70 Merivale Street, South Brisbane

Conceptual Stormwater Management Plan

Merivale No 1 Pty Ltd

13 July 2026

DOCUMENT VERIFICATION

Job Title **70 Merivale Street, South Brisbane**

Job Number 27981.001

Document Title Conceptual Stormwater Management Plan

DOCUMENT CONTROL

Date	Document	Revision No.	Author	Reviewer
24.04.26	Conceptual Stormwater Management Plan	00	WN	MRB
13.07.26	Conceptual Stormwater Management Plan	01	AS	MRB
13.07.26	Conceptual Stormwater Management Plan	02	AS	MRB

APPROVAL FOR ISSUE

Name	Signature	Date
Aaryan Solanki		13.07.26
Matthew Brown		13.07.26

CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

APPENDICES

EXECUTIVE SUMMARY

ADG Engineers (Aust) Pty Ltd has been engaged by Merivale No 1 Pty Ltd to prepare a Conceptual Stormwater Management Plan (CSMP) suitable for submission to Brisbane City Council (BCC) in support of a Development Application for a proposed development located at 70 Merivale Street & 38 – 40 Cordelia Street, South Brisbane QLD 4101.

The proposed development as described in the Architectural Plans by Bates Smart Architects proposes a multi-storey hotel tower over a basement carpark on 70 Merivale Street. The proposed basement carpark will be interconnected with the existing Novotel basement carpark located at 38 – 40 Cordelia Street.

This report aims to provide advice with regard to the proposed development with relation to stormwater quality and quantity. A separate report prepared by Water Engineering Partners addresses flooding considerations. The quality advice has been undertaken to determine the required stormwater treatment measures to be implemented on site. The quantity assessment has been undertaken to determine if stormwater discharge mitigation is required to regulate peak site discharge to pre-development rates and thus achieve a non-worsening solution.

A stormwater management plan is required to comply with the Council Planning Scheme and the State Planning Policy, which also stipulate requirements regarding the removal of gross pollutants, suspended solids, nitrogen and phosphorus to target reduction levels. Water Sensitive Urban Design (WSUD) features and/or Council Approved Proprietary Water Quality Treatment Products have been included in the design to achieve the water quality objectives (if identified).

Stormwater detention is not required as it was determined the proposed development does not increase the existing fraction impervious of the site, and hence, no increase in peak stormwater discharge is anticipated.

The proposal includes a developable area of less than 2,500m^2. Therefore, no formal stormwater quality measures are proposed as the development is classed as 'low risk'.

1 INTRODUCTION

1.1 General

ADG Engineers (Aust) Pty Ltd has been engaged by Merivale No 1 Pty Ltd to prepare a Conceptual Stormwater Management Plan (CSMP) suitable for submission to Brisbane City Council (BCC) in support of a Development Application for a proposed development located at 70 Merivale Street & 38 – 40 Cordelia Street, South Brisbane QLD 4101, herein referred to as *the site*.

The proposed development as described in the Architectural Plans by Bates Smart Architects in Appendix A proposes a multi-storey hotel tower over a basement carpark on 70 Merivale Street. The proposed basement carpark will be interconnected with the existing Novotel basement carpark located at 38 – 40 Cordelia Street.

The purpose of this CSMP is to provide advice on the development proposal over 70 Merivale Street as detailed in the Architectural Plans. The works described herein are subject to further Council approvals and any nominated referral agencies approvals and cover works required to service the proposed development with regards to stormwater management.

1.2 Background

This report was compiled using information from the following sources:

- Architectural plans supplied by Bates Smart Architects (refer to Appendix A);
- Site survey provided by Jensen Bowers (refer to Appendix B);
- BCC Community Maps infrastructure records (refer to Appendix D); and
- Aerial Imagery.

1.3 Property Details

The proposed development site is located at 70 Merivale Street & 38 – 40 Cordelia, South Brisbane QLD within the BCC local government area and thus will be accessed by BCC officers. The developable portion of the site is located over 70 Merivale Street. Figure 1 displays the locality of the subject site. The site is bound by Merivale Street to the north-east, Cordelia Street to the south-west and multi-storey commercial buildings to the remaining boundaries. The land titles that make up the site are given in Table 1. Refer to the Architectural Plans in Appendix A for further details regarding the proposed development.

Table 1 - Property Detail

Title Details	Lot 97 on B3137; Lot 1 on RP135082; Lot 108 on B3137
Street Address	70 Merivale Street & 38 – 40 Cordelia Street, South Brisbane QLD 4101
New Development Area	1,060m^2

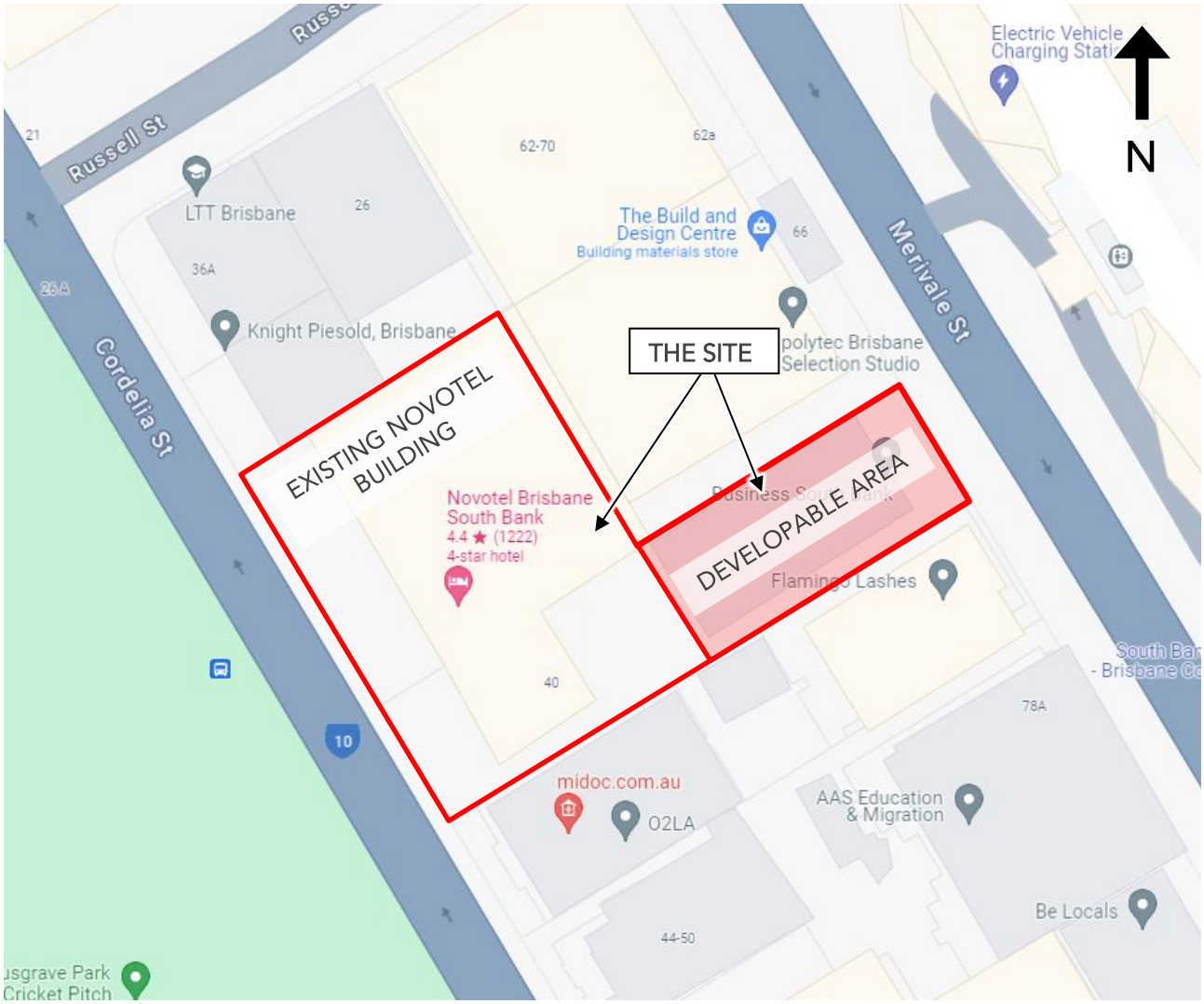


Figure 1 – Site Locality (Accessed on 06.08.2024 from Google Maps)

1.4 Existing Site

The site is zoned for 'Mixed use (Inner City)' by the BCC and is currently occupied by the Novotel hotel tower and a 2-storey commercial building. The balance of the site is characterised by poor grass coverage with several trees near the centre of the site and the north-eastern boundary of the site. The features described above result in an existing fraction impervious of approximately 90% across the existing site.

Two (2) catchments have been identified across the existing site. The eastern catchment represents approximately half of the site, which falls towards Merivale Street to the north-east and the western catchment represents the remaining half of the site, which falls towards Cordelia Street to the south-west. The site is relatively flat and falls at grades in the order of 1-2%. The existing high point of approximately 4.78m AHD is located near the centre of the south-eastern boundary with a low point of approximately 3.85m AHD located in the eastern corner of the site.

Refer to the site survey in Appendix B and Figure 2 for further information on the existing site condition.

Figure 2 – Existing Site Features (Queensland Globe Image dated 21.05.2023)

1.5 Existing Stormwater Infrastructure

The following stormwater infrastructure has been identified within vicinity of the site using BYDA search, and BCC infrastructure records obtained from Community Maps:

- A DN600 stormwater main flows south-east along the centre of Merivale Street, increasing to a 900mm I.D. twin brick wall stormwater pipe towards the maintenance hole located near the eastern boundary of the site; and

- A DN900 stormwater main previously ran north-east across Cordelia Street, through the centre of the site (38 – 40 Cordelia Street) and the neighbouring lot to the east, and ultimately to the abovementioned DN600 diameter main in Merivale Street. As part of the works for the existing Novotel building, the DN900 stormwater main was diverted along the south-west, southern and north-east boundaries of the Novotel site. Four (4) new maintenance holes were constructed to facilitate the proposed diversion.

Refer to the BCC Community Maps infrastructure records in Appendix D and the Stormwater IFC drawings by ADG for the Novotel (BCC Ref: A004443021) in Appendix G for further information regarding the existing stormwater infrastructure.

2 PROPOSED DEVELOPMENT

The proposed development as described in the Architectural Plans by Bates Smart Architects in Appendix A proposes a multi-storey hotel tower over a basement carpark on 70 Merivale Street. The proposed basement carpark will be interconnected with the existing Novotel basement carpark located at 38 – 40 Cordelia Street. A breakdown of the post-developed surface areas exposed to rainfall is shown in Table 2.

Table 2 - Proposed Development Areas

Catchment ID	Land Type	% Impervious	Area (m^2)	Percentage of Total Site Area
C1	Roof	100	569	53%
	Landscape / Planters	0	201	19%
	Hardstand	100	295	28%
Total		81%	1,060	100%

Refer to the Preliminary Post Development Catchment Plan SK03 in Appendix C for further information regarding the areas calculated for each land type.

2.1 Lawful Point of Discharge

It is proposed that stormwater runoff from the proposed development will discharge to a new maintenance hole to be constructed near the south-eastern corner of the site. The primary Lawful Point of Discharge (LPD) will thus be the existing infrastructure in Merivale Street.

Refer to Appendix C for the Preliminary Engineering Services Layout Plan DA03 which displays the indicative location of the proposed point of discharge.

2.2 Flooding Considerations

BCC Flood Overlay Mapping indicates that the site is located within the Brisbane River flood planning area. A separate report has been prepared by Water Engineering Partners to ensure that the proposed development complies with Council's flood policies and code. Refer to the report by Water Engineering Partners for further information.

3 STORMWATER QUANTITY ASSESSMENT

The aim of the stormwater quantity assessment is to ensure that the development shall impose no adverse effects on downstream properties or receiving water bodies and that the conveyance of flows will be in a safe manner with minimal risk of human endangerment as well as the following objectives:

- Address the need for stormwater quantity control measures;
- Ensure there is no increase in peak discharges from the subject site for events up to and including the 1% Annual Exceedance Probability event; and
- Ensure proposed quantity control measures detain and convey flows in accordance with QUDM minimum freeboard recommendations.

3.1 Proposed Development and Associated Issues

As noted in Section 1.4, the existing site is approximately 92% impervious, and as noted in Table 2, the proposed development is approximately 81% impervious. Therefore, stormwater detention is not proposed as the proposed development does not increase the existing fraction impervious of the site.

4 STORMWATER QUALITY ASSESSMENT

This assessment identifies issues relating to stormwater runoff quality and assesses possible methods of treatment and the subsequent impacts on the drainage strategy. The aim of this section of the report is to determine practical approaches to achieving improvements in the quality of the stormwater run-off from the site as set out by the State Planning Policy (SPP) and the BCC Guidelines.

The SPP and BCC City Plan proposes criteria which apply to 'high risk' developments for stormwater. The criteria includes one or more of the following:

- A Material Change of Use (MCU) for an urban purpose which involves greater than 2,500m^2 of land that:
  - will result in an impervious area greater than 25% of the net developable area; or
  - will result in six (6) or more dwellings
- A Reconfiguration of a Lot (ROL) for urban purposes that involves a land area greater than 2,500m^2 and will result in six (6) or more lots; or
- Operational works for urban purposes that involve disturbing more than 2,500m^2 of land.

The proposal includes a developable area of less than 2,500m^2. Therefore, no formal stormwater quality measures are proposed as the development is classed as 'low risk'.

4.1 Construction phase

A BCC Erosion Hazard Assessment has been completed as part of this report and can be found in Appendix F. This assessment has confirmed the site to be a 'medium risk' site in regard to soil erosion and sediment pollution. During the construction phase of this development, there is a higher risk of sedimentation transport due to the large areas of disturbed land in addition to the existing slope of the site. The BCC Erosion Hazard Assessment has advised that an RPEQ or CPESC must prepare a sediment and erosion control plan for the lodgement of operational works and the following construction phase of the development.

A sediment and erosion control plan is required for the lodgement of operational works and shall be implemented during the construction phase of the development as follows:

Stage 1: Preconstruction

- All erosion and sediment control (ESC) devices are to be installed prior to any earth disturbing activities

Stage 2: Construction

- All ESC devices are to be maintained to operational levels, as specified in the management plans and drawings.
- The maintenance plan will be in accordance with the Water by Design Construction and Establishment Guidelines.
- During earthworks, the contractor shall provide a temporary sediment basin (sump pit) and pump out stormwater only once the water has settled and has achieved an acceptable quality to the satisfaction of Council (i.e. no turbidity and acceptable pH levels).

Stage 3: Pre-Operational Stage (all disturbed areas stabilized, 90% of all structures completed)

- Impervious layer removed and the nutrient removing plants, as specified in the landscaping plan, are installed.
- Property owner to implement a maintenance plan to ensure correct establishment of plants.
- All ESC devices can be removed only if approved by the superintendent and engineers.

4.2 Operational phase

It is expected that sediment laden runoff and the erosion potential at the site during the operational phase will be minimal. This is due to the high amount of permanent impervious area in the form of roofs, paths, courtyards, driveways and other impervious structures. The proposed landscaped areas will be maintained in a manner that will minimise erosion.

5 CONCLUSION

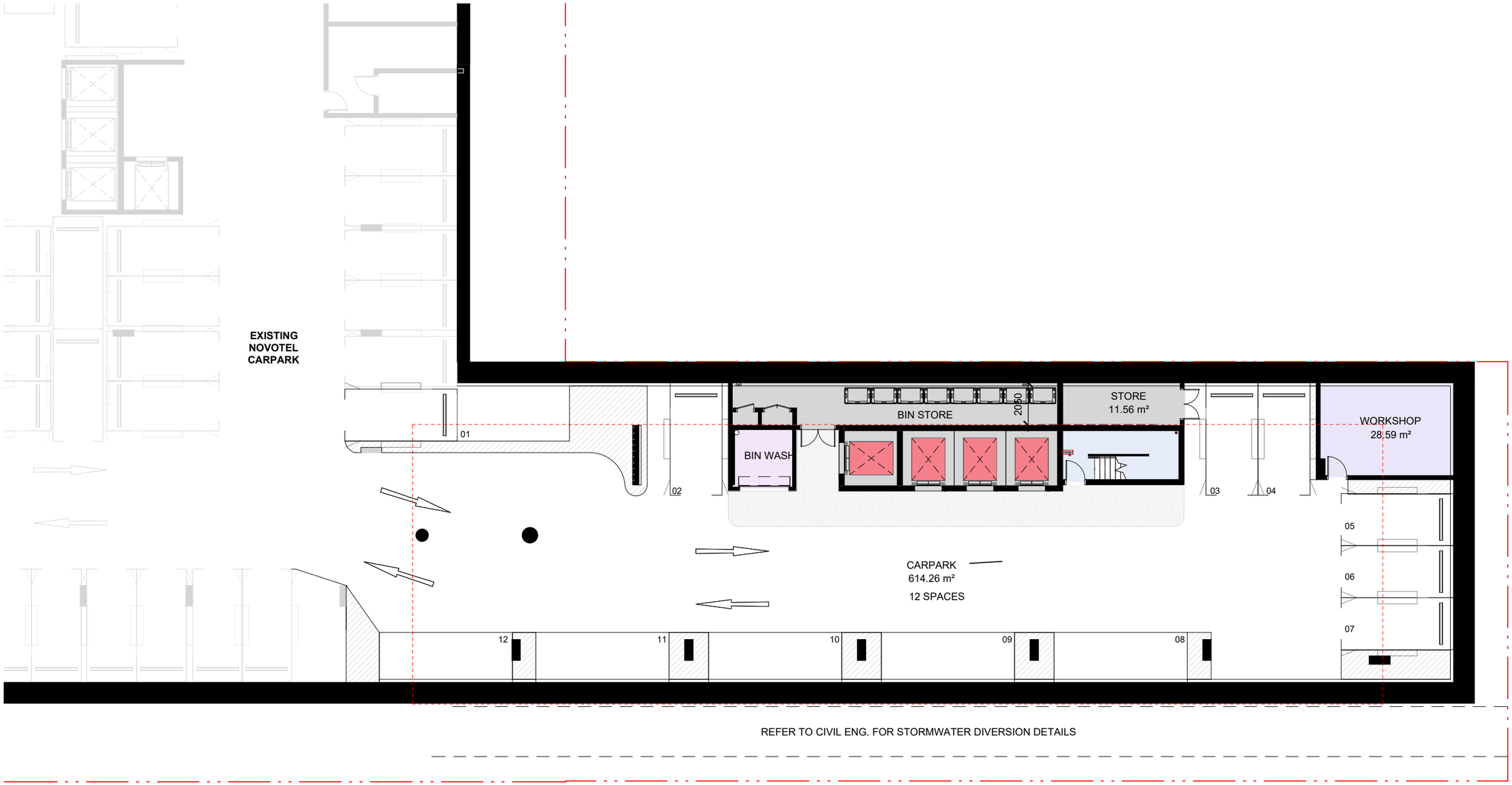
Stormwater is to be conveyed to the proposed Lawful Point of Discharge via a new stormwater connection to a proposed maintenance hole near the south-eastern corner of the site.

Stormwater detention is not proposed as the proposed development does not increase the existing fraction impervious of the site.

The proposal includes a developable area of less than 2,500m^2. Therefore, no formal stormwater quality measures are proposed as the development is classed as 'low risk'.

The site is subject to the BCC Brisbane River flood planning area and as such, a separate report has been prepared by Water Engineering Partners for the site. Refer to this report which provides further information with regard to flood considerations.

Appendix A
Architectural Plans by Bates Smart Architects

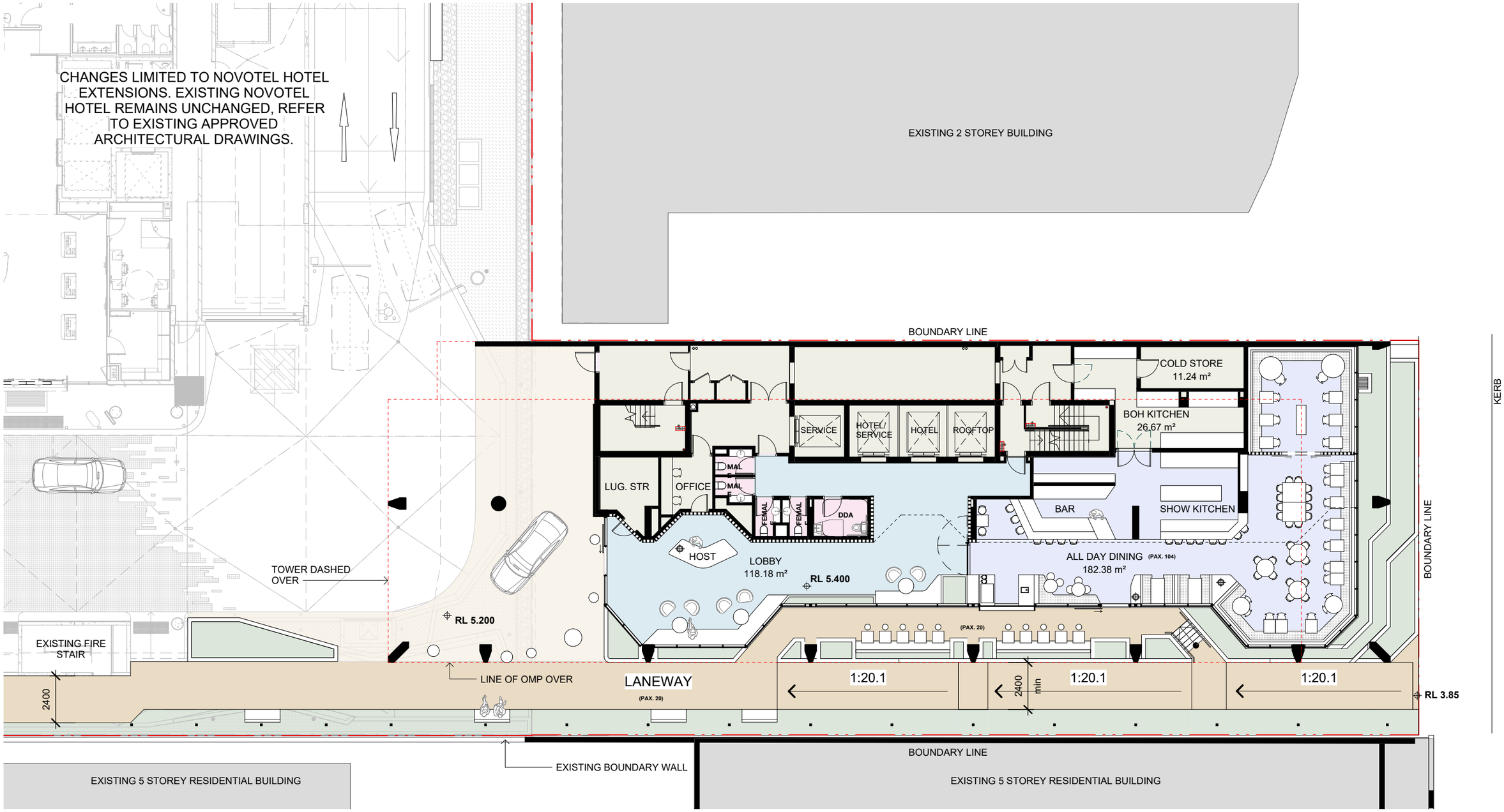


BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

BASEMENT PLAN
B12810
1 : 200 @ A3

Drawing no. DA.B.001 Rev. J



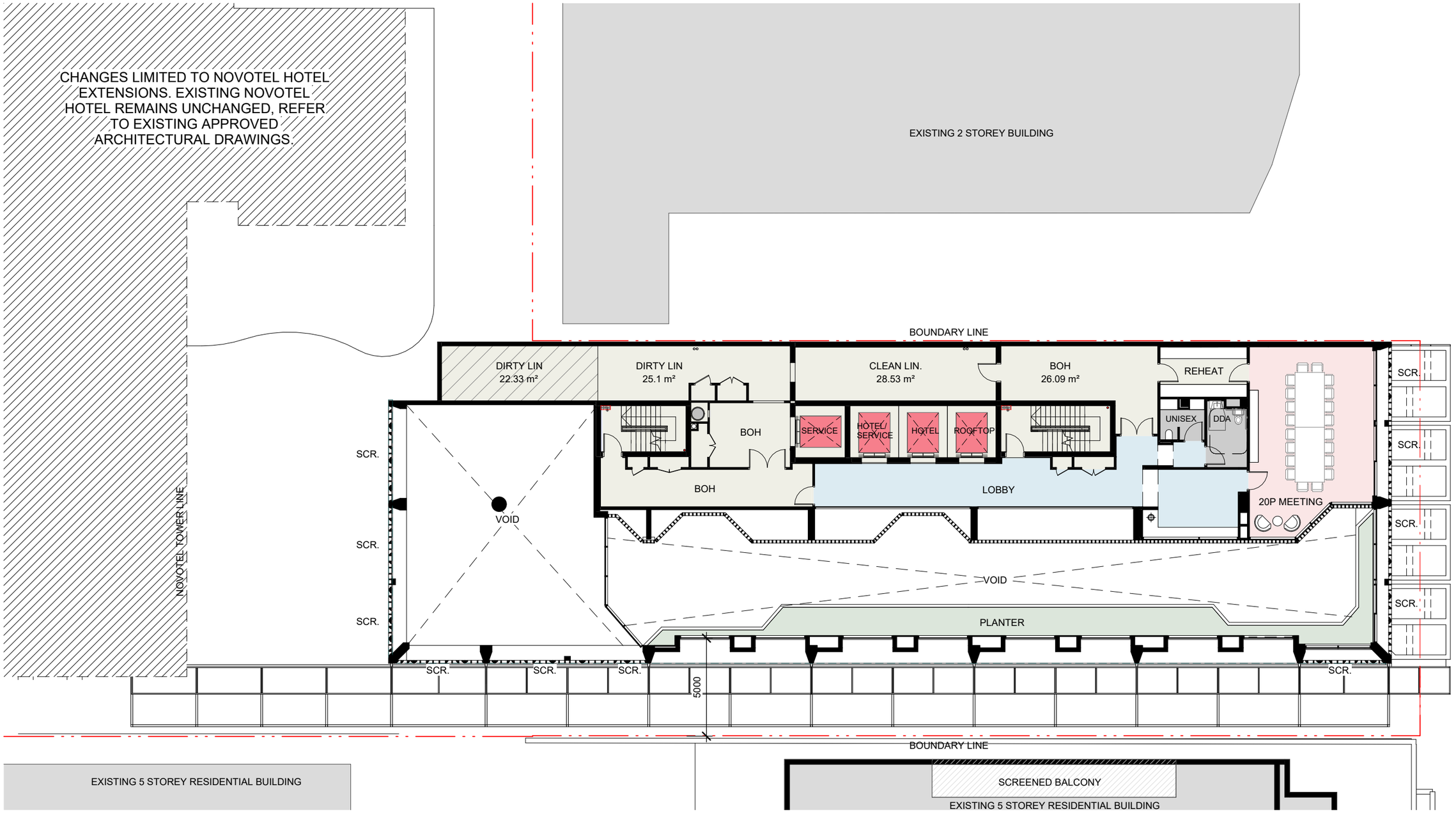
PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

GROUND FLOOR PLAN
B12810
1 : 200 @ A3

Drawing no. DA03.200 Rev. I



PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

MEZZANINE PLAN
B12810
1 : 200 @ A3

Drawing no. DA03.201 Rev. I

CHANGES LIMITED TO NOVOTEL HOTEL EXTENSIONS. EXISTING NOVOTEL HOTEL REMAINS UNCHANGED, REFER TO EXISTING APPROVED ARCHITECTURAL DRAWINGS.

NOVOTEL TOWER LINE

EXISTING 2 STOREY BUILDING

BOUNDARY LINE

DOMESTIC COLD WATER PUMP SET 11.64 m²

MSB 24.26 m²

DRY STORE 28.19 m²

COLD STORE 15.01 m²

COMMS 10.92 m²

STORE

STORE

SERVICE

HOTEL / SERVICE

HOTEL

ROOFTOP

BOH

WCs

12 LOCKERS

24 LOCKERS

12 LOCKERS

STORE / PRINT

STORE

12 LOCKERS

STAFF CAFE

FR

FEMALE

DDA

MALE

WORK SPACE

12P MEET

WORK SPACE

VM

VM

T

T

30 LOCKERS

30 LOCKERS

SCR.

SCR.

SCR.

SCR.

SCR.

SCR.

SCR.

SCR.

SCR.

SCR.

SCR.

4500

5000

BOUNDARY LINE

BOUNDARY LINE

EXISTING 5 STOREY RESIDENTIAL BUILDING

SCREENED BALCONY

EXISTING 5 STOREY RESIDENTIAL BUILDING

PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

LEVEL 02 PLAN
B12810
1 : 200 @ A3

Drawing no. DA03.202 Rev. G

CHANGES LIMITED TO NOVOTEL HOTEL EXTENSIONS. EXISTING NOVOTEL HOTEL REMAINS UNCHANGED, REFER TO EXISTING APPROVED ARCHITECTURAL DRAWINGS.

EXISTING 2 STOREY BUILDING

BOUNDARY LINE

NOVOTEL TOWER LINE

10920

4195

DELUXE KING 28.5 m²
12
BOH
SERVICE
HOTEL/ SERVICE
HOTEL
ROOFTOP
01 JUNIOR SUITE 37.03 m²
TERRACE 10.3 m²

11 KING ZIP 29.03 m²
10 KING 27.3 m²
09 KING 27.3 m²
08 KING 27.3 m²
07 KING 27.3 m²
06 KING 27.3 m²
05 KING 27.3 m²
04 KING 27.3 m²
03 KING 27.3 m²
02 SUPERIOR SUITE 58.38 m²
TERRACE 14.04 m²

SCR.

BOUNDARY LINE

5700
AVG SETBACK

BOUNDARY LINE

EXISTING 5 STOREY RESIDENTIAL BUILDING

SCREENED BALCONY

EXISTING 5 STOREY RESIDENTIAL BUILDING

PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

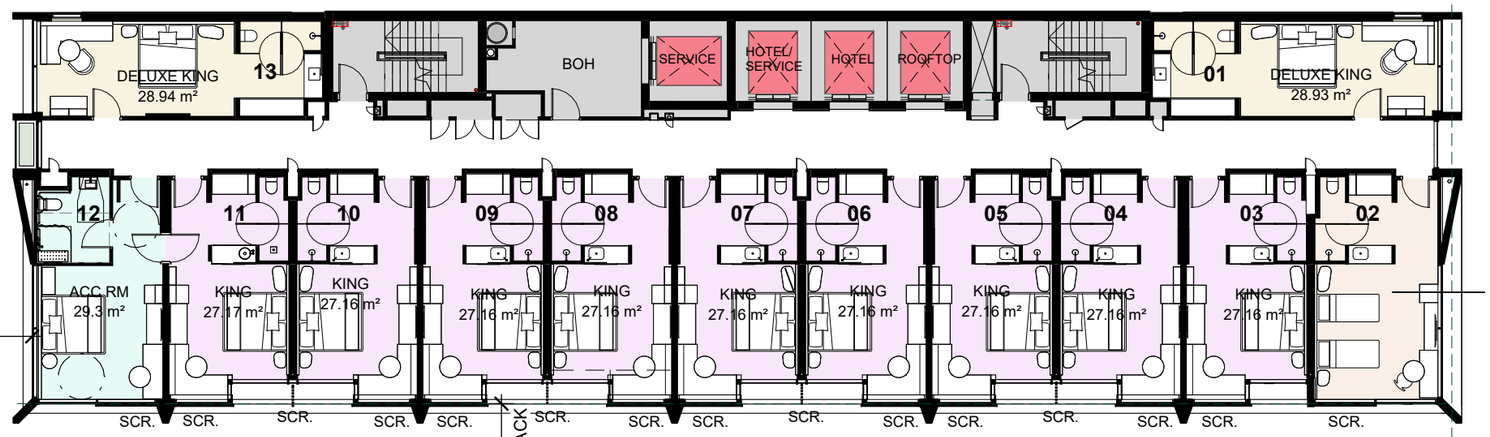
LEVEL 03 PLAN
B12810
1 : 200 @ A3

Drawing no. DA03.204 Rev. I

CHANGES LIMITED TO NOVOTEL HOTEL EXTENSIONS. EXISTING NOVOTEL HOTEL REMAINS UNCHANGED, REFER TO EXISTING APPROVED ARCHITECTURAL DRAWINGS.

EXISTING 2 STOREY BUILDING

BOUNDARY LINE



NOVOTEL TOWER LINE

10920

4330

AVG SETBACK

5700

AVG SETBACK

BOUNDARY LINE

EXISTING 5 STOREY RESIDENTIAL BUILDING

SCREENED BALCONY

EXISTING 5 STOREY RESIDENTIAL BUILDING

PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

LEVEL 04-10 TYPICAL HOTEL PLAN
B12810
1 : 200 @ A3

Drawing no. DA03.205 Rev. I

CHANGES LIMITED TO NOVOTEL HOTEL EXTENSIONS. EXISTING NOVOTEL HOTEL REMAINS UNCHANGED, REFER TO EXISTING APPROVED ARCHITECTURAL DRAWINGS.

EXISTING 2 STOREY BUILDING

BOUNDARY LINE

NOVOTEL TOWER LINE

10920

DELUXE KING 28.74 m² 12

BOH

SERVICE

HOTEL/ SERVICE

HOTEL

ROOFTOP

01 JUNIOR SUITE 37.23 m²

11 KING ZIP 28.99 m²

10 KING 27.16 m²

09 KING 27.18 m²

08 KING 27.18 m²

07 KING 27.18 m²

06 KING 27.17 m²

05 KING 27.17 m²

04 KING 27.18 m²

03 KING 27.18 m²

02 SUPERIOR SUITE 57.81 m²

SCR.

4330 AVG SETBACK

5700 AVG SETBACK

BOUNDARY LINE

EXISTING 5 STOREY RESIDENTIAL BUILDING

SCREENED BALCONY

EXISTING 5 STOREY RESIDENTIAL BUILDING

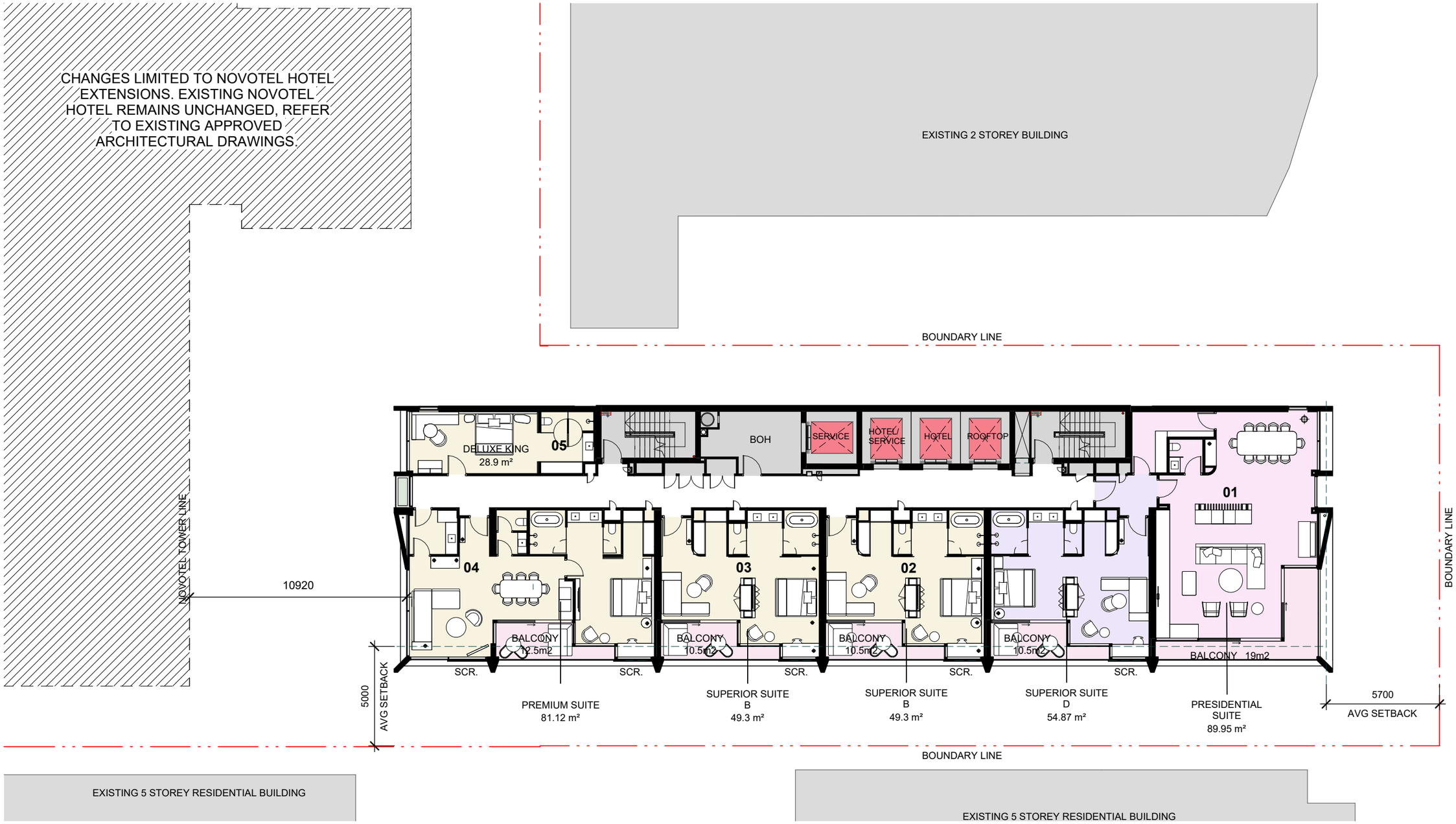
PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

LEVEL 11-13 TYPICAL HOTEL PLAN
B12810
1 : 200 @ A3

Drawing no. DA03.206 Rev. I



PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

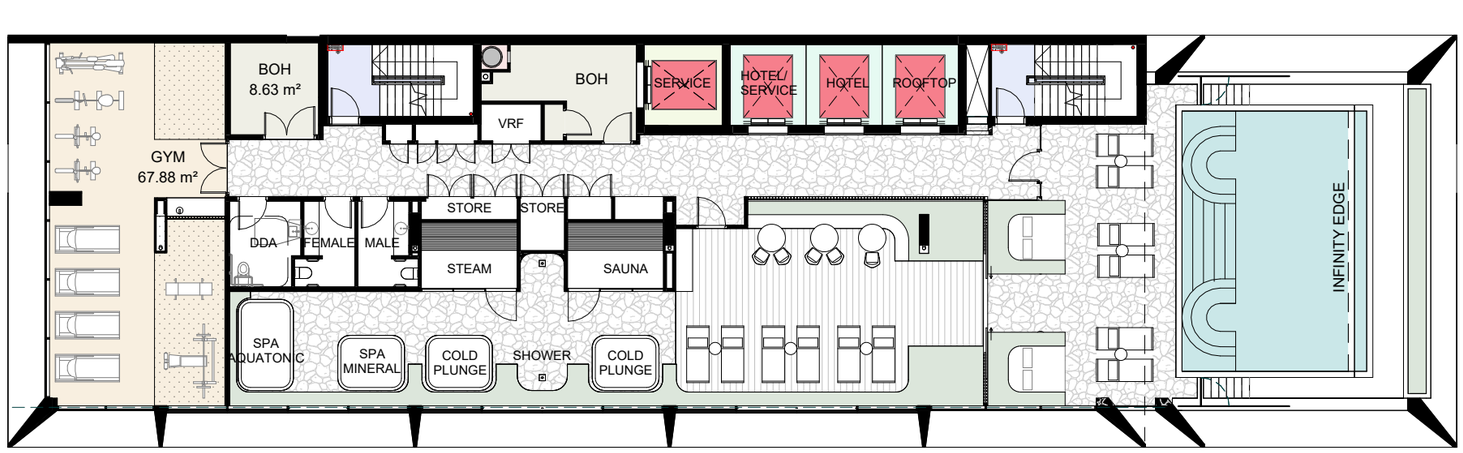
Merivale Hotel
70 Merivale Street

LEVEL 14 - HOTEL SUITES
B12810
1 : 200 @ A3

Drawing no. DA03.207 Rev. I

EXISTING 2 STOREY BUILDING

BOUNDARY LINE



BOUNDARY LINE

BOUNDARY LINE

EXISTING 5 STOREY RESIDENTIAL BUILDING

EXISTING 5 STOREY RESIDENTIAL BUILDING

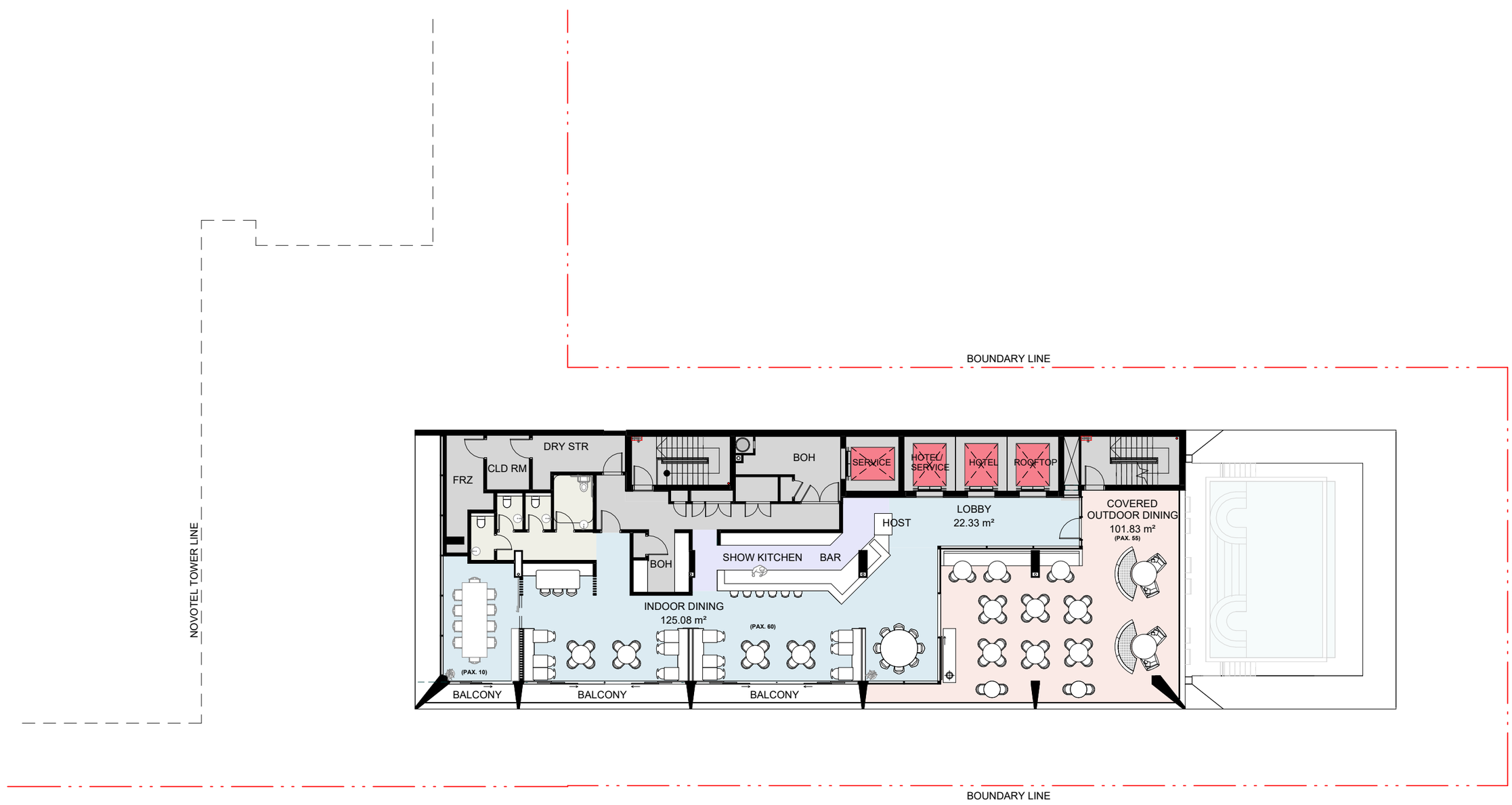
PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

LEVEL 15 - WELLNESS
B12810
1 : 200 @ A3

Drawing no. DA03.209 Rev. H



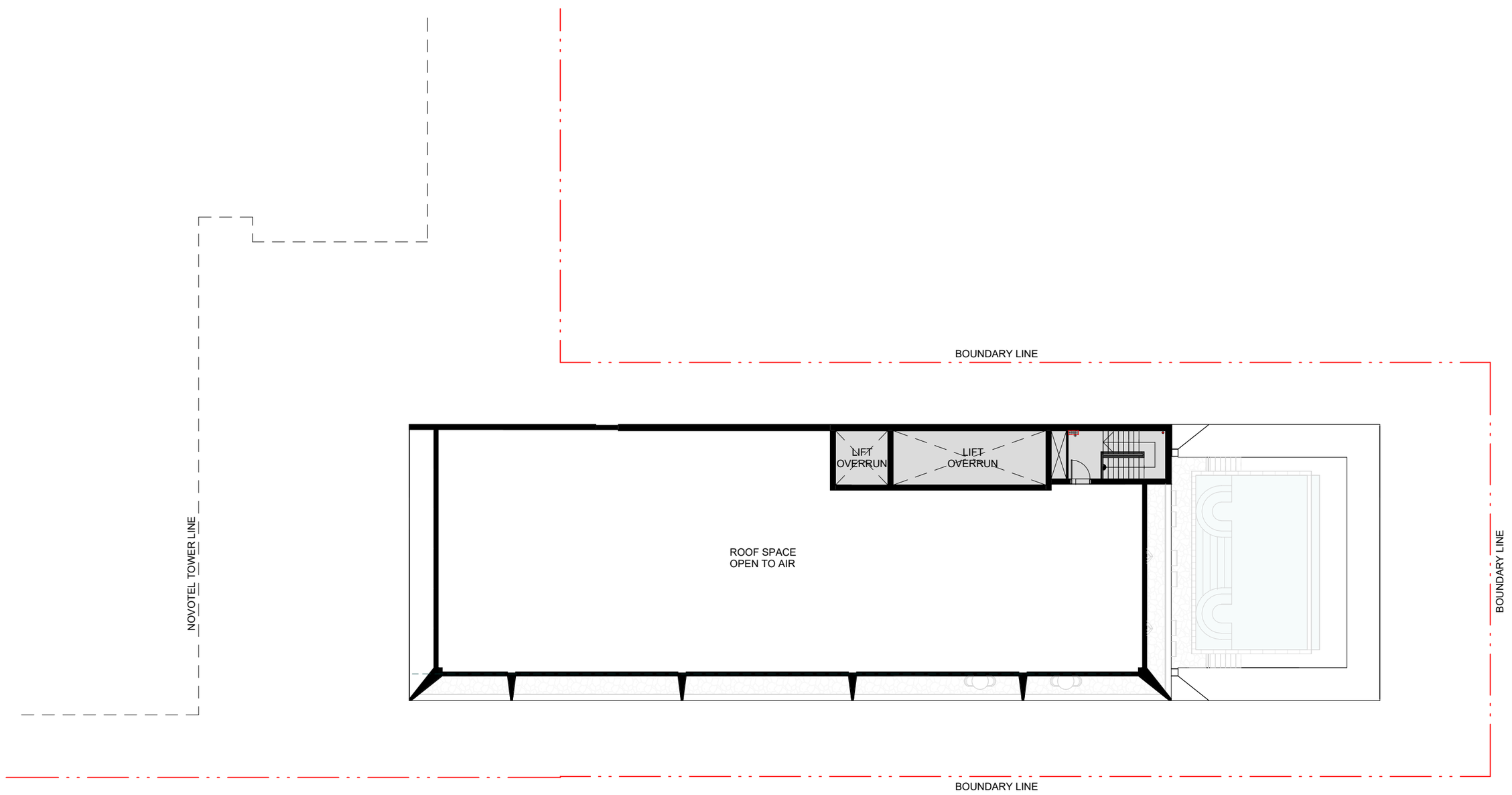
PRELIMINARY

BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

LEVEL 16 - RESTAURANT
B12810
1 : 200 @ A3

Drawing no. DA03.210 Rev. H



PRELIMINARY

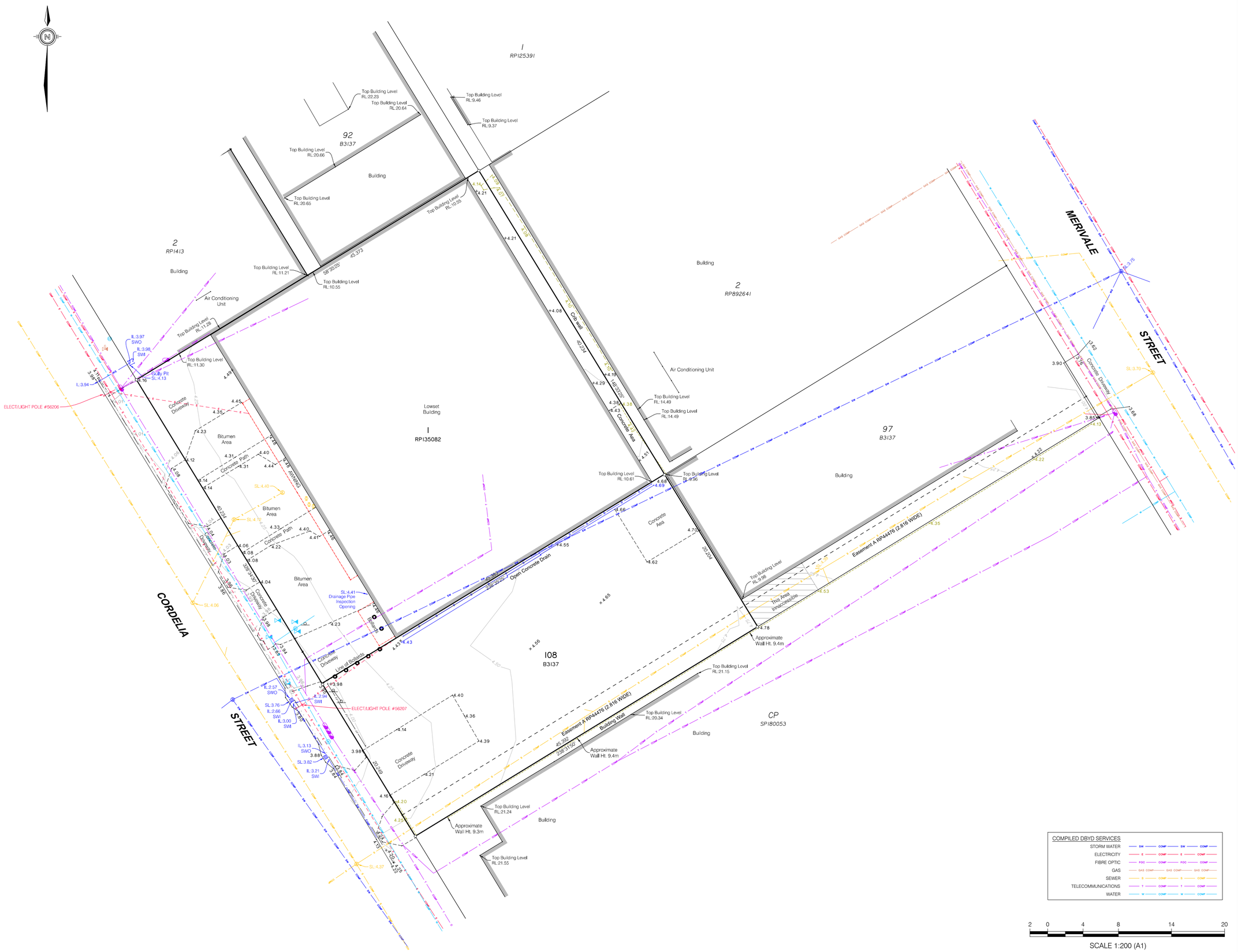
BATESSMART™ Bates Smart Architects Pty Ltd ABN 68 094 740 986

Merivale Hotel
70 Merivale Street

ROOF PLAN
B12810
1 : 200 @ A3

Drawing no. DA03.211 Rev. G

Appendix B
Site Survey



COMPILED DBYD SERVICES

STORM WATER	SW	COMP	SW	COMP
ELECTRICITY	E	COMP	E	COMP
FIBRE OPTIC	FOC	COMP	FOC	COMP
GAS	GAS	COMP	GAS	COMP
SEWER	S	COMP	S	COMP
TELECOMMUNICATIONS	T	COMP	T	COMP
WATER	W	COMP	W	COMP

2 0 4 8 14 20

SCALE 1:200 (A1)

CLIENT

GMP MANAGEMENT

PROJECT

DETAIL SURVEY
OF
LOT 1 ON RP135082
&
LOT 108 ON B3137
(38 & 40 Cordelia Street, South Brisbane)

NOTES

The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.

Services shown hereon have been located where possible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted accordingly on the plan. Where such records do not exist or are inadequate a notation has been made hereon.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

001B/A5	CGW	6/05/2015	ADD IDENT SURVEY BOUNDARIES
001A/A2	MEA	20-04-2015	INITIAL ISSUE

SYM	CODE	DESCRIPTION
	AP	AUSTRALIA POST
	BOL	BOLLARD
	BM	BENCHMARK
	EBX	ELECTRICAL BOX
	ECM	ELEC CABLE MARKER
	ELP	ELEC/LIGHT POLE
	EM	ELECTRICAL PIT
	EP	ELECTRICITY POLE
	ESP	ELECTRICITY STAY POLE
H	FH	FIRE HYDRANT
	FHP	FIRE HYDRANT PILLAR
	FP	FLAG POLE
	GMH	GAS MANHOLE
	GMK	GAS MARKER
	GP	GUIDE POST
	GS	GUIDE SIGN
	GT	GULLY TRAP
	GV	GAS VALVE
	HB	HOSE BOX/REEL
	HM	HYDRANT MARKER
U	MHU	MANHOLE UNKNOWN
	PLM	PALM TREE
	PIL	TELECOM PILLAR
	PKM	PARKING METER
	PSM	PERM. SURVEY MARK
	SEV	SEWERAGE VENT
	SHB	SHRUB

SYM	CODE	DESCRIPTION
	SGN	SIGNS
	SIO	INSPECTION OPENING
S	SM	SEWERAGE MANHOLE
	SN	STREET NAME SIGN
	SPR	SPRINKLER
	SPR	TREE
	SSV	STOP/SLUICE VALVE
	STN	SURVEY STATION
D	SW	STORMWTR. MANHOLE
	TAP	TAP
	TE	TELECOM PIT
T	TM	TELECOM MANHOLE
	TOH	TRANSFORMER O/HEAD
	TP	TELEPHONE POLE
	TRL	TRAFFIC LIGHTS
	TRP	TRAFFIC PIT
	WAV	WATER AIR VALVE
	WCU	WATER END CAP
W	WM	WATER METER
W	WMH	WATER MANHOLE
	WPR	WATER REDUCER
	WRV	WATER REFLUX VALVE
	WSP	WATER SAMPLE POINT
	WSV	WATER SCOUR VALVE
	WTE	WATER TEE JUNCTION
	WV	WATER VALVE
	WVM	WATER VALVE MARKER

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

DRAINAGE PIPE U/G
DRAIN
ELECT. CABLE A/G
ELEC. CABLE U/G
GAS PIPE
FENCE LINE
SEWERAGE PIPE
TELSTRA CABLE
WATER PIPE
WATER PIPE

LANDPARTNERS
built environment consultants

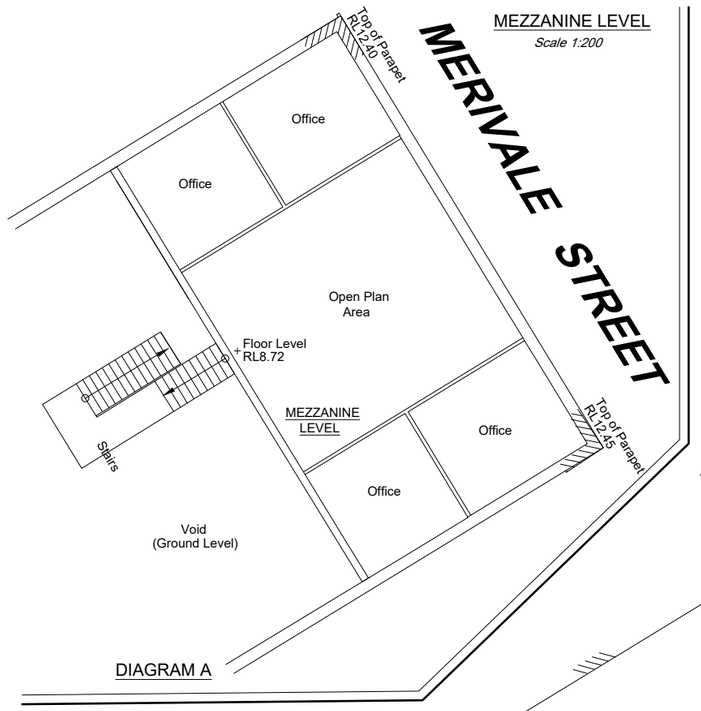
Brisbane Office
Level 3 - Kings Row
40 McDougall Street
Milton QLD 4064
PO Box 3916
South Brisbane BC QLD 4101

t (07) 3842 1000
f (07) 3842 1001
e info@landpartners.com.au
w www.landpartners.com.au

ISO 9001:2008
FS 535063

HEIGHT DATUM: AHD D	LOCAL AUTHORITY: BRISBANE CITY COUNCIL
HEIGHT ORIGIN: PSM70017 RL 3.583	SCALE: 1:200 (A1)
MERIDIAN: IS196725	CONTOUR INTERVAL: 0.2 Metre
CO-ORD SYSTEM: LOCAL	SURVEYOR: MRK — DATE OF SURVEY: 16/04/2015
FIELD FILE: 689800A1	DRAWN: CGW — DATE: 6/05/2015
AUTOCAD FILE: 689800A5	CHECKED: CGW — DATE: 6/05/2015
ARCHIVE FILE: 689800A5	APPROVED: REM — DATE: 6/05/2015
PLAN NUMBER: BRJD6898.000-001	REVISION: B

JHD



Note: A project datum coordinated 3D High Definition Point Cloud has been completed for this project and sent to Colliers International.

Legend

SI	Sign
TBM	Temporary Bench Mark
TEL	Telecom Pit
SWGT	Stormwater Gully Trap
GT	Gully Trap
TAP	Water Tap
WM	Water Meter
SV	Water Valve
	Retaining Wall
IO	Inspection Opening
	Change of Grade
SMH	Sewer Manhole
	Sewer Line
SWMH	Stormwater MH
SWD	Stormwater Line
OF	Optis Fibre Optic Line
UE	Electrical Line
T	Telco Line
G	Gas Line

JENSEN BOWERS
SURVEYING
3D SPATIAL SOLUTIONS
DEVELOPMENT ADVISORY
jensenbowers.com.au

72 Costin Street, Fortitude Valley, Qld. 4006
PO Box 799, Spring Hill, Qld. 4004
T (07) 3852 1771 **F** (07) 3252 9818

T.H. Jensen & Bowers Pty. Ltd. (Consulting Surveyors)
ABN. 52 010 872 607

Associated Consultants

Local Authority:	Brisbane City Council
Authority Ref. No:	
RP Description:	Lot 97 on B3137
Original Portion:	
Date of Survey:	20/04/2020
Level Datum:	AHD
Origin:	OPM 70017(RL 3.583)
Level Bk / Fld Bk:	DIGITAL
Horizontal Datum:	
Contour Interval:	0.25m

Scale

0 2 4 6m
1 : 200@A3 (Before Reduction)

Notes

The services shown hereon have been located where possible by field survey. Whilst due care and attention have been exercised, T.H. Jensen and Bowers Pty. Ltd. does not warrant that the services have been located in their entirety.

The boundaries shown hereon are for plotting purposes only and are subject to final survey.

Approximate Location of Subsurface Utilities which includes Telstra, Energex, Apa Gas, Optus Fibre, Sewer, Water Main, & Stormwater have been plotted from DYBD records.

Disclaimer

Any licence, expressed or implied, to use this document for any purpose whatsoever is restricted to the terms of the agreement or implied agreement between Jensen Bowers and the instructing party.

Drawn:	EC	Date:	21/04/20
Surveyed:	JB & BR	Date:	09/04/20
Checked:	SJM	Date:	21/04/20
Approved:			

Issue	Description	Date	Appd.
A	Draft Issue	21/04/20	SM

Client

Colliers International

70 Merivale Street
South Brisbane

DETAIL SURVEY

Drawing No.	Issue	Original Size
S-10323-001	A	A3

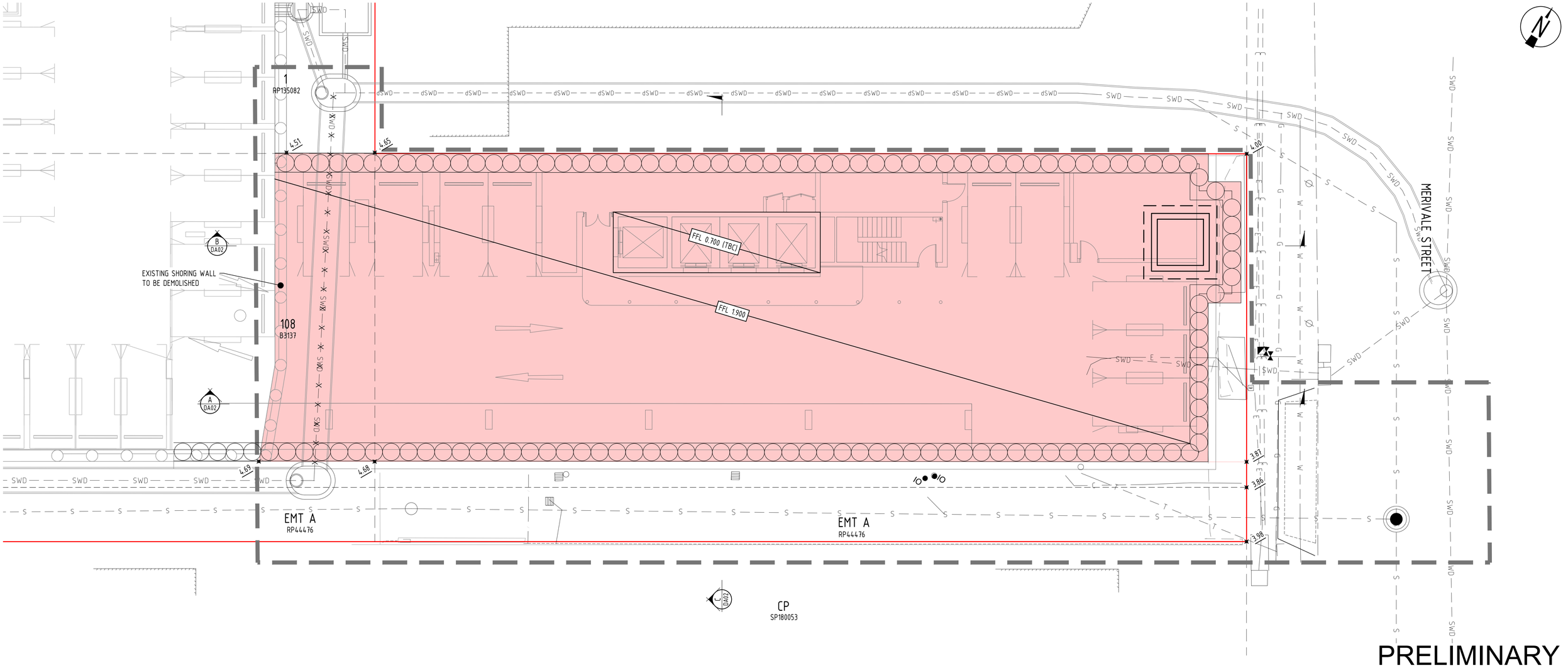
Appendix C
ADG Preliminary Drawings

LEGEND

- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING SURFACE CONTOURS (12.0)
- EARTHWORKS CONTOURS (12.0)
- EXISTING SURFACE LEVEL (3.42)
- FINISHED SURFACE LEVEL (3.42)
- EXISTING NOMINAL KERB LINE
- EXISTING ROAD CENTERLINE
- EXISTING EDGE OF BUILDING
- EXISTING EDGE OF BUILDING EAVE
- GRADE CHANGE
- EXISTING STORMWATER DRAINAGE (SWD)
- EXISTING STORMWATER DRAINAGE (RECORDS) (dSWD)
- EXISTING SEWER (S)
- EXISTING SEWER (RECORDS) (dS)
- EXISTING WATER (W)
- EXISTING WATER (RECORDS) (dW)
- EXISTING UNDERGROUND ELECTRICITY (RECORDS) (dE)
- EXISTING GAS (RECORDS) (dG)
- EXISTING TELECOMMUNICATIONS (RECORDS) (dT)
- ABANDONED SERVICE
- PROPOSED EARTHWORKS PAD
- PROPOSED EARTHWORKS CUT
- PROPOSED EARTHWORKS FILL
- PROPOSED SHORING SYSTEM REFER SPECIALIST DRAWINGS FOR DETAILS
- LIMIT OF WORKS

NOTE
FOR SITE SECTIONS REFER DRG No. DA02

ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN



PRELIMINARY
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
02	13.07.26	PRELIMINARY - ISSUED FOR INFORMATION	CM	AG
01	14.08.24	PRELIMINARY - ISSUED FOR INFORMATION	WN	ML

0 1 2 3 4 5m
SCALE 1:100
AT ORIGINAL SIZE (A1)

ADG
T:1300 657 402 E: info@adgce.com W: www.adgce.com
Quality Assurance ISO 9001:2015 | Work Health Safety ISO 45001:2018
Environmental Management ISO 14001:2015

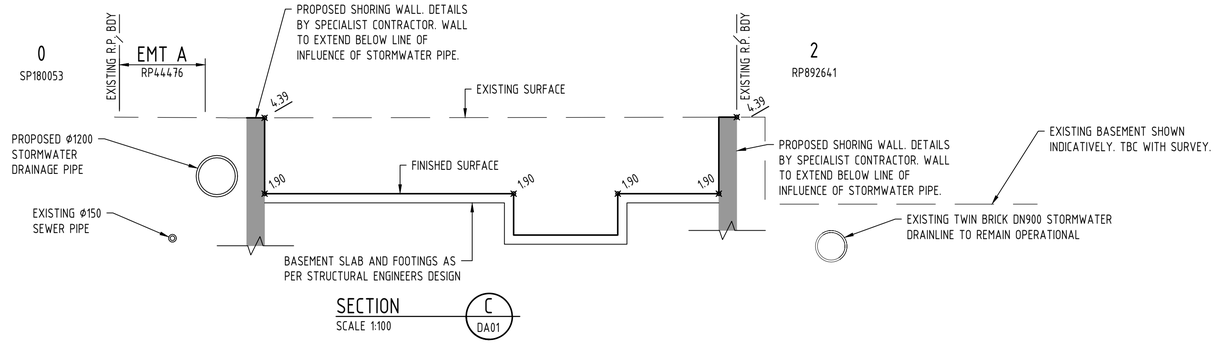
Client: MERIVALE NO 1 PTY LTD
Project Name: MERIVALE STEET HOTEL
70 MERIVALE ST,
SOUTH BRISBANE, QLD, 4000

Discipline		Status
CIVIL		PRELIMINARY
Designed By	Checked By	Approved By
LDV	MRB	ML
Project No.	Drawn By	Scale at A1
27981	WN	1:100

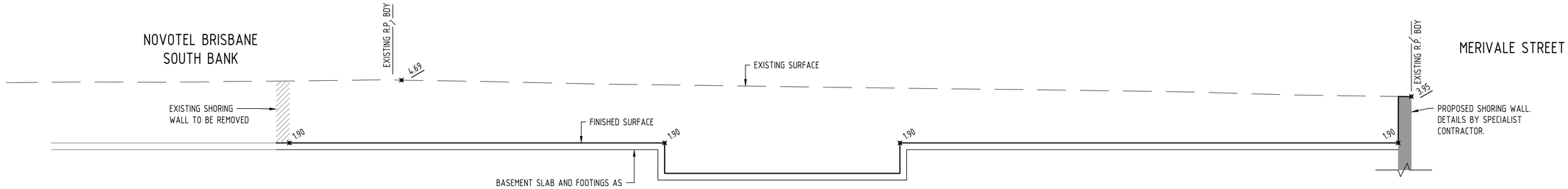
Title: PRELIMINARY EARTHWORKS LAYOUT PLAN
Drawing No.: DA01
Revision: 02

PLOT DATE: 7/13/2026 10:35 AM FILENAME: P:\27000\27981\27981.001\CVL\DWG\27981_DA01_PRELIMINARY EARTHWORKS LAYOUT PLAN.DWG

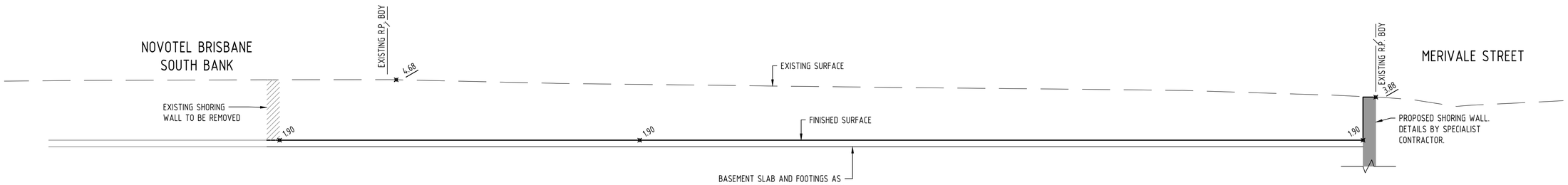
FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm



SECTION C
SCALE 1:100
DA01



SECTION B
SCALE 1:100
DA01



SECTION A
SCALE 1:100
DA01

ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN

PRELIMINARY
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
02	13.07.26	PRELIMINARY - ISSUED FOR INFORMATION	CM	AG
01	14.08.24	PRELIMINARY - ISSUED FOR INFORMATION	WN	ML

0 1 2 3 4 5m
SCALE 1:100
AT ORIGINAL SIZE (A1)

ADG
T:1300 657 402 E: info@adgce.com W: www.adgce.com
Quality Assurance ISO 9001:2015 | Work Health Safety ISO 45001:2018
Environmental Management ISO 14001:2015

Client: MERIVALE NO 1 PTY LTD
Project Name: MERIVALE STEET HOTEL
70 MERIVALE ST,
SOUTH BRISBANE, QLD, 4000

Discipline: CIVIL
Status: PRELIMINARY
Designed By: LDV
Checked By: MRB
Approved By: ML
Project No.: 27981
Drawn By: WN
Scale at A1: 1:100

Title: PRELIMINARY EARTHWORKS SITE SECTIONS
Drawing No.: DA02
Revision: 02

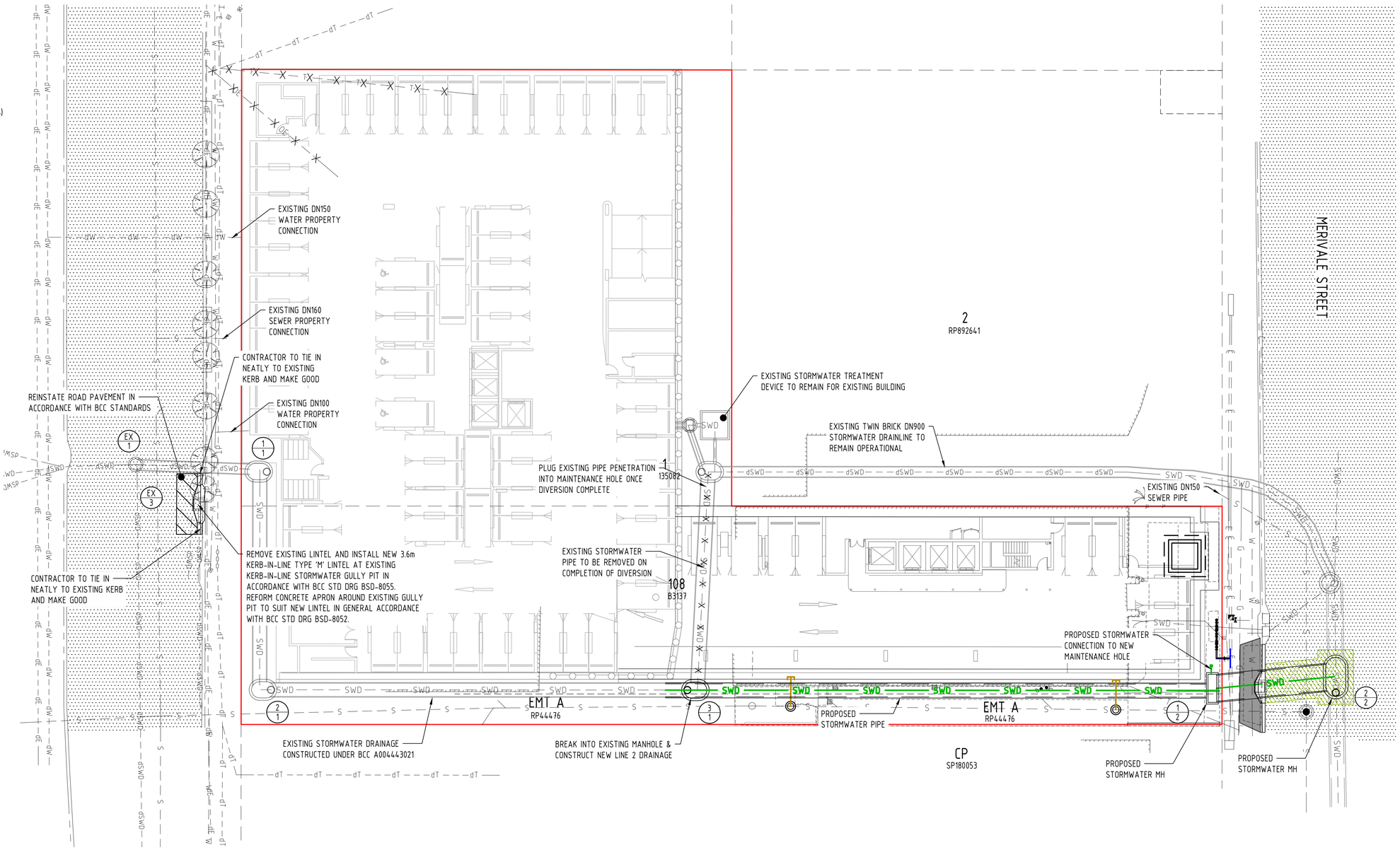
PLOT DATE: 7/13/2026 10:35 AM FILENAME: P:\27000\27981\27981.001\CVL\DWG\27981_DA02_PRELIMINARY EARTHWORKS SITE SECTIONS.DWG

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

LEGEND

- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING EASEMENT BOUNDARY
- EXISTING NOMINAL KERB LINE
- EXISTING STORMWATER DRAINAGE
- EXISTING STORMWATER DRAINAGE (RECORDS)
- EXISTING SEWER
- EXISTING SEWER (RECORDS)
- EXISTING WATER (RECORDS)
- EXISTING UNDERGROUND ELECTRICITY (RECORDS)
- EXISTING TELECOMMUNICATIONS (RECORDS)
- EXISTING GAS (RECORDS)
- ABANDONED SERVICE
- EXISTING FENCE
- LIMIT OF WORKS
- PROPOSED STORMWATER DRAINAGE
- EXISTING ROAD
- PROPOSED SHORING SYSTEM REFER SPECIALIST DRAWINGS FOR DETAILS
- DRAINAGE STRUCTURE LABEL

ALL DETAILS SHOWN ARE SUBJECT TO FURTHER DETAILED DESIGN



NOTE

1. THE NEW HOTEL IS PROPOSED TO CONNECT TO THE EXISTING WATER AND SEWER CONNECTIONS INTERNAL TO THE SITE.

PRELIMINARY
NOT FOR CONSTRUCTION

Rev	Date	Description	By	Chk
03	13.07.26	PRELIMINARY - ISSUED FOR INFORMATION	CM	AG
02	16.01.25	PRELIMINARY - ISSUED FOR INFORMATION	MRB	DS
01	14.08.24	PRELIMINARY - ISSUED FOR INFORMATION	WN	ML

SCALE 1:200
AT ORIGINAL SIZE (A1)

ADG
T:1300 657 402 E: info@adgce.com W: www.adgce.com
Quality Assurance ISO 9001:2015 | Work Health Safety ISO 45001:2018
Environmental Management ISO 14001:2015

Client: MERIVALE NO 1 PTY LTD

Project Name: MERIVALE STEET HOTEL
70 MERIVALE ST,
SOUTH BRISBANE, QLD, 4000

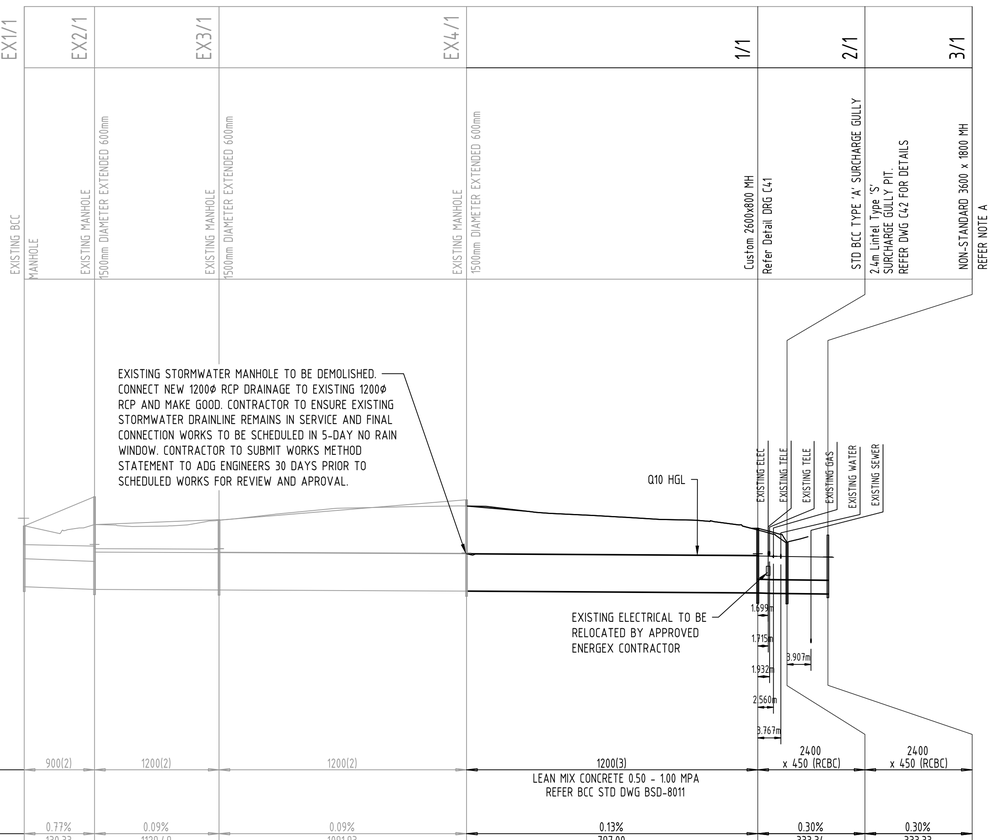
Discipline: CIVIL
Status: PRELIMINARY
Designed By: LDV
Checked By: MRB
Approved By: ML
Project No.: 27981
Drawn By: WN
Scale at A1: 1:200

Title: PRELIMINARY ENGINEERING SERVICES LAYOUT PLAN
Drawing No.: DA03
Revision: 03

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

PLOT DATE: 7/13/2026 10:37 AM FILENAME: P:\27000\27981\27981.001\CVL\DWG\27981_DA03_PRELIMINARY ENGINEERING SERVICES LAYOUT PLAN.DWG

STRUCTURE NAME	EX1/1	EX2/1	EX3/1	EX4/1	1/1	2/1	3/1
STRUCTURE DESCRIPTION	EXISTING BCC MANHOLE	EXISTING MANHOLE 1500mm DIAMETER EXTENDED 600mm	EXISTING MANHOLE 1500mm DIAMETER EXTENDED 600mm	EXISTING MANHOLE 1500mm DIAMETER EXTENDED 600mm	Custom 2600x800 MH Refer Detail DRG C41	STD BCC TYPE 'A' SURCHARGE GULLY	2.4m Lintel Type 'S' SURCHARGE GULLY PIT. REFER DWG C42 FOR DETAILS
PIPE SIZEmm (Class)		900(2)	1200(2)	1200(2)	1200(3)	2400 x 450 (RCBC)	2400 x 450 (RCBC)
BEDDING & BACKFILL					LEAN MIX CONCRETE 0.50 - 1.00 MPA REFER BCC STD DWG BSD-8011		
PIPE GRADE %		0.77%	0.09%	0.09%	0.13%	0.30%	0.30%
PIPE SLOPE 1 in X		130.33	1129.49	1091.93	797.00	333.34	333.33
FULL PIPE FLOW VELOCITY (m/s)		1.82	1.03	1.03	1.03	1.11	1.16
PART FULL FLOW VELOCITY (m/s)					1.38		
DATUM RL -9.0							
WATER LEVEL IN STRUCTURE	4.297	3.442	3.303	3.160	3.096	3.037	3.000
HYDRAULIC GRADE LEVEL	4.297	3.434 / 3.388	3.304 / 3.286	3.188 / 3.153	3.136 / 3.087	3.046 / 3.037	3.014 / 3.000
PIPE FLOW (Cumecs)		1.200	1.200	1.200	1.200	1.200	1.250
PIPE CAPACITY AT GRADE (Cumecs)		1.656	1.209	1.230	1.440	1.496	1.496
DEPTH TO INVERT		1.985 / 3.028	3.028 / 2.296	2.296 / 2.983	2.983 / 2.113	2.133 / 1.685	1.685 / 1.947
INVERT LEVEL OF DRAIN		2.060 / 1.972	1.972 / 1.954	1.954 / 1.917	1.917 / 1.857	1.837 / 1.823	1.823 / * 1.803
DESIGN SURFACE LEVEL	4.045	5.000	4.250	4.900	3.970	3.508	3.750
RUNNING CHAINAGE	0.000	11.469 / 11.469	20.331 / 31.800	40.401 / 72.201	47.541 / 119.742	4.781 / 124.523	6.669 / 131.192
LINE					1		



NOTE *

CONTRACTOR TO CONFIRM PROPOSED STORMWATER CONNECTION INVERT LEVEL BY POTHOLE SURVEY MINIMUM 30 DAYS PRIOR TO CONSTRUCTION AND ADVISE ADG ENGINEERS IN WRITING

ISSUED FOR
APPROVAL

Rev	Date	Description	By	Chk
02	13.07.26	PRELIMINARY - ISSUED FOR INFORMATION	CM	AG
01	14.08.24	PRELIMINARY - ISSUED FOR INFORMATION	WN	ML

SCALE 1:100 VERTICAL
0 2 4 6m
0 10 20 30m
SCALE 1:500 HORIZONTAL
AT ORIGINAL SIZE (A1)

T:1300 657 402 E: info@adgce.com W: www.adgce.com
Quality Assurance ISO 9001:2015 | Work Health Safety ISO 45001:2018
Environmental Management ISO 14001:2015

Client: MERIVALE NO 1 PTY LTD
Project Name: MERIVALE STEET HOTEL
70 MERIVALE ST,
SOUTH BRISBANE, QLD, 4000

Discipline: CIVIL
Status: PRELIMINARY
Designed By: LDV
Checked By: MRB
Approved By: ML
Project No.: 27981
Drawn By: WN
Scale at A1: AS SHOWN

Title: PRELIMINARY STORMWATER DRAINAGE LONGITUDINAL SECTIONS
Drawing No.: DA04
Revision: 02

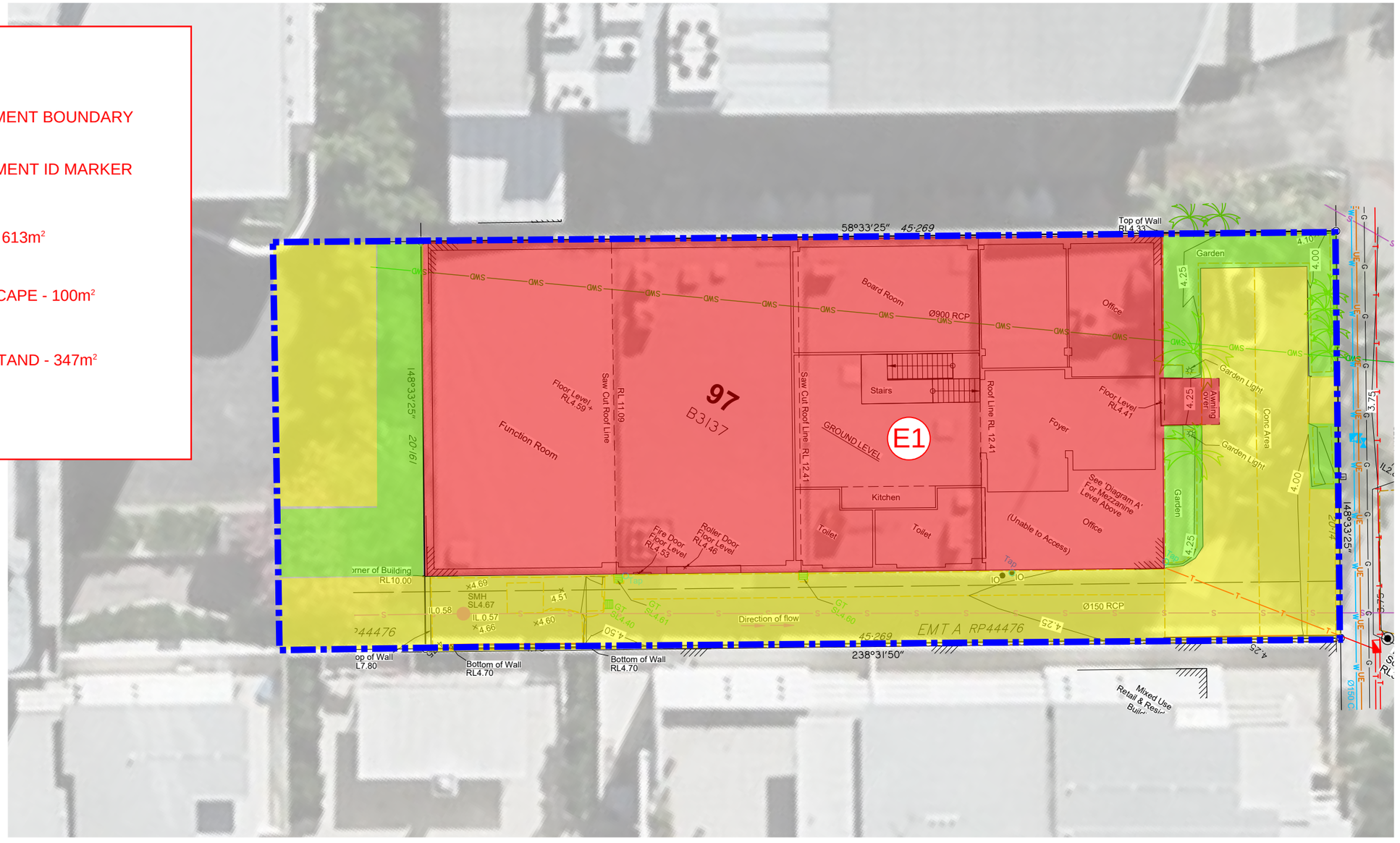
PLOT DATE: 7/13/2026 10:35 AM FILENAME: P:\27000\27981\27981.001\CVL\DWG\27981_DA04_PRELIMINARY STORMWATER DRAINAGE LONGITUDINAL SECTIONS.DWG

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

LEGEND:

- CATCHMENT BOUNDARY
- C1 — CATCHMENT ID MARKER
- ROOF - 613m²
- LANDSCAPE - 100m²
- HARDSTAND - 347m²

TOTAL - 1,060m²



PRELIMINARY
NOT FOR CONSTRUCTION

Rev	Date	Description
01	14.08.24	PRELIM

T:1300 657 402 E: info@adgce.com W: www.adgce.com
Quality Assurance ISO 9001:2015 | Work Health Safety ISO 45001:2018
Environmental Management ISO 14001:2015

Client: PERT PROJECTS PTY LTD
Project Name: 70 MERIVALE STREET, SOUTH BRISBANE

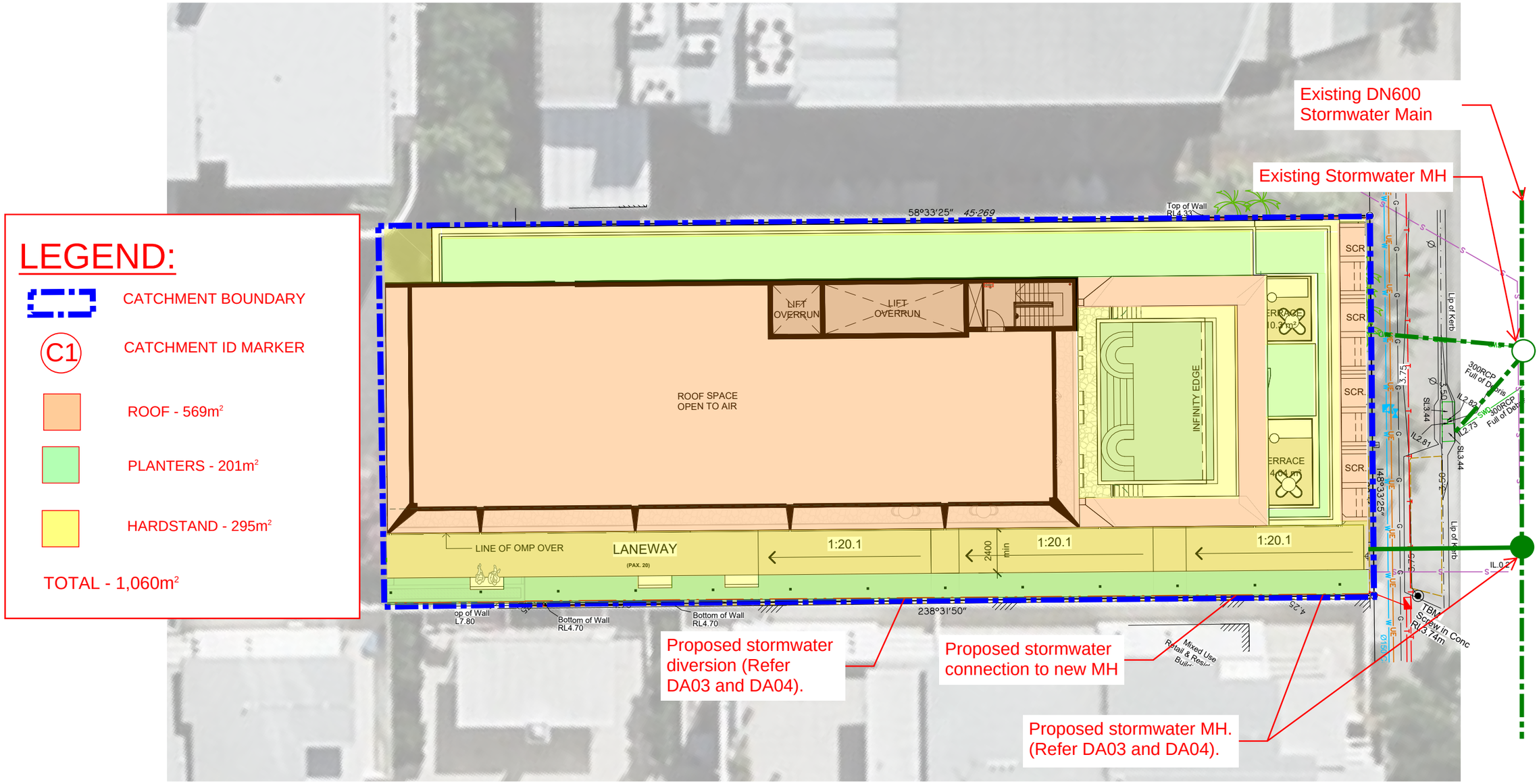
Discipline	Status
CIVIL	PRELIM

Designed By	Checked By	Approved By
WN	MRB	ML

Project No.	Drawn By	Scale
27981	WN	NTS (at A3)

Title: PRE-DEVELOPMENT CATCHMENT PLAN

Drawing No.: SK02
Revision: 01



PRELIMINARY
NOT FOR CONSTRUCTION

Rev	Date	Description
02	13.07.26	PRELIM
01	14.08.24	PRELIM

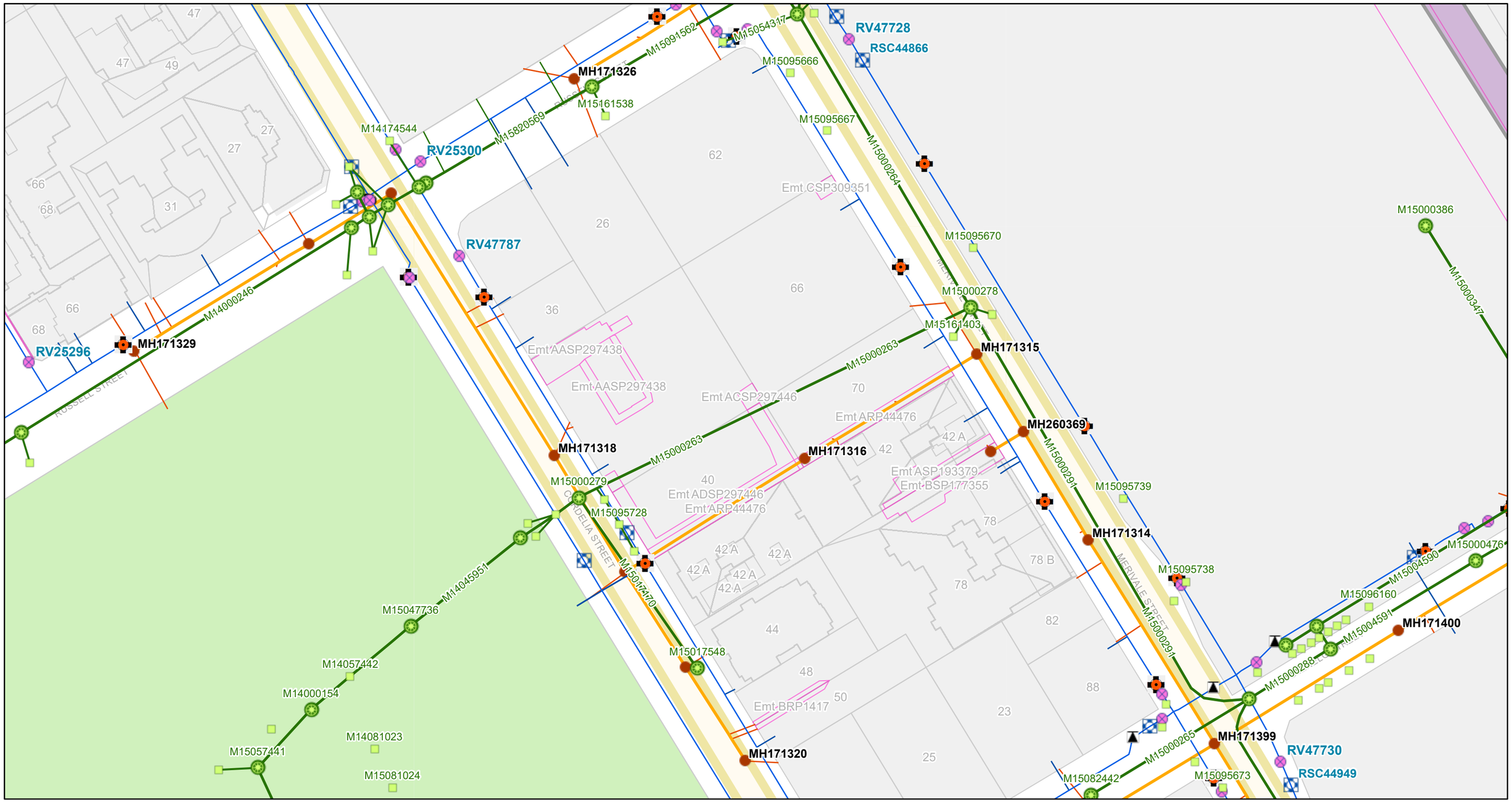
ADG
T:1300 657 402 E: info@adgce.com W: www.adgce.com
Quality Assurance ISO 9001:2015 | Work Health Safety ISO 45001:2018
Environmental Management ISO 14001:2015

Client: PERT PROJECTS PTY LTD
Project Name: 70 MERIVALE STREET, SOUTH BRISBANE
Discipline: CIVIL
Status: PRELIM
Designed By: WN
Checked By: MRB
Approved By: ML
Project No.: 27981
Drawn By: WN
Scale: NTS (at A3)

Title: PRELIMINARY POST DEVELOPMENT CATCHMENT PLAN
Drawing No.: SK03
Revision: 02

Appendix D
BCC Community Maps

Community Maps



8/7/2024, 9:07:36 AM

1:970

0 0.01 0.02 0.04 mi

0 0.02 0.04 0.07 km

- Gully
- Stormwater Manhole

Pipe
- DRAIN
- GULLY CONNECT
- ROOF WATER

Water Control Valve
- Scour

Water System Valve
- GATE

Water Fitting
- REDUCER
- TEE

Water Hydrant
- INGROUND HYDRANT

Water Pressure Main
- Reticulation Main

Water Service
- SERVICE

Sewer Manholes
- MANHOLE

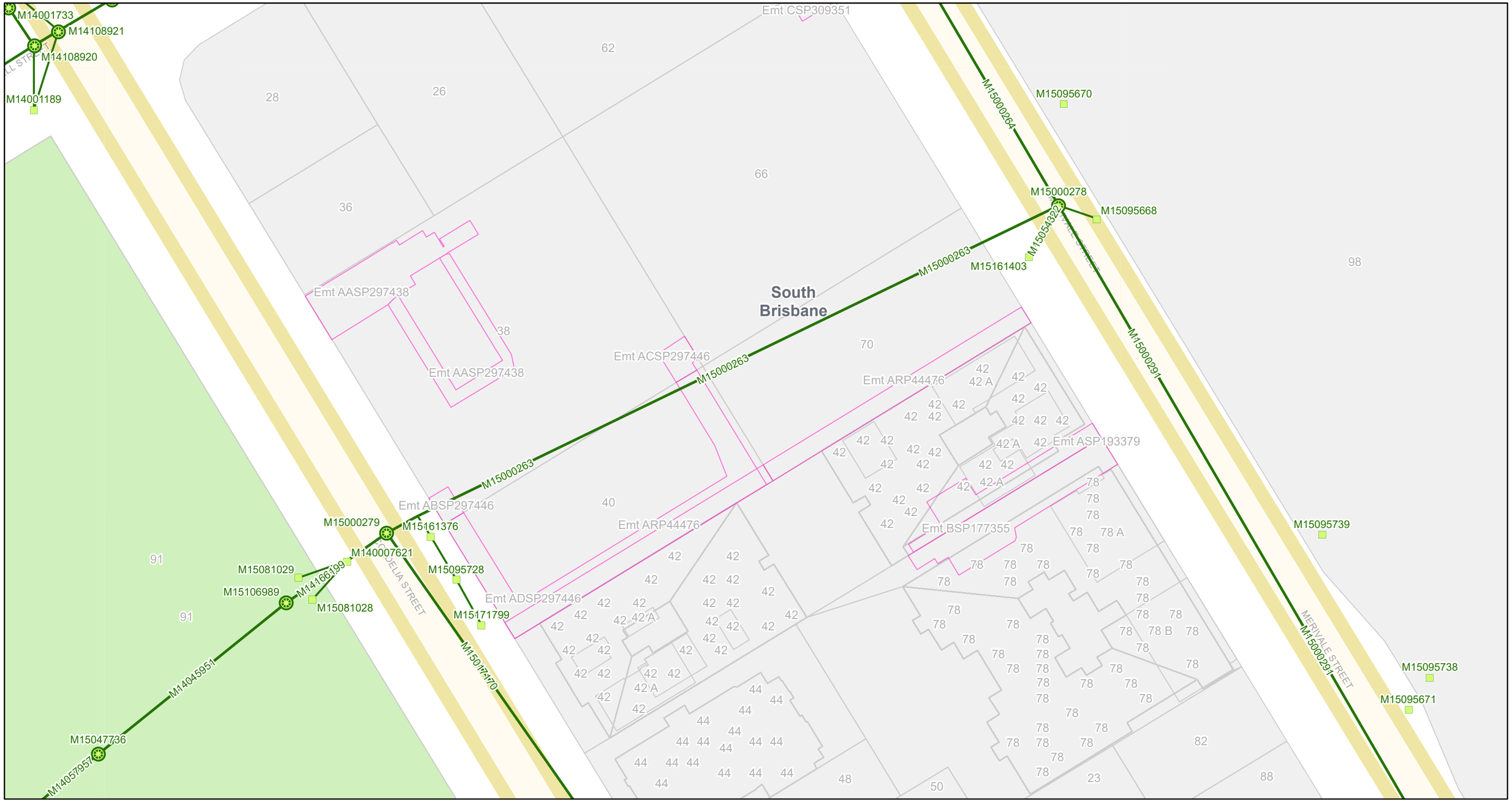
Sewer Gravity Main
- RETICULATION MAIN

Sewer Service
- SERVICE

Property Parcel

Property Parcel

Community Maps



4/10/2026, 10:58:54 AM

1:565

Culvert

End Structure

End cap

Flood Gate

Pipe End Outlet

Gully

Junction

Stormwater Manhole

Pipe

DRAIN

FOUL WATER

GULLY CONNECT

ROOF WATER

SQID

Surface Drain

Waterbody

Artesian Well

Detention Basin

Lake

Property Parcel

Sealed Plan

Property Parcel

Parcel Outside BCC

0 0.01 0.01 0.02 mi

0 0.01 0.02 0.04 km

Brisbane City Council

Appendix E
Codes

9.4.4 Infrastructure design code

9.4.4.1 Application

1. This code applies to assessing a material change of use, reconfiguring a lot or building work if:
    a. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for a material change of use (section 5.5), reconfiguring a lot (section 5.6),operational work (section 5.8), or an overlay (section 5.10); or
    b. impact assessable development, to the extent relevant.
2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

- ecological assessment, koala habitat or development design, guidance is provided in the Biodiversity areas planning scheme policy;
- infrastructure design and construction works, guidance is provided in the Infrastructure design planning scheme policy;
- noise and dust impacts during construction and/or demolition, guidance is provided in the Management plans planning scheme policy;
- noise impact assessment, guidance is provided in the Noise impact assessment planning scheme policy;
- refuse and recycling, guidance is provided in the Refuse planning scheme policy;
- parking or servicing management during construction, guidance is provided in the Transport, access, parking and servicing planning scheme policy.

9.4.4.2 Purpose

1. The purpose of the Infrastructure design code is to assess the suitability of infrastructure for development.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. Development is provided with a safe, connected and efficient transport network for all modes that has a minimal whole-of-life cost.
    b. Development provides for public utilities and services to the standards acceptable to the Council and the reasonable expectations of service providers.
    c. Development involving infrastructure which is intended to become a Council asset is safe, aesthetically pleasing, functional, fit for purpose, durable, minimises environmental impacts and has minimal whole-of-life cost.
    d. Development provides for a public space to be safe and inviting, allowing high levels of pedestrian activity.
    e. Development ensures that the community and environment are not unreasonably disrupted or impacted by construction or demolition for the development.
    f. Development involving infrastructure is designed with consideration of, and to integrate with, other related and interfacing infrastructure components.
    g. Development accessed by common private title is provided with appropriate fire hydrant infrastructure and has unimpeded access for refuse vehicles and for emergency service vehicles to protect people, property and the environment.
    h. Development ensures major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System is not compromised.
    i. Development for major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System

avoids or otherwise minimises adverse impacts on surrounding land uses.

9.4.4.3 Performance outcomes and acceptable outcomes

Table 9.4.4.3.A—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
PO1 Development provides roads, pavement, edging and landscaping which: a. are designed and constructed in accordance with the road hierarchy; b. provide for safe travel for pedestrians, cyclists and vehicles; c. provide access to properties for all modes; d. provide utilities; e. provide high levels of aesthetics and amenity, improved liveability and future growth; f. provide for the amelioration of noise and other pollution; g. provide a high-quality streetscape; h. provide a low-maintenance asset with a minimal whole-of-life cost. Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.	**AO1** Development provides roads and associated pavement, edging and landscaping which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.	**N/A** No new public roads proposed.
PO2 Development provides road pavement surfaces which: a. are well designed and constructed; b. durable enough to carry the wheel loads of the intended types and numbers of travelling and parked vehicles; c. ensures the safe passage of vehicles,	**AO2** Development provides road pavement surfaces which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.	**N/A** No new public roads proposed.

pedestrians and cyclists, the discharge of stormwater run-off and the preservation of all-weather access; d. allows for reasonable travel comfort.		
PO3 Development provides a pavement edge which is designed and constructed to: a. control vehicle movements by delineating the carriageway for all users; b. provide for people with disabilities by allowing safe passage of wheelchairs and other mobility aids.	**AO3** Development provides pavement edges which are designed and constructed in compliance with the road corridor design standards in the Infrastructure design planning scheme policy.	**N/A** No new public roads proposed.
PO4 Development provides verges which are designed and constructed to: a. provide safe access for pedestrians clear of obstructions and access areas for vehicles onto properties; b. provide a sufficient area for public utility services; c. be maintainable by the Council.	**AO4** Development provides verges which are designed and constructed in compliance with the road corridor design and streetscape locality advice standards in the Infrastructure design planning scheme policy.	**N/A** No new public roads proposed.
PO5 Development provides a lane or laneway identified on the Streetscape hierarchy overlay map or in a neighbourhood plan which: a. allows equitable access for all modes; b. is safe and secure; c. has 24-hour access; d. is a low-speed shared zone environment; e. has a high-quality streetscape.	**AO5** Development provides a lane or laneway identified on the Streetscape hierarchy overlay map or in a neighbourhood plan which is embellished in compliance with the streetscape locality advice standards in the Infrastructure design planning scheme policy.	**N/A** No new lanes or laneways proposed.
PO6 Development of an existing premises provides at the frontage to the site, if not already provided, the following	**AO6** Development of an existing premises provides at the frontage of the site, if not already existing, the following	**Development complies.** Existing formed roadway Merivale Street and Cordelia Street fronts the site. Any design will be in accordance

infrastructure to an appropriate urban standard: a. an effective, high-quality paved roadway; b. an effective, high-quality roadway kerb and channel; c. safe, high-quality vehicle crossings over channels and verges; d. safe, accessible, high-quality verges compatible and integrated with the surrounding environment; e. safe vehicle access to the site that enables ingress and egress in a forward gear; f. provision of and required alterations to public utilities; g. effective drainage; h. appropriate conduits to facilitate the provision of required street-lighting systems and traffic signals.	infrastructure to the standard that would have applied if the development involved new premises as stated in the road corridor design standards in the Infrastructure design planning scheme policy: a. concrete kerb and channel; b. forming and grading to verges; c. crossings over channels and verges; d. a constructed bikeway; e. a constructed verge or reconstruction of any damaged verge; f. construction of the carriageway; g. payment of costs for required alterations to public utility mains, services or installations; h. construction of and required alterations to public utility mains, services or installations; i. drainage works; j. installation of electrical conduits.	with all relevant BCC and Australian Standards.
PO7 Development provides both cycle and walking routes which: a. are located, designed and constructed to their network classification (where applicable); b. provide safe and attractive travel routes for pedestrians and cyclists for commuter and recreational purposes; c. provide safe and comfortable access to properties for pedestrians and cyclists; d. incorporate water sensitive urban design into stormwater drainage; e. provide for utilities; f. provide for a high level of aesthetics and amenity, improved liveability and future growth; g. are a low-maintenance asset with a minimal whole-of-life cost;	**AO7** Development provides cycle and walking routes which are located, designed and constructed in compliance with the road corridor design and off-road pathway design standards in the Infrastructure design planning scheme policy.	**N/A**

h. minimise the clearing of significant native vegetation. Note—This can be demonstrated in an engineering report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.		
PO8 Development provides refuse and recycling collection, separation and storage facilities that are located and managed so that adverse impacts on building occupants, neighbouring properties and the public realm are minimised.	**AO8.1** Development provides refuse and recycling collection and storage facilities in accordance with the Refuse planning scheme policy. **AO8.2** Development ensures that refuse and recycling collection and storage location and design do not have any adverse impact including odour, noise or visual impacts on the amenity of land uses within or adjoining the development. Note—Refer to the Refuse planning scheme policy for further guidance.	**Development will comply.**
PO9 Development ensures that: a. land used for an urban purpose is serviced adequately with regard to water supply and waste disposal; b. the water supply meets the stated standard of service for the intended use and fire-fighting purposes.	**AO9.1** Development ensures that the reticulated water and sewerage distribution system for all services is in place before the first use is commenced. **AO9.2** Development provides the lot with reticulated water supply and sewerage to a standard acceptable to the distributor—retailer.	**Development will comply.** Refer to Preliminary Engineering Services Layout Plan 27981 DA03 and Engineering Services Report by ADG Engineers (ADG Ref: 27981.001 C ESR) for further details.
PO10 Development provides public utilities and street lighting which are the best current or alternative technology and facilitate accessibility, easy maintenance, minimal whole-of-life costs, and minimal adverse environmental impacts.	**AO10.1** Development provides public utilities and street lighting which are located and aligned to: a. avoid significant native vegetation and areas identified within the Biodiversity areas overlay map; b. minimise earthworks; c. avoid crossing waterways, waterway corridors and wetlands or if a crossing is unavoidable,	**Development complies.** Existing street lighting in place.

	tunnel-boring techniques are used to minimise disturbance, and a disturbed area is reinstated and restored on completion of the work. Note—Guidance on the restoration of habitat is included in the Biodiversity areas planning scheme policy. **AO10.2** Development provides compatible public utility services and street-lighting services which are co-located in common trenching for underground services.	
	AO10.3 Development provides public utilities and street lighting which are designed and constructed in compliance with the public utilities standards in the Infrastructure design planning scheme policy.	
PO11 Development ensures that land used for urban purposes is serviced adequately with telecommunications and energy supply.	**AO11** Development provides land with the following services to the standards of the approved supplier: a. electricity; b. telecommunications services; c. gas service where practicable.	**Development will comply.**
PO12 Development ensures that major public projects promote the provision of affordable, high-bandwidth telecommunications services throughout the city.	**AO12** Development provides conduits which are provided in all major Council and government works projects to enable the future provision of fibre optic cabling, if: a. the additional expense is unlikely to be prohibitive; or b. further major work is unlikely or disruption would be a major concern, such as where there is a limited capacity road; or c. there is a clear gap in the telecommunications network; or d. there is a clear gap in the bandwidth available to	**N/A**

	the area. Editor's note—An accurate, digital 'as built' three-dimensional location plan is to be supplied for all infrastructure provided in a road.	
PO13 Development provides public art identified in a neighbourhood plan or park concept plan which: a. is provided commensurate with the status and scale of the proposed development; b. is sited and designed: i. as an integrated part of the project design; ii. as conceptually relevant to the context of the location; iii. to reflect and respond to the cultural values of the community; iv. to promote local character in a planned and informed manner.	**AO13** Development provides public art identified in a neighbourhood plan or park concept plan which is sited and designed in compliance with the public art standards in the Infrastructure design planning scheme policy.	**N/A**
PO14 Development provides signage of buildings and spaces which promote legibility to help users find their way.	**AO14** Development provides public signage: a. at public transport interchanges and stops, key destinations, public spaces, pedestrian linkages and at entries to centre developments; b. which details the location of the key destinations, public spaces and pedestrian linkages in the vicinity, the services available within the development and where they are located. Editor's note—Signage is to be in accordance with Local Law Number 1 (Control of Advertisements Local Law).	**N/A**
PO15 Development that provides community facilities which form part of the development is functional, safe, low maintenance, and fit for purpose.	**AO15** Development that provides community facilities which form part of the development is designed in compliance with the community facilities standards in the Infrastructure design planning scheme policy.	**N/A**

PO16 Development provides public toilets which: a. are required as part of a community facility or park; b. are located, designed and constructed to be: i. safe; ii. durable; iii. resistant to vandalism; iv. able to service expected demand; v. fit for purpose.	**AO16** Development that provides public toilets is designed and constructed in compliance with the public toilets standards in the Infrastructure design planning scheme policy.	**N/A**
PO17 Development provides bridges, tunnels, elevated structures and water access structures that are designed and constructed using proven methods, materials and technology to provide for: a. safe movement of intended users; b. an attractive appearance appropriate to the general surroundings and any adjacent structures; c. functionality and easy maintenance; d. minimal whole-of-life cost; e. longevity; f. current and future services. Note—All bridges and elevated and associated elements must be designed and certified by a Registered Professional Engineer Queensland in accordance with the Infrastructure design planning scheme policy.	**AO17** Development that provides bridges, tunnels, elevated structures and water access structures is designed and constructed in compliance with the standards in the Infrastructure design planning scheme policy.	**N/A**
PO18 Development provides culverts which are designed and constructed using proven methods, materials and technology to provide for: a. safety; b. an attractive appearance appropriate to the general surroundings;	**AO18** Development that provides culverts is designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy.	**N/A**

c. functionality and easy maintenance; d. minimal whole-of-life cost; e. longevity; f. future widening; g. current and future services; h. minimal adverse impacts, such as increase in water levels or flow velocities, and significant change of flood patterns. Note—All culverts and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.		
PO19 Development provides batters, retaining walls, and seawalls and river walls which are designed and constructed using proven methods, materials and technology to provide for: a. safety; b. an attractive appearance appropriate to the surrounding area; c. easy maintenance; d. minimal whole-of-life cost; e. longevity; f. minimal water seepage. Note—All retaining walls and associated elements are to be designed and certified by a Registered Professional Engineer Queensland in accordance with the applicable design standards.	**AO19** Development that provides batters, retaining walls, seawalls and river walls is designed and constructed in compliance with the structures standards in the Infrastructure design planning scheme policy.	**N/A**
If for development with a gross floor area greater than 1,000m^2		
PO20 Development ensures that construction is managed so that use of public spaces and movement on pedestrian, cyclist and other traffic routes is not unreasonably disrupted and existing landscaping is adequately protected from short- and long-term impacts. Note—The preparation of a construction management plan can assist	**AO20** Development ensures that during construction: a. the ongoing use of adjoining and surrounding parks and public spaces, such as malls and outdoor dining, is not compromised; b. adjoining and surrounding landscaping is protected from damage;	**Development will comply at construction phase.**

in demonstrating achievement of this performance outcome. Note—The Transport, access, parking and servicing planning scheme policy provides advice on the management of vehicle parking and deliveries during construction.	c. safe, legible, efficient and sufficient pedestrian, cyclist and vehicular accessibility and connectivity to the wider network are maintained.	
PO21 Development ensures that construction and demolition activities are guided by measures that prevent or minimise adverse impacts including sleep disturbance at a sensitive use, due to noise and dust, including dust from construction vehicles entering and leaving the site. Note—A noise and dust impact management plan prepared in accordance with the Management plans planning scheme policy can assist in demonstrating achievement of this performance outcome.	**AO21.1** Development ensures that demolition and construction: a. only occur between 6:30am and 6:30pm Monday to Saturday, excluding public holidays; b. do not occur over periods greater than 6 months. **AO21.2** Development including construction and demolition does not release dust emissions beyond the boundary of the site.	**Development will comply at construction phase.**
	AO21.3 Development construction and demolition does not involve asbestos-containing materials.	
PO22 Development ensures that: a. construction and demolition do not result in damage to surrounding property as a result of vibration; b. vibration levels achieve the vibration criteria in Table 9.4.4.3.B, Table 9.4.4.3.C, Table 9.4.4.3.D and Table 9.4.4.3.E. Note—A vibration impact assessment report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.	**AO22** Development ensures that the nature and scale of construction and demolition do not generate noticeable levels of vibration.	**Development will comply at construction phase.**
If for a material change of use or reconfiguring a lot in an urban area (as defined in the Regulation) involving premises that is, or will be, accessed by common private title, where involving buildings, either attached or detached, that are not covered by other legislation mandating fire hydrants		
PO23 Development ensures that fire hydrants are:	**AO23.1** Above or below ground fire hydrants are provided on	**Development will comply.** Refer to Preliminary Engineering Services Layout Plan 27981 DA03 and Engineering Services Report by ADG

a. installed and located to enable fire services to access water safely, effectively and efficiently; b. suitably identified so that fire services can locate them at all hours.	residential, commercial and industrial streets and private roads, at not more than 90m intervals, and at each street intersection. Note—On residential streets, above ground fire hydrants may be single outlet. On commercial and industrial streets above ground fire hydrants should have dual valved outlets. **AO23.2** Fire hydrants are identified by: a. raised reflectorised pavement markers (RRPM) on sealed roads; b. marker posts at the fence line where on an unsealed road, as road (HR) or path (HP) hydrants.	Engineers (ADG Ref: 27981.001 C ESR) for further details.
PO24 Development ensures road widths and construction within the development, are adequate for refuse vehicles and for fire emergency vehicles to gain access to a safe working area close to buildings and near water supplies whether or not on-street parking spaces are occupied.	**AO24** Internal private roads have a minimum roadway clearance between obstructions of 3.5m wide and 4.8m high in addition to any width required for on-street parking.	**NA** No new roads proposed.
Development for major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where not in the Utility services zone precinct of the Special purpose zone		
PO25 Development avoids or otherwise minimises adverse impacts on surrounding land uses through the use of buffers and setbacks and the appropriate design and location of plant and operational areas within the site.	**AO25** No acceptable outcome is prescribed.	**NA**
Development potentially impacting on major electricity infrastructure and bulk water supply infrastructure identified on the State Planning Policy Interactive Mapping System where the infrastructure is not in the Utility services zone precinct of the Special purpose zone		
PO26	**AO26**	**NA**

Development is sited and designed to: a. avoid safety risks to people or property; b. minimise noise and visual impacts to people and property; c. ensure the physical integrity and operation, maintenance and expansion of the infrastructure is not compromised.	No acceptable outcome is prescribed.	

Table 9.4.4.3.B—Recommended intermittent vibration levels for cosmetic damage

Type of building	**Peak particle velocity (mm/s)**		
Reinforced or framed structures; industrial and heavy commercial buildings	50mm/s at 4Hz and above		
Unreinforced or light-framed structures; residential or light commercial type buildings	Below 4Hz	4Hz to 15Hz	15Hz and above
	0.6mm/s	15mm/s at 4Hz increasing to 20mm/s at 15Hz	20mm/s at 15Hz increasing to 50mm/s at 40Hz and above

Table 9.4.4.3.C—Recommended blasting vibration levels for human comfort

Type of building	**Type of blasting operations**	**Peak component particle velocity (mm/s)**

Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	5mm/s for 95% blasts per year 10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Residences, educational establishments and places of worship	Operation blasting longer than 12 months or more than 20 blasts	10mm/s maximum unless agreement is reached with the occupier that a higher limit may apply
Industry or commercial premises	All blasting	25mm/s maximum unless agreement is reached with the occupier that a higher limit may apply. For sites containing equipment sensitive to vibration, the vibration should be kept below manufacturer's specifications or levels that do not adversely affect the equipment operation.

Table 9.4.4.3.D—Recommended levels for continuous and impulsive vibration acceleration (m/s^2) 1—80Hz for human comfort

Location	**Assessment period(1)**	**Preferred values(3)**		**Maximum values(3)**	
Continuous vibration		z-axis	x and y axes	z-axis	x and y axes
Critical areas(2)	Day or night	0.005 m/s^2	0.0036 m/s^2	0.01 m/s^2	0.0072 m/s^2
Residences	Day	0.01 m/s^2	0.0071 m/s^2	0.02 m/s^2	0.014 m/s^2
-	Night	0.007 m/s^2	0.005 m/s^2	0.014 m/s^2	0.01 m/s^2
Offices, educational establishments and places of worship	Day or night	0.02 m/s^2	0.014 m/s^2	0.04 m/s^2	0.028 m/s^2
Workshops	Day or night	0.04 m/s^2	0.029 m/s^2	0.08 m/s^2	0.058 m/s^2

Impulsive vibration					
Critical areas	Day or night	0.005 m/s^2	0.0036 m/s^2	0.01 m/s^2	0.0072 m/s^2
Residences	Day	0.3 m/s^2	0.21 m/s^2	0.6 m/s^2	0.42 m/s^2
-	Night	0.1 m/s^2	0.071 m/s^2	0.2 m/s^2	0.14 m/s^2
Offices, educational establishments and places of worship	Day or night	0.64 m/s^2	0.46 m/s^2	1.28 m/s^2	0.92 m/s^2
Workshops	Day or night	0.64 m/s^2	0.46 m/s^2	1.28 m/s^2	0.92 m/s^2

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

Table 9.4.4.3.E—Recommended vibration dose values for intermittent vibration ($m/s^{1.75}$) for human comfort

Location	**Daytime(1)**		**Night time(1)**	
	Preferred value	**Maximum value**	**Preferred value(3)**	**Maximum value(3)**
Critical areas(2)	0.1 $m/s^{1.75}$	0.2 $m/s^{1.75}$	0.1 $m/s^{1.75}$	0.2 $m/s^{1.75}$
Residences	0.2 $m/s^{1.75}$	0.4 $m/s^{1.75}$	0.13 $m/s^{1.75}$	0.26 $m/s^{1.75}$
Offices, educational establishments and places of worship	0.4 $m/s^{1.75}$	0.8 $m/s^{1.75}$	0.4 $m/s^{1.75}$	0.8 $m/s^{1.75}$
Workshops	0.8 $m/s^{1.75}$	1.6 $m/s^{1.75}$	0.8 $m/s^{1.75}$	1.6 $m/s^{1.75}$

Note—

(1) Day is 7am to 10pm and night is 10pm to 7am.

(2) Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring.

(3) Situations exist where vibration above the preferred values can be acceptable, particularly for temporary or short-term events. Further guidance is given in the Noise impact assessment planning scheme policy.

9.4.9 Stormwater code

9.4.9.1 Application

1. This code applies to assessing a material change of use, reconfiguring a lot or operational work if:
    a. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for a material change of use (section 5.5), reconfiguring a lot (section 5.6) operational work (section 5.8) or an overlay (section 5.10); or
    b. impact assessable development, to the extent relevant.
2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to infrastructure design and construction works, guidance is provided in the Infrastructure design planning scheme policy.

9.4.9.2 Purpose

1. The purpose of the Stormwater code is to assess the suitability of the stormwater aspects of development.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. Development achieves acceptable levels of stormwater run-off quality and quantity by applying water sensitive urban design principles as part of an integrated stormwater management framework.
    b. Development protects public health and safety and protects against damage or nuisance caused by stormwater flows.
    c. Development has a stormwater management system which maintains, recreates or minimises impact to natural catchment hydrological processes.
    d. Development ensures that the environmental values of the city's waterways are protected or enhanced.
    e. Development minimises run-off, including peak flows.
    f. Development maintains or enhances the efficiency and integrity of the stormwater infrastructure network.
    g. Development minimises the whole of life cycle cost of stormwater infrastructure.

9.4.9.3 Performance outcomes and acceptable outcomes

Table 9.4.9.3.A—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
Section A—If for a material change of use, reconfiguring a lot, operational work or building work Note—Compliance with the performance outcomes and acceptable outcomes in this section should be demonstrated by the submission of a site-		

based stormwater management plan for high risk development only.		
PO1 Development provides a stormwater management system which achieves the integrated management of stormwater to: a. minimise flooding; b. protect environmental values of receiving waters; c. maximise the use of water sensitive urban design; d. minimise safety risk to all persons; e. maximise the use of natural waterway corridors and natural channel design principles. Editor's note—The stormwater management system to be developed to address PO1 is not intended to require management of stormwater quality.	**AO1** Development provides a stormwater management system designed in compliance with the Infrastructure design planning scheme policy.	**Complies** Proposed stormwater designed in accordance with Infrastructure design planning scheme policy. Refer to Conceptual Stormwater Management Plan by ADG Engineers (Ref: 27981.001 C CSMP) for further information.
PO2 Development ensures that the stormwater management system and site work does not adversely impact flooding or drainage characteristics of premises which are up slope, down slope or adjacent to the site.	**AO2.1** Development does not result in an increase in flood level or flood hazard on up slope, down slope or adjacent premises. **AO2.2** Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy.	**Complies** Refer to separate report by Water Engineering Partners and Conceptual Stormwater Management Plan by ADG Engineers (Ref: 27981.001 C CSMP) for further information regarding flood considerations.
PO3 Development ensures that the stormwater management system does not direct stormwater run-off through existing or proposed lots and property where it is likely to adversely affect the safety of, or cause nuisance to properties.	**AO3.1** Development ensures that the location of the stormwater drainage system is contained within a road reserve, drainage reserve, public pathway, park or waterway corridor. **AO3.2** Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme	**Complies** Proposed stormwater designed in accordance with Infrastructure design planning scheme policy. Refer to Conceptual Stormwater Management Plan by ADG Engineers (Ref: 27981.001 C CSMP) for further information.

	policy. **AO3.3** Development obtains a lawful point of discharge in compliance with the standards in the Infrastructure design planning scheme policy. **AO3.4** Where on private land, all underground stormwater infrastructure is secured by a drainage easement.	
PO4 Development provides a stormwater management system which has sufficient capacity to safely convey run-off taking into account increased run-off from impervious surfaces and flooding in local catchments.	**AO4.1** Development provides a stormwater conveyance system which is designed to safely convey flows in compliance with the standards in the Infrastructure design planning scheme policy. **AO4.2** Development provides sufficient area to convey run-off which will comply with the standards in the Infrastructure design planning scheme policy.	**Complies** Proposed stormwater designed in accordance with Infrastructure design planning scheme policy. Refer to Conceptual Stormwater Management Plan by ADG Engineers (Ref: 27981.001 C CSMP) for further information.
PO5 Development designs stormwater channels, creek modification works, bridges, culverts and major drains to protect and enhance the value of the waterway corridor or drainage path for fauna movement.	**AO5** Development ensures the design of stormwater channels, creek modifications or other infrastructure, permits terrestrial and aquatic fauna movement.	**N/A**
PO6 Development ensures that location and design of stormwater detention and water quality treatment: a. minimises risk to people and property; b. provides for safe access and maintenance; c. minimises ecological impacts to creeks and waterways.	**AO6.1** Development locates stormwater detention and water quality treatment: a. outside of a waterway corridor; b. offline to any catchment not contained within the development. **AO6.2** Development providing for stormwater detention and water quality treatment devices are designed in	**N/A**

	compliance with the standards in the Infrastructure design planning scheme policy.	
PO7 Development is designed, including any car parking areas and channel works to: a. reduce property damage; b. provide safe access to the site during the defined flood event.	**AO7.1** Development (including any ancillary structures and car parking areas) is located above minimum flood immunity levels in Table 9.4.9.3.B, Table 9.4.9.3.C, Table 9.4.9.3.D, Table 9.4.9.3.E and Table 9.4.9.3.F. Note—Compliance with this acceptable outcome can be demonstrated by the submission of a hydraulic and hydrology report identifying flood levels and development design levels (as part of a site-based stormwater management plan). **AO7.2** Development including the road network provides a stormwater management system that provides safe pedestrian and vehicle access in accordance with the standards in the Infrastructure design planning scheme policy.	**Complies** Refer to separate report by Water Engineering Partners for further information regarding flood considerations.
PO8 Development designs stormwater channels, creek modification works and the drainage network to protect and enhance the environmental values of the waterway corridor or drainage path.	**AO8.1** Development ensures natural waterway corridors and drainage paths are retained. **AO8.2** Development provides the required hydraulic conveyance of the drainage channel and floodway, while maximising its potential to maximise environmental benefits and minimise scour. Editor's note—Guidance on natural channel design principles can be found in the Council's publication Natural channel design guidelines.	**N/A**
	AO8.3 Development provides stormwater outlets into waterways, creeks, wetlands and overland flow paths with energy dissipation to minimise scour in compliance with the standards in the Infrastructure design planning scheme policy.	

	AO8.4 Development ensures that the design of modifications to the existing design of new stormwater channels, creeks and major drains is in compliance with the standards in the Infrastructure design planning scheme policy.	
PO9 Development is designed to manage run-off and peak flows by minimising large areas of impervious material and maximising opportunities for capture and re-use.	**AO9** No acceptable outcome is prescribed.	**Complies** Proposed development does not increase the existing fraction impervious and peak flows off the site. Refer to CSMP by ADG Engineers (Ref: 27981.001 C CSMP) for further information.
PO10 Development ensures that there is sufficient site area to accommodate an effective stormwater management system. Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.	**AO10** No acceptable outcome is prescribed.	**Complies** Refer to CSMP by ADG Engineers (Ref: 27981.001 C CSMP) for further information.
PO11 Development provides for the orderly development of stormwater infrastructure within a catchment, having regard to the: a. existing capacity of stormwater infrastructure within and external to the site, and any planned stormwater infrastructure upgrades; b. safe management of stormwater discharge from existing and future up-slope development; c. implication for adjacent and down-slope development.	**AO11.1** Development with up-slope external catchment areas provides a drainage connection sized for ultimate catchment conditions that is directed to a lawful point of discharge. **AO11.2** Development ensures that existing stormwater infrastructure that is undersized is upgraded in compliance with the Infrastructure design planning scheme policy.	**Complies** No external catchments of significance identified. **N/A**
PO12 Development provides stormwater infrastructure which: a. remains fit for purpose for the life of the development and maintains full functionality in the design flood event; b. can be safely accessed and maintained cost	**AO12.1** The stormwater management system is designed in compliance with the Infrastructure design planning scheme policy. **AO12.2**	**Complies** Stormwater designed in accordance with Infrastructure design planning scheme policy. Refer to Conceptual Stormwater Management Plan by ADG Engineers (Ref: 27981.001 C CSMP) for further information.

effectively; c. ensures no structural damage to existing stormwater infrastructure.	Development provides a clear area with a minimum of 2m radius from the centre of an existing manhole cover and with a minimum height clearance of 2.5m.	
PO13 Development ensures that all reasonable and practicable measures are taken to manage the impacts of erosion, turbidity and sedimentation, both within and external to the development site from construction activities, including vegetation clearing, earthworks, civil construction, installation of services, rehabilitation, revegetation and landscaping to protect: a. the environmental values and water quality objectives of waters; b. waterway hydrology; c. the maintenance and serviceability of stormwater infrastructure. Note—The Infrastructure design planning scheme policy outlines the appropriate measures to be taken into account to achieve the performance outcome.	**AO13** No acceptable outcome is prescribed.	**Development will comply** Erosion and Sediment Control measures are to be addressed during the detailed design phase of the development
PO14 Development ensures that: a. unnecessary disturbance to soil, waterways or drainage channels is avoided; b. all soil surfaces remain effectively stabilised against erosion in the short and long term.	**AO14** No acceptable outcome is prescribed.	**Development will comply** Erosion and Sediment Control measures are to be addressed during the detailed design phase of the development
PO15 Development does not increase: a. the concentration of total suspended solids or other contaminants in stormwater flows during site construction; b. run-off which causes erosion either on site or off site.	**AO15** No acceptable outcome is prescribed.	**Development will comply** Erosion and Sediment Control measures are to be addressed during the detailed design phase of the development
Section B—Additional performance outcomes and acceptable outcomes which apply to high-risk		

development, being one or more of the following: a. a material change of use for an urban purpose which involves greater than 2,500m^2 of land that: i. will result in an impervious area greater than 25% of the net developable area; or ii. will result in 6 or more dwellings. b. reconfiguring a lot for an urban purpose that involves greater than 2,500m^2 of land and will result in 6 or more lots; c. operational work for an urban purpose which involves disturbing greater than 2,500m^2 of land.		
PO16 Development ensures that the entry and transport of contaminants into stormwater is avoided or minimised to protect receiving water environmental values. Note—Prescribed water contaminants are defined in the *Environmental Protection Act 1994*. Note—Compliance with the performance outcome should be demonstrated by the submission of a site-based stormwater management plan for high-risk development only.	**AO16** Development provides a stormwater management system which is designed in compliance with the standards in the Infrastructure design planning scheme policy.	**N/A**
PO17 Development ensures that: a. the discharge of wastewater to a waterway or external to the site is avoided; or b. if the discharge cannot practicably be avoided, the development minimises wastewater discharge through re-use, recycling, recovery and treatment. Note—The preparation of a wastewater management plan can assist in demonstrating achievement of this performance outcome. Editor's note—This code does not deal with sewerage which is the subject of the Wastewater code.	**AO17** No acceptable outcome is prescribed.	**N/A**
Section C—Additional performance outcomes and acceptable outcomes for assessable development for a material change of use or reconfiguring a lot		
PO18 Development protects stormwater infrastructure to ensure the following are not compromised: a. the long term infrastructure for the stormwater	**AO18** Development protects stormwater infrastructure in compliance with the following: a. for long term infrastructure for the stormwater	**Complies** Refer to CSMP by ADG Engineers (Ref: 27981.001 C CSMP) for further information.

network in the Long term infrastructure plans; b. the existing and planned infrastructure for the stormwater network in the Local government infrastructure plan; c. the provision of long term, existing and planned infrastructure for the stormwater network which: i. is required to service the development or an existing and future urban development in the planning scheme area; or ii. is in the interests of rational development or the efficient and orderly planning of the general area in which the site is situated. Editor's note—A condition which requires a proposed development to keep permanent improvements and structures associated with the approved development clear of the area of long term infrastructure, may be imposed.	network, the Long term infrastructure plans; b. for existing and planned infrastructure for the stormwater network, the Local government infrastructure plan; c. the standards for stormwater drainage in the Infrastructure design planning scheme policy.	
PO19 Development provides for the payment of extra trunk infrastructure costs for the following: a. for development completely or partly outside the priority infrastructure area in the Local government infrastructure plan; b. for development completely inside the priority infrastructure area in the Local government infrastructure plan involving: i. trunk infrastructure that is to be provided earlier than planned in the Local government infrastructure plan; ii. long term infrastructure for the stormwater network which is made necessary by development that is not assumed future urban development; iii. other infrastructure for the stormwater network associated with development	**AO19** No acceptable outcome is prescribed.	**N/A**

that is not assumed future urban development which is made necessary by the development. Editor's note—The payment of extra trunk infrastructure costs for development completely inside the priority infrastructure area in the Local government infrastructure plan is to be worked out in accordance with the Charges Resolution. Editor's note—See section 130 Imposing Development conditions (Conditions for extra trunk infrastructure costs) of the *Planning Act 2016*.		

Table 9.4.9.3.B—Categories of flood planning levels

Flooding type(1)	**Minimum design floor or pavement levels (m AHD)(2) (refer to Table 9.4.9.3.C for assignment of these categories)**				
	Category A	**Category B**	**Category C**	**Category D**	**Category E**
Waterway(A) or open channel	1% AEP flood level + 500mm	1% AEP flood level + 300mm	1% AEP flood level	1% AEP flood level	5% AEP flood level
Overland flow flooding(B)	2% AEP flood level +500mm	2% AEP flood level +300mm	2% AEP flood level	2% AEP flood level	5% AEP flood level

Notes—

(1) Where the site is subject to more than one type of flooding that is overland flow flooding, creek or waterway flooding or river flooding, the minimum flood immunity level is the highest level determined from these sources.

(2) Where flood levels are not available from Council's Floodwise Property Report such as overland flow flooding, the applicant will need to engage a suitably qualified Registered Professional Engineer Queensland with expertise in undertaking flood studies to estimate the relevant flood level.

Note (A) A waterway, including any indicated on the planning scheme maps, is defined as any element of a river, creek, stream, gully or drainage channel, including the bed and banks, typically with a catchment area greater than 30ha.

Note (B) Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. Localised overland flow paths generally traverse along roadways, and in the older established areas, through private properties within existing low points and gullies. A localised overland flow path is not characterised by well-defined bed and banks and the contributing catchment is generally less than 30ha.

Note—A flood event with an AEP of 1% is the equivalent of a 100 year ARI flood event.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

Note—A flood event with an AEP of 5% is the equivalent of a 20 year ARI flood event.

Note—The flood immunity level in some older inner-city areas is often controlled by local ponding.

Table 9.4.9.3.C—Flood planning level categories for development types

BCA building classification(1)	**Development types and design levels, assigned design floor or pavement levels**	**Category Refer to Table 8.2.11.3.L**
Class 1—4	Habitable room	Category A
	Non-habitable room including patio and courtyard	Category B
	Non-habitable part of a Class 2 or Class 3 building excluding the essential services(2) control room	Category B
	Parking located in the building undercroft of a multiple dwelling	Category C
	Carport(4), unroofed car park; vehicular manoeuvring area	Category D
	Essential electrical services(2) of a Class 2 or Class 3 building only	Category A(6)
	Basement parking entry(3)	Category C + 300mm
Class 5, Class 6, or Class 8	Building floor level	Category C
	Garage or car park located in the building undercroft(3)	Category C
	Carport(4) or unroofed car park	Category D
	Vehicular access and manoeuvring areas	Category D
	Basement parking entry(3)	Category C
	Essential electrical services(2)	Class 8 — Category C(6) Class 5 & 6 — Category A(6)

Class 7a	Refer to the relevant building class specified in this table	
Class 7b	Building floor level	Category C
	Vehicular access and manoeuvring area	Category D
	Essential electrical services(2)	Category C
Class 9	Building floor level	Category A
	Building floor level for habitable rooms in Class 9a or 9c where for a residential care facility	0.2% AEP flood
	Garage or car park located in the building undercroft(3)	Category C
	Carport(4) or unroofed car park	Category D
	Vehicular access and manoeuvring areas	Category D
	Essential electrical services(2)	Category A
Class 10a	Car parking facility	Refer to the relevant building class specified in this table
	Shed(5) or the like	Category D
Class 10b	Swimming pool	Category E
	Associated mechanical and electrical pool equipment	Category C
	Other structures	Flood immunity standard does not apply

Notes—

(1) Refer to the Building Code of Australia for definitions of building classifications.

(2) Essential services include any room used for fire control panel, telephone PABX, sensitive substation equipment including transformers, low voltage switch gear, high-voltage switch gear, battery chargers, protection control and communication equipment, low voltage cables, high-voltage cables and lift controls.

(3) Basement car parks must be suitably waterproofed and all air vents, air-conditioning ducts, pedestrian access and entry and exit ramps at the car park entrance have flood immunity in accordance with this table.

(4) A shelter for a motor vehicle, which has a roof and one or more open sides, and which can be built against the side of a building.

(5) A slight or rough structure built for shelter and storage; or a large strongly built structure, often open at the sides or end.

(6) Where essential services are proposed in a basement below the specified flood planning level, the flood immunity of all air vents, air-conditioning ducts, pedestrian access, lift shafts and entry/exit ramps at the

basement entrance and any other openings into that basement must conform to Category A for Residential development, and the relevant basement entry level of all other uses. This will require a waterproof basement design to prevent floodwaters entering the basement to ensure flood immunity.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

Note—A flood event with an AEP of 0.2% is the equivalent of a 500 year ARI flood event.

Note—Where a building has a combination of uses that includes a component of class 2, 3 or 9, the essential services for that building shall comply with the requirements of the building class with the greatest flood immunity requirement.

Note—Use classes for residential development also include basement storage.

Table 9.4.9.3.D—Flood planning levels for a new road

Flooding type(1)	**Minimum design levels at the crown of the road (m AHD) (2)**	
	Residential development	**Industrial or commercial development**
Waterway(A) or open channel	1% AEP flood level	2% AEP flood level
Overland flow flooding(B)	2% AEP flood level	2% AEP flood level

Notes—

(1) Where the site is subject to more than 1 type of flooding, the minimum flood planning level is the highest level determined from these sources. It should be noted that the flooding planning level in some older areas is often controlled by local ponding.

(2) Where flood levels are not available from Council's Floodwise Property Report, such as overland flow flooding, the applicant will need to engage a suitably qualified Registered Professional Engineer Queensland with expertise in undertaking flood studies to estimate the relevant flood level.

Note (A) A waterway including any indicated on the planning scheme maps is defined as any element of a river, creek, stream, gully or drainage channel, including the bed and banks typically with a catchment area greater than 30ha.

Note (B) Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded and/or when the overland flow path is blocked. Localised overland flow paths generally traverse along roadways, and in the older established areas, through private properties within existing low points and gullies. A localised overland flow path is not characterised by well-defined bed and banks and the contributing catchment is generally less than 30ha.

Note—A flood event with an AEP of 1% is the equivalent of a 100 year ARI flood event.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

Note—A flood event with an AEP of 5% is the equivalent of a 20 year ARI flood event.

Table 9.4.9.3.E—Flood planning levels for essential community infrastructure

Type of essential community infrastructure	**Minimum design levels**

Emergency services	0.2% AEP flood
Emergency services, where for an emergency shelter	0.5% AEP flood
Emergency services, where for police facilities	0.5% AEP flood
Hospital and health care service, where associated with a hospital	0.2% AEP flood
Community facility where involving storage of valuable records or items of historic or cultural significance (e.g. galleries and libraries)	0.5% AEP flood
State-controlled roads Major or minor electricity infrastructure not otherwise listed in this table Utility installation where for rail transport services Air service Telecommunications facility	No specific recommended level but development proponents should ensure that the infrastructure is optimally located and designed to achieve suitable levels of service, having regard to the processes and policies of the administering government agency.
Power stations (as defined in the *Electricity Act 1994*) or renewable energy facility.	0.2% AEP flood
Major electricity infrastructure where a major switch yard	0.2% AEP flood
Substations	0.5% AEP flood
Utility installation where for a sewage treatment plant	DFE
Utility installation where for a water treatment plant	0.5% AEP flood

Note—A flood event with an AEP of 0.2% is the equivalent of a 500 year ARI flood event.

Note—A flood event with an AEP of 0.5% is the equivalent of a 200 year ARI flood event.

Table 9.4.9.3.F—Flood planning levels for reconfiguring a lot

Flooding type(1)	**Minimum lot levels (m AHD)(2)**	
	Residential	**Other than residential**
Waterway(A) or open channel	1% AEP flood level + 300mm	1% AEP flood level
Overland flow flooding(B)	1% AEP flood level + 300mm	2% AEP flood level

Notes—

(1) Where the site is subject to more than one type of flooding, the minimum flood immunity level is the highest level determined from these sources.

(2) Where flood levels are not available from Council's Floodwise Property Report such as overland flow flooding, the applicant will need to engage a suitably qualified Registered Professional Engineer Queensland with expertise in undertaking flood studies to estimate the relevant flood level.

Note (A) A waterway including any indicated on the planning scheme maps is defined as any element of a river, creek, stream, gully or drainage channel, including the bed and banks typically with a catchment area greater than 30ha.

Note (B) Overland flow flooding usually occurs when the capacity of the underground piped drainage system is exceeded or when the overland flow path is blocked. Localised overland flow paths generally traverse along roadways, and in the older established areas, through private properties within existing low points and gullies. A localised overland flow path is not characterised by well-defined bed and banks and the contributing catchment is generally less than 30ha.

Note—A flood event with an AEP of 1% is the equivalent of a 100 year ARI flood event.

Note—A flood event with an AEP of 2% is the equivalent of a 50 year ARI flood event.

Appendix F
BCC Erosion Hazard Assessment Form

BRISBANE CITY COUNCIL ABN 72 002 765 795

Erosion Hazard Assessment

Brisbane City Council (BCC), *Erosion Hazard Assessment* form must be read in conjunction with the *Erosion Hazard Assessment- Supporting Technical Notes* (June 2014 or later version) for explanatory terms and Certification information.

What is an Erosion Hazard Assessment?
Soil erosion and sediment from urban development, particularly during construction activities, is a significant source of sediment pollution in Brisbane's waterways. The Erosion Hazard Assessment determines whether the risk of soil erosion and sediment pollution to the environment is 'low', 'medium' or 'high'.

When is the EHA required?
An Erosion Hazard Assessment form must be completed and lodged with BCC for any Development Application (ie MCU or ROL) that will result in soil disturbance OR Operational Works or Compliance Assessment Application for 'Filling' or Excavation.

Failure to submit this form during lodgement of an application may result in assessment delays or refusal of the application.

Privacy Statement
The personal information collected on this form will be used by Brisbane City Council for the purposes of fulfilling your request and undertaking associated Council functions and services. Your personal information will not be disclosed to any third party without your consent, unless this is required or permitted by law.

Assessment Details

1 Please turn over and complete the erosion hazard assessment.

2 Based on the erosion hazard assessment overleaf, is the side:

☐ ***A 'low' risk site***

Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at https://waterbydesign.com.au/download/erosion-sediment-control-for-small-construction-sites

☑ ***A 'medium' risk site***

If the development is approved, the applicant will need to engage a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy.

☐ ***A 'high' risk site***

If the development is approved, the applicant will need to engage a RPEQ and CPESC to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy. The plans and program will need to be certified by a CPESC.

3 Site Information and Certification

Application number (if known)

A006633380

Site address

70 Merivale Street, South Brisbane

Postcode 4101

I certify that:

☑ I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.

☑ I am a person with suitable qualifications and/or experience in erosion and sediment control.

☑ The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.

☑ The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.

☑ I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by *(Print name)*

Michael Lepelaar

Certifier's signature

Date

10 / 04 / 2026

Stock Code no. 262006

Assessment Table

Table 1: Low Risk Test

		Yes	*No*
1.1	is the area of land disturbance > 1000 m2?	☑	☐
1.2	does any land disturbance occur in a BCC mapped waterway corridor?	☐	☑
1.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%?	☐	☑
1.4	does any land disturbance occur below 5 m AHD?	☑	☐
1.5	does development involve endorsement of a staging plan?	☐	☑
1.6	is there an upstream catchment passing through the site > 1 hectare?	☐	☑

If you answered ***'No'*** to **ALL** of these questions, then the site is **low risk** with respect to erosion and sediment control. (Do not continue to Table 2)

If you answered ***'Yes'*** to **ANY** of these questions, then proceed to ***Table 2***

Table 2: Medium Risk Test

		Yes	*No*
2.1	is the area of land disturbance > 1 hectare?	☐	☑

If ***'No'*** then the site is **medium risk** with respect to erosion and sediment control. (Do not continue to Table 3)

If ***'Yes'*** then proceed to ***Table 3***

Table 3: High Risk Test

		Yes	*No*
3.1	is there an upstream catchment passing through the site > 1 hectare?	☐	☐
3.2	does any land disturbance occurs in a BCC mapped waterway corridor?	☐	☐
3.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%?	☐	☐

If you answered ***'No'*** to **ALL** of these questions, then the site is also **medium risk** with respect to erosion and sediment control.

If you answered ***'Yes'*** to **ANY** of these questions, then the site is **high risk** with respect to erosion and sediment control.

Appendix G
ADG Stormwater IFC Drawings – Novotel

XREF'S:

LEGEND

- 12.0 — FINISHED SURFACE CONTOURS
- EXISTING NOMINAL KERB LINE
- SWD — EXISTING STORMWATER
- S — EXISTING SEWER
- W — EXISTING WATER
- OE — EXISTING OVERHEAD ELECTRICITY
- T — EXISTING TELECOMMUNICATIONS
- X X X — ABANDONED SERVICE
- PROPOSED STORMWATER DRAINAGE
- S — PROPOSED SEWER
- W — PROPOSED WATER
- PROPOSED BUILDING OVER
- TE — PROPOSED 'TYPE E' KERB & CHANNEL IN ACCORDANCE WITH BCC STD DRG BSD-2001
- 1/1 — STRUCTURE LABEL
- EXISTING ROAD
- PROPOSED CONCRETE FOOTPATH IN ACCORDANCE WITH BCC STD DRGS BSD-5212. SURFACE TREATMENT AS PER LANDSCAPE ARCHITECT DRAWINGS
- PROPOSED PAVEMENT REINSTATE TO BCC STANDARDS AND SPECIFICATIONS
- PROPOSED TYPE B2 DRIVEWAY CROSSOVER IN ACCORDANCE WITH BCC STD DRG. BSD-2021.
- PROPOSED BASEMENT WALL

ROADWORKS & DRAINAGE NOTES

1. ALL ROADWORKS & DRAINAGE CONSTRUCTION AND TESTING TO BE IN ACCORDANCE WITH BRISBANE CITY COUNCIL DEVELOPMENT GUIDELINES, DRAWINGS AND SPECIFICATIONS.
2. ALL ROOFWATER PITS SHALL BE PROVIDED WITH 225ø STUB TO SERVICE THE LOT AT 50mm ABOVE INVERT OF PIT.
3. ALL STORMWATER DRAINAGE PIPES SHALL BE:
   a)225 DIA UPVC SN8 RUBBER RING JOINTED
   b)300 DIA AND GREATER CLASS 2 OR 3 R.C. RUBBER RING JOINTED
4. TRENCH BACKFILL UNDER PAVEMENT TO BE COMPACTED TO 100% STANDARD DRY DENSITY (AS1289 5.1.1) IN LAYERS NOT EXCEEDING 150mm OF CBR 15 MATERIAL OR APPROVED EQUIVALENT.
5. ALL FOOTPATHS TO BE CONSTRUCTED IN ACCORDANCE WITH BCC STD. DRG. BSD-5202
6. EXISTING KERB ADAPTORS TO BE REMOVED. REFER TO HYDRAULIC DRAWINGS FOR INTERNAL STORMWATER DRAINAGE.
7. ALL MANHOLES TO BE PROVIDED WITH BOLT DOWN LIDS.

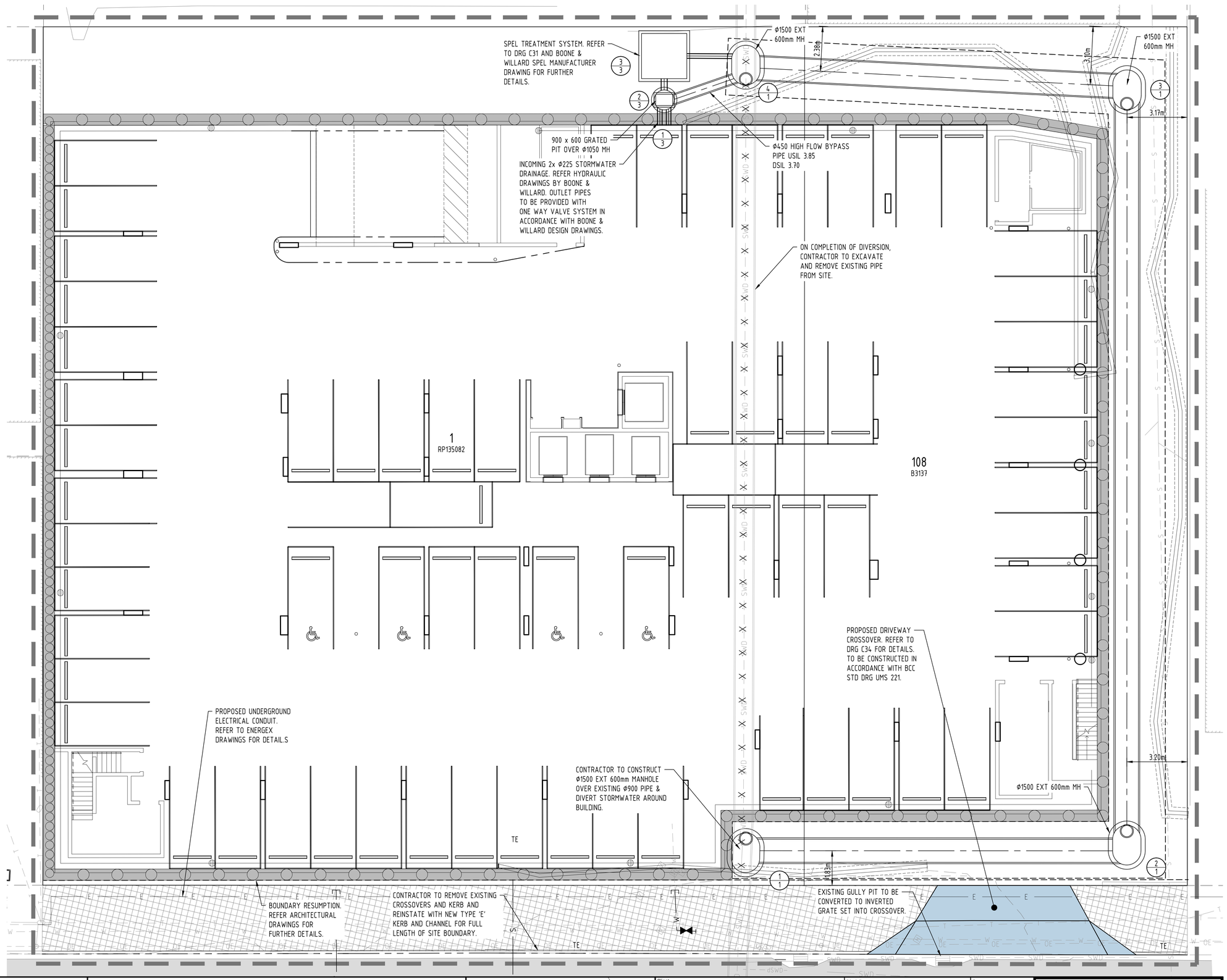
LANDSCAPE ARCHITECT COORDINATION

ALL STREETSCAPE AND CROSS LINK PATHWAY WORKS TO BE BUILT REFERENCING LANDSCAPE DRAWINGS. ANY DISCREPANCY BETWEEN CIVILS AND LANDSCAPE ARCHITECT DRAWINGS ARE TO BE HIGHLIGHTED TO SUPERINTENDENT PRIOR TO CONSTRUCTION.

CAUTION

THE LOCATION & DEPTH OF EXISTING SERVICES AS SHOWN IS BASED ON INFORMATION OBTAINED FROM LANDPARTNERS DATED 13.10.15 AND COUNCIL RECORDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE ACTUAL LOCATION AND DEPTH OF EXISTING SERVICES PRIOR TO CARRYING OUT ANY EXCAVATION, TRENCHING OR TUNNELLING WORKS.

ISSUED FOR
CONSTRUCTION



Rev	Date	Description	By	Chk
B	24.11.16	ISSUED FOR CONSTRUCTION	BP	ML
A	26.07.16	Issued for Approval	BP	ML
03	17.12.15	Design Development - Issued for Information	BP	ML
02	04.12.15	Design Development - Issued for Information	BP	ML
01	18.11.15	PRELIMINARY - Issued for Information	LDV	ML

0 1 2 3 4 5m
SCALE 1:100
AT ORIGINAL SIZE (A1)

Brisbane Office
584 Milton Road (Cnr Sylvan Road),
Toowong, Queensland 4066, Australia
PO Box 1492, Toowong BC, Queensland 4066
T 1300 657 402 F +61 7 3871 2266
E info@adgce.com W www.adgce.com
AUSTRALASIA / ASIA / EUROPE / MIDDLE EAST

Client: LIU, HUNG, CHEN & CHIU PARTNERSHIP
Project Name: PROPOSED 4 STAR HOTEL
38 - 40 CORDELIA STREET
SOUTH BRISBANE, QLD

Discipline: CIVIL
Status: CONSTRUCTION
Designed By: HD
Checked By: ML
Approved By: ML
Project No.: 17739
Drawn By: BP
Scale at A1: 1:100

Title: ROADWORKS & DRAINAGE LAYOUT PLAN
Drawing No.: C30
Revision: B

FULL SIZE ON ORIGINAL 0 10 20 30 40 50 60 70 80 90 100mm

PLOT DATE: 11/24/2016 1:13 PM FILENAME: J:\17000\17739\CVL\DWG\17739_C30-C33_RDWKS_DRAI_LONG_CALCS_DETS.DWG

Adelaide

Level 6, 19 Grenfell Street
Adelaide SA 5000

Phone: 1300 657 402

Email: info@adgce.com

Brisbane

596 Milton Road
Toowong, QLD 4066

Postal: PO Box 1492 Toowong
BC QLD 4066

Phone: 1300 657 402

Email: info@adgce.com

Canberra

Level 1, 68 Northbourne Avenue
Canberra, ACT, 2600, Australia

Phone: 1300 657 402

Email: info@adgce.com

Darwin

Suite G01, Manunda Place
38 Cavenagh Street
Darwin, NT 0800

Phone: 1300 657 402

Email: info@adgce.com

Gold Coast

Level 6, 12 – 14 Marine Parade
Southport, QLD 4215

Postal: PO Box 208
Southport, QLD 4215

Phone: 1300 657 402

Email: info@adgce.com

Hobart

Tenancy 1B, Level 1,
199 Collins Street
Hobart TAS 7000

Phone: 1300 657 402

Email: info@adgce.com

Melbourne

321 / 838 Collins Street
Docklands, VIC 3008

Phone: 1300 657 402

Email: info@adgce.com

Perth

Suite 4, Level 1, 6 Centro Avenue,
Subiaco WA 6008

Phone: 1300 657 402

Email: info@adgce.com

Sunshine Coast

Level 3, 2 Emporio Place
Maroochydore, QLD 4558

Postal: PO Box 5014
Maroochydore BC,
QLD 4558

Phone: 1300 657 402

Email: info@adgce.com

Sydney

Suite 22.02, Level 22,
111 Pacific Highway,
North Sydney, NSW, 2060

Phone: 1300 657 402

Email: info@adgce.com

Toowoomba

Tenancy 8, 158 Margaret Street
Toowoomba QLD 4350

Phone: 1300 657 402

ADG Engineers
www.adgce.com