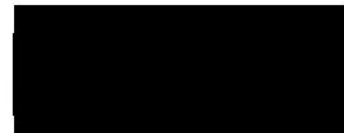
Description of serious defect	Applicable performance requirements	Remediation work to be carried out or caused to be carried out by the Developer	Time period for compliance
<p>When inspecting the lower basement carpark of the Building the Investigator observed that the pipework was not labeled.</p> <p>I have formed the belief that the inadequate identification of pipework and as described above is a serious defect because it is a defect in a building element (building essential services) that is attributable to a failure to comply with the following:</p>	<p>Australian Standard 3500.1 - 5.18 Identification of piping and Clause 6.5 Identification which states:</p> <p><i>“In other than domestic or residential buildings (Class 3 to Class 9 buildings), accessible pipework shall be permanently marked so as to be readily identifiable as part of the water service. Identification markings shall conform to AS 1345 in Australia or NZS 5807 in New Zealand, and be placed—</i></p> <ul style="list-style-type: none"> <i>• at spacings not exceeding 8 m; and</i> <i>• adjacent to branches, junctions, valves, and wall and floor penetrations.”</i> <p>And</p> <p>6.5 Identification</p> <p><i>“Fire service pipelines shall be identified in accordance with AS 1345 or NZS 5807, as appropriate.”</i></p> <p>And</p> <p>The inadequate identification of pipework demonstrates a failure to comply with the Australian Standard 3500.2 - 10.10 IDENTIFICATION OF PIPES which states:</p> <p><i>“Other than in houses or duplexes (Class 1A), all pipes installed in ducts, accessible ceilings or exposed in basements or plant rooms shall be clearly identified in accordance with AS 1345 or NZS 5807, as appropriate.”</i></p> <p>And</p> <p>The inadequate identification of pipework demonstrates a failure to comply with the Australian Standard 2419.1 - 8.6.3 Pipework identification which states:</p> <p><i>“Fire hydrant pipework shall be painted or labelled in accordance with AS 1345.”</i></p>	<p>Developer to:</p> <ol style="list-style-type: none"> 1. Rectify the non-compliances to comply with Australian Standards and the BCA Volume One. 2. Make good any consequential damage. <p>Developer to demonstrate compliance of remediation works by providing evidence including but not limited to comprehensive photographs of work in progress, installer compliance certificates and any third-party inspection reports.</p>	<p>Within 120 days of issuance of this Order.</p>

Conditions of this Order

The Developer must notify Chris Lentholt, in writing, by email sent to projectintervene@customerservice.nsw.gov.au within 2 business days of the work required by this Order being completed.

Duration of this Order

This Order remains in force until it is revoked by the Secretary.



Elizabeth Stewart
Acting Executive Director
Building Operations and Assistant Building Commissioner
Building Commission NSW
Department of Customer Service

REASONS FOR THE ORDER

Reasonable belief and serious defects

I, Elizabeth Stewart, an authorised delegate of the Secretary of the Department, have formed a reasonable belief for the purposes of s 33(1) of the Act in relation to Defects 1 to 32 in the Order, that the Building has serious defects.

1. **Defect 1** – The inadequate subsoil drainage installation within the basement of the Building and the uncontrolled water ingress in the basement of the Building as described in paragraph 8 of the order, is a serious defect because it is a deficiency in a building element (waterproofing) that are required to achieve compliance with the performance requirements as particularised in paragraph 8 of the order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 1.1 in which I also observed photographs which depicted the basement external walls of the Building showing water ingress through the wall, together with the basement external walls near the access ramp showing water ingress through the wall and as otherwise particularised in section 1.1 of the Audit Report and paragraph 8 of the Order.
2. **Defect 2** – The uncontrolled water ingress throughout the whole of the Building (generally) as described in paragraph 9 of the Order, is a serious defect because it is a deficiency in a building element (waterproofing) that are required to achieve compliance with the performance requirements as particularised in paragraph 9 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 1.2 in which I also observed photographs which depicted water ingress to the ceiling from the rooftop and as otherwise particularised in section 1.2 of the Audit Report and paragraph 9 of the Order.
3. **Defect 3** – The inadequate planter construction with the lack of protection boards, non-compliant membrane termination detail and the lack of stormwater drainage systems on the ground floor of the Building and as described in paragraph 10 of the Order, is a serious defect because it is a deficiency in a building element (waterproofing) that are required to achieve compliance with the performance requirements as particularised in paragraph 10 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 1.3 in which I also observed a photograph which depicted the ground floor planter without overflow and as otherwise particularised in section 1.3 of the Audit Report and paragraph 10 of the Order.
4. **Defect 4** – The insufficient waterproofing system termination heights in the whole of the Building (generally) and as described in paragraph 11 of the Order, is a serious defect because it is a deficiency in a building element (waterproofing) that are required to achieve compliance with the performance requirements as particularised in paragraph 11 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 1.4 in which I also observed photographs which depicted the balcony floor of Unit 64 of the Building without waterproofing and as otherwise particularised in section 1.4 of the Audit Report and paragraph 11 of the Order.
5. **Defect 5** – The lack of drainage provisions for adequate overflow capacity to the external wet areas of the Building as described in paragraph 12 of the Order, is a serious defect because it is a deficiency in a building element (waterproofing) that are required to achieve compliance with the performance requirements as particularised in paragraph 12 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 1.5 in which I also observed photographs which depicted no overflow provisions on:
 - (a) the Building D Level 5 balcony and roof terrace; and
 - (b) the Building C Level 4 balcony and roof terrace,and as otherwise particularised in section 1.5 of the Audit Report and paragraph 12 of the Order.

6. **Defect 6** – The water ingress through the external roof and building envelope (in particular in respect of Levels 4 and 5 of the Building) and as described in paragraph 13 of the Order, is a serious defect because it is a deficiency in a building element (waterproofing) that are required to achieve compliance with the performance requirements as particularised in paragraph 13 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 1.6 in which I also observed a photograph which depicted mould growing in places with a lot of moisture or water leaks on Building C and as otherwise particularised in section 1.6 of the Audit Report and paragraph 13 of the Order.
7. **Defect 7** – The unprotected penetrations generally throughout the whole of the Building as described in paragraph 14 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as set out in paragraph 14 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.1 in which I also observed photographs which showed:
- (a) penetrations through wall not sealed in accordance with BCA in the basement car park fire stairs of the Building;
 - (b) basement fire stairs fire stopping penetration in the fire resisting wall had not been installed using a known tested fire stopping methodology nor labelled;
 - (c) basement car park fire stairs wall of the Building was compromised;
 - (d) example of an opening in basement electrical main switchboard room soffit of the Building;
 - (e) example of service penetrations through the slab in the basement pump room of the Building;
 - (f) example of service penetrations in level 3 corridor of the Building;
 - (g) example of service penetrations in the basement pump room duct work of the Building,
- and as otherwise particularised in section 2.1 of the Audit Report and paragraph 14 of the Order.
8. **Defect 8** – The absence of a sprinkler coverage system in the basement main switch room of the Building and as described in paragraph 15 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as set out in paragraph 15 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.2 in which I also observed a photograph which depicted an example of a sprinkler installed in the basement electrical switchboard room and as otherwise particularised in section 2.2 of the Audit Report and paragraph 15 of the Order.
9. **Defect 9** – The absence of a sprinkler coverage system in the basement carpark of the Building and as otherwise described in paragraph 16 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 16 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.3 in which I also observed a photograph which depicted an example of a damaged sprinkler pipework installed in the basement carpark under a ductwork and as otherwise particularised in section 2.3 of the Audit Report and paragraph 16 of the Order.
10. **Defect 10** – The absence of labelling of the damper installed in the mechanical ductwork throughout the fire resisting structure / concrete soffit in the car park basement of the Building and as described in paragraph 17 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 17 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.4 in which I also observed photographs which depicted unlabelled ductwork through the fire wall and inspection opening installed in basement 1 of the Building

together with unlabelled duct work through the fire wall and inspection opening installed within the upper basement car park of the Building and as otherwise particularised in section 2.4 of the Audit Report and paragraph 17 of the Order.

11. **Defect 11** – The absence of fire separation throughout the whole of the Building (generally) of the Building and as otherwise described in paragraph 18 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 18 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.5 in which I also observed photographs which depicted a large unprotected opening in the gas meter cupboard of the Building, together with the motor room less lift control panels installed in the path of travel with the common area level 4 of the Building and as otherwise particularised in section 2.5 of the Audit Report and paragraph 18 of the Order.
12. **Defect 12** – The inadequate installation of padlocks to isolation vales that can prevent flow of water to the hose reel on the water meter on the ground floor of the Building and as described in paragraph 19 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 19 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.6 in which I also observed a photograph which depicted the water meter in question with isolation vales not locked in the open position and as otherwise particularised in section 2.6 of the Audit Report and paragraph 19 of the Order.
13. **Defect 13** – The hydrant pipework installation in the booster assembly on the ground floor of the Building as described in paragraph 20 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 20 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.7 in which I also observed a photograph which depicted the fire hydrant in question without small bore suction at the booster assembly from the fire hydrant water storage tanks and as otherwise particularised in section 2.7 of the Audit Report and paragraph 20 of the Order.
14. **Defect 14** – The fire hydrant installation of the booster assembly (and in particular the fire hydrant block plan) on the ground floor of the Building and as described in paragraph 21 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 21 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.8 in which I also observed a photograph which depicted the fire hydrant block plan on the street frontage in question and as otherwise particularised in section 2.8 of the Audit Report and paragraph 21 of the Order.
15. **Defect 15** – The hydrant pipework installation generally but particularly in the fire stairs of levels 4 and 5 of the Building and as described in paragraph 22 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 22 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.9 in which I also observed photographs which showed fire hydrants having been installed without a pressure gauge and as otherwise particularised in section 2.9 of the Audit Report and paragraph 22 of the Order.
16. **Defect 16** – The PEX pipe connecting to the copper riser within 2 meters of the floor penetration (generally) throughout the whole of the Building and as described in paragraph 23 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 23 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.10 in which I also observed photographs which depicted:
 - (a) an overview of the gas and water meter cupboard; and

- (b) the PEX gas pipe installed in the level 4 gas cupboard being connected to the copper riser within 2 meters of the floor preparation, and

as otherwise particularised in section 2.10 of the Audit Report and paragraph 23 of the Order.

17. Defect 17 – The unprotected penetrations in the upper basement (garbage room) of the Building and as described in paragraph 24 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 24 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.11 in which I also observed a photograph which depicted a large unprotected opening in the garbage room of the Building and as otherwise particularised in section 2.11 of the Audit Report and paragraph 24 of the Order.

18. Defect 18 – The hydrant pipework installation of the booster assembly on the ground floor of the Building and as described in paragraph 25 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 25 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.12 in which I also observed photographs which showed the fire hydrant booster assembly in question together with extracts from:

- (a) AS 2419.1:2005 (Figure 5.4.2) indicating the typical connection of water storage tanks;
- (b) AS 2419:2021 (Extract 2, Figure G.4.8 which detail fire hydrant system incorporating an onsite tank and pumps, and

as otherwise particularised in section 2.12 of the Audit Report and paragraph 25 of the Order.

19. Defect 19 – The hydrant pipework installation (and in particular its location approximately 6.5 meters below ground) of the Building and as described in paragraph 26 of the Order, is a serious defect because it is a deficiency in a building element (fire safety systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 26 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022, section 2.13 in which I also observed an extract from AS 2419.1:2021 (Extract 1, Figure K.5(B)) which indicated the maximum vertical lift of 3 meters and as otherwise particularised in section 2.13 of the Audit Report and paragraph 26 of the Order.

20. Defect 20 – The uncontrolled cracking in the upper basement car park of the Building and as otherwise described in paragraph 27 of the Order, is a serious defect because it is a deficiency in a building element (structural systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 27 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 3.1 in which I also observed a photograph which depicted uncontrolled cracks to the soffit of the concrete slab of the upper basement carpark of the Building and as otherwise particularised in section 3.1 of the Audit Report and paragraph 27 of the Order.

21. Defect 21 – The nonuniformed concrete wall and the presence of multiple cold joints in the upper basement and lower basement car park of the Building and as otherwise described in paragraph 28 of the Order, is a serious defect because it is a deficiency in a building element (structural systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 28 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 3.2 in which I observed photographs which depicted the shoring wall in the lower and upper basements having been comprised of multiple concrete placement and cold joints as otherwise particularised in section 3.2 of the Audit Report and paragraph 28 of the Order.

22. Defect 22 – The unprotected tendon adjacent to the electrical switch room in the upper basement car park of the Building and as otherwise described in paragraph 29 of the Order, is a serious defect

because it is a deficiency in a building element (structural systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 29 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 3.3 in which I also observed a photograph which depicted unprotected tendons in the lower basement shoring wall adjacent to the electrical switch room of the Building and as otherwise particularised in section 3.3 of the Audit Report and paragraph 29 of the Order.

- 23. Defect 23** – The large gaps at the change of direction in the masonry walls in the upper basement communications room of the Building and as otherwise described in paragraph 30 of the Order, is a serious defect because it is a deficiency in a building element (structural systems) that are required to achieve compliance with the performance requirements as particularised in paragraph 30 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 3.4 in which I also observed photographs which depicted the opening between walls and gap between the structure and as otherwise particularised in section 3.4 of the Audit Report and paragraph 30 of the Order.
- 24. Defect 24** – The uncontrolled water ingress through the external cladding in multiple locations throughout the whole of the Building and as otherwise described in paragraph 31 of the Order, is a serious defect because it is a deficiency in a building element (building enclosure) that are required to achieve compliance with the performance requirements as particularised in paragraph 31 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 4.1 in which I also observed a photograph which depicted an example of damaged external cladding on the west side façade of the Building and as otherwise particularised in section 4.1 of the Audit Report and paragraph 31 of the Order.
- 25. Defect 25** – The uncontrolled water ingress generally throughout the whole of the Building and as otherwise described in paragraph 32 of the Order, is a serious defect because it is a deficiency in a building element (building enclosure) that are required to achieve compliance with the performance requirements as particularised in paragraph 32 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 4.2 in which I also observed photographs which depicted an example of Block C Level 4 Apartment 64 external window together with examples of the Block B Level 2 Apartment 33 external window along with an example of Block B Level 2 Apartment 33 ceiling with water bubble and as otherwise particularised in section 4.2 of the Audit Report and paragraph 32 of the Order.
- 26. Defect 26** – The cracking identified in the external wall of the whole of the Building and as otherwise described in paragraph 33 of the Order, is a serious defect because it is a deficiency in a building element (building enclosure) that are required to achieve compliance with the performance requirements as particularised in paragraph 33 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 4.3 in which I also observed photographs which depicted uncontrolled cracks in the external walls and as otherwise particularised in section 4.3 of the Audit Report and paragraph 33 of the Order.
- 27. Defect 27** – The inadequate ventilation for the gas cupboards of the Building and as otherwise described in paragraph 34 of the Order, is a serious defect because it is a deficiency in a building element (building essential services) that are required to achieve compliance with the performance requirements as particularised in paragraph 34 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 5.1 in which I also observed a photograph which depicted the level 4 gas meter cupboard with natural ventilation openings to the common area corridor and as otherwise particularised in section 5.1 of the Audit Report and paragraph 34 of the Order.
- 28. Defect 28** – The unprotected pipework and cabling installed in the fire isolated stair way and generally throughout the Building and as otherwise described in paragraph 35 of the Order, is a serious defect because it is a deficiency in a building element (building essential services) that are required to achieve compliance with the performance requirements as particularised in paragraph 35 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 5.2 in

which I also observed photographs which depicted services in the fire stair other than water supply for fire services in the lower basement fire stair and services in the upper basement fire stair and ground floor fire stair covered with an unknown material other than a known fire rated structure and as otherwise particularised in section 5.2 of the Audit Report and paragraph 35 of the Order.

29. Defect 29 – The inadequate pipe fall in the lower basement car park of the Building and as otherwise described in paragraph 36 of the Order, is a serious defect because it is a deficiency in a building element (building essential services) that are required to achieve compliance with the performance requirements as particularised in paragraph 36 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 5.3 in which I also observed photographs which depicted the sewer having been installed without adequate fall or with reverse fall, together with:

- (a) an extract from AS 3500.2 (Table 3.4.1) indicating the minimum gradient of drainage (Image 5.4.2); and
- (b) an extract from AS 3500.3.2018 (Table 5.4.3) indicating minimum gradient of site stormwater drains (Image 5.4.2), and

as otherwise particularised in section 5.3 of the Audit Report and paragraph 36 of the Order.

30. Defect 30 – The inadequate subsoil drainage installation within the lower basement of the Building and as otherwise described in paragraph 37 of the Order, is a serious defect because it is a deficiency in a building element (building essential services) that are required to achieve compliance with the performance requirements as particularised in paragraph 37 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 5.4 in which I also observed photographs showing a drainage channel with an incomplete installation of the subsoil drain discharging into a drainage outlet, along with a subsoil drain within the perimeter drainage channel as otherwise particularised in section 5.4 of the Audit Report and paragraph 37 of the Order.

31. Defect 31 – The air-conditioning unit installations on the external balconies of units generally throughout the whole of the Building and as otherwise described in paragraph 38 of the Order, is a serious defect because it is a deficiency in a building element (building essential services) that are required to achieve compliance with the performance requirements as particularised in paragraph 38 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 5.5 in which I also observed photographs which showed an example of the Block C Level 4 Apartment 65 air-conditioning outdoor unit drain connection point not connected to a tundish or drainage point along with the unit base being corroded and buckled due to the weight of its holding, together with extracts from Hitachi Air Conditioners installation and maintenance manual indicating the base of the unit and as otherwise particularised in section 5.5 of the Audit Report and paragraph 38 of the Order.

32. Defect 32 – The inadequate identification of pipework in the lower basement car park of the Building and as otherwise described in paragraph 39 of the Order, is a serious defect because it is a deficiency in a building element (building essential services) that are required to achieve compliance with the performance requirements as particularised in paragraph 39 of the Order. I have formed this belief after reviewing a copy of the Audit Report dated 5 December 2022 section 5.6 in which I also observed photographs which showed examples of the sewer / stormwater pipe in the lower basement not being labelled along with an example of the fire hydrant pipework in the lower basement not being labelled of the Building and as otherwise particularised in section 5.6 of the Audit Report and paragraph 39 of the Order.

33. Period for compliance

I am of the view that a time periods set out alongside each serious defect in the Order are reasonable periods for compliance in all the circumstances for the rectification work required by the Order to be carried out. I have formed this belief balancing the risks that the serious defect poses against the period of time it will take to give effect to the rectification work. I am aware that there are residents

occupying this location as the Building is completed which will delay rectification work. I am of the view that the time periods as set out in set out alongside each serious defect in the Order are sufficient to conduct the work as particularised set out alongside each serious defect in the Order.

34. Consideration of written representations

- (a) On 27 January 2023 a notice of intention to issue the Order and a draft copy of the Order ("**Order**") was served on the Developer, Hornsby Shire Council ("**Local Council**"), the Owners of Strata Plan No 95301 ("**Owners Corporation**") and Dix Gardner Group ("**Private Certifier**"). The parties were invited to provide submissions relating to the draft copy of the Order by 10 February 2023.
- (b) The Department granted an extension of time to the Developer to 24 February 2023 for a substantive response.
- (c) The Developer provided the Department with written submissions on 24 February 2023 ("**Developer Representations**") which included, among other things, the following:
 - i. That the Developer had engaged a construction consultant to advise the Developer in relation to the Audit Report and Order ("**Construction Consultant**").
 - ii. That the Construction Consultant had advised the Developer that further investigations were needed so as to reach a conclusion as to the causation of each of the serious defects alleged, together with the appropriate rectification method for same and that the Developer ought to engage expert consultants to assist with these matters.
 - iii. That the Developer has agreed to engage expert consultants and is in the process of doing so as recommended by the Construction Consultant.
 - iv. That the Developer has approached this matter with the upmost importance and is committed to resolving the matters the subject of the Audit Report and Order, and that the Developer has demonstrated its commitment by engaging the Construction Consultant and other expert consultants to assist it with the process.
 - v. That the Developer is committed to working with the Construction Consultant and other expert consultants it has engaged and the Department to resolve all matters concerning the Building in a timely manner.
 - vi. That the Construction Consultant has advised the Developer that it is willing and able to work with the Department to determine the most appropriate rectification methods and ensure all identified defects are appropriately rectified and that the Building is compliant with the applicable building codes.
 - vii. That the Developer's investigations are substantially advanced but remain ongoing, and in these circumstances the Department should refrain from issuing the Order until the Developer's investigations are complete.
 - viii. That the Developer is confident that if the Department allows the Developer additional time to complete its investigations that the Developer and the Department will be able to reach a consensus in regard to all matters the subject of the Audit Report and the Order.
- (d) The Owners Corporation provided written submissions by way of letter dated 15 February 2023 ("**Initial Owners Corporation Representations**") which included the following:
 - i. That the Owners Corporation is interested in moving forward with the Order.

- ii. That the Owners Corporation has obtained further documents (such as an Expert Report on General and Building Defects of an Existing Building, Defect List Report, Remedial Engineering Scope of Works, and an Expert Report on Structural Building Defects) ("**OC Documents**") that it wishes to be included in any undertaking/rectification order made.
- (e) The Owners Corporation provided further written submissions by way of letter dated 20 April 2023 ("**Subsequent Owners Corporation Representations**") which included the following:
 - i. That the Owners Corporation has obtained additional documentation for consideration by the Department, in particular the Fire Safety Order ("**Additional OC Documents**").
- (f) I have reviewed and considered the Developer Representations, the Owners Corporation Representations, and the Subsequent Owners Corporation Representations.
- (g) I make the following observations in relation to the Developer Representations:
 - i. I acknowledge that the Developer has engaged the Construction Consultant to liaise with the Department regarding an appropriate scope of rectification, and that the Developer is also in the process of engaging expert consultants to assist with further investigations to reach a conclusion as to the issues causing each of the serious defects alleged, together with the appropriate rectification method for same.
 - ii. Whilst the Developer is in the process of engaging expert consultants to assist with resolving the matters the subject of the Audit report and the Order, the Developer has not provided any supporting evidence showing engagement of the expert consultants or definitive timeframes for rectification.
 - iii. The Developer does not appear willing to give an undertaking to rectify the serious defects at the Building.
 - iv. I do not consider that the making of this Order would unnecessarily cause prejudice to the Developer.
- (h) I make the following observations in relation to the Owners Corporation Representations, and the Subsequent Owners Corporation Representations:
 - i. I acknowledge that the Owners Corporation wishes for the OC Documents and the Additional OC Documents be included in the Order.
 - ii. I am of the view that the serious defects as set out in this Order and contained in the Audit Report are reasonable and appropriate and reflect the actions required to rectify the serious defects.
 - iii. I do not consider that the making of this Order would unnecessarily cause prejudice to the Owners Corporation.
- (i) On 22 June 2023 a second notice of intention to issue the Order and a draft copy of the Order ("**Subsequent Order**") was served on the Developer, the Local Council, Owners Corporation, and the Private Certifier. The parties were invited to provide submissions relating to the draft copy of the Order. The Owners Corporation has until 6 July 2023 to provide the Department with it's submissions, whereas the remaining parties had until by 29 June 2023.

- (j) The Developer provided the Department with written submissions on 28 June 2023 ("**Subsequent Developer Representations**") which included, among other things, the following:
- i. Since 20 March 2023 the Developer has taken additional steps to address the Order including engaging four expert consultants to inspect the Building, and opine in respect to the Order including in relation to each alleged defect the rectification methods proposed.
 - ii. Three of the four expert consultants have inspected the Building and provided a summary of the work they have undertaken (copies of which were provided to the Department).
 - iii. The fourth expert consultant is scheduled to inspect the Building on 3 and 4 July 2023.
 - iv. Following the fourth and final expert consultant inspection of the Building, a conference is to be held between each of the four expert consultants to confer in relation to the Order to facilitate the preparation of a submission and a proposal to the Department in relation to the rectification of the alleged defects, which will include identification of the defects which are to be rectified, the proposed methodology for rectification of each defect, and a timeframe for rectification, in collaboration with the Developer.
 - v. Some of the summaries provided by the expert consultants require further information from the Department in relation to the alleged defects and proposed rectification methods to assist them with their enquiries.
 - vi. The above steps are necessary in order for the Developer to be appropriately informed in relation to the Order prior to committing to the defects list and rectification method.
 - vii. The process has taken longer initially anticipated, primarily due to the limited availability of the expert consultants engaged by the Developer.
 - viii. The Developer recognises the serious nature of the matter and is willing to co-operate with the Department by inter alia its engagement of expert consultants to address the various elements of each alleged defect.
 - ix. The Developer is motivated by ensuring that the Building is defect free.
 - x. The Developer proposes that the Department not issue a Final BWRO until a date after 1 September 2023.
 - xi. The Developer seeks that the Department provide responses to the queries made by the expert consultants as provided in their summaries.
 - xii. The Developer, in conjunction with its expert consultants, will provide the Department with a substantive submission in response to the Subsequent Order which is to include identification of the defects which are to be rectified, alleged defects (if any) that are not agreed to, the proposed methodology for rectification of each defect (and if that methodology differs from that put forward by the Department, reasons why a different method is proposed), and a proposed timeframe for the rectification works to be undertaken and completed, by 1 September 2023.

- (k) I have reviewed and considered the Subsequent Developer Representations and make the following observations:
- i. I acknowledge that the Developer has engaged expert consultants to inspect the Building, and opine in respect to the Order including in relation to each alleged defect the rectification methods proposed.
 - ii. I acknowledge that the Developer proposed to provide the Department with a substantive submission in response to the Subsequent Order by 1 September 2023, and that no such substantive submission has been received to date.
 - iii. The Developer does not appear willing to give an undertaking to rectify the serious defects at the Building.
 - iv. I do not consider that the making of this Order would unnecessarily cause prejudice to the Developer.

35. Why is it appropriate to give the Building Work Rectification Order?

I have considered all of the circumstances. I accept that the order requires considerable further construction work that is likely to be costly, and I give this consideration moderate weight. However, the cost to the developer must be balanced against the benefit to the occupiers of the units which comprise the Building in having the Building constructed to the approved plans and in accordance with the Building Code of Australia and the relevant Australian Standards so as to ensure in respect of:

- (a) Defect 1 – that that the inadequate subsoil drainage installation within the basement of the Building and consequent uncontrolled water ingress be rectified so as to achieve compliance and to otherwise prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements;
- (b) Defect 2 – that uncontrolled water ingress generally throughout the whole of the Building be rectified so as to achieve compliance and to otherwise prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements and ensure stormwater from roof areas of the Building is conveyed and discharged in such a way so as to ensure the Building is kept watertight;
- (c) Defect 3 – that the inadequate planter construction with the lack of protection boards, non-compliant membrane termination detail and the lack of stormwater drainage systems of the Building be rectified so as to achieve compliance and to otherwise prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements;
- (d) Defect 4 – that the insufficient waterproofing system termination height generally throughout the whole of the Building be rectified to achieve compliance and to prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements;
- (e) Defect 5 – that the lack of drainage provisions for adequate overflow capacity to the external wet areas of the Building (generally on the roof terrace and balconies of the Building) and water ingress through the external roof and building envelope of the Building be rectified to achieve compliance and to prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements and ensure stormwater from roof areas of the Building is conveyed and discharged in such a way so as to ensure the Building is kept watertight;

- (f) Defect 6 – that the water ingress through the external roof and building envelope generally throughout the Building but in particular Levels 4 and 5 of the Building be rectified to achieve compliance and to otherwise prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements;
- (g) Defect 7 – that the unprotected penetrations generally throughout the whole of the Building be rectified to achieve compliance and to otherwise ensure that the Building be fire resistant and capable of resisting the spread of fire within the Building;
- (h) Defect 8 – that the absence of a sprinkler coverage system in the basement main switch room of the Building be rectified so as to achieve compliance;
- (i) Defect 9 – that the absence of a sprinkler coverage system in the basement car park of the Building be rectified so as to achieve compliance and to otherwise ensure that the sprinklers are free from suffering mechanical damage and capable of producing a normal spray pattern;
- (j) Defect 10 – that the unlabelled ductwork throughout the fire resisting structure / concrete soffit in the basement car park of the Building be rectified so as to achieve compliance;
- (k) Defect 11 – that the absence of fire separation throughout the whole of the Building be rectified so as to achieve compliance and to otherwise avoid the spread of fire to exits, sole occupancy units and public corridors and within the Building;
- (l) Defect 12 – that the inadequate installation of padlocks to isolation valves in the ground floor water meter of the Building be rectified so as to achieve compliance and to otherwise ensure that the fire hose reel is installed to the degree necessary to enable occupants to resist the spread of fire within the Building;
- (m) Defect 13 – that the hydrant pipework installation in the booster assembly on the ground floor of the Building be rectified so as to achieve compliance and to otherwise ensure that the fire hydrant system is capable of meeting the needs of the fire brigade appropriate to fire-fighting operations;
- (n) Defect 14 – that the inadequate fire hydrant block plan in the booster assembly on the ground floor of the Building be rectified so as to achieve compliance and to otherwise ensure the fire hydrant system is capable of meeting the needs of the fire brigade appropriate to fire-fighting operations;
- (o) Defect 15 – that the hydrant pipework installation generally throughout the Building but in particular in the fire stairs levels 4 and 5 of the Building be appropriately sealed and fire rated so as to achieve compliance;
- (p) Defect 16 – that the PEX pipe connecting to the copper riser within 2 meters of the floor penetration generally throughout the whole of the Building be rectified so as to achieve compliance and to otherwise avoid the spread of fire to exits, sole occupancy units and public corridors and within the Building;
- (q) Defect 17 – that the unprotected penetrations in the garbage room in the upper basement of the Building be rectified so as to achieve compliance and to otherwise avoid the spread of fire within the Building;
- (r) Defect 18 – that the booster assembly configuration (located on the ground floor of the Building) be rectified so as to achieve compliance;

- (s) Defect 19 – that the hydrant pipework installation in the ground floor and lower basement of the Building be rectified so as to achieve compliance;
- (t) Defect 20 – that the uncontrolled cracking to the floor surface and the soffit of the suspended concrete slab throughout the basements and ground floor of the Building be rectified so as to achieve compliance and to otherwise ensure the structural performance and durability of the Building;
- (u) Defect 21 – that the non-uniformed concrete wall and the presence of multiple cold joints in the upper basement and lower basement car park of the Building be rectified so as to achieve compliance and to otherwise ensure the structural performance and durability of the Building;
- (v) Defect 22 – that the unprotected tendon in the upper basement car park adjacent to the electrical switch room of the Building be rectified so as to achieve compliance and to otherwise protect those tendons from corrosion and damage;
- (w) Defect 23 – that the large gaps at the change of direction in the masonry walls in the upper basement communications room of the Building be rectified so as to achieve compliance and to otherwise ensure the structural performance and durability of the Building;
- (x) Defect 24 – that the uncontrolled water ingress through external cladding of the whole of the Building (generally) be rectified so as to achieve compliance and to otherwise prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements;
- (y) Defect 25 – that the uncontrolled water ingress generally throughout the whole of the Building be rectified so as to achieve compliance and to otherwise prevent the penetration of water, and unhealthy or dangerous conditions, or loss of amenity to occupants or undue dampness or deterioration of building elements;
- (z) Defect 26 – that the uncontrolled cracks in the external walls of the Building be rectified so as to achieve compliance and to otherwise ensure the structural performance and durability of the Building;
- (aa) Defect 27 – that the inadequate ventilation for the gas meter cupboards to outside (generally) be rectified so as to achieve compliance and to otherwise ensure that the room is ventilated directly to the outside of the Building;
- (bb) Defect 28 – that the unprotected pipework and cabling installed in the fire isolated stair way and generally throughout the Building be rectified so as to achieve compliance;
- (cc) Defect 29 – that the inadequate pipe fall in the lower basement car park of the Building be rectified so as to achieve compliance and to otherwise ensure the minimum gradient of a site stormwater drain is achieved;
- (dd) Defect 30 – that the inadequate subsoil drainage installation within the lower basement of the Building be rectified so as to achieve compliance and to otherwise prevent damage and ensure drains can be flushed out;
- (ee) Defect 31 – that the non-compliant air-conditioning unit installations on the external balconies of units generally throughout the whole of the Building be rectified so as to achieve compliance and to otherwise ensure safe and reliable discharge of condensate from the air-conditioning system;

- (ff) Defect 32 – that the inadequate identification of pipework in the lower basement car park of the Building be rectified so as to achieve compliance and to otherwise ensure the pipework is readily identifiable.

Notes about this Order

- A person is not required to obtain consent or approval under the *Environmental Planning and Assessment Act 1979* to carry out work in compliance with a requirement of a Building Work Rectification Order.
- It is an offence to fail to comply with this Order. The maximum penalty for a company is 3,000 penalty units and in addition, for every day the offence continues, 300 penalty units. For an individual the maximum penalty is 1,000 penalty units and in addition, for every day the offence continues, 100 penalty units.
- You may appeal to the Land and Environment Court against this Order within 30 days after this Order is given, unless the Land and Environment Court grants leave for it to be made after that time. Lodging an appeal does not operate to stop the effect of this Order unless ordered by the Court.
- You are entitled to be given reasons for this Order, unless it has been given in an emergency. The reasons have been included within this Order and are not provided separately.
- The Secretary has given the following persons notice of the making of this building work rectification order:
 - the relevant local council,
 - if the local council is not the certifier in relation to the building work—the principal certifier,
 - if you are not the owner of the land concerned—the owner of the land concerned,
 - if the order relates to a strata building—the relevant owners corporation,
 - any other person prescribed by the regulations.
- This Order specifies a time by which, or period within which, the order must be complied with. This Order continues to have effect until it is complied with even though the time has passed, or the period has expired, unless any requirement under this Order is revoked.

- **Annexure A**

serious defect, in relation to a building, means—

- (a) a defect in a building element that is attributable to a failure to comply with the performance requirements of the Building Code of Australia, the relevant Australian Standards or the relevant approved plans, or
- (b) a defect in a building product or building element that—
 - (i) is attributable to defective design, defective or faulty workmanship or defective materials, and
 - (ii) causes or is likely to cause—
 - (A) the inability to inhabit or use the building (or part of the building) for its intended purpose, or
 - (B) the destruction of the building or any part of the building, or
 - (C) a threat of collapse of the building or any part of the building, or
- (c) a defect of a kind that is prescribed by the regulations as a serious defect, or
- (d) the use of a building product (within the meaning of the Building Products (Safety) Act 2017) in contravention of that Act.

building element, as defined in the *Design and Building Practitioners Act 2020* (NSW), means any of the following—

- (a) the fire safety systems for a building within the meaning of the Building Code of Australia,
 - (b) waterproofing,
 - (c) an internal or external load-bearing component of a building that is essential to the stability of the building, or a part of it (including but not limited to in-ground and other foundations and footings, floors, walls, roofs, columns and beams),
 - (d) a component of a building that is part of the building enclosure,
 - (e) those aspects of the mechanical, plumbing and electrical services for a building that are required to achieve compliance with the Building Code of Australia,
 - (f) other things prescribed by the regulations for the purposes of this section.
- (2) The regulations may exclude things from being building elements for the purposes of this Act.
- (3) In this section—

above grade wall means a wall above the level of the ground surrounding a building.

below grade wall means a wall below the level of the ground surrounding a building.

building enclosure means the part of the building that physically separates the interior environment of the building from the exterior environment, including roof systems, above grade and below grade walls (including windows and doors).

a **developer**, in relation to building work, means any of the following persons, but does not include any person excluded from this definition by the regulations—

- (a) the person who contracted or arranged for, or facilitated or otherwise caused, (whether directly or indirectly) the building work to be carried out,
- (b) if the building work is the erection or construction of a building or part of a building—the owner of the land on which the building work is carried out at the time the building work is carried out,
- (c) the principal contractor for the building work within the meaning of the Environmental Planning and Assessment Act 1979,
- (d) in relation to building work for a strata scheme—the developer of the strata scheme within the meaning of the Strata Schemes Management Act 2015,
- (e) any other person prescribed by the regulations for the purposes of this definition.

Section 6 - Act applies only to residential apartment building work

- (1) The exercise of any function under this Act applies only to building work in respect of a residential apartment building that—
 - (a) is or was authorised to commence in accordance with a construction certificate or complying development certificate issued under the Environmental Planning and Assessment Act 1979, or is required to be authorised by a construction certificate or complying development certificate, and
 - (b) has not been completed or has been completed within the period of 10 years before the exercise of that function.
- (2) The regulations may provide that a specified provision, or specified provisions, of this Act extend to other classes of buildings (within the meaning of the Building Code of Australia).