Report

Flood Impact Assessment

277 The Grand Parade, Ramsgate Beach

SCP Ref: S220042-CV-RP-02

Client Bronxx Pty Ltd

Project 277 The Grand Parade, Ramsgate Beach

Date 19 January 2025

Revision table

Rev #	Date	Issue description	Prepared by	Reviewed by	Issued by
A	08/12/23	Re-issued for Development Application	KZ	DY	KZ
B	21/12/23	Report Update	KZ	DY	KZ
C	10/10/24	Report Update	NY	AV	AV
D	24/10/24	Report Update	NY	AV	AV
E	06/12/24	Report Update	AV	BA	BA
F	19/01/25	Report Update	AV	BA	AV

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Contents

Appendices

Figures

1 Introduction

SCP Consulting has been engaged by Bronxx Pty Limited to prepare a Flood Impact Assessment for the proposed development at 277 The Grand Parade, Ramsgate Beach. The development involves the demolition of the existing Coles supermarket and car parking and construction of a five-storey building with an additional three basement levels for car parking.

The study has been undertaken to determine flood behaviour for the 1% Annual Exceedance Probability (AEP) design floods and the Probable Maximum Flood (PMF). The primary flood characteristics reported for the design events include flood depths, levels and the hazard classification.

The primary objective of this flood study is to determine the existing flood behaviour and to demonstrate that the proposed development does not adversely increase the flood risk to any other property.

1.1 Development Site

The development site is located at 277 The Grand Parade, Ramsgate Beach and lies within the Bayside Council Local Government Area (LGA). The development site is located within the Sans Souci Catchment. The site is bound by The Grand Parade to the East, a council parking lot to the North, residential buildings to the South and commercial buildings to the West. The site currently accommodates a single-storey Coles supermarket and parking lot. Refer to Figure 1 for an aerial view of the development site boundary.

Figure 1: Aerial View of Site Boundary (Source: - Bayside Council Intramaps)

1.2 Available Data

The following data was used to inform this assessment:

- TUFLOW Flood model of the Sans Souci Catchment by WMA Water, supplied by Bayside Council,
- Land Survey by CitySurv, and
- Architectural Plans by FJC Studio.

2 Flood Modelling

2.1 Modelling Approach

Bayside Council provided Bronxx, the current Council endorsed Sans Souci Catchment TUFLOW model, to be used to inform the overland flow assessment for the development site at 277 the Grand Pde, Ramsgate Beach. The model was developed by WMA Water for Bayside Council.

2.2 Existing Scenario

Bayside Council have provided the Sans Souci Catchment TUFLOW model to Bronxx to confirm the existing flood conditions across the site and to determine the impact of the proposed development, if any, at 277 The Grand Parade, Ramsgate Beach on flood levels within the area.

SCP Consulting supported by WMS reviewed Council's TUFLOW model. The model provided by WMAwater indicated a maximum flood level of RL 2.958mAHD and RL 3.279mAHD occurs within the property in the 1% AEP and PMF storm event, respectively. The flood hazard for the site in Council's model, ranged from H1-H2 in the 1% AEP storm event, and H1-H3 in the PMF storm event. Refer to Table 1 for a definition of the hazard classifications.

Table 1: Hazard Classifications

Hazard Classification	Definition
H1	Benign flow conditions. No vulnerability constraints
H2	Unsafe for small vehicles
H3	Unsafe for all vehicles, children, and the elderly
H4	Unsafe for all people and all vehicles
H5	Unsafe for all people and all vehicles. Buildings require special engineering design and construction.
H6	Unconditionally dangerous. Not suitable for any type of development or evacuation access. All building types considered vulnerable to failure

2.2.1 Existing Scenario

To carry out an accurate impact assessment of the proposed development, a reassessment of the existing flood extents and characteristics is required. To generate a more accurate existing flood model, the following changes to the LIDAR information within the TUFLOW model were incorporated:

- Incorporating the surface of the Land survey by CitySurv into the GIS data,
- Enforcement of the as-surveyed existing perimeter wall to a constant level of 3.95mAHD (based on the survey),
- Enforcement of surveyed floor levels of the existing building:
    - Flush with the ground level at the front of the property (2.82 – 2.84m AHD based on the survey),
    - Raised to 3.28m AHD at the rear of the property, based on the survey,
    - Incorporation of a Level 3 Quadtree mesh in the vicinity of the site to increase resolution to 0.5 m, and
    - Read in the non-Quadtree model DEM_Z check file raster in the vicinity of the site as Quadtree does not support the Read MID Zpts command used in the base model to read in the terrain via a point file.

The TUFLOW model was rerun and produced the results for the existing flood conditions and characteristics. The model was run for the 1% Annual Exceedance Probability (AEP), 1% AEP Climate Change Scenario (0.9m Sea Level Rise and 20% increase in Rainfall Intensity) and the Probable Maximum Flood events.

Figure 2, Figure 3 and Figure 4 below present the resulting flood depth and levels for each for the existing case.

Figure 2: 1% AEP Event Flood Depths and Levels (Existing Scenario)

Figure 3: 1% AEP Event Flood Depths and Levels incorporating Climate Change (Existing Scenario)

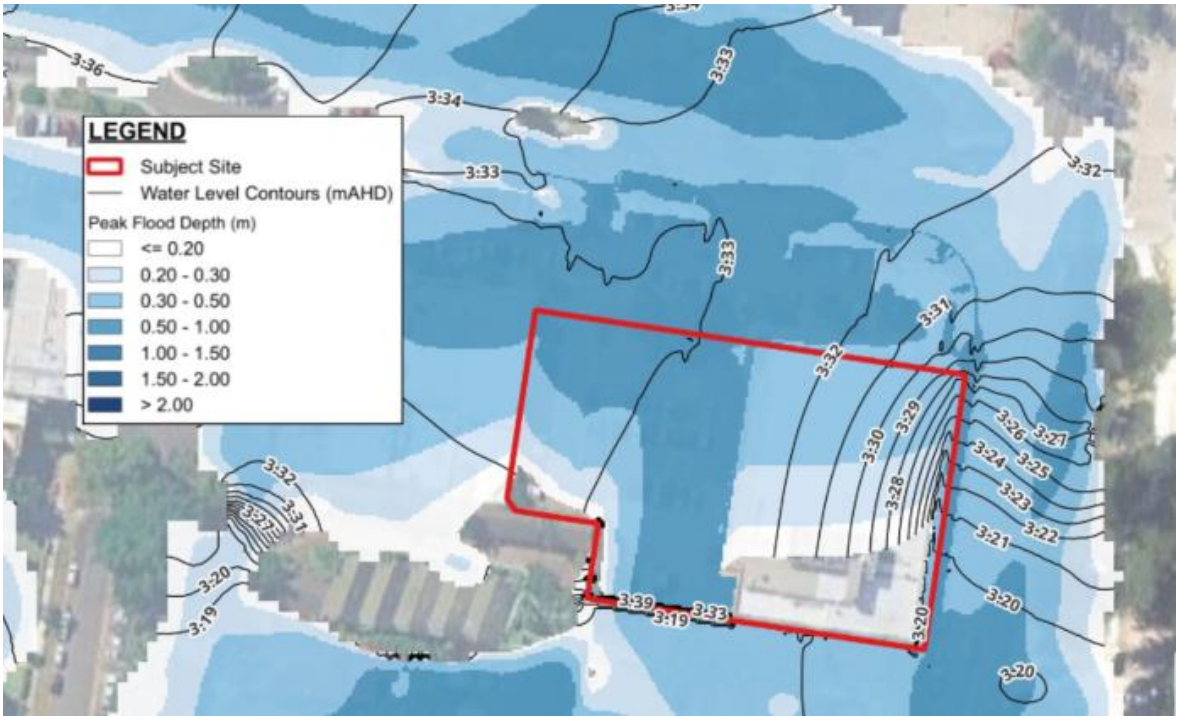

Figure 4: Probable Maximum Flood (PMF) Depths and Levels (Existing Scenario)

The primary source of flooding currently burdening the development site in the 1% AEP and PMF storm event is localised ponding on Ramsgate Road, road-reserve and the existing private

carparking facility on the development site. The adjacent carpark within the road reserve is a localised sag point with impeded overland flow. The existing stormwater network is observed to be at capacity and combined with an impeded overland flow and tailwater levels due to the proximity of Botany Bay, in the 1% AEP storm event, result in surcharge from the existing stormwater network ponding within Council's carpark and the development site.

2.3 Post Development Scenario

The proposed development involves the demolition of the existing Coles supermarket and adjacent on-site carpark, and construction of a five-storey building with an additional three basement levels. Primary access to the building will be from Ramsgate Road into the residential lobbies, supermarket and other retail stores. Vehicular access to basement parking and the loading docks will also be provided from Ramsgate Road. Refer to Figure 5 for the proposed development ground floor layout.

A post development scenario has been modelled in TUFLOW to determine the impact of the proposed building development on existing flood levels and verify that the proposed mitigation measures successfully limit adverse effects to neighbouring properties that are within guidelines as specified in Council's Development Control Plans (DCP).

To accurately model the proposed development and assess impacts, if any, the following design scenarios were incorporated into the model:

- Enforcement of an internal building slab at 3.5 mAHD, of ground floor level areas tieing into the existing Road Reserve levels at 2.83 – 2.87 mAHD and driveway entrance at 2.7 mAHD to represent the design Finish Floor levels,
- Incorporation of a flood storage system consisting of:
    - 9off 900x900 grated inlet at the driveway entrance to capture water from the front of the site,
    - 2 flood storage tanks: a 66 m3 tank under the driveway and a 113 m3 storage tank on the east side of the site,
    - Pipe system to transfer water between the inlet pits, the storages and the existing drainage system at the parking lot in front of the site.
- The inlet pits were attributed a 50% blocked inlet capacity of 0.072 m3/s per grate, based on Section 5.4.10.1 of AS3500.3 (2018) and Section 4.4.5 of Hydraulic Engineering Circular No. 22 – USDT Federal Highway Administration (Third Edition)
- The tanks were represented in 1D using TUFLOW's node storage function as follows:
    - The 'US_Invert' node attribute represents the internal top level of the tank,
    - The 'DS_Invert' node attribute represents the internal bottom level of the tank,
    - The 'Len_or_ANA' node attribute represents the storage surface area in m^2,
    - TUFLOW assumes the surface area is constant and calculates the node storage volume based on the three above inputs,
    - The 66 m^3 tank volume was attributed to the 9 inlet pits located at the driveway entrance. Each pit was attributed the following parameters:

- ‘US_Invert’ = 2.7 mAHD,
- ‘DS_Invert’ = 2.0 mAHD,
- ‘Len_or_ANA’ = 10.476 m^2,
- Resulting volume = 9 pits x 0.7 m depth x 10.476 m^2 area = 66 m^3,
- ‘Dummy’ pipes with no storage (‘UCS’ attribute = N) and no contraction/loss coefficients were used to link the 9 pits.

o The 113 m^3 tank volume was attributed to a node located at the approximate location of the tank entrance. The node was attributed the following parameters:

- ‘US_Invert’ = 2.05 mAHD,
- ‘DS_Invert’ = 2.85 mAHD,
- ‘Len_or_ANA’ = 141.25 m^2,
- Resulting volume = 1 node x 0.8 m depth x 141.25 m^2 area = 113 m^3.

The material roughness for the catchment was not altered from the existing condition, maintaining the site as a “residential” zone for modelling purposes. A cell size of 2m was maintained for the post development model to allow for appropriate comparison between the existing and proposed conditions.

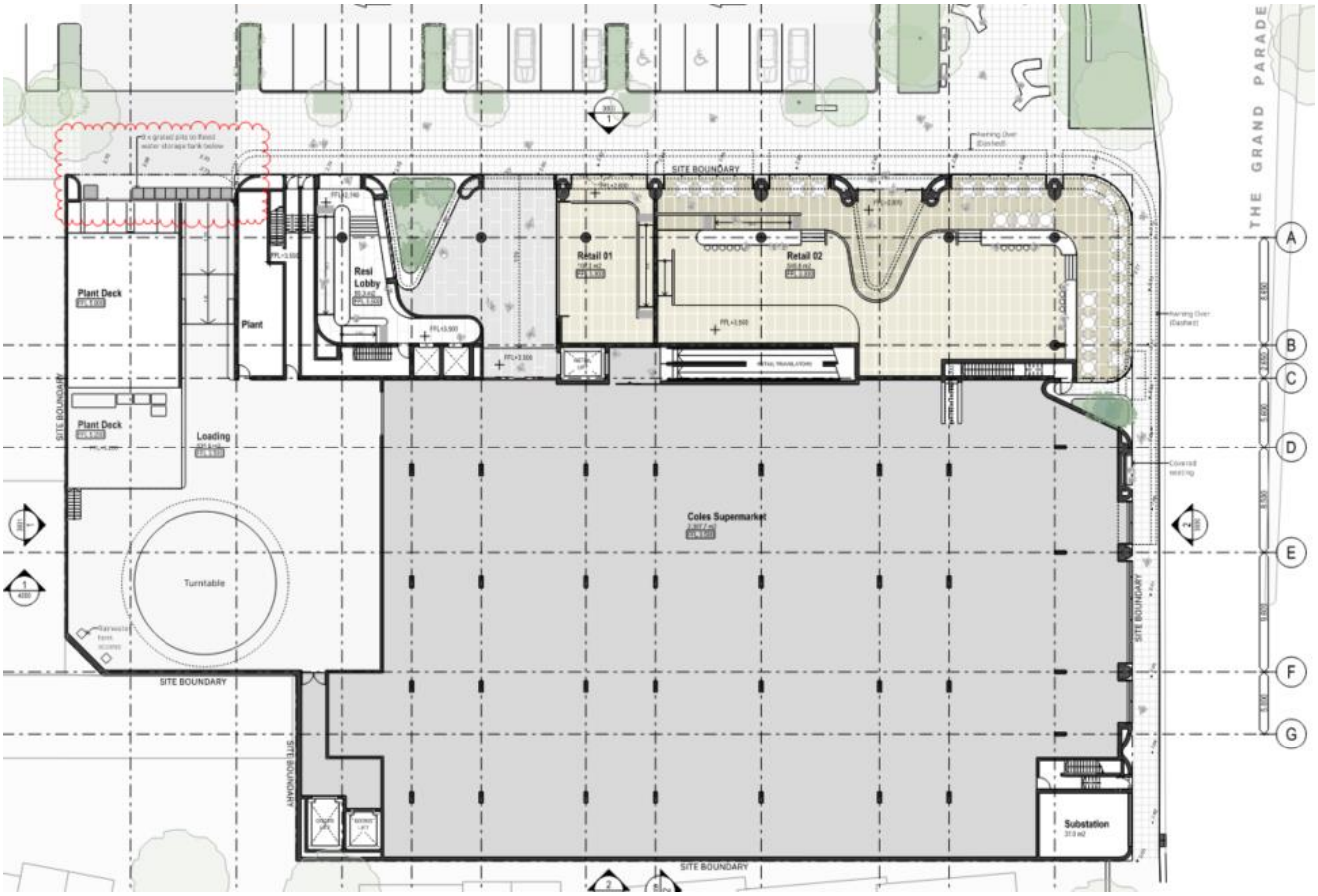

Figure 5 - Proposed Ground Floor Plan (Source: FJC Studio)

2.4 Results

2.4.1 1% AEP Flood Event

The flood depths, change in flood depth and change in hazard afflux impacts were assessed to determine the impact, if any of the proposed development. The results are shown in Figure 6, 7 and 8 below.

Figure 6: 1% AEP Event Flood Depths and Levels (Developed Scenario)

Figure 7: 1% AEP Event Flood Change in Flood Depth (Developed Scenario)

Figure 8: 1% AEP Event Peak Hazard Afflux (Developed Scenario)

For the 1% AEP flood event, the incorporation of the on-site flood storage infrastructure described in Section 2.3 above, has resulted in the existing flood level and depth to be within 10mm of the existing scenario. The TUFLOW model also confirmed that the Hazard Levels have not changed except for minor changes from H0 to H1 which can be considered as noise in the model.

2.4.2 1% AEP Flood Event, Incorporating Climate Change

For the Climate Change scenario, in the TUFLOW model the tailwater level was raised by 0.9m to simulate expected Sea Level Rise and the rainfall intensity was increased by 20% to simulate the expected change in the characteristics of storms.
The flood depths, change in flood depth and change in hazard afflux impacts were assessed to determine the impact, if any of the proposed development. The results are shown in Figure 9, 10 and 11 below.

Figure 9: 1% AEP + Climate Change Event Flood Depths and Levels (Developed Scenario)

Figure 10: 1% AEP + Climate Change Event Flood Change in Flood Depth (Developed Scenario)

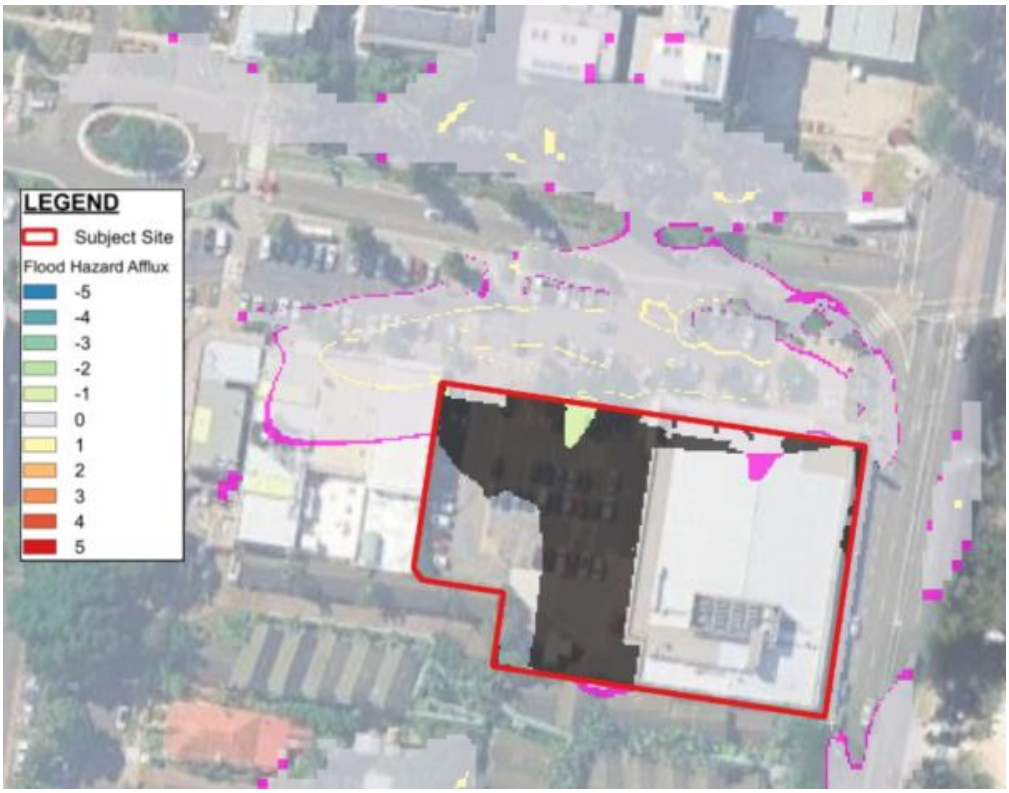

Figure 11: 1% AEP + Climate Change Peak Hazard Afflux (Developed Scenario)

For the 1% AEP (including climate change) flood event, the incorporation of the on-site flood storage infrastructure described in Section 2.3 above, has resulted in the existing flood level and depth to be within 10mm of the existing scenario. The TUFLOW model also confirmed that the Hazard Levels have not changed except for minor changes from H0 to H1 which can be considered as noise in the model.

2.4.3 Probable Maximum Flood Event

The flood depths, change in flood depth and change in hazard afflux impacts were assessed to determine the impact, if any of the proposed development. The results are shown in Figure 12, 13 and 14 below.

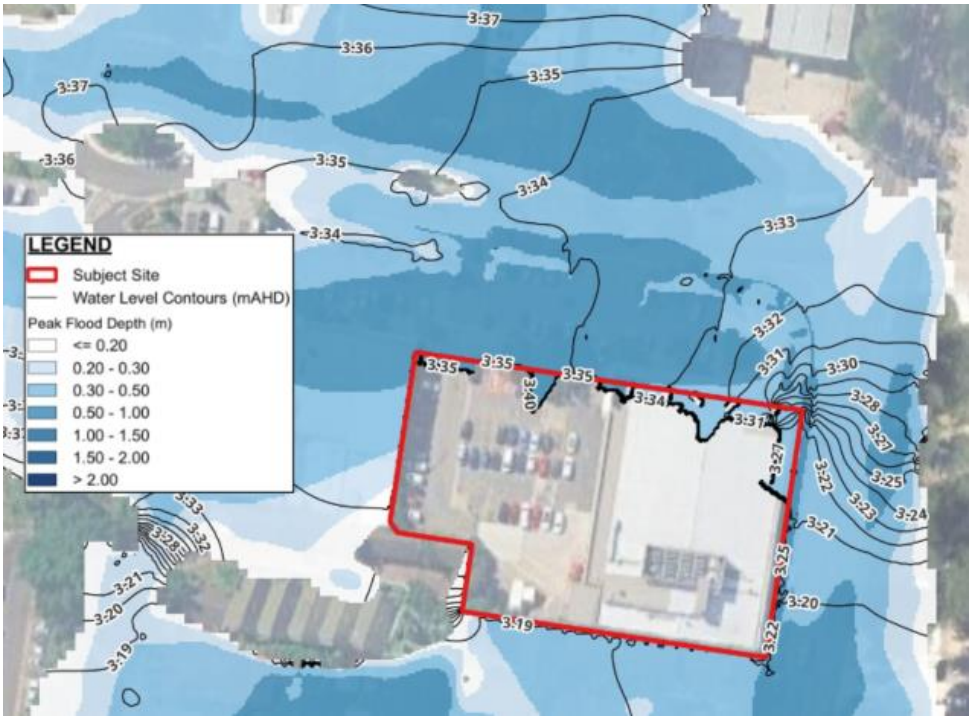

Figure 12: PMF Flood Depths and Levels (Developed Scenario)

Figure 13: PMF Flood Change in Flood Depth (Developed Scenario)

Figure 14: PMF Peak Hazard Afflux (Developed Scenario)

For the Probable Maximum Flood event, the incorporation of the on-site flood storage infrastructure described in Section 2.3 above, has resulted in the existing flood level and depth to be within 50mm of the existing scenario. The TUFLOW model also confirmed that the Hazard Levels have not changed except for minor changes from H0 to H1 which can be considered as noise in the model.

2.4.4 Flood Planning Levels

From the TUFLOW model, the following flood levels were attained:

- 1% AEP – RL 3.01m AHD
- 1% + Climate Change – RL 3.06m AHD
- PMF – RL 3.40m AHD

The levels were attained along the property boundary on Ramsgate Road.

To comply with Bayside Council Development Control Plans and the NSW Floodplain Development Manual, the adopted Flood Planning Level for the project is RL3.50m AHD, being above the PMF, and the 1% AEP plus 500mm freeboard. As a result, the FFL of the Ground Floor Lobby, the Supermarket, the driveway crest level that access the below ground basement and all penetrations (services etc) thru the ground floor slab will be protected to RL 3.50m AHD.

Compensatory Flood Storage Basin will be integrated into the development to ensure that no existing flood levels increase by more than 10mm in the 1% AEP flood event and 50mm in the PMF event. Following finalisation of the developed design and prior to construction, the final design will be verified for Flood Compliance as stated in this section, Council's DCP and the NSW Floodplain Development Manual.

3 Compliance with Council's DCP

The following table responds to Table 10 of Section 3.10.8 of Bayside Council Development Control Plan 2022.

Development Aspect	Performance Criteria	Design Response
Floor Levels	Proposed building must be free from flooding up to and including the flood planning level (FPL) requirement. Proposed building should not increase the likelihood of flooding on other developments, properties or infrastructure.	The proposed building Ground Floor Levels are set at RL3.5m AHD above the 1% +500 freeboard. Street facing commercial/retail is tiered to tie in with Council's boundary alignment levels and streetscape with clear routes for evacuation to higher ground inside the building. The basement carpark is protected to RL3.5m AHD. It is protected via a crest at the driveway. All emergency stairs and penetrations that can allow water ingress into the basement are protected to this level. The proposed building will contain flood storage tanks that will act as compensatory flood storage. The inlets to the flood storage system are a series of grates at the driveway entry within the site. The grates located at the driveway entry are at approximately RL2.70m AHD, up to 300mm below the 1% AEP flood level. The Flood storage basin ensures that the development does not result in unacceptable increase in flood levels on Ramsgate Road during a flood event.
Car parking	The proposed garage or car park should not increase the risk of vehicle damage by flooding. • The proposed garage or car park should not increase the likelihood of flooding on other developments, properties or infrastructure. The proposed garage or car park must meet the Flood Planning Level Requirements. Open car parking - The minimum surface level of open space car parking subject to flooding should be designed giving regard to vehicle stability in terms	The basement carpark is protected to RL3.5m AHD. It is protected via a crest in the driveway. All emergency stairs and penetrations that can allow water ingress into the basement are protected to this level. The proposed building will contain flood storage tanks that will act as compensatory flood storage. The inlets to the flood storage system are a series of grates at the driveway entry within the site. The grates located at the driveway entry are at approximately RL2.70m AHD, up to 300mm below the 1% AEP flood level. The Flood storage basin ensures that the development does not result in unacceptable increase in flood levels on Ramsgate Road during a flood event.

	of depths and velocity during flooding.	
Building components and method	Buildings are to be designed and constructed to a standard that is compatible with the flood risk and will not result in significant structural or material damage during or after a flood event.	The building structure is designed to withstand load from floodwater and associated flood events. Below RL3.5m AHD, the specified building materials will be specified as flood compatible by the project architect.
Fencing	Fencing is to be designed and constructed in such a manner that it will not modify the flow of floodwaters and cause damage to surrounding properties	The type and scale of development proposed does not propose any boundary fences. At street frontage, the lower portion of Retail 2 will contain boundary delineation that allows free flow of surface water. The building façade line such as the entryway to the Coles supermarket
Evacuation	To ensure that there is a plan in place for people to follow during a flood event that will not increase the risk to life of people on site or result in an increased reliance on the SES or emergency services personnel	The flood planning levels and flood protection levels for the development are set at RL3.5m AHD. This enables shelter in place, when required. Prior to commencement of construction, a building flood evacuation and management strategy will be developed. Post construction, each tenancy will have their own specific detailed flood evacuation/management plan. It is expected that due to the flood planning levels adopted by the development, the general strategy will be for occupants to shelter in place in communal areas of the building or their specific tenancy.
Earthworks and building on flood prone land	Any earthworks or development proposal must be supported by a flood impact assessment report (refer to Sub-section 9.5.4) from a qualified civil engineer.	Purpose of this report.
Storage of hazardous substances	The storage of products which, may be hazardous or pollute floodwaters, must be placed above the 1% AEP flood level plus 0.5m freeboard or placed within an area protected by bunds or levels such that no floodwaters can enter the bunded area.	Site storage for the various tenancies is located throughout the basement levels. The basement carpark is protected to RL3.5m AHD. It is protected via a crest and the driveway. All emergency stairs and penetrations that can allow water ingress into the basement are protected to this level.

4 Flood Emergency Management

A Flood Emergency Response Plan (FERP) will be prepared for the site prior to construction certificate. The FERP will include the following features:

- Access to flood warning information and protocols to activate the FERP;
- Recommended evacuation strategy (i.e., horizontal vs vertical evacuation);
- Trigger warnings for actions;
- Details of the person(s) responsible for implementing and maintaining the plan;
- Plans for safe evacuation, before the site or its accessway are flooded;
- Evacuation procedures, routes and assembly points;
- Flood actions with clear responsibilities;
- Maintenance of the FERP; and
- What to do before, during and after a flood, to be aligned with NSW SES Requirements and Local Flood Plan.

It is envisaged that the recommended evacuation strategy for the site will be shelter-in-place (i.e. vertical evacuation), due to the following key reasons:

- Flooding within and around the site is 'flashy' in nature, i.e. rising and falling within hours in response to local rainfall and therefore there would be limited warning time available for horizontal evacuation.
- Flash flooding events are dangerous because of the short timeframes, as well as the flood speed and depth, and therefore horizontal evacuation may pose a greater risk to occupants and staff compared to shelter-in-place.
- Duration of inundation in the vicinity of the site is expected to be less than 2 hours and therefore occupants would only be required to shelter-in-place for a limited period of time.
- As the development has a commercial component, trained First Aid Officers, are expected to be present at most times of the day and will be able to assist occupants in the case of an emergency.
- The proposed buildings will have multiple storeys, allowing for plenty of space for occupants to shelter-in-place above the Flood Planning Level.
- As discussed above, the hazard predominantly in H0 and H1 (No Restrictions) category. It is therefore expected that pedestrian and vehicular traffic within Council's Road reserve would not be significantly hindered during a flood event.

5 Summary

To proposed compensatory flood storage infrastructure as documented in this report will ensure that the proposed development works at 277 The Grand Parade, Ramsgate Beach does not adversely affect the neighbouring properties to the west by ensuring the existing flood conditions and flood planning levels are maintained. This is achieved by the installation of grated drains along the north-western property boundary and flows directed to a 100m^3 compensatory flood storage tank located within the site.

Appendix A Flood Maps - Existing Case

WMS
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Appendix A-1

Existing Case
5% AEP
Peak Flood Depth and
Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix A-2

Existing Case
5% AEP
Peak Flood Velocity

LEGEND

Subject Site

Peak Flood Velocity (m/s)

- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

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Appendix A-3

Existing Case
5% AEP
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
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Appendix A-4

Existing Case
1% AEP
Peak Flood Depth and
Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
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Appendix A-5

Existing Case
1% AEP
Peak Flood Velocity

LEGEND

Subject Site

Peak Flood Velocity (m/s)

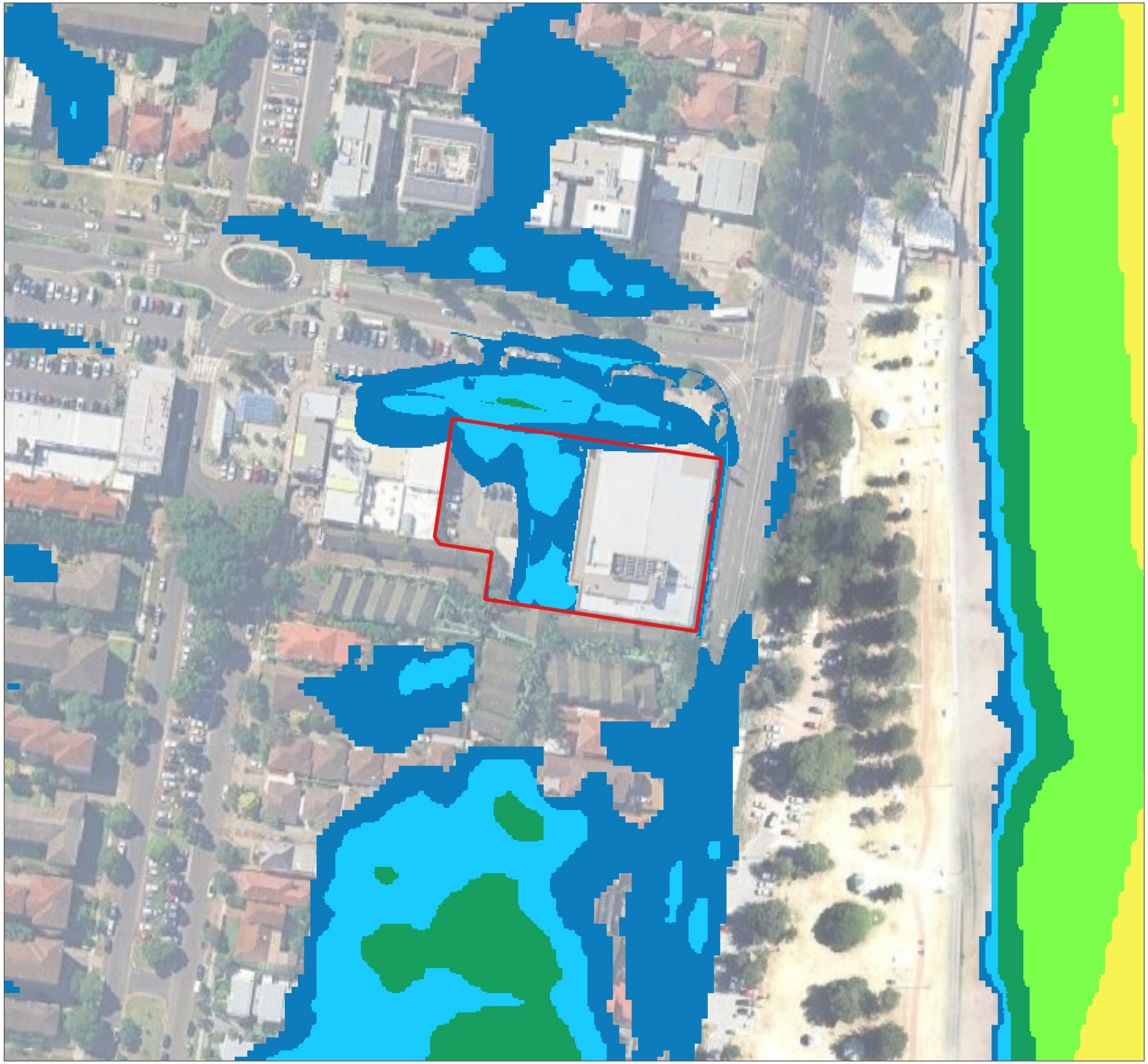
- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m



WMS
CIVIL | WATER | ENVIRONMENT

Appendix A-6

Existing Case
1% AEP
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

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Appendix A-7
Existing Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Peak Flood Depth and Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
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Appendix A-8

Existing Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Peak Flood Velocity

LEGEND

- Subject Site

Peak Flood Velocity (m/s)

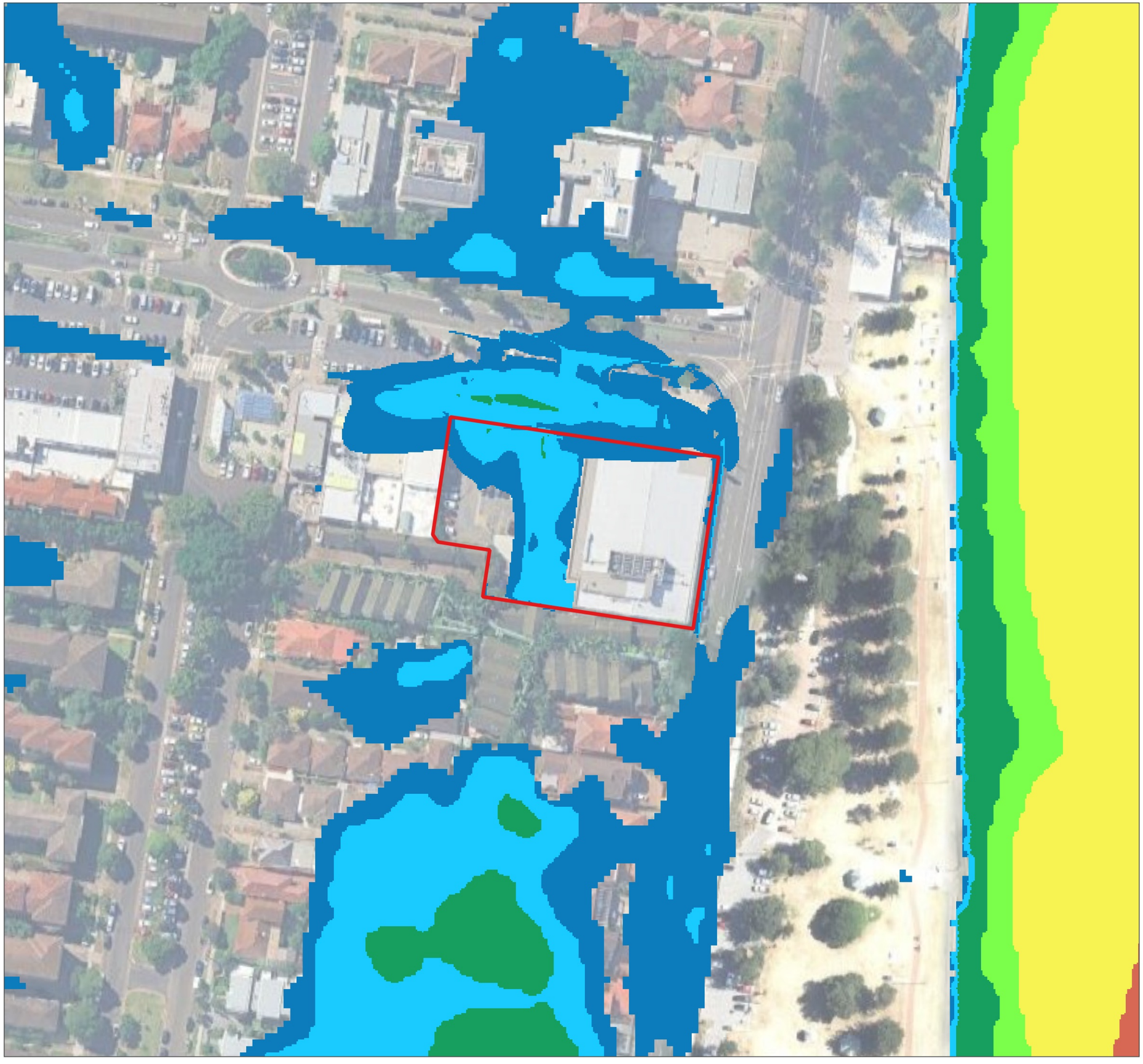
- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m



WMS
CIVIL | WATER | ENVIRONMENT

Appendix A-9

Existing Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
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Appendix A-10

Existing Case
PMF
Peak Flood Depth and
Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix A-11

Existing Case
PMF
Peak Flood Velocity

LEGEND

Subject Site

Peak Flood Velocity (m/s)

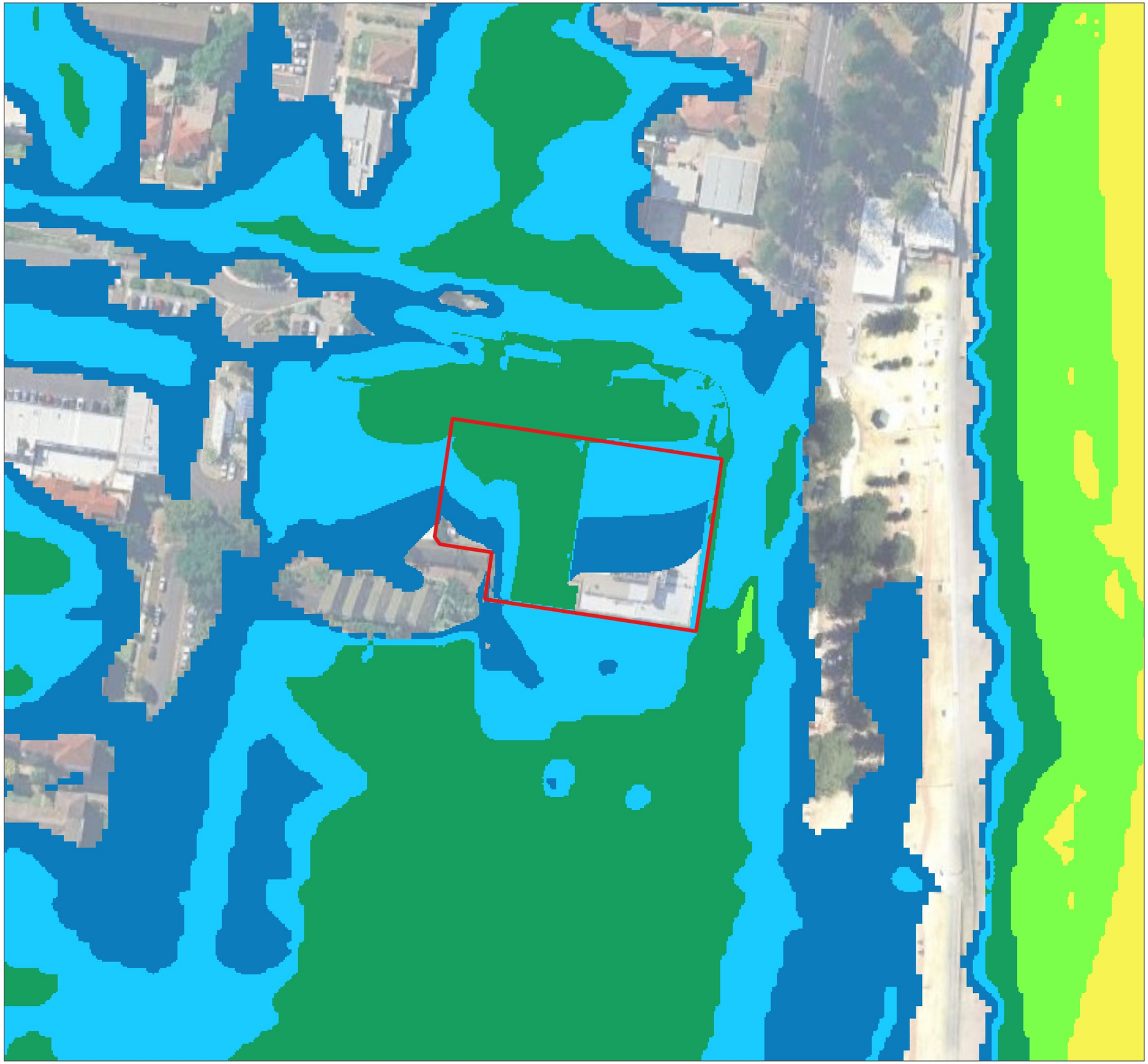
- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m



WMS
CIVIL | WATER | ENVIRONMENT

Appendix A-12

Existing Case
PMF
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

Appendix B Flood Maps - Design Case

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-1

Design Case
5% AEP
Peak Flood Depth and
Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-2

Design Case
5% AEP
Peak Flood Velocity

LEGEND

Subject Site

Peak Flood Velocity (m/s)

- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-3

Design Case
5% AEP
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-4

Existing Case - Design Case
5% AEP
Water Level Afflux

LEGEND

- Subject Site

Water Level Afflux (m)

- <= -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 0.20
- 0.20 - 0.40
- 0.40 - 0.50
- > 0.50
- Was Wet, Now Dry
- Was Dry, Now Wet

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-5

Existing Case - Design Case
5% AEP
Flood Hazard Afflux

LEGEND

- Subject Site

Flood Hazard Afflux

- -5
- -4
- -3
- -2
- -1
- 0
- 1
- 2
- 3
- 4
- 5

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-6

Design Case
1% AEP
Peak Flood Depth and
Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-7

Design Case
1% AEP
Peak Flood Velocity

LEGEND

Subject Site

Peak Flood Velocity (m/s)

- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-8

Design Case
1% AEP
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-9

Existing Case - Design Case
1% AEP
Water Level Afflux

LEGEND

- Subject Site

Water Level Afflux (m)

- <= -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 0.20
- 0.20 - 0.40
- 0.40 - 0.50
- > 0.50
- Was Wet, Now Dry
- Was Dry, Now Wet

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-10

Existing Case - Design Case
1% AEP
Flood Hazard Afflux

LEGEND

- Subject Site

Flood Hazard Afflux

- -5
- -4
- -3
- -2
- -1
- 0
- 1
- 2
- 3
- 4
- 5

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-11

Design Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Peak Flood Depth and Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-12

Design Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Peak Flood Velocity

LEGEND

- Subject Site

Peak Flood Velocity (m/s)

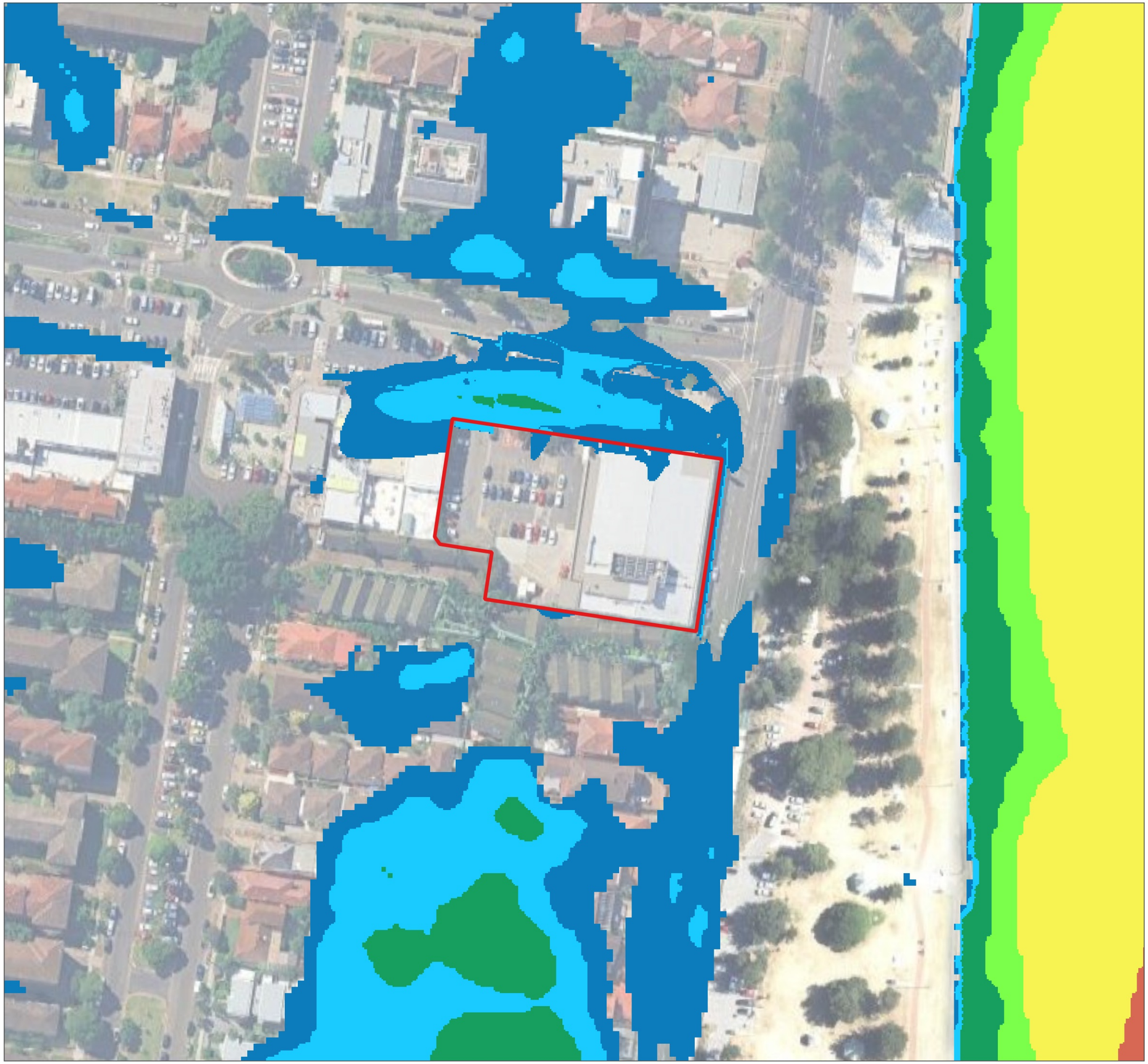
- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m



WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-13

Design Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-14

Existing Case - Design Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Water Level Afflux

LEGEND

- Subject Site

Water Level Afflux (m)

- <= -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 0.20
- 0.20 - 0.40
- 0.40 - 0.50
- > 0.50
- Was Wet, Now Dry
- Was Dry, Now Wet

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-15

Existing Case - Design Case
1% AEP + CC (0.9m SLR + 20% Rainfall Increase)
Flood Hazard Afflux

LEGEND

- Subject Site

Flood Hazard Afflux

- -5
- -4
- -3
- -2
- -1
- 0
- 1
- 2
- 3
- 4
- 5

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-16

Design Case
PMF
Peak Flood Depth and
Water Level Contours

LEGEND

- Subject Site
- Water Level Contours (mAHD)

Peak Flood Depth (m)

- <= 0.20
- 0.20 - 0.30
- 0.30 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-17

Design Case
PMF
Peak Flood Velocity

LEGEND

Subject Site

Peak Flood Velocity (m/s)

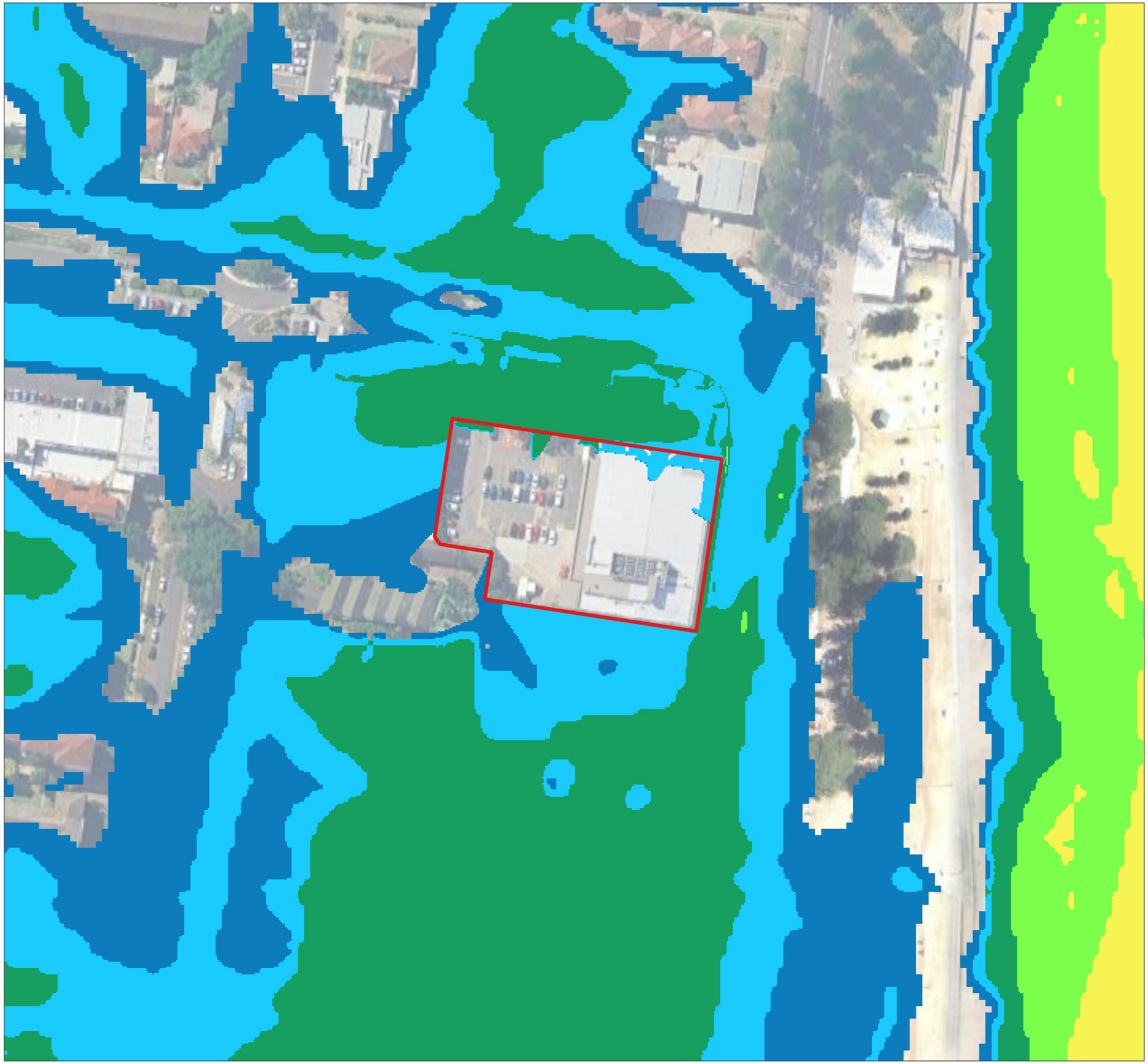
- <= 0.25
- 0.25 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- > 2.00

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m



WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-18

Design Case
PMF
Flood Hazard

LEGEND

- Subject Site

Flood Hazard

- H1 - No Restrictions
- H2 - Unsafe for Small Vehicles
- H3 - Unsafe for Vehicles, Children & Elderly
- H4 - Unsafe for People & Vehicles
- H5 - Unsafe for People & Vehicles (Buildings Require Special Engineering Design and Construction)
- H6 - Not Suitable for People, Vehicles or Buildings

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-19

Existing Case - Design Case
PMF
Water Level Afflux

LEGEND

- Subject Site

Water Level Afflux (m)

- <= -0.20
- -0.20 - -0.10
- -0.10 - -0.05
- -0.05 - -0.03
- -0.03 - -0.01
- -0.01 - 0.01
- 0.01 - 0.03
- 0.03 - 0.05
- 0.05 - 0.10
- 0.10 - 0.20
- 0.20 - 0.40
- 0.40 - 0.50
- > 0.50
- Was Wet, Now Dry
- Was Dry, Now Wet

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

WMS
CIVIL | WATER | ENVIRONMENT

Appendix B-20

Existing Case - Design Case
PMF
Flood Hazard Afflux

LEGEND

Subject Site

Flood Hazard Afflux

- -5
- -4
- -3
- -2
- -1
- 0
- 1
- 2
- 3
- 4
- 5

The Grand Parade Ramsgate FIA

1:1200 @ A3
GDA 94 / MGA Zone 56

Job No: 20276
Date: 17/01/2025

0 30 60 90 m

Appendix C Existing Site Survey

A1

DETAIL PLAN

SHEET 2

SHEET 7

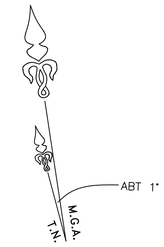
SHEET 3

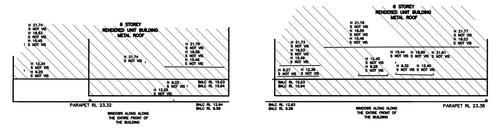
SHEET 4

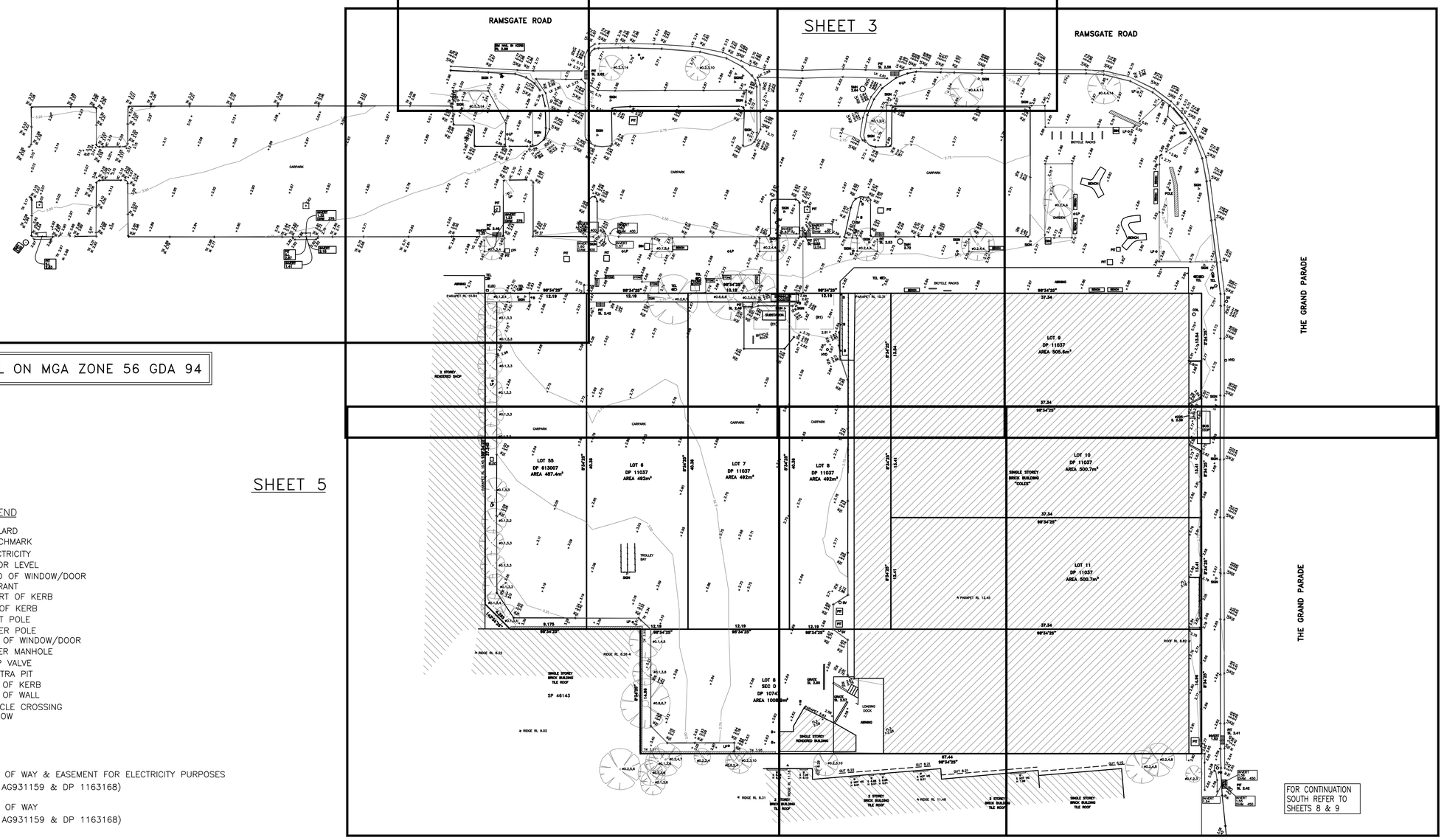
SHEET 5

SHEET 6

DETAIL ON MGA ZONE 56 GDA 94







LEGEND

B	BOLLARD
BM	BENCHMARK
ELEC	ELECTRICITY
FL	FLOOR LEVEL
H	HEAD OF WINDOW/DOOR
HYD	HYDRANT
IK	INVERT OF KERB
LK	LIP OF KERB
LP	LIGHT POLE
PP	POWER POLE
S	SILL OF WINDOW/DOOR
SMH	SEWER MANHOLE
SV	STOP VALVE
TEL	TELSTRA PIT
TK	TOP OF KERB
TW	TOP OF WALL
VC	VEHICLE CROSSING
W	WINDOW

(C1) RIGHT OF WAY & EASEMENT FOR ELECTRICITY PURPOSES (VIDE AG931159 & DP 1163168)

(R1) RIGHT OF WAY (VIDE AG931159 & DP 1163168)

CitiSurv Pty Ltd
ABN 32 122 758 276
CONSULTING SURVEYORS
P.O. Box 439 KELLYVILLE NSW 2155
PHONE: (02) 9647 1142
E-mail: info@citisurv.com.au

SCALE	SHEET
1:100	1 OF 9
DATE OF SURVEY	PLOT FILE
25-1-2022	12486-DET
SURVEY	DRAWN
OE	JC

ISSUE	AMENDMENTS	DATED
A	INITIAL ISSUE	28-1-22
B	DETAIL MOVED ON TO MGA Z56 GDA 94	12-7-22
C	EXTRA DETAIL AND DRAINAGE ADDED	31/05/22

CLIENT: BRONXX PTY LTD

DATUM: AHD
ORIGIN OF LEVELS: SSM 133061
RL 3.191
DATED: 17-JAN-2022

PLAN: DETAIL & LEVEL SURVEY

SITE: 277 THE GRAND PARADE RAMSGATE BEACH

L.G.A.: BAYSIDE

PARISH: ST GEORGE

COUNTY: CUMBERLAND

TITLE: LOTS 6-11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747

NOTES
1. BOUNDARIES NOT SURVEYED.
2. AREAS & DIMENSIONS COMPILED FROM PLANS OBTAINED FROM THE LAND TITLES OFFICE.
3. TREE SYMBOLS ARE TO APPROXIMATE SCALE FOR TRUNK ø AND CANOPY SPREAD
4. ALL OTHER SYMBOLS ARE NOT TO SCALE AND ARE DIAGRAMMATIC ONLY.
5. NO SERVICES SEARCH HAS BEEN UNDERTAKEN.
6. ONLY VISIBLE ABOVE GROUND SERVICES HAVE BEEN LOCATED.
7. ALL KERB LEVELS ARE ON THE TOP OF KERB UNLESS OTHERWISE STATED.
8. PLAN IS ACCURATE TO PLOT SCALE ONLY.
9. PLAN IS TO BE USED FOR DETAIL PURPOSES ONLY.
10. CONTOUR INTERVAL 0.25m

A1

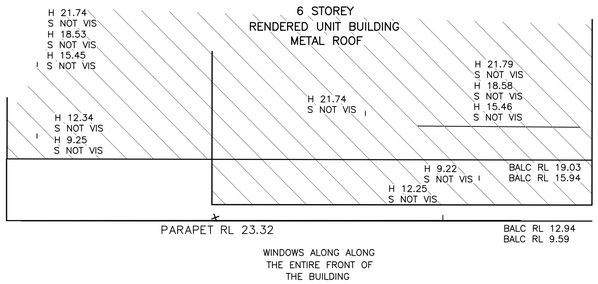
DETAIL PLAN

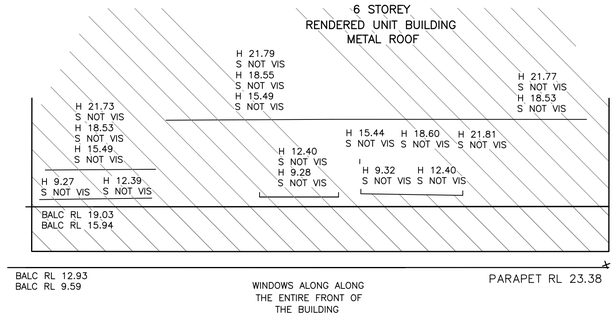
0 5 10

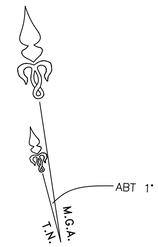
SCALE 1 : 100

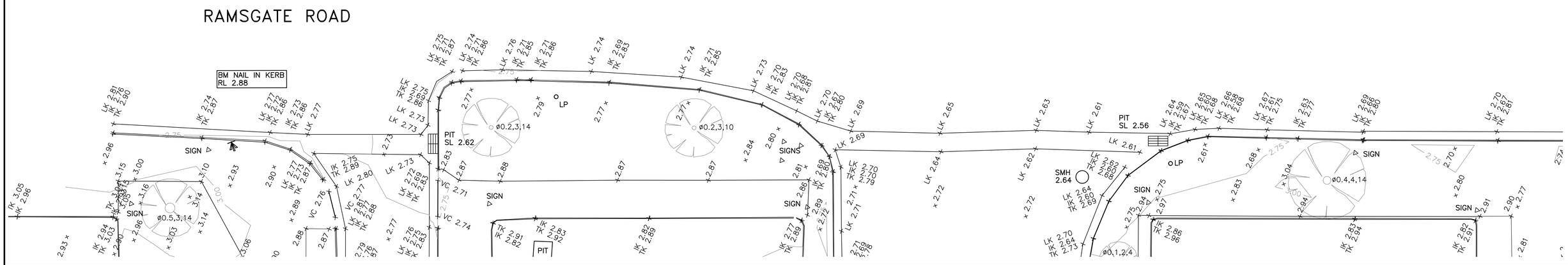
METRES

SEE SHEET 1 FOR NOTES & LEGEND









CitiSurv Pty Ltd	SCALE	SHEET
ABN 32 122 758 276	1:100	2 OF 9
CONSULTING SURVEYORS	DATE OF SURVEY	PLOT FILE
P.O. Box 439 KELLYVILLE NSW 2155	25-1-2022	12486-DET
PHONE: (02) 9647 1142	SURVEY	DRAWN
E-mail: info@citisurv.com.au	OE	JC

ISSUE	AMENDMENTS	DATED
A	INITIAL ISSUE	28-1-22
B	DETAIL MOVED ON TO MGA Z56 GDA 94	12-7-22
C	EXTRA DETAIL AND DRAINAGE ADDED	31/05/22

CLIENT: BRONXX PTY LTD

DATUM: AHD

ORIGIN OF LEVELS: SSM 133061
RL 3.191
DATED: 17-JAN-2022

PLAN: DETAIL & LEVEL SURVEY

SITE: 277 THE GRAND PARADE RAMSGATE BEACH

L.G.A.: BAYSIDE

PARISH: ST GEORGE

COUNTY: CUMBERLAND

TITLE: LOTS 6-11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747

NOTES
1. BOUNDARIES NOT SURVEYED.
2. AREAS & DIMENSIONS COMPILED FROM PLANS OBTAINED FROM THE LAND TITLES OFFICE.
3. TREE SYMBOLS ARE TO APPROXIMATE SCALE FOR TRUNK ø AND CANOPY SPREAD
4. ALL OTHER SYMBOLS ARE NOT TO SCALE AND ARE DIAGRAMMATIC ONLY.
5. NO SERVICES SEARCH HAS BEEN UNDERTAKEN.
6. ONLY VISIBLE ABOVE GROUND SERVICES HAVE BEEN LOCATED.
7. ALL KERB LEVELS ARE ON THE TOP OF KERB UNLESS OTHERWISE STATED.
8. PLAN IS ACCURATE TO PLOT SCALE ONLY.
9. PLAN IS TO BE USED FOR DETAIL PURPOSES ONLY.
10. CONTOUR INTERVAL 0.25m

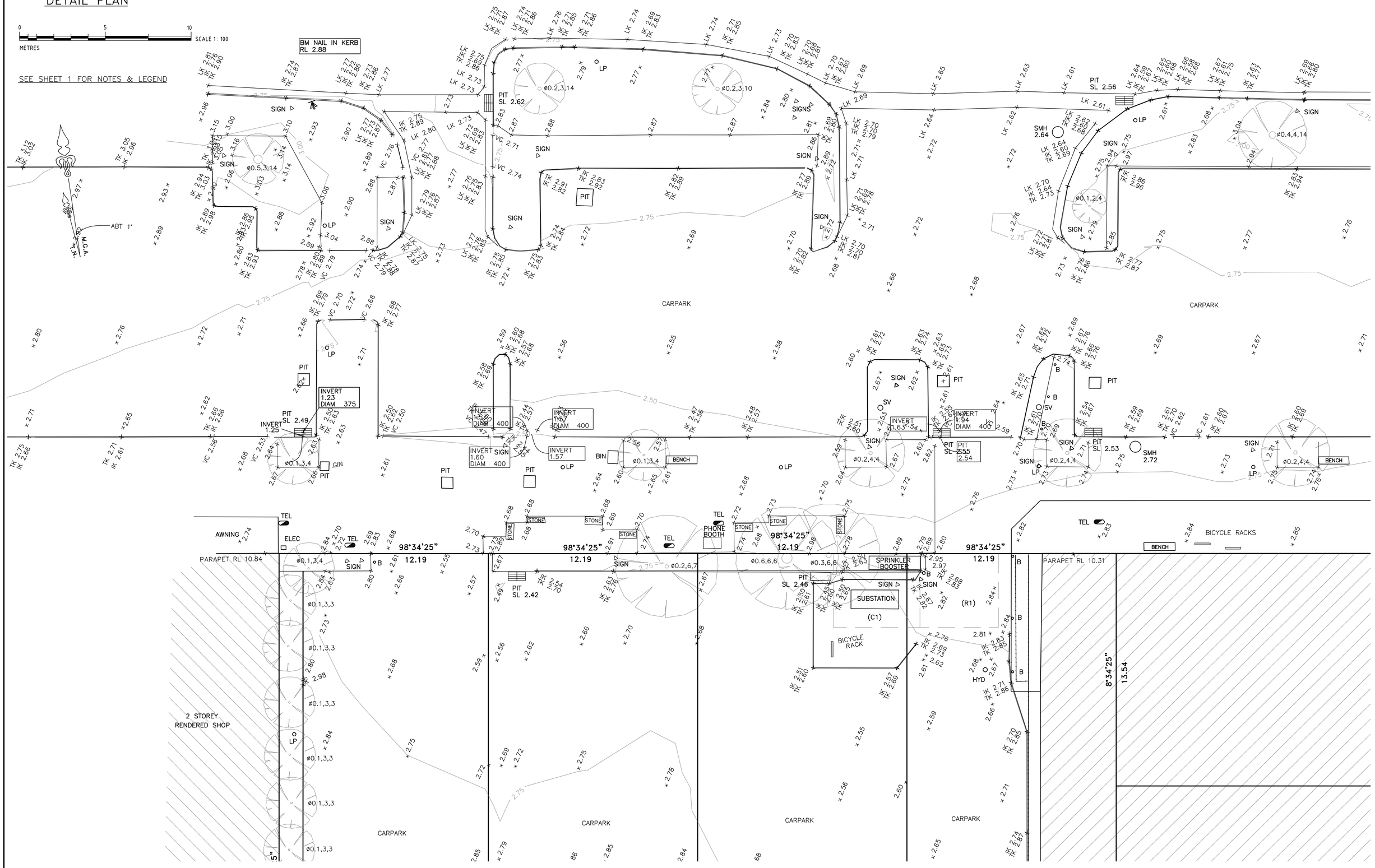
A1

DETAIL PLAN

RAMSGATE ROAD

0 5 10 METRES SCALE 1 : 100

SEE SHEET 1 FOR NOTES & LEGEND



CitiSurv Pty Ltd ABN 32 122 758 276 CONSULTING SURVEYORS P.O. Box 439 KELLYVILLE NSW 2155 PHONE: (02) 9647 1142 E-mail: info@citisurv.com.au	SCALE 1:100	SHEET 3 OF 9	ISSUE / AMENDMENTS / DATED A — INITIAL ISSUE — 28-1-22 B — DETAIL MOVED ON TO MGA Z56 GDA 94 — 12-7-22 C — EXTRA DETAIL AND DRAINAGE ADDED — 31/05/22	CLIENT BRONXX PTY LTD	DATUM AHD ORIGIN OF LEVELS: SSM 133061 RL 3.191 DATED: 17-JAN-2022	PLAN DETAIL & LEVEL SURVEY SITE 277 THE GRAND PARADE RAMSGATE BEACH	L.G.A. BAYSIDE PARISH ST GEORGE COUNTY CUMBERLAND
	DATE OF SURVEY 25-1-2022	PLOT FILE 12486-DET					TITLE LOTS 6-11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747
	SURVEY OE	DRAWN JC					

NOTES
1. BOUNDARIES NOT SURVEYED.
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7. ALL KERB LEVELS ARE ON THE TOP OF KERB UNLESS OTHERWISE STATED.
8. PLAN IS ACCURATE TO PLOT SCALE ONLY.
9. PLAN IS TO BE USED FOR DETAIL PURPOSES ONLY.
10. CONTOUR INTERVAL 0.25m

A1

DETAIL PLAN

RAMSGATE ROAD

THE GRAND PARADE

0 5 10 SCALE 1 : 100
METRES

SEE SHEET 1 FOR NOTES & LEGEND

M.G.A. T.N. ABT 1°

CARPARK

LOT 9
DP 11037
AREA 505.6m²

98°34'25" 37.34
98°34'25" 13.54
98°34'25" 37.34
98°34'25" 12.19

BICYCLE RACKS
BENCH
AWNING
GARDEN
POLE
BUS STOP
PARAPET RL 10.31
(R1)
INVERT 1.94 DIAM 400
INVERT 1.63
PIT SL 2.56
PIT SL 2.54
PIT SL 2.53
SMH 2.64
SMH 2.72
Ø225 IL 2.59

CitiSurv Pty Ltd ABN 32 122 758 276 CONSULTING SURVEYORS P.O. Box 439 KELLYVILLE NSW 2155 PHONE: (02) 9647 1142 E-mail: info@citisurv.com.au	SCALE 1:100	SHEET 4 OF 9
	DATE OF SURVEY 25-1-2022	PLOT FILE 12486-DET
	SURVEY OE	DRAWN JC

ISSUE	AMENDMENTS	DATED
A	INITIAL ISSUE	28-1-22
B	DETAIL MOVED ON TO MGA Z56 GDA 94	12-7-22
C	EXTRA DETAIL AND DRAINAGE ADDED	31/05/22

CLIENT: BRONXX PTY LTD

DATUM: AHD
ORIGIN OF LEVELS: SSM 133061 RL 3.191 DATED: 17-JAN-2022

PLAN: DETAIL & LEVEL SURVEY
SITE: 277 THE GRAND PARADE RAMSGATE BEACH

L.G.A.: BAYSIDE
PARISH: ST GEORGE
COUNTY: CUMBERLAND

TITLE: LOTS 6-11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747

NOTES
1. BOUNDARIES NOT SURVEYED.
2. AREAS & DIMENSIONS COMPILED FROM PLANS OBTAINED FROM THE LAND TITLES OFFICE.
3. TREE SYMBOLS ARE TO APPROXIMATE SCALE FOR TRUNK ø AND CANOPY SPREAD
4. ALL OTHER SYMBOLS ARE NOT TO SCALE AND ARE DIAGRAMMATIC ONLY.
5. NO SERVICES SEARCH HAS BEEN UNDERTAKEN.
6. ONLY VISIBLE ABOVE GROUND SERVICES HAVE BEEN LOCATED.
7. ALL KERB LEVELS ARE ON THE TOP OF KERB UNLESS OTHERWISE STATED.
8. PLAN IS ACCURATE TO PLOT SCALE ONLY.
9. PLAN IS TO BE USED FOR DETAIL PURPOSES ONLY.
10. CONTOUR INTERVAL 0.25m

CitiSurv Pty Ltd ABN 32 122 758 276 CONSULTING SURVEYORS P.O. Box 439 KELLYVILLE NSW 2155 PHONE: (02) 9647 1142 E-mail: info@citisurv.com.au	SCALE: 1:100	SHEET: 5 OF 9	
	DATE OF SURVEY: 25-1-2022	PLOT FILE: 12486-DET	
	SURVEY: OE	DRAWN: JC	

ISSUE	AMENDMENTS	DATED
A	INITIAL ISSUE	28-1-22
B	DETAIL MOVED ON TO MGA Z56 GDA 94	12-7-22
C	EXTRA DETAIL AND DRAINAGE ADDED	31/05/22

CLIENT: BRONXX PTY LTD

DATUM: AHD
ORIGIN OF LEVELS: SSM 133061
RL 3.191
DATED: 17-JAN-2022

PLAN: DETAIL & LEVEL SURVEY

SITE: 277 THE GRAND PARADE RAMSGATE BEACH

L.G.A.: BAYSIDE
PARISH: ST GEORGE
COUNTY: CUMBERLAND

TITLE: LOTS 6-11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747

NOTES
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2. AREAS & DIMENSIONS COMPILED FROM PLANS OBTAINED FROM THE LAND TITLES OFFICE.
3. TREE SYMBOLS ARE TO APPROXIMATE SCALE FOR TRUNK ø AND CANOPY SPREAD
4. ALL OTHER SYMBOLS ARE NOT TO SCALE AND ARE DIAGRAMMATIC ONLY.
5. NO SERVICES SEARCH HAS BEEN UNDERTAKEN.
6. ONLY VISIBLE ABOVE GROUND SERVICES HAVE BEEN LOCATED.
7. ALL KERB LEVELS ARE ON THE TOP OF KERB UNLESS OTHERWISE STATED.
8. PLAN IS ACCURATE TO PLOT SCALE ONLY.
9. PLAN IS TO BE USED FOR DETAIL PURPOSES ONLY.
10. CONTOUR INTERVAL 0.25m

A1

DETAIL PLAN

0 5 10 METRES SCALE 1 : 100

SEE SHEET 1 FOR NOTES & LEGEND

ABT 1° M.G.A. T.N.

THE GRAND PARADE

CARPARK

LOT 8
DP 11037
AREA 492m²

LOT 10
DP 11037
AREA 500.7m²

LOT 11
DP 11037
AREA 500.7m²

SINGLE STOREY
BRICK BUILDING
"COLES"

98°34'25"
8°34'25"
40.36
13.41
37.34
12.19
14.96

PARAPET RL 12.45
ROOF RL 8.82
RIDGE RL 11.18
RIDGE RL 11.48

Ø225
IL 2.59

BUS STOP

SIGN

PIT
SV

GRATE
SL 2.60

GRATE
SL 2.57

LOADING
DOCK

AWNING

PARAPET 5.93

FL1 3.18
FL2 2.59
FL3 3.28

SINGLE STOREY
RENDERED BUILDING

2 STOREY
BRICK BUILDING
TILE ROOF

SINGLE STOREY
BRICK BUILDING
TILE ROOF

GUT 8.29
GUT 8.22
GUT 8.21
GUT 8.21
GUT 5.10

Ø0.2,3,10
Ø0.2,4,8
Ø0.2,4,8
Ø0.1,2,3

INVERT
1.52

INVERT
1.56
DIAM 450

PIT
SL 2.42

INVERT
1.54

INVERT
1.55
DIAM 450

PIT
SL 2.41

CitiSurv Pty Ltd	SCALE	SHEET
ABN 32 122 758 276	1:100	6 OF 9
CONSULTING SURVEYORS	DATE OF SURVEY	PLOT FILE
P.O. Box 439 KELLYVILLE NSW 2155	25-1-2022	12486-DET
PHONE: (02) 9647 1142	SURVEY	DRAWN
E-mail: info@citisurv.com.au	OE	JC

ISSUE	AMENDMENTS	DATED
A	INITIAL ISSUE	28-1-22
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PLAN: DETAIL & LEVEL SURVEY
SITE: 277 THE GRAND PARADE RAMSGATE BEACH

L.G.A.: BAYSIDE
PARISH: ST GEORGE
COUNTY: CUMBERLAND

TITLE: LOTS 6-11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747

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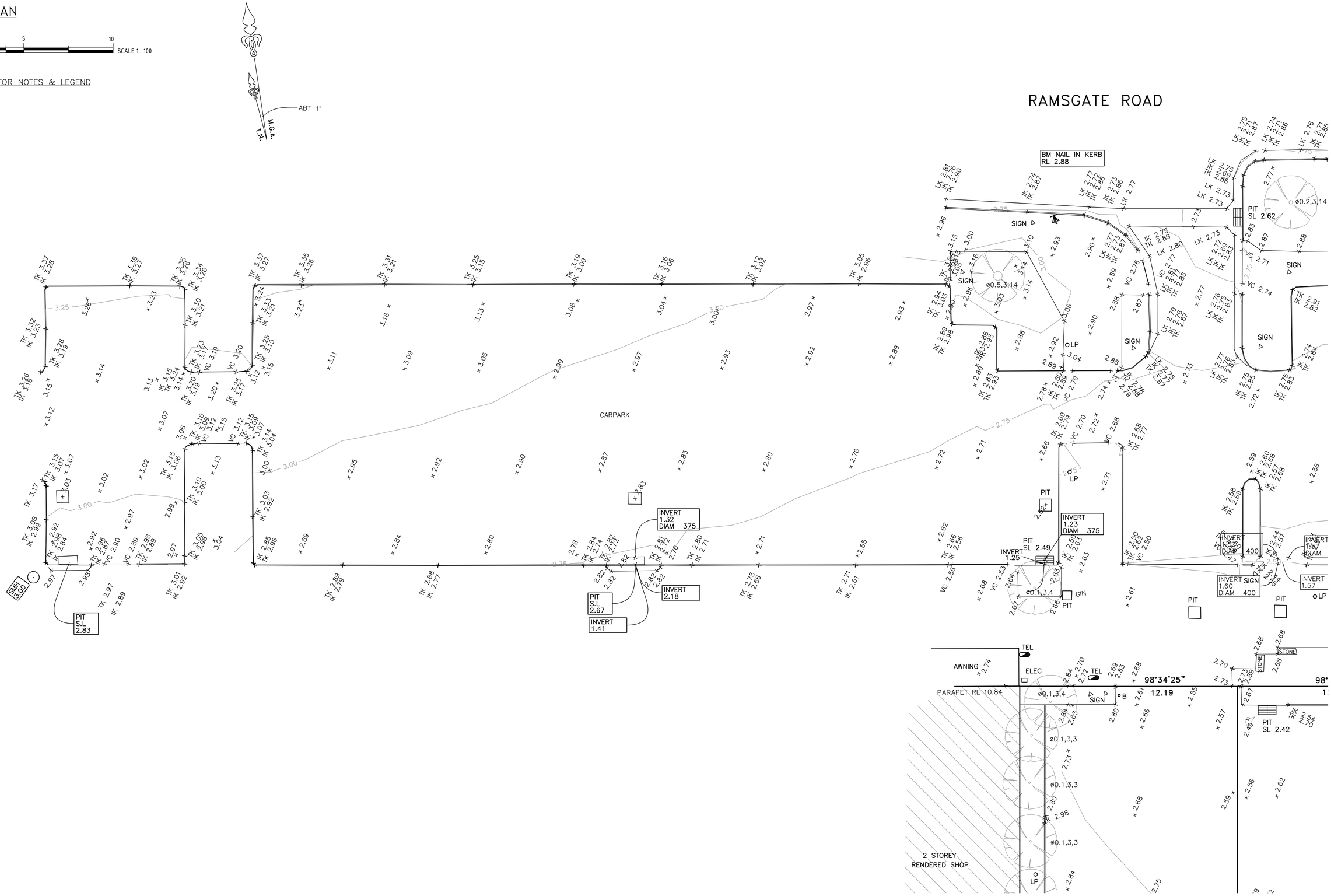
A1

DETAIL PLAN

0 5 10
METRES
SCALE 1 : 100

SEE SHEET 1 FOR NOTES & LEGEND



CitiSurv Pty Ltd ABN 32 122 758 276 CONSULTING SURVEYORS P.O. Box 439 KELLYVILLE NSW 2155 PHONE: (02) 9647 1142 E-mail: info@citisurv.com.au	SCALE 1:100	SHEET 7 OF 9	ISSUE	AMENDMENTS	DATED	CLIENT BRONXX PTY LTD	DATUM AHD ORIGIN OF LEVELS: SSM 133061 RL 3.191 DATED: 17-JAN-2022	PLAN DETAIL & LEVEL SURVEY SITE 277 THE GRAND PARADE RAMSGATE BEACH	L.G.A. BAYSIDE PARISH ST GEORGE COUNTY CUMBERLAND	TITLE LOTS 6–11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747	NOTES 1. BOUNDARIES NOT SURVEYED. 2. AREAS & DIMENSIONS COMPILED FROM PLANS OBTAINED FROM THE LAND TITLES OFFICE. 3. TREE SYMBOLS ARE TO APPROXIMATE SCALE FOR TRUNK ø AND CANOPY SPREAD 4. ALL OTHER SYMBOLS ARE NOT TO SCALE AND ARE DIAGRAMMATIC ONLY. 5. NO SERVICES SEARCH HAS BEEN UNDERTAKEN. 6. ONLY VISIBLE ABOVE GROUND SERVICES HAVE BEEN LOCATED. 7. ALL KERB LEVELS ARE ON THE TOP OF KERB UNLESS OTHERWISE STATED. 8. PLAN IS ACCURATE TO PLOT SCALE ONLY. 9. PLAN IS TO BE USED FOR DETAIL PURPOSES ONLY. 10. CONTOUR INTERVAL 0.25m
	DATE OF SURVEY 25-1-2022	PLOT FILE 12486-DET	A	INITIAL ISSUE	28-1-22						
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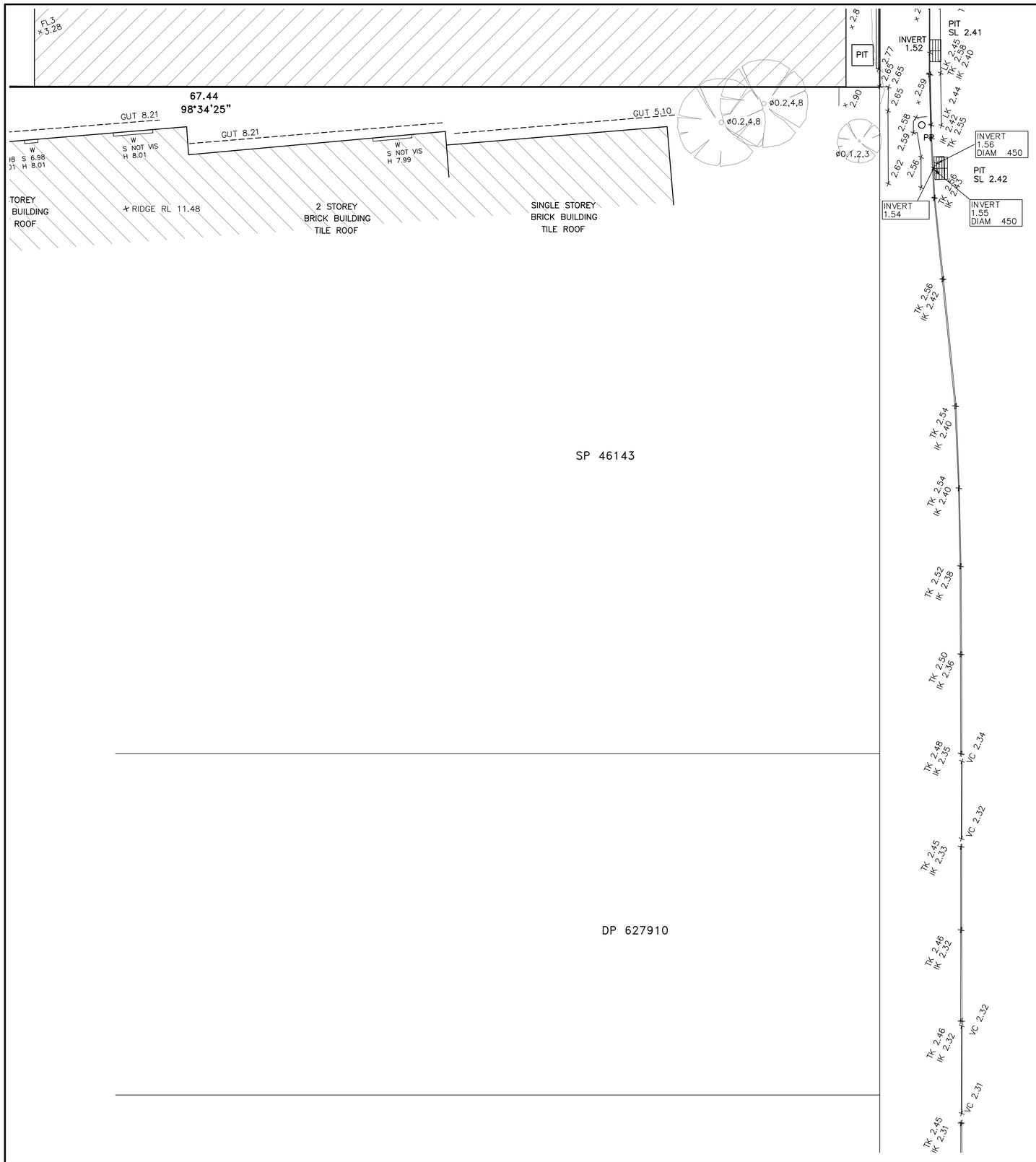
A1

DETAIL PLAN

0 5 10 SCALE 1 : 100

METRES

SEE SHEET 1 FOR NOTES & LEGEND



CitiSurv Pty Ltd ABN 32 122 758 276 CONSULTING SURVEYORS P.O. Box 439 KELLYVILLE NSW 2155 PHONE: (02) 9647 1142 E-mail: info@citisurv.com.au	SCALE 1:100	SHEET 8 OF 9	ISSUE	AMENDMENTS	DATED	CLIENT BRONXX PTY LTD	DATUM AHD ORIGIN OF LEVELS: SSM 133061 RL 3.191 DATED: 17-JAN-2022	PLAN DETAIL & LEVEL SURVEY SITE 277 THE GRAND PARADE RAMSGATE BEACH
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	SURVEY OE	DRAWN JC	B	DETAIL MOVED ON TO MGA Z56 GDA 94	12-7-22			
			C	EXTRA DETAIL AND DRAINAGE ADDED	31/05/22			

L.G.A.	TITLE	NOTES
BAYSIDE PARISH ST GEORGE COUNTY CUMBERLAND	LOTS 6-11 DP 11037, LOT 55 DP 613007 & LOT 8 SECTION D DP 10747	1. BOUNDARIES NOT SURVEYED. 2. AREAS & DIMENSIONS COMPILED FROM PLANS OBTAINED FROM THE LAND TITLES OFFICE. 3. TREE SYMBOLS ARE TO APPROXIMATE SCALE FOR TRUNK ø AND CANOPY SPREAD 4. ALL OTHER SYMBOLS ARE NOT TO SCALE AND ARE DIAGRAMMATIC ONLY. 5. NO SERVICES SEARCH HAS BEEN UNDERTAKEN. 6. ONLY VISIBLE ABOVE GROUND SERVICES HAVE BEEN LOCATED. 7. ALL KERB LEVELS ARE ON THE TOP OF KERB UNLESS OTHERWISE STATED. 8. PLAN IS ACCURATE TO PLOT SCALE ONLY. 9. PLAN IS TO BE USED FOR DETAIL PURPOSES ONLY. 10. CONTOUR INTERVAL 0.25m

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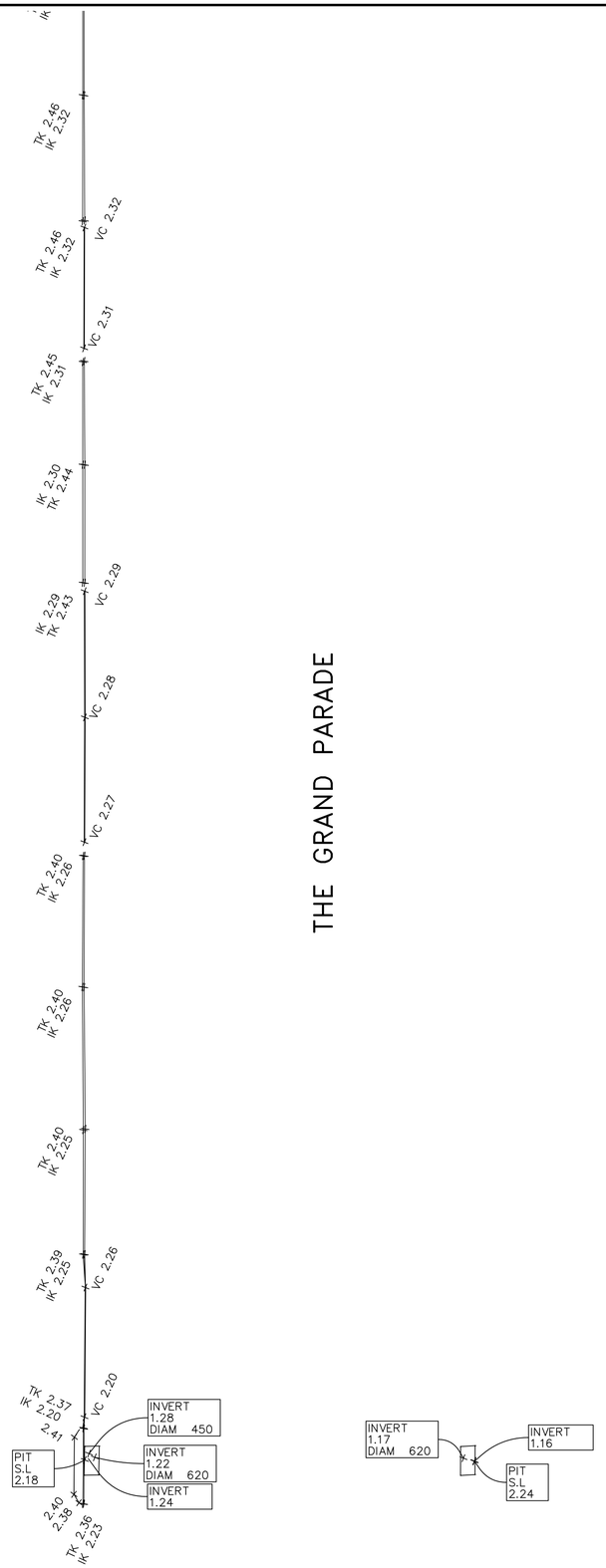
DETAIL PLAN

DP 627910

0 5 10
METRES
SCALE 1 : 100

SEE SHEET 1 FOR NOTES & LEGEND

DP 7823



CitiSurv Pty Ltd ABN 32 122 758 276 CONSULTING SURVEYORS P.O. Box 439 KELLYVILLE NSW 2155 PHONE: (02) 9647 1142 E-mail: info@citisurv.com.au	SCALE: 1:100	SHEET: 9 OF 9
	DATE OF SURVEY: 25-1-2022	PLOT FILE: 12486-DET
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Appendix D Civil Engineering Drawings

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277 THE GRAND PARADE,
RAMSGATE BEACH
CIVIL WORKS

SCALE: NTS

Sheet List Table		
Sheet Number	Sheet Title	_REV
C-01-01	COVER SHEET LEGEND AND DRAWING LIST	G
C-01-02	SPECIFICATION NOTES	E
C-01-11	EXISTING SURVEY	E
C-03-01	STORMWATER DRAINAGE CONCEPT PLAN GROUND FLOOR	G
C-03-03	STORMWATER DRAINAGE CONCEPT PLAN FLOOR B3	A
C-03-11	STORMWATER DRAINAGE DETAILS - SHEET 1	F
C-03-12	STORMWATER DRAINAGE DETAILS - SHEET 2	B
C-03-12	STORMWATER DRAINAGE DETAILS - SHEET 3	A
C-03-21	STORMWATER TREATMENT CATCHMENT PLAN	E
C-06-01	EROSION AND SEDIMENT CONTROL PLAN	E
C-06-11	EROSION AND SEDIMENT CONTROL DETAIL	E

Rev	Revision Description	Date
G	REVISED FOR DEVELOPMENT APPLICATION	17/01/2025
F	REVISED FOR DEVELOPMENT APPLICATION	06/12/2024
E	ISSUED FOR DEVELOPMENT APPLICATION	11/10/2024
D	ISSUED FOR DEVELOPMENT APPLICATION	21/12/2023
C	ISSUED FOR DEVELOPMENT APPLICATION	06/12/2023
B	ISSUED FOR DEVELOPMENT APPLICATION	15/07/2022
A	ISSUED FOR DEVELOPMENT APPLICATION	21/06/2022

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ABN 80 003 076 024

Client
BRONXX PTY LTD

Project
277 THE GRAND PARADE
RAMSGATE BEACH

Title
COVER SHEET LEGEND AND DRAWING LIST

Scale:
AS SHOWN

Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-01-01	G

File Path: ..K:\S220042 277 THE GRAND PARADE RAMSGATE BEACH\07. CIVIL\BIM\DRAWINGS\C-01-01 COVER SHEET, LEGEND AND DRAWING LIST.DWG - C-01-01 Cover Sheet Legend and Drawing List - DATE PRINTED: 6/12/2024 11:42:30 AM

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SITEWORKS NOTES

1. ORIGIN OF LEVELS :- AUSTRALIAN HEIGHT DATUM (A.H.D.)
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH COUNCIL CONSTRUCTION SPECIFICATIONS, THE DETAILS SHOWN ON THE DRAWINGS AND THE SPECIFICATIONS AND THE DIRECTIONS OF THE PRINCIPAL'S REPRESENTATIVE.
4. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
5. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
6. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER COMMUNICATIONS OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
7. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH AN APPROVED GRANULAR MATERIAL AND COMPACTED TO 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS.1289.5.1.1.
8. ALL TRENCH BACKFILL MATERIAL NOT IN PAVEMENTS SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
9. ON COMPLETION OF PIPE INSTALLATION ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
10. PROVIDE 10mm WIDE EXPANDING CORK JOINTS BETWEEN CONCRETE PAVEMENTS AND ALL BUILDINGS , WALLS, FOOTINGS, COLUMNS, KERBS, DISHDRAINS, GRATED DRAINS, BOLLARD FOOTINGS ETC
11. CONTRACTOR TO OBTAIN ALL AUTHORITY APPROVALS.
12. ALL BATTERS TO BE GRASSED LINED IN ACCORDANCE WITH COUNCIL CONSTRUCTION SPECIFICATIONS AND LANDSCAPE ARCHITECTS SPECIFICATION.
13. MAKE SMOOTH TRANSITION TO EXISTING SERVICES AND MAKE GOOD.
14. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS.
15. THESE PLANS SHALL BE READ IN CONJUNCTION WITH COUNCIL CONSTRUCTION SPECIFICATIONS AND APPROVED LANDSCAPE, ELECTRICAL AND TELECOMMUNICATIONH DRAWINGS AND SPECIFICATIONS.
16. TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MIN 50mm IN BITUMINOUS PAVING.
17. ON COMPLETION OF WORKS ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL INCLUDING, BUT NOT LIMITED TO, KERBS, FOOTPATHS, CONCRETE AREAS, GRASS AND LANDSCAPED AREAS.

EXISTING SERVICES AND FEATURES

1. EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SERVICE AUTHORITY.
2. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION, REMOVAL AND DISPOSAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA, AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SERVICE AUTHORITY.
3. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES SERVICES TO ALL BUILDINGS NOT AFFECTED BY THE WORKS ARE NOT DISRUPTED.
4. PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL GAIN WRITTEN APPROVAL OF HIS PROGRAMME FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
5. EXISTING BUILDINGS, EXTERNAL STRUCTURES, AND TREES SHOWN ON THESE DRAWINGS ARE FEATURES EXISTING PRIOR TO ANY DEMOLITION WORKS.
6. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SERVICE AUTHORITY. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE SERVICE AUTHORITY AND THE RELEVANT SERVICE AUTHORITY.
7. INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO THE PRINCIPAL. CONTRACTOR TO GAIN APPROVAL OF SERVICE AUTHORITY FOR TIME OF INTERRUPTION. THE CONTRACTOR IS RESPONSIBLE FOR ALL LIAISON.
8. CLEARANCE AND COVER REQUIREMENTS SHALL BE OBTAINED FROM THE COUNCIL AND RELEVANT SERVICE AUTHORITY BEFORE COMMENCEMENT OF WORKS AND SHALL BE ADHERED TO AT ALL TIMES.
9. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS ONLY.

STORMWATER NOTES

1. ALL DRAINAGE PIPES GREATER THAN Ø300mm SHALL BE CLASS 2 APPROVED SPIGOT AND SOCKET REINFORCED CONCRETE PIPES WITH RUBBER RING JOINTS (UNO).
2. WHERE DRAINAGE LINE PASS UNDER VEHICULAR PAVEMENTS PIPES SHALL BE CLASS 4 APPROVED SPIGOT AND SOCKET REINFORCED CONCRETE PIPES WITH RUBBER RING JOINTS (UNO).
3. ALL DRAINAGE PIPES LESS THAN OR EQUAL TO Ø300mm SHALL BE uPVC DWV GRADE CLASS SN8 IN ACCORDANCE WITH AS/NZS1260:2009-PVC-U PIPES AND FITTINGS FOR DRAIN, WASTE AND VENT APPLICATION WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH REINFORCED CONCRETE OR FIBROUS REINFORCED CONCRETE MAY BE USED SUBJECT TO APPROVAL BY THE SERVICE AUTHORITY.
5. PIPES FOR SUB-SOIL DRAINS SHALL BE SLOTTED 100mm DIAMETER CLASS 1000 WRAPPED IN GEOFABRIC, UNO, COMPLYING WITH THE REQUIREMENTS OF AS 2439. ALL SUBSOIL PIPES SHALL BE FACTORY SLOTTED HDPE, MINIMUM 100mm DIAMETER SN8 CLASS, SIMILAR OR EQUAL TO VINIDEX DRAINCOIL, CERTIFIED UPVC, IN ACCORDANCE WITH AS1260, AS2032 (PIPE) & AS3789 (JOINTING) INSTALLED ON GEOTEXTILE FABRIC WITH 150mm SURROUND OF 25MM BLUE METAL AGGREGATE. UNO
6. ALL PIPE JUNCTIONS UP TO AND INCLUDING 300 DIA. AND TAPERS SHALL BE VIA PURPOSE MADE FITTINGS.
7. ALL MILD STEEL FIXTURES INCLUDING GRATES, FRAMES, STEP IRONS, LADDERS, ETC., SHALL BE HOT DIP GALVANISED, GALVANISING SHALL COMPLY WITH THE REQUIREMENTS OF AS 1214 OR AS 1650, AS APPROPRIATE.
8. MINIMUM GRADE TO STORMWATER LINES TO BE 1%. (U.N.O.)
9. CONTRACTOR TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
10. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
11. PRECAST PITS SHALL NOT BE USED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE SERVICE AUTHORITY.
12. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50MM CONCRETE BED (OR 75MM THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR ON THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75MM THICK SAND BED. IN ALL CASES BACKFILL THE TRENCH WITH SAND TO 200MM ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150MM LAYERS TO 98% STANDARD MAX. DRY DENSITY.
13. BEDDING SHALL BE (U.N.O) TYPE H2 (NOT UNDER ROADWAYS) OR HS2 (UNDER ROADWAYS) IN ACCORDANCE WITH CURRENT RELEVANT AUSTRALIAN STANDARDS.
14. BACKFILL TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL TO 300mm(MIN) ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO PAVEMENT SUBGRADE WITH SAND OR APPROVED GRAVEL SUB-BASE COMPACTED IN 150mm LAYERS TO 98% STANDARD MAXIMUM DRY DENSITY. THE CONTRACTOR IS TO ENSURE COMPACTION EQUIPMENT IS APPROPRIATE FOR THE PIPE CLASS USED.
15. WHERE STORMWATER LINES PASS UNDER FLOOR SLABS DWV GRADE uPVC RUBBER RING JOINTS ARE TO BE USED (UNO).
16. WHERE SUBSOIL DRAINAGE LINES PASS UNDER VEHICULAR PAVEMENTS, UNSLOTTED uPVC DWV GRADE CLASS SN8 PIPE SHALL BE USED.
17. 100mm DIA. SUBSOIL DRAINAGE PIPE 3m LONG WRAPPED IN FILTER SOCK TO BE PROVIDED IN PIPE TRENCHES UPSTREAM OF ALL PITS.
18. PITS DEEPER THAN 1000mm SHALL HAVE ACCESS LADDERS OR STEP IRONS INSTALLED AND SHALL BE IN ACCORDANCE WITH THE LOCAL OR STATUTORY AUTHORITY REQUIREMENTS.
19. ALL FRAMES, COVERS AND GRATINGS FOR PITS, SUMPS, DRAINS, GRATED DRAINS ETC MUST BE PROVIDED TO SUIT CLASS D DUTIES AND ALL GRATES SHALL BE SLIP RESISTANT AND HEELGUARD UNO IN ACCORDANCE WITH AS3996.
20. WHERE A PIT IS IDENTIFIED AS A CONFINED SPACE, PIT COVERS SHALL BE PROVIDED WITH STANDARD CONFINED SPACE SIGNAGE
21. SUBSOIL DRAINAGE LINES SHALL BE INSTALLED AT THE BASE OF ALL RETAINING WALLS AND FOR ALL STORMWATER PITS. ALL SUBSOIL LINES SHALL BE CONNECTED TO DRAIN TO THE STORMWATER DRAINAGE SYSTEM.
22. CAPPED FLUSHING POINTS MUST BE PROVIDED FOR ALL SUBSOIL AND SEEPAGE DRAINAGE SYSTEMS AT THE END OF EACH PIPE, AT 30M SPACING AND AT CHANGES IN DIRECTIONS.
23. INSPECTION OPENINGS AND CLEAROUTS MUST BE PROVIDED AT EVERY JUNCTION, BEND, CHANGE OF DIRECTION AND AT THE BASE OF ALL DOWNPIPES IMMEDIATELY ABOVE WHERE THE DOWNPIPE PENETRATES THE GROUND OR SLAB ON GROUND.

SUBSOIL DRAINAGE NOTES

1. DN100 SLOTTED uPVC SUBSOIL DRAINAGE WRAPPED IN GEOFABRIC SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS AND CONNECTED TO THE SITE STORMWATER DRAINAGE SYSTEM (U.N.O):
   - UNDER KERBS ADJACENT TO ALL PAVEMENTS
   - AT THE BASE OF THE HIGH SIDE OF ALL RETAINING WALLS
   - WITHIN LANDSCAPED AREAS

EARTHWORKS NOTES

1. ALL WORK SHALL COMPLY WITH COUNCIL CONSTRUCTION SPECIFICATIONS AND AS3798 (2007) - GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
2. ALL WORK SHALL COMPLY WITH THE PROJECT GEOTECHNICAL REPORT
3. AFTER DEMOLITION STRIP REMAINING TOPSOIL THROUGHOUT TO EXPOSE NATURALLY OCCURRING AND ENGINEERING MATERIAL AND STOCKPILE ON SITE FOR REUSE AS DIRECTED BY THE SERVICE AUTHORITY.
4. EXCAVATE TO SUBGRADE LEVELS, SEGREGATING AND STOCKPILING MATERIALS FOR LATER REUSE.
5. PROOF ROLL ALL SOFT OR WET AREAS SHALL BE DRIED TO OPTIMUM MOISTURE AND RE-COMPACTED TO 95% MMDD, WHERE MATERIAL IS DEEMED UNSUITABLE BY THE SERVICE AUTHORITY AND CANNOT BE USED ON SITE SHALL REMOVED FROM SITE.
6. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SERVICE AUTHORITY AND SHALL COMPLY WITH THE FOLLOWING -
   a. FREE FROM ORGANIC AND PERISHABLE MATTER,
   b. MAXIMUM PARTICLE SIZE 75mm,
   c. PLASTICITY INDEX - BETWEEN 2% AND 15%.
7. ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS1289.5.1.1-2003-METHODS OF TESTING SOILS FOR ENGINEERING PURPOSES OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITY -

LOCATION	STANDARD DRY DENSITY (MMDD)
UNDER BUILDING SLABS	98%
VEHICULAR PAVED AREAS	100%
NON-VEHICULAR PAVED AREAS	98%
LANDSCAPED AREAS	95%

8. THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
9. TESTING OF THE FILL MATERIAL SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE.
10. ROCK LEVELS SHOWN ON BULK EARTHWORKS PLANS AND SECTIONS ARE INFERRED. CONTRACTOR TO CONFIRM DEPTH ON SITE. TYP. INFERRED ROCK LEVELS BASED ON GEOTECHNICAL INVESTIGATION.
11. PROPOSED BULK EARTHWORKS SURFACE LEVEL SHOWN DOES NOT INCLUDE THE LANDSCAPE TOPSOIL SETDOWNS.
12. EXISTING SURFACE LEVEL SHOWN DOES NOT INCLUDE STRIPPING.

EROSION AND SEDIMENT CONTROL NOTES

SEDIMENT CONTROL INSTRUCTIONS

1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE SITE SERVICE AUTHORITY TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
2. SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.6 METRES.
3. SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CANNOT OCCUR.
4. STOCKPILES ARE NOT TO BE LOCATED WITHIN 5 METRES OF HAZARD AREAS INCLUDING AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS.
5. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR WATER HAS BEEN TREATED BY AN APPROVED DEVICE. 6. TEMPORARY SEDIMENT TRAPS WILL REMAIN IN PLACE UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
6. ACCESS TO SITES SHOULD BE STABILISED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL-WEATHER ENTRY/EXIT.

SOIL EROSION CONTROL INSTRUCTIONS

1. EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTED, THAN:
   a. 2(H):1(V) WHERE SLOPE LENGTH LESS THAN 12 METRES
   b. 2.5(H):1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 16 METRES.
   c. 3(H):1(V) WHERE SLOPE LENGTH BETWEEN 16 AND 20 METRES.
   d. 4(H):1(V) WHERE SLOPE LENGTH GREATER THAN 20 METRES.
2. ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 1:20 YEAR ARI, TIME OF CONCENTRATION STORM EVENT.
3. WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUNDCOVER C-FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FLOW VELOCITIES ARE TO BE LIMITED TO THOSE SHOWN IN TABLE 5-1 OF "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", DEPT OF HOUSING 1998 (BLUE BOOK). FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
4. STOCKPILES AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND-COVER C-FACTOR OF 0.1 (60% GROUND-COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
5. ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND-COVER C-FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
6. FOR AREAS OF SHEET FLOW USE THE FOLLOWING GROUND COVER PLANT SPECIES FOR TEMPORARY COVER: JAPANESE MILLET 20 KG/HA AND OATS 20 KG/HA.
7. PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND-COVER C-FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.
8. RE-VEGETATION SHOULD BE AIMED AT RE-ESTABLISHING NATURAL SPECIES. NATURAL SURFACE SOILS SHOULD BE REPLACED AND NON-PERSISTANT ANNUAL COVER CROPS SHOULD BE USED.

WASTE CONTROL INSTRUCTIONS

1. ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BT THE SITE SERVICE AUTHORITY.
2. ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOOD PRONE AREAS, STREAMBANKS, CHANNELS AND STORMWATER DRAINAGE AREAS. STORE SUCH MATERIALS IN A DESIGNATED AREA UNDER COVER WHERE POSSIBLE AND WITHIN CONTAINMENT BUNDS.
3. ALL SITE STAFF AND SUB-CONTACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES PROVIDED.
4. 4. ANY DE-WATERING ACTIVITIES ARE TO BE CLOSELY MONITORED TO ENSURE THAT WATER IS NOT POLLUTED BY SEDIMENT, TOXIC MATERIALS OR PETROLEUM PRODUCTS.
5. PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS.

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E	REVISED FOR DEVELOPMENT APPLICATION	06/12/2024
D	ISSUED FOR DEVELOPMENT APPLICATION	11/10/2024
C	ISSUED FOR DEVELOPMENT APPLICATION	6/12/2023
B	ISSUED FOR DEVELOPMENT APPLICATION	15/07/2022
A	ISSUED FOR DEVELOPMENT APPLICATION	21/06/2022

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Client
BRONXX PTY LTD

Project
277 THE GRAND PARADE
RAMSGATE BEACH

Title
SPECIFICATION NOTES

Scale:
AS SHOWN

Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-01-02	E

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Project
277 THE GRAND PARADE
RAMSGATE BEACH

Title
EXISTING SURVEY

Scale:
AS SHOWN

0 2 4 6 8 10m
1:200

Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-01-11	E

File Path: K:\S220042 277 THE GRAND PARADE RAMSGATE BEACH\07. CIVIL\BIM\DRAWINGS\C-01-11 EXISTING SURVEY.DWG - EXISTING SURVEY A - DATE PRINTED: 6/12/2024 11:35:21 AM

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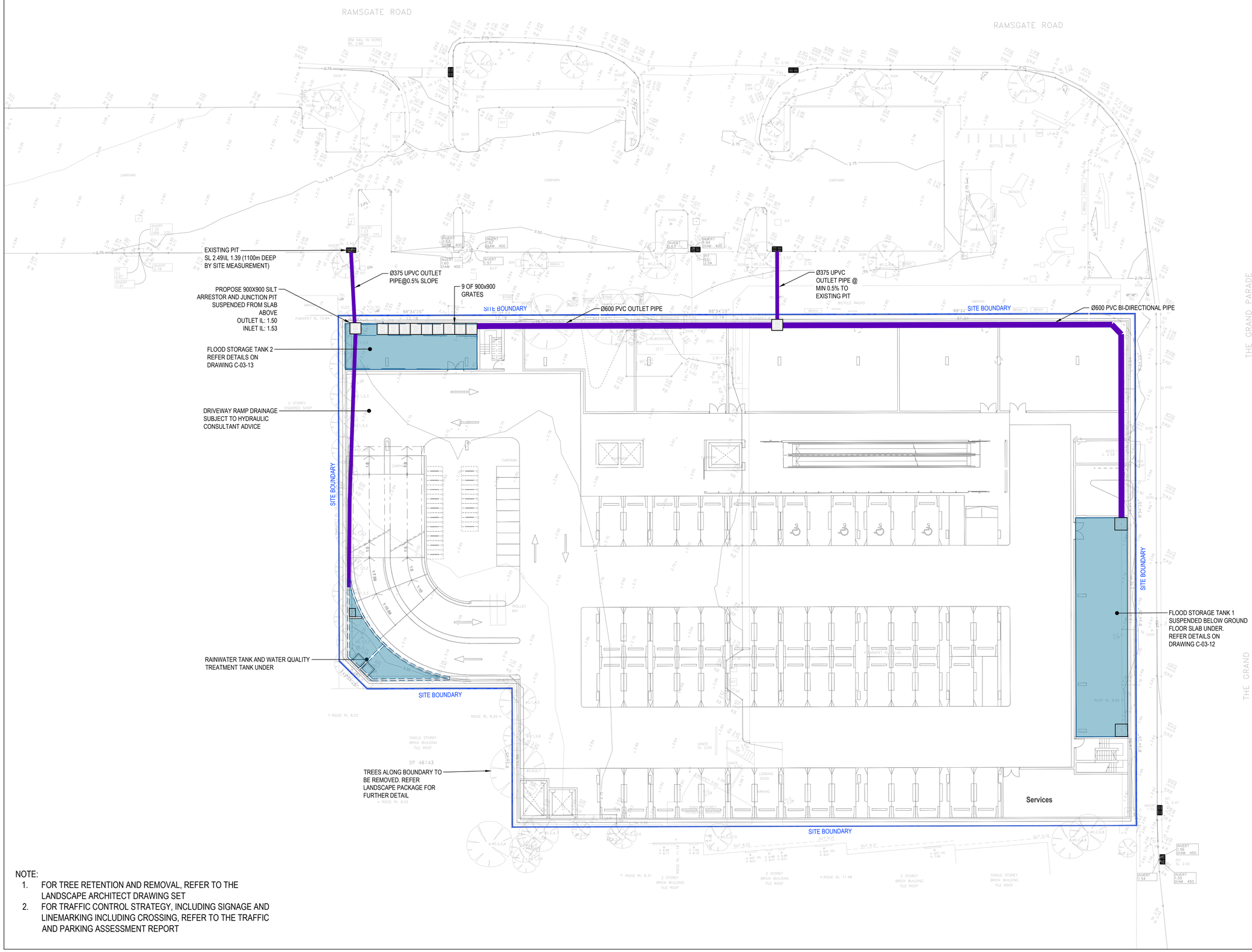

NOTE:

1. FOR TREE RETENTION AND REMOVAL, REFER TO THE LANDSCAPE ARCHITECT DRAWING SET
2. FOR TRAFFIC CONTROL STRATEGY, INCLUDING SIGNAGE AND LINEMARKING INCLUDING CROSSING, REFER TO THE TRAFFIC AND PARKING ASSESSMENT REPORT

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G	REVISED FOR DEVELOPMENT APPLICATION	17/01/2025
F	REVISED FOR DEVELOPMENT APPLICATION	06/12/2024
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C	ISSUED FOR DEVELOPMENT APPLICATION	06/12/2023
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Client
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Project
277 THE GRAND PARADE RAMSGATE BEACH

Title
STORMWATER DRAINAGE CONCEPT PLAN GROUND FLOOR

Scale: **AS SHOWN**
0 2 4 6 8 10m
1:200

Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-03-01	G

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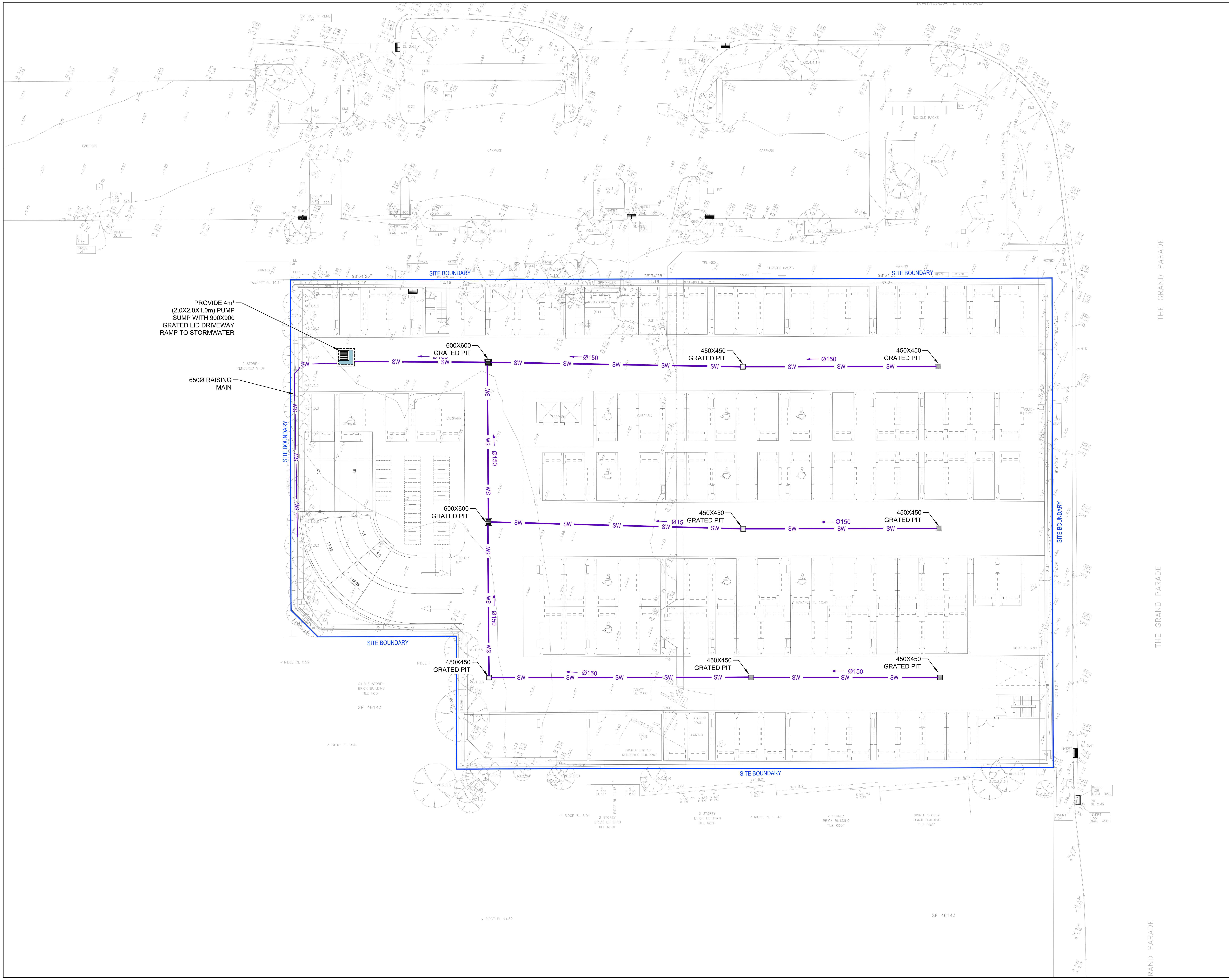

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A	REVISED FOR DEVELOPMENT APPLICATION	06/12/2024

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Client
BRONXX PTY LTD

Project
277 THE GRAND PARADE
RAMSGATE BEACH

Title
STORMWATER DRAINAGE CONCEPT PLAN
FLOOR B3

Scale
0 2 4 6 8 10m
1:200

Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-03-03	A

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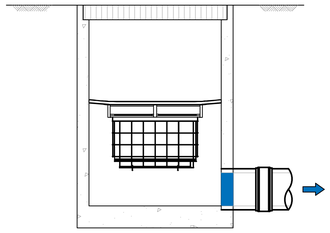
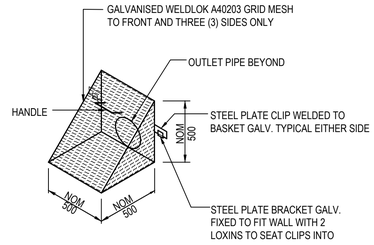


TYPICAL OCEAN GAURD DETAIL

STORMGUARD GENERAL NOTES
1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWING NOT TO SCALE.



TRASH SCREEN DETAIL

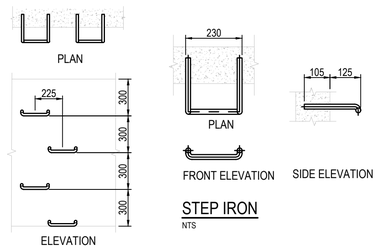
SCALE NTS

NOTE: ALL ITEMS TO BE HOT DIPPED GALVANISED.

ALL FIXING ITEMS TO BE 316SS GRADE.

ENSURE ALL DISSIMILAR METALS AVOID CONTACT

UNLESS CATHODIC PROTECTION IS PROVIDED

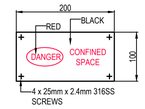


STEP IRON

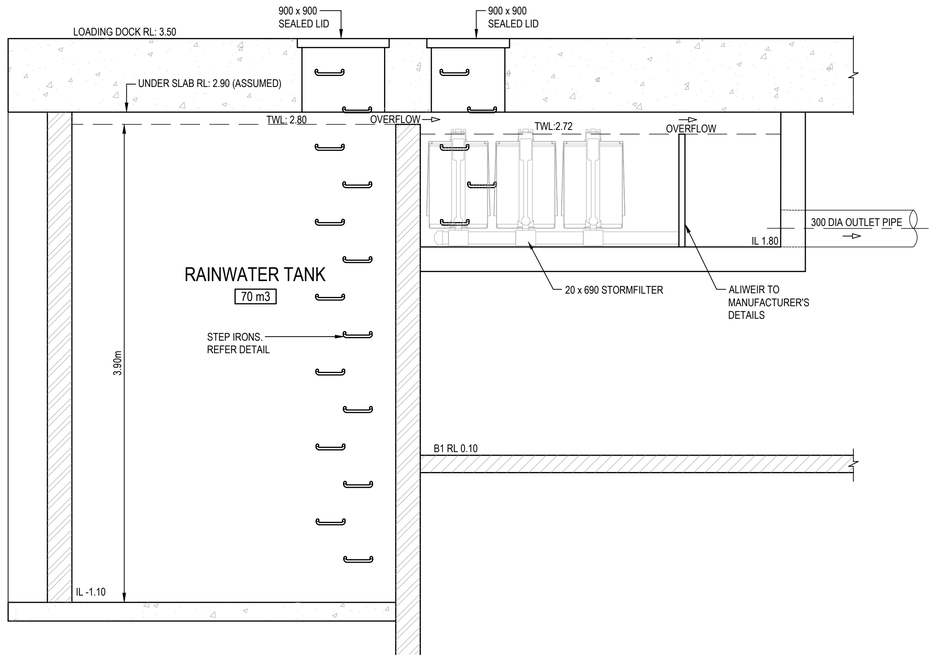
NTS

STEP IRON PLACEMENT TO PIT WALL

NTS



CONFINED SPACES SIGN



SECTION 1 - RAINWATER TANK AND STORMFILTER CHAMBER DETAIL

SCALE - NTS

STORMFILTER GENERAL NOTES
1. PRECAST STRUCTURE SUPPLIED WITH CORE HOLES TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
2. PRECAST STRUCTURE SHALL MEET W80 WHEEL LOAD RATING ASSUMING A MAXIMUM EARTH COVER OF 2.0m AND A GROUND WATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. CERTIFYING ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION. PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH AS3600.
3. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CERTIFYING ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE SYSTEM, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.
4. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
5. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
6. DRAWING NOT TO SCALE.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY CERTIFYING ENGINEER.
2. CONTRACTOR TO PROVIDE ALL EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING DETAIL PROVIDED SEPARATELY).
3. CONTRACTOR TO APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL AND GROUT INLET AND OUTLET PIPES.

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F	REVISED FOR DEVELOPMENT APPLICATION	06/12/2024
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Client
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Project
277 THE GRAND PARADE RAMSGATE BEACH

Title
STORMWATER DRAINAGE DETAILS - SHEET 1

Scale:
AS SHOWN

Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-03-11	F

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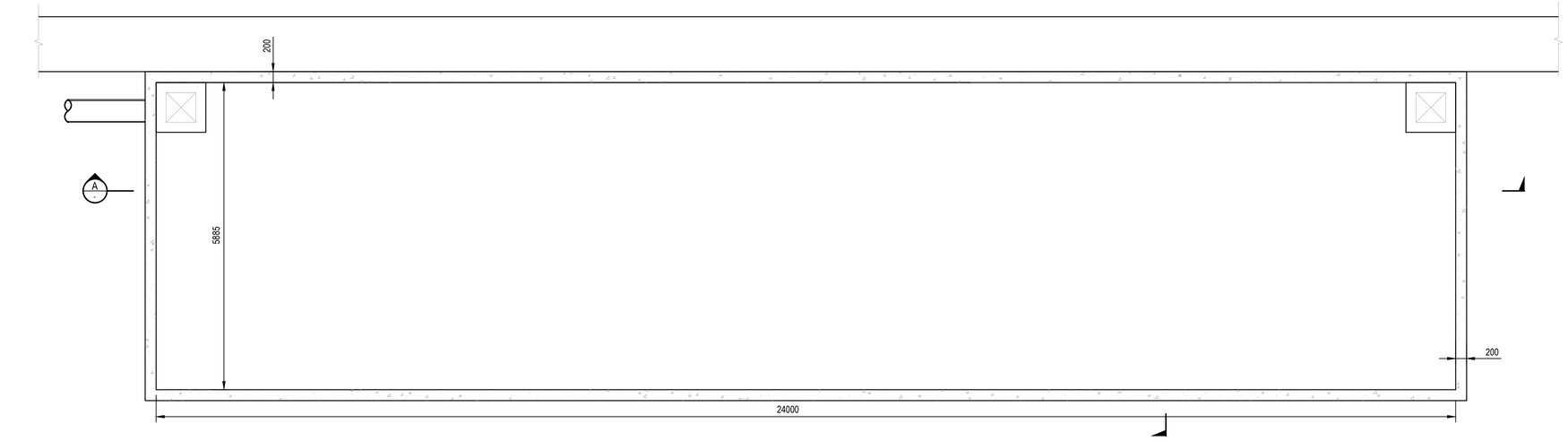
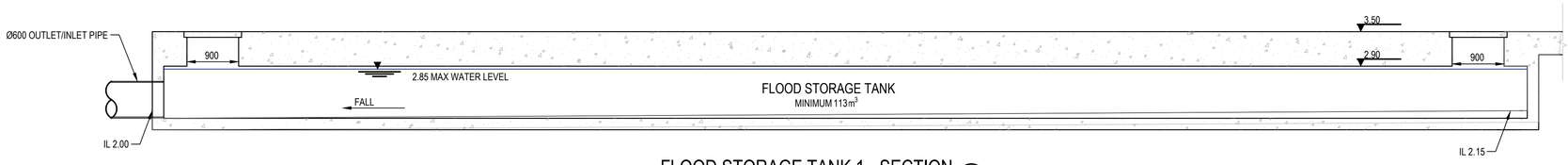


FLOOD STORAGE TANK 1 - PLAN



FLOOD STORAGE TANK 1 - SECTION A
SCALE 1:50

Rev	Revision Description	Date
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A	REVISED FOR DEVELOPMENT APPLICATION	06/12/2024

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Project
277 THE GRAND PARADE RAMSGATE BEACH

Title
STORMWATER DRAINAGE DETAILS - SHEET 2

Scale:
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Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-03-12	A

File Path - K:\S220042 277 THE GRAND PARADE RAMSGATE BEACH\07. CIVIL\BIM\DRAWINGS\C-03-11.DWG - STORMWATER DRAINAGE DETAILS (2) - DATE PRINTED: 17/01/2025 7:01:34 PM

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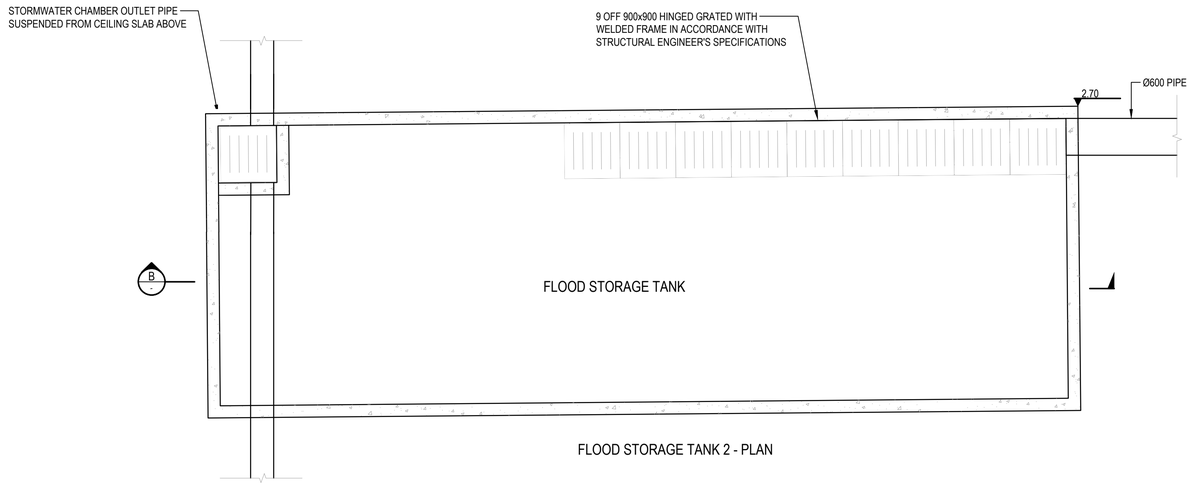
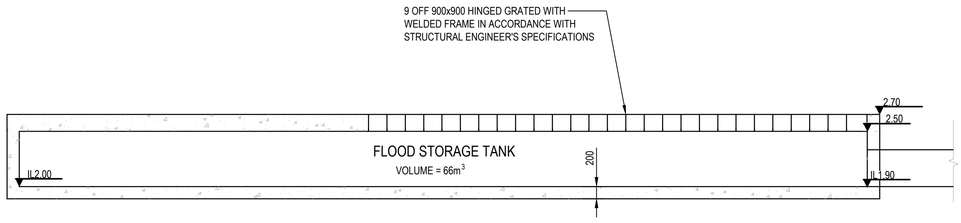


FLOOD STORAGE TANK 2 - PLAN



FLOOD STORAGE TANK 2 - SECTION B

SCALE 1:50

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Project
277 THE GRAND PARADE RAMSGATE BEACH

Title
STORMWATER DRAINAGE DETAILS - SHEET 3

Scale:
AS SHOWN

Drawn	Designed	Checked	Approved
EE	AV	AV	AV

Project Number	Drawing Number	Revision
S220042	C-03-13	A

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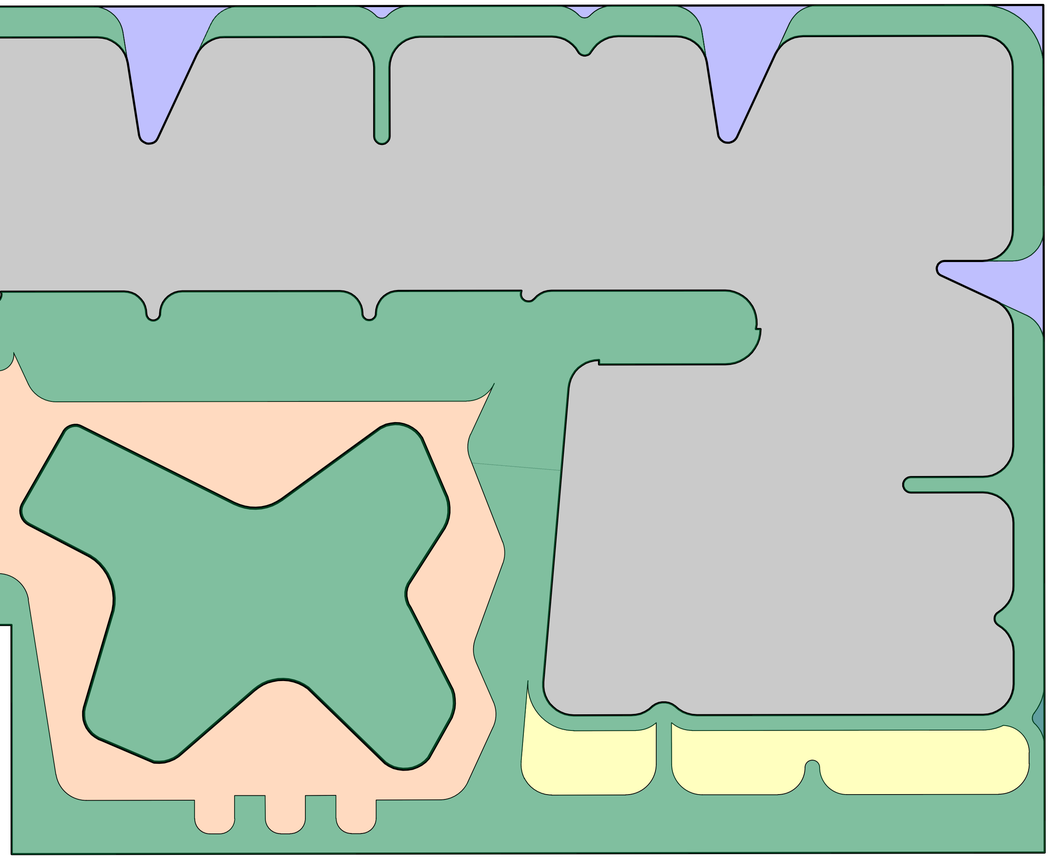
WATER TREATMENT CATCHMENT

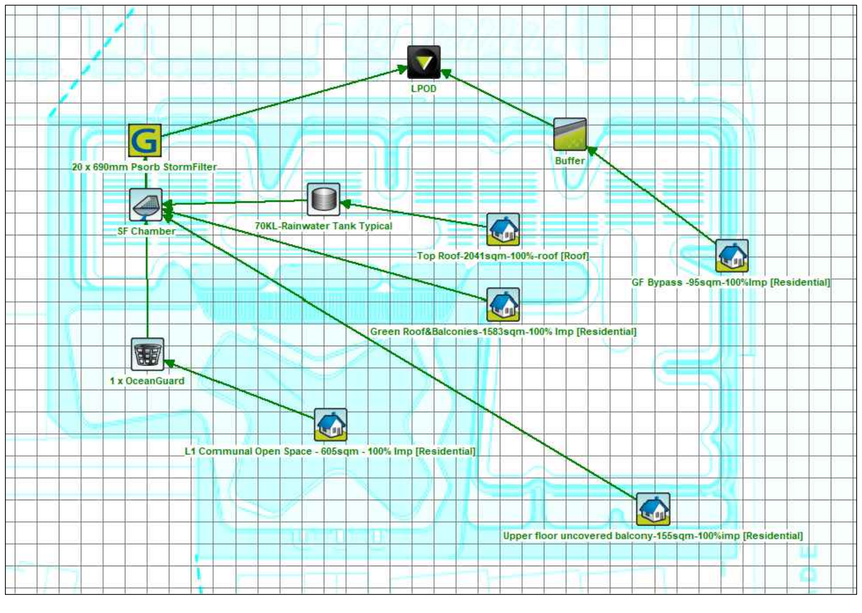
HATCH	CATCHMENT NAME	AREA (m^2)
	TOP ROOF TO RWT	2041
	L5 GREEN ROOF	1583
	UNCOVERED BALCONY	155
	L1 COMMUNAL SPACE	605
	GF BYPASS	95
	TOTAL AREA	4479

CATCHMENT TABLE



	Sources	Residual Load	% Reduction
Flow (ML/yr)	4.06	3.55	12.6
Total Suspended Solids (kg/yr)	438	65.5	85.1
Total Phosphorus (kg/yr)	0.909	0.187	79.4
Total Nitrogen (kg/yr)	8.94	3.82	57.3
Gross Pollutants (kg/yr)	113	1.12	99

MUSIC MODEL RESULT



MUSIC MODEL LAYOUT

f) The development requires the use of a Water Sensitive Urban Design Approach (WSUD) to the design of the drainage system. Bayside Technical Specification Stormwater Management Section 7.1.1 requires the development to confirm the targets for the stormwater pollution reduction. The MUSIC Model results does not comply as the minimum pollution reduction target is 85% for the TSS and the current design only on 80%. The design is to be revised to comply and must comply with all reduction targets as per Bayside Technical Specification Stormwater. The plans are to be revised to comply with the pollution reduction targets specified in section 7.1.1.

g) A WSUD catchment plan to be provided to clearly show the survey and architectural in the background. The catchment areas in the catchment plan are to be accurately reflected in the MUSIC Model. Planter boxes to be modelled as 100% impervious and the MUSIC Model to be provided to Council for assessment.

INITIAL COUNCIL ENGINEER'S COMMENTS

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Project
277 THE GRAND PARADE
RAMSGATE BEACH

Title
STORMWATER TREATMENT CATCHMENT PLAN

Scale:
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0 2 4 6 8 10m
1:200

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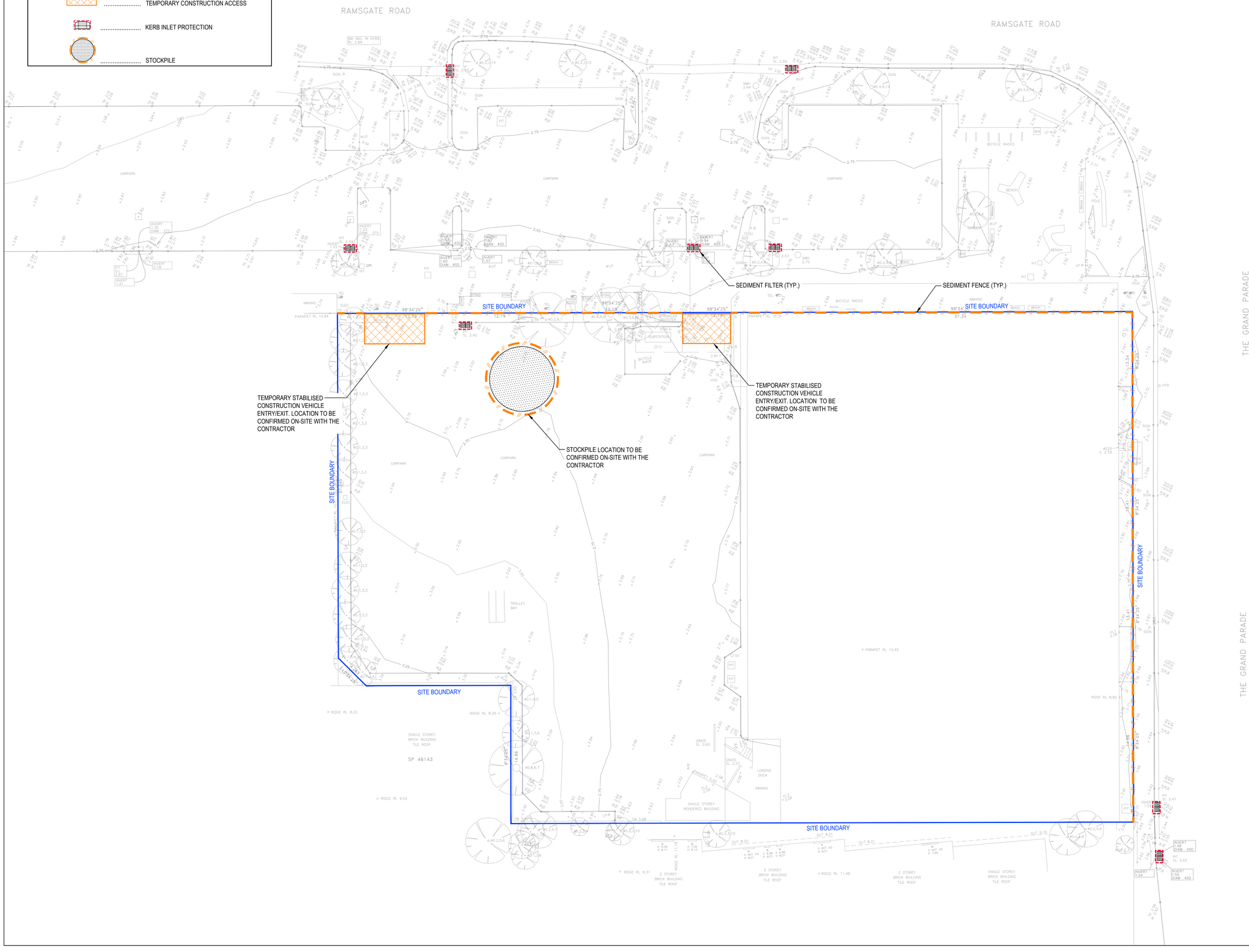
EROSION & SEDIMENT LEGEND

- SEDIMENT FENCE
- TEMPORARY CONSTRUCTION ACCESS
- KERB INLET PROTECTION
- STOCKPILE



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Project
277 THE GRAND PARADE
RAMSGATE BEACH

Title
EROSION AND SEDIMENT CONTROL PLAN

Scale: **AS SHOWN**
0 2 4 6 8 10m
1:200

Drawn	Designed	Checked	Approved
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Project Number	Drawing Number	Revision
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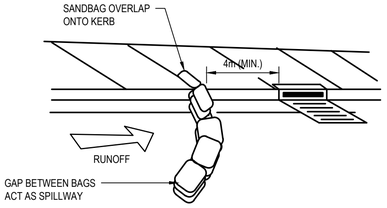
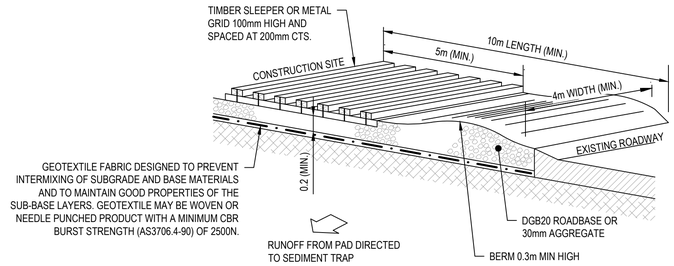


KERB INLET SEDIMENT FILTER (ON GRADE)

NTS



TEMPORARY STABALISED CONSTRUCTION EXIT

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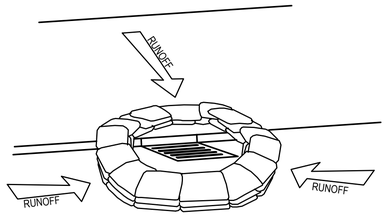
CONSTRUCTION NOTES

1. CONTRACTOR SHALL CONDUCT A DIAL BEFORE YOU DIG SEARCH PRIOR TO COMMENCEMENT OF ANY WORK.
2. ENSURE THAT ALL COUNCIL AND PUBLIC UTILITY ASSETS ARE MAINTAINED AND PROTECTED AT ALL TIMES IN THE VICINITY OF THE TEMPORARY CONSTRUCTION EXIT.
3. STRIP TOPSOIL AND LEVEL SITE.
4. COMPACT SUBGRADE.
5. COVER AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
6. CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE.
7. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE OR OTHER SEDIMENT TRAP WHERE THE SEDIMENT IS COLLECTED AND REMOVED.

MAINTENANCE NOTES

THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT OFF THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED OFF THE CONSTRUCTION SITE MUST BE REMOVED IMMEDIATELY.



KERB INLET SEDIMENT FILTER - SANDBAG SURROUND

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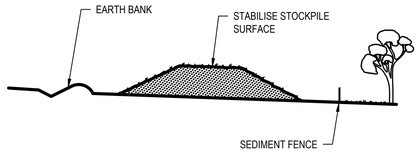
KERB INLET SEDIMENT FILTER

1. REFER TO APPROVED PLANS FOR LOCATIONAND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION,DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
2. ENSURE THAT THE INSTALLATION OF THE SEDIMENT TRAP WILL NOT CAUSE UNDESIRABLE SAFETY OR FLOODING ISSUES.
3. INSTALL SEDIMENT TRAP IN ACCORDANCE WITH STANDARD DRAWING SUPPLIED WITH THE APPROVED PLAN, OR AS DIRECTED BY THESITE SUPERVISOR.
4. ENSURE THE SEDIMENT TRAP IS CONSTRUCTED UP-SLOPE OF AN ON-GRADE KERB INLET. THE SEDIMENT TRAP MUST NOT SURROUND THE KERB INLET UNLESS SPECIFICALLY DIRECTED BY THE SITE SUPERVISOR.
5. ENSURE THE SEDIMENT TRAP FULLY ENCLOSES THE KERB INLET. USE APPROPRIATE SPACERS TO ENSURE THE SEDIMENT TRAP DOES NOT BLOCK THE SIDE-ENTRY INLET.
6. TAKE ALL NECESSARY MEASURE TO MINIMISE THE SAFETY RISK CAUSED BY THE STRUCTURE



STOCKPILE

NTS

SOURCE: MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION. THIRD EDITION, AUGUST 1998 PRODUCED BY THE DEPARTMENT OF HOUSING

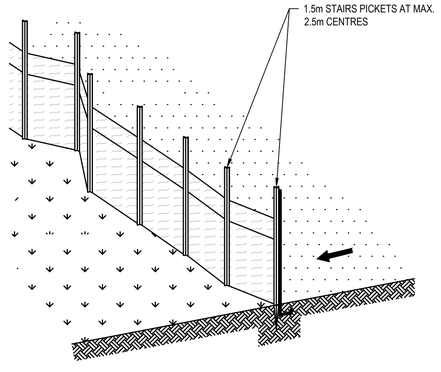
STOCKPILE

NTS

1. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95% STANDARD PROCTOR DENSITY.
2. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK LARGE STONE OR FOREIGN MATERIAL.
3. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.

SEDIMENT FENCE - PLAN

NTS



SEDIMENT FENCE

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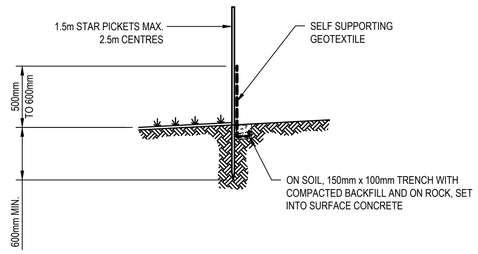
SEDIMENT FENCE

NTS

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BE PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING, TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 litres/sec IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METER LONG STAR PICKETS INTO GROUND AT 2.5 METER INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS, ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES, OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.



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Rev	Revision Description	Date
E	REVISED FOR DEVELOPMENT APPLICATION	06/12/2024
D	ISSUED FOR DEVELOPMENT APPLICATION	11/10/2024
C	ISSUED FOR DEVELOPMENT APPLICATION	6/12/2023
B	ISSUED FOR DEVELOPMENT APPLICATION	15/07/2022
A	ISSUED FOR DEVELOPMENT APPLICATION	21/06/2022

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Project
277 THE GRAND PARADE
RAMSGATE BEACH

Title
EROSION AND SEDIMENT CONTROL DETAIL

Scale:
AS SHOWN

Drawn	Designed	Checked	Approved
LS	LS	BK	HL

Project Number	Drawing Number	Revision
S220042	C-06-11	E

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