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Chatswood Chase Sydney Redevelopment

Flood Risk Management Strategy and Emergency Response Plan

PREPARED FOR:

Vicinity Centres

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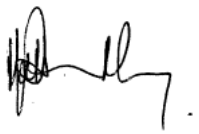

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1. FLOOD RISK MANAGEMENT STRATEGY AND EMERGENCY RESPONSE PLAN

This Flood Risk Management Strategy and Emergency Response Plan provides the framework for managing localised and widespread flooding and its impact on the operation of Chatswood Chase Sydney Shopping Centre (the Centre). Preventive measures are incorporated into the Centre's design aimed at minimising flooding and reducing impact on health, safety, and business continuity. This document outlines those measures and how they function and details the steps to be undertaken during a flooding emergency.

1.1 OBJECTIVES

The overarching objectives of this Flood Risk Management Strategy and Emergency Response Plan are to:

- Minimise the ingress of flood water to the building.
- Provide protocols and responsibilities for safe and effective flood management for the prevention of losses and injuries to building occupants and users.
- Detail measures and responsibilities for effective recovery after a flooding emergency.
- Satisfy condition 12 of DA 2017/503 and condition 10 of amended DA 2019/200 of Willoughby City Council.
- Satisfy condition 13 of DA 2017/503 of Willoughby City Council.

This document should be read in conjunction with the Vicinity Centre's Emergency Management Plan and appropriate Emergency Response Procedures.

And Ring 000 for Emergency Services as required.

1.2 EMERGENCY CONTACT LIST

Notify Emergency Services that there is a flooding emergency at:
Chatswood Chase Sydney, 345-363 Victoria Ave, Chatswood.
Advise that during a flood, access to the Centre should be from the north via Archer St and Malvern Ave (not Victoria Ave or Havilah St) with the Emergency Services Access and Emergency Evacuation Point at Malvern Ave (see Flood Evacuation Plan Ground Floor, Fig E4, Appendix E).

Fire Service	**000**
Ambulance	**000**
Police	**000**

Before dialling '000' from your Vicinity Properties landline you may need an external line.

If using a mobile phone, always **dial '000'** in the first instance. If you are out of range from your service provider, **dial '112'**.

Duty	Title/Name	Phone	Call Sign
Security Control Centre	Security Supervisor	Emergency Ext: M: 0424 627 182	Security Control
Centre Administration	Duty Manager	Ext: M: 0429 570 262	Centre Manager

2. KEY PERSONNEL AND CONTACTS

Implementation of this Flood Risk Management Strategy and Emergency Response Plan is under the direction of the Chief Warden. The Chief Warden may enlist the assistance of emergency services as appropriate, for example NSW Police particularly for traffic management and crowd control. All personnel, including the Chief Warden, are required to follow the direction of Emergency Services if they intervene at any stage in the process.

Duty	Title/Name	Phone/ Mobile	Call Sign
Chief Warden	Centre Manager / Operations Manager	T: 02 9422 5314 M: 0429 570 262	Chief Warden
Deputy Chief Warden	Operations Manager / Duty Manager	T:02 9422 5305 M:0434 076 315	Deputy Chief Warden
Centre Representative	Duty Manager	T: 02 9422 5313 M: 0418 635 637	Centre Manager
Chief Warden (after hours)	Security Supervisor	T: M:0424 627 182	Chief Warden
Communications Officer	Security Officer	T: M: 0424 627 182	Security Control

2.1 CHIEF WARDEN

In the event of a flooding incident, responsibility for responding to the incident, including management of all affected Centre customers and personnel, is delegated to the Chief Warden.

The Chief Warden is the Centre Manager. The Security Manager / Supervisor will act as the Chief Warden in the absence of the Centre Manager under the chain of command outlined in Vicinity Centre's Emergency Management Plan.

The Chief Warden is responsible for:

- Primary decision making during a flooding emergency including determining at what point a flood risk, or flooding incident has escalated to an emergency and which actions are required including either partial or complete evacuation of the Centre.

The Chief Warden's overarching control is superseded upon intervention by Emergency Services.

- Directing Wardens during a flooding emergency.
- Maintaining regular communication with Wardens before, during and after an emergency.
- Liaising with Emergency Services, staff, retailers, and stakeholders.

2.2 Deputy Chief Warden

The role of the Deputy Chief Warden is to assist the Chief Warden in the general administration of the emergency and to assume all relevant responsibilities whenever the Chief Warden is absent.

2.3 Wardens

Wardens are drawn from Centre employees, Centre tenants, security contractors, cleaners, car park staff, and other stakeholders. In addition to their roles and responsibilities during a flooding emergency, all wardens are fully trained and drilled (prior) and debriefed (post-emergency).

Wardens distinguish themselves by wearing helmets (red or white) and reflective vests, and will carry a torch (with spare batteries), a megaphone with spare batteries; and appropriate personal protective equipment.

Title	Helmet colour
Chief Warden / Deputy Chief Warden)	White
Warden	Red

Wardens are not to expose themselves or any other person to any risk or hazard.

Wardens are assigned specific roles and locations during a flooding emergency. They are responsible for their assigned area to ensure a coordinated response and the safety of people. They are to:

- Follow the direction of the Chief Warden.
- Assist with the flooding emergency response and liaise with tenants and customers.

Tasks may include:

- Installation of flood barriers.
- Assisting with and directing the evacuation of tenants and customers to safe areas, away from potentially flood affected areas on lower floors.
- Traffic management.
- Crowd control and calm leadership.

2.4 EVACUATION AND CRISIS MANAGEMENT

Open communication, leadership, and crowd management are critical components of effective and safe flood emergency management and evacuation.

Key aspects of crowd control and crisis management are detailed in Vicinity Centres Emergency Management Plan, Attachment B (2016). Please refer to that document for guidance.

2.4.1 Wardens and Assigned Areas

	AREA	DUTIES	RADIO CALL SIGN
1	Basement 02	Traffic management. Pedestrian evacuation.	Warden [surname] Warden [surname]
2	Basement 01	Traffic management. Pedestrian evacuation.	Warden [surname] Warden [surname]
3	Lower Ground	Crowd control and evacuation (to L1). Prevent access to levels below.	Warden [surname] Warden [surname]
4	Ground Level	Crowd management and evacuation (to L1).	Warden [surname] Warden [surname]
5	Level 1	Crowd management and community engagement.	Warden [surname] Warden [surname]
6	Roving	Install manual flood gates. Monitor leaks at doorways. Monitor water near substation and MSB.	Warden [surname] Warden [surname]
7	Victoria Ave carpark ramp	Traffic management (prevent ingress to basement via car park ramp).	Warden [surname] Warden [surname]

2.4.2 Key Contacts and Services

SERVICES	CONTACT	PHONE
Ausgrid	Large Installation Emergency Services	1800 686 688
Electricity Provider	Red Energy	131 806
Gas Provider	Red Energy	131 806
Water Provider	Sydney Water	132 092
Telecommunications Provider	Telstra	1802244
WorkSafe 24-hour emergency	Workcover NSW	13 10 50
Roads Authority	RMS	132 213
Public transport - bus, train	Transport NSW	131 500
Poisons Information	Poisons Information Centre	131 126
Health Department	NSW Dept of Health	1800 020 163
Interpreter	Translator & Interpreter Services	131 450
Environmental protection	EPA	131 555
Willoughby Council		9777 1000
Chatswood Police		9414 8499

3. FLOODING OF THE CENTRE AND SURROUNDS

3.1 CHATSWOOD STORMWATER DRAINAGE – AN INTRODUCTION

Chatswood is a highly urbanised residential and commercial district in the Lower North Shore, 10 km from the Sydney CBD. Its local government area is the City of Willoughby.

During smaller, more frequent rain events the inground stormwater drainage system in the streets of Chatswood has capacity to capture and divert surface runoff into its network of below-ground pipes and channels. The drainage network has not been designed to take flows from storm events above a given capacity[1] and so during more intense or longer lasting storms drainage capacity will be exceeded.

It has been accepted practice for stormwater flows exceeding the capacity of the inground pipe network to be carried via overland flow through surrounding streets. However, in densely urbanised and constrained catchments this means that properties and their surrounds are vulnerable to flooding from overland flows during significant storm events. At low points in the catchment and in slow draining or potential backflow areas, the depth of the water and its velocity can increase to such an extent that property and the safety of people are put at risk.

3.2 STORMWATER DRAINAGE AND FLOODING AT CHATSWOOD

Chatswood Chase Sydney is a major retail centre owned and managed by Vicinity Centres Pty Ltd. Its address is 345-363 Victoria Avenue, Chatswood.

Chatswood Chase Sydney (the Centre) is situated within a catchment that has been subject to intense development and redevelopment pressures, including development on areas that are affected by flooding (WDCP, 2009). Anecdotal evidence indicates that the Centre is vulnerable to stormwater entering at shopfronts and into the basement car parks and information contained in relevant flood studies (Lyall & Associates, 2008) supports this.

The current proposal to redevelop the Centre has triggered the need to review flood risk and flood management practices. Iterative and detailed flood modelling has been carried out in support of the redevelopment proposal. Modelling has assessed flooding of the Centre itself as well as quantifying potential flood impacts on the surrounding catchment that may occur as a result of the Centre's redevelopment.

Through a collaborative, peer-reviewed, and iterative modelling and design process the design for the Centre's redevelopment has considered the value and likely impact of engineered and architectural strategies to manage water ingress to the building. These strategies include setting

[1] Generally, the 5-year storm event. A 5-year storm event is expected to happen, on average, once every 5 years, while a 100-year storm (100 y ARI or Average Recurrence Interval) event is expected to occur once every 100 years.

of minimum floor heights, positioning of entryways and stairs, ramping, bunding, and the use of flood gates when required.

3.3 WATER INGRESS AND STORMWATER MANAGEMENT AT CHATSWOOD CHASE

A major storm event in the Chatswood catchment will be conveyed via the inground drainage network until capacity is exceeded. At this point overland flow inundates the streets surrounding the Centre, continuing to rise until kerbs are overtopped. Flood modelling has identified several key points where external overland flows can ingress the building. These are to be bunded where possible or will rely on protection by flood gates, which will be activated or installed as flooding progresses.

Chatswood Chase Sydney has been designed to permit inflow to the basement car parks via the Victoria Ave basement ramp and to safely retain the existing 100-y ARI flood volume, primarily across the surface of the basement car parks. Once the designated volume has been retained, flood gates and barriers will be activated to prevent any further ingress of stormwater.

To minimise damage to property including vehicles in the basements and to manage the safety of Centre customers and staff, this Flood Risk Management Strategy and Emergency Response Plan has been developed. As well as providing a framework for ensuring everyone's safety before, during, and after a flooding event; this Flood Risk Management Strategy and Emergency Response Plan outlines the flood mitigation measures incorporated into the building and describes how the flood gates and barriers will operate.

This document provides a step by step plan to activate the devices, if manual operation is required or if the automated systems fail; and the early warning systems and evacuation procedures that must be mobilised during significant storm events. The flood Evacuation Strategy focuses on the safe movement of customers and staff from the lower flood-affected levels of the building to the Level 1 Evacuation Area. Flood monitoring (watch and wait) and early warning signs of an impending flood are also covered in this document.

This report can be read as a standalone document and has been written to be as user friendly as possible. The Flood Modelling Report (CJ Arms 2019 Revision D 17/03/2020) provides supporting information and background material for a fuller understanding of the water flows, the building design, and the history of the catchment. It is recommended reading.

4. FLOOD ALERT ESCALATION

This Flood Risk Management Strategy and Emergency Response Plan operates using a four level (colour coded) flood escalation table. This provides Centre Management with the ability to escalate a flooding emergency to the appropriate level, based on the prevailing conditions or perceived threat. Each escalation level is designed to follow a natural progression path should events become more threatening.

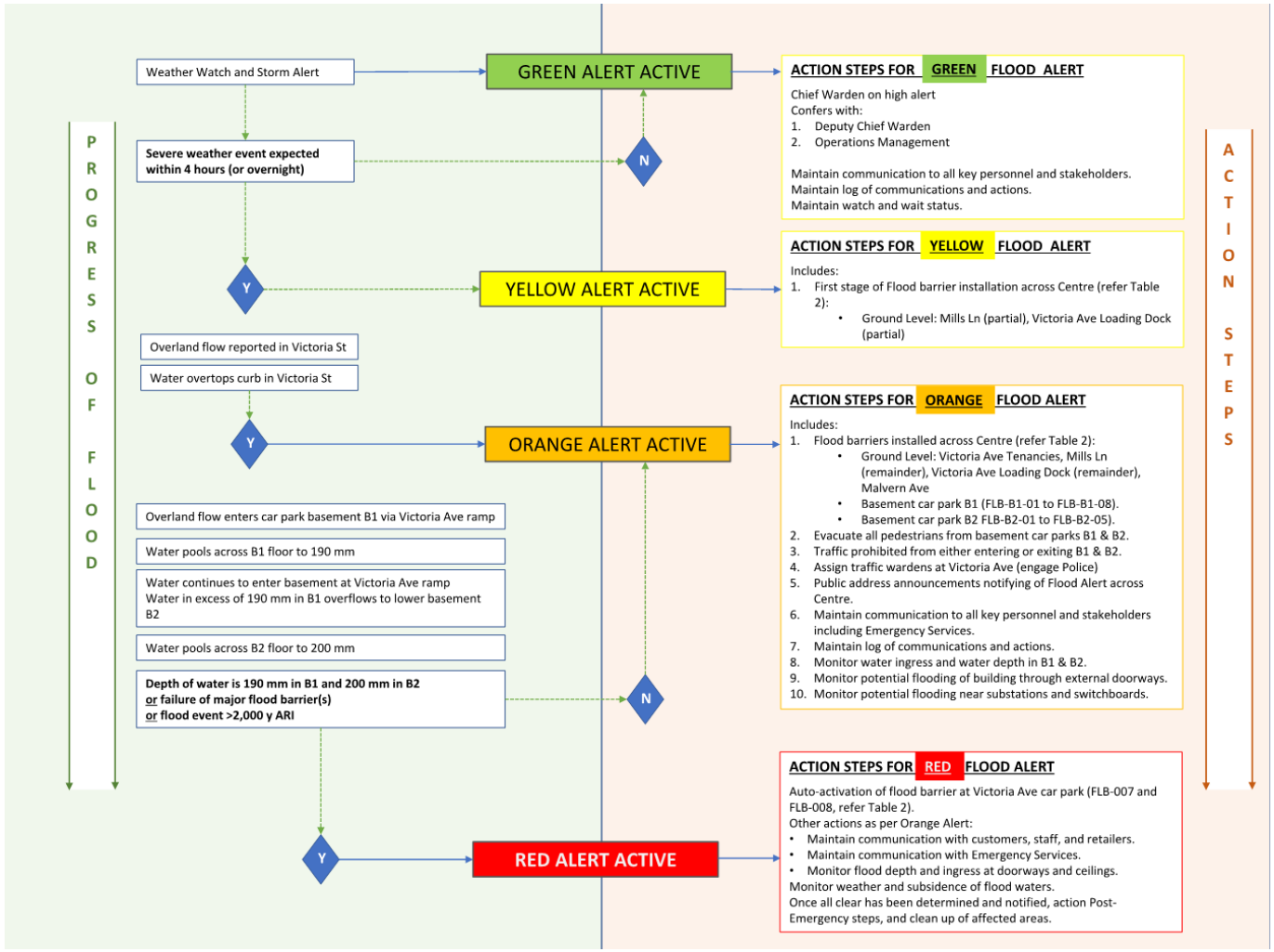
Table 1. Flood Alert Escalation Table.

GREEN	**SEVERE STORM WARNING** **Weather watch and high alert.** **Refer Flood Escalation and Action Flow Chart (Figure 1) and Section 5 of this report.**
YELLOW	**FIRST LEVEL INTERVENTION** **Instigated when a 'Severe Weather Warning' (SWW) or 'Severe Thunderstorm Warning' (STW) is issued by the Bureau of Meteorology with likely flash flooding or heavy rainfall within the next 4 hours.** **INSTALLATION OF FIRST LEVEL OF BARRIER PROTECTION** **Refer Flood Escalation and Action Flow Chart (Figure 1) and Section 7 of this report.**
ORANGE	**SECOND LEVEL INTERVENTION & EVACUATION** **Instigated when overland flow present in Victoria Ave with water rising above the kerb (even in the absence of escalation by above Severe Weather Warnings).** **INSTALLATION OF SECOND LEVEL OF BARRIER PROTECTION** **Refer Flood Escalation and Action Flow Chart (Figure 1) and Section 7 of this report.**
RED	**THIRD LEVEL INTERVENTION & EVACUATION** **Unplanned events and extreme flooding, including*:** • **Early warning signal fails.** • **Improper installation and/or failure of major flood gate(s).** • **Failure to install manual flood gates in time.** • **Flood event greater than 2,000-y ARI.** • **Unplanned water ingress to building.** • **Water ingress to Substations or MSB** rooms.** **Refer Flood Escalation and Action Flow Chart (Figure 1) and Section 8 of this report.**

* refer Appendix A. Plans Showing Locations of Flood Gates

** where MSB = Main Switch Board

Figure 1: Flood Escalation and Action Flow Chart



5. GREEN ALERT – STORM WATCH AND EARLY WARNING

In the case of a severe storm warning or if heavy or prolonged rain is predicted within the next 24 hours, the Centre is placed on GREEN Flood Alert as per the table below.

Triggers and Indicators	Summary of Procedures
Extreme rain events forecast by BoM: including • Severe weather warning. • Severe thunderstorm. • ECL Pressure System. • Ongoing rain depression. Refer Appendix B Severe storms or rain depression may exacerbate flooding if coupled with unexpected overland flows in Victoria Ave.	Centre placed on High Alert. Communicate YELLOW Alert to: • Emergency Control Organisation including Security. • Flood evacuation wardens. • Centre Management staff. • Majors and other retailers. Monitor weather patterns and progress of storm. Monitor rising floodwaters (overland flow) In Victoria Ave and Havilah St. Maintain a log of all communications and activities. Include names of personnel and a record of times.

Flood events can be unpredictable in their extent and can eventuate with little warning. Therefore, a key component of this Flood Risk Management Plan is the early warning system. This involves weather observation, monitoring of weather and/or thunderstorm warnings by the Bureau of Meteorology (BOM), and flood watch mode. In the case of a Severe Weather Warning for the area, Centre Management should also monitor storms hourly throughout the day using 64 km Sydney (Terrey Hills) Radar Loop[2].

Various weather patterns can result in storms which have the potential to cause localised flooding. These are described in Appendix B. It is critical that Centre Management are familiar with these types of weather patterns.

5.1 INITIAL ACTION

During a GREEN Alert, all efforts should be made to prepare for the impending flood event. This includes monitoring weather patterns and the progress of the storm; monitoring rising floodwaters (overland flow) In Victoria Ave; and active communication to staff and retailers.

[2] http://www.bom.gov.au/products/IDR714.loop.shtml#skip

5.2 ESCALATION OF FLOOD WARNINGS

During a GREEN Flood Alert, Vicinity Operations is to continually monitor the weather conditions.

If the BOM issues a STW/SWW **(Severe Thunderstorm warning/Sever Weather Warning)** citing flash flooding/heavy rainfall which is anticipated to pass over or near the Centre within the next 4 hours (or overnight) this is the trigger for the GREEN Flood Alert to escalate to YELLOW Flood Alert.

The 4 hour trigger is required to ensure adequate time for the preparation and installation procedure.

Note: Overland flow developing in Victoria Ave beginning to rise to the kerb at the low point of Victoria will also trigger the escalation of the Flood Alert status to the next level, YELLOW.

6. YELLOW ALERT– FIRST STAGE INTERVENTION

Upon escalation to a YELLOW Flood Alert, procedures and actions are to be carried out immediately as per those outlined below. For flood gate installation hierarchy, refer Section 7.6.

Triggers and Indicators	Summary of Procedures
If the BOM has issued a STW/SWW **(Severe Thunderstorm warning/Sever Weather Warning)** citing flash flooding/heavy rainfall which is anticipated to pass over or near the Centre within the next 4 hours (or overnight) this is the trigger for the GREEN Flood Alert to escalate to YELLOW Flood Alert. *The 4 hour trigger is required to ensure adequate time for the preparation and installation procedure.* If an ORANGE Flood ALERT has not been triggered, and overland flow in Victoria Ave overtops the kerb, this is the secondary trigger for escalation of the YELLOW Flood Alert status to the next level, ORANGE.	Notify and engage Wardens, Emergency Control Organisation, and Security. Communicate YELLOW ALERT to: • Centre Management staff • Majors and other retailers • Emergency Services • Ausgrid (refer Appendix C) Manual flood gates rolled out and installed. For list of flood barriers and order in which they are to be installed refer Section 7.6. Refer Appendix A for a plan showing installation locations of flood barriers as well as storage locations. • Ground Level: Mills Ln (vertical posts only) Victoria Ave Loading Dock (partial) Monitor rising floodwaters (overland flow) In Victoria Ave and Havilah St (via CCTV) Maintain watch and wait status (monitor advancing and rising flood waters). Log all communications and activities.

As soon as the situation escalates to an ORANGE Flood Alert, Centre Operations are to begin erecting all flood barriers according to the hierarchy in Refer to Figure 1 and Section 7 for more detail of actions to be undertake during the ORANGE Flood Alert.

6.1 SUMMARY OF PROCEDURES AND ACTIONS DURING YELLOW ALERT

The primary purpose of a YELLOW alert is to allow Centre Management adequate time to install portions of manual barriers which are critical to the overall protection of the Centre, whilst still maintaining general operation of the Centre. By utilising a secondary stage this minimises the overall operational impact on the Centre should a predicted storm not occur.

Immediately upon activation of the YELLOW Flood Alert, the following actions will be undertaken:

1. Flood barriers rolled out and installed at (refer Section 7.6 and Appendix A):
    - Ground Level: Mills Ln (barrier vertical posts only)
    - Victoria Ave Loading Dock (full extent but only partial height)
2. Monitor rising floodwaters (overland flow) in Victoria Ave and Havilah St (via CCTV)

6.2 EXAMPLES OF MANUALLY ACTIVATED FLOOD GATES

6.2.1 Mills Lane

Mills Lane is a narrow laneway that comes off Archer St. Mills Lane functions as a loading dock for multiple businesses, including Chatswood Chase Sydney, and several doors and bays open out from Mills Lane directly into the Centre. Mills Lane is vulnerable to flooding as it receives overland flow from several directions, is a dead end, and terminates at a low point.

As part of the redevelopment works, the existing pedestrian crossing at Mills Lane is to be lifted to minimise the risk of flood waters entering this lane. This will provide protection up to and including the 1 in 2000yr event.

Nevertheless, it is critical that Mills Lane is protected against water ingress. As soon as the YELLOW alert is received, the partial installation of flood gates is to be activated / rolled out and installed at the top of Mills Lane on Archer St (FLB-003). This includes the installation of the vertical posts required to support the barriers should they be required as part of the next stage.

The partial installation of the gate will provide a base level protection that allows the remainder of the barriers to be installed quickly in lieu of the full installation. If the alert does not escalate to the next stage, the posts can be quickly removed, limiting the operational impact on the Centre. Should however the plan escalate to ORANGE, the remainder of the barrier slots can then be installed in a timely manner.

These are manual devices that will need to be rolled out and installed. They are stored at within the loading area at the base of Mills Lane and instructions for their installation are detailed in Appendix F: Flood Gate Technical Information. Refer Appendix A for further details relating to details of locations.

It is critical that the stormwater pump system at Mills Ln is functional and operates during rainfall events. Manual activation of the backup pump may be required. This system is responsible for emptying the stormwater sump in Mills Ln and can assist with preventing surcharge from the stormwater pits here.

6.2.2 At Victoria Ave Loading Dock

The partial installation of manually activated flood gates are also to be installed across the Victoria Ave loading bay and in front of the substation kiosk in the proposed overland flow path (FLB-005 and FLB-006, refer Appendix A, Inset B). They are stored at within a storage cage adjacent the kiosk at the base near the Victoria Ave carpark entrance. Instructions for their

installation are detailed in Appendix F: Flood Gate Technical Information. Refer Appendix A for further details relating to details of locations.

The partial installation of these gates will provide a base level protection that can be installed quickly in lieu of the full installation.

If the alert does not escalate to the next stage, the barriers can be quickly removed, limiting the operational impact on the Centre. Should however the plan escalate to ORANGE, the remainder of the barrier can then be installed in a timely manner.

7. ORANGE ALERT – SECOND STAGE FLOOD BARRIER INSTALLATION, AND EVACUATION

Upon escalation to an ORANGE Flood Alert, procedures and actions are to be carried out immediately as per those outlined below. For flood gate installation hierarchy refer Section 7.7, refer for locations of Flood Gates, refer Appendix A.

Triggers and Indicators	Summary of Procedures
Overland flow overtopping the Victoria Avenue kerb	Notify and engage Wardens, Emergency Control Organisation, and Security. Communicate ORANGE ALERT to: • Centre Management staff • Majors and other retailers • Emergency Services • Ausgrid (refer Appendix C) For list of flood barriers and order in which they are to be installed refer Section 7.7,. Refer Appendix A for a plan showing installation locations of flood barriers as well as storage locations. • Ground Level: Victoria Ave Tenancies, Mills Ln (remainder), Victoria Ave Loading Dock (remainder), Malvern Ave • Basement car park B1 (FLB-B1-01 to FLB-B1-08). • Basement car park B2 FLB-B2-01 to FLB-B2-05). Monitor water ingress to Substation 5884 (Mills Lane) and Main Switchboards 1 and 2. Install flood protection bunding around gatic cover. Close two no. isolation valves in basement 1 preventing water ingress from b1 into b2 (refer **Appendix G: Post-Flood Operation Plan**) Make regular public address announcements throughout Centre (refer Appendix D). Evacuate pedestrians from Basements B1 and B2 (refer Appendix E). *No cars are to be evacuated. Prevent people from entering basement car parks from floors above.

Triggers and Indicators	Summary of Procedures
	Wardens are to be posted at Victoria Ave car park ramp to prevent movement of cars into the basement or out into Victoria Ave. Engage NSW police for assistance (Chatswood Police Station **9414 8499)**. Monitor water ingress and water depth in Basements B1 and B2 (Wardens and Car Park Attendants / Security). Maintain watch and wait status (monitor advancing and rising flood waters). Log all communications and activities.

7.1 Summary of Procedures and Actions During ORANGE ALERT

Immediately upon activation of the ORANGE Flood Alert, the following actions will be undertaken:

Remaining Flood barriers rolled out and installed at (refer Section 7.7 and Appendix A):

- Ground level: Victoria Ave Tenancies, Victoria Ave Loading Dock (remainder) Mills Ln (remainder), Malvern Ave entrance
- Basement car park B1 (FLB-B1-01 to FLB-B1-08).
- Basement car park B2 FLB-B2-01 to FLB-B2-05).

3. Evacuate pedestrians from basement car parks B1 and B2. Cars are not to be moved into or out of basement.
4. Traffic wardens assigned to car park ramps. Traffic prohibited from entering basement car parks.
5. Cars are not to be moved into or out of basement. Car park attendants are to manage car parks in basements and encourage car owners to leave their cars and evacuate upstairs into the Centre.
6. Monitor water ingress to basement car parks (Car Park Attendants / Security).
7. Monitor water leaking through ceiling or pooling around floor at Substation 5884[3] and Main Switchboards 1 and 2.
   Substation 5884 and Main Switchboards 1 & 2 are above the anticipated flooding in the basement but are situated underneath Mills Lane, which is subject to flooding. During a

[3] *Substation 5884 and Main Switchboards 1 & 2 should be isolated. Follow instructions in Appendix C.*

flood event this area should be bunded using manual flood barriers and continually monitored for watertightness. In the advent of water leaking into these areas,

7.2 Examples of Manually Activated Flood Gates

7.2.1 Protection of Victoria Ave Shopfronts

Once overland flow begins to develop in the local streets, the Centre's entranceways and shopfronts closest to the low point of Victoria Ave are the most vulnerable to floodwater ingress. If overland flow in the streets commences above the Victoria Ave kerb level, the Flood Alert will escalate from a YELLOW status to an ORANGE Flood Alert

As soon as the situation escalates to an ORANGE ALERT FLB-001 and FLB-002 are to be immediately rolled out and installed to protect the shopfronts and the lift here.

7.2.2 Mills Lane

As per the escalation requirements of Section 6.2.1 during a YELLOW alert, the vertical posts will be installed. As part of the ORANGE alert, the horizontal slots which form the barrier will be required to be installed.

7.2.3 At Victoria Ave Loading Dock

Victoria Ave Loading dock will be partially protected as per the escalation requirements of Section 6.2.2 during a YELLOW alert. As part of the ORANGE alert, the remainder of the barriers will be required to be installed.

7.3 Pedestrian Evacuation Procedures – Orange Alert

Due to the high risk of flooding of basement car parks, during an ORANGE flooding emergency all customers and retailers are to be evacuated from B1 and B2 to higher levels within the Centre. People are to be prevented from accessing B1 and B2 from the floors above. Travelators and lifts at Lower Ground are to be barricaded off and Wardens are to be stationed here.

The peak overland flow depth and velocity in Victoria Ave is considerable. The objectives are to evacuate all people from the high-risk areas in the building and to encourage them to stay in the Centre until the flooding emergency has passed.

Cars are not be removed from the car parks, even if flood waters have entered. And do not allow cars to exit the Centre into Victoria Ave, which is especially vulnerable to flooding.

Movement of customers and staff from the basement areas is to follow Evacuation Routes as indicated in Figures E1 and E2, Appendix E. Evacuation and movement of people will be supervised by Wardens stationed in those areas. Wardens are issued with walkie talkies and torches and stationed at all main entrances and exits, e.g. at the top of travelators and at lifts.

Wardens are to:

1. Supervise the movement of patrons from the basement.
2. Prevent people accessing the basement areas or retrieving their cars. Encourage them to stay in the Centre, preferably on Level 1 or above.
3. Prevent people entering or re-entering the evacuated, high risk, and flooded areas.

During an evacuation:

- Stairs and travelators may be used for moving people to floors above.
- Use of lifts is to be discouraged unless this is the safest option. Lift usage is prioritised for the use of mobility impaired people only (refer Section 7.3.1).
- Removal of cars from basement car parks is prohibited.
- People may take their immediately available personal effects such as handbags, wallets and car keys if it is safe to do so.
- The Centre areas, in particular the Level 1 Flood Evacuation Assembly Area, to be managed by assigned Wardens. Wardens to manage congestion, allowing for pedestrian flow, and promoting safety through circulation spaces and stairwells.

7.3.1 Use of Lifts

During an evacuation, lifts should not be used except to achieve the most rapid and efficient movement of people to the appropriate upper levels.

At this time priority in using lifts must be awarded to the mobility impaired.

Lifts should not be used to transport people downwards to lower floors and are to be used for the upward movement of passengers only.

NOTE: Be aware that lifts may become unusable during a flooding emergency as it may become necessary to shut down power within the building at the main substations and switchboards. Due to lack of power, lifts will not be operational at this point (the Centre's UPS will continue to power lights and communications for 2 hours but will not power the lifts). At this point only stairwells, including fire escapes, and travelators will be available for the transport of people between floors. The mobility impaired will require additional assistance and supervision if the lifts are not operating at this time.

7.3.2 Emergency Evacuation During Flood Emergency

If emergency evacuation of any person from the Centre is required during the flooding emergency the following procedures are applicable.

- First Aid. Continue with first aid as the primary option until escalated such that emergency evacuation is required.

- Call Ambulance (or other emergency vehicle) to designated Emergency Services Access and Emergency Evacuation Point (Please refer to Figure E4, Appendix E Flood Evacuation Plan Ground Floor).
- Emergency egress is via Malvern Ave. Advise Emergency Services that access to the Centre should be from the north via Archer St and Malvern Ave, not Victoria Ave or Havilah St.
- Emergency Services should be advised as to incident position.
- Details of the access points should be communicated to all area Emergency Services before any emergency, and again following the notification of an emergency (refer Figure E4, Appendix E).
- A Warden should meet and guide Emergency Services personnel to the incident and ensure clear passage where necessary.

7.4 Traffic Management

Upon activation of the ORANGE Flood ALERT Wardens are to be posted at the top of the Victoria Ave car park ramp. The ramp will be barricaded at this point and Wardens stationed here are to communicate with drivers and prevent cars driving down the ramp.

Cars will be prevented from exiting the car park by car park attendants stationed in basement level 1.

Car park attendants (or Security if after hours) have a pivotal role in traffic management. Their responsibilities will be to assist Wardens in preventing cars from leaving the car park and assisting with pedestrian evacuation out of the basement car parks.

In addition, their booth, which is attended 24 hours a day, is an excellent vantage point for viewing the ingress of flood water if and when it spills over and cascades down the ramp into the basement. They are to visually monitor the depth of flood water accumulating on the basement floor and report this regularly to the Chief Warden.

Once the specified depth of water is reached in basement B2 the electronic water depth monitoring probe will trigger an SMS alert to the Chief Warden and will activate the Victoria Ave car park ramp flood gates (refer Section 7.5 below). If the car park attendants are concerned that the water has accumulated above the specified depth (of 190 mm in B2), they will consult with the Chief Warden. They will assist Wardens to manually activate the flood gates if the direction is given by the Chief Warden.

7.5 Water Ingress to Basement Car Parks

Basement car parks B1 and B2 are to retain 7,600 m^3 of stormwater during a major flood event (Council detention requirements). This volume is equivalent to 190 mm of water across the floor of B1 and 200 m across B2.

Once the 7,600 m^3 of stormwater has been captured in the basement, Flood Gates FLB-007 and FLB-008 in are activated. This will occur as follows:

1. Water depth probes detecting that the required water depth in B2 (200 mm) has been reached.

2. Telemetry message sent to Chief Warden and delegates alerting that the maximum water depth has been reached.

3. Flood Gates FLB-007 and FLB-008 at Victoria Ave car park ramp activated. Flood gate control panel will be wired to the Central Building Management System (BMS) for continual monitoring. In the event the gates are activated an audible alert will be triggered through the BMS to notify Centre Operations of its activation. An audible alarm at the gate's physical control panel will also notify Operations staff in the near vicinity.

4. No further flood water ingress to basement areas[4].

5. If flood gates fail to activate even after water depths have reached 200 mm, manual activation / installation may be required. An override switch is included and will allow for operation of flood gates FLB-007 and FLB-008 in the event they fail to activate.
   Authorisation for activating this switch is to come from Chief Warden (or Emergency Services) and only once the minimum (200 mm) of water has been reached in B2.
   If a fully manual installation of these flood gates is required (if both automatic activation and the override switch fail), refer to the installation instructions detailed in Appendix F: Flood Gate Technical Information.

6. For events greater than 1 in 2000-year event, floodwater is expected to breach the flood gate and spill in the basement. Water depth in basement B2 is expected to rise to 1200mm in a PMF event.

[4] Overtopping of concrete barriers at the top of this ramp on Victoria Ave may occur in the case of a storm event exceeding the 2,000-y ARI.

7.6 YELLOW FLOOD BARRIER INSTALLATION HIERARCHY

Level 00	Type	Provides protection for	Min Width	Min Height	Install Hierarchy	Install time	Staff	Storm Protection	Comments
FLB-006	Temporary	Victoria Ave Electrical Kiosk	6500	300	1	15 mins	4	>1 in 100yr	Partial installation only (300mm height)
FLB-005	Temporary	Victoria Ave Loading Dock	13000	300	2	30 mins	4	>1 in 100yr	Partial installation only (300mm height)
FLB-003	Temporary	Mills Lane	10200	-	3	20 mins	4	>1 in 2000yr	Install posts only

7.7 ORANGE Flood Barrier Installation Hierarchy

Level 00	Type	Provides protection for	Min Width	Min Height	Install Hierarchy	Install time	Staf f	Storm Protection	Comments
FLB-001	Temporary	Victoria Ave F&B	4450	800	1	10 mins	2	>1 in 20yr	Highest priority, install first
FLB-002	Temporary	Victoria Ave F&B	2350	800	1	5 mins	2	>1 in 100yr	
FLB-006	Temporary	Victoria Ave Electrical Kiosk	6500	2200	2	15 mins	4	>1 in 100yr	Install remaining portion of gate
FLB-005	Temporary	Victoria Ave Loading Dock	13000	2200	3	30 mins	4	>1 in 100yr	Install remaining portion of gate
FLB-003	Temporary	Mills Lane	10200	1000	4	10 mins	4	>1 in 2000yr	Posts already installed – install remaining slats
FLB-009	Temporary	Malvern Ave Carpark	7000	600	9	30 mins	4	>1 in 100yr	
FLB-010	Temporary	Malvern Ave Fire Stair	1200	500	9	5 mins	2	>1 in 100yr	
FLB-011	Temporary	Victoria Avenue Pedestrian Entrance	5800	750	10	20 mins	2	>1 in 2000yr	Lowest priority
FLB-012	Temporary	Archer Street Pedestrian Entrance	8000	300	10	25 mins	2	>1 in 2000yr	Lowest priority

Level 00 (no manual installation required)	Type	Provides protection for	Min Width	Min Height	Install Hierarchy	Install time	Staf f	Storm Protection	Comments
FLB-004	Permanent	Church Door	-	-	-	-	-	Permanent	
FLB-007	Automatic	Victoria Ave Carpark	-	-	-	-	-	>1 in 2000yr	Activated by water depth in basement B2 (Section 6.5). Alarms linked to Central Building Management System (BMS) for continual monitoring
FLB-008	Automatic	Victoria Ave Carpark	-	-	-	-	-	>1 in 2000yr	

Basement 1	Type	Provides protection for	Min Width	Min Height	Install Hierarchy	Install time	Staf f	Storm Protection	
FLB-B1-01	Temporary	Travelator down to B2	2700	300	5	5 mins	2	Up to 1 in 100yr	Flood gates grouped by area
FLB-B1-02	Temporary	Travelator down to B2	2700	300	5	5 mins	2	Up to 1 in 100yr	
FLB-B1-03	Temporary	Travelator down to B2	1000	300	5	5 mins	2	Up to 1 in 100yr	
FLB-B1-04	Temporary	Travelator down to B2	2800	300	6	5 mins	2	Up to 1 in 100yr	
FLB-B1-05	Temporary	Travelator down to B2	1800	300	6	5 mins	2	Up to 1 in 100yr	
FLB-B1-06	Temporary	Staff Change Rooms	1700	300	6	5 mins	2	Up to 1 in 100yr	
FLB-B1-07	Temporary	Tenancy Storeroom	1200	300	6	5 mins	2	Up to 1 in 100yr	
FLB-B1-08	Temporary	Tenancy Storeroom	1200	300	6	5 mins	2	Up to 1 in 100yr	

Basement 2	Type	Provides protection for	Min Width	Min Height	Install Hierarchy	Install time	Staf f	Storm Protection	
FLB-B2-03	Temporary	Existing Mechanical Fan Room	2200	300	7	5 mins	2	Up to 1 in 100yr	Flood gates grouped by area
FLB-B2-04	Temporary	Car Wash Plant Room	1200	300	7	5 mins	2	Up to 1 in 100yr	
FLB-B2-05	Temporary	Travelator from B1	4200	300	7	10 mins	2	Up to 1 in 100yr	
FLB-B2-01	Temporary	Travelator from B1	2500	300	8	5 mins	2	Up to 1 in 100yr	Flood gates grouped by area
FLB-B2-02	Temporary	Travelator from B1	2500	300	8	5 mins	2	Up to 1 in 100yr	

8. RED ALERT – UNPLANNED EVENTS AND ADDITIONAL REQUIRED ACTIONS

A RED FLOOD ALERT is initiated when one or more of the following unplanned events occurs:

- Significant flood barriers are not installed, installed improperly, or fail, with subsequent water ingress to the Centre at pedestrian entranceways and/or ramps.
- Water ingress to substations and main Switchboards. Isolation of power required.
- Unplanned water ingress to building, e.g. from street via fire door.
- Depth of water is 150 mm in B1 and 200 mm in B2.
- Occurrence of a 2,000-y ARI event or greater.

Triggers and Indicators	Summary of Procedures
Any of the below unplanned events activates RED ALERT: 1. Failure of flood gates (any). 2. Water ingress to building (failed flood gates or flood waters from streets via fire doors etc.). 3. Water entering Substation or Switch Board rooms. 4. Water overtopping flood barriers at Victoria Ave (flooding potentially exceeding 2,000-year ARI event, up to Probable Maximum Flood PMF).	Flood barriers at Victoria Ave car park ramp (FLB-007 and FLB-008) activate. NB These flood barriers will be automatically activated, and it is critical that it is confirmed that this has occurred. Maintain communication to all stakeholders, including Wardens, retailers, and Emergency Services as per ORANGE Alert. Maintain a log of all communications and activities as per ORANGE Alert. Make regular public address announcements throughout Centre (refer Appendix D). Evacuate all Centre occupants, customers and staff, to Level 1 Evacuation Area Continue to monitor water ingress and water depth in Basements B1 and B2 Ensure no to be cars evacuated from B1 and B2. *No egress to Victoria Ave. Power isolated at Substation 5884 (Mills Lane) and Main Switchboards 1 and 2 Refer Appendix C *Isolation of Electrical Systems*. Provide additional bunding (include sandbags if required) at doorways, gatic lids. Continue to monitor water ingress at all entranceways and doorways including fire doors at Ground and Lower Ground level.

8.1 LEVEL 1 ASSEMBLY AREA

The main differences between the ORANGE and RED Flood Alerts are:

7. Power Isolation required (refer Appendix C for procedure to follow); and
8. Evacuation of all lower floors to be undertaken (B1, B2, Lower Ground, and Ground levels). Evacuation to Level 1 Evacuation Area or above.

During a RED FLOOD ALERT all customers and staff are to be evacuated from basement, lower ground, and ground levels. The primary assembly area for all customers and staff on all levels below Level G is Level 1. Refer Figure E4, Appendix E.

Use travelators and central stairway for the movement of customers and staff from the lower levels to the Level 1 Evacuation Area (refer Appendix E).

Customers and staff are to remain on Level 1 or above until the all clear is given that the Flood Emergency has passed. Everyone is to be encourages to remain indoors in the Centre during this time and wait for the external floodwaters to subside.

The all clear will be provided by the Chief Warden (or Emergency Services). Refer Section 9.

8.2 UNPLANNED EVENTS

Once all flood gates and barriers have been fully activated no further ingress of water to the building is likely. Under exceptional circumstances or if any of the flood gates have failed to activate or to be installed properly, flood gates may need to be manually activated, and/or additional bunding should be used if appropriate. Refer Section 8.2.1 for instructions on manually installing and activating flood gates.

It is critical that potential leaks through doorways and ceilings and possible overtopping of flood barriers are closely monitored throughout the flooding emergency.

Use sandbags and other measures to manage these leaks where possible and **isolate substations and electrical switchboards if required**. Refer to Appendix C for further information.

The following sections outline a contingency plan against any shortcomings or failings in the flood mitigation measures or in the case of exceptional or unforeseen flooding.

8.2.1 Failure of Flood Gates

The flood gates and bunding that have been incorporated into the building's design are aimed at maximising flood protection and preventing water ingress apart from the detention of the required 7,600 m^3. If, at any stage one or more of these flood barriers or devices fails, it is critical that Vicinity Centres understands likely impacts on safety and property. It is even more important that a contingency plan is in place that would help mitigate any adverse effects as quickly as possible.

For instance:

- The failure of flood gates FLB-001 and FLB-002 on Victoria Ave will allow a significant volume of water to enter the building at the Lower Ground level.
- A critical flood control point is Mills Lane. It is crucial that flood gates are properly installed and monitored at both the laneway entrance on Archer St and across the Church of Christ doorway on Victoria Ave. Flooding at Mills Lane all allow the ingress of flood waters to the building at the Lower Ground and Basement levels.

Continual monitoring of ceilings, doorways, and flood barriers is one of the most important undertakings during a flooding emergency. Use sandbags and other measures to manage these leaks during unplanned events and isolate substations and electrical switchboards as required.

During a RED flood alert, in addition to attending to unplanned water ingress where possible, evacuate all patrons and staff to the Level 1 Evacuation Area or above.

Refer to Appendix F: Flood Gate Technical Information for details relating to installation and operation of temporary and permanent barriers

8.2.2 Storm Events Exceeding the 2000 Y ARI

The flood mitigation elements incorporated into the building have been designed to withstand the effects of a storm event up to and including the 2000-y ARI event. Under this scenario, flood waters will be prevented from entering the building apart from at basement car parks B1 and B2, where it will be contained to maximum depth of 150-200 mm (total volume 7,600 m^3).

If external overland flows rise to levels exceeding the 2000-y ARI storm event and up to a PMF event, water may overtop the physical flood barrier at the top of the Victoria Ave ramp.

The water level in B1 would be maintained at 190 mm regardless of any additional flood waters entering the basement. However, the water level in basement B2 would increase and continue to rise. The maximum likely depth of this water (up to and including the PMF event) is 1200mm.

9. POST FLOOD EMERGENCY ACTIONS

Actions to be undertaken post flood emergency include:

- Chief Warden or Emergency Services undertakes a full assessment of the Centre and external overland flow areas.
- Chief Warden, in consultation with Emergency Services, provides direction that the Incidence of flooding has passed, that flood waters are subsiding, and no further rain is forecast (say in the next 48 hours).
- Instigate clean up regime (see Section 9.1 below).
- Direction given to reinstate power, communications, and lighting to all areas.
- Customers and staff permitted to retrieve cars from B1 and B2. To be closely supervised by traffic wardens and delegates.
- Except for those retrieving vehicles, flooded areas are to remain off limits (using Security Officers, barricades etc.) until WorkSafe or other investigations have been completed and the clean-up process has commenced. Basements will remain off limits to all customers until waters have subsided to 100 mm or less.
- Business Continuity Management Plan is implemented to achieve full functionality of the Centre.
- Debrief to be organised as soon as practicable. The Chief Warden to convene and chair the debrief meeting with a view to assessing the adequacy of this Flood Risk Management Strategy and Emergency Response Plan. Any proposed changes to this plan arising from the debrief to be incorporated in an updated version of this plan.

9.1 POST-FLOODING CLEAN UP

Surface water on Basement 1 is drained via two no. existing pit and pipe networks which drain to the existing basement 2 network. Isolation valves have been installed where each of these drains connect to the basement 2 system. As part of the emergency response plan these two valves will need to be closed to ensure water buildup on basement 1 does not continually flow to basement 2.

Surface water accumulated in basement 2 will discharge via a series of inground pits to an existing 400kL sump located in the centre of the basement area. The sump contains a submersible pumpset which discharges to the stormwater treatment facility located on Lower ground adjacent Malvern Avenue which then discharges via gravity to the site stormwater connection. Refer to Appendix G: Post-Flood Operation Plan for further details.

An additional capped connection point will be provided on the pumpline for connection of an additional temporary pump system should it be required.

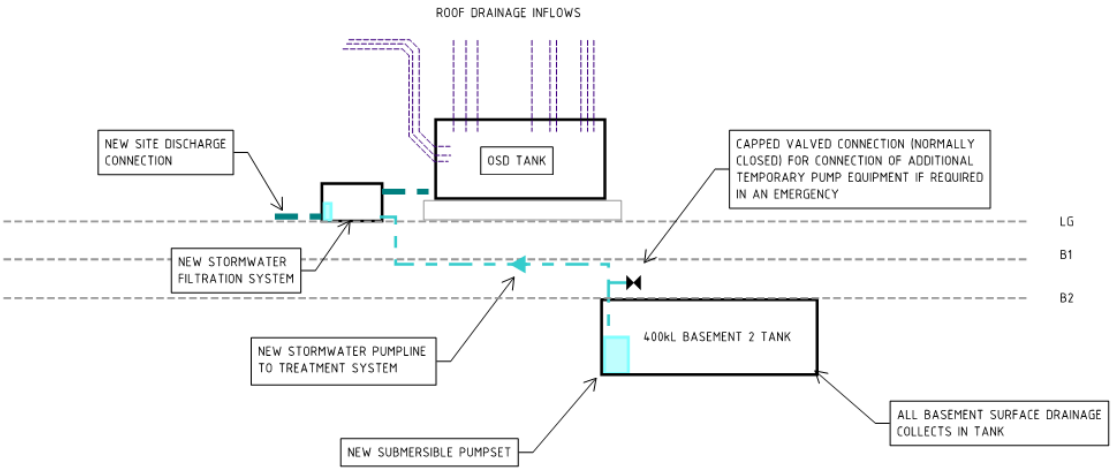


Figure 2: Post Flood Clean up schematic

10. CONCLUSION

In the event this Flood Risk Management Strategy and Emergency Response Plan report is implemented, all overarching objectives identified in section 1.1 of this report will be met as well as compliance with condition 12 and condition 13 of DA 2017/503 and condition 10 of amended DA 2019/200.

11. REFERENCES

CJ Arms, Chatswood Chase Flood Modelling Report, 2019. Rev_B. Project No. 14291. Prepared for Vicinity Centres by CJ Arms, April 2019.

Colonial First State Property Management, 2008. Chatswood Chase Redevelopment Flood Management. Prepared by Arup for Colonial First State Property Management, July 2008. Arup job number 85585/24.

Lyall & Associates, 2008. Scotts Creek Flood Study, March 2008, Lyall & Associates Consulting Engineers. AR213 Rev_3.0. http://www.willoughby.nsw.gov.au/Environment---Sustainability/nature/water/Floodplain-Management/Floodplain-Management-Scotts-Creek/.

Vicinty Centres, 2016. Emergency Management Plan. Version v0.4.2. Retail Centre Version, July 2016.

Vicinity Centres, 2017. Chatswood Chase Sydney. Centre Continuity Plan. CEMS 2.5c. Produced by RiskLogic Pty Ltd for Vicinty Centres. Version 1.0, November 2017.

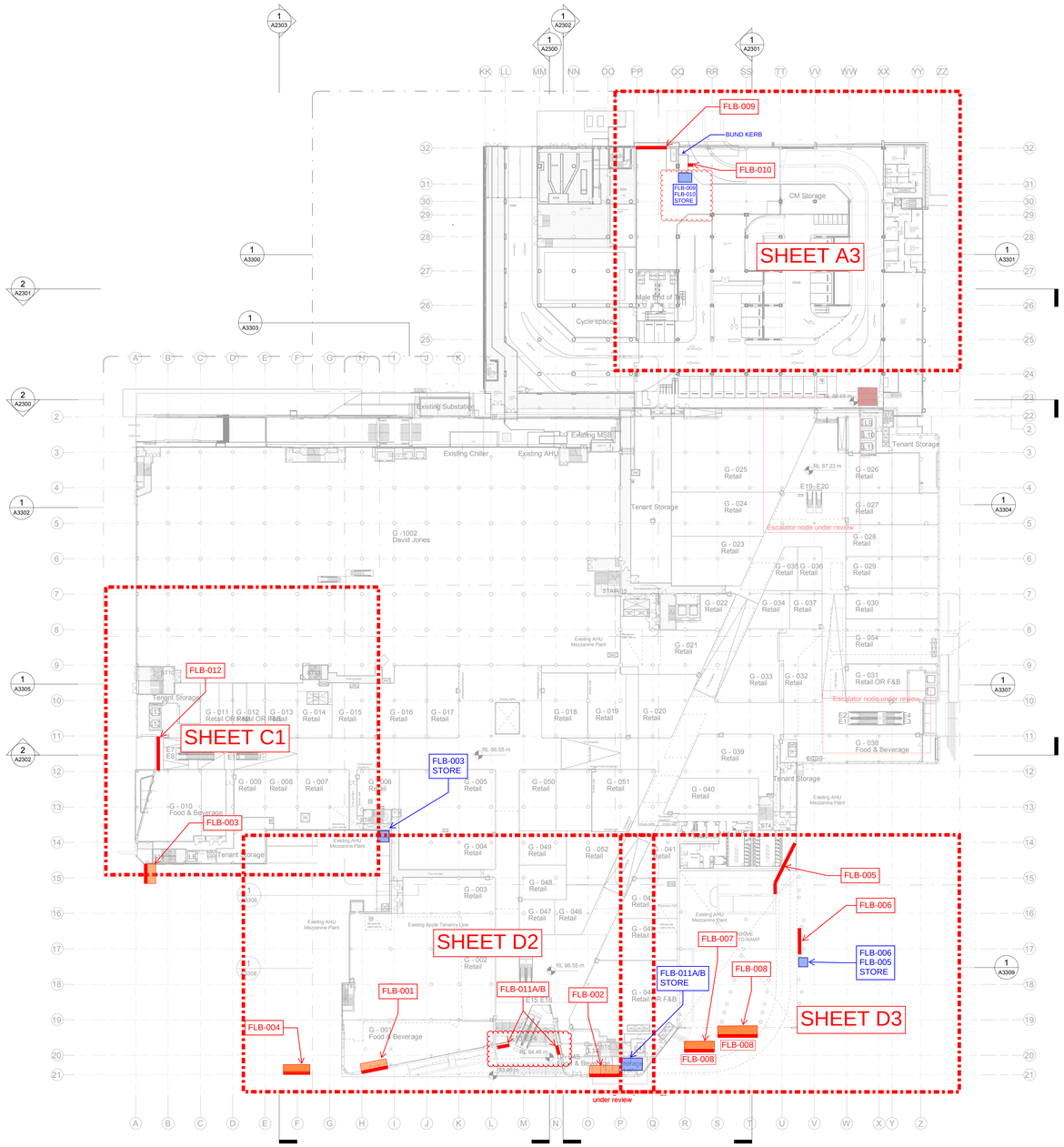
WDCP, 2009. Flood plain Management Technical Standard. Willoughby Council Development Control Plan. Attachment 22. Floodplain Management. Technical Standard No. 3. November 2009 (updated May 2016).

APPENDICES

APPENDIX A: PLANS SHOWING LOCATIONS OF FLOOD GATES

NOTE – AS OF CURRENT REPORT ISSUE (17/03/2020) PROJECT HAS NOT YET BEEN CONSTRUCTED.

FOLLOWING COMPLETION OF PROJECT, AS-BUILT DOCUMENTATION INCLUDING PHOTOS OF STORED GATES WILL BE INCLUDED TO FACILITATE EASE OF INSTALLATION FOR STAFF.



CJ ARMS

DESIGN · SCIENCE · LANDSCAPE · CIVIL · MODELLING · HYDRAULICS

13/03/2020

Scale 1 : 500 m
0m 5 10 25 50

General Notes
1. Dimensions are in millimetres unless stated otherwise.
2. Levels are in metres above Australian Height Datum unless stated otherwise.
3. Dimensions govern. Do not scale off drawing.
4. Design drawings are based on 3rd party information. All dimensions to be verified on site before proceeding.
5. All discrepancies to be notified in writing to Make (AU) Limited.
6. Make (AU) Limited is the owner of the copyright for these drawings and designs. They must not be used, reproduced or copied without the prior written consent of the company.
7. These drawings and areas have been prepared for our client, Vicinity Centres, and are approximate only and have been measured from preliminary drawings. Construction tolerances, workmanship and design by others may affect the stated areas and dimensions. The building may present anomalies in relation to surveyed/drawn plans that may also affect the stated areas. All of these factors should be considered before making any decisions on the basis of these predictions, to project viability, pre-letting, lease agreements or otherwise, and should include due allowance for the increases and decreases inherent in the design development and construction processes.
8. Areas to be verified by surveyor.
9. This drawing forms part of Make's Chatswood Chase retail mall design documentation and shows the purpose for which the design is intended. The Design and Construct contractor shall make the final selection of all products, materials and finishes to be supplied and installed in of part of the building and shall ensure those product, material and finished selected are fit for the purpose set out in this document. No produce material or finish shall be used or exposed to any other purpose than that explicitly set out in this document.
10. Please refer to Landscape Architects drawings for landscaped areas. Landscape shown is indicative only.

Nominated Architect
Simon Lincoln NSWARB 10236

REV	Date	Reason For Issue	Chk
00	24-05-2018	Draft for review	JC
01	17-08-2018	Draft for review	JC
02	07-09-2018	Draft for review	JC
03	11-10-2018	Draft for review	JC
04	02-11-2018	Draft for review	JC
05	14-11-2018	Issued for GMP	JC
06	01-04-2019	For Information	JC
07	05-04-2019	For Information	JC
08	18-04-2019	For Information	JA
09	06-05-2019	For Information	JC
10	13-05-2019	For Information	JC
11	20-05-2019	For Information	JC
12	03-06-2019	For Information	JC
13	27-05-2019	For Information	JC
14	07-06-2019	For Information	JC
15	17-06-2019	For Information	JC
16	24-06-2019	For Information	JC
17	01-07-2019	For Information	JC
18	08-07-2019	For Information	JC
19	15-07-2019	For Information	JC
20	29-07-2019	For Information	JC
21	05-08-2019	For Information	JC
22	30-08-2019	Draft For Information	JC
23	09-09-2019	For Information	JC

FOR INFORMATION ONLY

DRAWING STATUS

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Client
Vicinity Centres

Site Plan

Project
Chatswood Chase

Drawing Title
Level 00

FLOOD BARRIER LOCATIONS

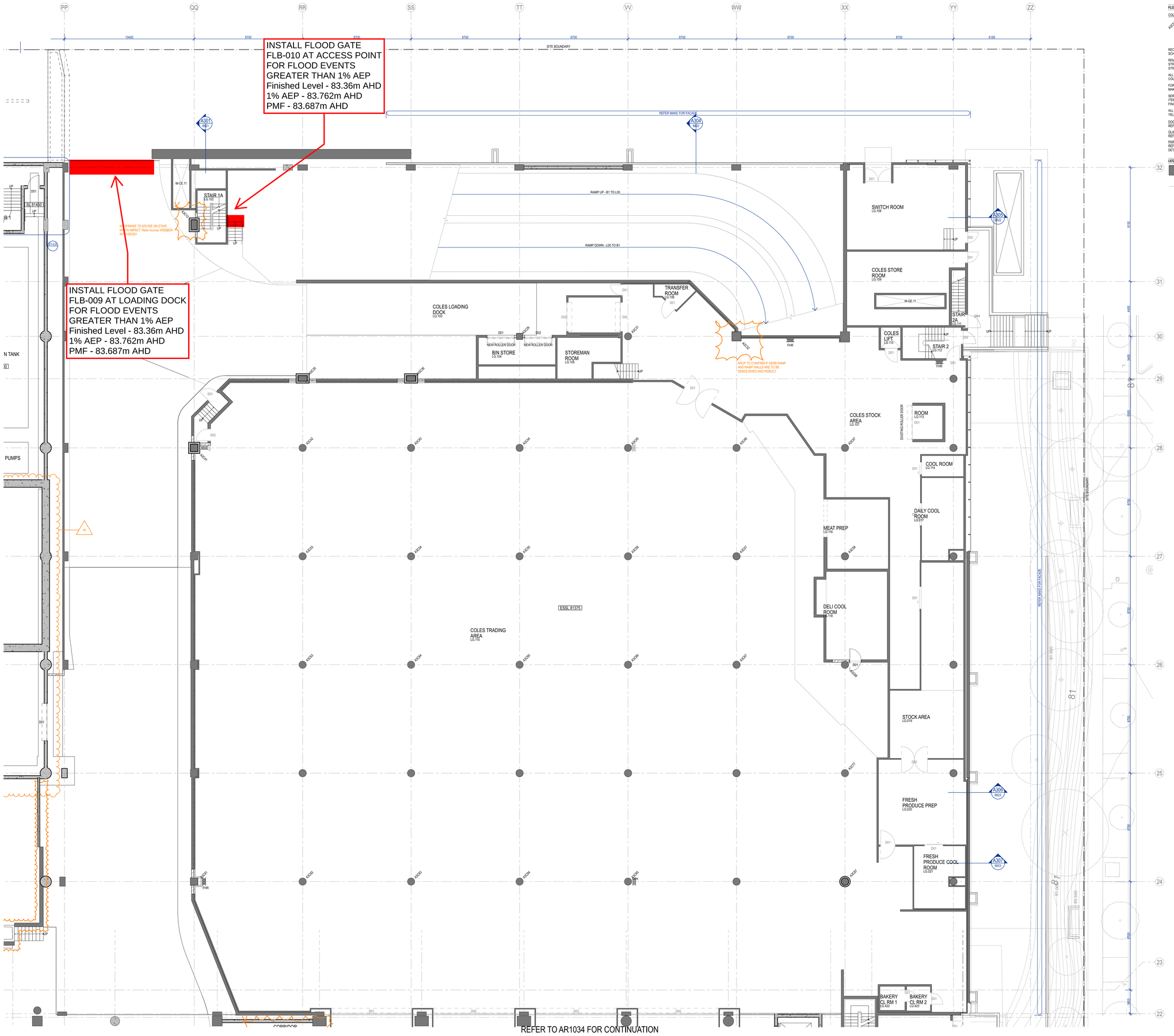
Scale at A0
1 : 500

Date
22/01/2020

Project No.
1506

Rev No.
07

Drawing No.
AR-WEB-SK-0153



FLOOR PLAN NOTES:

COLUMN STRENGTHENING

AC04 REFER WEBBER SERIES 7800 AND STRUCTURAL ENGINEER FOR DETAILS. TO BE COORDINATED WITH SERVICES TRADES TO ENSURE SERVICES ON COLUMNS TO BE STRENGTHENED ARE REMOVED TEMPORARILY RELOCATED AND REINSTATED ON COMPLETION

RECONSTRUCT WALLS KERBS ETC IF RETAINED IN THE NEW SCHEME. TYING INTO NEW AND EXISTING WORKS

REMOVE EXISTING SIGNAGE AS REQUIRED AT COLUMN STRENGTHENING. REINSTATE AT COMPLETION OF COLUMN STRENGTHENING.

ALL EXISTING AND NEW BASEMENT & NORTHERN CARPARK COLUMNS TO BE PAINTED U.N.O.

FOR NEW FLOOR, WALL OR CEILING FINISHES REFER TO MAKE'S DRAWINGS AND SPECIFICATIONS.

SERVICES CONSULTANTS TO CONFIRM BUILDERS WORK ITEMS WITHIN SERVICES ROOMS, w FLOOR FINISHES, WALL FINISHES, PENETRATIONS etc.

ALL NEW KERBS TO BE PAINTED WITH ROADMASTER PAINT-YELLOW.

DOOR TYPES
REFER TO MAKE DRAWINGS FOR DOOR TYPE DETAILS.

GLAZING TYPES
REFER TO MAKE DRAWINGS FOR GLAZING DETAILS

PARTITIONS
REFER TO MAKE DRAWINGS 4200 SERIES FOR WALL TYPE DETAILS.

LEGEND:

VERTICAL ELEMENTS TO REMAIN. FOR EXAMPLE COLUMNS AND WALLS.

HORIZONTAL ELEMENTS TO REMAIN. FOR EXAMPLE FLOOR SLABS, KERBS, STAIRS AND RAMPS

PARKING COUNT BY TYPE	
TYPE	**QTY**
RETAIL	
ACCESSIBLE	77
PRAM PARKING	22
SMALL CAR	227
STANDARD CAR	2161
VALET	28
COMMERCIAL	
ACCESSIBLE	2
COMMERCIAL	45
SMALL CAR	15
	2577

PARKING COUNT BY LEVEL & TYPE	
	QTY
LEVEL B2, Existing	
ACCESSIBLE	4
SMALL CAR	7
STANDARD CAR	415
LEVEL B2, New	
SMALL CAR	8
STANDARD CAR	28
	462
LEVEL B1, Existing	
ACCESSIBLE	34
SMALL CAR	32
STANDARD CAR	427
LEVEL B1, New	
SMALL CAR	18
STANDARD CAR	35
	546
LEVEL 00, Existing	
STANDARD CAR	9
LEVEL 00, New	
ACCESSIBLE	2
STANDARD CAR	21
	32
LEVEL 00A, Existing	
SMALL CAR	2
STANDARD CAR	33
LEVEL 00A, New	
SMALL CAR	16
STANDARD CAR	59
	110
LEVEL 01, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01, New	
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	81
VALET	28
	177
LEVEL 01A, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01A, New	
ACCESSIBLE	12
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	70
	172
LEVEL 02, Existing	
STANDARD CAR	3
LEVEL 02, New	
ACCESSIBLE	12
PRAM PARKING	6
SMALL CAR	15
STANDARD CAR	128
	164
LEVEL 02A, New	
ACCESSIBLE	12
PRAM PARKING	2
SMALL CAR	18
STANDARD CAR	142
	174
LEVEL 03, New	
ACCESSIBLE	3
COMMERCIAL	45
SMALL CAR	25
STANDARD CAR	112
	185
LEVEL 03A, New	
PRAM PARKING	5
SMALL CAR	22
STANDARD CAR	161
	188
LEVEL 04, New	
PRAM PARKING	3
SMALL CAR	19
STANDARD CAR	156
	178
LEVEL 04A, New	
SMALL CAR	8
STANDARD CAR	181
	189
	2577

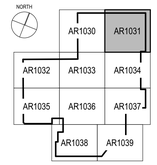
MOTORCYCLE COUNT	
LEVEL	**QTY**
LEVEL B2	17
LEVEL B1	18
LEVEL 00	7
LEVEL 00A	2
LEVEL 01	2
LEVEL 02	10
LEVEL 02A	15
LEVEL 03	2
LEVEL 03A	9
LEVEL 04	9
LEVEL 04A	13
	104

NOTES

Do not scale this drawing.

All dimensions are to be verified on site and any discrepancies reported before commencement of any work or shop drawing.

KEY



ZONE PLAN NUMBERING CONVENTION

LEVEL CODE	(YY)
BASEMENT 2	01
BASEMENT 1	02
LOWER GROUND	03
LOWER GROUND A	04
LEVEL 00	05
LEVEL 00A	06
LEVEL 01	07
LEVEL 01A	08
LEVEL 02	09
LEVEL 02A	10
LEVEL 03	11
LEVEL 03A	12
LEVEL 04	13
LEVEL 04A	14
LEVEL 05	15
LEVEL 05A	16
LEVEL 06	17
LEVEL 06A	18

PACKAGE CODE	(X)
EARLY WORKS	0
FLOOR PLANS	1
PARTITION PLANS	2
CONCRETE	3
CEILINGS	4
OTHER PLANS	5

ZONE CODE	(Z)
A1	0
A2	1
A3	2
B1	3
B2	4
B3	5
C1	6
C2	7
C3	8
D2	9
D3	

DRAWING No.
LEVEL CODE — ZONE CODE
X YY Z
PACKAGE

ROOM NUMBERING CONVENTION

STOREY CODE	(XX)
BASEMENT 2	B2
BASEMENT 1	B1
LOWER GROUND	LG
LOWER GROUND A	LGA
LEVEL 00	00
LEVEL 00A	00A
LEVEL 01	01
LEVEL 01A	01A
LEVEL 02	02
LEVEL 02A	02A
LEVEL 03	03
LEVEL 03A	03A
LEVEL 04	04
LEVEL 04A	04A
LEVEL 05	05
LEVEL 05A	05A
LEVEL 06	06
LEVEL 06A	06A

ZONE CODE	(Y)
A1	0
A2	1
A3	2
B1	3
B2	4
B3	5
C1	6
C2	7
C3	8
D3	9

ROOM No.
ZONE
XX.Y##
STOREY — NUMBER

REV	DATE	DESCRIPTION
08	3/10/19	CARPARK NUMBERS UPDATED OSD TANK CHANGED TO CONCRETE AND STORE ROOM UPDATED
07	16/9/19	FACADE ELEMENTS REPLACED GMP ISSUE
06	30/8/19	STRUCTURE ADDED COLUMN STRENGTHENING AMENDED
05	29/7/19	CARPARK NUMBERS UPDATED RISER NUMBERING AMENDED
04	13/5/19	FOR CO-ORDINATION
03	3/5/19	FOR EARLYWORKS TENDER ISSUE
02	14/11/18	70% EARLYWORK TENDER ISSUE
01	31/10/18	INFORMATION ISSUE

WEBBER
INTELLIGENT CONSTRUCTION

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MECHANICAL / ELECTRICAL / DRY FIRE
NORMAN DISNEY & YOUNG
Level 7 60 Miller Street, North Sydney NSW 2060 (T) +61 2 9928 6800

CIVIL / HYDRAULICS / WET FIRE
CJ ARMS & ASSOCIATES
The Loft Level 3 Pier 8/9 23 Hickson Road, Millers Point NSW 2000 (T) +61 2 8336 8370

BUILDING CERTIFIER
MCKENZIE GROUP
Level 6 189 Kent Street, Sydney NSW 2000 (T) +61 2 8298 6800

LANDSCAPE ARCHITECT
LAT27
Level 5 300 Ann Street, Brisbane QLD 4000 (T) +61 7 3236 1086

TRAFFIC ENGINEER
GTA CONSULTANTS
Level 16 207 Kent Street, Sydney NSW 2000 (T) +61 2 8448 1800

FIRE ENGINEERING
DEFIRE
Suite B02 Level 8 383 Kent Street, Sydney NSW 2000 (T) +61 2 8270 7600

Accessibility
MORRIS GODING CONSULTING
Studio 106 56 Bowman Street, Pyrmont NSW 2009 (T) +61 2 9692 9322

CLIENT
VICINITY CENTRES
Level 39, MLC Centre 19 Martin Place Sydney NSW 2000 (T)+61 2 8299 7705

PROJECT
CHATSWOOD CHASE
345 VICTORIA AVENUE
CHATSWOOD, NSW, 2067

TITLE
FLOOR PLAN - LEVEL LOWER GROUND ZONE A3

ISSUED STATUS			
FOR TENDER			
SCALE @ A0	DRAWN	APPROVED	FIRST ISSUE DATE
1:100	WEB	MVS	31/10/18
PROJECT CODE	PLAN ZONE	SHEET NO.	REVISION
18300	A3	AR1031	08

Date Printed: 3/10/19

1. Wall type update
2. Finishes update
3. Door added
4. Balustrade update
5. Smat power requirement

Note: Please refer to A3302

Note: Please refer to A3306

INSTALL FLOOD GATE FLB-012 AT ARCHER STREET PEDESTRIAN ENTRANCE FOR FLOOD EVENTS GREATER THAN 0.05% AEP
Finished Level - 85.305m AHD
1% AEP - 84.851m AHD
PMF - 85.54m AHD

INSTALL FLOOD GATE FLB-003 AT MILLS LANE FOR FLOOD EVENTS GREATER THAN 1% AEP
Finished Level - 84.539m AHD
1% AEP - 83.756m AHD
PMF - 85.539m AHD

FLB-003 STORE

MILLS LANE

David Jones 00-1002
C | N/A
W | N/A
S | N/A
F | N/A

BOH Stair 00-604
C | CLG-106
W | NIL
S | NIL
F | PT-201

BOH Stair 00-603
C | NIL
W | NIL
S | NIL
F | PT-201

BOH Stair 00-602
C | NIL
W | NIL
S | NIL
F | PT-201

BOH Stair 00-501
C | NIL
W | NIL
S | NIL
F | PT-201

Tenant Storage 00-507
C | NIL
S | NIL
W | NIL
S | AM-101
F | PT-201/SCR-104

Lift lobby 00-500
C | CLG-104
W | IF-401
S | TRM-103
F | FL-402

Tenant Storage 00-507
C | NIL
W | NIL
S | AM-101
F | PT-201/SCR-104

Tenant Storage 00-505
C | NIL
W | NIL
S | AM-101
F | PT-201/SCR-14

BOH Corridor 00-503
C | CLG-106
W | NIL
S | TRM-304
F | PT-201/SCR-104

BOH Corridor 00-504
C | NIL
W | NIL
S | TRM-304
F | PT-201/SCR-104

BOH Corridor 00-505
C | NIL
W | NIL
S | TRM-304
F | PT-201/SCR-104

BOH Corridor 00-506
C | NIL
W | NIL
S | TRM-304
F | PT-201

Retail G-012
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 011
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G-013
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G-014
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 015
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 016
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 017
C | By tenant
W | By tenant
S | By tenant
F | By tenant

F&B G-010
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 009
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G-008
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 007
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 006
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 005
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 004
C | By tenant
W | By tenant
S | By tenant
F | By tenant

STAIR 10 · STAIR 09 · STAIR 08 · STAIR 13
Lift L13 · Lift L12 · Lift L06
EXISTING ESCALATOR E07 · EXISTING ESCALATOR E08
ESCALATOR E09 · ESCALATOR E10
HYDRAULICS · COMMS · ELECTRICAL · MISCELLANEOUS
SSR-7 · SSR-8 · SSR-9 · SSR-11
EFR-9 · EF2A-1 · EFR-4 · EFR-7 · EFR-8
SMOKE EXHAUST
Fire corridor · Smoke wall · WET FIRE
Proposed fully integrated DM screen location
Proposed freestanding single face Shopalite screen location
Freestanding retail directory
Shopfront by tenant
Shopfront to allow for proposed movement joint
Proposed location of movement joint To be coordinated with Structural Engineer
Facade to allow for proposed movement joint
Mezzanine plant above
Fixed section of smokeproof shop front Detail B/ A4270
Smoke Baffle Detail / A4270
Refer to Landscape Architect's documenation for green wall
Refer to Landscape Architect's documenation for planter design
Fire integrity of existing facade to be investigated. Contractor to make allowance for remedial works

KEY PLAN
Fire protected corridor
Scope by Webber
Property Boundary

General Notes
1. Dimensions are in millimetres unless stated otherwise.
2. Levels are in metres above Australian Height Datum unless stated otherwise.
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6. Make (AU) Limited is the owner of the copyright for these drawings and designs. They must not be used, reproduced or copied without the prior written consent of the company.
7. These drawings and areas have been prepared for our client, Vicinity Centres, and are approximate only and have been measured from preliminary drawings. Construction tolerances, workmanship and design by others may affect the stated areas and dimensions. The building may present anomalies in relation to surveyed/drawn plans that may also affect the stated areas. All of these factors should be considered before making any decisions on the basis of these predictions, to project viability, pre-letting, lease agreements or otherwise, and should include due allowance for the increases and decreases inherent in the design development and construction processes.
8. Areas to be verified by surveyor.
9. This drawing forms part of Make's Chatswood Chase retail mall design documentation and shows the purpose for which the design is intended. The Design and Construct contractor shall make the final selection of all products, materials and finishes to be supplied and installed in of part of the building and shall ensure those product, material and finished selected are fit for the purpose set out in this document. No produce material or finish shall be used or exposed to any other purpose than that explicitly set out in this document.
10. Drawings include other consultants information indicatively. Please refer to all relevant consultant documentation for clarification.

Nominated Architect
Simon Lincoln NSWARB 10236

REV	Date	Reason For Issue	Chk
00	30-08-2019	Draft For Information	JC
01	16-09-2019	For Tender	JC
02	30-09-2019	For Tender	JC
03	13-12-2019	For Tender	JC

FOR TENDER

DRAWING STATUS

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Sydney, NSW 2000

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www.makearchitects.com

Client
Vicinity Centres

Site Plan

Project
Chatswood Chase

Drawing Title
LEVEL 00 - Set Out Plan - ZONE C1

Scale at A0
1 : 100

Date
09/05/18

Project No.
1506

Rev No.
03

Drawing No.
AR-MAK-DRG-A3305

Scale 1 : 100
0m 1 2 5 10 m

Mezzanine plant above

Facade to allow for proposed movement joint

Fire integrity of existing facade to be investigated. Contractor to make allowance for remedial works.

Note: Please refer to A3306

Shopfront to allow for proposed movement joint

Proposed location of movement joint To be coordinated with Structural Engineer

Shopfront by tenant

Smoke wall

Smoke Baffle Detail 4/A4270 RL 86.70 m

1:100 Gradient

Fire corridor

BOH Corridor 00-501
C | CLG-106
W | NIL
S | TRM-304
F | PT-201 / SCR-104

BOH Corridor 00-502
C | NIL
W | NIL
S | TRM-304
F | PT-201

COMMS

ELECTRICAL

KITCHEN EXHAUST

HHW

Mezzanine plant above

Retail G - 004
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 003
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 002
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 049
C | By tenant
W | By tenant
S | By tenant
F | By tenant

F&B G - 047
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 046
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 052
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 042
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Retail G - 043
C | By tenant
W | By tenant
S | By tenant
F | By tenant

VOID OVER

Proposed freestanding double face Shopalite screen location

CML G-100

ESC-102

MANUALLY INSTALL FLOOD GATE FLB-011A/B AT F&B DOORS FOR FLOOD EVENTS GREATER THAN 0.05% AEP
Finished Level - 84.46m AHD
1% AEP - 83.84m AHD
PMF - 85.088m AHD

Note: Please refer to A3309

Lift Lobby 00-500
C | CLG-104
W | IF-401
S | TRM-103
F | FI-402

Retail G - 044
C | By tenant
W | By tenant
S | By tenant
F | By tenant

BOH Stair 00-612
C | NIL
W | NIL
S | NIL
F | PT-201

BOH Corridor 00-531
C | NIL
W | NIL
S | TRM-304
F | PT-201

BOH Corridor 00-532
C | NIL
W | NIL
S | TRM-304
F | PT-201

BOH Stair 00-600
C | NIL
W | NIL
S | NIL
F | PT-201

SSR-26 SSR-27 EFR-11

LIFT L04 LIFT L14 LFT-103

STAIR 07 STAIR 18 STAIR 06 STAIR 51

ESCALATOR E3 ESCALATOR E4 ESCALATOR E13 ESCALATOR E14

F&B G - 001
C | By tenant
W | By tenant
S | By tenant
F | By tenant

F&B G - 045
C | By tenant
W | By tenant
S | By tenant
F | By tenant

Refer to Landscape Architect's documenation for green wall

Refer to Landscape Architect's documenation for planter design

Refer to Landscape Architect's documenation for green

00-531-EX01

00-530-EX01

WET FIRE

DRAINAGE

TEF-01

KEF-02

FLB-004 STORE

PERMANENTLY INSTALL FLOOD DOOR FLB-004 ON CHURCH DOORS AT ALL FLOOD EVENTS
Finished Level - 83.46m AHD
1% AEP - 83.967m AHD
PMF - 85.00m AHD

FLB-001 STORE

MANUALLY INSTALL FLOOD GATE FLB-001 AT F&B DOORS FOR FLOOD EVENTS GREATER THAN 5% AEP
Finished Level - 83.46m AHD
1% AEP - 83.967m AHD
PMF - 85.00m AHD

FLB-002 STORE

MANUALLY INSTALL FLOOD GATE FLB-002 AT F&B DOORS FOR FLOOD EVENTS GREATER THAN 1% AEP
Finished Level - 83.65m AHD
1% AEP - 83.831m AHD
PMF - 84.989m AHD

FLB-011A FLB-011B STORE

1. Wall type update
2. Finishes update
3. Small power requirement
4. ATM removed

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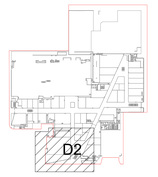

KEY PLAN
Fire protected corridor
Scope by Webber
Property Boundary

REV	Date	Reason For Issue	Chk
00	30-08-2019	Draft For Information	JC
01	16-09-2019	For Tender	JC
02	30-09-2019	For Tender	JC
03	13-12-2019	For Tender	JC

FOR TENDER
DRAWING STATUS

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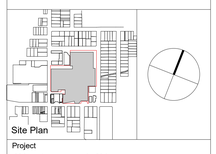

Site Plan

Project
Chatswood Chase

Drawing Title
LEVEL 00 - Set Out Plan - ZONE D2

Scale at A0
1 : 100

Date
09/05/18

Project No.
1506

Rev No.
03

Drawing No.
AR-MAK-DRG-A3308

Scale 1 : 100
0m 1 2 5 10 m

1. Finishes update

Note: Please refer to A3207

MANUALLY INSTALL FLOOD GATE FLB-005A AT LOADING DOCK FOR FLOOD EVENTS GREATER THAN 1% AEP

MANUALLY INSTALLED FLOOD GATE FLB-005 AT VICTORIA AVENUE ELECTRICAL KIOSK FOR FLOOD EVENTS GREATER THAN 1% AEP

FLB-006
FLB-005
STORE

Note: Please refer to A3208

EWS-50
EWS-50
AM-201
AM-201
AM-201

Loading Bay
LG-536
C NIL
W NIL
S NIL
F PT-201

EXISTING SUB STATION

EXISTING RAMP DOWN TO B1 CARPARK

EXISTING RAMP UP FROM B1 CARPARK

BOH Corridor
LG-547
C NIL
W NIL
S TRM-304
F PT-201/SCR-104

LG-547-02

LG-547-01

Fire Control Room

Exiting Escape Stair

CM Maintenance office

EWS-11A

Lift G04

EWS-50

EWS-11A

EWS-11A

NOTE - ARCHITECTURAL PLAN UNDER DEVELOPMENT

PERMANENT FLOOD GATES FLB-007 AND FLB-008 INSTALLED AT VICTORIA AVENUE CARPARK RAMP FOR FLOOD EVENTS GREATER THAN 0.05% AEP
Finished Level - 82.71m AHD
1% AEP - 82.678m AHD
PMF - 83.918m AHD

Scale 1 : 100
0m 1 2 5 10 m

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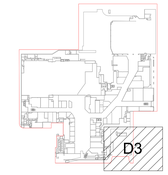

KEY PLAN
Extent of existing layout
Fire protected corridor
Existing CML & Kiosk locations

REV	Date	Reason For Issue	Chk
00	16-09-2019	For Tender	JC
01	30-09-2019	For Tender	JC
02	13-12-2019	For Tender	JC

FOR TENDER
DRAWING STATUS

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Suite 3.03,Level 3,309 George Street
Sydney, NSW 2000

tel +61 (0) 283 168 950

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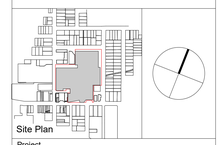
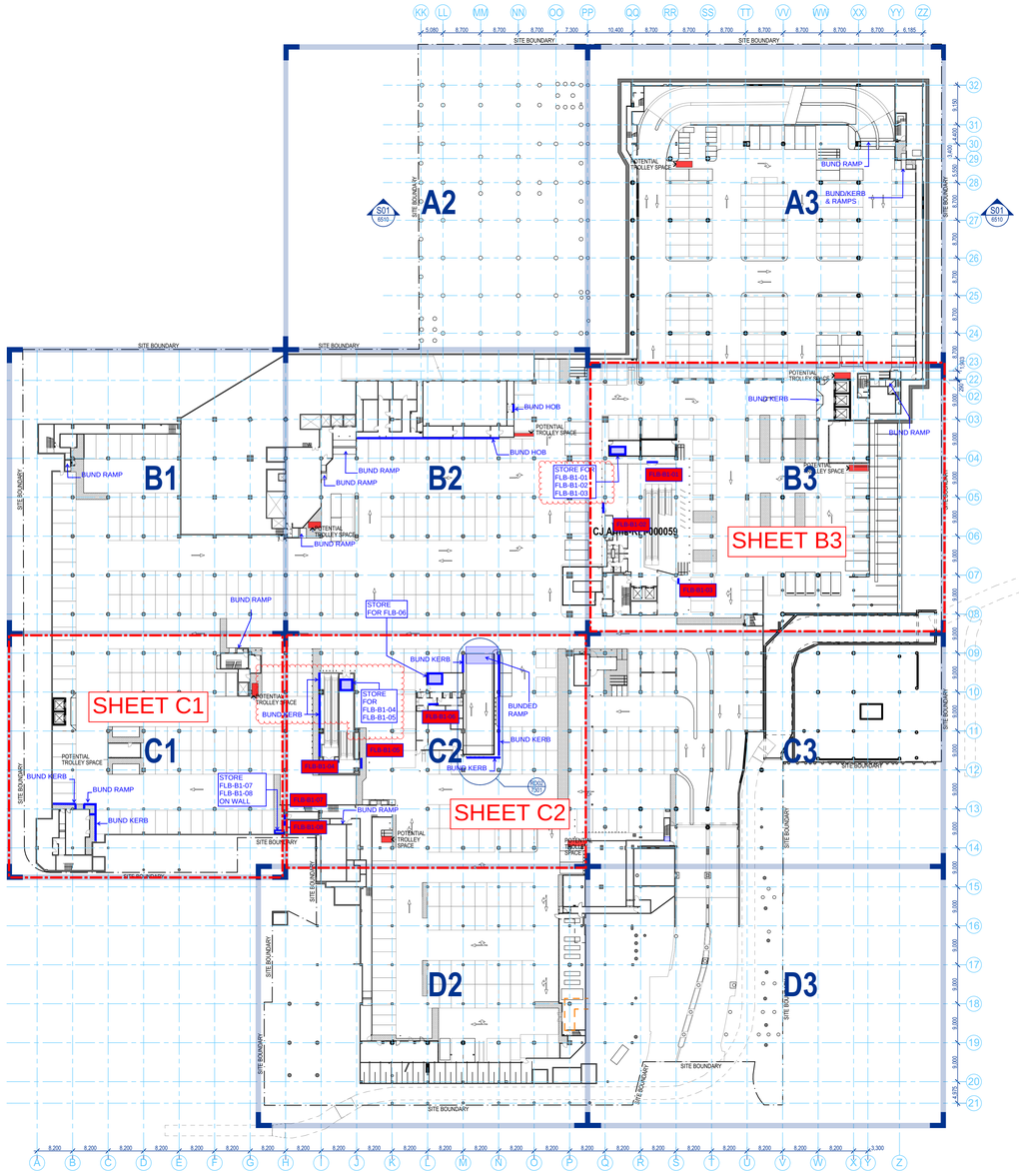


Site Plan

Project
Chatswood Chase

Drawing Title
LEVEL LG - Set Out Plan - ZONE D3

Scale at A0	Date
1 : 100	DD/MM/YY
Project No.	Rev No.
1506	02
Drawing No.	
AR-MAK-DRG-A3209	



CJ ARMS

DESIGN · SCIENCE · LANDSCAPE · CIVIL · MODELLING · HYDRAULICS

BASEMENT 1 FLOOD BARRIER LOCATIONS

13/03/2020

REFER TO AR1021 FOR CONTINUATION

REFER TO AR1023 FOR CONTINUATION

REFER TO AR1027 FOR CONTINUATION

DRAINAGE Ø750 RCP (QL-A)
1.39m INVERT LEVEL

SW04

DRAINAGE Ø750 RCP (QL-A)
1.39m INVERT LEVEL

NEW MSSB TO ENGINEERS DETAILS

RELOCATED TROLLEY BAY

SMALL CAR

FLB-B1-01
FLB-B1-02
FLB-B1-03
STORE

NEW ARROW LINEMARKING

MANUALLY INSTALLED FLOOD GATE FLB-B1-01 AT TRAVELATOR DOWN TO B2 FOR FLOOD EVENTS UP TO 1% AEP

USER 4.4.7.5

EXISTING BOLLARD

D01

STORAGE

STORAGE
B1.401

FLB-010

RELOCATED TROLLEY BAY

NEW HOB FOR FLOOD RETENTION. 190MM HIGH

W01

VALET LOUNGE
B1.466

MANUALLY INSTALLED FLOOD GATE FLB-B1-02 AT TRAVELATOR DOWN TO B2 FOR FLOOD EVENTS UP TO 1% AEP

W03

FLB-010

STORE OFICE
B1.455

WC
B1.454

FEMALE CHANGE
B1.453

AIRLOCK
B1.465

AIRLOCK
B1.464

MALE CHANGE
B1.462

ESSL 78450

9060

EXHAUST LOUVRES

CLNR
B1.461

RISER SHAPE PENDING FINAL STRUCTURAL COORDINATION

EXHAUST RISER
B1.353
4-CE-61

VALVE ROOM
B1.403
EXIT SWP

STAIR 5
B1.404

LIFT P08
B1.406

LIFT P07
B1.407

CARPARK CONTROL ROOM
B1.460

STORAGE/TEA
B1.457

ELECT SWITCH ROOM
B1.454

FHR
B1.451

NEW LINEMARKING

MC

8200

P Q R S T U V W X Y

NEW ARROW LINEMARKING

NEW HOB AND STEP RAMPS FOR FLOOD RETENTION. 190MM HIGH

POTENTIAL TROLLEY SPACE

LIFT P09
B1.409

LIFT P10
B1.410

LIFT P11
B1.411

HYDR

ESSL 78450

SL 78640

DAF PLANT
SL 78640

POTENTIAL TROLLEY SPACE

ARUP TO CONFIRM STRENGTHENING TYPE

BSC2

BSC3

BSC4

BSC5

BSC6

BSC7

BSC8

BSC9

BSC10

SMALL CAR

ON HOLD BY ARUP

STAIR 19
B1.412

NEW CULVERT AND OVERLAND FLOW

SYDNEY WATER SEWER Ø150 SGW (QL-B)
APPROX 2.20-2.30m DEEP

SYDNEY WATER SEWER Ø150 SGW (QL-B)
APPROX 0.85m DEEP, EOT

SYDNEY WATER SEWER Ø150 SGW (QL-C)

NEW LINEMARKING

RELOCATED TROLLEY BAY

NEW HOB AND STEP RAMPS FOR FLOOD RETENTION. 190MM HIGH

STAIR 3
B1.408

STAIR 3A
B1.208

UP

CM STORAGE
B1.407

NEW COLUMN CLASHES WITH EXISTING STAIR, REFER ACONEX WEBBER-RFI-000065

DRAINAGE Ø750 RCP (QL-A)
1.80m INVERT LEVEL

SW08

DRAINAGE Ø750 RCP (QL-A)
1.85m INVERT LEVEL

DRAINAGE Ø900 RCP
1.41m INVERT LEVEL

SW24

DRAINAGE Ø900 RCP
1.41m INVERT LEVEL

DRAINAGE Ø750 RCP (QL-A)
1.44m INVERT LEVEL

SW09

DRAINAGE Ø750 RCP (QL-A)
1.44m INVERT LEVEL

SW10
BLIND PIT

DRAINAGE Ø375 RCP (QL-A)
0.70m INVERT LEVEL

DRAINAGE Ø750 RCP (QL-B)
APPROX 0.85m DEEP, EOT

DRAINAGE Ø375 RCP (QL-A)
1.39m INVERT LEVEL

DRAINAGE Ø750 RCP (QL-A)
1.28m INVERT LEVEL

DRAINAGE Ø525 RCP (QL-A)
1.40m INVERT LEVEL

SW14

SITE BOUNDARY

8000

9000

22 23 03 04 05 06 07 08 09

FLOOR PLAN NOTES:

COLUMN STRENGTHENING

ACON REFER WEBBER SERIES 7800 AND STRUCTURAL ENGINEER FOR DETAILS. TO BE COORDINATED WITH SERVICES TRADES TO ENSURE SERVICES ON COLUMNS TO BE STRENGTHENED ARE REMOVED TEMPORARILY RELOCATED AND REINSTATED ON COMPLETION

RECONSTRUCT WALLS KERBS ETC IF RETAINED IN THE NEW SCHEME. TYING INTO NEW AND EXISTING WORKS

REMOVE EXISTING SIGNAGE AS REQUIRED AT COLUMN STRENGTHENING. REINSTATE AT COMPLETION OF COLUMN STRENGTHENING.

ALL EXISTING AND NEW BASEMENT & NORTHERN CARPARK COLUMNS TO BE PAINTED U.N.O.

FOR NEW FLOOR, WALL OR CEILING FINISHES REFER TO MAKE'S DRAWINGS AND SPECIFICATIONS.

SERVICES CONSULTANTS TO CONFIRM BUILDERS WORK ITEMS WITHIN SERVICES ROOMS, w FLOOR FINISHES, WALL FINISHES, PENETRATIONS etc.

ALL NEW KERBS TO BE PAINTED WITH ROADMASTER PAINT-YELLOW.

DOOR TYPES
REFER TO MAKE DRAWINGS FOR DOOR TYPE DETAILS.

GLAZING TYPES
REFER TO MAKE DRAWINGS FOR GLAZING DETAILS

PARTITIONS
REFER TO MAKE DRAWINGS 4200 SERIES FOR WALL TYPE DETAILS.

LEGEND:

VERTICAL ELEMENTS TO REMAIN. FOR EXAMPLE COLUMNS AND WALLS.

HORIZONTAL ELEMENTS TO REMAIN. FOR EXAMPLE FLOOR SLABS, KERBS, STAIRS AND RAMPS

PARKING COUNT BY TYPE	
TYPE	**QTY**
RETAIL	
ACCESSIBLE	77
PRAM PARKING	22
SMALL CAR	227
STANDARD CAR	2161
VALET	28
COMMERCIAL	
ACCESSIBLE	2
COMMERCIAL	45
SMALL CAR	15
	2577

PARKING COUNT BY LEVEL & TYPE	
TYPE	**QTY**
LEVEL B2, Existing	
ACCESSIBLE	4
SMALL CAR	7
STANDARD CAR	415
LEVEL B2, New	
SMALL CAR	8
STANDARD CAR	28
	462
LEVEL B1, Existing	
ACCESSIBLE	34
SMALL CAR	32
STANDARD CAR	427
LEVEL B1, New	
SMALL CAR	18
STANDARD CAR	35
	546
LEVEL 00, Existing	
STANDARD CAR	9
LEVEL 00, New	
ACCESSIBLE	2
STANDARD CAR	21
	32
LEVEL 00A, Existing	
SMALL CAR	2
STANDARD CAR	33
LEVEL 00A, New	
SMALL CAR	16
STANDARD CAR	59
	110
LEVEL 01, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01, New	
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	81
VALET	28
	177
LEVEL 01A, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01A, New	
ACCESSIBLE	12
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	92
	172
LEVEL 02, Existing	
STANDARD CAR	3
LEVEL 02, New	
ACCESSIBLE	12
PRAM PARKING	6
SMALL CAR	15
STANDARD CAR	128
	164
LEVEL 02A, New	
ACCESSIBLE	12
PRAM PARKING	2
SMALL CAR	18
STANDARD CAR	142
	174
LEVEL 03, New	
ACCESSIBLE	3
COMMERCIAL	45
SMALL CAR	25
STANDARD CAR	112
	185
LEVEL 03A, New	
PRAM PARKING	5
SMALL CAR	22
STANDARD CAR	161
	188
LEVEL 04, New	
PRAM PARKING	3
SMALL CAR	19
STANDARD CAR	156
	178
LEVEL 04A, New	
SMALL CAR	8
STANDARD CAR	181
	189
	2577

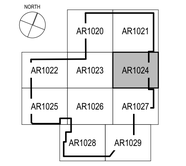
MOTORCYCLE COUNT	
LEVEL	**QTY**
LEVEL B2	17
LEVEL B1	18
LEVEL 00	7
LEVEL 00A	2
LEVEL 01	2
LEVEL 02	10
LEVEL 02A	15
LEVEL 03	2
LEVEL 03A	9
LEVEL 04	9
LEVEL 04A	13
	104

NOTES

Do not scale this drawing.

All dimensions are to be verified on site and any discrepancies reported before commencement of any work or shop drawing.

KEY



ZONE PLAN NUMBERING CONVENTION

LEVEL CODE	(YY)
BASEMENT 2	01
BASEMENT 1	02
LOWER GROUND	03
LOWER GROUND A	04
LEVEL 00	05
LEVEL 00A	06
LEVEL 01	07
LEVEL 01A	08
LEVEL 02	09
LEVEL 02A	10
LEVEL 03	11
LEVEL 03A	12
LEVEL 04	13
LEVEL 04A	14
LEVEL 05	15
LEVEL 05A	16
LEVEL 06	17
LEVEL 06A	18

PACKAGE CODE	(X)
EARLY WORKS	0
FLOOR PLANS	1
PARTITION PLANS	2
CONCRETE	3
CEILINGS	4
OTHER PLANS	5

ZONE CODE	(Z)
A1	0
A2	1
A3	2
B1	3
B2	4
B3	5
C1	6
C2	7
C3	8
D2	9
D3	

DRAWING No.
LEVEL CODE — ZONE CODE
X YY Z
PACKAGE

ROOM NUMBERING CONVENTION

STOREY CODE	(XX)
BASEMENT 2	B2
BASEMENT 1	B1
LOWER GROUND	LG
LOWER GROUND A	LGA
LEVEL 00	00
LEVEL 00A	00A
LEVEL 01	01
LEVEL 01A	01A
LEVEL 02	02
LEVEL 02A	02A
LEVEL 03	03
LEVEL 03A	03A
LEVEL 04	04
LEVEL 04A	04A
LEVEL 05	05
LEVEL 05A	05A
LEVEL 06	06
LEVEL 06A	06A

ZONE CODE	(Y)
A1	0
A2	1
A3	2
B1	3
B2	4
B3	5
C1	6
C2	7
C3	8
D3	9

ROOM No.
ZONE
XX.Y##
STOREY — NUMBER

REV	DATE	DESCRIPTION
10	3/10/19	CARPARK NUMBERS UPDATED
		TRAFFIC ENGINEERS COMMENTS INCORPORATED
		FLOOD BARRIER ADDED
		HOB ADDED FOR FLOOD RETENTION
09	16/9/19	BUNDING AMENDMENT
		NEW FIRE SERVICES
		STRUCTURAL CHANGE
		STRENGTHENING CHANGED
		GMP ISSUE
		NEW LIFT 1&2 ADDED
		SHEAR WALL OPENING AMENDED AND STORAGE ADDED
		NEW DOOR TO BE ADDED
		PEDESTRIAN CROSSING ADDED
08	30/8/19	AMENDED ADDITIONAL CARSPACES
		STRUCTURE AMENDED
		STRUCTURE ADDED
		COLUMN STRENGTHENING AMENDED
		LIFT NAME CHANGE
		NEW STABILITY WALL
		CARPARK NUMBERS UPDATED
07	29/7/19	NEW DAF PLANT LOCATION
		RISER AMENDED
		COLUMN STRENGTHENING COORDINATION
		AMENDED FLOOD RETENTION HOB HEIGHT
06	14/6/19	RISER NUMBERING AMENDED
		REMOVED SHEAR WALL

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PRINCIPAL ARCHITECT

make
Suite 3.03 Level 3 309 George Street, Sydney NSW 2000 (T) +61 2 8316 8050

PROJECT MANAGER
ESSENCE
Level 17 Australia Square, 264 George Street, Sydney NSW 2000 (T) +61 2 9052 8925

STRUCTURAL / FACADE
ARUP
Level 10 201 Kent Street, Sydney NSW 2000 (T) +61 2 9320 9320

MECHANICAL / ELECTRICAL / DRY FIRE
NORMAN DISNEY & YOUNG
Level 7 60 Miller Street, North Sydney NSW 2060 (T) +61 2 9928 6800

CIVIL / HYDRAULICS / WET FIRE
CJ ARMS & ASSOCIATES
The Loft Level 2 Per 9/9.23 Hickson Road, Millers Point NSW 2000 (T) +61 2 8236 8370

BUILDING CERTIFIER
MCKENZIE GROUP
Level 6 189 Kent Street, Sydney NSW 2000 (T) +61 2 8298 6800

LANDSCAPE ARCHITECT
LAT27
Level 5 500 Ann Street, Brisbane QLD 4000 (T) +61 7 3236 1086

TRAFFIC ENGINEER
GTA CONSULTANTS
Level 16 207 Kent Street, Sydney NSW 2000 (T) +61 2 8448 1800

FIRE ENGINEERING
DEFIRE
Suite B22 Level 8 383 Kent Street, Sydney NSW 2000 (T) +61 2 8270 7600

Accessibility
MORRIS GODING CONSULTING
Studio 1& 3& Bowman Street, Pyrmont NSW 2009 (T) +61 2 9692 9322

CLIENT

VICINITY CENTRES
Level 39, MLC Centre 19 Martin Place Sydney NSW 2000 (T)+61 2 8299 7705

PROJECT
CHATSWOOD CHASE
345 VICTORIA AVENUE
CHATSWOOD, NSW, 2067

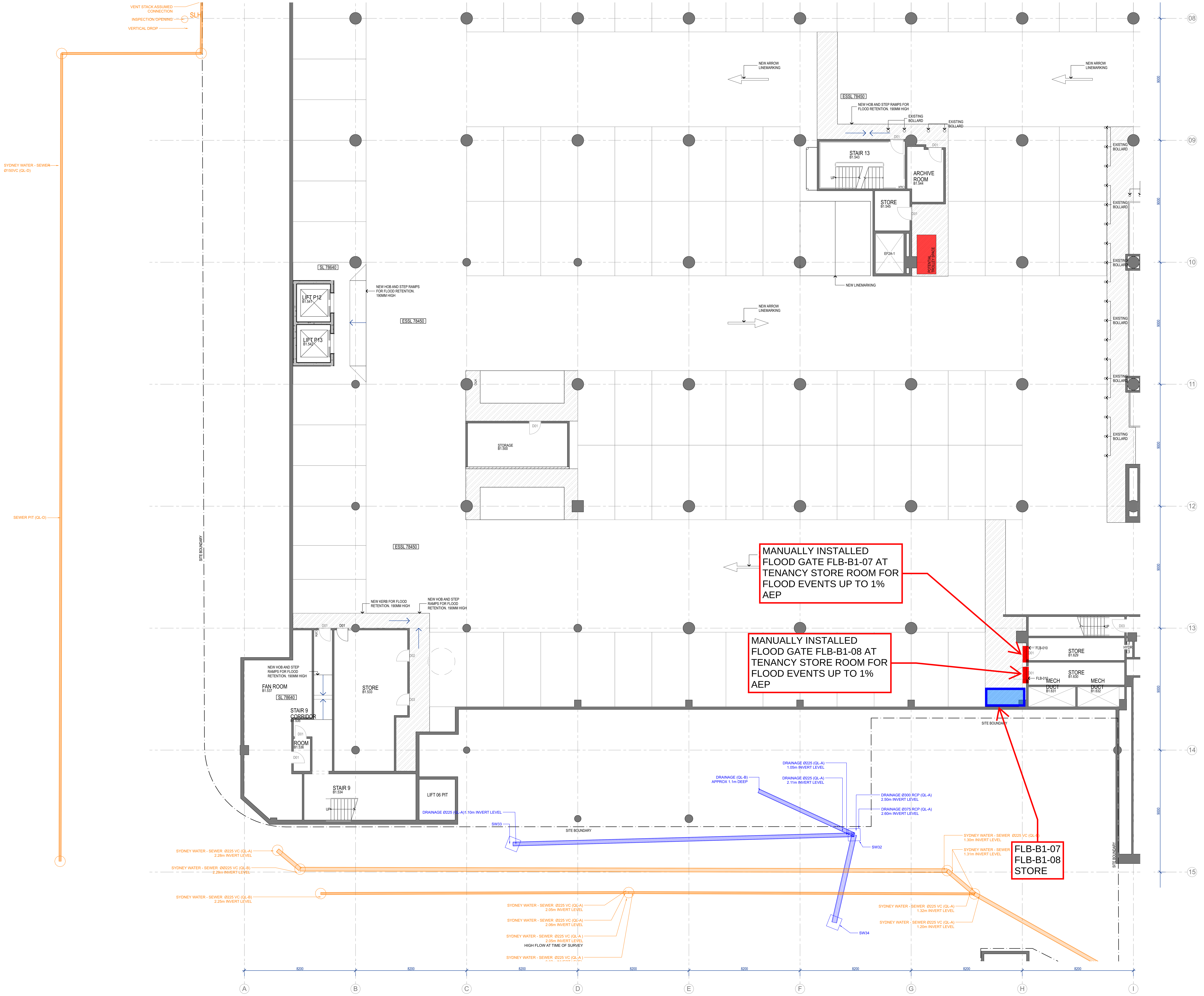
TITLE
FLOOR PLAN - BASEMENT 1 ZONE B3

ISSUED STATUS
FOR TENDER

SCALE @ A1	DRAWN	APPROVED	FIRST ISSUE DATE
1:100	WEB	MVS	31/10/18
PROJECT CODE	PLAN ZONE	SHEET NO.	REVISION
18300	B3	AR1024	10

Date Printed: 3/10/19

REFER TO AR1022 FOR CONTINUATION



REFER TO AR1026 FOR CONTINUATION

REFER TO AR1028 FOR CONTINUATION

REV	DATE	DESCRIPTION
10	3/10/19	CARPARK NUMBERS UPDATED; TRAFFIC ENGINEERS COMMENTS INCORPORATED
09	16/9/19	FLOOD BARRIER ADDED; BUNDING AMENDMENT; NEW FIRE SERVICES; GMP ISSUE
08	30/8/19	PEDESTRIAN CROSSING ADDED; AMENDED ADDITIONAL CARSPACES; COLUMN STRENGTHENING AMENDED
07	29/7/19	CARPARK NUMBERS UPDATED
06	14/6/19	AMENDED FLOOD RETENTION HOB HEIGHT; RISER NUMBERING AMENDED
05	27/5/19	EARLY WORKS TENDER ISSUE
04	13/5/19	FOR CO-ORDINATION
03	29/4/19	ISSUED FOR SYDNEY WATER BPA
02	14/11/18	70% EARLYWORK TENDER ISSUE
01	31/10/18	INFORMATION ISSUE

WEBBER INTELLIGENT CONSTRUCTION

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PROJECT
CHATSWOOD CHASE
345 VICTORIA AVENUE
CHATSWOOD, NSW, 2067

TITLE
FLOOR PLAN - BASEMENT 1 ZONE C1

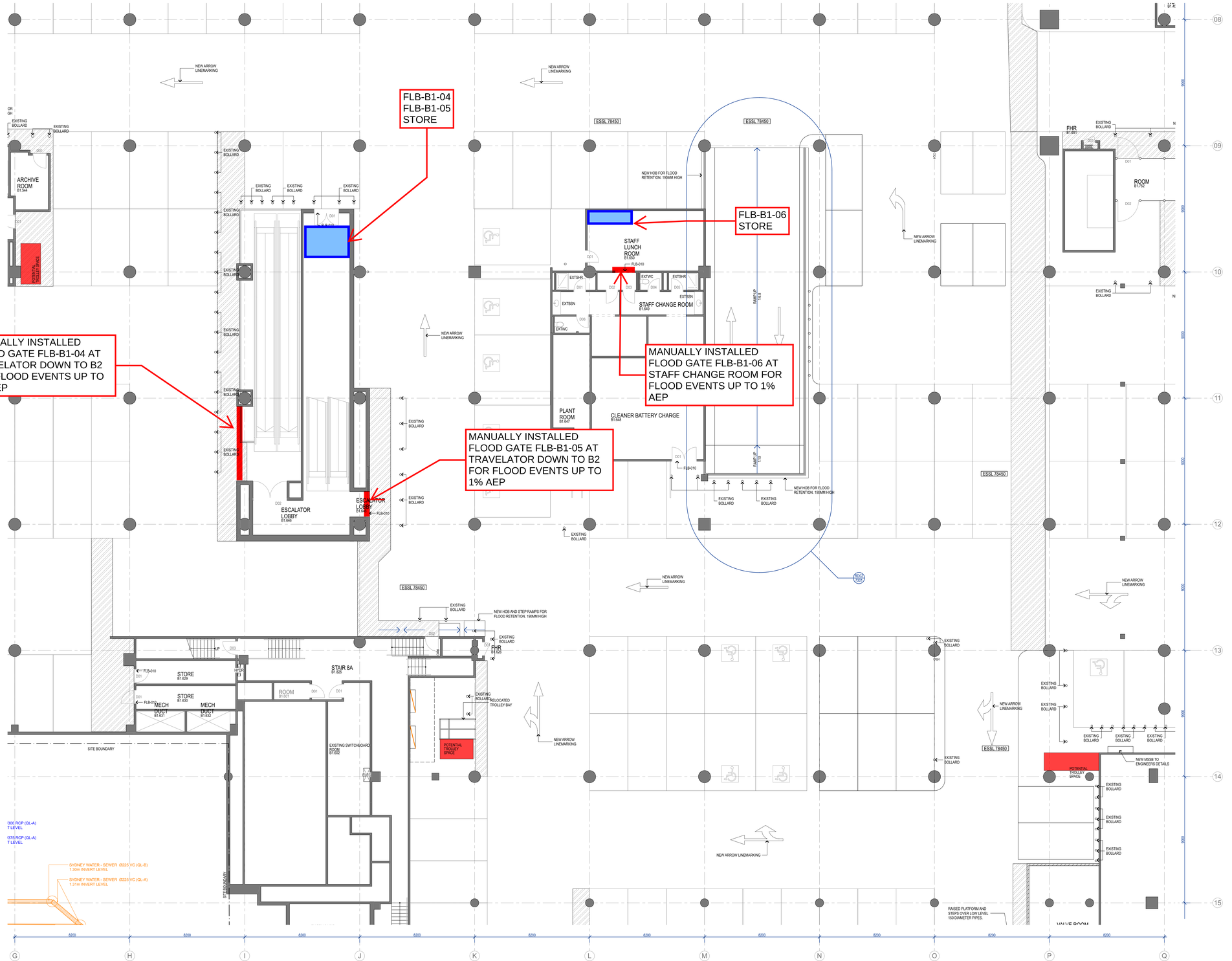
FOR TENDER

SCALE @ A0	DRAWN	APPROVED	FIRST ISSUE DATE
1:100	WEB	MVS	31/10/18

PROJECT CODE	PLAN ZONE	SHEET NO	REVISION
18300	C1	AR1025	10

REFER TO AR1023 FOR CONTINUATION

REFER TO AR1025 FOR CONTINUATION



REFER TO AR1029 FOR CONTINUATION

REFER TO AR1027 FOR CONTINUATION

FLOOR PLAN NOTES:

COLUMN STRENGTHENING

ROOM — REFER WEBBER SERIES 7800 AND STRUCTURAL ENGINEER FOR DETAILS. TO BE COORDINATED WITH SERVICES TRADES TO ENSURE SERVICES ON COLUMNS TO BE STRENGTHENED ARE REMOVED TEMPORARILY RELOCATED AND REINSTATED ON COMPLETION

RECONSTRUCT WALLS KERBS ETC IF RETAINED IN THE NEW SCHEME. TYING INTO NEW AND EXISTING WORKS

REMOVE EXISTING SIGNAGE AS REQUIRED AT COLUMN STRENGTHENING. REINSTATE AT COMPLETION OF COLUMN STRENGTHENING.

ALL EXISTING AND NEW BASEMENT & NORTHERN CARPARK COLUMNS TO BE PAINTED U.N.O.

FOR NEW FLOOR, WALL OR CEILING FINISHES REFER TO MAKE'S DRAWINGS AND SPECIFICATIONS.

SERVICES CONSULTANTS TO CONFIRM BUILDERS WORK ITEMS WITHIN SERVICES ROOMS, w FLOOR FINISHES, WALL FINISHES, PENETRATIONS etc.

ALL NEW KERBS TO BE PAINTED WITH ROADMASTER PAINT- YELLOW.

DOOR TYPES
REFER TO MAKE DRAWINGS FOR DOOR TYPE DETAILS.

GLAZING TYPES
REFER TO MAKE DRAWINGS FOR GLAZING DETAILS

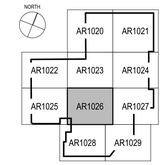
PARTITIONS
REFER TO MAKE DRAWINGS 4200 SERIES FOR WALL TYPE DETAILS.

LEGEND:

VERTICAL ELEMENTS TO REMAIN. FOR EXAMPLE COLUMNS AND WALLS.

HORIZONTAL ELEMENTS TO REMAIN. FOR EXAMPLE FLOOR SLABS, KERBS, STAIRS AND RAMPS

KEY



ZONE PLAN NUMBERING CONVENTION

LEVEL CODE	(YY)
BASEMENT 2	01
BASEMENT 1	02
LOWER GROUND	03
LOWER GROUND A	04
LEVEL 00	05
LEVEL 00A	06
LEVEL 01	07
LEVEL 01A	08
LEVEL 02	09
LEVEL 02A	10
LEVEL 03	11
LEVEL 03A	12
LEVEL 04	13
LEVEL 04A	14
LEVEL 05	15
LEVEL 05A	16
LEVEL 06	17
LEVEL 06A	18

PACKAGE CODE	(X)
EARLY WORKS	0
FLOOR PLANS	1
PARTITION PLANS	2
CONCRETE	3
CEILINGS	4
OTHER PLANS	5

ZONE CODE	(Z)
A1	0
A2	1
A3	2
B1	3
B2	4
B3	5
C1	6
C2	7
C3	8
D2	9
D3	

DRAWING No.
LEVEL CODE — ZONE CODE
X YY Z
PACKAGE

ROOM NUMBERING CONVENTION

STOREY CODE	(XX)
BASEMENT 2	B2
BASEMENT 1	B1
LOWER GROUND	LG
LOWER GROUND A	LGA
LEVEL 00	00
LEVEL 00A	00A
LEVEL 01	01
LEVEL 01A	01A
LEVEL 02	02
LEVEL 02A	02A
LEVEL 03	03
LEVEL 03A	03A
LEVEL 04	04
LEVEL 04A	04A
LEVEL 05	05
LEVEL 05A	05A
LEVEL 06	06
LEVEL 06A	06A

ZONE CODE	(Y)
A2	0
A3	1
B1	2
B2	3
B3	4
C1	5
C2	6
C3	7
D2	8
D3	9

ROOM No.
ZONE
XX.Y##
STOREY — NUMBER

PARKING COUNT BY TYPE

TYPE	QTY
RETAIL	
ACCESSIBLE	77
PRAM PARKING	22
SMALL CAR	227
STANDARD CAR	2161
VALET	28
COMMERCIAL	
ACCESSIBLE	2
COMMERCIAL	45
SMALL CAR	15
	2577

PARKING COUNT BY LEVEL & TYPE

TYPE	QTY
LEVEL B2, Existing	
ACCESSIBLE	4
SMALL CAR	7
STANDARD CAR	415
LEVEL B2, New	
SMALL CAR	8
STANDARD CAR	39
	462
LEVEL B1, Existing	
ACCESSIBLE	34
SMALL CAR	32
STANDARD CAR	427
LEVEL B1, New	
SMALL CAR	18
STANDARD CAR	35
	546
LEVEL 00, Existing	
STANDARD CAR	9
LEVEL 00, New	
ACCESSIBLE	2
STANDARD CAR	21
	32
LEVEL 00A, Existing	
SMALL CAR	2
STANDARD CAR	33
LEVEL 00A, New	
SMALL CAR	16
STANDARD CAR	19
	110
LEVEL 01, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01, New	
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	81
VALET	28
	177
LEVEL 01A, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01A, New	
ACCESSIBLE	12
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	92
	172
LEVEL 02, Existing	
STANDARD CAR	3
LEVEL 02, New	
ACCESSIBLE	12
PRAM PARKING	6
SMALL CAR	15
STANDARD CAR	128
	164
LEVEL 02A, New	
ACCESSIBLE	12
PRAM PARKING	2
SMALL CAR	18
STANDARD CAR	142
	174
LEVEL 03, New	
ACCESSIBLE	3
COMMERCIAL	45
SMALL CAR	25
STANDARD CAR	112
	185
LEVEL 03A, New	
PRAM PARKING	5
SMALL CAR	22
STANDARD CAR	161
	188
LEVEL 04, New	
PRAM PARKING	3
SMALL CAR	19
STANDARD CAR	156
	178
LEVEL 04A, New	
SMALL CAR	8
STANDARD CAR	181
	189
	2577

MOTORCYCLE COUNT

LEVEL	QTY
LEVEL B2	17
LEVEL B1	18
LEVEL 00	7
LEVEL 00A	2
LEVEL 01	2
LEVEL 02	10
LEVEL 02A	15
LEVEL 03	2
LEVEL 03A	9
LEVEL 04	9
LEVEL 04A	13
	104

REV	DATE	DESCRIPTION
10	3/10/19	CARPARK NUMBERS UPDATED
		TRAFFIC ENGINEERS COMMENTS INCORPORATED
		FLOOD BARRIER ADDED
		BUNDING AMENDMENT
09	16/9/19	NEW FIRE SERVICES
		GMP ISSUE
		PEDESTRIAN CROSSING ADDED
08	30/8/19	AMENDED ADDITIONAL CARSPACES
		COLUMN STRENGTHENING AMENDED
		NEW SLAB AND LINE MARKING
		CARPARK NUMBERS UPDATED
07	29/7/19	RISER AMENDED
		NEW RAMP B2 TO B1
06	14/6/19	AMENDED FLOOD RETENTION HOB HEIGHT
		RISER NUMBERING AMENDED
05	27/5/19	EARLY WORKS TENDER ISSUE
04	13/5/19	FOR CO-ORDINATION
03	29/4/19	ISSUED FOR SYDNEY WATER BPA
02	14/11/18	70% EARLYWORK TENDER ISSUE
01	31/10/18	INFORMATION ISSUE

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CJ ARMS & ASSOCIATES
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Suite B02 Level 8 383 Kent Street, Sydney NSW 2000 (T) +61 2 8270 7600

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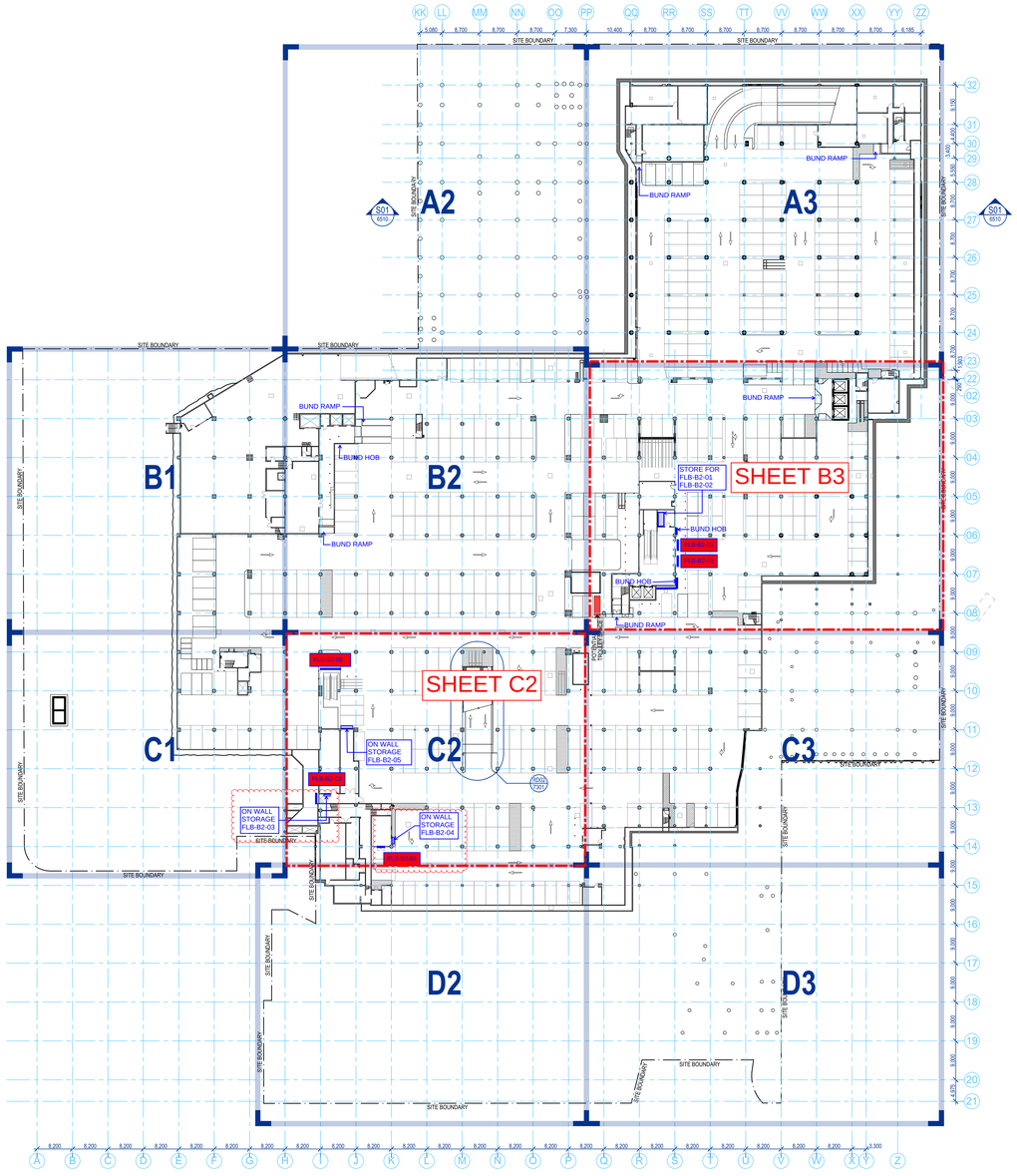
PROJECT
CHATSWOOD CHASE
345 VICTORIA AVENUE
CHATSWOOD, NSW, 2067

TITLE
FLOOR PLAN - BASEMENT 1 ZONE C2

ISSUED STATUS
FOR TENDER

SCALE @ A1	DRAWN	APPROVED	FIRST ISSUE DATE
1:100	WEB	MVS	31/10/18
PROJECT CODE	PLAN ZONE	SHEET NO.	REVISION
18300	C2	AR1026	10

Date Printed: 3/10/19



CJ ARMS

DESIGN · SCIENCE · LANDSCAPE · CIVIL · MODELLING · HYDRAULICS

BASEMENT 2 FLOOD BARRIER LOCATIONS

13/03/2020

REFER TO AR1011 FOR CONTINUATION

REFER TO AR1013 FOR CONTINUATION

REFER TO AR1017 FOR CONTINUATION

FLB-B2-01
FLB-B2-02
STORE

MANUALLY INSTALLED FLOOD GATE FLB-B2-01 AT TRAVELATOR FROM B1 FOR FLOOD EVENTS UP TO 1% AEP

MANUALLY INSTALLED FLOOD GATE FLB-B2-02 AT TRAVELATOR FROM B1 FOR FLOOD EVENTS UP TO 1% AEP

DRAINAGE Ø750 RCP (QL-A) 1.39m INVERT LEVEL
SW04
DRAINAGE Ø750 RCP (QL-A) 1.39m INVERT LEVEL
RELOCATED TROLLEY BAY
EXISTING KERB
NEW ARROW LINEMARKING
NEW LINEMARKING
EXISTING TROLLEY BAYS REINSTATED
EXISTING BOLLARD
EXISTING LINEMARKING
CM STORAGE B2.474
FHR B2.470
NEW HOB FOR FLOOD RETENTION. 190MM HIGH
ESCALATOR LOBBY B2.472
EXHAUST RISER B2.387
EXHAUST LOUVRES ALL SIDES
STAIR 5 B2.469
LIFT P08 B2.470
LIFT P07 B2.471
FLB STORE B2.470
SMALL CAR
DOORS MODIFIED TO SUIT BUND
NEW KERB AND STEP RAMP FOR FLOOD RETENTION. 190MM HIGH
ESSL 75800
NEW HOB AND STEP RAMP FOR FLOOD RETENTION. 190MM HIGH
LIFT P09 B2.417
LIFT P10 B2.418
LIFT P11 B2.419
SL 75990
STAIR 3 B2.416
STAIR 3A B2.414
RELOCATED TROLLEY BAY
STORAGE B2.415
CARPARK @ GRIDS Y,07 B2.047
EXISTING CONCRETE SLEEPER RETAINING WALL
COLUMNS ON HOLD BY ARUP
STAIR 19 B2.420
SYDNEY WATER - SEWER Ø150 SGW (QL-B)
SYDNEY WATER - SEWER Ø150 SGW (QL-B) APPROX 2.20-2.30m DEEP
DRAINAGE Ø750 RCP (QL-B) APPROX 0.85m DEEP, EOT
DRAINAGE Ø750 RCP (QL-A) 1.46m INVERT LEVEL
SW09
DRAINAGE Ø750 RCP (QL-A) 1.49m INVERT LEVEL
SW10 BLIND PIT
DRAINAGE Ø750 RCP (QL-A) 1.26m INVERT LEVEL
DRAINAGE Ø750 RCP (QL-A) 1.80m INVERT LEVEL
SW08
DRAINAGE Ø750 RCP (QL-A) 1.85m INVERT LEVEL
DRAINAGE Ø900 RCP 1.41m INVERT LEVEL
SW24
DRAINAGE Ø900 RCP 1.41m INVERT LEVEL
DRAINAGE Ø375 RC 1.39m INVERT LEVE
DRAINAGE Ø525 RC 1.40m INVERT LEVE
DRAINAGE Ø375 I 0.70m INVERT LEV
SITE BOUNDARY
EXISTING CONCRETE SLEEPER RETAINING WALL.

8200 | 8200 | 8200 | 8200 | 8200 | 8200 | 8200 | 8200 | 3300

P Q R S T U V W X Y

23 22 21 03 04 05 06 07 08 09

8000 | 8000 | 8000 | 8000 | 8000

FLOOR PLAN NOTES:

COLUMN STRENGTHENING

AC04 REFER WEBBER SERIES 7800 AND STRUCTURAL ENGINEER FOR DETAILS. TO BE COORDINATED WITH SERVICES TRADES TO ENSURE SERVICES ON COLUMNS TO BE STRENGTHENED ARE REMOVED TEMPORARILY RELOCATED AND REINSTATED ON COMPLETION

RECONSTRUCT WALLS KERBS ETC IF RETAINED IN THE NEW SCHEME. TYING INTO NEW AND EXISTING WORKS

REMOVE EXISTING SIGNAGE AS REQUIRED AT COLUMN STRENGTHENING. REINSTATE AT COMPLETION OF COLUMN STRENGTHENING.

ALL EXISTING AND NEW BASEMENT & NORTHERN CARPARK COLUMNS TO BE PAINTED U.N.O.

FOR NEW FLOOR, WALL OR CEILING FINISHES REFER TO MAKE'S DRAWINGS AND SPECIFICATIONS.

SERVICES CONSULTANTS TO CONFIRM BUILDERS WORK ITEMS WITHIN SERVICES ROOMS, ie FLOOR FINISHES, WALL FINISHES, PENETRATIONS etc.

ALL NEW KERBS TO BE PAINTED WITH ROADMASTER PAINT-YELLOW.

DOOR TYPES
REFER TO MAKE DRAWINGS FOR DOOR TYPE DETAILS.

GLAZING TYPES
REFER TO MAKE DRAWINGS FOR GLAZING DETAILS

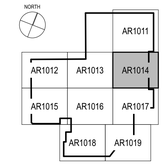
PARTITIONS
REFER TO MAKE DRAWINGS 4200 SERIES FOR WALL TYPE DETAILS.

LEGEND:

VERTICAL ELEMENTS TO REMAIN. FOR EXAMPLE COLUMNS AND WALLS.

HORIZONTAL ELEMENTS TO REMAIN. FOR EXAMPLE FLOOR SLABS, KERBS, STAIRS AND RAMPS

KEY



ZONE PLAN NUMBERING CONVENTION

LEVEL CODE	(YY)
BASEMENT 2	01
BASEMENT 1	02
LOWER GROUND	03
LOWER GROUND A	04
LEVEL 00	05
LEVEL 00A	06
LEVEL 01	07
LEVEL 01A	08
LEVEL 02	09
LEVEL 02A	10
LEVEL 03	11
LEVEL 03A	12
LEVEL 04	13
LEVEL 04A	14
LEVEL 05	15
LEVEL 05A	16
LEVEL 06	17
LEVEL 06A	18

PACKAGE CODE	(X)
EARLY WORKS	0
FLOOR PLANS	1
PARTITION PLANS	2
CONCRETE	3
CEILINGS	4
OTHER PLANS	5

ZONE CODE	(Z)
A1	0
A2	1
A3	2
B1	3
B2	4
B3	5
C1	6
C2	7
C3	8
D2	9
D3	

DRAWING No.
LEVEL CODE — ZONE CODE
X YY Z
PACKAGE

ROOM NUMBERING CONVENTION

STOREY CODE	(XX)
BASEMENT 2	B2
BASEMENT 1	B1
LOWER GROUND	LG
LOWER GROUND A	LGA
LEVEL 00	00
LEVEL 00A	00A
LEVEL 01	01
LEVEL 01A	01A
LEVEL 02	02
LEVEL 02A	02A
LEVEL 03	03
LEVEL 03A	03A
LEVEL 04	04
LEVEL 04A	04A
LEVEL 05	05
LEVEL 05A	05A
LEVEL 06	06
LEVEL 06A	06A

ZONE CODE	(Y)
A2	0
A3	1
B1	2
B2	3
B3	4
C1	5
C2	6
C3	7
D2	8
D3	9

ROOM No.
ZONE
XX.Y##
STOREY — NUMBER

PARKING COUNT BY TYPE

TYPE	QTY
RETAIL	
ACCESSIBLE	77
PRAM PARKING	22
SMALL CAR	227
STANDARD CAR	2161
VALET	28
COMMERCIAL	
ACCESSIBLE	2
COMMERCIAL	45
SMALL CAR	15
	2577

PARKING COUNT BY LEVEL & TYPE

	QTY
LEVEL B2, Existing	
ACCESSIBLE	4
SMALL CAR	7
STANDARD CAR	415
LEVEL B2, New	
SMALL CAR	8
STANDARD CAR	28
	462
LEVEL B1, Existing	
ACCESSIBLE	34
SMALL CAR	32
STANDARD CAR	427
LEVEL B1, New	
SMALL CAR	18
STANDARD CAR	35
	546
LEVEL 00, Existing	
STANDARD CAR	9
LEVEL 00, New	
ACCESSIBLE	2
STANDARD CAR	21
	32
LEVEL 00A, Existing	
SMALL CAR	2
STANDARD CAR	33
LEVEL 00A, New	
SMALL CAR	16
STANDARD CAR	59
	110
LEVEL 01, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01, New	
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	81
VALET	28
	177
LEVEL 01A, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01A, New	
ACCESSIBLE	12
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	92
	172
LEVEL 02, Existing	
STANDARD CAR	3
LEVEL 02, New	
ACCESSIBLE	12
PRAM PARKING	6
SMALL CAR	15
STANDARD CAR	129
	164
LEVEL 02A, New	
ACCESSIBLE	12
PRAM PARKING	2
SMALL CAR	18
STANDARD CAR	142
	174
LEVEL 03, New	
ACCESSIBLE	3
COMMERCIAL	45
SMALL CAR	25
STANDARD CAR	112
	185
LEVEL 03A, New	
PRAM PARKING	5
SMALL CAR	22
STANDARD CAR	161
	188
LEVEL 04, New	
PRAM PARKING	3
SMALL CAR	19
STANDARD CAR	156
	178
LEVEL 04A, New	
SMALL CAR	8
STANDARD CAR	181
	189
	2577

MOTORCYCLE COUNT

LEVEL	QTY
LEVEL B2	17
LEVEL B1	18
LEVEL 00	7
LEVEL 00A	2
LEVEL 01	2
LEVEL 02	10
LEVEL 02A	15
LEVEL 03	2
LEVEL 03A	9
LEVEL 04	9
LEVEL 04A	13
	104

REV	DATE	DESCRIPTION
10	3/10/19	CARPARK NUMBERS UPDATED
		TRAFFIC ENGINEERS COMMENTS INCORPORATED
		FLOOD BARRIER ADDED
		HOB ADDED FOR FLOOD RETENTION
09	16/9/19	BUNDING AMENDMENT
		NEW FIRE SERVICES
		STRENGTHENING CHANGED
		GMP ISSUE
		PEDESTRIAN CROSSING ADDED
		AMENDED ADDITIONAL CARSPACES
08	30/8/19	NEW COLUMNS DELETED
		COLUMN STRENGTHENING AMENDED
		LIFT NAME CHANGE
		CARPARK NUMBERS UPDATED
		REINSTATED EXISTING PARKING SPACES & FENCE
07	29/7/19	AMENDED BUNDING EXTENT
		RISER AMENDED
		FOOTINGS COORDINATION
		COLUMN STRENGTHENING COORDINATION
		AMENDED FLOOD RETENTION HOB HEIGHT
06	14/6/19	RISER NUMBERING AMENDED
		REMOVED SHEAR WALL
		NEW DAF PLANT LOCATION
05	27/5/19	EARLY WORKS TENDER ISSUE
04	13/5/19	FOR CO-ORDINATION
03	29/4/19	ISSUED FOR SYDNEY WATER BPA

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CIVIL / HYDRAULICS / WET FIRE
CJ ARMS & ASSOCIATES
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PROJECT
CHATSWOOD CHASE
345 VICTORIA AVENUE
CHATSWOOD, NSW, 2067

TITLE
FLOOR PLAN - BASEMENT 2 ZONE B3

ISSUED STATUS
FOR TENDER

SCALE @ A0	DRAWN	APPROVED	FIRST ISSUE DATE
1:100	WEB	MVS	31/10/18
PROJECT CODE	PLAN ZONE	SHEET NO.	REVISION
18300	B3	AR1014	10

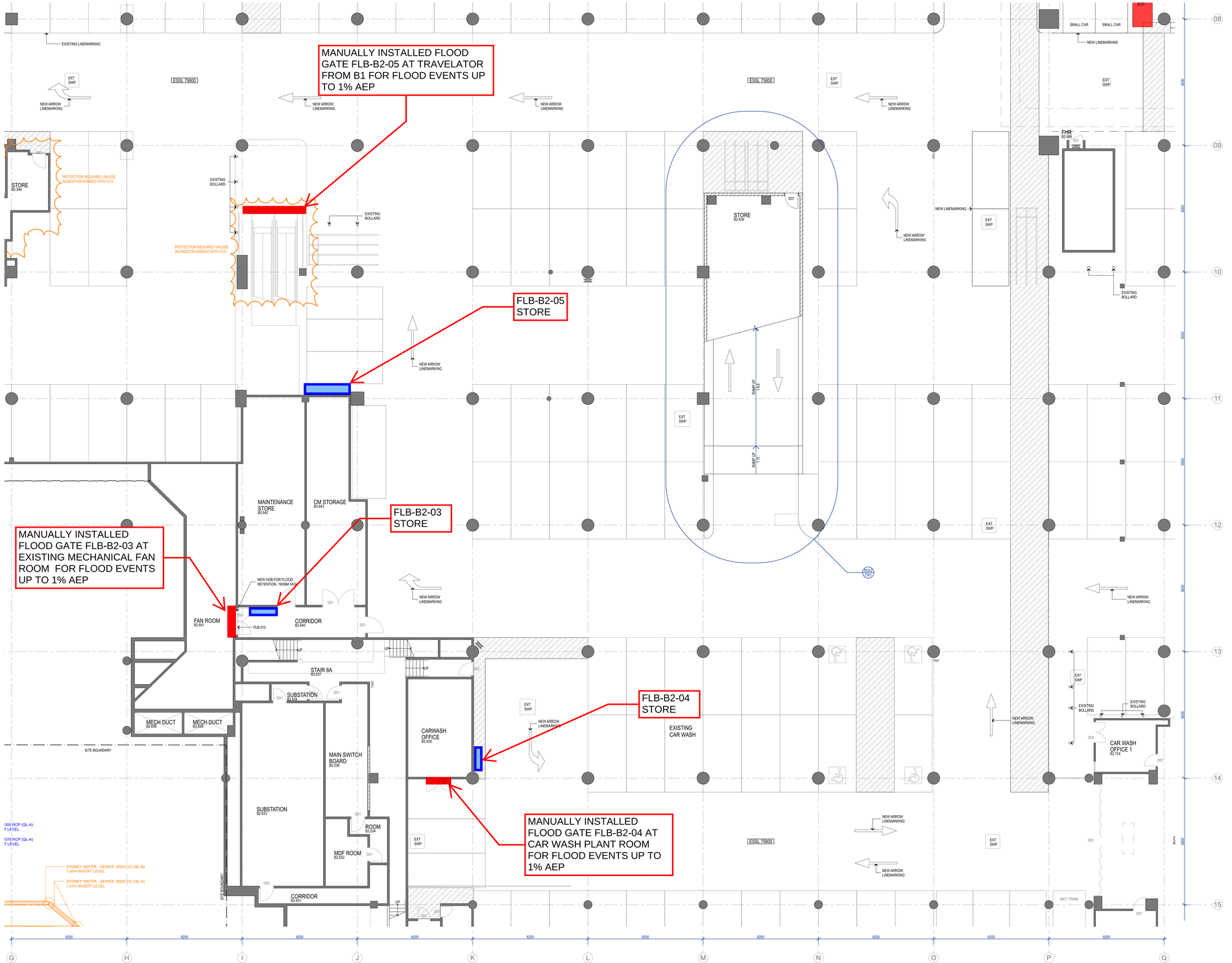
Date Printed: 3/10/19

REFER TO AR1013 FOR CONTINUATION

REFER TO AR1015 FOR CONTINUATION

REFER TO AR1017 FOR CONTINUATION

REFER TO AR1019 FOR CONTINUATION



FLOOR PLAN NOTES:

COLUMN STRENGTHENING

ROCK — REFER WEBBER SERIES 7800 AND STRUCTURAL ENGINEER FOR DETAILS. TO BE COORDINATED WITH SERVICES TRADES TO ENSURE SERVICES ON COLUMNS TO BE STRENGTHENED ARE REMOVED TEMPORARILY RELOCATED AND REINSTATED ON COMPLETION

RECONSTRUCT WALLS KERBS ETC IF RETAINED IN THE NEW SCHEME. TYING INTO NEW AND EXISTING WORKS

REMOVE EXISTING SIGNAGE AS REQUIRED AT COLUMN STRENGTHENING. REINSTATE AT COMPLETION OF COLUMN STRENGTHENING.

ALL EXISTING AND NEW BASEMENT & NORTHERN CARPARK COLUMNS TO BE PAINTED U.N.O.

FOR NEW FLOOR, WALL OR CEILING FINISHES REFER TO MAKE'S DRAWINGS AND SPECIFICATIONS.

SERVICES CONSULTANTS TO CONFIRM BUILDERS WORK ITEMS WITHIN SERVICES ROOMS, ie FLOOR FINISHES, WALL FINISHES, PENETRATIONS etc.

ALL NEW KERBS TO BE PAINTED WITH ROADMASTER PAINT- YELLOW.

DOOR TYPES
REFER TO MAKE DRAWINGS FOR DOOR TYPE DETAILS.

GLAZING TYPES
REFER TO MAKE DRAWINGS FOR GLAZING DETAILS

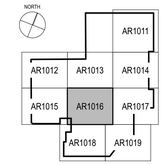
PARTITIONS
REFER TO MAKE DRAWINGS 4200 SERIES FOR WALL TYPE DETAILS.

LEGEND:

VERTICAL ELEMENTS TO REMAIN. FOR EXAMPLE COLUMNS AND WALLS.

HORIZONTAL ELEMENTS TO REMAIN. FOR EXAMPLE FLOOR SLABS, KERBS, STAIRS AND RAMPS

KEY



ZONE PLAN NUMBERING CONVENTION

LEVEL CODE	(YY)
BASEMENT 2	01
BASEMENT 1	02
LOWER GROUND	03
LOWER GROUND A	04
LEVEL 00	05
LEVEL 00A	06
LEVEL 01	07
LEVEL 01A	08
LEVEL 02	09
LEVEL 02A	10
LEVEL 03	11
LEVEL 03A	12
LEVEL 04	13
LEVEL 04A	14
LEVEL 05	15
LEVEL 05A	16
LEVEL 06	17
LEVEL 06A	18

PACKAGE CODE	(X)
EARLY WORKS	0
FLOOR PLANS	1
PARTITION PLANS	2
CONCRETE	3
CEILINGS	4
OTHER PLANS	5

ZONE CODE	(Z)
A1	0
A2	1
A3	2
B1	3
B2	4
B3	5
C1	6
C2	7
C3	8
D2	9
D3	

DRAWING No.
LEVEL CODE — ZONE CODE
X YY Z
PACKAGE

ROOM NUMBERING CONVENTION

STOREY CODE	(XX)
BASEMENT 2	B2
BASEMENT 1	B1
LOWER GROUND	LG
LOWER GROUND A	LGA
LEVEL 00	00
LEVEL 00A	00A
LEVEL 01	01
LEVEL 01A	01A
LEVEL 02	02
LEVEL 02A	02A
LEVEL 03	03
LEVEL 03A	03A
LEVEL 04	04
LEVEL 04A	04A
LEVEL 05	05
LEVEL 05A	05A
LEVEL 06	06
LEVEL 06A	06A

ZONE CODE	(Y)
A2	0
A3	1
B1	2
B2	3
B3	4
C1	5
C2	6
C3	7
D2	8
D3	9

ROOM No.
ZONE
XX.Y##
STOREY — NUMBER

PARKING COUNT BY TYPE

TYPE	QTY
RETAIL	
ACCESSIBLE	77
PRAM PARKING	22
SMALL CAR	227
STANDARD CAR	2161
VALET	28
COMMERCIAL	
ACCESSIBLE	2
COMMERCIAL	45
SMALL CAR	15
	2577

PARKING COUNT BY LEVEL & TYPE

	QTY
LEVEL B2, Existing	
ACCESSIBLE	4
SMALL CAR	7
STANDARD CAR	415
LEVEL B2, New	
SMALL CAR	8
STANDARD CAR	28
	462
LEVEL B1, Existing	
ACCESSIBLE	34
SMALL CAR	32
STANDARD CAR	427
LEVEL B1, New	
SMALL CAR	18
STANDARD CAR	35
	546
LEVEL 00, Existing	
STANDARD CAR	9
LEVEL 00, New	
ACCESSIBLE	2
STANDARD CAR	21
	32
LEVEL 00A, Existing	
SMALL CAR	2
STANDARD CAR	33
LEVEL 00A, New	
SMALL CAR	16
STANDARD CAR	59
	110
LEVEL 01, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01, New	
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	81
VALET	28
	177
LEVEL 01A, Existing	
SMALL CAR	4
STANDARD CAR	39
LEVEL 01A, New	
ACCESSIBLE	12
PRAM PARKING	3
SMALL CAR	22
STANDARD CAR	70
	172
LEVEL 02, Existing	
STANDARD CAR	3
LEVEL 02, New	
ACCESSIBLE	12
PRAM PARKING	6
SMALL CAR	15
STANDARD CAR	126
	164
LEVEL 02A, New	
ACCESSIBLE	12
PRAM PARKING	2
SMALL CAR	18
STANDARD CAR	142
	174
LEVEL 03, New	
ACCESSIBLE	3
COMMERCIAL	45
SMALL CAR	25
STANDARD CAR	112
	185
LEVEL 03A, New	
PRAM PARKING	5
SMALL CAR	22
STANDARD CAR	161
	188
LEVEL 04, New	
PRAM PARKING	3
SMALL CAR	19
STANDARD CAR	156
	178
LEVEL 04A, New	
SMALL CAR	8
STANDARD CAR	181
	189
	2577

MOTORCYCLE COUNT

LEVEL	QTY
LEVEL B2	17
LEVEL B1	18
LEVEL 00	7
LEVEL 00A	2
LEVEL 01	2
LEVEL 02	10
LEVEL 02A	15
LEVEL 03	2
LEVEL 03A	9
LEVEL 04	9
LEVEL 04A	13
	104

REV	DATE	DESCRIPTION
09	3/10/19	CARPARK NUMBERS UPDATED
		TRAFFIC ENGINEERS COMMENTS INCORPORATED
		FLOOD BARRIER ADDED
08	16/9/19	BUNDING AMENDMENT
		NEW FIRE SERVICES
		GMP ISSUE
07	30/8/19	PEDESTRIAN CROSSING ADDED
		NEW SLAB AND LINE MARKING
		CARPARK NUMBERS UPDATED
06	29/7/19	NEW RAMP B2 TO B1
		RISER NUMBERING AMENDED
05	27/5/19	EARLY WORKS TENDER ISSUE
04	13/5/19	FOR CO-ORDINATION
03	29/4/19	ISSUED FOR SYDNEY WATER BPA
02	14/11/18	70% EARLYWORK TENDER ISSUE
01	31/10/18	INFORMATION ISSUE

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PROJECT

CHATSWOOD CHASE

345 VICTORIA AVENUE
CHATSWOOD, NSW, 2067

TITLE

FLOOR PLAN - BASEMENT 2 ZONE C2

ISSUED STATUS

FOR TENDER

SCALE @ A1	DRAWN	APPROVED	FIRST ISSUE DATE
1:100	WEB	MVS	31/10/18
PROJECT CODE	PLAN ZONE	SHEET NO.	REVISION
18300	C2	AR1016	09

Date Printed: 3/10/19

APPENDIX B: WEATHER WATCH AND CRITICAL STORMS

Flash flooding usually follows short, intense bursts of rain, such as from thunderstorms. Flash floods pose high risk to lives and property because they can affect areas away from watercourses and happen with little or no warning. It is critical that Centre Management has a comprehensive understanding of the various weather patterns that can result in storms, and hence flash flooding. The weather patterns that have the potential to cause localised flooding are introduced in the following sections.

THUNDERSTORMS

Thunderstorms develop when warm humid air near the ground receives an initial upward push from converging surface winds and rises rapidly in an unstable atmosphere. Severe thunderstorms can suspend huge amounts of rain before releasing a deluge. Such rain can reach intensities of more than 200 mm/h, provided the environment is humid enough to feed the storm with enough moisture. Flash floods often result when a storm moves slowly, and a small area receives most of the rain.

Severe thunderstorms are very localised events which typically have a duration of only 1-2 hours, and dimensions as little as 10 square km. As such, they are very difficult to predict and monitor. They can occur at any time of the year although the chances are increased between September and March when the supply of solar energy, and thus when the likelihood of warm, humid air near the ground, is greatest.

EAST COAST LOW PRESSURE SYSTEMS

Low pressure systems develop when relatively warm air ascends from the earth's surface. Moisture laden clouds form as the rising air cools and the moisture in the air condenses. The description "An East Coast Low" (ECL) refers to a low-pressure system, which forms off the east coast of Australia due to the presence of relatively high sea surface temperatures. These conditions are influenced by the movement of ocean currents as well as atmospheric conditions.

The formation of such low-pressure systems over the ocean can create very large rainfall events (duration and intensity) due to the potentially unlimited supply of moisture from the ocean. The presence of salt particles in the air (common to coastal catchments) can also enhance the capacity to form raindrops.

RAIN DEPRESSIONS

Flooding can also be caused by extended (long duration) storm events commonly referred to as "rain depressions". Typically, the initial rainfalls saturate the soil and fill any surface storage depressions. After a period of time, corresponding to the time it takes surface water to travel from the top of the catchments to the outlet, the entire catchments will be contributing runoff to the location of interest. Once these conditions are satisfied, any additional rain that falls after this time will contribute to runoff and can exacerbate the risk of flooding.

BUREAU OF METEROLOGY NOTIFICATION

'Severe Weather Warning' (SWW) or 'Severe Thunderstorm Warning' (STW) that could result in flash flooding or heavy rainfall are specific warnings issued from the Bureau of Meteorology (BOM).

With relation to rainfall, these weather events are only issued by the BOM in severe cases where intense rainfall could lead to flash flooding in certain areas. A SWW/STW will not be issued for general events of heavy rainfall, only severe cases.

Warnings are typically issued 24 hours in advance with continual updates until the event has passed. BOM will also issue notices when the alert has passed.

Warnings are typically provided for large areas, due to the unpredictable nature of such events and hence it is important to continually follow updates for any changes.

This warning system is the nominated starting point for escalating the flood management plan from GREEN alert to YELLOW alert.

An example from an alert issued by the BOM on the 26/11/2018 is as follows:

Figure 3 Severe Weather Warning issued by Bureau of Meteorology 26/11/2018 (source: BOM)

Australian Government Bureau of Meteorology
New South Wales

TOP PRIORITY FOR IMMEDIATE BROADCAST

Severe Weather Warning
for HEAVY RAINFALL and DAMAGING WINDS

For people in Metropolitan, Illawarra and parts of Hunter and Central Tablelands Forecast Districts.

Issued at 3:28 pm Monday, 26 November 2018.

INTENSE RAIN AND VIGOROUS WINDS TO SYDNEY AND ILLAWARRA WEDNESDAY

Weather Situation: A low pressure system over central parts of Australia is moving east. This system is expected to enter the northwest of New South Wales on Tuesday and then track southeast, rapidly intensifying as it crosses the coast about the Greater Sydney area during Wednesday. Intense rainfall and vigorous winds are expected to impact parts of the Illawarra and Greater Sydney area on Wednesday before the low quickly moves east away from the New South Wales coast.

HEAVY RAIN which may lead to FLASH FLOODING is likely for some parts of the Illawarra, Sydney Metropolitan and Blue Mountains during Wednesday. The most intense rainfall is likely to be during Wednesday morning and afternoon.

Rainfall is expected to ease late Wednesday and early Thursday as the low pressure system moves further offshore.

DAMAGING WINDS, averaging 60 to 70 km/h with peak gusts in excess of 90 km/h are likely along the coastal Illawarra and Sydney fringe from late Wednesday morning, and extending to the Central Coast and the Hunter coastal fringe during Wednesday evening.

Winds are expected to ease later Thursday as the low moves further away from the coast.

Locations which may be affected include Newcastle, Sydney, Wollongong, Nowra, Bowral and Katoomba.

The State Emergency Service advises that people should:
* Move vehicles under cover or away from trees.
* Secure or put away loose items around your house, yard and balcony.
* Keep at least 8 metres away from fallen power lines or objects that may be energised, such as fences.
* Report fallen power lines to either Ausgrid on 131 388, or Endeavour Energy on 131 003 or Essential Energy on 132 080, as shown on your power bill.
* Don't drive, ride or walk through flood water.
* Keep clear of creeks and storm drains.
* If you are trapped by flash flooding, seek refuge in the highest available place and ring 000 if you need rescue.
* For emergency help in floods and storms, ring your local SES Unit on 132 500.

The next Severe Weather Warning will be issued by 11:00 pm AEDT Monday.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call 1300 659 218. The Bureau and State Emergency Service would appreciate warnings being broadcast regularly.

APPENDIX C: ISOLATION OF ELECTRICAL SYSTEMS

Chatswood Chase Sydney is supplied electrically via three high voltage substations. The three substations are located above the predicted maximum flood level dan no would not need to be isolated under normal operation of the flood management systems. However, during an ORANGE Flood Alert and a RED Flood Alert it is critical that Substation 5884 and Main Switchboards 1 & 2 are routinely monitored and checked for dryness and watertightness as they are located underneath Mills Lane, which is subject to flooding.

11.1.1.1 Substation 5884 – Mills Lane.

In addition to supplying most of the critical building systems i.e. fire detection, EWIS, sprinkler pumps and smoke management, this substation services approximately 70% of the common areas and tenancies generally located in the Northern, Western and Southern areas of the building. Coles, Kmart on the Lower Ground Level and the car park areas from Basement Level 2 to Level 2a are also supplied from this substation via Main Switchboard 1 and 2.

11.1.1.2 Substation 5885 – under Archer St Express Ramp.

This substation currently services David Jones store only.

11.1.1.3 Substation 234 – Victoria Ave Loading Dock.

This substation currently services the remaining 30 percent of the Centres' Common areas and tenancies generally located on the eastern side of the building on all levels. The majority of the food court tenancies are also supplied from this substation along with Optus, Vodafone and Telstra mobile base stations on the roof and the carwash tenancy on Basement Level 2.

ISOLATION OF ELECTRICAL SYSTEMS

Immediately upon escalation from a YELLOW to ORANGE Flood Alert Ausgrid are to be informed of the risk of flood affecting their electrical infrastructure.

The areas surrounding all substations and switchboards should be checked for watertightness every hour during a flood event, including potential leaks through the ceiling. In the advent of water leaking into these areas, Substation 5884 and Main Switchboards 1 & 2 should be isolated using the following procedures:

SUBSTATION 5884 – MILLS LANE.

- Contact **Ausgrid Large Installation Emergency Services** – **1800 686 688**. Calls to this number escalate above all other calls to the normal emergency services centre in crisis situations. This number is used in situations where damage to assets is imminent and urgent attention is required by Ausgrid Staff.
- Provide Ausgrid with as much detail as possible about the situation, the location of the site, and the locations of their substations. The following information may be required:

- Site Address: 91 Archer St Chatswood
- NMI Number: TBA
- Substation Numbers: 5884 – Mills Lane

  5885 – David Jones

  234 – Victoria Ave Loading Dock

- Advise Ausgrid Staff of the requirement to attend site urgently and advise that disconnection of the High Voltage Supplies to the site may be required due to imminent flooding.

- Request Ausgrid Staff meet at Substation number 5884 Chatswood Chase Sydney, Mills Lane, Chatswood, entrance under awning at the bottom of Mills Lane.

MAIN SWITCHBOARDS 1 AND 2.

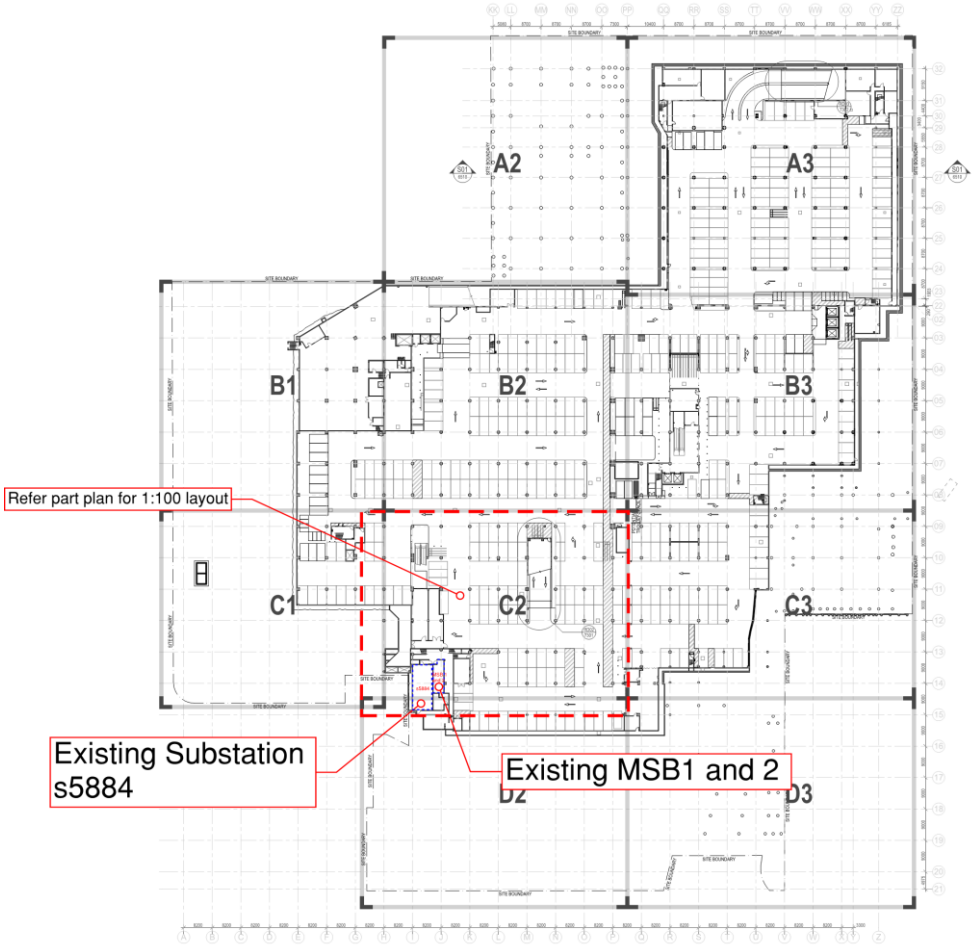
In the advent of water leaking into the rooms containing Main Switchboards 1 and 2, they will need to be electrically isolated. Use the following procedures:

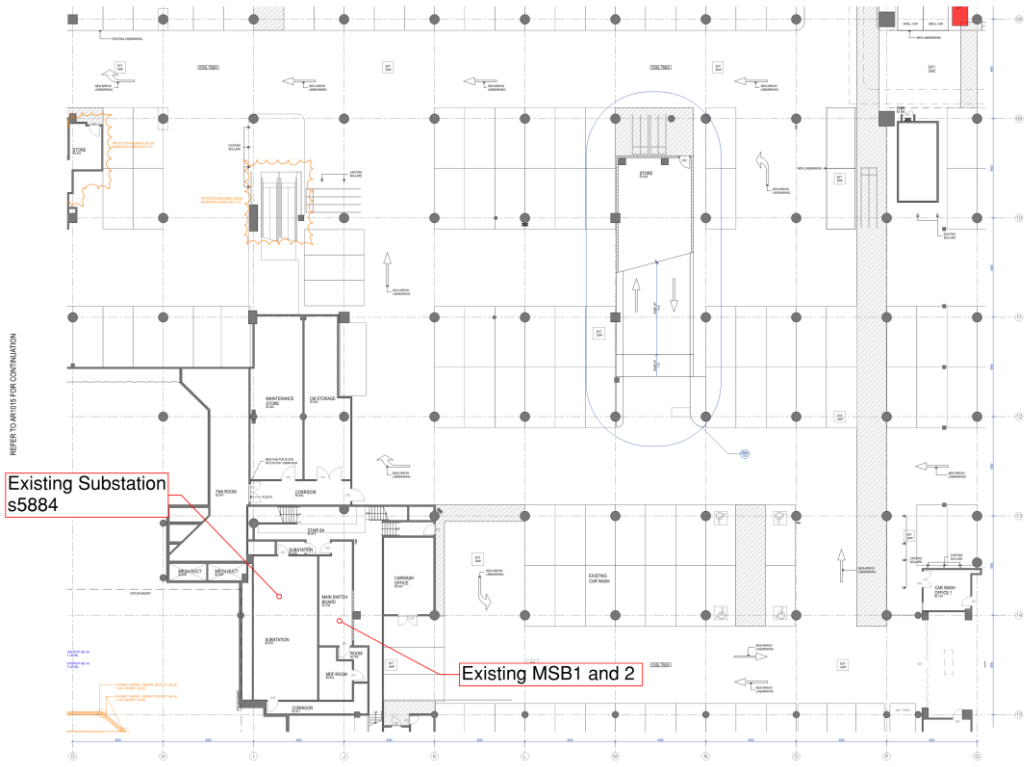
Access to these switchboards can be gained from either:

- Stair down from Mills Lane in alcove near compactor room.

- Fire Stair Basement Level 1 near bottom of travelators in B1 car park.

- Fire Stair Basement Level 2 near carwash office.


A2
A3
B1
B2
B3
Refer part plan for 1:100 layout
C1
C2
C3
Existing Substation
s5884
Existing MSB1 and 2
D2
D3



On switchboard no 2 (right hand side) turn off circuit breakers No # 37 - Mechanical Services Switch board MSB1-1 Basement 1 Circuit Breaker No 37 as per the photos and plan in this Section.

Isolating of circuit breakers 37 and 42 will shut down the following equipment:

- Car park lighting and power including open air car parks (Lower Ground to Level 2a).
- Car park Management office, ticket machines, pay stations in Basement Level 1and Lower Ground Level, boom gates Basement 1 to Level 3 Rooftop parking.
- Travelators from Basement 2 to Basement 1 and Basement 1 to Lower Ground Mall.
- Car park supply fans.
- Magnetic door holders sliding fire doors Basement 1.
- Sewer and stormwater pumps Basement Levels 1 and 2.
- Automatic gas shut down valve Basement 1 gas valve room.
- Fire stair lighting in some fire stairs in the car park.
- Cleaners lunchroom and office.
- Sprinkler valve room lights.
- Light and power to MDF room including power supplies to David Jones communications equipment racks.
- Fire alarm field controllers (portions of the fire detection system would be impaired).
- Various components of CCTV system in car park Levels Basement 2 to Level 2.
- Various components of Building Management System equipment located in car park areas Levels Basement 2 to Level 2a.

As power supplies to the Basement Levels are isolated, park and turn off all passenger and goods lifts on the upper levels.

APPENDIX D: EMERGENCY ANNOUNCEMENTS

The Chief Warden (or delegate) is responsible for making public address announcements during the flood emergency and evacuation. Pre-determined scripts are to be used as per those below The reason for the evacuation may be announced.

PUBLIC ADDRESS TO CUSTOMERS AND STAFF IN THE CASE OF AN ORANGE ALERT
Customers and Staff, may we have your attention please; due to adverse weather conditions, it is necessary to prevent access to the B1 and B2 car parks. If you have a vehicle parked in the basement car park, you will be advised when it is safe to collect it. Chatswood Chase Sydney Centre Management apologises for any inconvenience. If you require any further information, please see our Customer Service Staff at the Customer Service Desk on Level 1, thank you. **Repeat.**

PUBLIC ADDRESS CUSTOMERS AND STAFF IN THE CASE OF A RED ALERT
Customers and Staff, may we have your attention please, due to flood conditions in the basement car parks, please make your way to Level 1 immediately. Centre Wardens are available to assist and direct you. If you have a vehicle parked in the basement car park, you will be advised when it is safe to collect it. Chatswood Chase Sydney Centre Management apologises for any inconvenience. If you require any further information, please see our Customer Service staff at the Customer Service Desk on Level 1, thank you. **Repeat**.

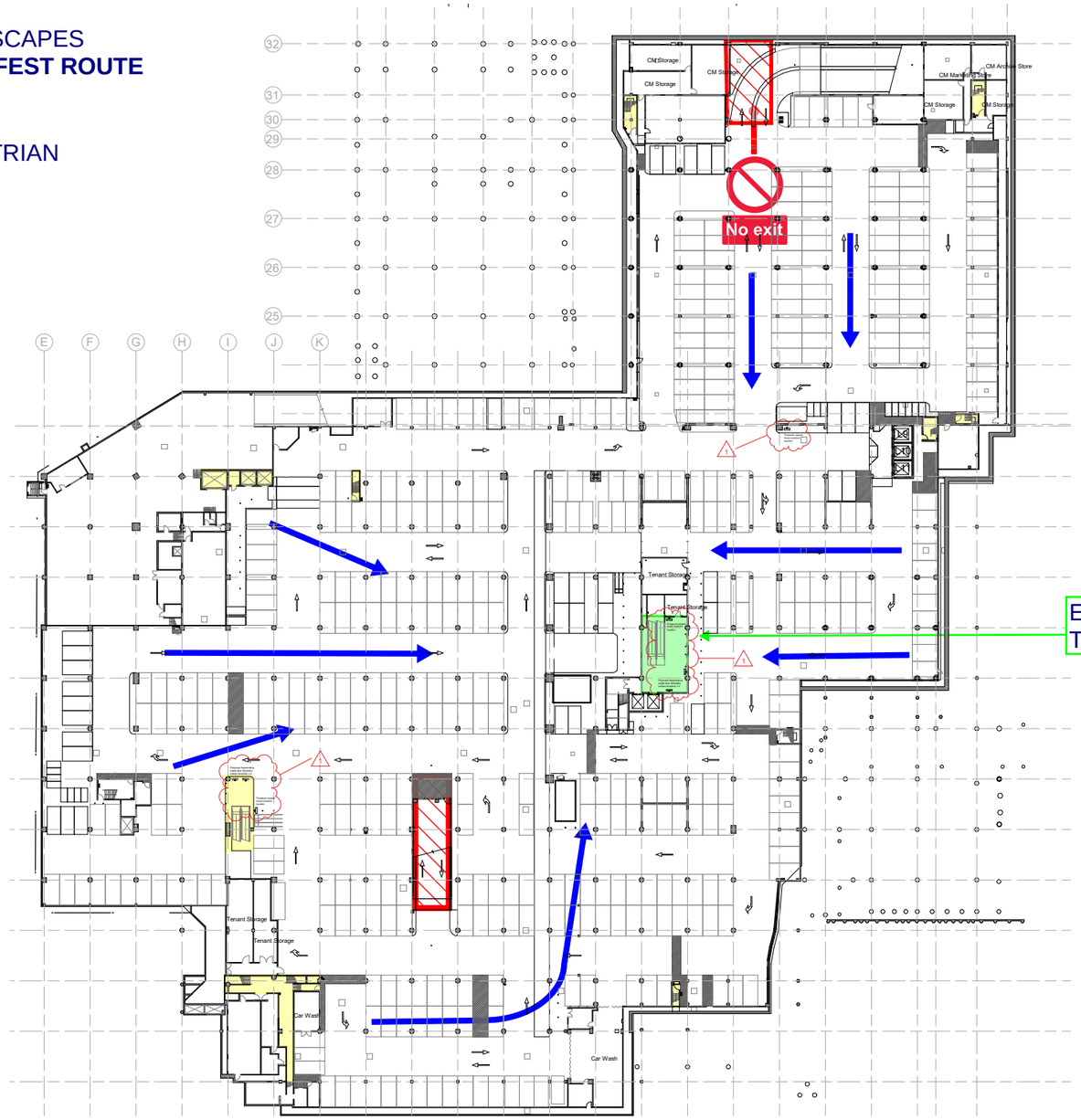
ANNOUNCEMENT TO CUSTOMERS AND RETAILERS FOR A POWER OUTAGE (CAUSED BY THE FLOOD CONDITION)
Customers and Staff, may we have your attention please. The Centre has experienced a power outage due to flood conditions in the basement car park. Due to weather conditions outside please make your way to Level 1 immediately and remain inside the Centre. Centre Wardens are available to assist and direct you. Further announcements will be made, and you will be kept informed, thank you for your patience. Chatswood Chase Sydney Centre Management apologises for any inconvenience. If you require any further information, please see our Customer Service Staff at the Customer Service Desk on level 1, thank you. **Repeat**.

APPENDIX E: FLOOD EVACUATION PLANS

EVACUATION POINT - CENTRAL
TRAVELATOR AND STAIRS

MINOR EXITS EG. FIRE ESCAPES
DO NOT USE UNLESS SAFEST ROUTE

CAR RAMPS - NO PEDESTRIAN
ACCESS



FLOOD EVACUATION PLAN BASEMENT 02

Scale 1 : 500 m
0m 5 10 25 50

EVACUATION POINT - CENTRAL
TRAVELATOR AND STAIRS

MINOR EXITS EG. FIRE ESCAPES
DO NOT USE UNLESS SAFEST ROUTE

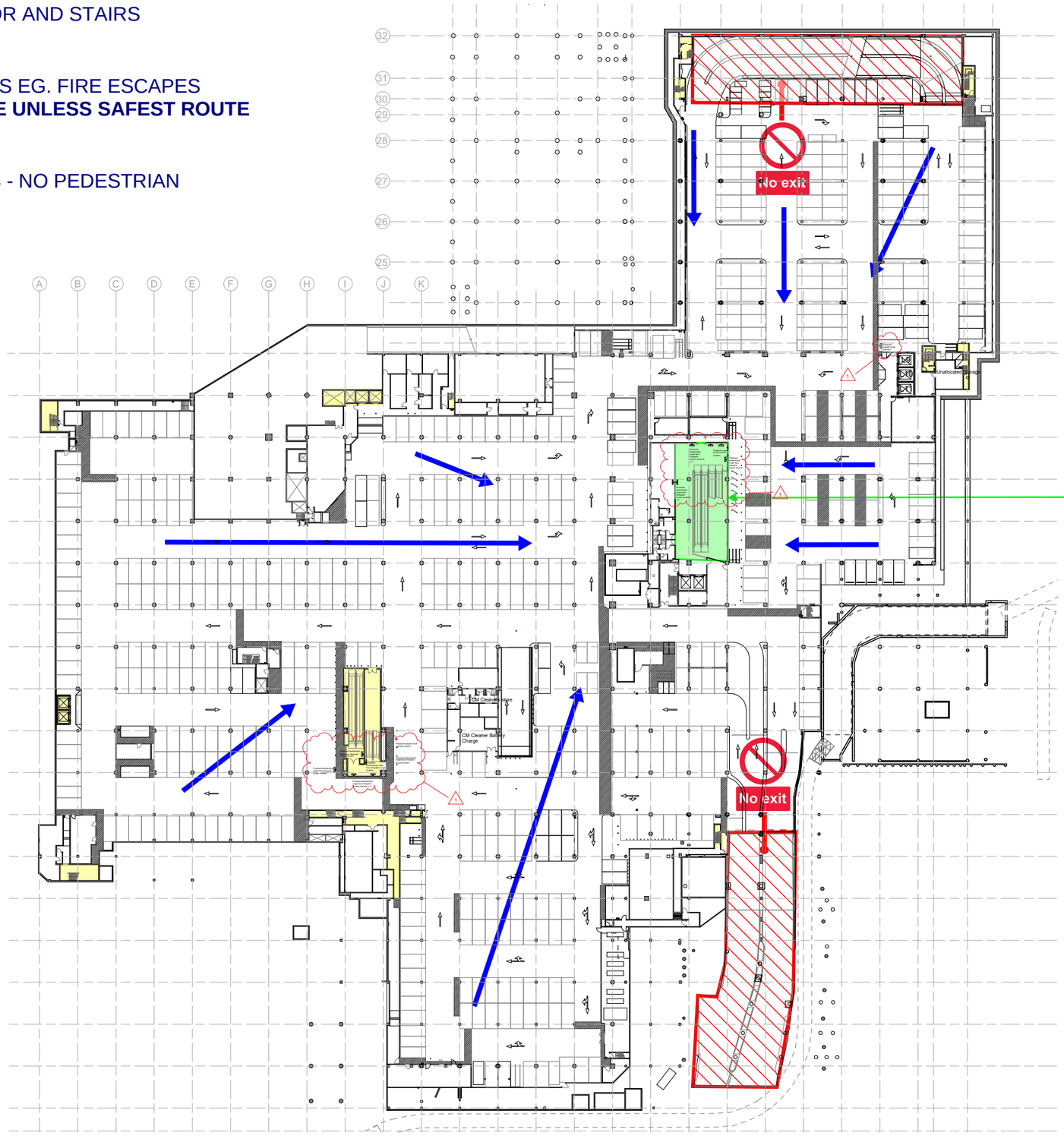
CAR RAMPS - NO PEDESTRIAN
ACCESS

MALVERN AVE

ARCHER ST

HAVILAH ST

VICTORIA AVE



EVACUATION POINT - CENTRAL
TRAVELATOR AND STAIRS

Scale 1 : 500
m
0m 5 10 25 50

FLOOD EVACUATION PLAN BASEMENT 01

EVACUATION POINT - CENTRAL TRAVELATOR AND STAIRS

MINOR EXITS EG. FIRE ESCAPES
DO NOT USE UNLESS SAFEST ROUTE

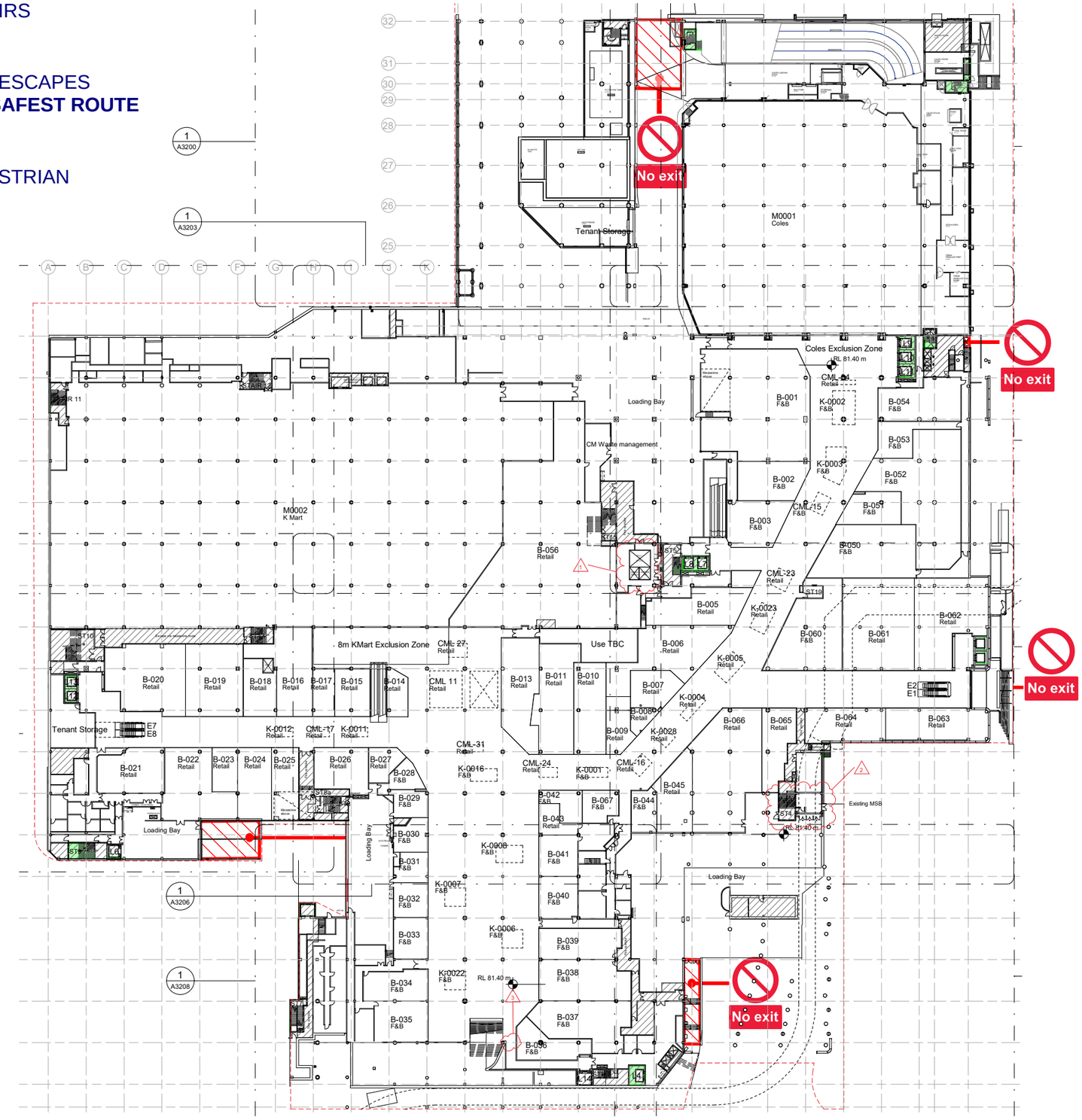
CAR RAMPS - NO PEDESTRIAN ACCESS

MALVERT AVE

ARCHER ST

HAVILAH ST

VICTORIA AVE



FLOOD EVACUATION PLAN LOWER GROUND

Scale 1 : 500 m
0m 5 10 25 50

EVACUATION POINT - CENTRAL TRAVELATOR AND STAIRS

MINOR EXITS EG. FIRE ESCAPES
DO NOT USE UNLESS SAFEST ROUTE

CAR RAMPS - NO PEDESTRIAN ACCESS

MALVERN AVE

EMERGENCY SERVICES ACCESS & EMERGENCY EVACUATION POINT

ARCHER ST

HAVILAH ST

VICTORIA AVE

No exit

No exit

No exit

No exit

No exit

Tenant Storage/ Car Wash

Existing Substation

Existing MSB

Existing Chiller

Existing AHU

00-513 Storage - Tenant

00-1002 David Jones

00-507 Storage - Tenant

Existing AHU Mezzanine Plant

Existing Apple Tenancy Line

VOID ABOVE ACCESS TO RAMP

Tenant Storage

Ambulant

RL 86.55 m

RL 84.46 m

G - 025 Retail

G - 026 Retail

G - 027 Retail

G - 028 Retail

G - 029 Retail

G - 030 Retail

G - 031 Retail

G - 032 Retail

G - 033 Retail

G - 034 Retail

G - 035 F&B

G - 036 F&B Seating

G - 037 Retail

G - 038 F&B

G - 039 Retail

G - 040 Retail

G - 041 Retail

G - 042 Retail

G - 043 Retail

G - 044 Retail

G - 045 F&B

G - 046 Retail

G - 047 F&B

G - 048 F&B Seating

G - 049 Retail

G - 050 Retail

G - 051 Retail

G - 052 Retail

G - 054 Retail

G - 021 Retail

G - 022 Retail

G - 023 Retail

G - 024 Retail

G-010 F&B

G - 011 Retail

G-012 Retail

G-013 Retail

G-014 Retail

G - 015 Retail

G - 016 Retail

G - 017 Retail

G - 018 Retail

G - 019 Retail

G - 020 Retail

G - 009 Retail

G-008 Retail

G - 007 Retail

G - 006 Retail

G - 005 Retail

G - 004 Retail

G - 003 Retail

G - 002 Retail

G - 001 F&B

FLOOD EVACUATION PLAN LEVEL 00

Scale 1 : 500

0m 5 10 25 50 m

EVACUATION POINT - CENTRAL TRAVELATOR AND STAIRS

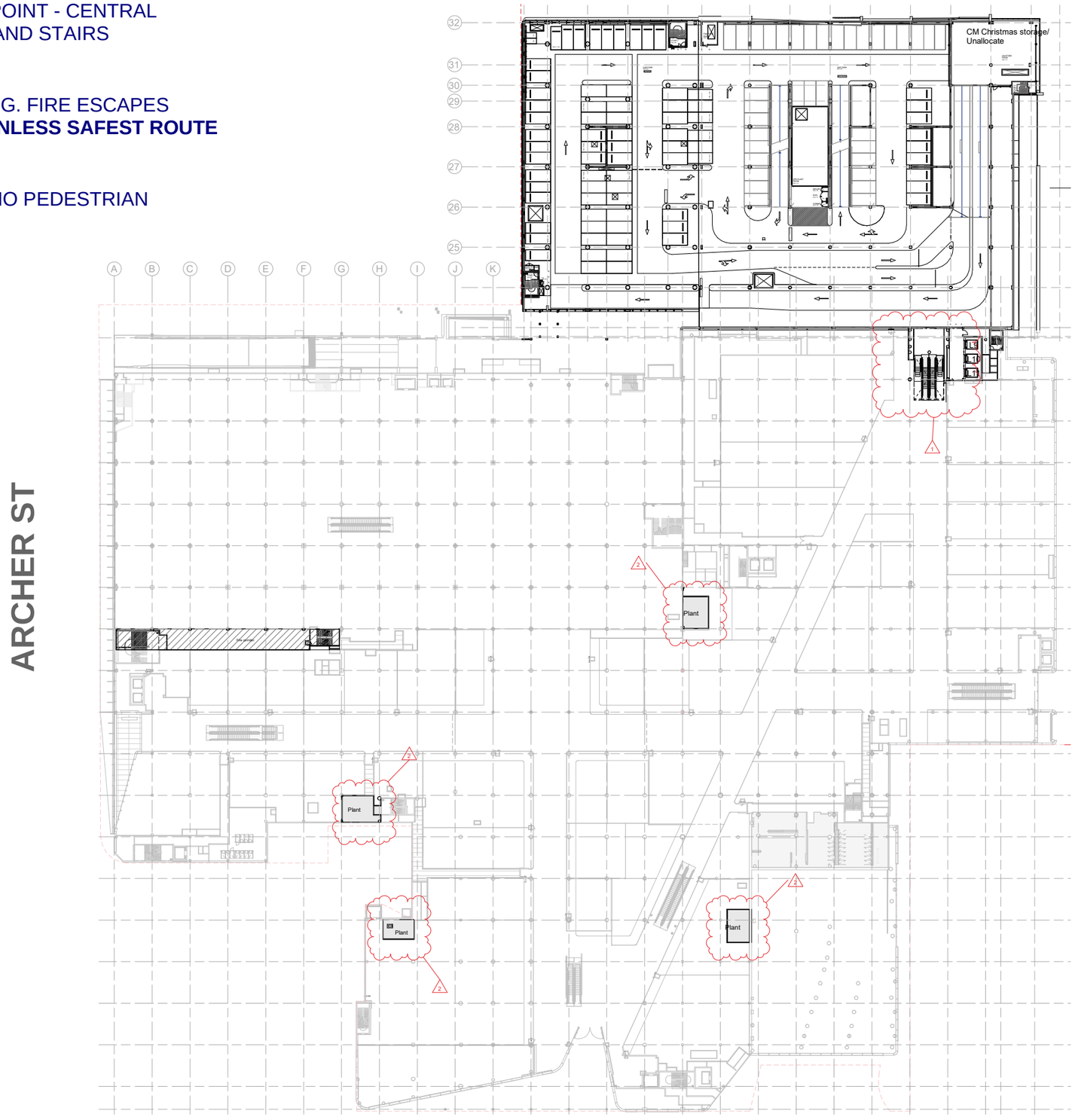
MINOR EXITS EG. FIRE ESCAPES
DO NOT USE UNLESS SAFEST ROUTE

CAR RAMPS - NO PEDESTRIAN ACCESS

MALVERN AVE

ARCHER ST

HAVILAH ST



VICTORIA AVE

FLOOD EVACUATION PLAN LEVEL 00A

Scale 1 : 500 m
0m 5 10 25 50

EVACUATION POINT - CENTRAL TRAVELATOR AND STAIRS

MINOR EXITS EG. FIRE ESCAPES
DO NOT USE UNLESS SAFEST ROUTE

CAR RAMPS - NO PEDESTRIAN ACCESS

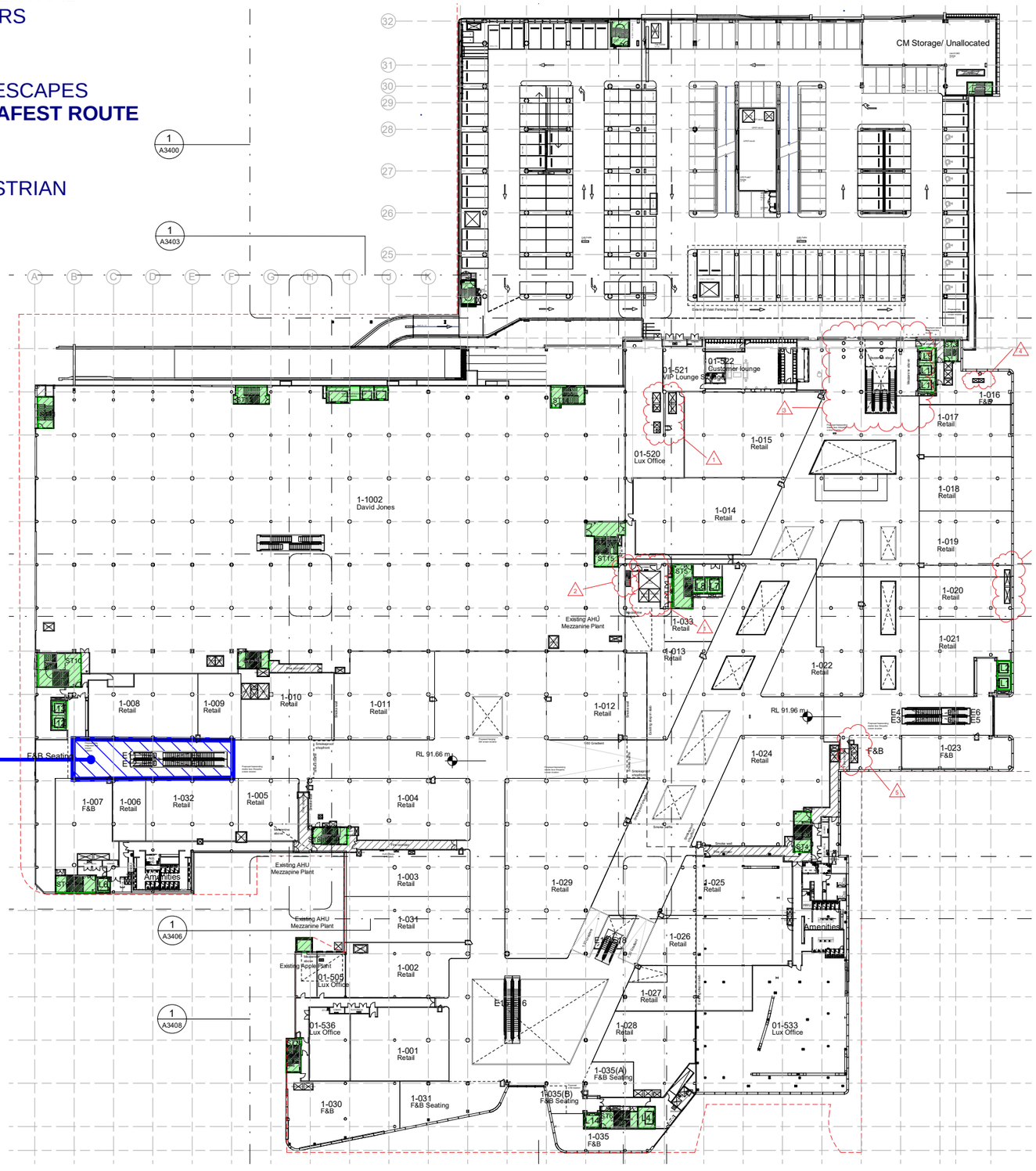
NOMINATED LEVEL 01 ASSEMBLY AREA

MALVERN AVE

ARCHER ST

HAVILAH ST

VICTORIA AVE



FLOOR EVACUATION PLAN LEVEL 01

Scale 1 : 500 m
0m 5 10 25 50

APPENDIX F: FLOOD GATE TECHNICAL INFORMATION

AWMA Pty Ltd
ABN 46 108 429 876
PO Box 433 Cohuna VIC Australia 3568
Phone: +61 3 5456 3331
info@awmawatercontrol.com.au
www.awmawatercontrol.com.au

AWMA DEMOUNTABLE FLOOD BARRIER

INSTALLATION MANUAL

CM828-03-0819 | Rev 03

TABLE OF CONTENTS

DOCUMENT DATA

Field	Data
Project Name	AWMA Demountable Flood Barrier
Project Address	
Manual Type	Installation Manual
Service	Service
CM Number	CM828-03-0819
Latest Issue Date	05.08.19
Latest Revision	03

1 DOCUMENT INFORMATION

1.1 REGISTER OF REVISIONS

Revision/issue details shall be entered in the table below for each revision, a copy of this page (as amended) shall accompany each revision when issued.

Version	Status	Author	Date	Authorised by	Notes
00	Draft for Review	AWMA	31.08.2018	Operations Manager	
01	Draft for Review	AWMA	08.12.2018	Operations Manager	
02	Draft for Review	AWMA	11.12.2018	Operations Manager	
03	Final	AWMA	05.08.2019	Operations Manager	

1.2 ICONS AND SYMBOLS

The following icons and symbols are used throughout this document.

Icon	Details
	Critical information.
	Caution.

Icon	Details
	Note.
	Tools and equipment required to carry out the works.
	Service and maintenance.
	Information.
	The picture to assist with the description of the step.
1  Option	a Used where multiple configurations exist and the step may or may not be required.
	Contact person.
/	Office address.
	Mailing address.
	Telephone number.
	Email address.
	Web page address.

2 DESCRIPTION

2.1 INTRODUCTION

The AWMA Demountable Flood Barrier has been designed to allow asset owners to manually deploy their protection barriers to isolate flood and storm waters in and around existing infrastructure.

The barrier is constructed from a structural marine grade aluminium, ensuring it is lightweight for safe deployment, yet very strong.

This document outlines the installation methodology of the AWMA Demountable Flood Barrier.

2.2 DIRECTORY

AWMA Pty Ltd		Operations Manager
		118 Roviras Rd, Cohuna VIC 3568 Australia
		PO Box 433, Cohuna VIC 3568 Australia
		+61 3 5456 3331
		info@awmawatercontrol.com.au
		www.awmawatercontrol.com.au

2.3 SERVICE & SUPPORT

	1800 664 852 MON-FRI Australian Eastern Standard Time (AEST) - (UTC + 10)
	118 Roviras Rd, Cohuna VIC 3568 Australia
	+61 3 5456 3331
	www.awmawatercontrol.com.au

2.4 STRUCTURE IDENTIFICATION (NAMEPLATES)

Each structure has an easy to read identification nameplate outlined below.

Typical Nameplate Information

AWMA Telephone Number

AWMA Internet Address

Customer ID

Site ID

Tag Number

Model/Type

Job Number

Gate Dimensions

Opening Dimensions

Seating

Gate Weight

Manufacture Date

Material

Hydrostatic Head

awma Water Control Solutions

1800 664 852 www.awmawatercontrol.com.au

Asset Owner

Location

Demountable Flood Barrier

Job number:
Barrier Height (m):
Barrier Width (m):
Flood RL (m):
Top of Barrier RL (m):
Post weight (kg):
Board weight (kg)
Manufcture Date
Material

The nameplate is typically mounted near the top of the structure. Please quote the above information from the ID plate if contacting AWMA about this equipment.

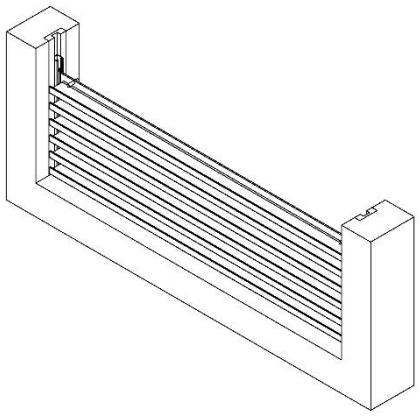
3 PRODUCT OVERVIEW

The AWMA Demountable Flood Barrier is a sturdy yet simple low maintenance unit that is manually deployed. The aluminium barrier flood boards and posts are manufactured from marine grade aluminium. The aluminium extrusions provide structural strength while keeping the total weight for each component down to a minimum.

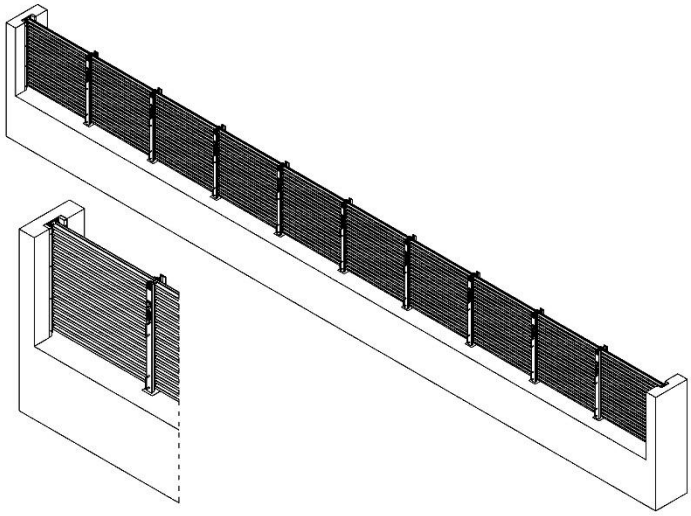
A hydrostatically charged rubber wiper seals sit firmly on the aluminium against the flood boards to ensure a secure seal. Precision machined side plastic guides ensure that the flood barrier segments can be installed in the posts accurately.

When a flood situation is imminent, the AWMA Demountable Flood Barriers components are transported to the required location. The posts (if applicable) are installed, and the flood boards are placed into position by sliding each segment into the post.

A resilient rubber seal ensures a water tight interface between the lower board and the concrete sill. Posts can be insert mount or bolt on mount. Barriers above 1.8m use adjustable rear supports installed on an angle to support the post.



Single Bay Flood Barrier

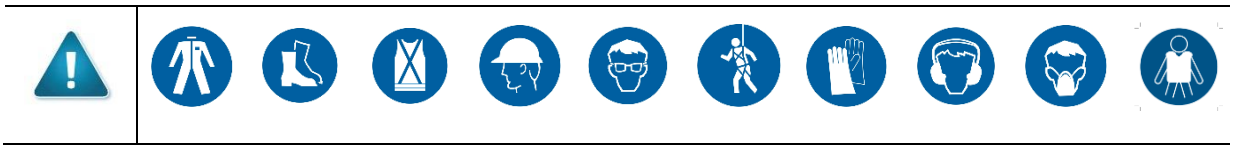


Multiple Bay Multi-Bay Barrier

4 WHS AND SAFETY INSTRUCTIONS

4.1 GENERAL WHS OBSERVATIONS

Observe all appropriate health and safety measures by wearing personal protective equipment during installation and disassembly. All relevant Occupational Health and Safety rules and regulations are to be followed, along with any site specific instructions.



4.2 SAFETY INSTRUCTIONS & WARNINGS

All personnel working with this device must be familiar with the safety and warning instructions in this manual and observe the instructions given. Safety instructions and warning signs on the device must be observed to avoid personal injury or property damage.

4.3 STAFF QUALIFICATIONS

Operation and maintenance must be carried out exclusively by suitably qualified personnel who are authorised by the end user, owner's corporation manager or contractor of the plant.

Before working on this product, the staff must have thoroughly read and understood these instructions and, furthermore, know and observe officially recognised rules regarding work health and safety.

4.4 PROTECTIVE MEASURES

The end user or the contractor is responsible for implementing required protective measures on site, such as enclosures, barriers or personal safety equipment for the staff.

4.5 RISK ASSESSMENT

This is an example only. AWMA recommend a site specific Risk Assessment is completed with all personnel on site.

awma Water Control Solutions	**OH&S Risk Assessment**	**Assess No.** **1003.**

Task/Product:	Demountable Flood Barrier & Storage Racks
Date:	9/7/2018
Written by:	Leigh Scoullar
Approved by:	

Examples of Hazards and Potential Risks

Hazards	*Potential Risks*

Entangle - Pinch points, crush points, wrap points, nip points,	Entanglement involves being caught in a machine by loose items such as clothing, gloves, ties, jewellery, long hair, cleaning rags, bandages or rough material being fed into the machine.
Crush - nip points,	Crushing hazards Crushing occurs when a part of the body is caught: • between a fixed and moving part of a machine such as the bed and tool of a power press; • between two moving parts of a machine such as the support arms of a scissor lift platform; and • between a moving part of a machine and a fixed structure such as a counterweight and the floor
Cut/Stab	The danger of cutting action exists at the point of operation where finger, arm and body injuries can occur and where flying chips or scrap material can strike the head, particularly in the area of the eyes or face. The cutting effect may be aggravated by the body being unable to move away from the cutter
Shear	between two machine parts, for example the table of a metal planing machine (shaper) and its bed, the table and blade of a guillotine or power press, nip points between connecting rods or links and rotating wheels or between parts that oscillate; and • between a machine part and a work piece, for example the tool of a broaching machine and the part being broached.
Friction/Heat/Cold/Radiation Welding flash, lasers, high temperatures, UV and infra red.	Friction burns can be caused by smooth parts operating at high speed. Other examples of friction or abrasion hazards include the sides of a grinding wheel, the belt of a belt sanding machine, material running onto a reel or shaft, a conveyor belt and its drums, and pulleys and fast-moving ropes or belts. There are a range of hot or cold hazards that may need to be considered including: • incidents that may occur if people are required to constantly work where the temperature is outside a comfortable range; • extreme heat or extreme cold, which may affect machinery operations; and • injuries that may occur if there is contact with hot or cold parts.
Strike	Impact hazards relate to objects that strike the human body, but do not penetrate it. Examples include the rotating arm of a robot, the reciprocating bed of a metal planing machine and the pendulum movement of the arms of a wool scouring machine.
Pressure Fluid/Air Compressed air, fluids and gases. Spray jets, hydraulic systems, springs, steam lines, boilers and pressure vessels.	High pressure systems consist of an energy source like an electric motor or internal combustion engine, a pump, control mechanism, hoses, pipes, nozzles and various other components necessary for the equipment to function as a system. Common hazards and risks include piercing the skin, being hit by flying debris and exposure to noise. Other hazards associated with include working in confined spaces, fall hazards, respiratory and eye hazards, electric shock and potential exposure to hazardous chemicals.
Electrical Damaged power points, overloaded circuits, damaged wiring, electrical leads on floor and benches, damaged equipment, wet working equipment, live wires, unsecured electrical cabinets, condition of portable power tools.	Electrocution, electrical shock, burns, eye damage, fire, explosion.
Fire/Explosion	Fire can occur when flammable material, oxygen and sufficient ignition energy are available. Explosion depends on an atmosphere of a mixture of flammable material with oxygen. The best approach to prevent fires and explosions is to substitute or minimise the use of flammable material. If that is not possible it is important to avoid effective sources of ignition. The manufacturing, processing or storage of explosives is not covered in this article.

Slip/Trip/Fall Falls of objects and people from heights, slips, trips, falls, storage of objects above head height, integrity of stacking, condition of lifting equipment.	Fracture, spinal injury, impact injuries, cuts and abrasions.
Ergonomic	Ergonomics is a field in which the workplace is studied for comfort and safety. All equipment is considered together in order to determine if there are any dangerous stresses placed on workers. Lights, furniture and electronics are the main factors that can lead to debilitating injuries that hamper future work and life. New furniture and equipment should always be evaluated for not only performance but also for ergonomic fit.
Noise Noisy plant and equipment. Exposure level (above 85dBA). Duration if exposure	Hearing damage, loss of balance, loss of awareness.

			Likelihood				
			A.	B.	C.	D.	E.
			Rare	Unlikely	Possible	Likely	Almost Certain
Consequence			The event may occur in exceptional circumstances	The event could occur sometime	The event should occur sometime	The event will occur inmost circumstances	The event is expected to occur in most circumstances
1	Insignificant	No Injuries or health issues	Low	Low	Low	Low	Moderate
2	Minor	First Aid Treatment	Low	Low	Moderate	Moderate	High
3	Moderate	Medical Treatment, Potential LTI	Low	Moderate	High	High	Critical
4	Major	Permanent Disability or disease	Low	Moderate	High	Critical	Catastrophic
5	Extreme	Death	Moderate	High	Critical	Catastrophic	Catastrophic

a.	Low Risk	Acceptable risk and no further action taken
b.	Moderate Risk	Tolerable with further action required to minimise risk. Risk needs to be reviewed periodically
c.	High Risk	Tolerable with further action required to minimise risk. Risk needs to be reviewed continuously
d.	Critical Risk	Unacceptable risk and further action required immediately to minimise risk
e.	Catastrophic Risk	Unacceptable risk and urgent action required to minimise risk

1: Qualitative measures of consequence

Level	Descriptor	Example of Description
A	Rare	Is expected to occur in most circumstances
B	Unlikely	Will probably occur in most circumstances
C	Possible	Might occur at some time
D	Likely	Could occur at some time
E	Almost Certain	May occur only in exceptional circumstances

Table 2: Qualitative measures of likelihood

Level	Descriptor	Example of description
1	Insignificant	No injuries, low financial loss
2	Minor	First Aid treatment, on-site release immediately contained, medium financial loss
3	Moderate	Medical treatment required, on-site release contained with outside assistance, high financial loss
4	Major	Extensive injuries, loss of production capability, off-site release with no detrimental effects, major financial loss
5	Extreme	Death, toxic release off-site with detrimental effects, huge financial loss

EXAMPLE ONLY

AWMA recommend a site specific Safe Work Method Statement is completed with all personnel on site.

Hazard	Risk How & What could occur?	Current Controls Eliminate, Substitute, Engineering, Administration, PPE	Existing Risk	Recommended Controls That can reduce risk level	Residual Risk	Person Responsible	By When? (Date)
Entangle	Not Applicable						

Hazard	Risk How & What could occur?	Current Controls Eliminate, Substitute, Engineering, Administration, PPE	Existing Risk	Recommended Controls That can reduce risk level	Residual Risk	Person Responsible	By When? (Date)
Crush	Body parts caught between demountable piers and surface Body parts caught between segmented stopboards	Procedure in operations and maintenance manual warning of pinch and crush points	A3 Low	Training is required by end user in this risk assessment and in the correct install procedure,	A4 Low		
Cut/Stab	Risk of cutting on sealing face of stopboard	Procedure in operations and maintenance manual warning of pinch and crush points		Training is required by end user in this risk assessment and in the correct install procedure,			
Shear	Body parts caught between moving parts of gate during installation and storage	Procedure in operations and maintenance manual warning of pinch and crush points	A3 Low	Training is required by end user in this risk assessment and in the correct install procedure,	A3 Low		
Friction/Heat/ Radiation	Not Applicable			Not required			
Strike	Not Applicable						
Pressure –Fluid/Air	Not Applicable						
Electrical	Not Applicable			Not Required			
Fire/ Explosion	Not Applicable			Not required,			
Slip, trip, fall	Not applicable			Not required,			
Ergonomic	Manual handling risk due to insertion or removal of multiple piers and segments	Segments and piers weigh less than 10kg each	A3 Low	It is recommended that the end user perform a manual handling risk assessment taking into consideration the physical ability of those most likely to deploy the barrier			
Noise	Not Applicable						

Total Risk Level (i.e.; highest risk level)

Department Manager:		Date:	
Health & Safety Rep:		Date:	

5 INSTALLATION AND COMMISSIONING

5.1 INTRODUCTION

This manual will assist with the installation of AWMA's Demountable Flood Barrier. The persons undertaking the installation must be competent and experienced in general mechanical installations. A set of Demountable Flood Barrier site-specific drawings must be used in addition to with this manual.

 Information	If required, an installation supervisor can be arranged by contacting AWMA on +61 3 5456 3331.
 Note	Incorrect installation causes excessive leakage and operational issues. Therefore meeting the flatness and squareness tolerances within this manual is critical as well as ensuring the seals are not damaged during installation.
 Note	AWMA recommends our authorised installation partners conduct the installation.
 Caution	Failure to comply with the installation instructions can void the Demountable Flood Barrier warranty. Throughout the installation process, an installation inspection checklist must be used. Refer to the supplied AWMA installation checklist in the appendices (Section 5.8.3) of this manual.

5.2 LOGISTICS

5.2.1 STORAGE

AWMA Demountable Flood Barriers are to be stored in the supplied racks, one for the post and the other/s for the barrier segments. Products manufactured from aluminium and stainless steel must always be kept away from ferrous materials to avoid accelerated corrosion.

When stored for an extended period of time the demountable flood barriers may require cleaning to remove grime and grit. Use clean water and a soft broom/brush to remove any grime and grit that may be present.

On delivery, it is expected that the demountable flood barriers will be inspected for damage and confirmation that all components have been delivered according to the packing slip. Once the delivery has been accepted, risk in the demountable flood barriers and associated equipment shall transfer to the purchaser.

If the demountable flood barrier segments are removed from the barrier, they must be stored back in the storage rack supplied.

5.2.2 LIFTING AND HANDLING

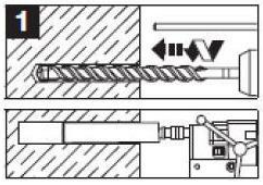
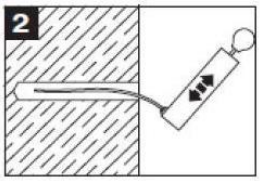
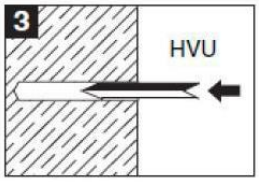
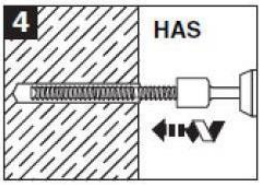
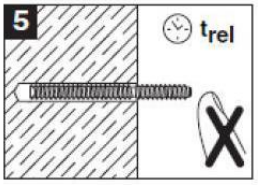
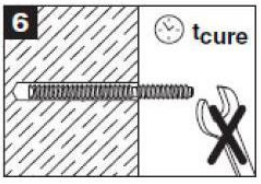
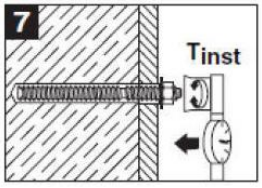
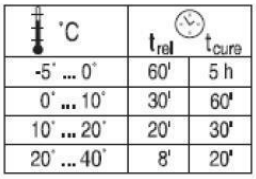
Observe the following points while handling the demountable flood barriers:

- When transporting the demountable flood barrier, always transport components in the appropriate storage rack.
- Refer to the nameplate attached to the demountable flood barrier for barrier weights.
- Use slings where possible to avoid damage and contamination to the demountable flood barrier.
- If chains are required to lift the demountable flood barrier, ensure protective sleeves are used to avoid contamination.
- Use the lifting points where provided on the demountable flood barrier or lift using slings at each end with a spacer bar.

- When using a forklift, ensure that there is insulation between the demountable flood barrier and the fork tynes.
- Always ensure that the lifting equipment is suitable rated to lift the demountable flood barrier.

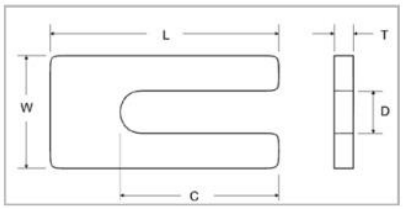
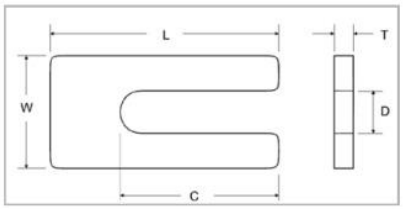
5.3 SECURING THE DEMOUNTABLE FLOOD BARRIER

5.3.1 ANCHORS

Step	Details
	The procedure outlined below is for a typical anchor, for the specific type of anchor being used, refer to the manufacturer's documentation.
1	Drill the hole.  
2	Blow out dust and fragments.
3	Insert HVU capsule.  
4	Drive in the anchor.
5	Allow gel time to pass.  
6	Wait for curing.
7	Apply tightening torque. 
	

°C	t_{rel}	t_{cure}
-5° ... 0°	60'	5 h
0° ... 10°	30'	60'
10° ... 20°	20'	30'
20° ... 40°	8'	20'

5.3.2 PACKERS

Step	Details
	Place packers into the gaps between the vertical legs and the base of the structure where the anchors are fitted. Packers should be a firm fit and should never be forced into place.
	Forcing packers in place will result in the legs of the frame being an inaccurate distance apart.
	Ensure the packers cannot fall out during the grouting process. The packers are required to ensure the frame does not distort under load.
	
	
	All dimensions are in mm

Part No.	T	L	W	C	D
JDV01	1.5	75	37	52	13
JDV02	3.0	75	37	52	13
JDV03	5.0	75	37	52	13
JDV04	6.5	75	37	52	13

5.4 GROUT CONSIDERATIONS

5.4.1 GROUT INSTALLATION (GAP BETWEEN 10 TO 50MM)

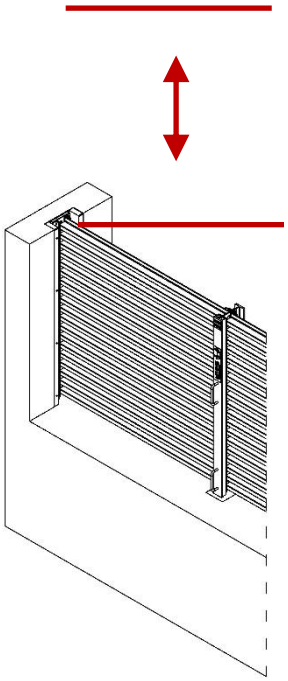
Step	Details
	Contact Hilti or Sika for a suitable grout for your application.
	Grout requirements checklist.

Specifications	Yes	No
Is it a site requirement that all side mounted plates be grouted?	Grout	Optional
Is there enough room to allow a 10-50mm gap between the side mounting plate and the structure?	Grout	Optional

Step	Details		
	Is grout suitable for the environment?	Grout	Other
	Is there at least 48 hours available for grout to set before mounting the demountable flood barrier.	Grout	Optional
	Contact AWMA on +61 3 5456 3331, if the gap is larger than 50mm.		
	The concrete surface where the grout is to be applied must be at least a broom finish. If the surface isn't at least a broom finish, it must be roughened up or scabbled to allow grout adhesion. Prior to grouting ensure all dirt and any loose material is removed.		

5.5 INSTALLATION PREPARATION

Step	Details
	Adhere to all WHS regulations before starting the installation.
	
1	Perform a measurement check to ensure the Demountable Flood Barrier will fit into its required location. When performing the measurement check, reference the Demountable Flood Barrier site-specific drawings.
2	Locate power and water sources (above and below ground level).
3	Inspect crane rigging if applicable and ensure it is suitably rated.
4	Ensure there are no obstructions above the demountable flood barrier.

Step	Details
	Ensure the area above the demountable flood barrier is clear. 

5.5.1 TOOLS REQUIRED

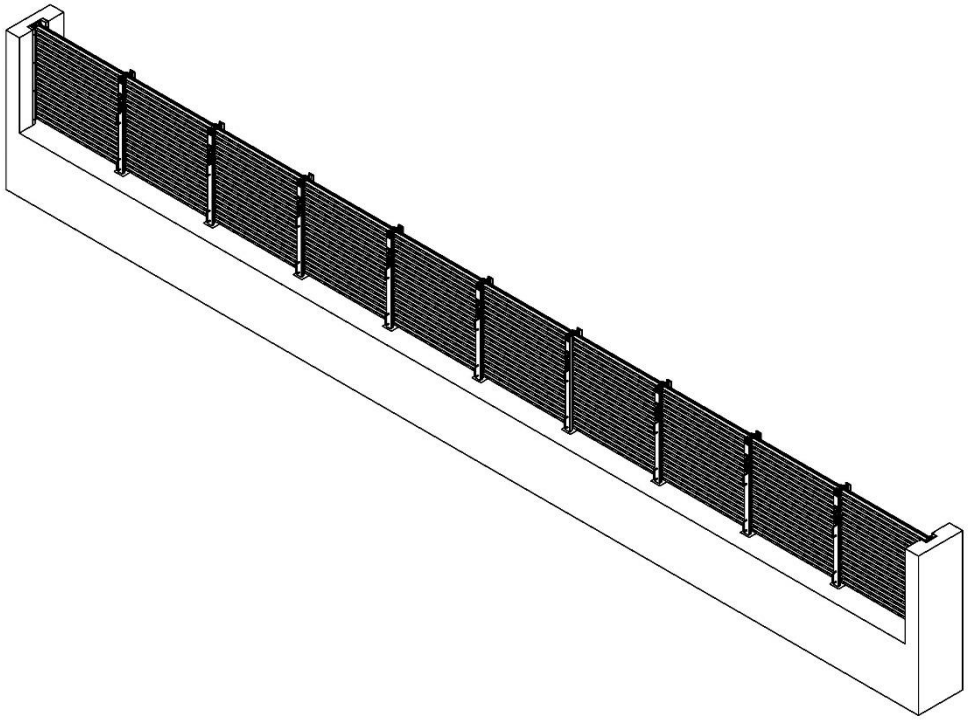
Step	Details
	Tools and equipment checklist All necessary PPE Metric spanners Marking pen/chalk Tape measure Spirit level Plumb bob Packers Hilti drill or rotary hammer drill Grout Other tools may be required depending on the installer's needs, access to the work site and general site conditions.

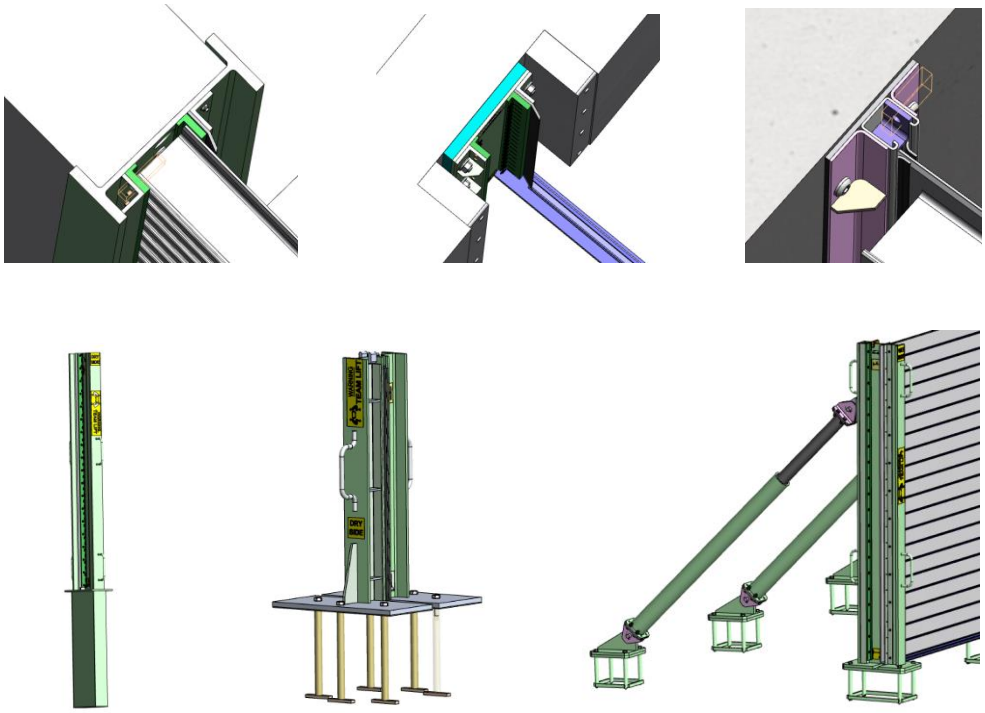
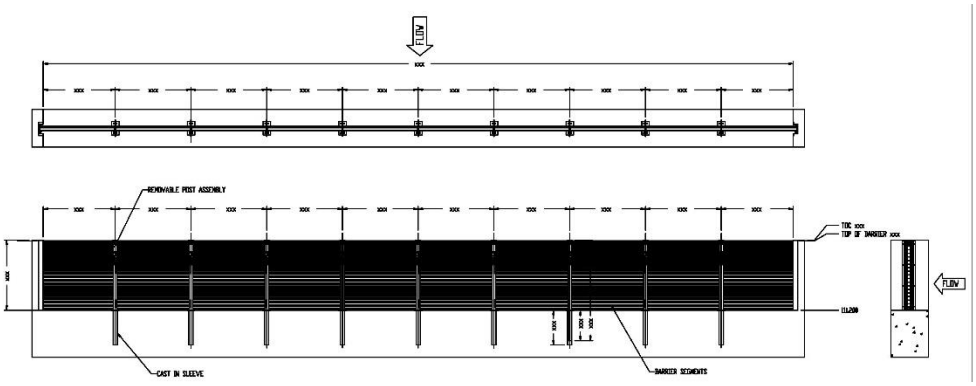
5.5.2 INSTALLATION TOLERANCES

Step	Details
	When checking the demountable flood barrier frame is flat and square ensure the following tolerances are achieved.
	The post is square and parallel (diagonal check) — Lesser of ± 2mm and +/- 0.05°
	The post is plumb (offset check) — 1mm allowable every 1000mm
	The post is flat (straight edge) — 1mm allowable every 1000mm
	The post is plumb — 1mm allowable every 2000mm
	The sill (ground level) is flat — 2mm allowable every 1000mm

5.6 INSTALLATION PROCEDURE

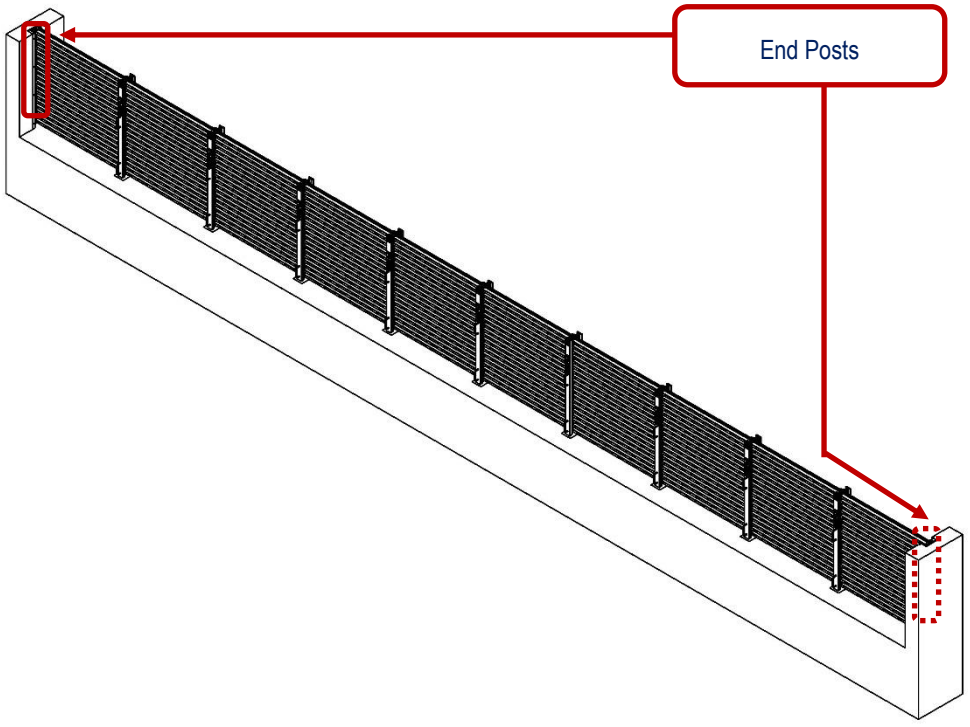
5.6.1 OVERVIEW

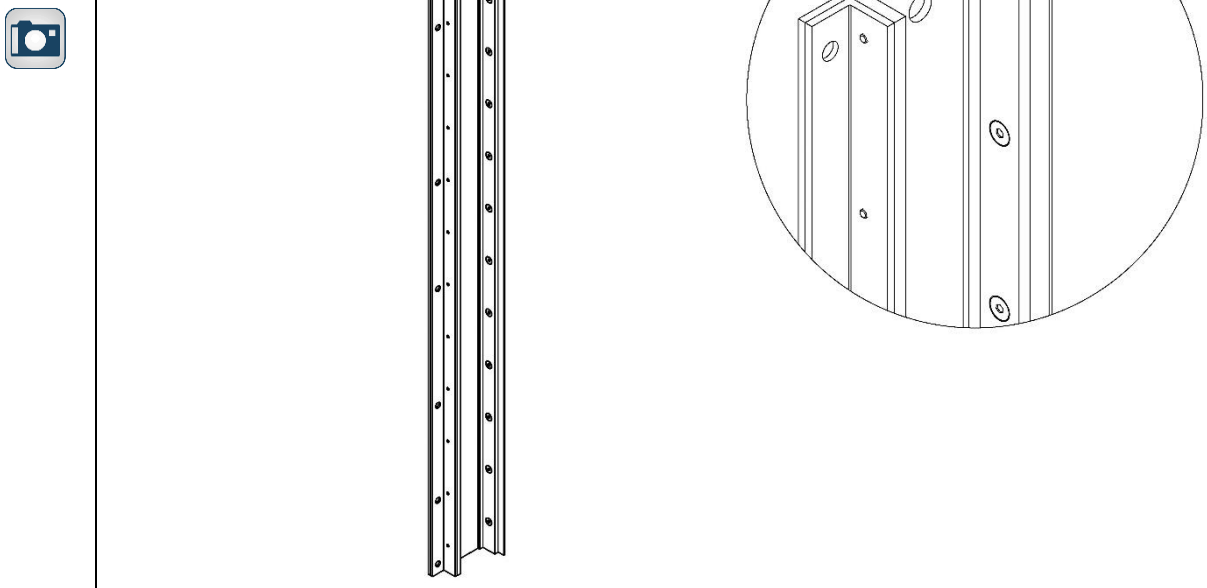
Step	Details
	Demountable flood barriers are custom designed by AWMA to meet individual site requirements and as such appear in many different configurations. This section outlines a typical installation consisting of side channels and post assemblies.
	

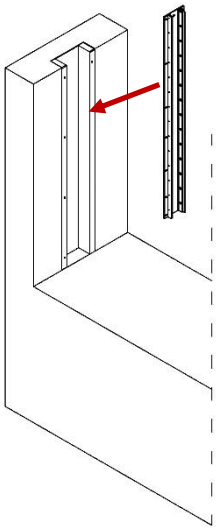
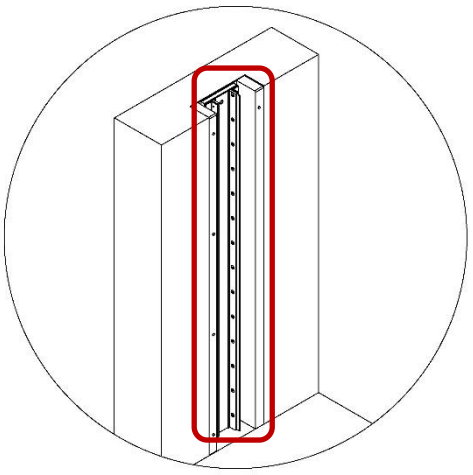
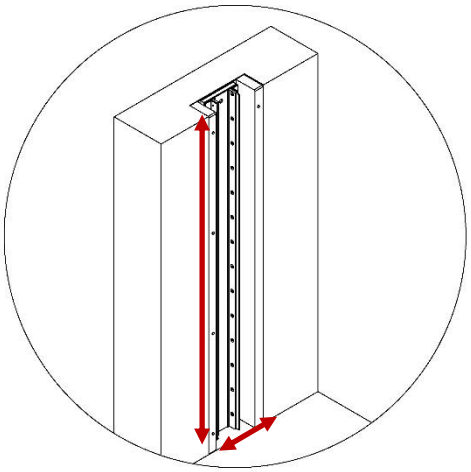
Step	Details
	
1	**Critical measurements** When checking the demountable flood barrier frame is flat and square ensure the following tolerances are achieved. The frame is square and parallel (diagonal check) — Lesser of ± 2mm and +/- 0.05° The frame is plumb (offset check) — 1mm allowable every 1000mm The frame is flat (straight edge) — 1mm allowable every 1000mm The sill is flat — 2mm allowable every 1000mm
2	Prepare the site to the dimensions shown on the demountable flood barrier site-specific drawings.
	
	The site set out shown above is indicative only and will change depending on the site requirements.

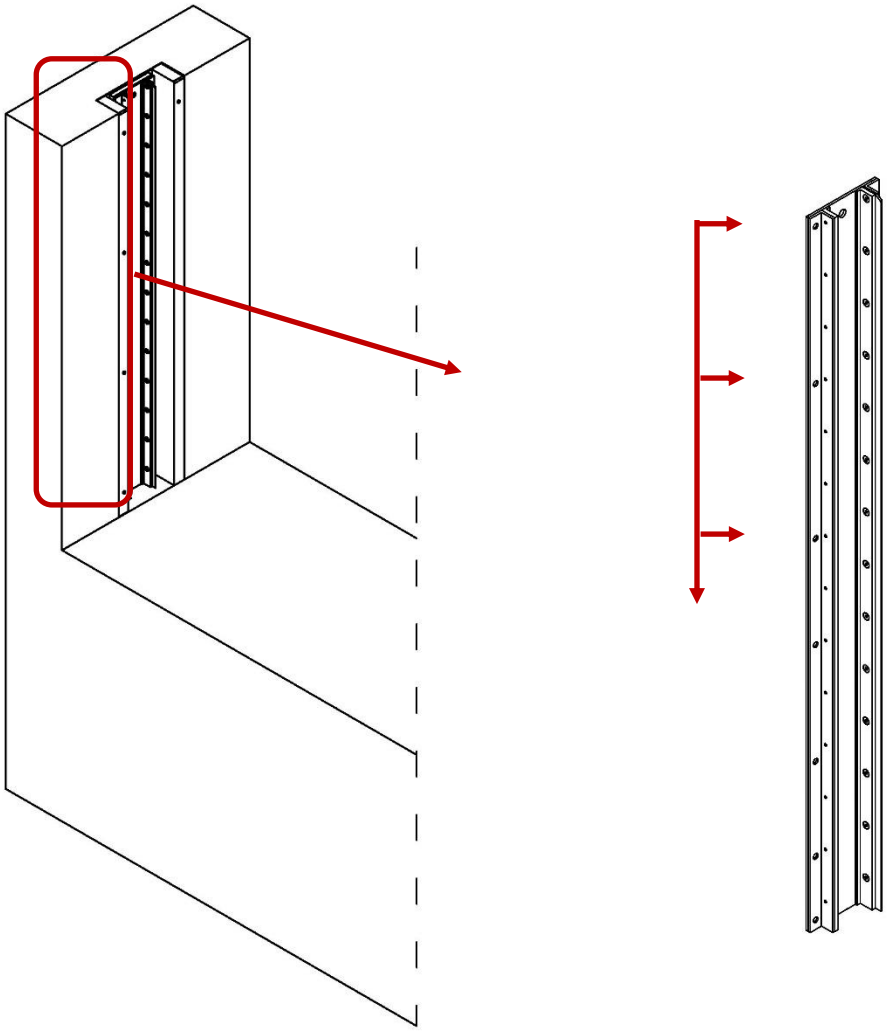
Step	Details
	When using grout for the installation, AWMA recommends using a good quality non-shrink grout. Refer to section 5.4 Grout Considerations, and for further information, please contact AWMA on +61 3 5456 3331.
	Jacking nuts or construction packers can be used to space the side frame. If using jacking nuts, they need to be installed between the side frame and the structure at the same time as the chemical anchors. Chemical injection is recommended when using jacking nuts.

5.6.2 SIDE FRAMES

Step	Details
1	Connect the end posts to a suitably rated lifting device using the nominated lifting points. The end post may be manually lifted depending on the overall size and weight ensuring all WHS, and proper lifting techniques are applied.
	
	Ensure the correct end post is selected for the location. Refer to AWMA site specific drawings for details.

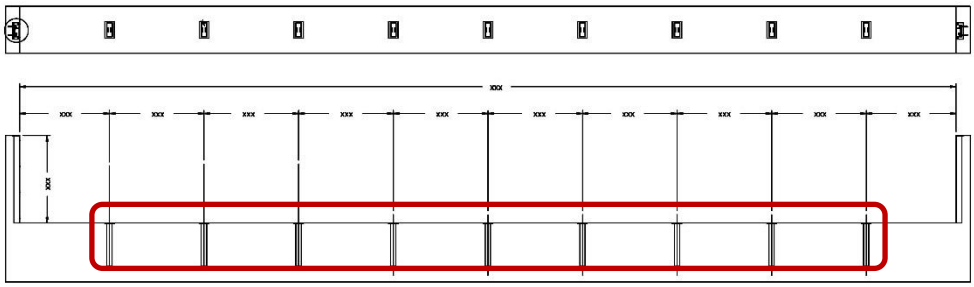
Step	Details
	 Side Frame Lifting Options
2	Lift the end posts into position, use the required packers (or jacking nuts if used) and the lifting device (if used) to position and hold the frame.

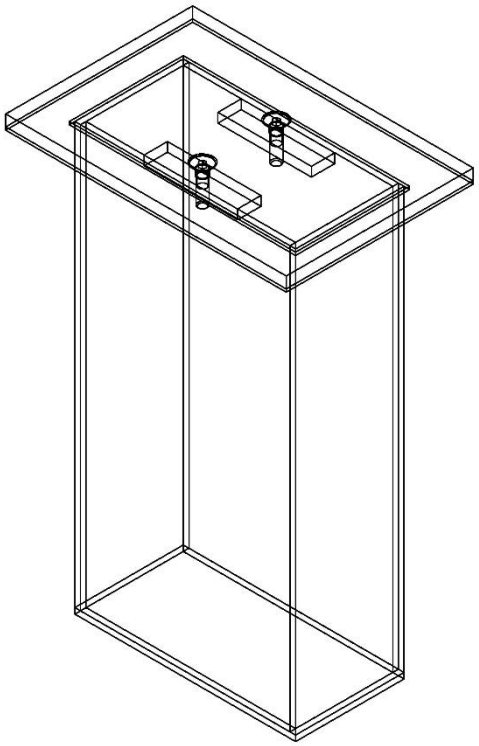
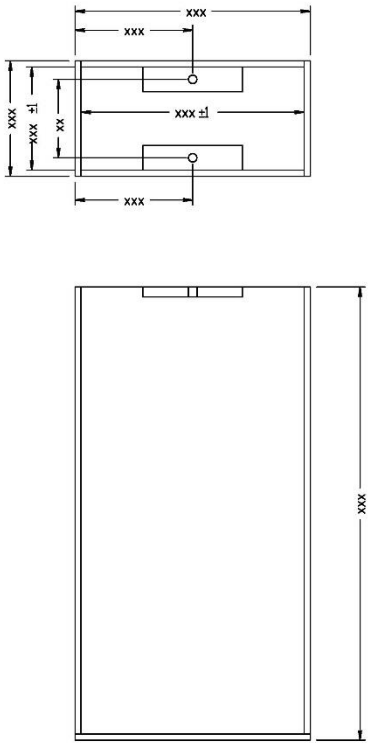
Step	Details
	 
3	Check the end posts for level and squareness using a straight edge and spirit level. Adjust the packers (or jacking nuts if used) accordingly and clamp into position.
	

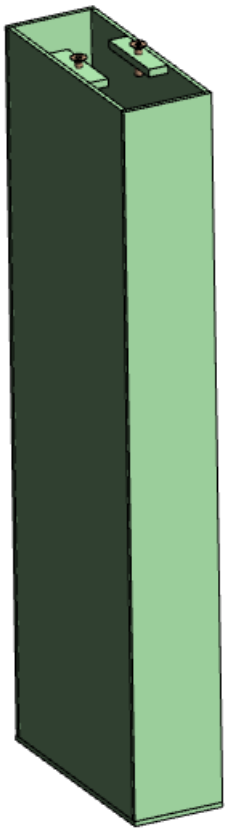
Step	Details
	
4	Install the chemical anchors as per the manufacturer's specifications, constantly monitoring that the end post is remaining level, square and not distorting in the process.
5	Tighten all nuts on the chemical anchors see appendix 5.8.1 Stainless Steel Bolt Torques for details.
6	**PERFORM ANOTHER LEVEL AND SQUARENESS CHECK TO ENSURE IT MEETS THE SPECIFICATIONS IN SECTION 0** Installation Tolerances above.
7	Check all seals to ensure they are free of debris and not damaged.
8	Grout the end posts into place. A suggested method applicable to clear internal waterways and external posts of grouting is to use form ply and pour the grout from the top of the concrete. While the grout cures remove the form ply then trowel to create a neat and even finish of the edges.

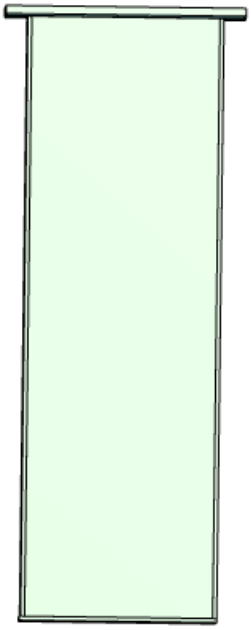
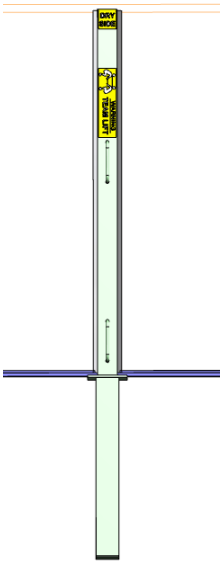
Step	Details
9	**PERFORM AN OVERALL CHECK OF DIMENSIONS OF WIDTH.**
10	When the grout has cured, trim all anchors back to 2 threads past the nut.
	If the grout encloses the nut, before grouting trim all anchors back to 2 threads past the nut.
	If using grout, when aligning the end post ensure it is located within the structure to provide a minimum of 10 to 50mm gap.
	Repeat the above procedure for the other end post.

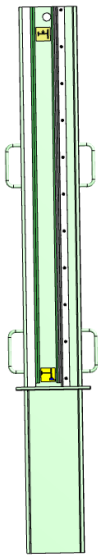
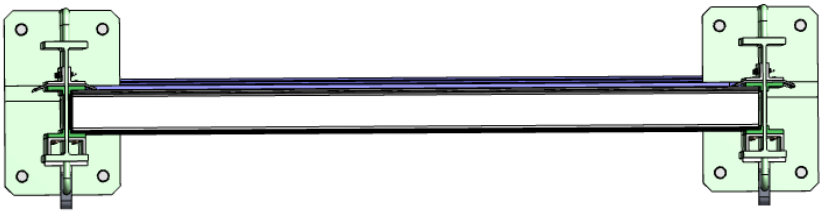
5.6.3 FOOTING ASSEMBLY

Step	Details
	
1	Prepare the footing assembly based on the AWMA demountable flood barrier site-specific drawings.

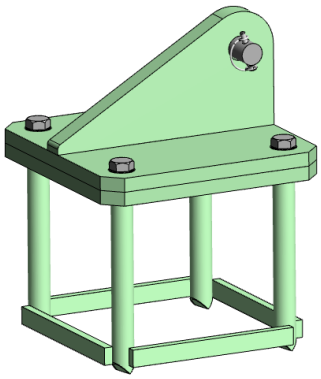
Step	Details
	 Typical Post Footing Assembly
	 Typical Post Footing Assembly - Plan

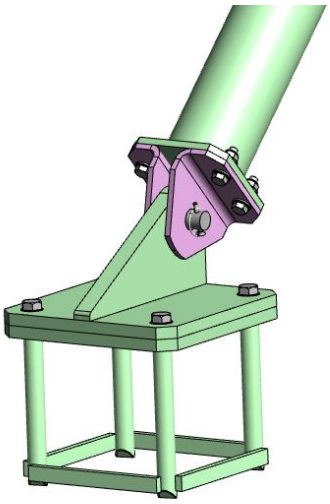
Step	Details
	

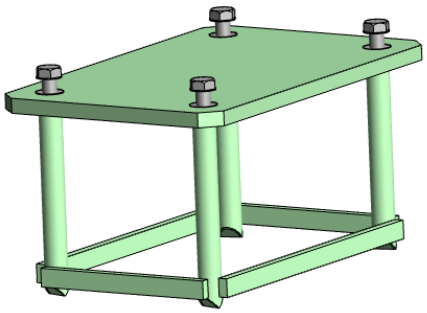
Step	Details
	
	

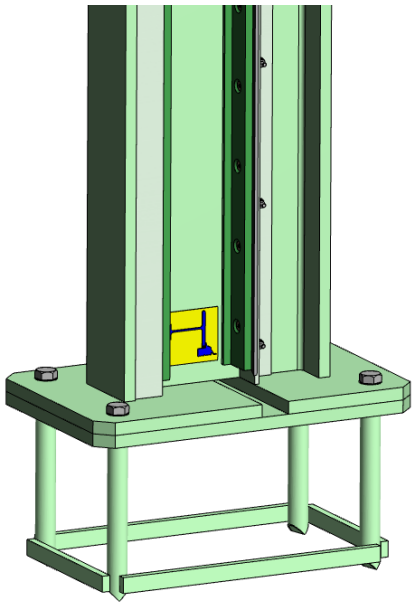
Step	Details
	
	

Step	Details
	CAST IN ASSEMBLY (only on cast in assembly barriers)



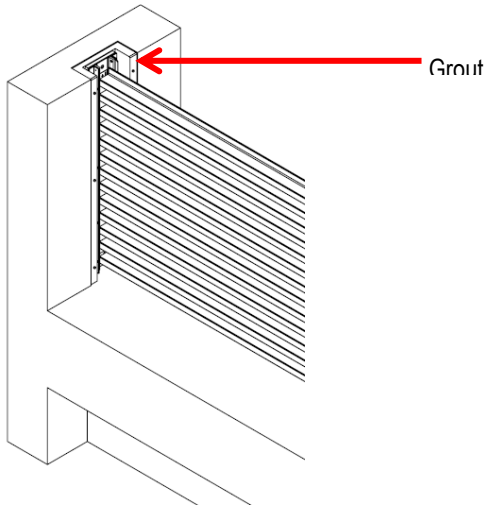




Step	Details
2	 Prepare the formwork ready for the concrete foundation.
3	Check all dimensions are as per the site-specific drawings. Note surface finish levels in relation to cover plates. **Important:** Accuracy of footing placement and fasteners is critical to viable flood barrier operation. Any small inaccuracies of straightness, plum etc is significantly magnified when a post is installed onto the footing. Reference your overview drawing for concrete level.
	CRITICAL MEASUREMENTS When checking the demountable flood barrier frame is flat and square ensure the following tolerances are achieved. The post is square and parallel (diagonal check) — Lesser of ± 2mm and +/- 0.05° The post is plumb (offset check) — 1mm allowable every 1000mm The post is flat (straight edge) — 1mm allowable every 1000mm The post is plumb — 1mm allowable every 2000mm The sill (ground level) is flat — 2mm allowable every 1000mm
4	Ensure all dimension and tolerances are adhered to.
5	Pour the concrete foundations. Reference your overview drawings to establish excavation size. Concrete requirement depends on size conditions.
	Concrete flatness to be minimum L/500 across the walls and floor.

5.6.4 OPTION – GROUTING

If end posts are embedded into flood walls it may be necessary to grout. Reference picture below.

Step	Details
	
	Refer to section 5.6.2

5.6.5 OPTION – SEALING

If the end posts are face mounted to flood wall, sealant is required on the flood side. Reference page 18 of this manual to view the three different side post mounting methods.

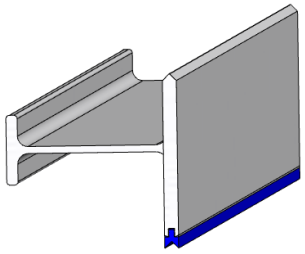
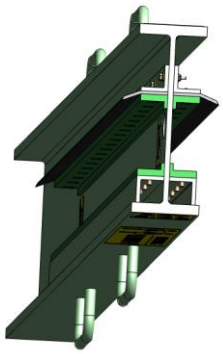
Step	Details
	This section outlines the procedure using sealant, if using grout refer to section 5.6.4 Option Grouting above.
1	Using the frame as a template drill all chemical anchor bolt holes according to the chemical anchor manufacturer's recommendation. Use embedment details from the AWMA overview drawing.
	When the gaps are greater than 3mm between the structure and the side frame construction packers are to be used to ensure the frame is fully supported in all load bearing areas as the sealant can compress and distort the frame under load.
	It is important to select a sealant that has a longer curing time than the chemical used with the anchors.
2	Apply two even beads (4mm) around the frame mounting surfaces, making sure that extra sealant is applied to the structure in the low spots.
3	Move the side frame against the structure ensuring all construction packers are in the correct place.

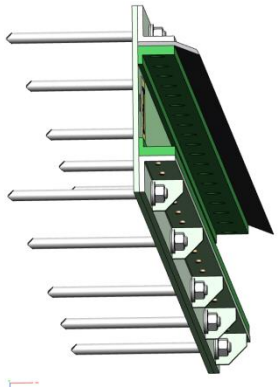
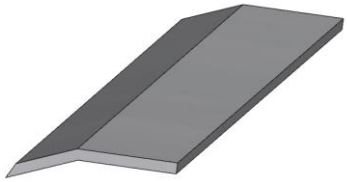
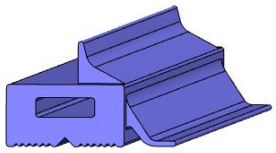
Step	Details
4	Install the chemical anchors as per the manufacturer's recommendations.
5	Once the chemical anchors have cured, they can be tightened to the manufacturer's recommendations as outlined in appendix 5.8.1 Stainless Steel Bolt Torques below. During the tightening process ensure the frame remains level and does not distort.
6	Remove all excess sealant. Apply extra sealant to the outside of the frame where the frame meets the structure. Trowel back sealant to a neat finish and allow curing.
7	Perform another level and squareness check to ensure it meets the specifications in section 5.5.2 Installation Tolerances above.
8	Check all seals to ensure they are free of debris and not damaged.
9	When the sealant has cured, trim all anchors back to 2 threads past the nut.

5.6.6 INSTALLATION COMPLETION

Step	Details
1	Clean all construction residue away from the work area and wash down the stopboards, post assemblies and frames if required.
2	Perform another level and squareness check to ensure it meets the specifications in the installation tolerances above.
3	Check the operation of the demountable flood barrier as outlined in the AWMA Demountable Flood Barrier Operation and Maintenance Manual.
4	Check all seals to ensure they are free of debris and not damaged.
5	Ensure all equipment and rubbish has been removed, and the work area is left clean and tidy.

5.7 GLOSSARY

Term	Description	
Flatness	The 3d version of straightness, it is a measure of how flat a surface is. A flatness tolerance defines the 'waviness' of a surface to be between within two parallel flat planes.	
Fouling	The accumulation of unwanted material on a solid surface that impedes the function.	
Packers	A horseshoe or rectangular shaped flat block that is used to align, level and bridge gaps in between structures to achieve the correct tolerances.	
Plumb	Refers to a feature being vertically aligned.	
Squareness	Describes the variations in the angle between two features that are specified to be 90 degrees to each other.	
On seating	Where the water pressure is forcing the door onto the frame.	
Off seating	Where the water pressure is forcing the door away from the frame.	
Flood board	100mm high aluminium ERT that fits between two posts and stacks to required flood protection level.	
Post	Load bearing aluminium post bolted or inserted to footings to make flood boards high load bearing.	

Term	Description	
End post	Post attached topermanent flood wall can be embeded or face mounted, can be fitted with a vandal proofing cover.	
Side seal	Resilient hydrostatic seal on vertical face of posts.	
Sill seal	Free standing seal used as an interface between lowest flood board and ground level.	
Prop	Angled support used to redistribute load on posts above 1.5m.	

5.8 APPENDICES

5.8.1 STAINLESS STEEL BOLT TORQUES (NM)

Nominal Size	Pitch (mm)	Stress Area (mm2)	Class 50	Class 70	Class 80
M3	0.50	5.03	0.4	0.9	1.2
M4	0.70	8.78	1.0	2.1	2.7
M5	0.80	14.20	1.9	4.2	5.5
M6	1.00	20.10	3.3	7.1	9.4
M8	1.25	36.60	8.0	17.1	22.8
M10	1.50	58.00	15.8	33.9	45.2
M12	1.75	84.30	27.6	59.2	78.9
M14	2.00	115.00	44.0	94.2	125.6
M16	2.00	157.00	68.6	147.0	195.9
M18	2.50	192.00	94.3	202.2	269.6
M20	2.50	245.00	133.8	286.7	382.2
M22	2.50	303.00	182.0	390.0	519.9
M24	3.00	353.00	231.3	495.6	660.8
M27	3.00	459.00	338.3	725.0	966.7
M30	3.50	561.00	459.5	984.6	1312.7
M33	3.50	694.00	625.2	1339.8	1786.4
M36	4.00	817.00	802.9	1720.6	2294.1
M39	4.00	976.00	1039.1	2226.7	2969.0

k Factor = 0.2 The induced load is calculated at 65% yield stress.

Note

A k factor of 0.2 has been used which assumes threads are burr free and a good quality lubricant (molybdenum disulphate MoS_2) is used. Stainless steel fasteners that are not lubricated or coated often seize and can exhibit k factors in excess of 0.35.

5.8.2 TROUBLE SHOOTING GUIDE

Fault	Leaking	
	Possible Cause	**Suggested Action**
1	Debris jammed between the seal and demountable flood barrier segments.	Remove debris and inspect seals for damage.
2	Damaged seal.	Replace seal as per the AWMA Demountable Flood Barrier Operation and Maintenance Manual.
3	Post leaning on an angle	Footing flatness.
4	Boards too tight in posts	Centre distance of posts is out of tolerance or post on an angle.
5	Board too loose in posts	Centre distance of posts is out of tolerance or post on an angle.
6	Gaps under sill rubber	Flatness of sill not in tolerance.

5.8.3 DEMOUNTABLE FLOOD BARRIER INSTALLATION INSPECTION CHECKLIST

Install Inspection Checklist				
Pre-Installation	Yes	N/A	No	Comments
Inspect for damage				
Inspect for rust				
Confirm all components are on site				
Equipment required for install on site				
Side post grout/sealant condition				
Structure dimension check performed				
OHS inductions performed				
Structure integrity checked				
Install check (prior grouting)	Yes	N/A	No	Comments
Correct item to be installed selected				
Lift points identified				
Anchors installed full embedment				
All load-bearing surfaces supported				
Anchors installed as per manufacturer's specifications				
Side frame alignment check				
Sill frame alignment check				
Fasteners torqued				
Concrete footings check				

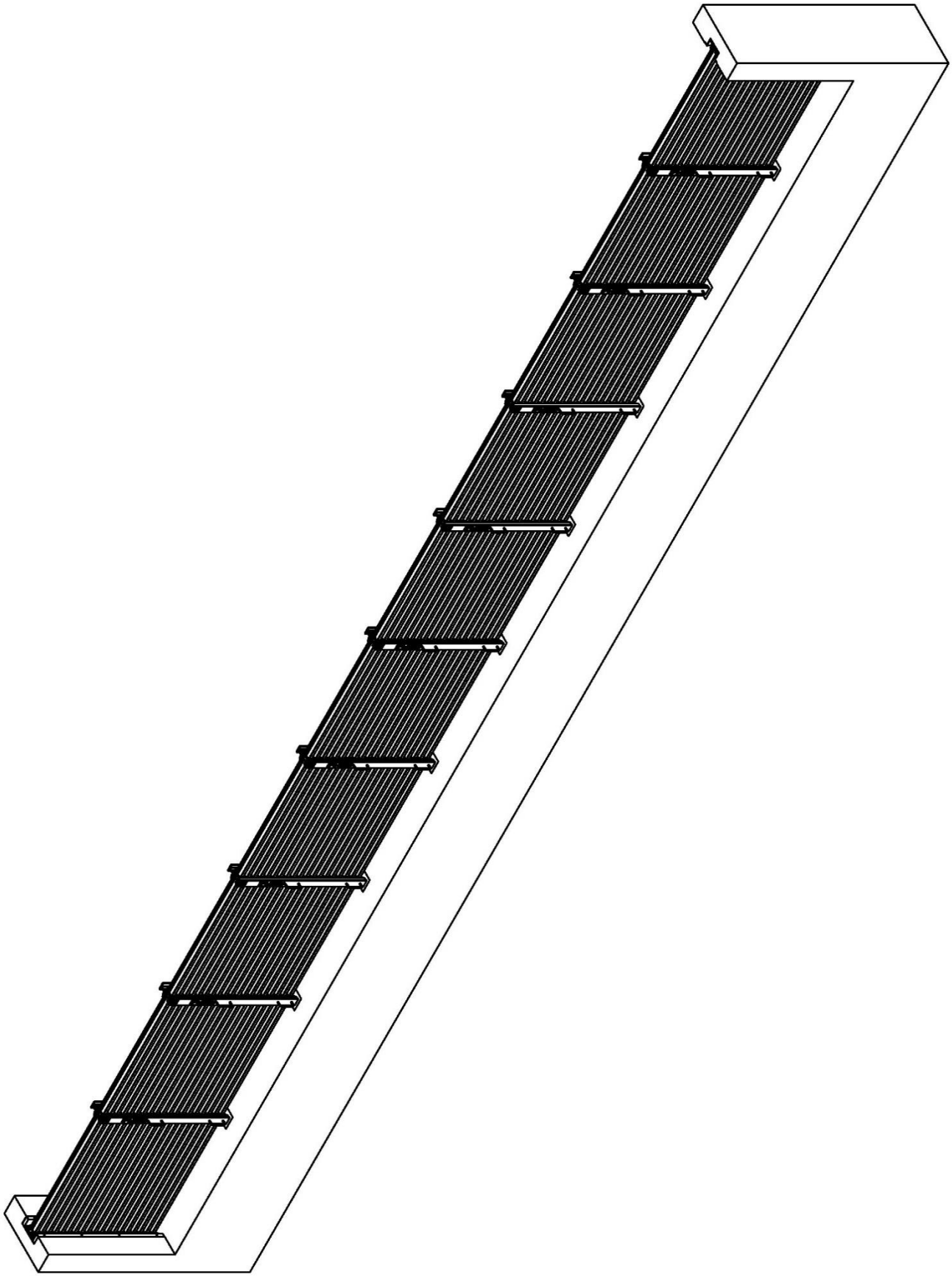
After grouting	Yes	N/A	No	Comments
Grouting of good quality				
Sill plate free of grout				
Any spilt grout removed				
Squareness and alignment check				
Fasteners torqued				
Additional Comments				

6 DRAWINGS

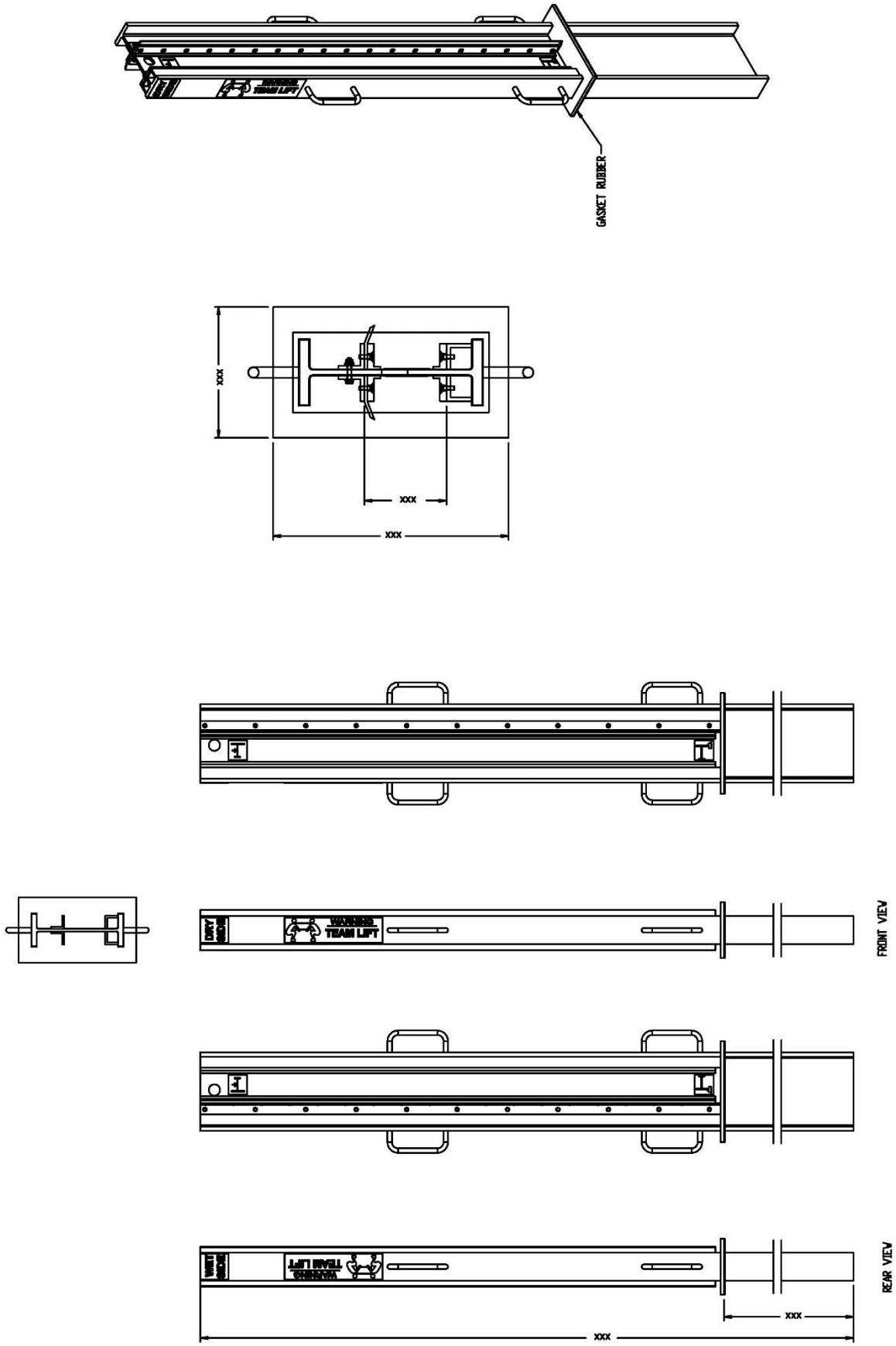
Drawing Title	Drawing No	Revision	Date
Overview	01	-	-
Post Assembly	02	-	-
Side Frame	03	-	-
Cast In Assembly	04	-	-

6.1 DRAWINGS DETAIL

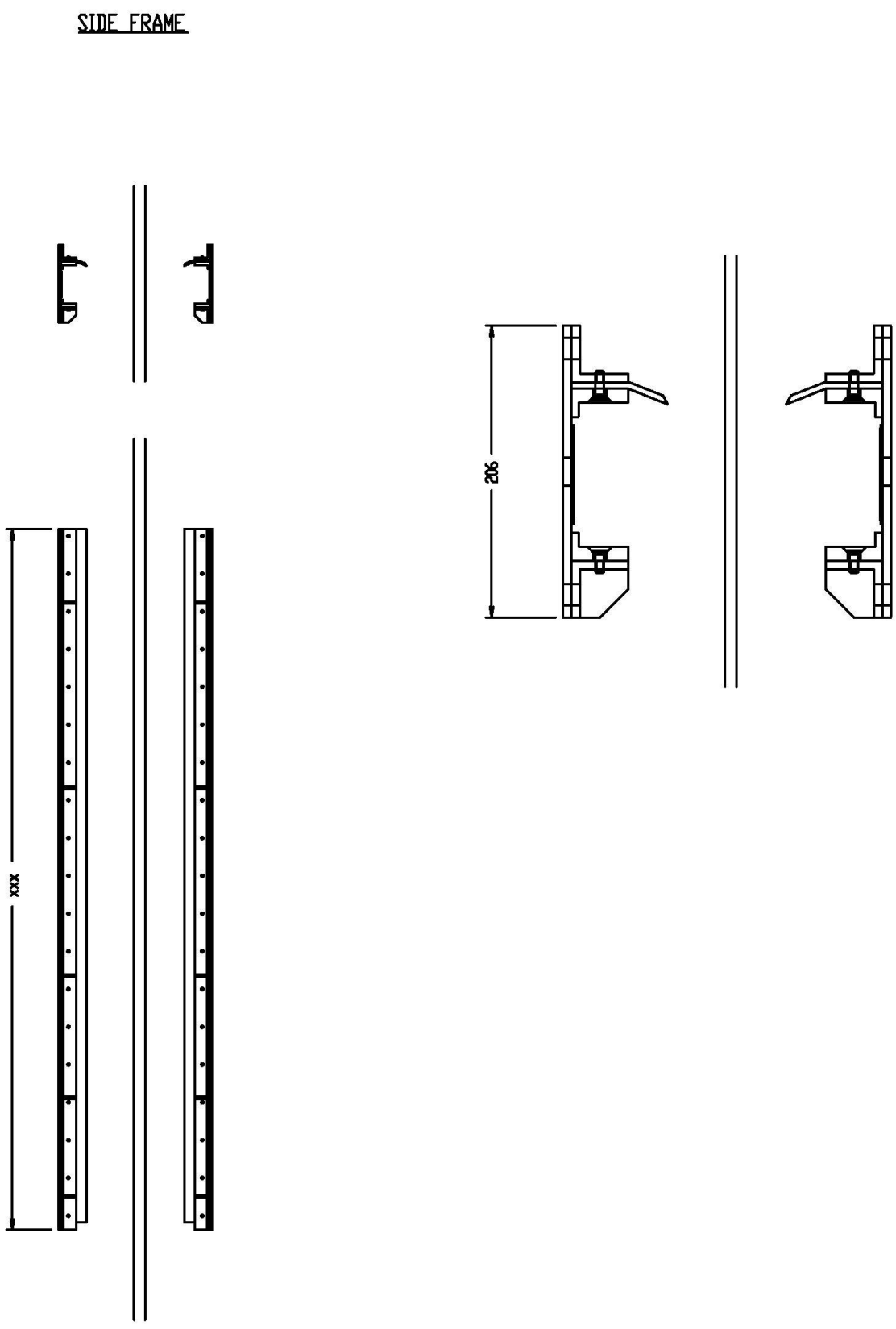
6.1.1 OVERVIEW – CAST IN SLEEVES



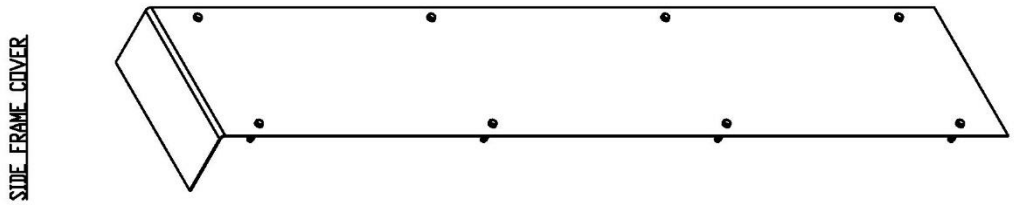
6.1.2 POST ASSEMBLY

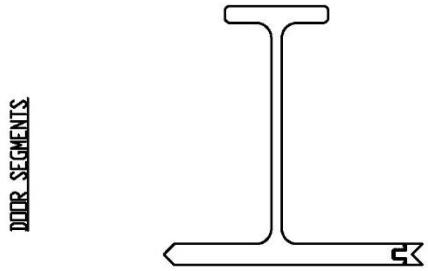


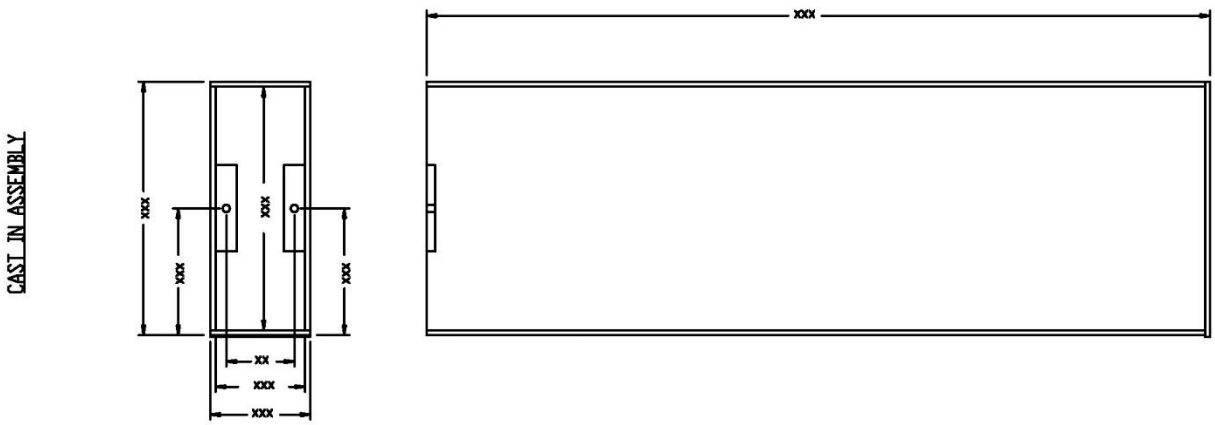
6.1.3 END POST

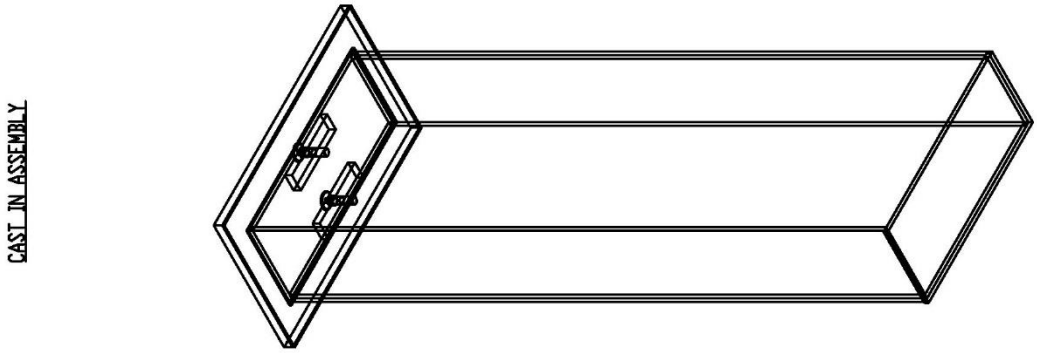


6.1.4 CAST IN ASSEMBLY



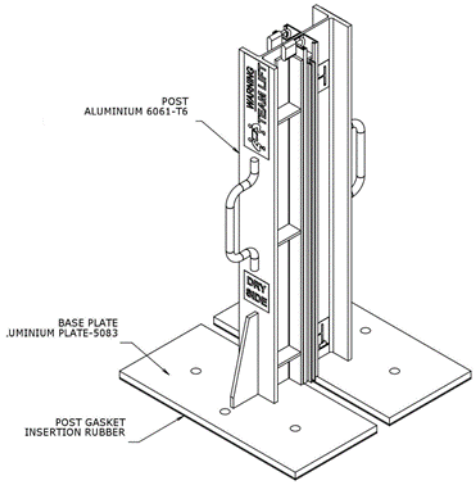




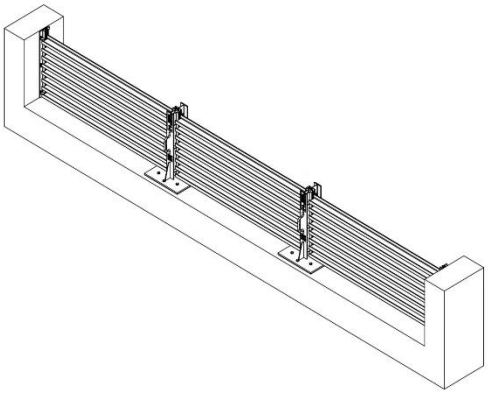


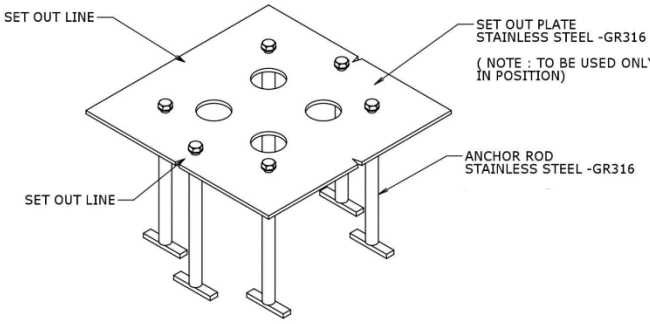
6.2 ADDITIONAL DRAWING DETAILS

6.2.1 REMOVABLE BOLT DOWN POST ASSEMBLY

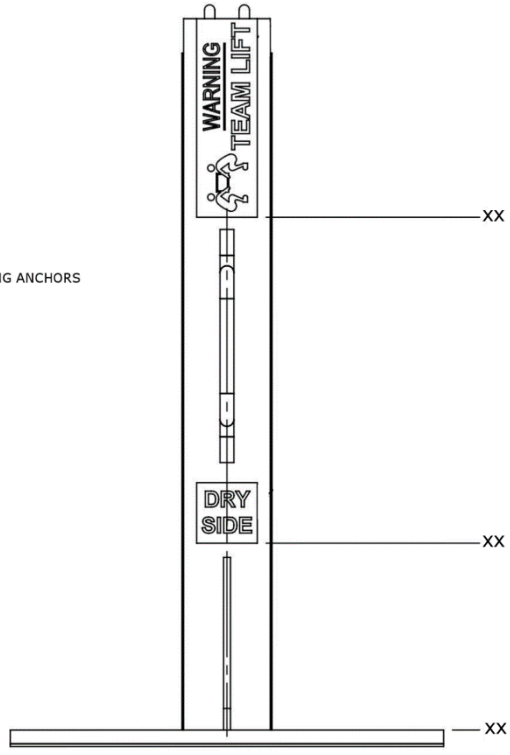


REMOVABLE POST ASSEMBLY

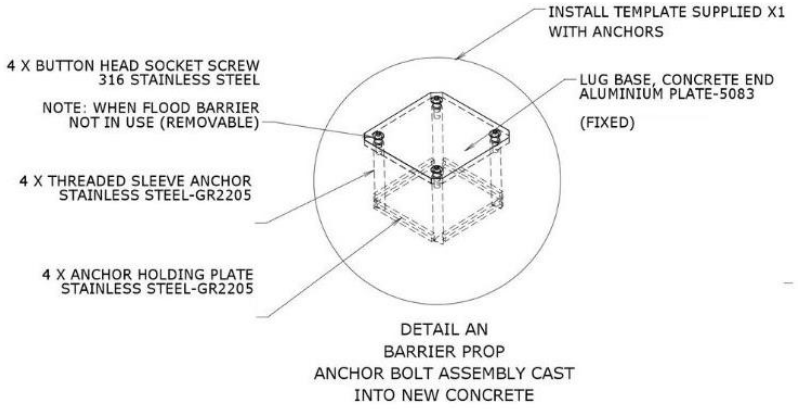




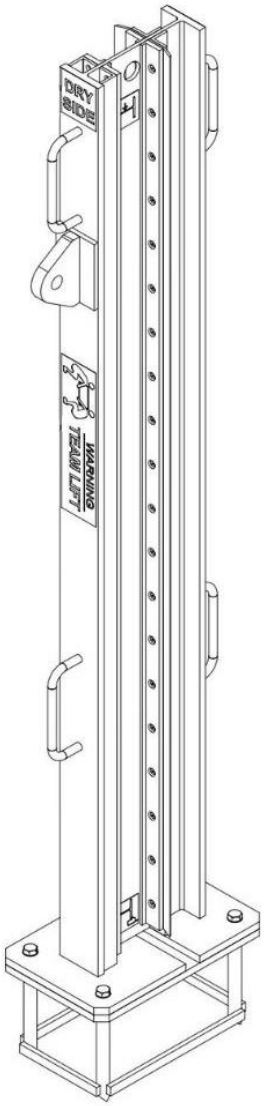
CAST IN ASSEMBLY

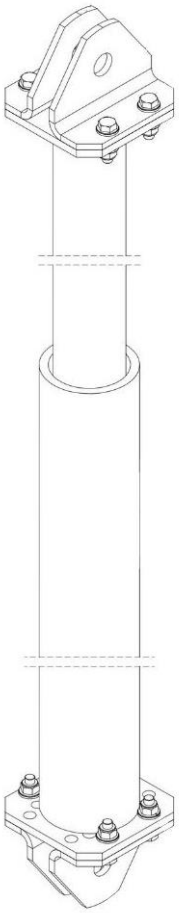


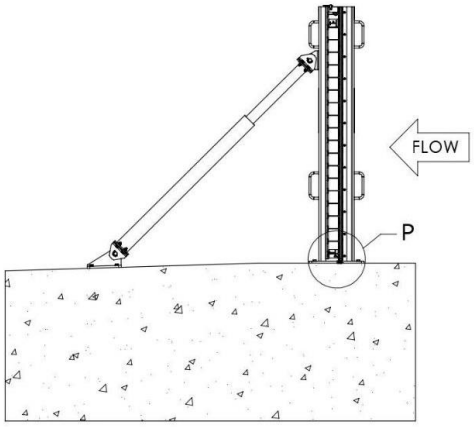
6.2.2 CAST IN ASSEMBLY



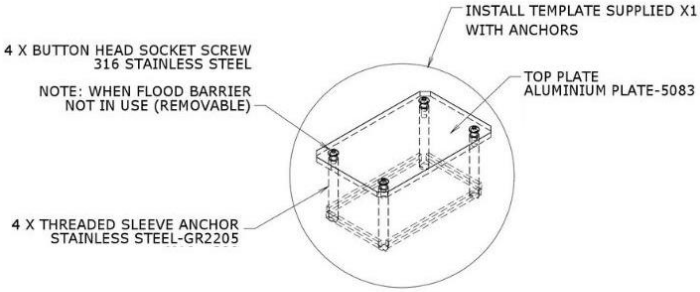
DETAIL AN
BARRIER PROP
ANCHOR BOLT ASSEMBLY CAST
INTO NEW CONCRETE





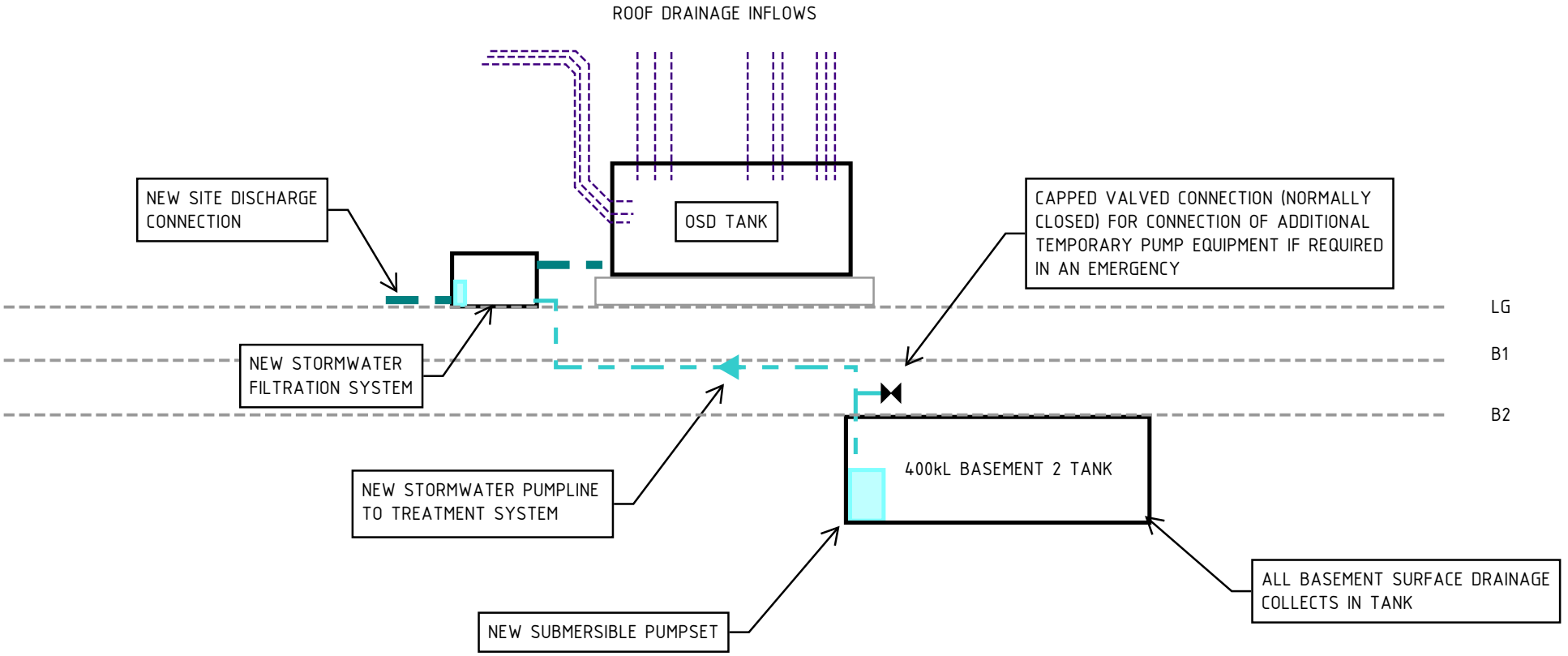


SECTION L-L



DETAIL AP
POST BASE
220mm DEEP TO BE REMOVED AND RECONSTRUCTED
TO AN EXISTING SLAB FOOTING

APPENDIX G: POST-FLOOD OPERATION PLAN



POST FLOOD CLEAN UP SCHEMATIC

REFER BASEMENT 2 ZONE 1 PART PLAN

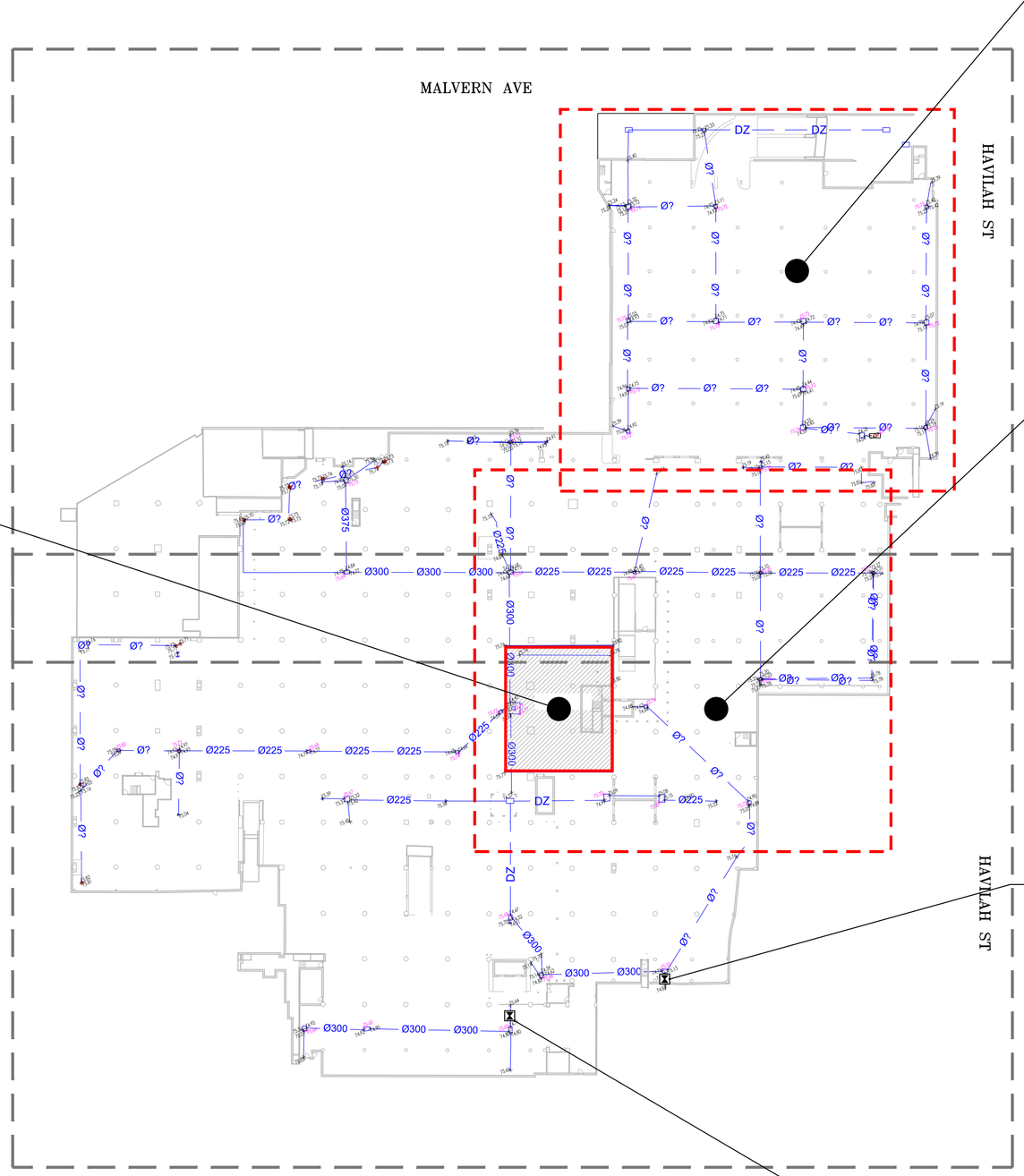
LOCATION OF 400kL INGROUND STORMWATER TANK

COLLECTS ALL BASEMENT SURFACE WATER

REFER BASEMENT 2 ZONE 2 PART PLAN

ISOLATION VALVE FROM B1 DRAINAGE (NORMALLY OPEN) - TO BE CLOSED AS PART OF EMERGENCY PLAN

ISOLATION VALVE FROM B1 DRAINAGE (NORMALLY OPEN) - TO BE CLOSED AS PART OF EMERGENCY PLAN



BASEMENT 2 OVERALL SITE PLAN

REFER HY-CJA-DRG-11010 FOR CONTINUATION

REFER HY-CJA-DRG-11014 FOR CONTINUATION

REFER HY-CJA-DRG-11013 FOR CONTINUATION

REFER HY-CJA-DRG-11012 FOR CONTINUATION

INGROUND SEWER PUMPWELL
SP-B2-05
NEW 10,000L (2400mm DIA.) INGROUND SEWER PUMPSTATION WITH DUAL SUBMERSIBLE PUMPS, 600X900 HEAVY DUTY GATIC INFILL TYPE COVER, MACERATOR, VISIBLE & AUDIBLE ALARM AT CONTROL PANEL, CHAMBER VENT TO ATMOSHPERE ETC. PROVIDE STAINLESS HARDWARE, LIFTING CHAINS & GUIDE RAILS ALL IN ACCORDANCE WITH SYDNEY WATER REQUIREMENTS
REFER TO HYDRAULIC SPECIFICATION FOR DETAILS.
DUTY: 2 X 4L/S @ 15M HEAD
POWER: 2X 2.4KW (415V/3PH)
COMMS: COMMON FAULT TO BMS
APPROXIMATE BASE I.L - 73.32m (SUBJECT TO CONFIRMATION OF EXISTING PUMP SYSTEM DEPTH)

INGROUND GREASY PUMPWELL
GP-B2-04
NEW 8,000L (1800mm DIA.) INGROUND GREASY PUMPSTATION WITH DUAL SUBMERSIBLE PUMPS, 600X900 HEAVY DUTY GATIC INFILL TYPE COVER, VISIBLE & AUDIBLE ALARM AT CONTROL [illegible] ETC. PROVIDE [illegible] GUIDE RAILS ALL IN [illegible] REMENTS [illegible] DETAILS.

400kL INGROUND STORMWATER TANK COMPLETE WITH NEW SUBMERSIBLE STORMWATER PUMP

[illegible] TO CONFIRMATION

[illegible] ELEVATED SEWER DRAIN PASSES [illegible] OUGH TANK AT H/L. ALLOW TO [illegible] AINTAIN OPERATION AT ALL TIMES

NEW TANK STORMWATER PUMPWELL
SWP-B2-02
ALLOW TO INSTALL NEW SUBMERSIBLE TYPE STORMWATER PUMPS COMPLETE WITH VISIBLE & AUDIBLE ALARM AT CONTROL PANEL. PROVIDE STAINLESS HARDWARE, LIFTING CHAINS & GUIDE RAILS, 80Ø RISING MAIN TO TO NEW STORMWATER TREATMENT SYSTEM COMPLETE WITH NON RETURN VALVE
DUTY: 2 x 5L/s @ 20m HEAD (5L/s DUTY)
POWER: 10A
COMMS: COMMON FAULT TO BMS

EX. STORMWATER PUMPS TO BE MADE REDUNDANT. ALLOW TO LOCATE ALL EXISTING CONNECTIONS AND DEMOLISH. TO REMAIN OPERATIONAL AT ALL TIMES

NEW TANK STORMWATER PUMPWELL
SWP-B2-01
ALLOW TO INSTALL NEW SUBMERSIBLE TYPE STORMWATER PUMPS COMPLETE WITH VISIBLE & AUDIBLE ALARM AT CONTROL PANEL. PROVIDE STAINLESS HARDWARE, LIFTING CHAINS & GUIDE RAILS, 225Ø RISING MAIN TO NEW STORMWATER TREATMENT SYSTEM COMPLETE WITH NON RETURN VALVE
DUTY: 2 x 30L/s @ 20m HEAD (30L/s DUTY)
POWER: 20A each (3ph)
COMMS: COMMON FAULT TO BMS

ALLOW TO PROVIDE NEW 225Ø PUMPLINE CAPPED AT HIGH LEVEL WITH VALVE FOR FUTURE CONNECTION OF TEMPORARY STORMWATER PUMPS REQUIRED FOR DISCHARGE OF FLOOD WATER

CAPPED VALVED 225Ø CONNECTION POINT FOR CONNECTION OF EMERGENCY TEMPORARY PUMP. REQUIRED IN EVENT OF FLOOD EMERGENCY. TO REMAIN LOCKED CLOSED

VALVE AT HIGH LEVEL (NORMALLY CLOSED) FOR CONNECTION OF ADDITIONAL TEMPORARY PUMP SYSTEM IF REQUIRED

EXISTING SEWER CONNECTIONS TO PUMPWELL TO REMAIN OPERATIONAL THROUGHOUT THE LIFESPAN OF THE PROJECT. ALLOW TO LOCATE ON-SITE ALL EXISTING SEWER CONNECTIONS TO PUMPWELL AND RECONNECT TO NEW SEWER PUMPWELL INSTALLED AS PART OF MAIN WORKS. SEWER PUMPWELL AND ALL INLETS, OUTLETS, VENTS ETC. TO BECOME REDUNDANT FOLLOWING CHANGEOVER

EX. GIT'S TO BECOME REDUNDANT AS PART OF MAIN WORKS. ALLOW TO LOCATE ON SITE AND DIVERT ALL EXISTING GREASY CONNECTIONS TO BE DIVERTED TO NEW GREASY PUMPWELL FOR TREATMENT AT CENTRAL DAF PLANT

225mm PUMPLINE AT HIGH LEVEL

EX. 400kL SW TANK
EXISTING INGROUND 400kL STORMWATER TANK TO REMAIN OPERATIONAL THROUGHOUT LIFESPAN OF PROJECT. ALLOW TO REFURBISH EX. INGROUND TANK WITH NEW LINER WHERE IMPACTED BY NEW STRUCTURAL WORKS.

INGROUND SEWER PUMPWELL
SP-B2-04
NEW 3,000L (1800mm DIA.) INGROUND SEWER PUMPSTATION WITH DUAL SUBMERSIBLE PUMPS, 600X900 HEAVY DUTY GATIC INFILL TYPE COVER, VISIBLE & AUDIBLE ALARM AT CONTROL PANEL, CHAMBER VENT TO ATMOSHPERE ETC. PROVIDE STAINLESS HARDWARE, LIFTING CHAINS & GUIDE RAILS ALL IN ACCORDANCE WITH SYDNEY WATER REQUIREMENTS
REFER TO HYDRAULIC SPECIFICATION FOR DETAILS.
DUTY: 2 X 2L/S @ 15M HEAD
POWER: 12AMPS (415V/3PH)
COMMS: COMMON FAULT TO BMS
APPROXIMATE BASE I.L - 73.62m (SUBJECT TO CONFIRMATION OF EXISTING PUMPWELL DEPTH)

EX. PUMPWELL TO BECOME REDUNDANT AS PART OF MAIN WORKS. ALLOW TO LOCATE ON SITE AND DIVERT ALL EXISTING SEWER CONNECTIONS TO BE DIVERTED TO NEW SEWER PUMPWELL

INGROUND GREASY PUMPWELL
GP-B2-03
NEW 3,000L (1800mm DIA.) INGROUND GREASY PUMPSTATION WITH DUAL SUBMERSIBLE PUMPS, 600X900 HEAVY DUTY GATIC INFILL TYPE COVER, VISIBLE & AUDIBLE ALARM AT CONTROL PANEL, CHAMBER VENT TO ATMOSHPERE ETC. PROVIDE STAINLESS HARDWARE, LIFTING CHAINS & GUIDE RAILS ALL IN ACCORDANCE WITH SYDNEY WATER REQUIREMENTS
REFER TO HYDRAULIC SPECIFICATION FOR DETAILS.
DUTY: 2 X 2L/S @ 15M HEAD
POWER: 12AMPS (415V/3PH)
COMMS: COMMON FAULT TO BMS
APPROXIMATE BASE I.L - 72.40m (SUBJECT TO CONFIRMATION OF EXISTING PUMPWELL DEPTH)

EX. GIT'S TO BECOME REDUNDANT AS PART OF MAIN WORKS. ALLOW TO LOCATE ON SITE AND DIVERT ALL EXISTING GREASY CONNECTIONS TO BE DIVERTED TO NEW GREASY PUMPWELL FOR TREATMENT AT CENTRAL DAF PLANT

NOTE:
THESE DRAWINGS ARE INTENDED FOR MANAGING CONTRACTOR AND/OR GUARANTEED MAXIMUM PRICE (GMP) TENDER PURPOSES ONLY AND HAVE BEEN ISSUED WHILST THE DESIGNS ARE STILL DEVELOPING. THEY ARE BASED ON ARCHITECTURAL DRAWINGS ISSUED ON THE 14/08/2019 AND OTHER CONSULTANT DRAWINGS, WHICH MAY CONTAIN CONFLICTING DATA, OMISSIONS AND ERRORS. AT THE TIME OF ISSUE, THESE DRAWINGS WERE BASED ON ARCHITECTURAL MODEL/DRAWINGS ISSUED AT A POINT IN TIME AND OTHER CONSULTANT'S DRAWING WHICH ARE KNOWN TO BE ONLY PARTIALLY COMPLETE AND SUBJECT TO FURTHER DESIGN DEVELOPMENT. THE TENDERER WILL BE REQUIRED TO WORK WITH THE MANAGING CONTRACTOR, CONSULTANT TEAM, AUTHORITIES, STAKEHOLDERS AND CLIENT GROUPS TO DEVELOP THE DETAILED DESIGNS WHICH CAN BE EXPECTED TO DIFFER IN SCOPE AND DETAIL FROM THAT CURRENTLY SHOWN ON THESE DRAWINGS. THE TENDERER IS ADVISED TO MAKE AN ASSESSMENT, BASED ON THEIR OWN EXPERIENCE WITH PROJECTS OF THIS NATURE, OF THE RISKS INVOLVED IN CHANGES IN REQUIREMENTS, INVESTIGATION OUTCOMES, SCOPE AND DESIGN DETAIL AND TO PROVIDE IN THEIR TENDER AN ADEQUATE CONTINGENCY (INCLUDING CONSULTANT FEES) TO ENABLE IT TO ACCOMMODATE SUCH CHANGES OR FURTHER DEVELOPMENT.

NEW PUMPWELLS
CONTRACTOR TO ALLOW TO COORDINATE LOCATIONS OF ALL NEW PUMPWELLS WITH BOTH EXISTING STRUCTURE AND PROPOSED STRUCTURAL STRRENGTHENING WORKS.

NOTE - CURRENT DRAWINGS BASED ON 70% DESIGN DEVELOPMENT DOCUMENTATION. DOCUMENTATION TO BE UPDATED TO REFLECT AS-BUILT PLANS FOLLOWING COMPLETION OF PROJECT

BASEMENT 2 ZONE 2

EXISTING CONDITIONS NOTES:

EXISTING CENTRE STRUCTURE TO REMAIN

EXISTING SERVICES INDICATED TAKEN FROM EXISTING DRAWINGS AND SITE INSPECTION AND SHOWN FOR INFORMATION ONLY - CONTRACTOR MUST ALLOW FOR THEIR OWN SITE INSPECTION DURING THE TENDER PHASE. CONTRACTOR TO CONFIRM ALL COSTS AND EXTENT OF SERVICES REQUIRED TO BE DIVERTED OR CUT AND SEALED

UNLESS NOTED OTHERWISE, EXISTING SERVICES INDICATED ARE TO REMAIN IN SERVICE AT ALL TIMES - CONTRACTOR MUST ALLOW FOR TEMPORARY DIVERSION / RELOCATION TO ENSURE CONTINUAL OPERATION

CONTRACTOR MUST ALLOW FOR ALL NEW PENETRATIONS AND SAWCUTTING OF EXISTING STRUCTURE WHERE REQUIRED TO INSTALL NEW SERVICES. ALL PROPOSED MODIFICATIONS TO THE EXISTING STRUCTURE MUST BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO ANY WORKS. ALLOW TO FIRE SEAL ANY NEW PENETRATION TO MAINTAIN THE FIRE RATING OF THE ELEMENT THROUGH WHICH IT IS PASSING. ALLOW TO FIRE SEAL ANY NEW PENETRATION TO MAINTAIN THE FIRE RATING OF THE ELEMENT THROUGH WHICH IT IS PASSING

STAGING NOTES:

PROJECT INCLUDES AN EARLY WORKS AND MAIN WORKS PACKAGE - REFER TO PROJECT PRELIMINARIES FOR FULL EXTENT OF STAGING.

THE MAIN WORKS PACKAGE MUST BE READ IN CONJUCTION WITH THE EARLY WORKS PACKAGE AS WELL AS THE FULL ARCHITECTURAL, STRUCTURAL, CIVIL, FIRE SERVICES, SERVICES AND RETAIL PACKAGES TO UNDERSTAND THE FULL SCOPE OF WORKS. CONTRACTOR MUST REFER TO THESE DRAWINGS AND ALLOW FOR ALL AS PART OF THE GMP TENDER SUBMISSION.

THIS MAIN WORKS PACKAGE IS BASED ON THE ASSUMPTION THAT ALL WORKS INCLUDED WITHIN THE EARLY WORKS PACKAGE ARE COMPLETE

FLOOD MANAGEMENT:

THE BASEMENT LEVELS ARE DESIGNED TO ALLOW FOR TEMPORARY STORAGE OF FLOOD DURING EXTREME FLOOD EVENTS. CONTRACTOR TO ALLOW FOR BUNDING OR ELEVATING OF ALL HYDRAULIC PLANT ROOMS AND EQUIPMENT TO MIN. 200MM ABOVE FFL.

ALLOW FOR ALL ELECTRICAL EQUIPMENT TO BE MINIMUM 350MM ABOVE FFL

ALLOW FOR ALL SWITCHBOARDS AND CONTROL PANELS TO BE MIN 1500MM ABOVE FFL

DEMOLITION

PROJECT MAIN WORKS INVOLVE DEMOLITION OF EX. SERVICES ABOVE GROUND LEVEL SLAB (EXCLUDING SERVICES REQUIRED TO KEEP DAVID JONES, COLES, KMART & LOWER GROUND TENANCIES OPERATIONAL). REFER ARCHITECTURAL DEMOLITION PLAN FOR FURTHER DETAILS

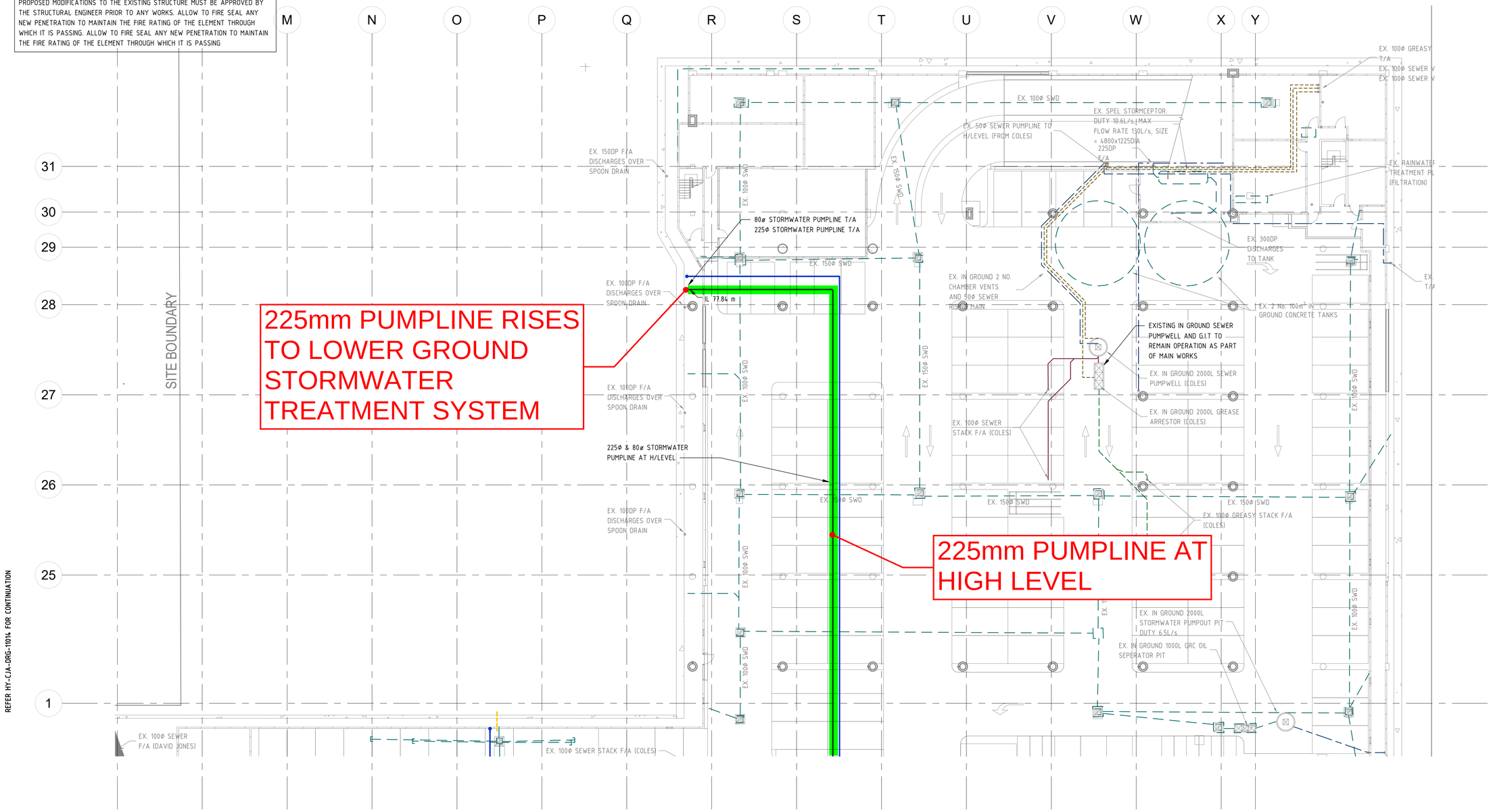
HYDRAULICS CONTRACTOR IS TO ALLOW FOR ALL WORKS REQUIRED TO ISOLATE HYDRAULIC SERVICES TO MAKE SAFE PRIOR TO DEMOLITION.

CONTRACTOR TO ALLOW TO DEMOLISH ALL EX. HYDRAULIC SERVICES RENDERED REDUNDANT AS PART OF MAIN WORKS DEMOLITION. CONTRACTOR TO ALLOW TO LOCATE AND EXTEND ALL EXISTING OPERATIONAL HYDRAULIC SEWER & GREASY VENTS TO ATMOSPHERE WITH COWLS IN ACCORDANCE WITH A3500.2 AND MIN. 6m CLEAR OF AIR INTAKES.

GENERAL RETAIL AREAS

REFER TO ARCHITECTURAL TENANCY LAYOUT PLANS AND SCHEDULE FOR FINAL TENANCY LOCATIONS - ALLOW FOR TENANCY WASTE POINTS TO EACH TENANCY IN ACCORDANCE WITH RETAIL REQUIREMENTS. REFER SPECIFICATION AND CLIENT BRIEF FOR REQUIREMENTS.

NOTE:
THESE DRAWINGS ARE INTENDED FOR MANAGING CONTRACTOR AND/OR GUARANTEED MAXIMUM PRICE (GMP) TENDER PURPOSES ONLY AND HAVE BEEN ISSUED WHILST THE DESIGNS ARE STILL DEVELOPING. THEY ARE BASED ON ARCHITECTURAL DRAWINGS ISSUED ON THE 14/08/2019 AND OTHER CONSULTANT DRAWINGS, WHICH MAY CONTAIN CONFLICTING DATA, OMISSIONS AND ERRORS. AT THE TIME OF ISSUE, THESE DRAWINGS WERE BASED ON ARCHITECTURAL MODEL/DRAWINGS ISSUED AT A POINT IN TIME AND OTHER CONSULTANT'S DRAWING WHICH ARE KNOWN TO BE ONLY PARTIALLY COMPLETE AND SUBJECT TO FURTHER DESIGN DEVELOPMENT. THE TENDERER WILL BE REQUIRED TO WORK WITH THE MANAGING CONTRACTOR, CONSULTANT TEAM, AUTHORITIES, STAKEHOLDERS AND CLIENT GROUPS TO DEVELOP THE DETAILED DESIGNS WHICH CAN BE EXPECTED TO DIFFER IN SCOPE AND DETAIL FROM THAT CURRENTLY SHOWN ON THESE DRAWINGS. THE TENDERER IS ADVISED TO MAKE AN ASSESSMENT, BASED ON THEIR OWN EXPERIENCE WITH PROJECTS OF THIS NATURE, OF THE RISKS INVOLVED IN CHANGES IN REQUIREMENTS, INVESTIGATION OUTCOMES, SCOPE AND DESIGN DETAIL AND TO PROVIDE IN THEIR TENDER AN ADEQUATE CONTINGENCY (INCLUDING CONSULTANT FEES) TO ENABLE IT TO ACCOMMODATE SUCH CHANGES OR FURTHER DEVELOPMENT.



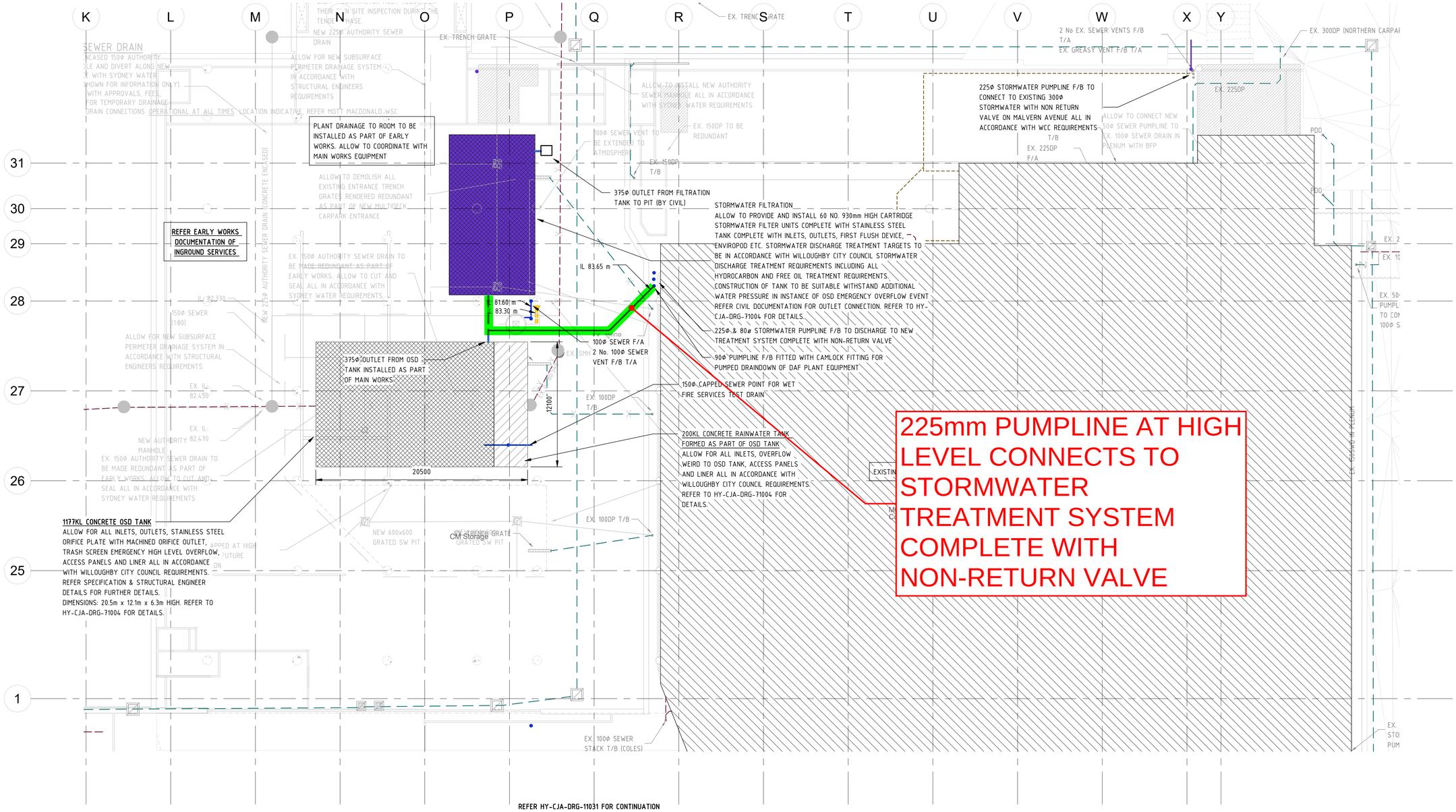
REFER HY-CJA-DRG-11014 FOR CONTINUATION

REFER HY-CJA-DRG-11011 FOR CONTINUATION

NOTE - CURRENT DRAWINGS BASED ON 70% DESIGN DEVELOPMENT DOCUMENTATION. DOCUMENTATION TO BE UPDATED TO REFLECT AS-BUILT PLANS FOLLOWING COMPLETION OF PROJECT

BASEMENT 2 ZONE 1

MALVERN AVENUE



REFER HY-CJA-DRG-11034 FOR CONTINUATION

REFER HY-CJA-DRG-11031 FOR CONTINUATION

NOTE - CURRENT DRAWINGS BASED ON 70% DESIGN DEVELOPMENT DOCUMENTATION. DOCUMENTATION TO BE UPDATED TO REFLECT AS-BUILT PLANS FOLLOWING COMPLETION OF PROJECT

LOWER GROUND ZONE 1