KEY

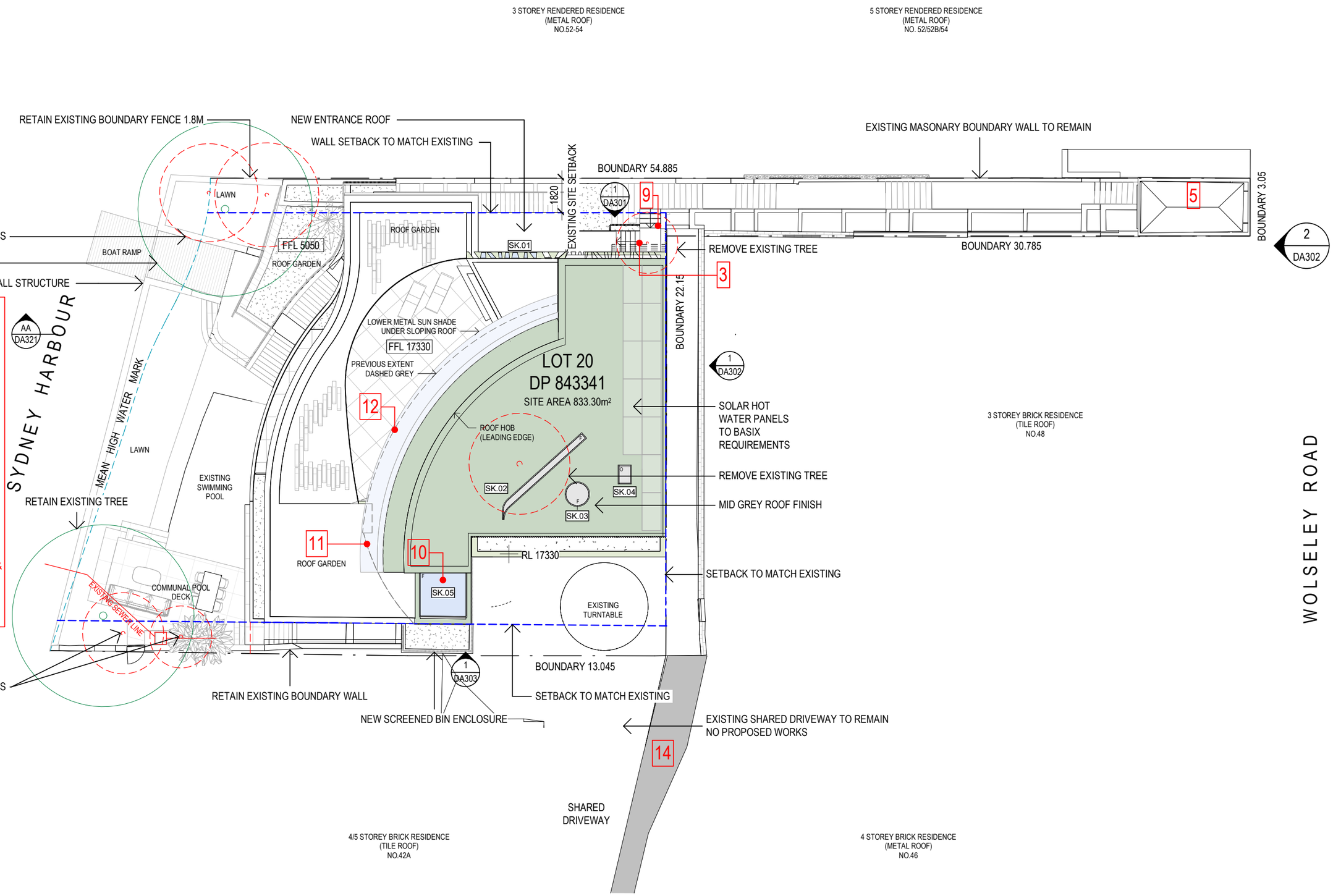
- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED



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DEVELOPMENT APPLICATION
SITE PLAN / ROOF PLAN

GENERAL NOTES

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DA101 | DWG NO. 004 | REV D

DRAWING
SITE PLAN / ROOF PLAN

Drawn: JM
Checked: CT/BS
Scale: 1 : 200 @A3
2021/03/05

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

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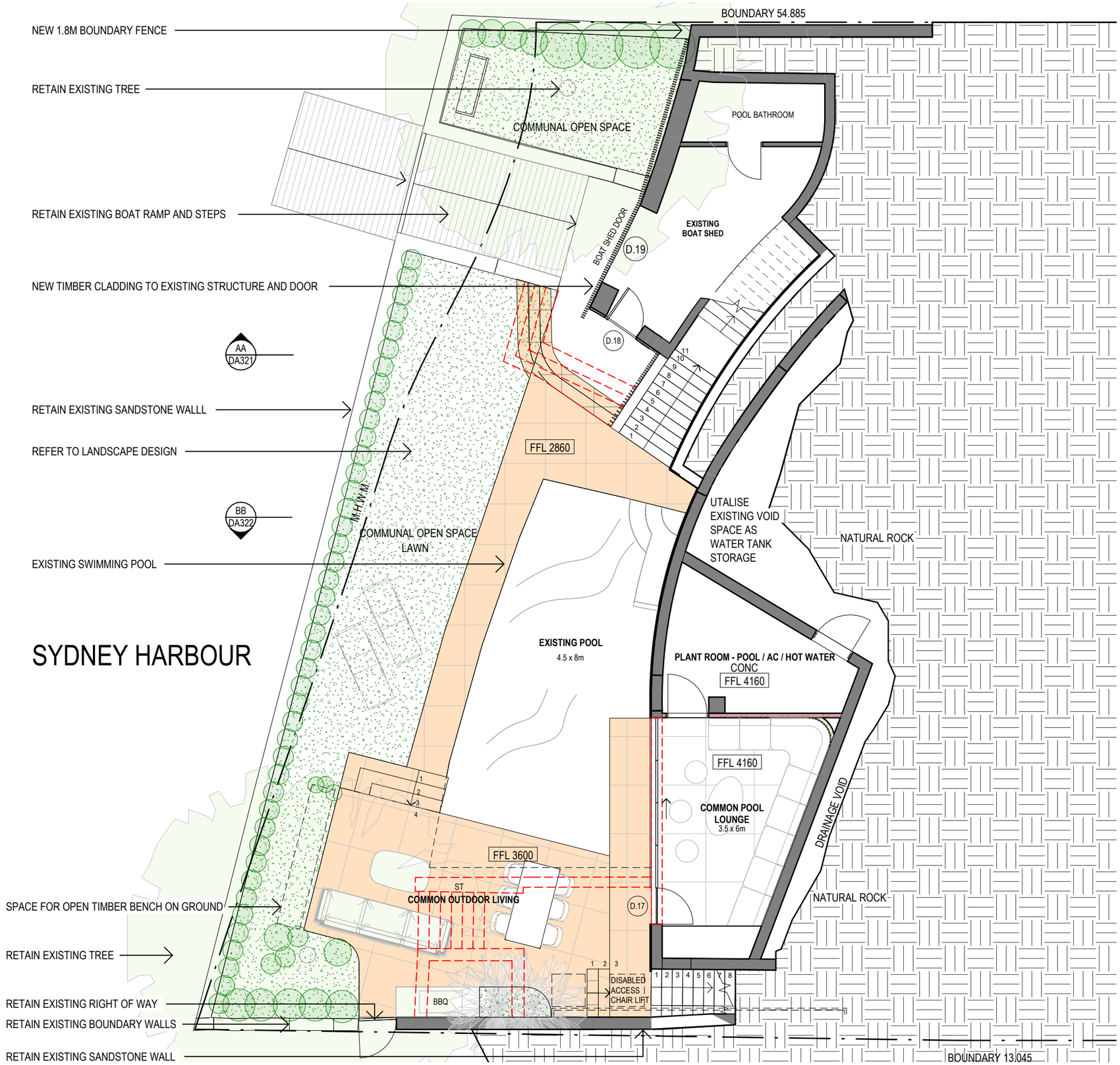
- R+P(L) - RENDER & PAINT LIGHT



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DEVELOPMENT APPLICATION
POOL AND PLANT SPACE

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PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA201		A

DRAWING
POOL AND PLANT SPACE

Drawn: JM
Checked: CT/BS
Scale: 1 : 100 @A3
Date: 2021/03/05

019

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
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LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
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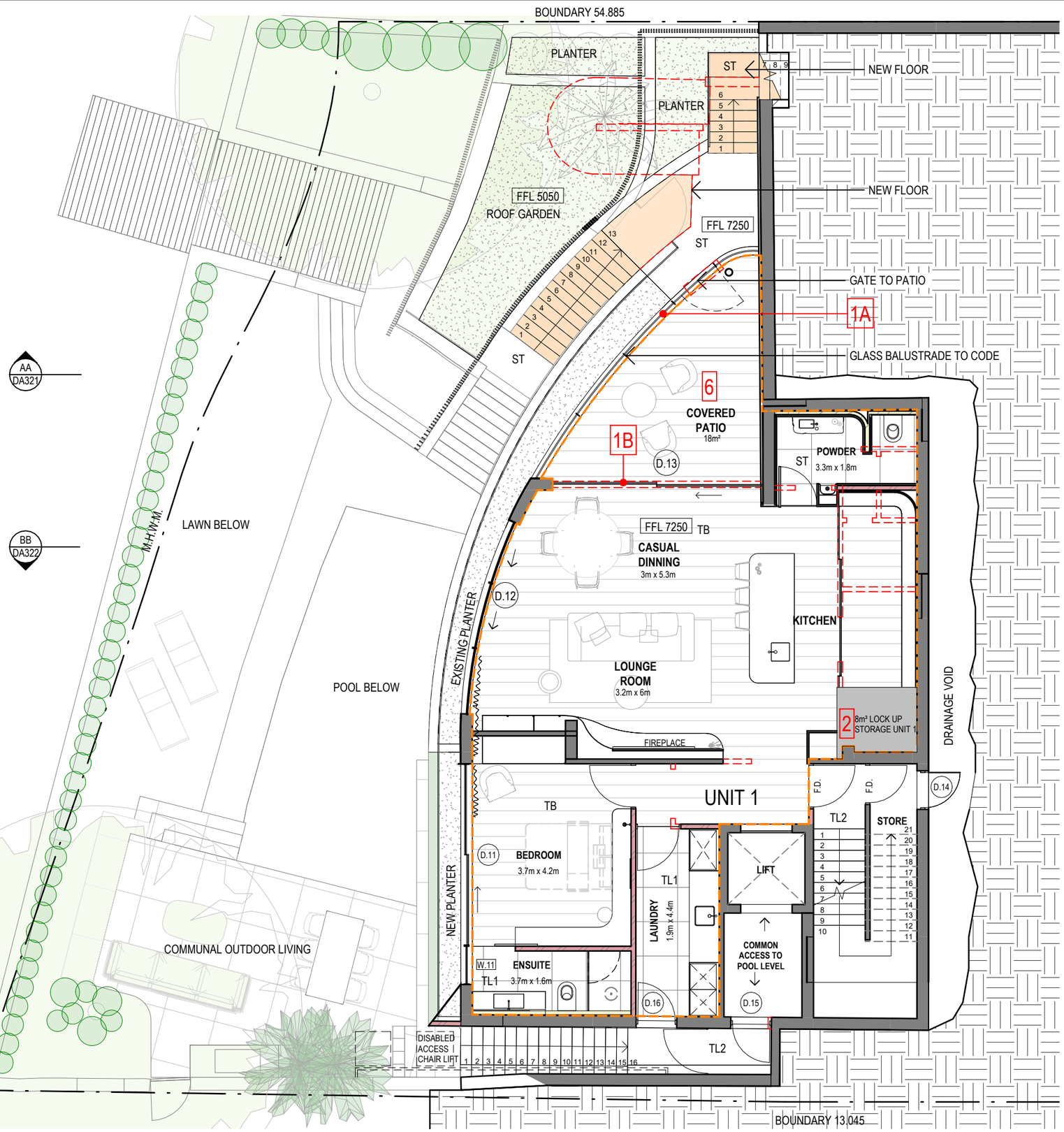
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED



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DEVELOPMENT APPLICATION
UNIT 1

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PROJECT
50 WOLSELEY ROAD POINT PIPER

DRAWING
UNIT 1

PROJECT NO.	STAGE	DWG NO.	REV
181	DA202	020	A

Drawn: JM
Checked: CT/BS
Scale: As indicated @A3
2021/03/05

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
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- R+P(D) - RENDER & PAINT DARK
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LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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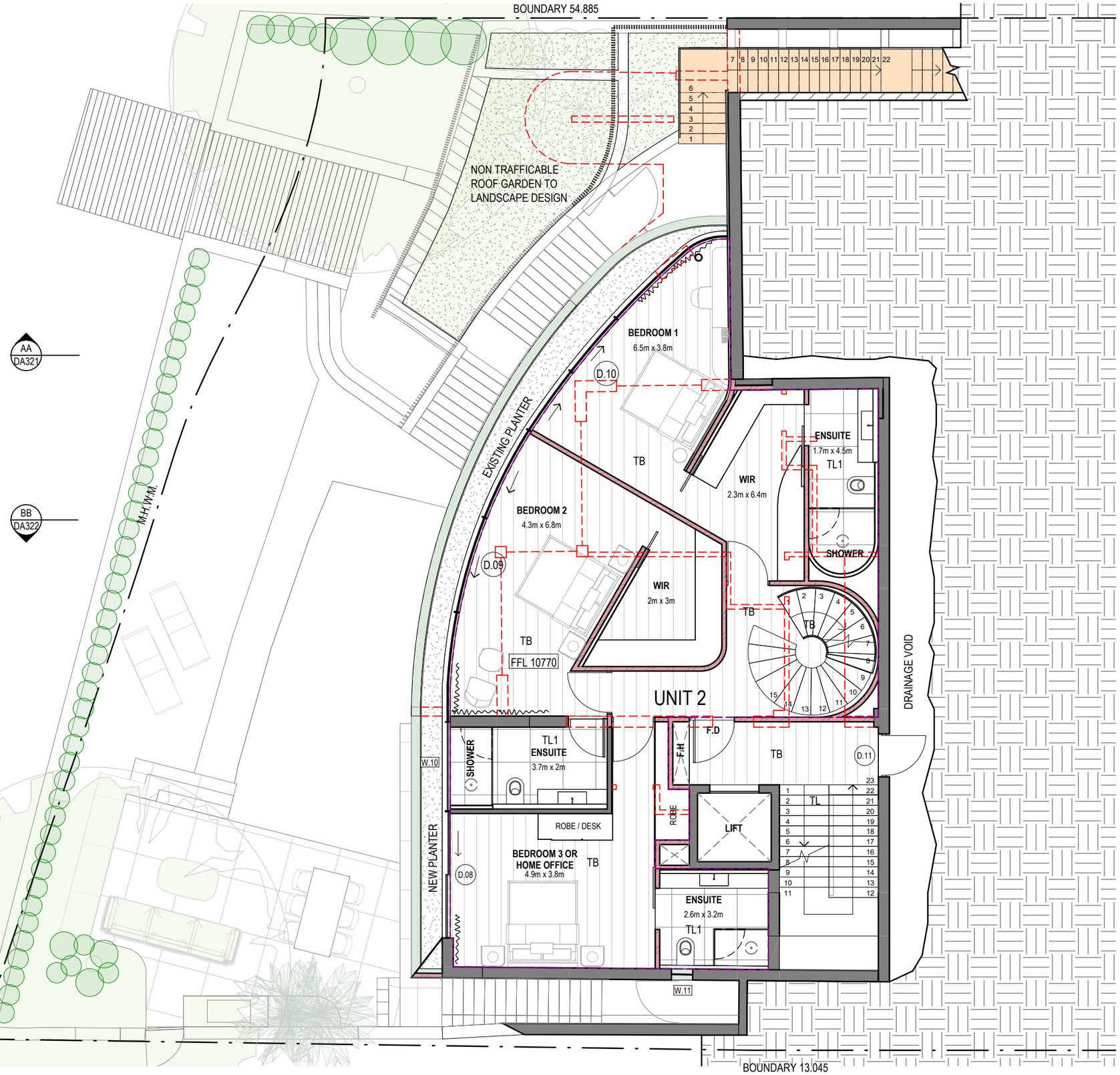

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DEVELOPMENT APPLICATION
UNIT 2 - LOWER LEVEL

GENERAL NOTES

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PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DA203 | DWG NO. 021 | REV B

DRAWING
UNIT 2 - LOWER LEVEL

Drawn: JM
Checked: CT/BS
Scale: As indicated @A3
2021/03/05

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
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LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
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2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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13.	DRIVEWAY WIDENED

PROPOSED PLANTER BOXES
NEW STAIR
RETAIN BOUNDARY WALL
BOUNDARY 54.885
EXTEND EXSITING FLOOR
EXISTING SETBACK TO REMAIN
PLANTER
FFL 14270
PLANTER
W.08
ACCESS TO UNIT 1
1 DA301
ACCESS TO UNIT 3
UP
ART & FIREPLACE
LOW BENCH
FIXED SAFETY GLASS
FIXED SAFETY GLASS
D.04
3
9
LANDSCAPING
CLOTHES LINE
RETAIN NEIGHBORING PROPERTY WALL
PROPOSED 1.8M FENCE
FORMAL LOUNGE
5.3m x 5.6m
POWDER ROOM
3.9m x 1.5m
ST
art
art
PANTRY
IRON
SETBACK TO MATCH EXISTING
PLANTER
KITCHEN
4.5m x 6.5m
ST
ST
SCULLERY
1.2m x 7.2m
BBQ GRILLE
RETAIN NEIGHBORING PROPERTY WALL
1 DA302
AA DA321
BB DA323
MEAN HIGH WATER MARK
ST
UNIT 2
STEP
FFL 14480
STORAGE
1.1m x 2.4m
8m³ LOCK UP STORAGE UNIT 2
2
1A
OUTDOOR LIVING
5m x 7.6m
FFL 14270
D.03
1900
2500
BIKE RACK X 3
TO AS 2890.3
MOTORBIKE PARKING
TO AS 2890.2.4.7
TL1
RETAIN EXISTING WALL
FORMAL DINING
5.6m x 5.4m
FFL 14270
1200
PLANT SPACE
F/D
1A
OUTDOOR DINING
UNIT 2 INTERNAL STAIR
F/D
UNIT 1
UNIT 2
UNIT 3
FFL 14430
GARAGE
TL2
BOUNDARY 22.15
ST
D.02
F.H
F/D
TL2
SHARED FOYER
F/D
FFL 14430
FINISHED FLOOR LEVEL TO FINISHED CEILING = 2.6M
10000
RETAIN EXISTING WALL
PLANTER
CASUAL LOUNGE
5.5m x 7.5m
art
LIFT
TL2
D.07
EXISTING SETBACK TO REMAIN
LIFT CONTROL ROOM
TL2
FFL 14430
RETAIN EXISTING WALL
EXISTING TURN TABLE
FFL 14440
TV
RETAIN EXISTING SIDE WALL
BIN STORE FOR UNITS 1-3
EXSITING PLANTER TO BE REPLACED WITH BIN STORE FOR UNITS
BOUNDARY 13.045
1 DA303

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DEVELOPMENT APPLICATION
UNIT 2 - UPPER LEVEL

GENERAL NOTES

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DA204 | DWG NO. 022 | REV D

DRAWING
UNIT 2 - UPPER LEVEL

Drawn: JM
Checked: CT/BS
Scale: As indicated @A3
2021/03/05

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
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5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
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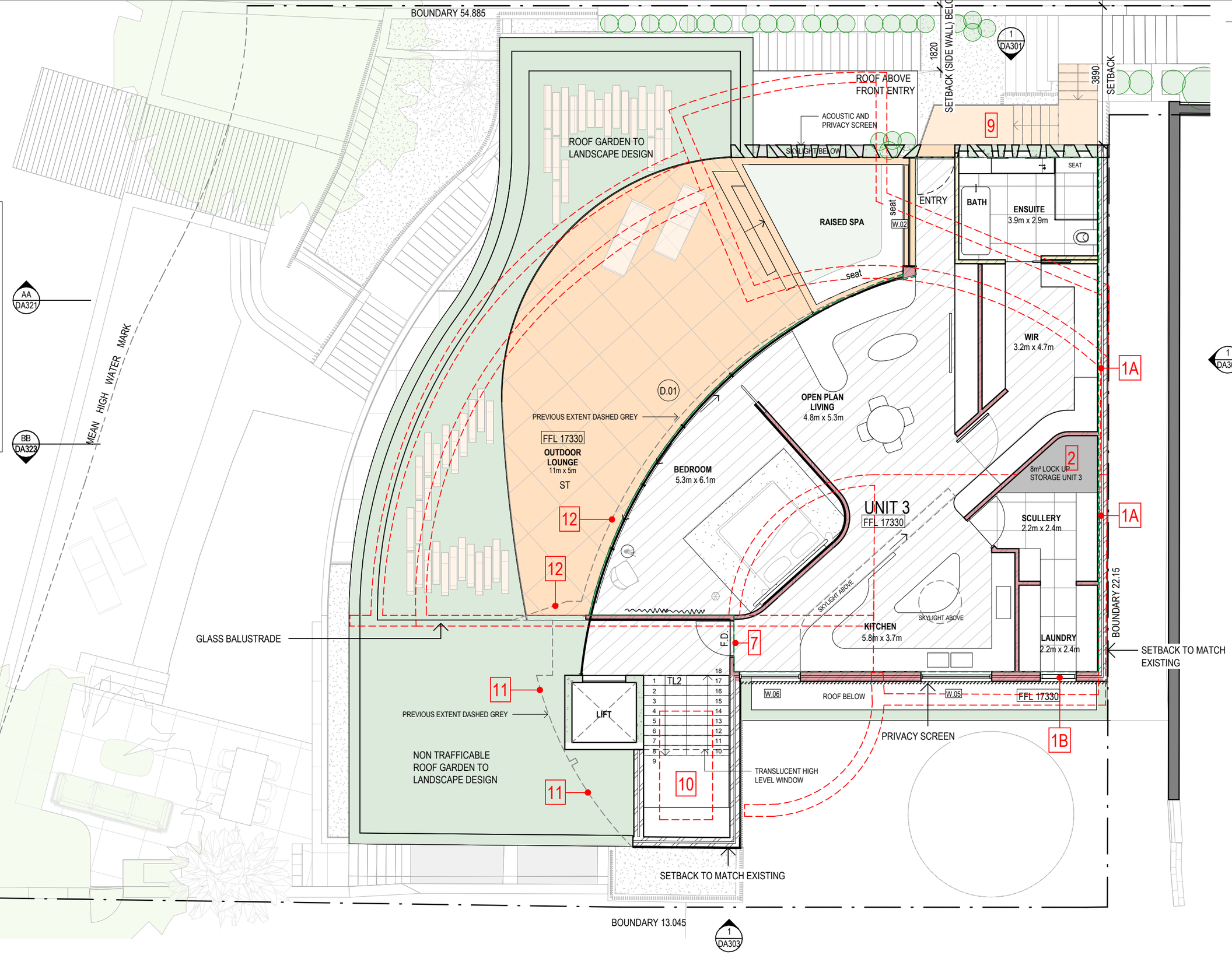

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DEVELOPMENT APPLICATION
UNIT 3

GENERAL NOTES

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DWG NO. DA205 | REV B

DRAWING
UNIT 3

Drawn: JM
Checked: CT/BS

Scale: As indicated @A3
023
2021/03/05

5 STOREY
RENDERED BUILDING No.52B,52,54

RETAIN EXISTING
BOUNDARY WALL

BOUNDARY 54.885

RETAIN EXISTING
BOUNDARY WALL

RETAIN EXISTING
ENTRY

ST

UP

BOUNDARY 30.785

RETAIN EXISTING
PLANTER

RETAIN EXISTING
PLANTER

NEW FINISH TO
EXISTING STAIRS

RETAIN EXISTING
GLASS BRICKS

5
EXT. ENTRY

GAS / WATER METER

BOUNDARY 3.05

2
DA302

4
BRICK GARAGE
(TILE ROOF)

WOLSELEY ROAD

3 STOREY BRICK RESIDENCE
No.48

BB
DA323

BOUNDARY 22.15

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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MATERIALS

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KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING

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DEVELOPMENT APPLICATION
ENTRY LEVEL PLAN

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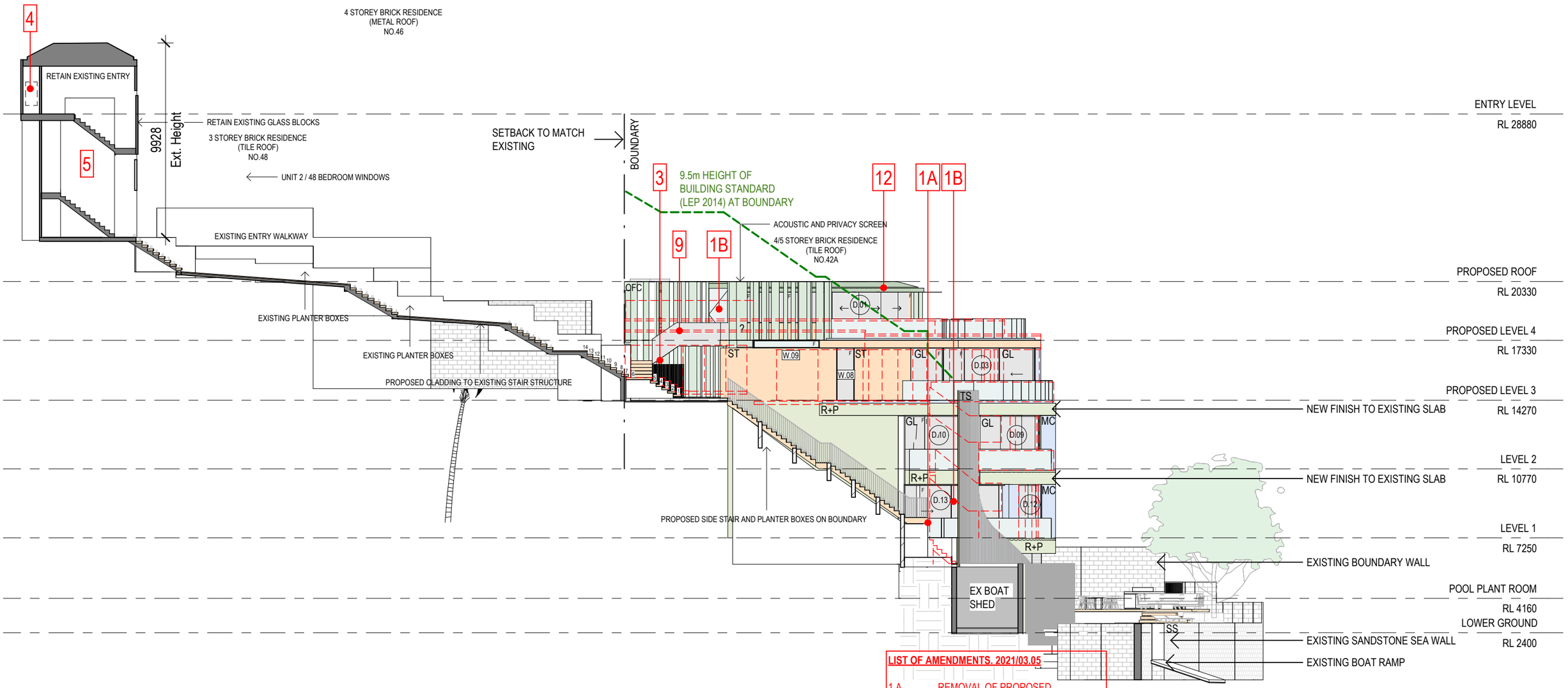
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DWG NO. DA206 | REV A

DRAWING
ENTRY LEVEL PLAN

Drawn: JM
Checked: CT/BS

Scale: As indicated @A3
024
2021/03/05



1 North Elevation

1 : 200

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

MATERIALS

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DEVELOPMENT APPLICATION
NORTH ELEVATION

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

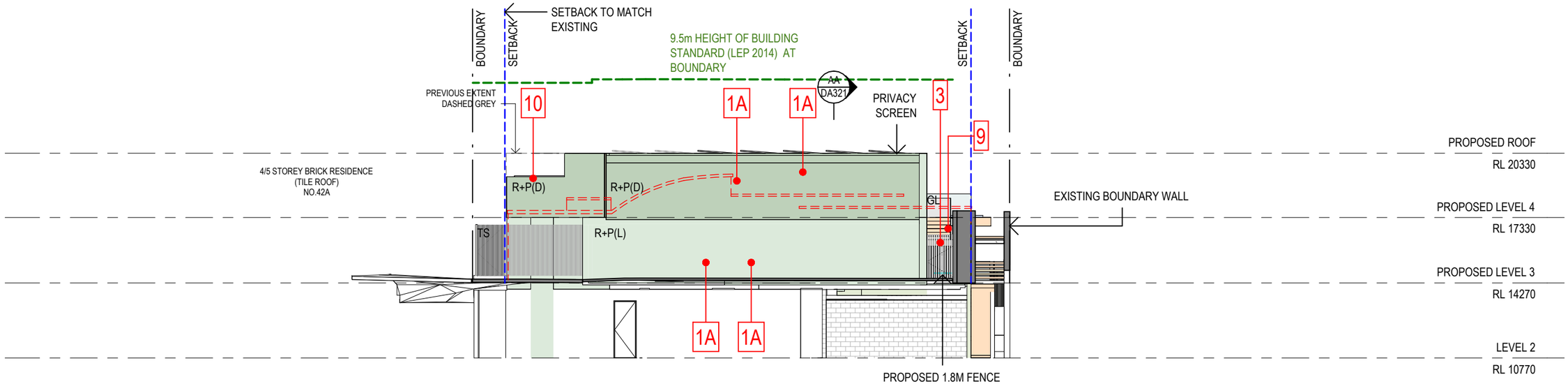
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA	301	D

DRAWING
NORTH ELEVATION

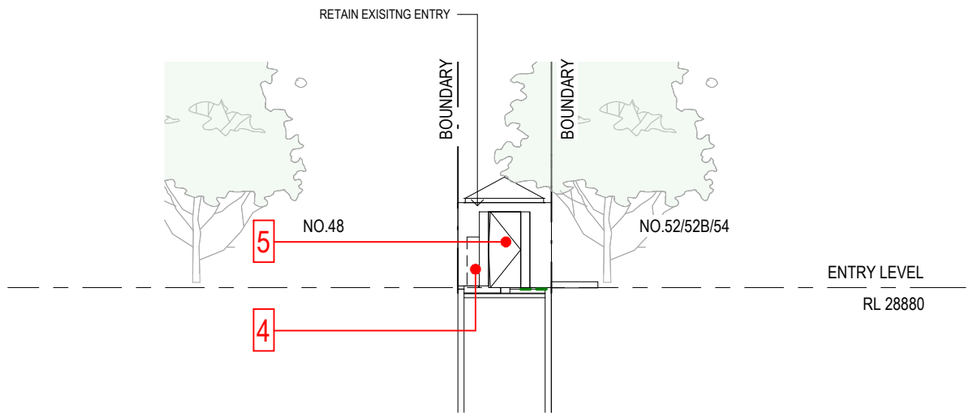
Drawn: JM
Checked: CT/BS

Scale: 1 : 200 @A3
025
2021/03/05



1 East Elevation

1 : 200



2 Street Level Elevation

1 : 200

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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KEY

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- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

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- R+P(L) - RENDER & PAINT LIGHT

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DEVELOPMENT APPLICATION

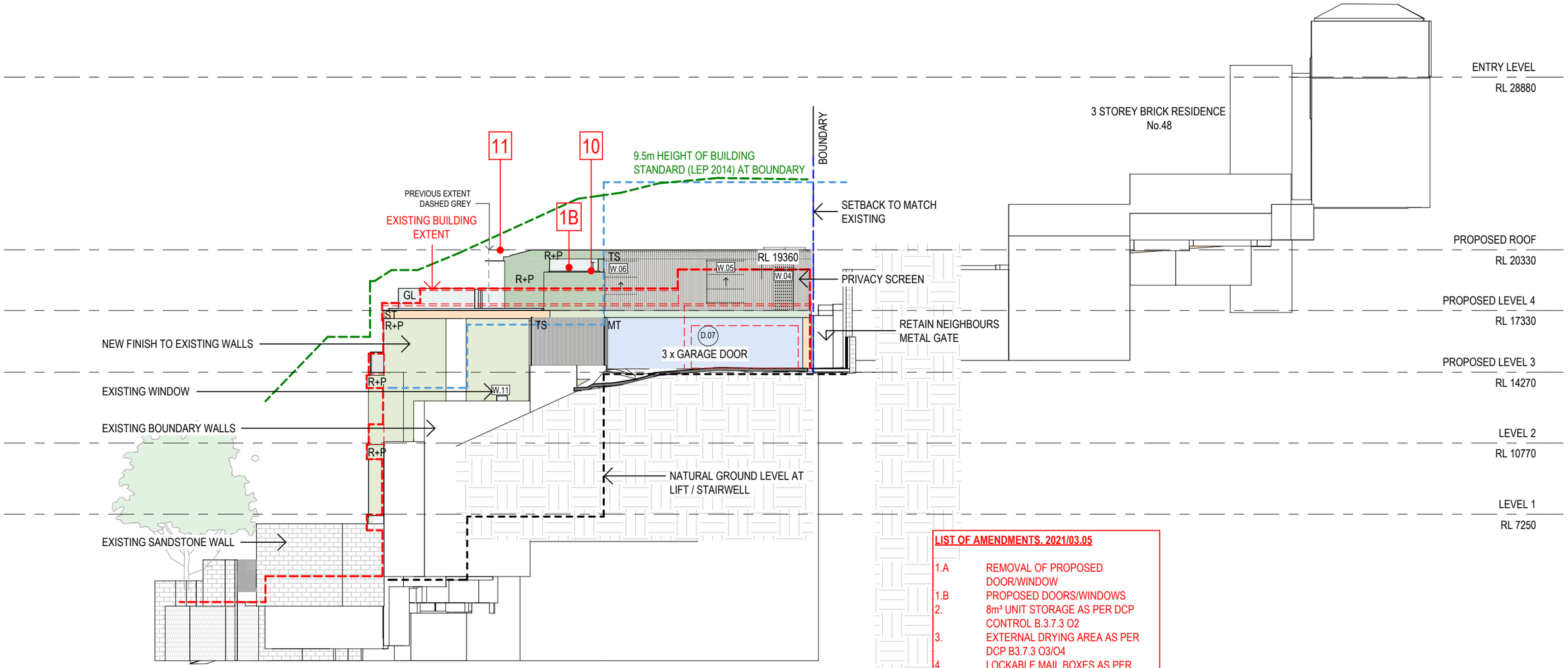
EAST ELEVATION & STREET LEVEL ELEVATION

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA302	026	C

DRAWING
EAST ELEVATION & STREET LEVEL ELEVATION

Drawn: JM
Checked: CT/BS
Scale: 1 : 200 @A3
2021/03/05



1 South Elevation

1 : 200

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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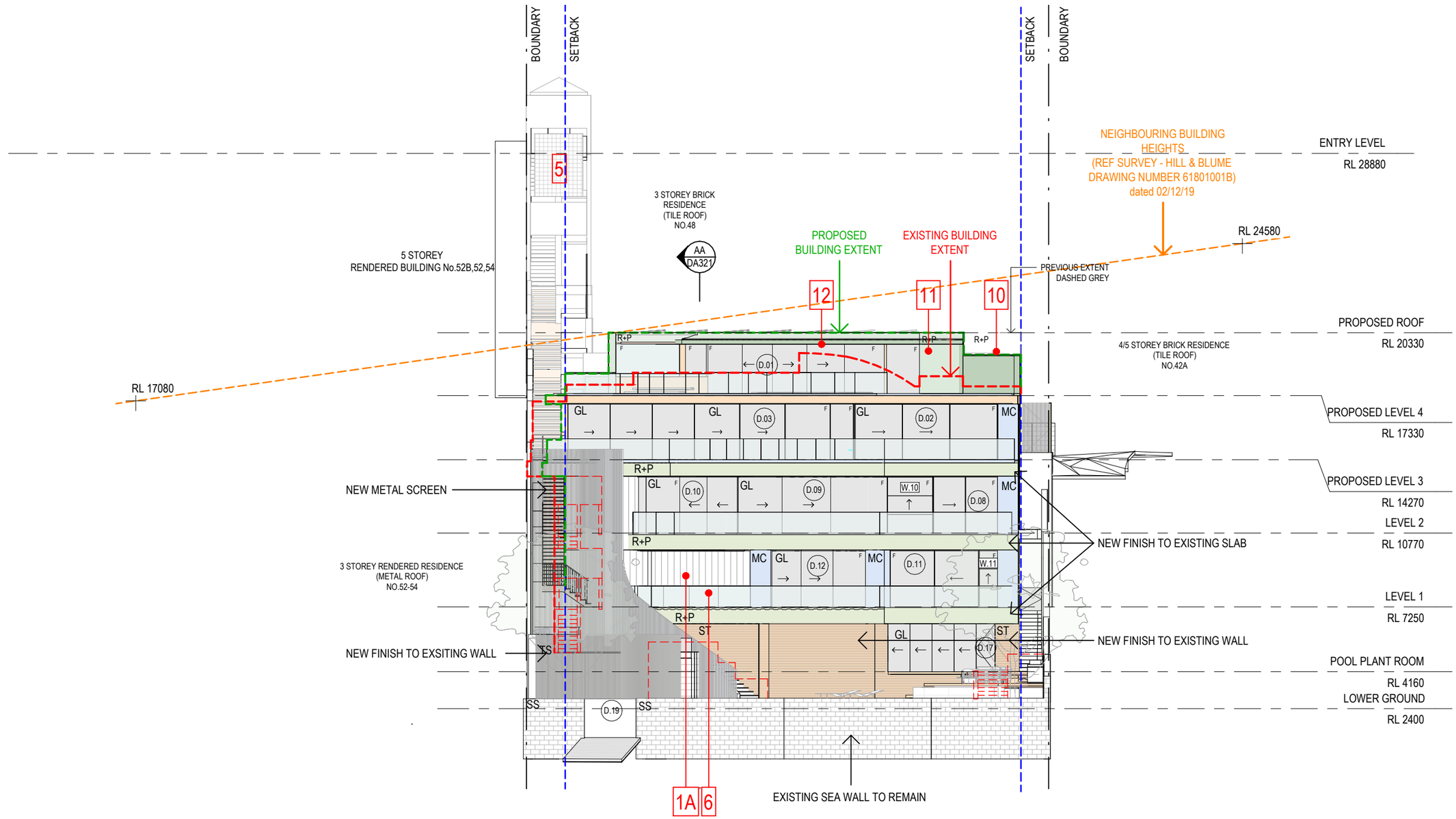
DEVELOPMENT APPLICATION
SOUTH ELEVATION

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA303	027	B

DRAWING
SOUTH ELEVATION

Drawn: JM
Checked: CT/BS
Scale: 1 : 200 @A3
Date: 2021/03/05



1 WEST ELEVATION

1 : 200

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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DEVELOPMENT APPLICATION
WEST ELEVATION

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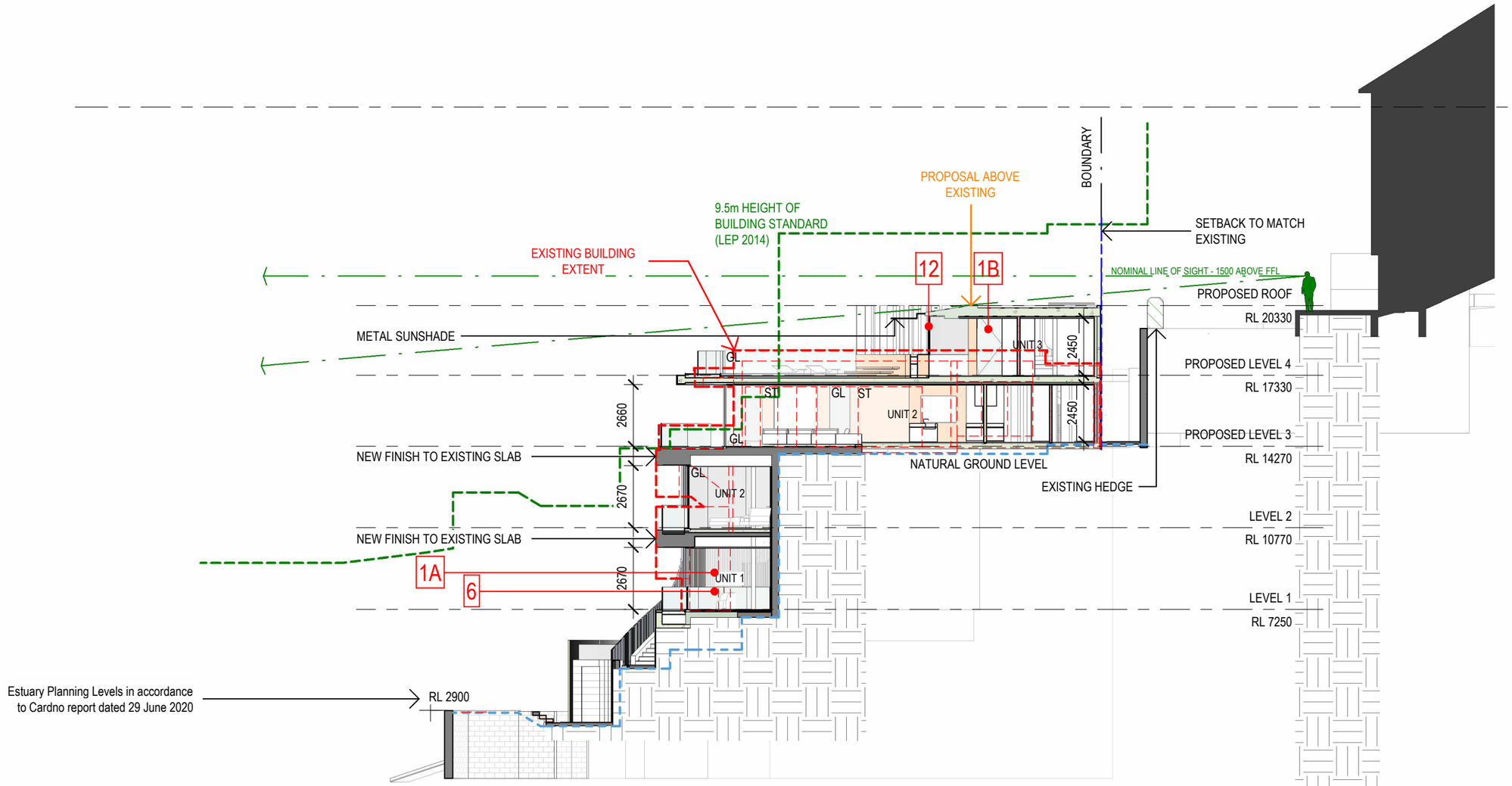
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA304	028	D

DRAWING
WEST ELEVATION

Drawn: JM
Checked: CT/BS
Scale: 1 : 200 @A3
Date: 2021/03/05



AA SECTION AA

1 : 200

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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13.	DRIVEWAY WIDENED

KEY

- BUILDING ENVELOPE
- DEMOLITION OF EXISTING
- LEP HEIGHT PLANE
- NATURAL GROUND LEVEL
- BOUNDARY

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
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DEVELOPMENT APPLICATION
SECTION - AA

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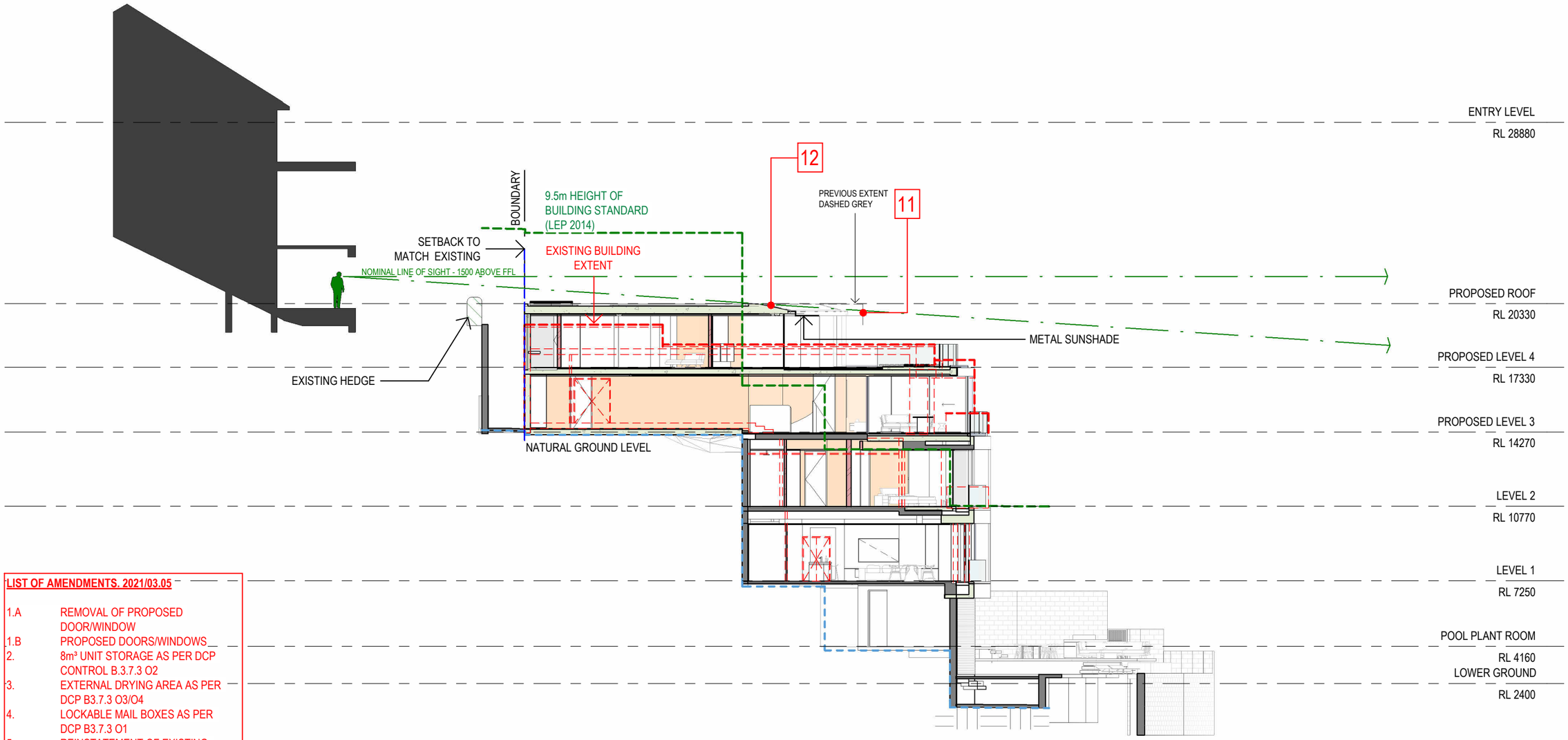
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA	321	C

DRAWING
SECTION - AA

Drawn: JM
Checked: CT/BS

Scale: 1 : 200 @A3
029
2021/03/05



LIST OF AMENDMENTS. 2021/03.05

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1.B	PROPOSED DOORS/WINDOWS__
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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KEY

- BUILDING ENVELOPE
- DEMOLITION OF EXISTING
- LEP HEIGHT PLANE
- NATURAL GROUND LEVEL
- BOUNDARY

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
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DEVELOPMENT APPLICATION
SECTION - BB

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA322	030	A

DRAWING
SECTION - BB

Drawn: JM
Checked: BS

Scale: 1 : 200 @A3
Date: 2021/03/05

WHITE PAINT AND RENDER
EXTERNAL WALLS (EXSITING LEVELS)

DARK PAINT AND RENDER
EXTERNAL WALLS (NEW TOP LEVEL)

METAL VERTICAL SCREEN
EXTERIOR CLADDING

TIMBER BOARDS
FLOORING AND CEILINGS

COCNCRETE FINS
EXTERIOR

STONE
TILE FLOORING

STONE CLADDING
EXTERNAL WALLS

GLASS
WINDOWS AND BALUSTRADES

PLANTERS
BUILDING FACADE

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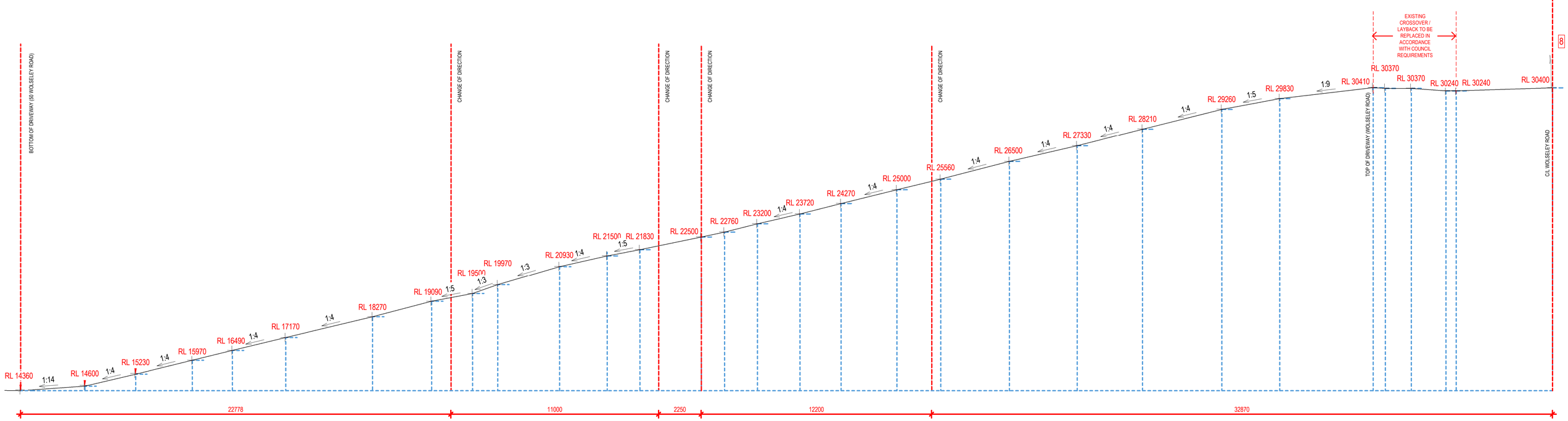
DEVELOPMENT APPLICATION
MATERIAL BOARD

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DA120 | DWG NO. 006 | REV A

DRAWING
MATERIAL BOARD

Drawn: JM
Checked: CT/BS
Scale: @A3
Date: 2020/05/29



LIST OF AMENDMENTS. 2021/03.05

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

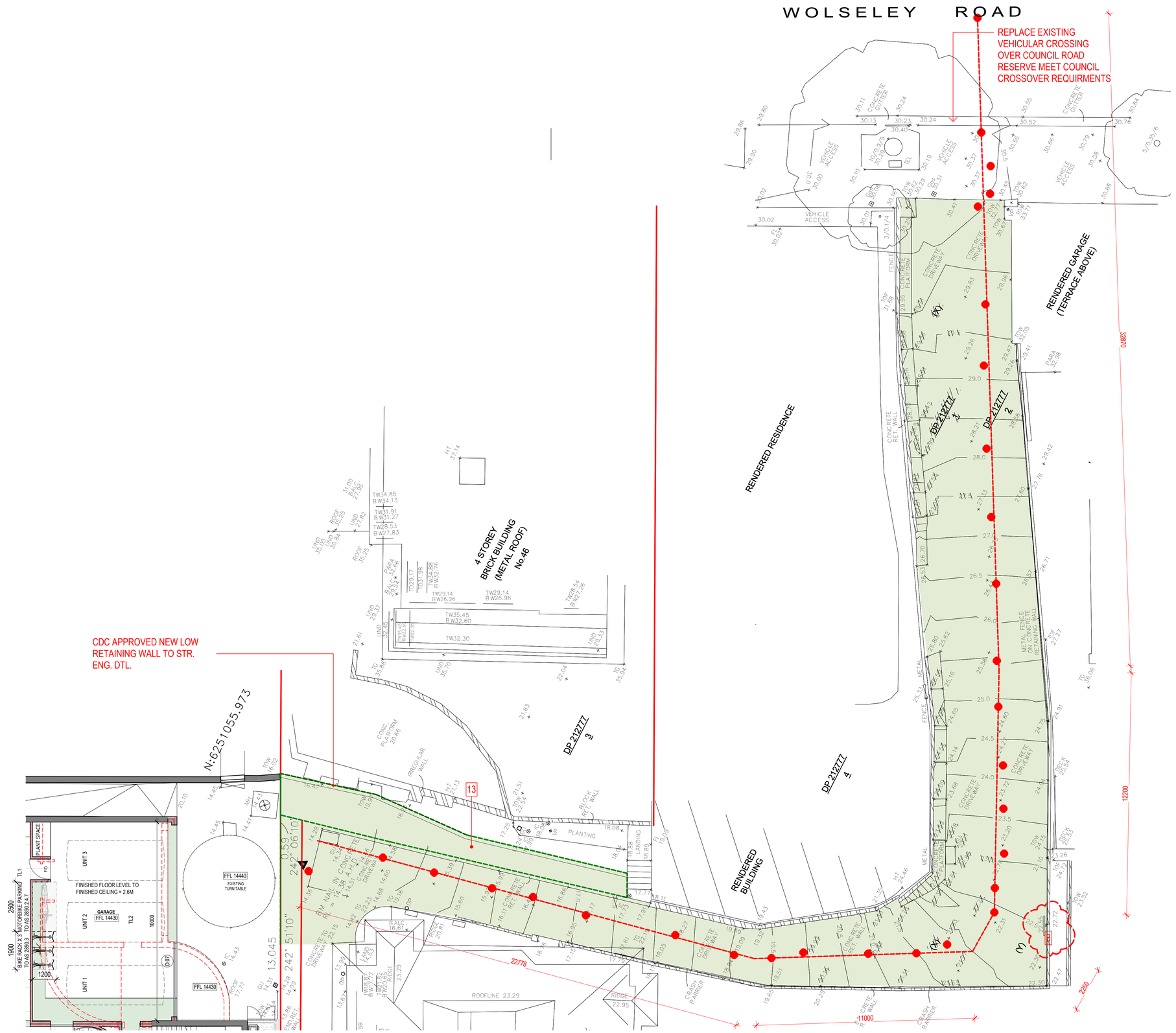
DATE	REV	AMENDMENT
2020/12/01	A	Stop the Clock Response
2021/03/05	B	Submission for NSWLEC - Responce to Council Statement of Facts and Contentions

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA	333	B

DRAWING
ROW DRIVEWAY LONGITUDINAL SECTION

Drawn: CT
Checked: BS
Scale: As indicated @A1
Date: 2021/03/05



LIST OF AMENDMENTS. 2021/03.05	
1.A	REMOVAL OF PROPOSED DOOR/WINDOW
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2.	8m² UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
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13.	DRIVEWAY WIDENED

KEY

- AREA SHADED GREEN INDICATES CDC APPROVED DRIVEWAY WIDENING YET TO BE CONSTRUCTED
- DRIVEWAY RL'S SELECTED
- DRIVEWAY SECTION

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GENERAL NOTES

DATE	REV	AMENDMENT
2020/12/01	A	Stop the Clock Response
2021/03/05	B	Submission for NSWLEC - Responce to Council Statement of Facts and Contentions

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA	334	B

DRAWING
ROW DRIVEWAY PLAN

Drawn: CT
Checked: BS
Scale: As indicated @A1
Date: 2021/03/05

BASIX® Certificate

Building Sustainability Index www.basix.nsw.gov.au

Multi Dwelling

Certificate number: 1217242M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary
Date of issue: Thursday, 24 June 2021
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW GOVERNMENT | Planning, Industry & Environment

Project summary	
Project name	50 Wolseley Rd - DADA 2020/176/1.
Street address	50 Wolseley Road Point Piper 2027
Local Government Area	Woollahra Municipal Council
Plan type and plan number	deposited 843341
Lot no.	20
Section no.	-
No. of residential flat buildings	1
No. of units in residential flat buildings	3
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Project score		
Water	✔ 41	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 35	Target 35

Certificate Prepared by
Name / Company Name: Delisle Hunt Wood Pty Ltd
ABN (if applicable): 631934837

061

Description of project

Project address	
Project name	50 Wolseley Rd - DADA 2020/176/1.
Street address	50 Wolseley Road Point Piper 2027
Local Government Area	Woollahra Municipal Council
Plan type and plan number	deposited 843341
Lot no.	20
Section no.	-
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	3
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	833.30
Roof area (m²)	215
Non-residential floor area (m²)	0.0
Residential car spaces	3
Non-residential car spaces	0

Common area landscape		
Common area lawn (m²)	72.5	
Common area garden (m²)	140.0	
Area of indigenous or low water use species (m²)	80.0	
Assessor details		
Assessor number	20127	
Certificate number	0005807020	
Climate zone	56	
Ceiling fan in at least one bedroom	No	
Ceiling fan in at least one living room or other conditioned area	No	
Project score		
Water	✔ 41	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 35	Target 35

062

Description of project

The tables below describe the dwellings and common areas within the project

Residential flat buildings - Building1, 3 dwellings, 5 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m^2)	Unconditioned floor area (m^2)	Area of garden & lawn (m^2)	Indigenous species (min area m^2)
1	1	92.7	5.6	10.7	4.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m^2)	Unconditioned floor area (m^2)	Area of garden & lawn (m^2)	Indigenous species (min area m^2)
2	3	320.0	9.1	12.0	5.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m^2)	Unconditioned floor area (m^2)	Area of garden & lawn (m^2)	Indigenous species (min area m^2)
3	1	124.8	10.9	18.5	5.0

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of unit building - Building1

Common area	Floor area (m²)
Garage	68.0
Community room	31.7
LobbyLevel 2	7.8

Common area	Floor area (m²)
Lift car (No.1)	-
Common Pool access	4.5
Lobby Level 3	7.0

Common area	Floor area (m²)
Lift motor room	4.5
Lobby Level 1	6.6
Lobby Level 4	7.8

Common areas of the development (non-building specific)

Common area	Floor area (m²)
Boatshed/Pool bathroom	17.65

064

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building1
    (a) Dwellings
        (i) Water
        (ii) Energy
        (iii) Thermal Comfort
    (b) Common areas and central systems/facilities
        (i) Water
        (ii) Energy

2. Commitments for multi-dwelling houses

3. Commitments for single dwelling houses

4. Commitments for common areas and central systems/facilities for the development (non-building specific)
        (i) Water
        (ii) Energy

065

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✔	✔	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✔	✔
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✔	✔
(e) The applicant must install: (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✔ ✔	✔ ✔
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✔	✔	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✔	
(g) The pool or spa must be located as specified in the table.	✔	✔	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✔	✔	✔

990

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
3	4 star (> 6 but <= 7.5 L/min)	4 star	5 star	5 star	no	-	4.5 star	-	-	-	-	9.0	yes	no
All other dwellings	4 star (> 6 but <= 7.5 L/min)	4 star	5 star	5 star	no	-	4.5 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	central water tank (no. 1)	See central systems	See central systems	yes	yes	yes	-	-
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✔	✔	✔
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✔	✔
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✔	✔

067

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✔	✔
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✔	✔	✔
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✔ ✔	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✔ ✔ ✔	✔
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✔	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	manual on / timer off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual on / timer off

890

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
1	1-phase airconditioning EER 3.5 - 4.0	1-phase airconditioning EER 3.5 - 4.0	gas hydronic system	gas hydronic system	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no
2	1-phase airconditioning EER 3.5 - 4.0	1-phase airconditioning EER 3.5 - 4.0	gas hydronic system	gas hydronic system	3 (dedicated)	3 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no
All other dwellings	1-phase airconditioning EER 3.5 - 4.0	1-phase airconditioning EER 3.5 - 4.0	gas hydronic system	gas hydronic system	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
3	-	-	solar (gas boosted)	yes	gas cooktop & electric oven	-	no	4.5 star	-	-	yes	no
All other dwellings	-	-	-	-	gas cooktop & electric oven	-	no	4.5 star	-	-	yes	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			

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(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✔		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✔	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✔	✔
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✔	✔	✔
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✔	✔	✔

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
1	36.1	21.5
2	41.7	25.5
All other dwellings	34.0	29.2

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(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✔	✔
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✔	✔	✔
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✔	✔	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✔	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✔	✔
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✔	✔

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	4 star (> 6 but <= 7.5 L/min)	4 star	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	6000.0	To collect run-off from at least: - 150.0 square metres of roof area of buildings in the development - 0.0 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 200.0 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Garage	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	No
Lift motor room	ventilation exhaust only	interlocked to light	light-emitting diode	motion sensors	No
Community room	no mechanical ventilation	-	light-emitting diode	manual on / timer off	No
Common Pool access	no mechanical ventilation	-	incandescent	motion sensors	No
Lobby Level 1	no mechanical ventilation	-	light-emitting diode	motion sensors	No
LobbyLevel 2	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Lobby Level 3	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Lobby Level 4	no mechanical ventilation	-	light-emitting diode	daylight sensors	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	solar - gas boosted	Solar collector area (minimum, in square metres): 8.0 Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.75 (~32 mm); (b) Piping internal to building: R0.75 (~32 mm)
Lift (No. 1)	hydraulic	Number of levels (including basement): 4

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4. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✔	✔
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✔	✔	✔
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✔	✔	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✔	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✔	✔
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✔	✔

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	4 star (> 6 but <= 7.5 L/min)	4 star	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Pool (No. 1)	Volume: 49.0 kLs	Location: Other Pool shaded: no	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✔	✔

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Boatshed/Pool bathroom	ventilation exhaust only	time clock or BMS controlled	light-emitting diode	manual on / timer off	No

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 5.5 peak kW
Pool (No. 1)	Heating source: no heating	Pump controlled by timer: yes
Other	Common area clothes drying line installed?: yes	-

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Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

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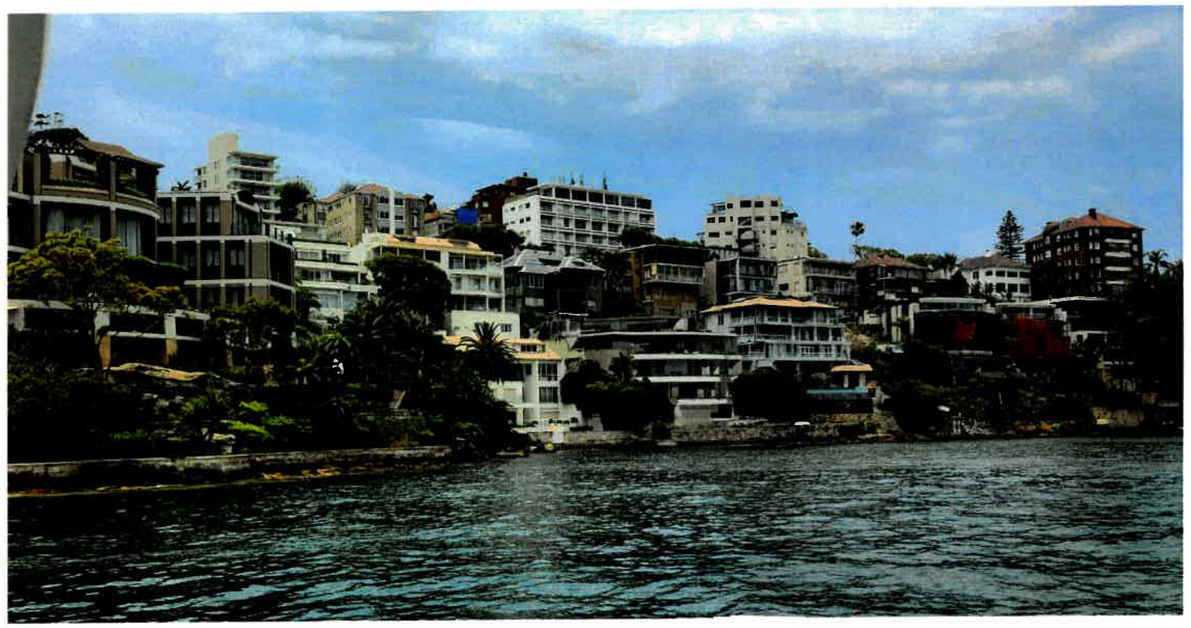
DRAWING LIST

NO.	REV	NAME
DA000	D	TITLE PAGE
DA001	B	DEEP SOIL & EXCAVATION
DA002	B	GROSS FLOOR AREA
DA101	D	SITE PLAN / ROOF PLAN
DA102	B	SITE ANALYSIS
DA120	A	MATERIAL BOARD
DA121	B	PHOTO MONTAGE - HARBOUR A
DA122	A	PHOTO MONTAGE - HARBOUR B
DA124	A	9.5m HEIGHT BLANKET
DA130	A	CONTEXT STUDY - 70 WOLSELEY ROAD
DA131	A	SURVEY - 70 WOLSELEY ROAD
DA132	A	CONTEXT STUDY - 106 WOLSELEY ROAD
DA133	A	SURVEY - 106 WOLSELEY ROAD
DA134	A	CONTEXT STUDY - 110 WOLSELEY ROAD
DA135	A	SURVEY - 110 WOLSELEY ROAD
DA136	A	CONTEXT STUDY - 112 WOLSELEY ROAD
DA137	A	SURVEY - 112 WOLSELEY ROAD
DA138	A	50 WOLSELEY ROAD
DA201	A	POOL AND PLANT SPACE
DA202	A	UNIT 1
DA203	B	UNIT 2 - LOWER LEVEL
DA204	D	UNIT 2 - UPPER LEVEL
DA205	B	UNIT 3
DA206	A	ENTRY LEVEL PLAN
DA301	D	NORTH ELEVATION
DA302	C	EAST ELEVATION & STREET LEVEL ELEVATION
DA303	B	SOUTH ELEVATION
DA304	D	WEST ELEVATION
DA321	C	SECTION - AA
DA322	A	SECTION - BB
DA323	A	SIGHT LINE ANALYSIS
DA324	A	HEIGHT PLANE ANALYSIS
DA325	A	MAXIMUM BUILDING HEIGHT ANALYSIS
DA333	B	ROW DRIVEWAY LONGITUDINAL SECTION
DA334	B	ROW DRIVEWAY PLAN
DA336		VIEW GAIN/ LOSS ANALYSIS WITH REDUCTION TO UNIT 3
DA338		SITE SURVEY

LIST OF AMENDMENTS. 2021/03.05

1.A REMOVAL OF PROPOSED DOOR/WINDOW
1.B PROPOSED DOORS/WINDOWS
2. 8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3. EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4. LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5. REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6. PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7. CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8. PROPOSED TRAFFIC MIRROR
9. NEW EXTERNAL STAIR TO UNIT 3
10. LOWER ROOF OF STAIRCASE BY 1m
11. DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12. DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13. DRIVEWAY WIDENED



50 WOLSELEY ROAD, POINT PIPER

DEVELOPMENT APPLICATION

THERMAL COMFORT REQUIREMENTS ***50 WOLSELEY RD POINT PIPER***
Rev A 19/03/2021

UNIT 1

External Walls - existing 270 cavity brickwork light coloured render externally, render internally then lined internally with 25 mm PIR board prefixed to plasterboard
Internal walls - 110 & 270 brickwork render both sides, -190 th. concrete block, render one side to lift core
Ceilings - plasterboard
Floors - concrete with timber and tiles with R1.0 insulation under slab where above void below and R1.0 slab edge insulation to all slabs on ground where underfloor heating is installed.
Windows - all sliding doors, fixed and double hung windows to be aluminium framed double glazed with U value ≤ 4.8 SHGC = 0.59 (±10%)
- glazed hinged door to Laundry to be aluminium framed double glazed with U value ≤ 4.8 SHGC = 0.51 (±10%)
- All external doors and windows to be fitted with draught excluding weather stripping

General - Insulation, services and sealing of the building to be in accordance with BCA NSW 3.12 Rating has assumed sealed downlights. A revised rating may be required when lighting layouts are determined to confirm compliance with BCA 3.12.1.2 (e) All exhaust fans to be max. 200 dia. sealed or fitted with dampers and exhaust through walls or roof

UNIT 2

External Walls - existing 270 cavity brickwork light coloured render externally, render internally
- new 270 cavity brickwork light coloured render externally, render internally, light coloured with 25mm foil faced PIR board on inside face of cavity.
- existing 300 thick concrete wall with glass inserts
Internal walls - 110 & 270 brickwork render both sides, -190 th. concrete block, render one side one side to lift core
Roof - Concrete with WPM with light coloured pebbles or tiles with R3 extruded polystyrene insulation above slab
Ceilings - plasterboard
Floors - concrete with timber and tiles R1.0 slab edge insulation to all slabs on ground where underfloor heating is installed.
Windows - fixed glass to concrete wall to ensuite equivalent to single clear glass U value≤ 5.4 SHGC = 0.58 (±10%)
- all sliding doors, fixed and double hung windows to be aluminium framed single glazed with high solar gain Low E single glazing U value≤ 5.4 SHGC = 0.58 (±10%)
All external doors and windows to be fitted with draught excluding weather stripping

General Insulation, services and sealing of the building to be in accordance with BCA NSW 3.12 Rating has assumed sealed downlights. A revised rating may be required when lighting layouts are determined to confirm compliance with BCA 3.12.1.2 (e) All exhaust fans to be max. 200 dia. sealed or fitted with dampers and exhaust through walls or roof

UNIT 3

External Walls - 270 cavity brickwork light coloured render externally, plasterboard internally, light coloured with 25mm foil faced PIR board on inside face of cavity.
-existing 300 thick concrete wall

Internal walls - 110 & 270 brickwork render both sides, joinery panels and stud wall

Roof - Concrete with WPM with light coloured pebbles or tiles with R3 extruded polystyrene insulation above slab

Ceilings - plasterboard

Floors - concrete with timber and tiles

Windows - fixed glass to concrete wall to ensuite equivalent to single clear glass U value≤ 5.4 SHGC = 0.58 (±10%)
- all sliding doors, fixed and double hung windows to be aluminium framed single glazed with high solar gain Low E single glazing U value≤ 5.4 SHGC = 0.58 (±10%)
All external doors and windows to be fitted with draught excluding weather stripping

Skylights - aluminium framed double glazing clear glazing U value ≤ 4.22 SHGC = 0.72 (±10%)
- Skylight SK03 to kitchen to be 60% openable and fitted with 60% external shading, Skylight SK04 to Scullery to be 40% openable

General Insulation, services and sealing of the building to be in accordance with BCA NSW 3.12 Rating has assumed sealed downlights. A revised rating may be required when lighting layouts are determined to confirm compliance with BCA 3.12.1.2 (e) All exhaust fans to be max. 200 dia. sealed or fitted with dampers and exhaust through walls or roof

BASIX REQUIREMENTS

WATER
Central rainwater tank of 6,000 litres with a roof catchment area of 150 m2 connected to irrigation system serving 200 m2 of landscaping and connected to private landscaping, toilets and laundry of all units

Common pool – max. 49 m³ with no heating and pump controlled by timer
Private Spa to Unit 3 – max. 9 m³ with cover and solar gas boosted heating.

ENERGY
Central hot water system of solar gas boosted connected to all units.
PV system - peak rated 5.5 kW
Lift to be hydraulic

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DEVELOPMENT APPLICATION
TITLE PAGE

GENERAL NOTES

PROJECT	PROJECT NO.	STAGE	DWG NO.	REV
50 WOLSELEY ROAD POINT PIPER	181	DA	000	D

DRAWING
TITLE PAGE

Drawn: JM | Scale: 1 : 200 @A3
Checked: CT/BS | Date: 2021/03/05

076

WHITE PAINT AND RENDER
EXTERNAL WALLS (EXSITING LEVELS)

DARK PAINT AND RENDER
EXTERNAL WALLS (NEW TOP LEVEL)

METAL VERTICAL SCREEN
EXTERIOR CLADDING

TIMBER BOARDS
FLOORING AND CEILINGS

COCNCRETE FINS
EXTERIOR

STONE
TILE FLOORING

STONE CLADDING
EXTERNAL WALLS

GLASS
WINDOWS AND BALUSTRADES

PLANTERS
BUILDING FACADE

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DEVELOPMENT APPLICATION
MATERIAL BOARD

GENERAL NOTES

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DA120 | DWG NO. 077 | REV A

DRAWING
MATERIAL BOARD

Drawn: JM | Checked: CT/BS | Scale: @A3 | Date: 2020/05/29

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

LIST OF AMENDMENTS. 2021/03.05

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5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
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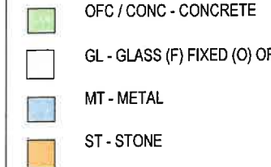

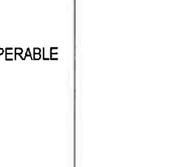

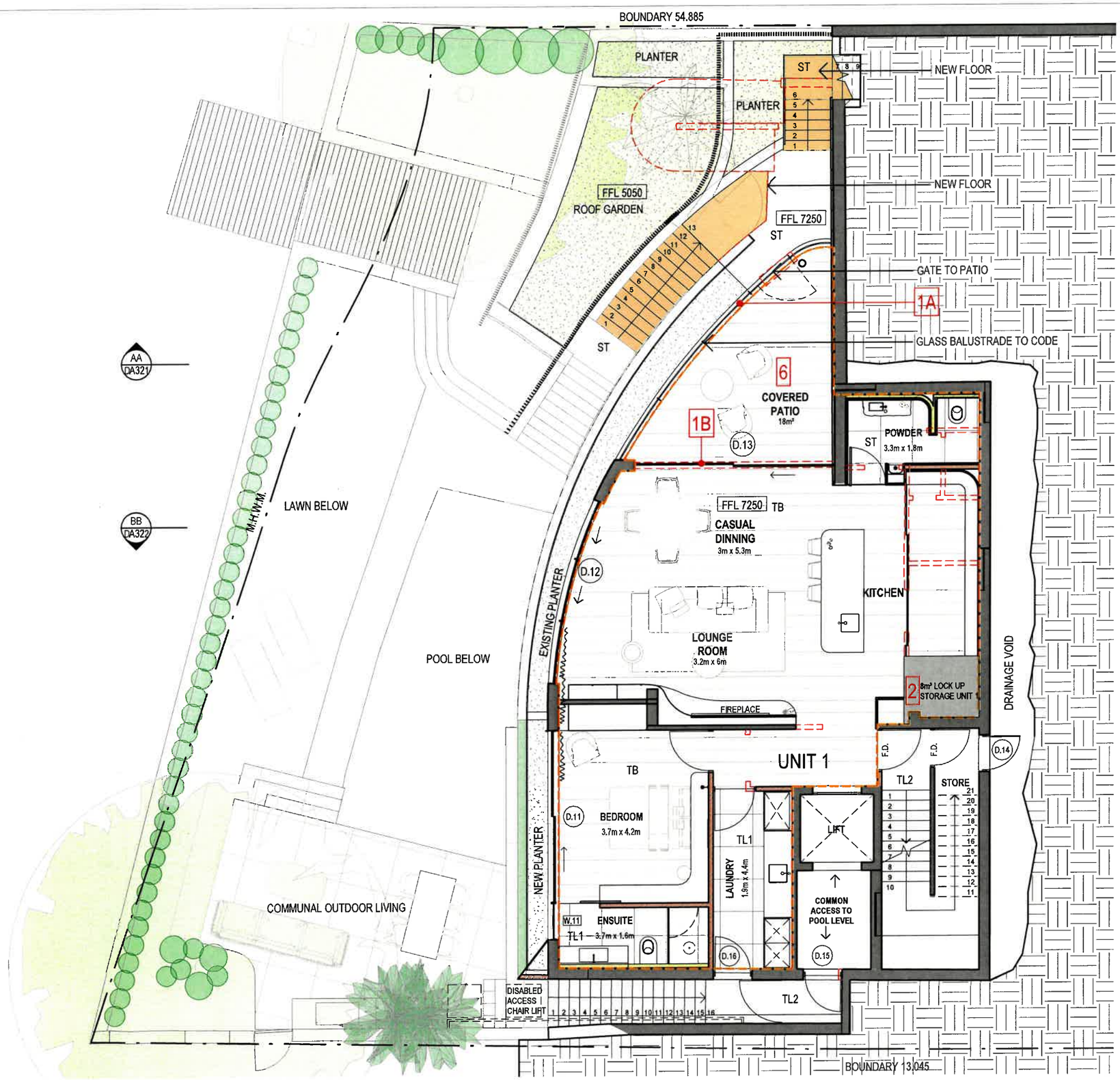

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DEVELOPMENT APPLICATION
UNIT 1

GENERAL NOTES

Do not scale from drawings. All dimensions are to be checked on site before commencement of work. All discrepancies to be brought to the attention of the project architect. Larger scale drawings and written dimensions take preference. This drawing is copyright and the property of the author, it must not be retained, copied or used without the express authority of Stafford Architecture Pty Ltd.
ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DWG NO. DA202 | REV A

DRAWING
UNIT 1

Drawn: JM | Scale: As indicated @A3
Checked: CT/BS | Date: 2021/03/05

078

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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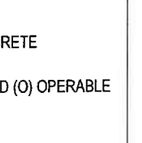

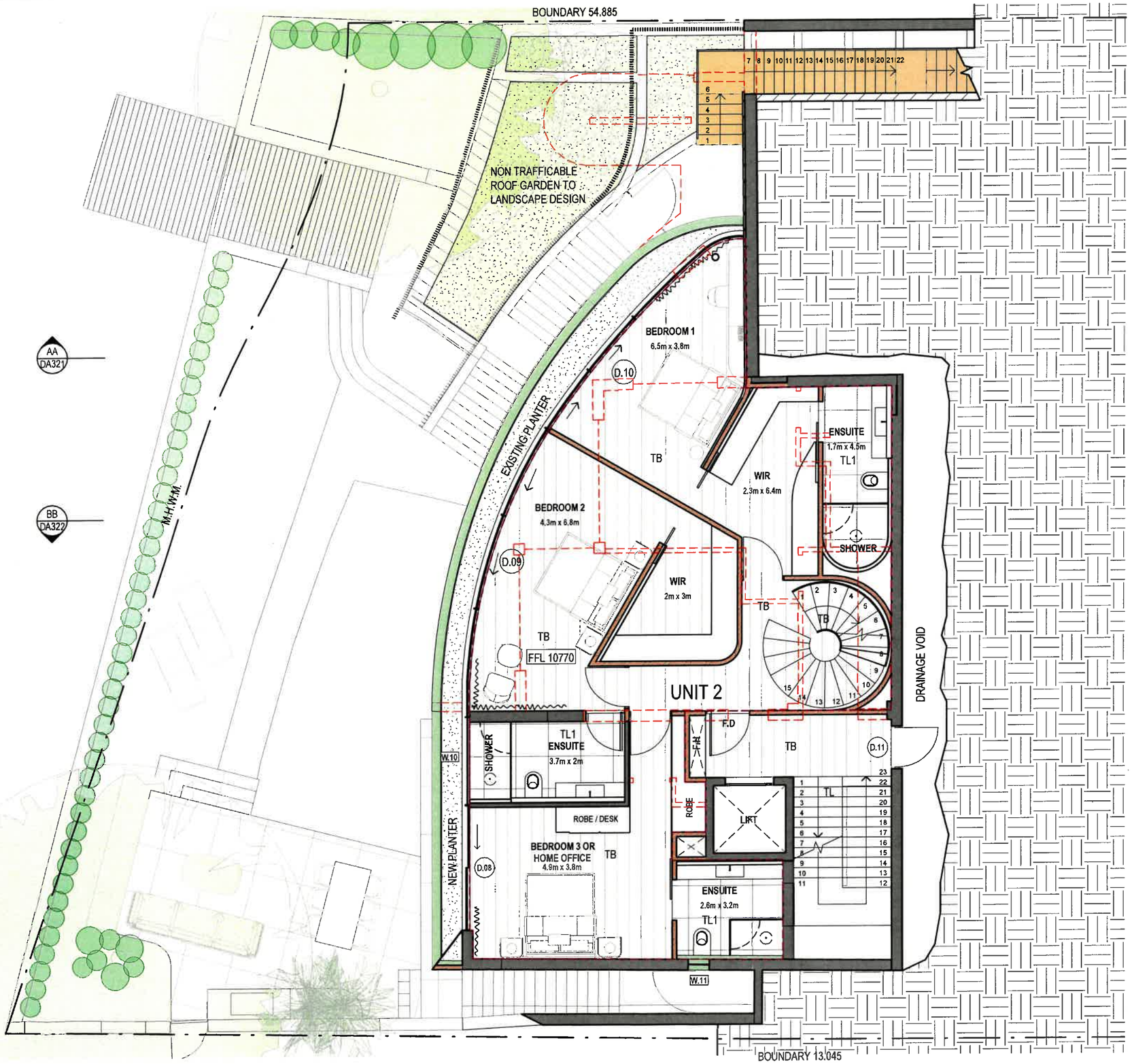

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DEVELOPMENT APPLICATION
UNIT 2 - LOWER LEVEL

GENERAL NOTES

Do not scale from drawings. All dimensions are to be checked on site before commencement of work. All discrepancies to be brought to the attention of the project architect. Larger scale drawings and written dimensions take preference. This drawing is copyright and the property of the author, it must not be retained, copied or used without the express authority of Stafford Architecture Pty Ltd.
ACN 097684527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DWG NO. DA203 | REV B

DRAWING
UNIT 2 - LOWER LEVEL

Drawn: JM | Checked: CT/BS | Scale: As indicated @A3 | Date: 2021/03/05

079

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL, GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

0005867020 24 Jun 2021
Assessor: Graham Hart
Accreditation No. 20127
Address: 50 Wolseley Road Point Piper, NSW, 2027
5.2 Average star rating
hstar.com.au

ABSA Assessor Number 20127 Graham Hart
Accreditation Period 01/04/2021-31/03/2022

PROPOSED PLANTER BOXES
NEW STAIR
RETAIN BOUNDARY WALL
BOUNDARY 54.885
PLANTER
EXISTING SETBACK TO REMAIN
FFL 14270 PLANTER
W.08
ACCESS TO UNIT 1
ACCESS TO UNIT 3 UP
DA301
EXTEND EXSITING FLOOR
ART & FIREPLACE
LOW BENCH
FIXED SAFETY GLASS
FIXED SAFETY GLASS
D.04
LANDSCAPING
CLOTHES LINE
RETAIN NEIGHBORING PROPERTY WALL
PROPOSED 1.8M FENCE
FORMAL LOUNGE
5.3m x 5.6m
POWDER ROOM
3.9m x 1.5m
ST
PANTRY
IRON
SETBACK TO MATCH EXISTING
RETAIN NEIGHBORING PROPERTY WALL
PLANTER
AA DA321
BB DA322
MEAN HIGH WATER MARK
KITCHEN
4.5m x 6.5m
SCULLERY
1.2m x 7.2m
BBQ GRILLE
STORAGE
1.1m x 2.4m
8m³ LOCK UP STORAGE UNIT 2
DA302
ST
ST
STEP
FFL 14480
UNIT 2
OUTDOOR LIVING
5m x 7.6m
FFL 14270
D.03
FORMAL DINING
5.6m x 5.4m
FFL 14270
1900
2500
BIKE RACK X 3 TO AS 2890.3
MOTORBIKE PARKING TO AS 2890.2.4.7
TL1
RETAIN EXISTING WALL
1A
PLANT SPACE
F/D
1200
OUTDOOR DINING
UNIT 2 INTERNAL STAIR
F/D
UNIT 1
UNIT 2
UNIT 3
FFL 14430
GARAGE
TL2
BOUNDARY 22.15
ST
D.02
F.H
F/D
TL2 SHARED FOYER
FFL 14430
F/D
FINISHED FLOOR LEVEL TO FINISHED CEILING = 2.6M
10000
RETAIN EXISTING WALL
PLANTER
CASUAL LOUNGE
5.5m x 7.5m
art
LIFT
TL2
D.07
FFL 14430
LIFT CONTROL ROOM
TL2
RETAIN EXISTING WALL
EXISTING TURN TABLE
FFL 14440
EXISTING SETBACK TO REMAIN
TV
RETAIN EXISTING SIDE WALL
BIN STORE FOR UNITS 1-3
EXSITING PLANTER TO BE REPLACED WITH BIN STORE FOR UNITS
BOUNDARY 13.045
DA303

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DEVELOPMENT APPLICATION
UNIT 2 - UPPER LEVEL

GENERAL NOTES

Do not scale from drawings. All dimensions are to be checked on site before commencement of work. All discrepancies to be brought to the attention of the project architect. Larger scale drawings and written dimensions take preference. This drawing is copyright and the property of the author, it must not be retained, copied or used without the express authority of Stafford Architecture Pty Ltd.
ACN 097684527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181
STAGE DA204
DWG NO. D
REV

DRAWING
UNIT 2 - UPPER LEVEL

Drawn: JM
Checked: CT/BS
Scale: As Indicated @A3
Date: 2021/03/05

080

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

LIST OF AMENDMENTS, 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

0005807029 24 Jun 2021
5.2 Average star rating
Assessor Graham Hunt
Accreditation No. 20127
Address 50 Wolseley Road , Point Piper NSW , 2027
hstar.com.au

ABSA
Accreditation Period 01/04/2021-31/03/2022
Assessor Name Graham Hunt
Assessor Number 20127

BOUNDARY 54.885
AA DA321
BB DA323
MEAN HIGH WATER MARK
1 DA301
1820
SETBACK (SIDE WALL) BELO
3890
SETBACK
ROOF ABOVE FRONT ENTRY
ACOUSTIC AND PRIVACY SCREEN
SKYLIGHT ABOVE
9
ROOF GARDEN TO LANDSCAPE DESIGN
RAISED SPA
seat
W.02
ENTRY
BATH
SEAT
ENSUITE 3.9m x 2.9m
WIR 3.2m x 4.7m
1A
1 DA302
D.01
PREVIOUS EXTENT DASHED GREY
FFL 17330
OUTDOOR LOUNGE 11m x 5m
ST
OPEN PLAN LIVING 4.8m x 5.3m
BEDROOM 5.3m x 6.1m
12
UNIT 3
FFL 17330
2
8m³ LOCK UP STORAGE UNIT 3
SCULLERY 2.2m x 2.4m
1A
SKYLIGHT ABOVE
KITCHEN 5.8m x 3.7m
LAUNDRY 2.2m x 2.4m
BOUNDARY 22.15
SETBACK TO MATCH EXISTING
GLASS BALUSTRADE
F.D.
7
11
PREVIOUS EXTENT DASHED GREY
LIFT
TL2
W.06
ROOF BELOW
W.05
FFL 17330
PRIVACY SCREEN
1B
NON TRAFFICABLE ROOF GARDEN TO LANDSCAPE DESIGN
10
TRANSLUCENT HIGH LEVEL WINDOW
SETBACK TO MATCH EXISTING
BOUNDARY 13.045
1 DA303

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DEVELOPMENT APPLICATION
UNIT 3

GENERAL NOTES

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ACN 097684527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

DRAWING
UNIT 3

PROJECT NO.	STAGE	DWG NO.	REV
181	DA	205	B

Drawn: JM
Checked: CT/BS
Scale: As indicated @A3
Date: 2021/03/05

081

5 STOREY
RENDERED BUILDING No.52B,52,54

RETAIN EXISTING
BOUNDARY WALL

BOUNDARY 54.885

RETAIN EXISTING
BOUNDARY WALL

RETAIN EXISTING
ENTRY

ST

UP

5
EXT. ENTRY

GAS / WATER METER

BOUNDARY 3.05

2
DA302

BOUNDARY 30.785

RETAIN EXISTING
PLANTER

RETAIN EXISTING
PLANTER

NEW FINISH TO
EXISTING STAIRS

RETAIN EXISTING
GLASS BRICKS

4
BRICK GARAGE
(TILE ROOF)

WOLSELEY ROAD

3 STOREY BRICK RESIDENCE
No.48

BB
DA323

BOUNDARY 22.15

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DEVELOPMENT APPLICATION
ENTRY LEVEL PLAN

0005807020 24 Jun 2021
Assessor Graham Hunt
Accreditation No. 20127
Address
50 Wolseley Road , Point Piper , NSW , 2027
5.2 Average star rating
NATIONWIDE HOUSE ENERGY RATING
hstar.com.au

ABSA
Assessment Period 01/04/2021-31/03/2022
Graham Hunt
20127

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING

GENERAL NOTES

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ACN 097864527 | Nom. Architect: Bruce Stafford - 7155

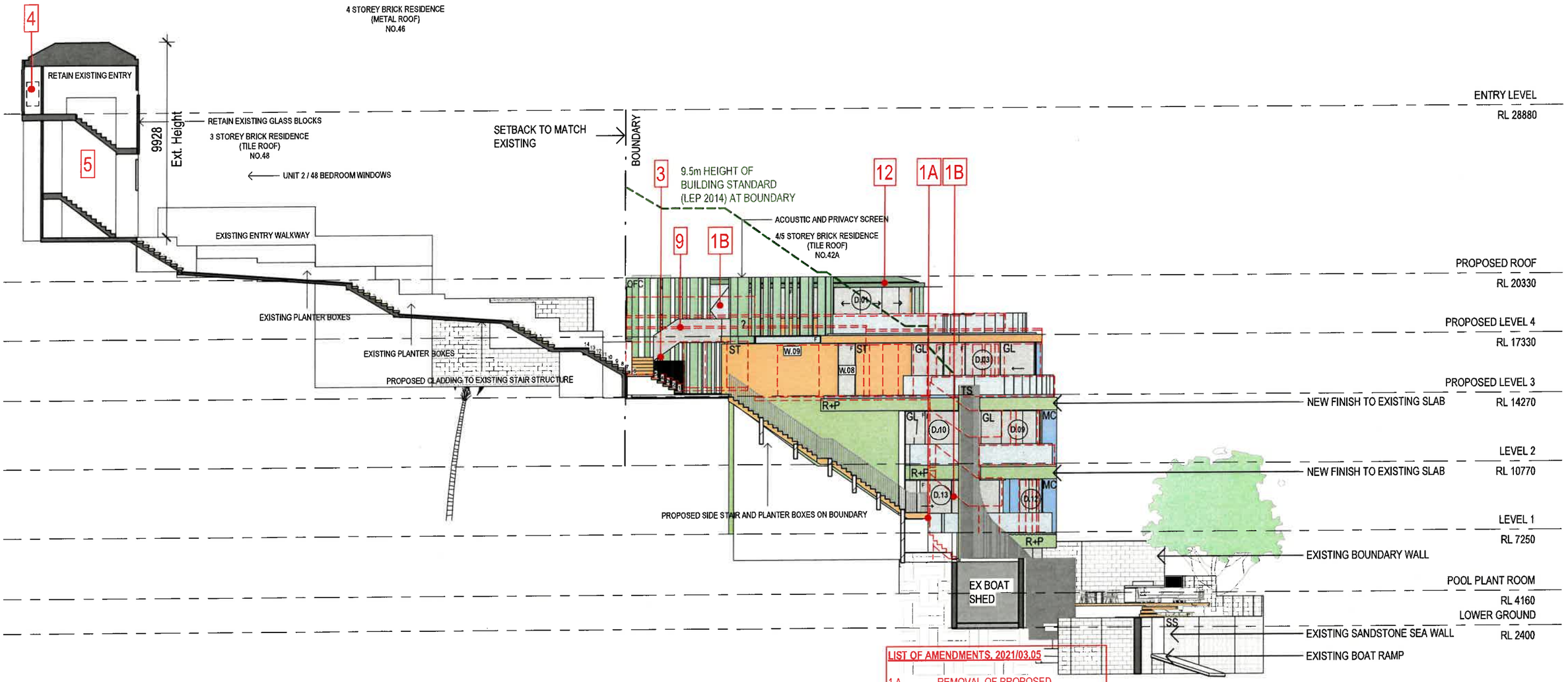
PROJECT
50 WOLSELEY ROAD POINT PIPER

DRAWING
ENTRY LEVEL PLAN

PROJECT NO.	STAGE	DWG NO.	REV
181		DA206	A

Drawn: JM
Checked: CT/BS
Scale: As indicated @A3
Date: 2021/03/05

082



1 North Elevation
1 : 200

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
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13.	DRIVEWAY WIDENED

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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DEVELOPMENT APPLICATION
NORTH ELEVATION

GENERAL NOTES

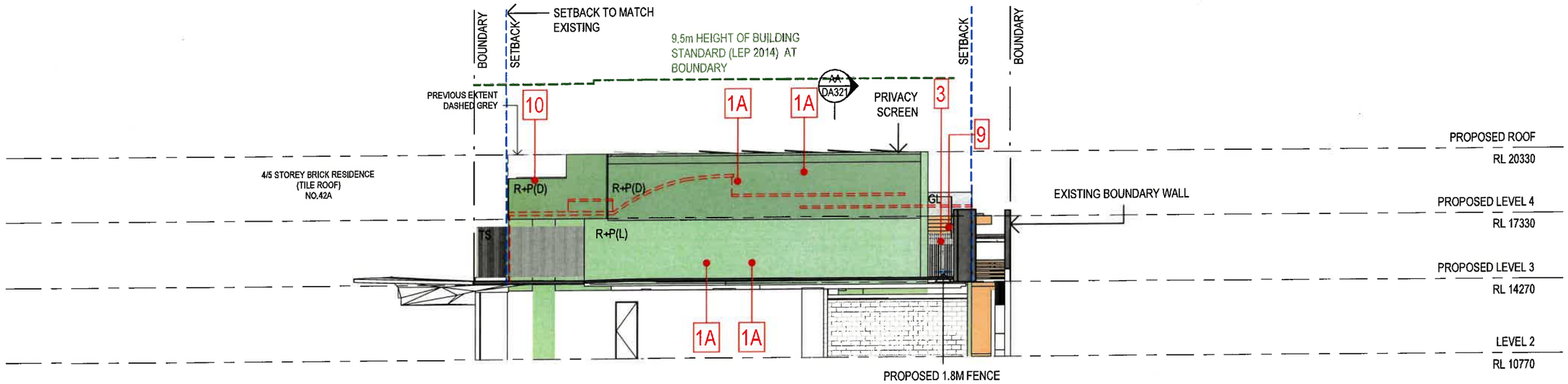
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DA | DWG NO. 301 | REV D

DRAWING
NORTH ELEVATION

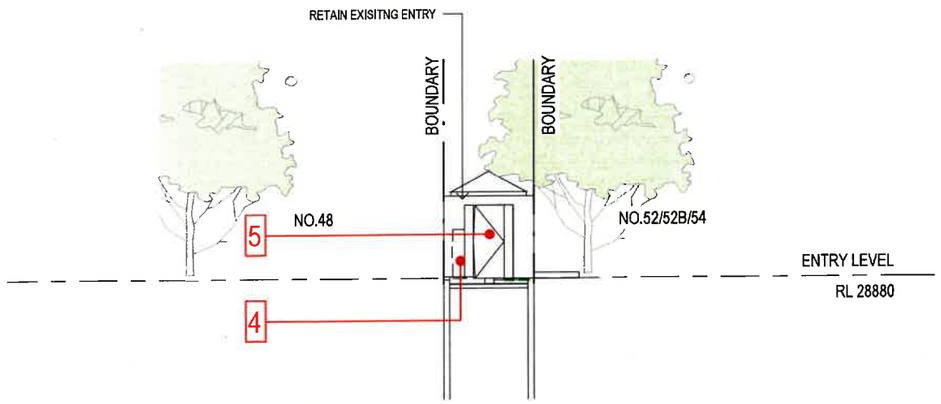
Drawn: JM | Checked: CT/BS | Scale: 1 : 200 @A3 | Date: 2021/03/05

083



1 East Elevation

1 : 200



2 Street Level Elevation

1 : 200

0005807020 24 Jun 2021
Assessor Graham Hunt
Accreditation No. 20127
Address
50 Wolseley Road , Point Piper , NSW , 2027
5.2 Average star rating
hstar.com.au

ABSA
Accreditation Period 01/04/2021-31/03/2022
Assessor Name Graham Hunt
Assessor Number 20127

LIST OF AMENDMENTS, 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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DEVELOPMENT APPLICATION

EAST ELEVATION & STREET LEVEL ELEVATION

GENERAL NOTES

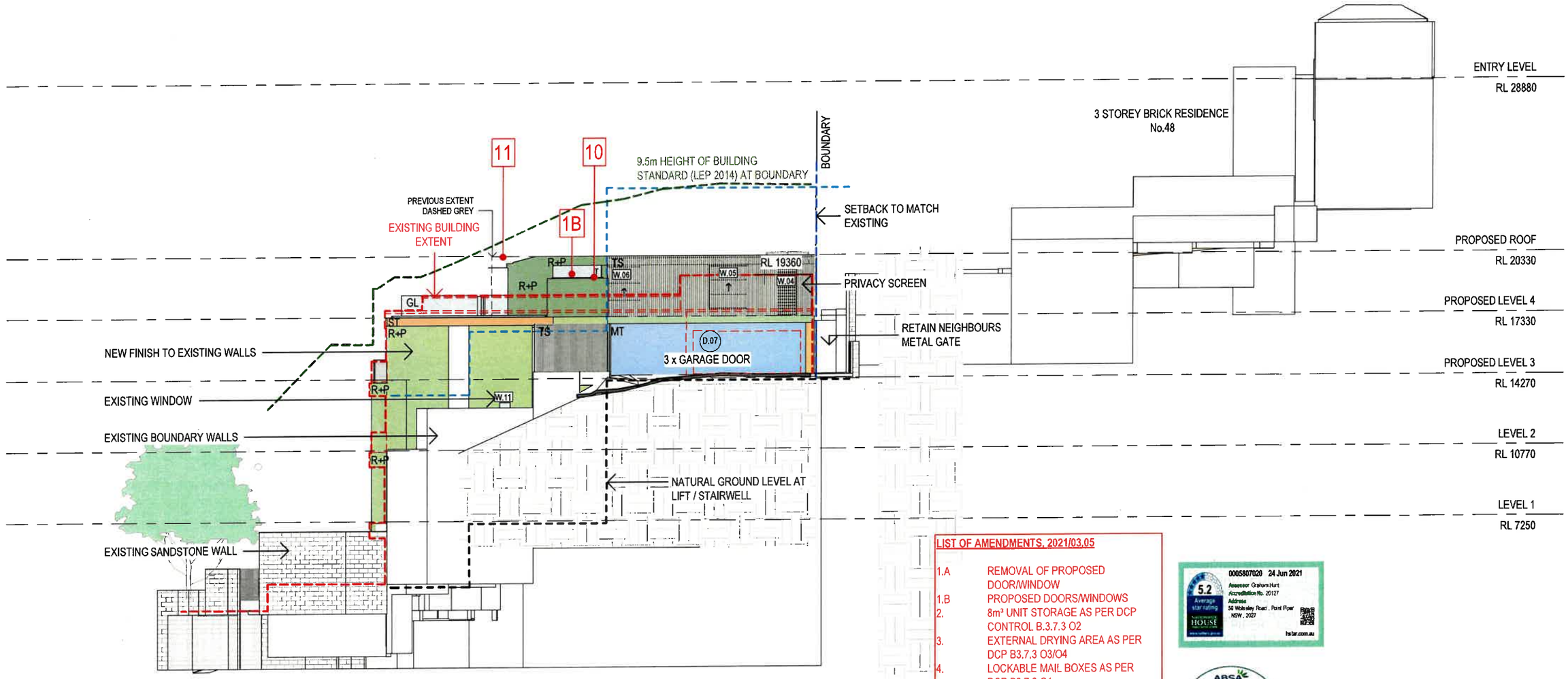
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DWG NO. DA302 | REV C

DRAWING
EAST ELEVATION & STREET LEVEL ELEVATION

Drawn: JM | Checked: CT/BS | Scale: 1 : 200 @A3 | Date: 2021/03/05

084



1 South Elevation

1 : 200

LIST OF AMENDMENTS, 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

STAFFORD

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DEVELOPMENT APPLICATION
SOUTH ELEVATION

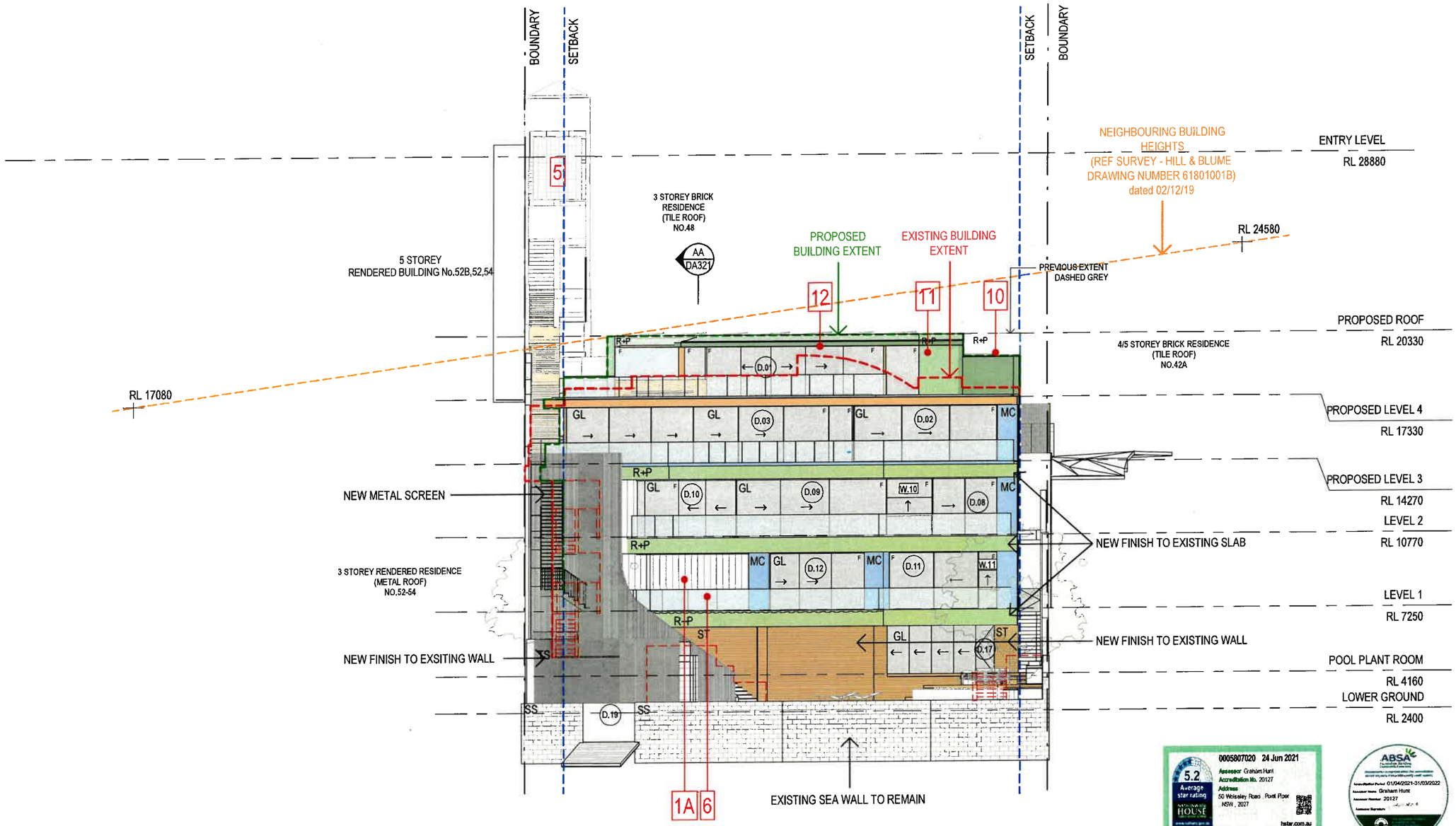
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA	303	B

DRAWING
SOUTH ELEVATION

Drawn:	JM	Scale:	1 : 200 @A3
Checked:	CT/BS	Date:	2021/03/05

085



1 WEST ELEVATION

1 : 200

LIST OF AMENDMENTS, 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING
- MEAN HIGH WATER MARK

STAFFORD

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DEVELOPMENT APPLICATION
WEST ELEVATION

GENERAL NOTES

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ACN 097684527 | Nom. Architect: Bruce Stafford - 7155

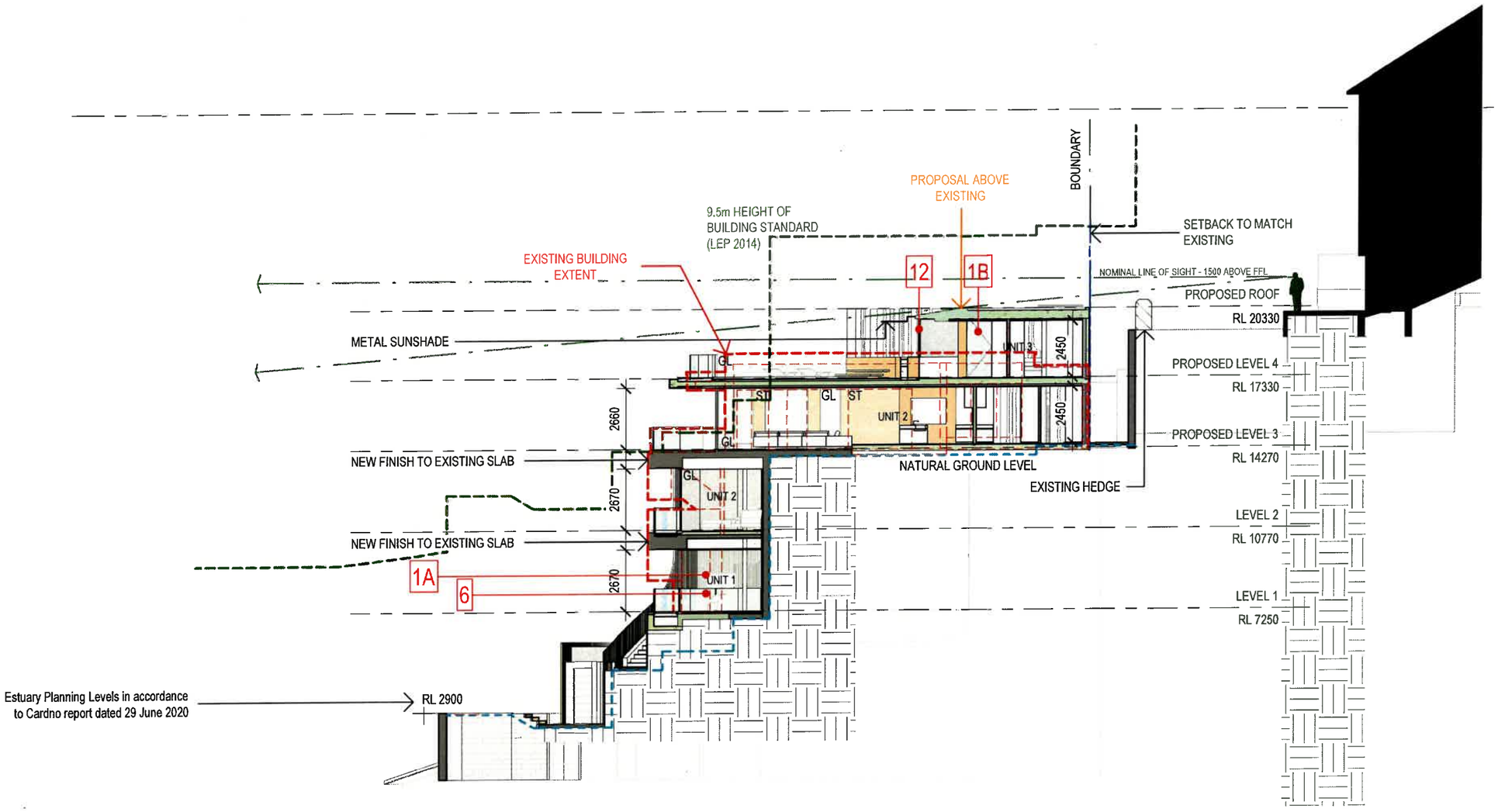
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA	304	D

DRAWING
WEST ELEVATION

Drawn: JM
Checked: CT/BS
Scale: 1 : 200 @A3
Date: 2021/03/05

086



AA SECTION AA

1 : 200

LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

0005807020 24 Jun 2021
Assessor Graham Hunt
Accreditation No. 20127
Address 50 Wolseley Road , Point Piper , NSW , 2027
5.2 Average star rating
NATIONWIDE HOUSE ENERGY RATING
hstar.com.au

ABSA
Accreditation Period 01/04/2021-31/03/2022
Assessor Name Graham Hunt
Assessor Number 20127

KEY

- BUILDING ENVELOPE
- DEMOLITION OF EXISTING
- LEP HEIGHT PLANE
- NATURAL GROUND LEVEL
- BOUNDARY

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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DEVELOPMENT APPLICATION
SECTION - AA

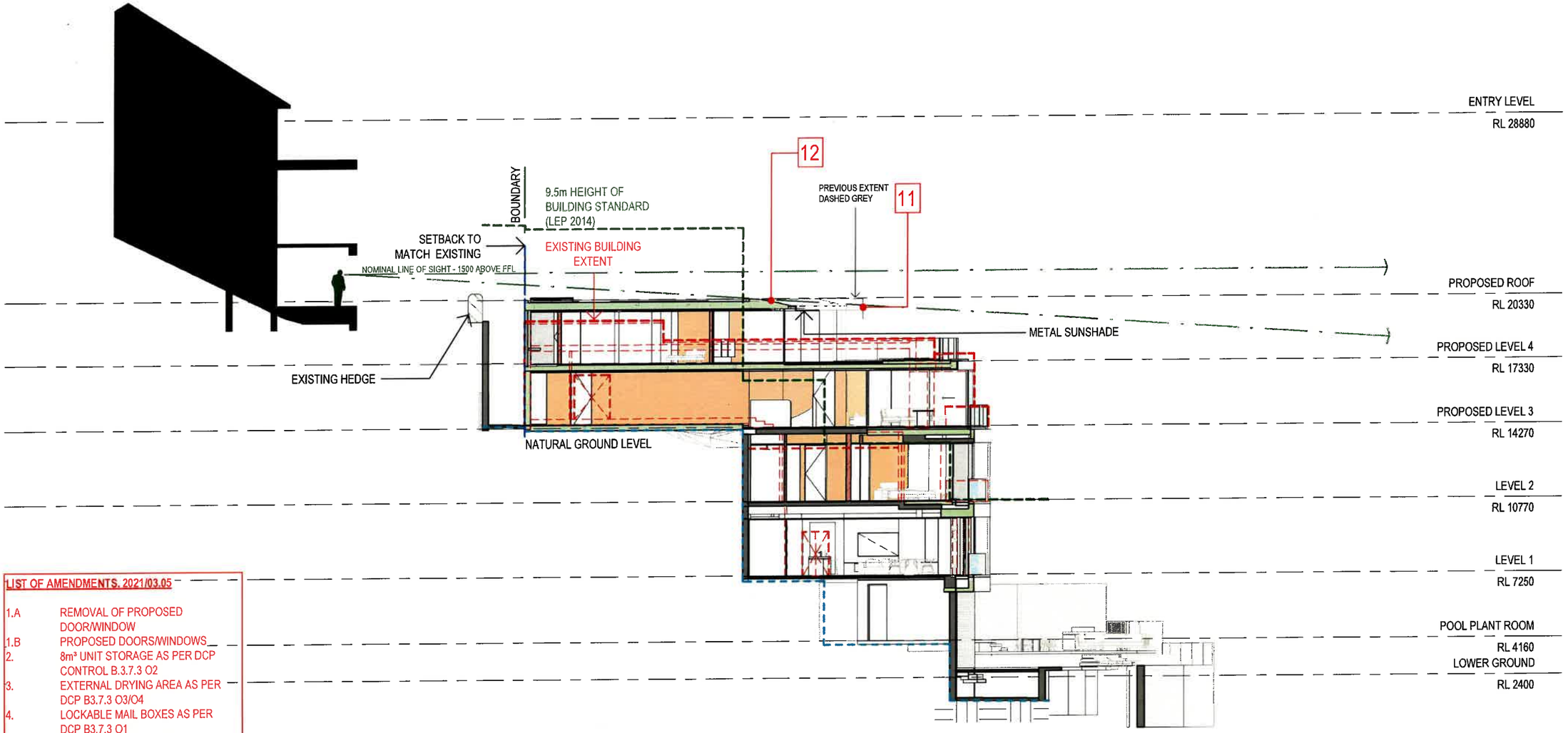
PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DWG NO. DA321 | REV C

DRAWING
SECTION - AA

Drawn: JM | Checked: CT/BS | Scale: 1 : 200 @A3 | Date: 2021/03/05

087



LIST OF AMENDMENTS. 2021/03.05

1.A	REMOVAL OF PROPOSED DOOR/WINDOW
1.B	PROPOSED DOORS/WINDOWS
2.	8m³ UNIT STORAGE AS PER DCP CONTROL B.3.7.3 O2
3.	EXTERNAL DRYING AREA AS PER DCP B3.7.3 O3/O4
4.	LOCKABLE MAIL BOXES AS PER DCP B3.7.3 O1
5.	REINSTATEMENT OF EXISTING WOLSELEY RD GATE HOUSE.
6.	PRIVATE OPEN SPACE AS PER DCP B.3.7.1 O5
7.	CORRECT ANNOTATION OF FRONT DOOR TO UNIT 3
8.	PROPOSED TRAFFIC MIRROR
9.	NEW EXTERNAL STAIR TO UNIT 3
10.	LOWER ROOF OF STAIRCASE BY 1m
11.	DELETED FEATURE CURVED WALL & ROOF ADJACENT TO LIFT & STAIR
12.	DELETED FEATURE WALL. GLAZING & ROOF LINE MOVED BACK
13.	DRIVEWAY WIDENED

KEY

- BUILDING ENVELOPE
- DEMOLITION OF EXISTING
- LEP HEIGHT PLANE
- NATURAL GROUND LEVEL
- BOUNDARY

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

STAFFORD

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DEVELOPMENT APPLICATION
SECTION - BB

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DWG NO. DA322 | REV A

DRAWING
SECTION - BB

Drawn: JM | Scale: 1 : 200 @A3
Checked: BS | Date: 2021/03/05

088

SECRET GARDENS

JAKOB RESIDENCE
50 WOLSELEY ROAD
POINT PIPER NSW 2027
LOT20 DP843341

Architects Details:

Stafford Architecture

Suite 307, 19a Boundary Street
Rushcutters Bay 2011

Phone: 9327 7889

ISSUE DATE: **20.05.2020 REVISION:C**

A2

MATERIALS LEGEND

	Existing tree to be retained
	Proposed new tree / palm
	Proposed shrub planting
	Proposed mass planting
	Turf
	Decorative Gravel
	Existing stone wall
	Concrete paving
EXT15.99	Existing levels
FFL 1599	Proposed levels

1 LANDSCAPE PLAN - POOL LEVEL
Scale 1:100

SECRET GARDENS
LANDSCAPE DESIGN, CONSTRUCTION & MAINTENANCE
17 AYLESBURY STREET, BOTANY NSW 2019
PHONE 9314 5333 FAX 9314 5322

NOTES
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PROJECT
JAKOB RESIDENCE
50 WOLSELEY RD
POINT PIPER 2027

DRAWN	SCALE	DATE
NHHP	1:100 [A2]	20.05.2020

TITLE
LANDSCAPE PLAN - POOL LEVEL

N

DWG NO
L-DA-01

REV
C

2 LANDSCAPE PLAN - LEVEL 1
Scale 1:50

MATERIALS LEGEND

	Existing tree to be retained
	Proposed new tree / palm
	Proposed shrub planting
	Proposed mass planting
	Turf
	Decorative Gravel
	Existing stone wall
	Concrete paving
EXT15.99	Existing levels
FFL 1599	Proposed levels

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PROJECT
JAKOB RESIDENCE
50 WOLSELEY RD
POINT PIPER 2027

DRAWN	SCALE	DATE
NHHP	1:50 [A2]	20.05.2020

TITLE
LANDSCAPE PLAN - LEVEL 1

DWG NO
L-DA-02

REV
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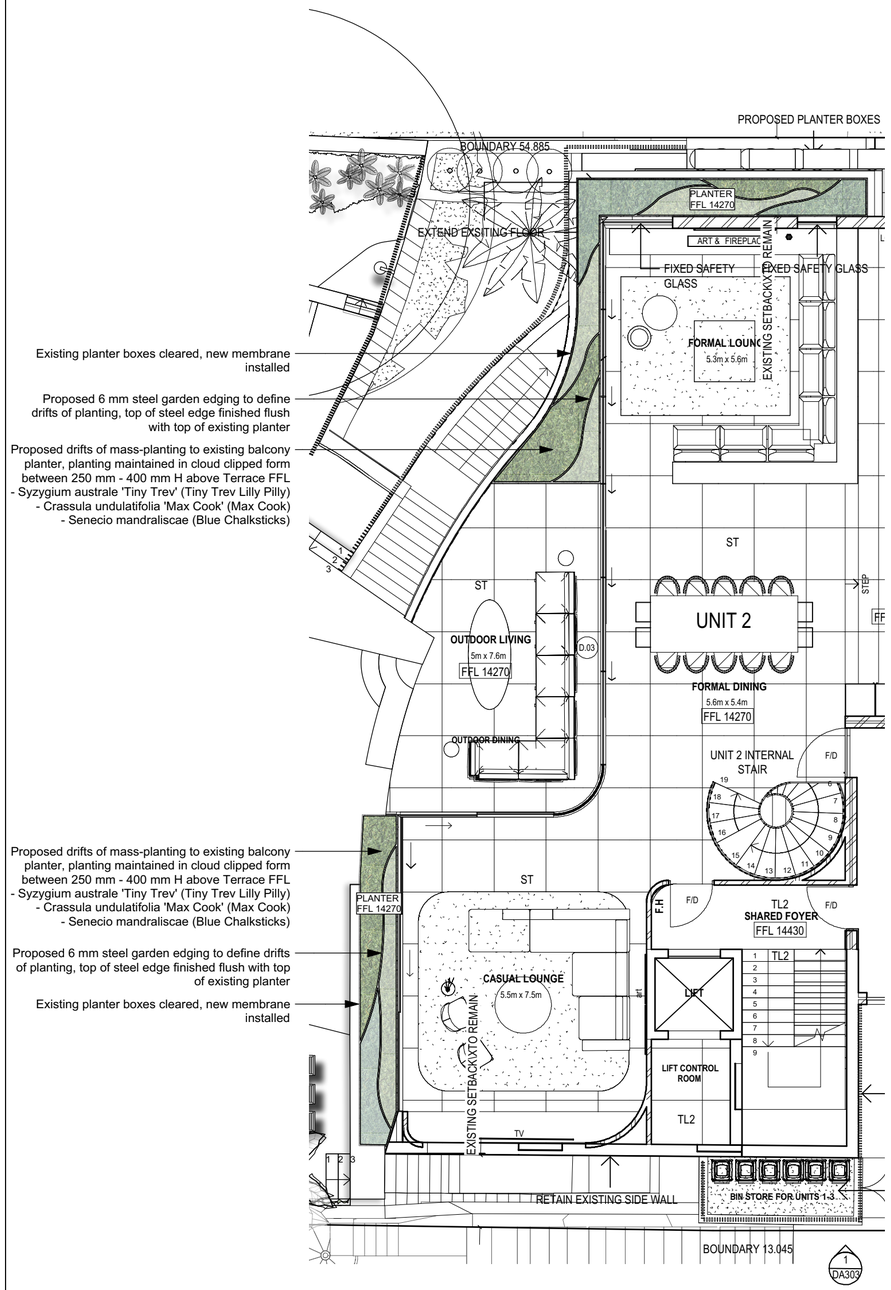
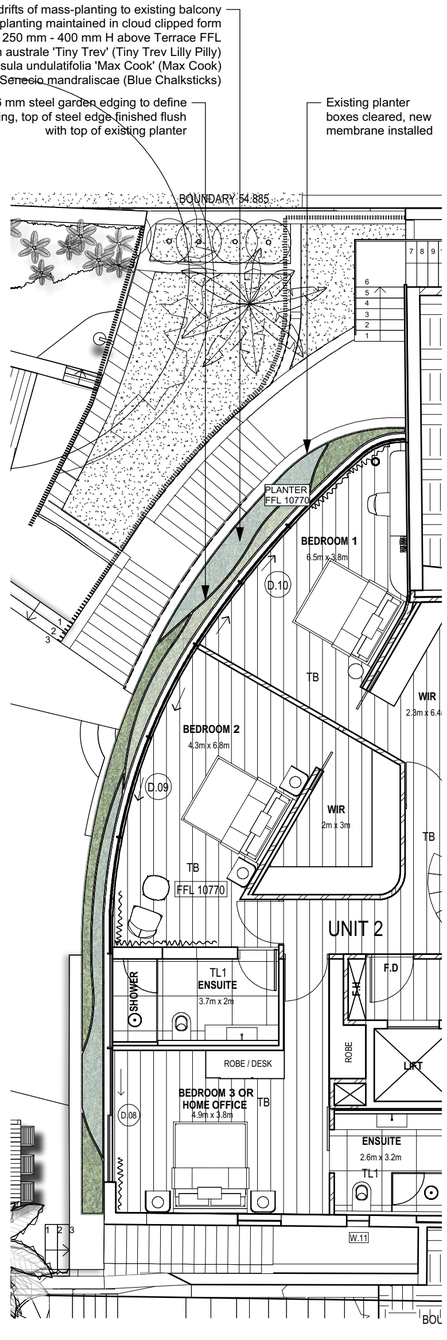


1 LANDSCAPE PLAN - BALCONY PLANTER LEVEL 3
Scale 1:100



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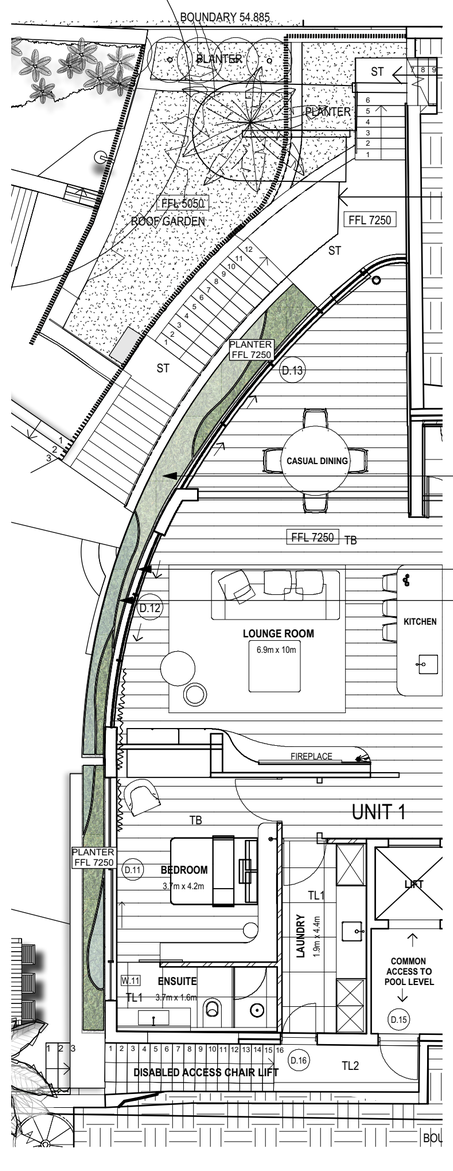
Scale 1:100



3 LANDSCAPE PLAN - BALCONY PLANTER LEVEL 1
Scale 1:100

MATERIALS LEGEND

	Existing tree to be retained
	Proposed new tree / palm
	Proposed shrub planting
	Proposed mass planting
	Turf
	Decorative Gravel
	Existing stone wall
	Concrete paving
EXT15.99	Existing levels
FFL 1599	Proposed levels

SECRET GARDENS
LANDSCAPE DESIGN, CONSTRUCTION & MAINTENANCE
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PROJECT
JAKOB RESIDENCE
50 WOLSELEY RD
POINT PIPER 2027

DRAWN	SCALE	DATE
NHHP	1:100 [A2]	20.05.2020

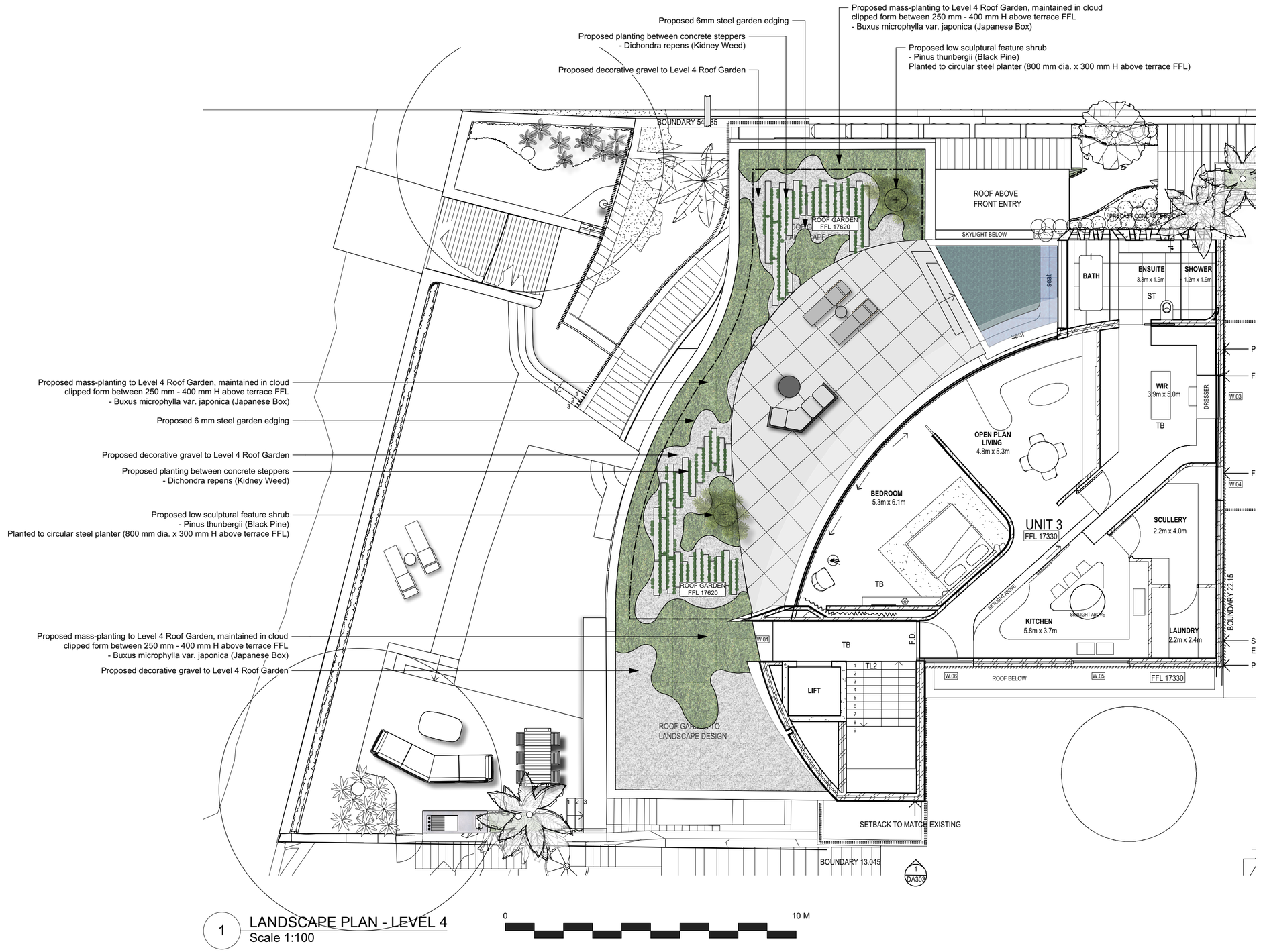
TITLE
LANDSCAPE PLAN - BALCONY PLANTERS

DWG NO
L-DA-03

REV
C

MATERIALS LEGEND

	Existing tree to be retained
	Proposed new tree / palm
	Proposed shrub planting
	Proposed mass planting
	Turf
	Decorative Gravel
	Existing stone wall
	Concrete paving
EXT15.99	Existing levels
FFL 1599	Proposed levels



1 LANDSCAPE PLAN - LEVEL 4
Scale 1:100

SECRET GARDENS

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PROJECT
JAKOB RESIDENCE
50 WOLSELEY RD
POINT PIPER 2027

DRAWN	SCALE	DATE
NHHP	1:100 [A2]	20.05.2020

TITLE
LANDSCAPE PLAN - LEVEL 4

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DWG NO
L-DA-04

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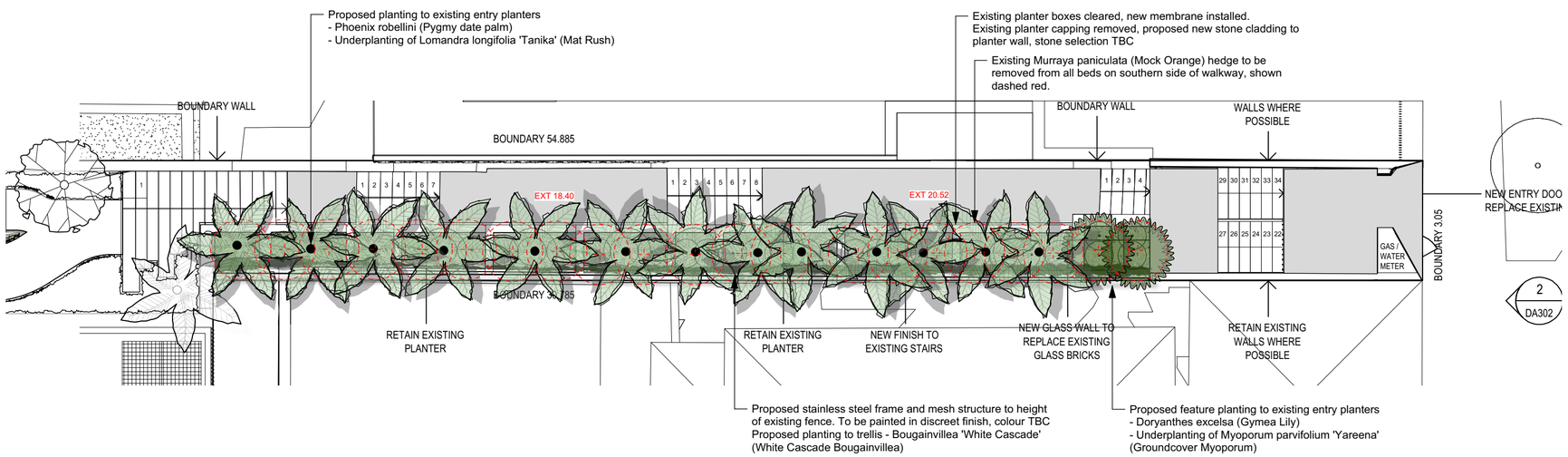
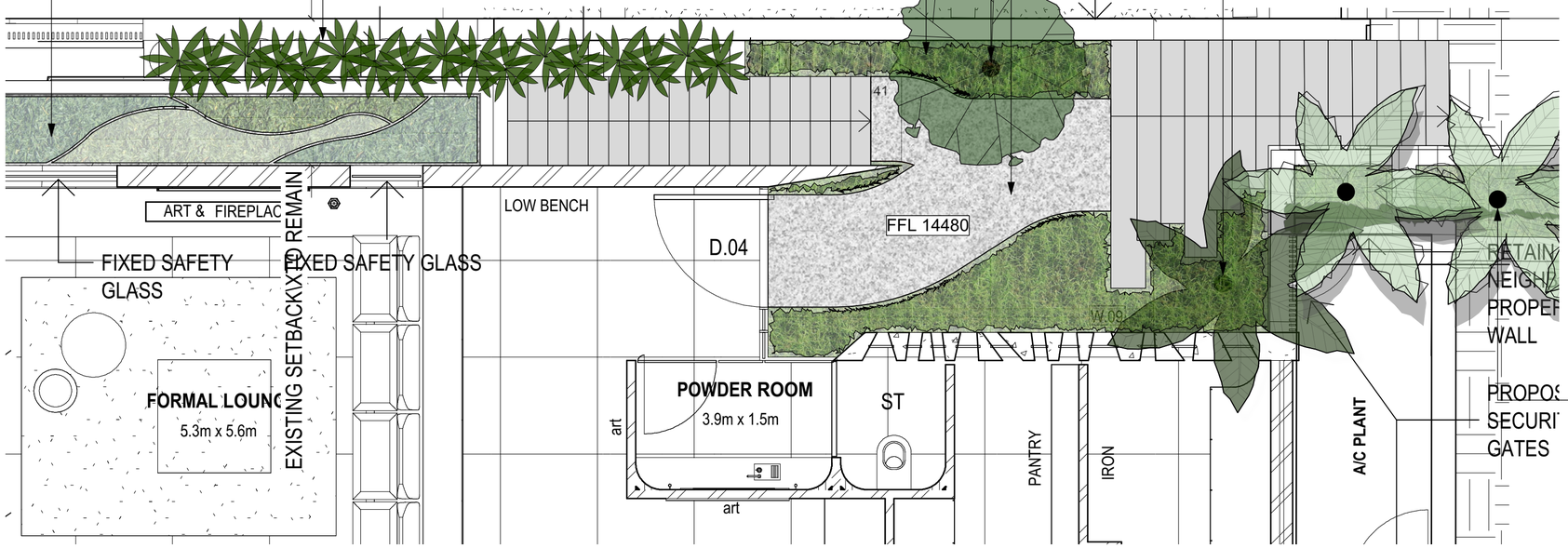


1 LANDSCAPE PLAN - ENTRY LEVEL
Scale 1:100

0 10 M

MATERIALS LEGEND

- Existing tree to be retained
- Proposed new tree / palm
- Proposed shrub planting
- Proposed mass planting
- Turf
- Decorative Gravel
- Existing stone wall
- Concrete paving
- EXT15.99 — Existing levels
- FFL 1599 — Proposed levels



2 LANDSCAPE PLAN - ENTRANCE COURT
Scale 1:50

SECRET GARDENS
LANDSCAPE DESIGN, CONSTRUCTION & MAINTENANCE
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PROJECT
JAKOB RESIDENCE
50 WOLSELEY RD
POINT PIPER 2027

DRAWN	SCALE	DATE
NHHP	1:100 [A2]	20.05.2020

TITLE
LANDSCAPE PLAN - ENTRY LEVEL

N

DWG NO
L-DA-05

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DA NOTES

DA GENERAL LANDSCAPE NOTES:

NOTE: IT IS RECOMMENDED THAT ALL PLANTS USED BE SUBJECT TO AN ESTABLISHMENT PERIOD. DURING THIS PERIOD MAINTENANCE WORK CARRIED OUT WILL INCLUDE; WATERING, MOWING, WEEDING, FERTILISING, PEST AND DISEASE CONTROL, RESEEDING, RETURFING, STAKING AND TYING,REPLANTING, CULTIVATING, PRUNING, HEDGE CLIPPING, AERATING, REINSTATEMENT OF MULCH, TOP DRESSING AND KEEPING THE SITE NEAT AND TIDY.

NOTE: THE ESTABLISHMENT PERIOD IS A CRITICAL TIME IN THE DEVELOPMENT OF A NEW LANDSCAPE. NEW PLANTINGS NEED TO BE BE WATERED, FERTILISED, AND PRUNED TO SHAPE UNTIL THEY HAVE BECOME HARDY ENOUGH TO SURVIVE WITHOUT HELP FROM PEOPLE. SOME PLANTS WILL ALWAYS NEED SOME EXTRA CARE TO SURVIVE.

NOTE: PLANT SELECTION AND PLANTING SHALL BE IN ACCORDANCE WITH NATSPEC GUIDELINES FOR CONTAINER GROWN STOCK

NOTE: MAINTAIN 600mm MIN. SOIL DEPTH FOR PLANTING BEDS AND 300mm MIN. SOIL DEPTH FOR LAWNS IN ACCORDANCE TO COUNCILS LANDSCAPE PLAN

NOTE: INSTALL 'ROOT BARRIER' OR EQUIVALENT TO MANUFACTURERS SPECIFICATIONS TO PROTECT NEARBY STRUCTURES AND SERVICES.

NOTE: LANDSCAPE WORKS TO BE CARRIED OUT IN ACCORDANCE WITH COUNCIL APPROVED DESIGN.

NOTE: ALL TREE SURGERY, PRUNING, OR TREE REMOVAL WORKS ARE TO BE OVERSEEN BY A QUALIFIED ARBORIST.

EROSION CONTROL AND DRAINAGE

INSTALL REQUIRED SEDIMENTATION CONTROL DEVICES AS REQUIRED BY COUNCIL DCPS. PROPOSED DEVELOPMENT TO INCLUDE NEW PITS AND GRATES TO ACCOMMODATE RUNOFF FROM HARD SURFACES TO BE CONNECTED TO EXISTING STORMWATER SYSTEM TO CONTROL FLOWS. SUBSOIL DRAINAGE/AG.LINES TO BE USED IN GARDEN BEDS.

PAVING/TIMBER DECKING/WALLING/POOL CONSTRUCTION

ALL HARD LANDSCAPING WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA AND ALL RELEVANT AUSTRALIAN STANDARDS AND ALL CODES AND REGULATIONS OF LOCAL COUNCIL AND OTHER AUTHORITIES.
ALL TIMBER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TIMBER FRAMING CODE. ALL FOOTINGS AND WALLS TO FUTURE STRUCTURAL ENGINEERS DETAIL.

NOTE: ACCESS TO BE USED ONLY FOR DELIVERY OF MATERIALS OR DURING EXCAVATION, ALL SEDIMENT CONTROLE MEASURES ARE TO REMAIN IN PLACE WHEN ACCESS NOT IN USE

NOTE: DURING CONSTRUCTION OF DRAINAGE ALL PITS TO HAVE GEOFABRIC WRAPPING OVER GRATING UNTIL SEDIMENT LOADINGS ARE MINIMISED.

NOTE: CLOUDY WATER IS CONTAMINATED & MUST BE SETTLED & TREATED WITH GYPSUM UNTIL CLEAR, FOR QUANTITIES REFER TO EPS, 'BLUE BOOK'

NOTE:EXCAVATION OF THE SITE SHALL BE LIMITED TO THE IMMEDIATE CONSTRUCTION AREA.

NOTE: ANY TOPSOIL STRIPPED FROM THE SITE SHALL BE STOCKPILED AT THE SITE FOR RE-USE. THE STOCKPILE SHALL BE LOCATED AWAY FROM ANY STORMWATER FLOWPATH AND PROTECTED AS SHOWN ON PLAN.

NOTE: WASTE (INCLUDING SKIP BINS) AND CONSTRUCTION MATERIALS, EQUIMENT AND SEDIMENT BARRIERS SHALL AT NO TIME BE PLACED IN PUBLIC WALKWAYS, VERGES, COUNCIL ROADS OR ROAD RESERVES UNLESS A PERMIT HAS BEEN OBTAINED FROM COUNCIL.

NOTE: ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED STOCKPILE SITE. ANY SEDIMENT SPILLED WITHIN THE PROPERTY OR ONTO ROADWAYS SHALL BE COLLECTED AND REMOVED WITH A SPADE AND DRY BROOM (WITHOUT WATER) AND DISPOSED OF AS TO PREVENT FURTHER EROSION AND POLLUTION OF WATERWAYS.

NOTE:DURING DRY WEATHER, WHERE THERE IS POTENTIAL OF DUST MOVEMENT, A LIGHT SPRAY OF WATER SHALL BE APPLIED TO THE SITE AT REGULAR INTERVALS (WITHOUT CREATING RUNOFF) TO MINIMISE AIRBORNE TRANSFER OF SEDIMENT.

NOTE:THE SUB-SURFACE COMPONENTS OF THE SITE DRAINAGE SYSTEM SHALL BE INSTALLED TO WORKING ORDER PRIOR TO CONSTRUCTION OF ANY BUILDING.

PLANT SCHEDULE

ID	Qty		Botanical Name	Common Name	Scheduled Size	Mature Spread	Mature Height
Trees							
Pa	1		Plumeria alba	White Frangipani	100 Ltr	3.5 - 6m	3 - 5m
Pt	2		Pinus thunbergii	Black Pine	400 mm	Maintained	Maintained
Palms - Cycads							
Ac	2		Archontophoenix cunninghamiana	Bangalow Palm	TBC	3.5 - 6m	10 - 15m
Dis-1	9	*	Dioon spinulosum	Giant Dioon	400 mm	1.5m	3m
Pr	13	*	Phoenix roebelenii	Dwarf Date palm	300mm	1.5 - 2.0m	2 - 3m
Re	7		Rhapis excelsa	Lady Palm	400 mm	2.0 - 3.5m	3 - 5m
Shrubs							
An	19		Alpinia nutans	Native Cardamom	200 mm	1m	1.0 - 1.5m
Bm	360		Buxus microphylla japonica	Japanese Box	200 mm	Maintained	Maintained 250 - 400mm
Stt	146	*	Syzygium australe 'Tiny Trev'	Tiny Trev Lilly Pilly Dwarf	200 mm	Maintained	Maintained 250 - 400mm
Wjg	66	*	Westringia fruticosa	Coastal rosemary	300 mm	Maintained	Maintained
Perennials							
De	2	*	Doryanthes excelsa	Gymea Lily	400 mm	1.2 - 2.0m	1.5 - 3m
Grasses							
Dlj	110	*	Dianella caerulea 'Little Jess'	Flax Lily	140 mm	0.4m	0.4m
Llt	92	*	Lomandra 'Tanika'	Mat Rush	140 mm	0.6 - 0.9m	0.45 - 0.6m
Groundcovers							
Bwc	10	*	Bougainvillea 'Bambino'	Bougainvillea White Cascade	200 mm	Climber	Climber
Cgpf	15	*	Casuarina glauca 'Prostrate Form'	Prostrate Swamp Oak	175 mm	Trailing	Groundcover
Dr	870	*	Dichondra repens	Kidney Weed	100 mm	Groundcover	Groundcover
Mpy	30	*	Myoporum parvifolium 'Yareena'	White flowered Boobialla	140 mm	0.9 - 1.2m	0.45 - 0.6m
Succulents							
Cmc	56	*	Crassula 'Max Cook'	Max Cook Crassula	200 mm	Maintained	Maintained 250 - 400mm
Ss-1	70	*	Senecio serpens	Blue Chalk Sticks	100 mm	Groundcover	Groundcover
Ferns							
Bsl	12		Blechnum 'Silver Lady'	Blechnum 'Silver Lady'	Silver Lady Fern 200mm	0.9 - 1.2m	0.75 - 0.9m

* Denotes indigenous or low water plants.

SECRET GARDENS
LANDSCAPE DESIGN, CONSTRUCTION & MAINTENANCE
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PROJECT
JAKOB RESIDENCE
50 WOLSELEY RD
POINT PIPER 2027

DRAWN	SCALE	DATE
NHHP		20.05.2020

TITLE
LANDSCAPE DA NOTES

N

DWG NO
L-DA-06

REV
C

JACKSONS NATURE WORKS
34 CALOOLA CRESCENT, BEVERLY HILLS 2209
9 150 4430
0 4 18) 414 502

ARBORICULTURAL IMPACT ASSESSMENT REPORT

At

50 Wolseley Road, Point Pier

Prepared for

Mr & Mrs G Jakob

14th May 2020

Prepared by: Ross Jackson
Graduate Certificate in Arboriculture (AQF L 8)
Dip. Horticulture (Arboriculture – AQF L 5)
Certificate III in Horticulture (Arboriculture)
Certificate in Horticulture (Landscape)

Member of the Arboriculture Australia (MAA)
Member of the Australian Institute of Horticulture
Consulting Arborist Nos.1695

E: jacksonsnatureworks@bigpond.com

DISCLAIMER

The Client acknowledges that this Report, and any opinions, advice or recommendations expressed or given in it, are the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained by Jacksons Nature Works (JNW) and referred to in the Report. The Client should rely on The Report, and on its contents, only to that extent.

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However, Ross Jackson – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others. Unless stated otherwise:

- Information contained in this report covers only the trees examined and reflects the health and structure of the trees at the time of inspection. The documented, observations, results, recommendations and conclusions given may vary after the site visit due to environmental conditions.
- The inspection was limited to visual examination from the base of the subject tree without dissection, probing or coring.
- There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future; &
- Unauthorised use of this report in any form is prohibited and remains the intellectual property of Jacksons Nature Works until all costs are settled.

Ross Jackson.

Consulting Arborist

Table of Contents

1. BACKGROUND and METHODODOLGY

1.1 The purpose of this Tree Report is to inform and accompany the development application works at 50 Wolseley Road, Point Piper – The Site.

1.2 The report was commissioned by Mr G Jakob to respond to Council's requirements to consider the development impacts on trees located on and around the Site.

1.3 This report outlines the health and condition of the subject trees, the remaining life expectancy of the trees, identifies any visible defects or other problems, describes which trees require pruning, removal, retention or represent a potential hazard and comments on the impact on these trees in relation to the works proposed. The report also provides recommended tree protection measures (Tree Management Plan) to ensure the long-term preservation of the trees to be retained where appropriate.

1.4 The Site is a residential site with gardens at Point Piper.

1.5 The trees were identified by ground level Visual Tree Assessment (VTA) [1] only in the data collection, taken on 24.3.2020. No aerial (climbing) was undertaken.

1.6 All site photographs were taken by the author at the site. All photographs were taken using a digital camera (Canon 7D) with no image enhancement either within the camera or on computer.

1.7 The subject trees were located on plans supplied. The trees have been plotted and can be found on Annexure B – Tree Location Plan.

1.8 The trees were identified and their genus species and common name used. The trees were identified by the use of data collected and compared to G Burnie, S Forrester et al (1997) **Botanica** Random House, Milsons Point, NSW, Australia.

1.9 DBH. The Trunk Diameter at Breast Height (1.4 metres above ground level) in centimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.10 DRB. The trunk Diameter above Root Buttress in centimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.11 Height. Estimated overall height in metres.

1.12 Spread. Measured with a metal tape measure and shown in metres.

1.13 Useful Life Expectancy (ULE)[2].
A systematic pre-development tree assessment procedure developed by Jeremy Barrell, Hampshire, England. It gives a length of time that the Arborist feels a

[1] Mattheck, Dr. Clause & Breloer, Helge (1994) – Sixth Edition (2001) **The Body Language of Trees – A Handbook for Failure Analysis** The Stationery Office, London, England
[2] Barrell, Jeremy (1996, 2001) **Pre-development Tree Assessment** Proceedings of the International Conference on Trees and Building Sites (Chicago) International Society of Arboriculture, Illinois, USA

particular tree can be retained with an acceptable level of risk based on the information available at the time of the inspection. SULE ratings are Long (retainable for 40 years or more with an acceptable level of risk), Medium, (retainable for 16 – 39 years), Short (retainable for 5 – 15 years) and Removal (tree requiring immediate removal due to imminent hazard or absolute unsuitability).

1.14 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been calculated in terms of AS 4970 – 2009 Protection of trees on development site Section 3.

1.15 To prepare this report we have reviewed the following documents:

- Detail survey by Hill & Blume Consulting Surveyors dated 2.12.2019.
- Architectural plans by Stafford Architects dated 3.4.2020, Rev A.
- Landscape plans by Secret Gardens dated 12.5.2020, Rev B.
- Woollahra Municipal Council, DCP Clause E3.2 Trees and works that require approval (DCP – 2015); ; &
- Australian Standard AS 4970 – 2009 Protection of trees on development sites.

2. OBSERVATIONS as seen on the days of inspection (24.3.2020)

2.1 Our tree observations can be found in Annexure A.

3. DISCUSSIONS

3.1 We have been commissioned by Mr G Jakob, to examine the health and condition of the trees on and around this development site.

It is proposed to undertake alterations and additions to existing on Site (development works).

3.2 We have examined the trees on site and can suggest the following considerations for the development works:

1. Tree 1 *Plumaria rubra var. acutifolia* shows good vitality with a canopy biased to the west – refer plate 1. It is proposed to demolish the existing entry steps to Unit 2 which will necessitate the removal of this tree – refer Annexure C. Although a species of tree that can be transplanted, the likelihood of securing sufficient root ball will be difficult due to the proximity of the adjacent steps and wall. Therefore, removal is supported. Note for removal in the Tree Management Plan (TMP).

Plate 1: tree 1

2. The following plants are classified as Exempt species (<1m) in Council's DCP and can be removed without consent: Tree 2-3 *Gardenia sp & Trachelospermum jasminoides* and tree 5 *Trachelospermum jasminoides*. Note these Exempt plants for removal in the TMP.

3. Tree 4 *Jagera pseudorhus* is growing in a planter bed within the building with an opening in the roof – refer plate 2. Although an unusual tree and within the building it is not proposed to attempt to rescue this tree. The landscape plans shows feature plantings throughout the building to compensate for the removal of this tree. Note for removal in the TMP.

Plate 2: tree 4 within building / planter box

4. Tree 6 *Syzygium luehmannii* shows good vitality and growing in a raised garden bed – refer plate 3. It is proposed to construct a communal pool deck area above the existing pool – refer Annexure C. To construct the new pool deck will necessitate the demolition of the raised garden bed to increase the size of the pool deck. In view of the fact this tree is neither rare nor an endangered species removal is supported to construct the pool deck area. Note for removal in the TMP.

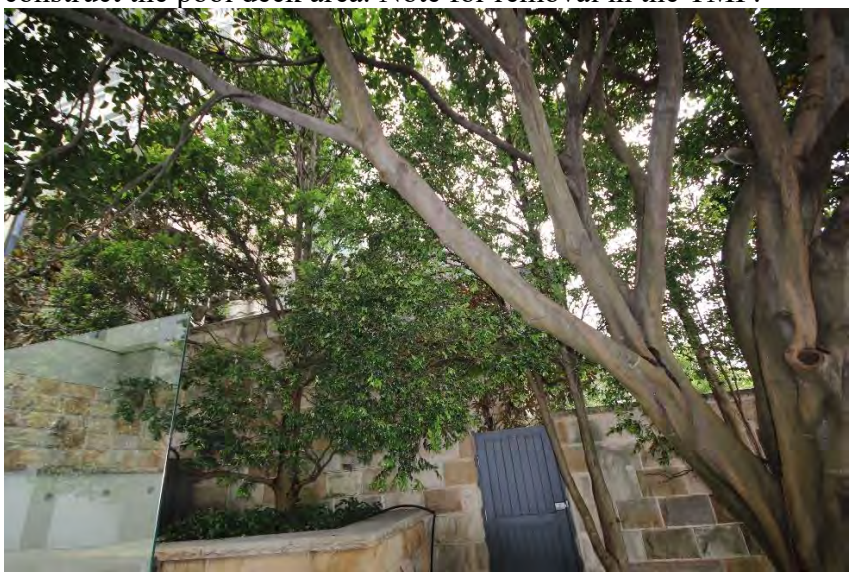


Plate 3: tree 6 & 7

5. Tree 7 *Syzygium luehmannii* shows fair vitality but with upper canopy suppression by tree 8 – refer plate 3. The same situation exists for this tree as for tree 6 in that this tree will also be required to be removed to construct the pool deck and walkway. Removal is supported. Note for removal in the TMP.

6. Tree 8 *Cupaniopsis anacardioides* shows good vitality and form – refer plate 4. The proposed pool deck will wrap around this tree – refer Annexure C. The construction of the deck will be on isolated piers to minimise potential root disturbance and to ensure the retention of this high retention tree. The pier holes can be located by digging a “pot hole” to locate and root greater than 40mm, if any root/s greater than 40mm are located the pier can be adjust to provide a 100mm gap to such roots. By employing this methodology retention of this tree will be achieved. Note for retention and protection in the TMP.

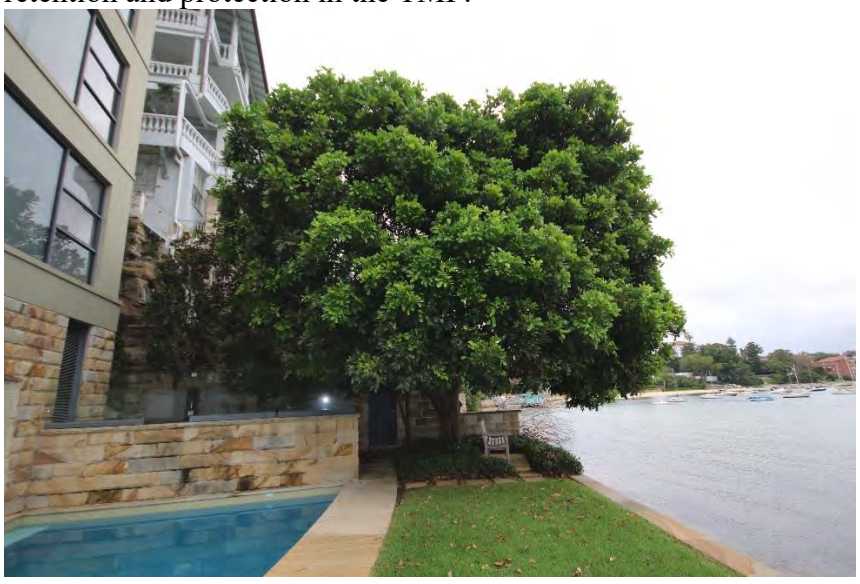


Plate 4: tree 8

7. Tree 9 *Syzygium luehmannii*, tree 10 *Cupaniopsis anacardioides* and tree 11 *Syzygium luehmannii* all show good vitality and are growing in an existing sandstone bordered garden bed – refer plate 5. It is proposed to retain tree 10 in the re-styled garden and remove trees 9 & 11 and replace them with underplanting of suitable shade tolerant ground covers. Note Tree 10 for retention/protection and the removal of trees 9 & 11 in the TMP.

Plate 5: trees 9, 10 & 11

4. RECOMMENDATIONS

The following recommendations are advised:

a) Remove the following tree on site: Tree 1, 2/3, 4, 5, 6, 7, 9 & 11.
b) Retain the following trees on site: Tree 8 & 10.
c) Tree removal work shall be carried out by an experienced tree surgeon in accordance with *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal (2016)*.
d) Trunk protection shall consist of a padding material such as hessian or thick carpet underlay wrapped around the trunk. Timber planks (50mm x 100mm or similar) shall be placed over the padding and around the trunk of the tree at 150mm centres. The planks shall be secured with 8-gauge wire or hoop steel at 300mm spacing. Trunk protection shall extend a minimum height of 2 metres on tree 8 & 10 – refer Annexure D.
e) Install the following Tree Protection Measures around the retained trees on site: Tree 8 & 10, tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone.
f) That a Tree Management Plan be prepared as part of the Construction Certificate by a consulting arborist who holds the Diploma in Horticulture

(Arboriculture), Level 5 or above under the Australian Qualification Framework.

g) An AQF Level 5 Project Arborist shall be engaged to supervise the building works and certify compliance with all Tree Protection Measures.
h) The tree location plan can be found on Annexure B: &
i) The tree impact plan can be found on Annexure C.

Ross Jackson M.A.A. & M.A.I.H.
Consulting Arborist 1695
Graduate Certificate in Arboriculture AQF Level 8
Diploma Horticulture (Arboriculture) – AQF Level 5
Certificate III in Horticulture
Certificate in Horticulture (Landscape – Honours

Annexure A: Observations as seen on the day of inspection of trees

Tree No	Botanical Name	Age Class	Height (m)	Spread (m)	D.B.H. (cm)	D.R.B. (cm)	TPZ (radius m)	SRZ (radius m)	Condition comments as seen on site	ULE
1	*Plumeria rubra var. acutifolia*	M	3	3	14	16	1.7	1.5	G vitality	2b
2 - 3	*Gardenia sp & Trachelospermum jasminoides (Garden Bed)*	M	<1m	-	-	-	-	-	Exempt species	-
4	*Jagera pseudorhus*	M	7	6	22	24	2.6	1.8	G vitality, growing inside building, 20 years in a planter box	2a
5	*Trachelospermum jasminoides (Garden Bed)*	M	<1m	-	-	-	-	-	Exempt species	-
6	*Syzygium luehmannii*	M	6	3	20	24	2.4	1.8	G vitality, growing in raised garden bed	2b
7	*Syzygium luehmannii*	M	7	3	12	18	1.4	1.6	G vitality, suppressed by T8	2b
8	*Cupaniopsis anacardioides*	M	8	10	26	32	3.1	2.1	G vitality	2a
9	*Syzygium luehmannii*	M	4	1	12	14	1.4	1.4	G vitality	2a
10	*Cupaniopsis anacardioides*	M	6	5N 4S 2E 4W	32	38	3.8	2.2	G vitality, growing in planter box, north side suppressed by T11	2b
11	*Syzygium luehmannii*	M	4	1	10	12	1.2	1.5	G vitality, hedge along boundary	2b

Terms used in Tree Survey & Report:

Age Class

(Y) – Young refers to a well-established but juvenile tree. Less than 1/3 life expectancy

(SM) – Semi-mature refers to a tree at growth stages between immaturity and full size. A tree has reached First Adult Form i.e. displays adult characteristics. 1/3 to 2/3 life expectancy

(M)- Mature refers to a full size tree with some capacity for future growth. Older than 2/3 life expectancy

(OM) – Over-mature refers to a tree approaching decline or already declining. Older than 2/3 life expectancy and showing signs of irreversible decline.

Health refers to a tree's vigour, growth rate, disease and/or insects.

Vitality summarises observations about the health and structure of the tree on a scale of: **(G) Good, (F) Fair, (P) Poor & (D) Dead.**

Good: Tree is generally healthy and free from obvious signs of structural weaknesses or significant effects of pests and diseases or infection;

Fair: Tree is generally vigorous although has some indication of being adversely affected by the early effects of disease or infection or environmental or mechanical damage. Appropriate tree maintenance can usually improve overall health and halt decline;

Poor: Tree in decline and is not likely to improve with reasonable maintenance practices or has a structural fault such as bark inclusion;
Dead: Tree no longer capable of sustained growth.
Deadwood (DW) – deadwood found in canopy as a percentage.
Over Head Power Lines (OHPL) – upper canopy pruned to accommodate power lines at a given height.

Height expressed in metres refers to estimated overall height of tree.

Next Door tree (ND) – tree located in the neighbour's property.

Street Tree (ST) – tree located in Councils footpath reserve.

Spread expressed in metres refers to estimated spread of crown at the drip line.

(DBH) Diameter at Breast Height expressed in millimetres refers to the trunk diameter at 1.4 metres above ground level. Where there are multiple trunks the combined diameter has been calculated in terms of Appendix A – AS 4970 – 2009, shown in brackets.

(DRB) Diameter above Root Buttress expressed in millimetres refers to the trunk diameter above root buttress.

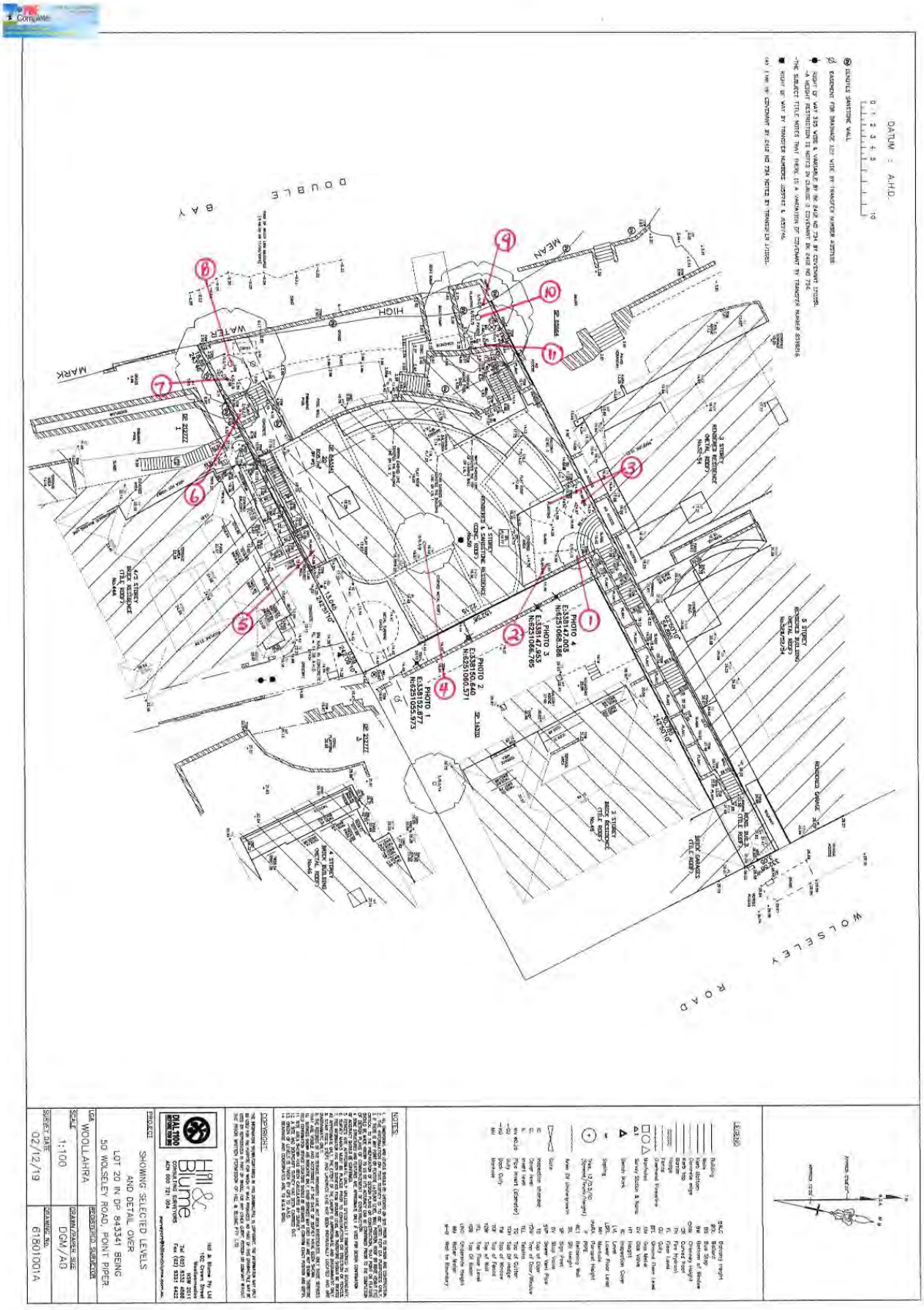
(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

(ULE) The various ULE categories indicate the useful life anticipated for an individual tree or trees assessed as a group. Factors such as the location, age, condition and vitality of the tree are significant to the determination of this rating. Other influences such as the tree's effect on better specimens and the economics of managing the tree successfully in its location are also relevant to ULE (Barrell 1993, 1995, 2001).

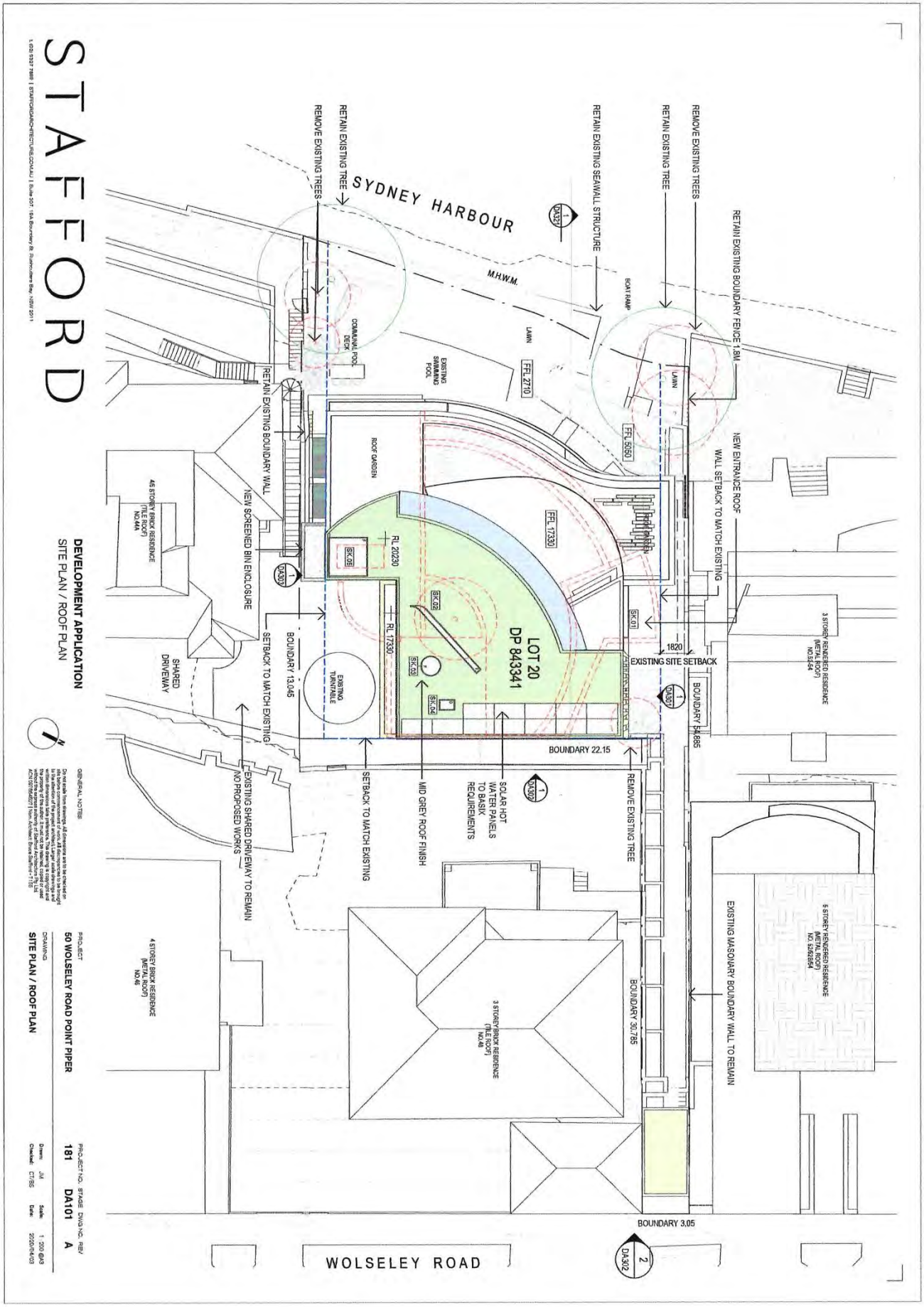
ULE RATING (UPDATED 1/4/01) BARRELL

1.Long ULE: Trees that appear to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.	**2.Medium ULE:** Trees that appear to be retainable at the time of assessment for more than 15-40 years with an acceptable level of risk.	**3.Short ULE:** Trees that appear to be retainable at the time of assessment for more than 5-15 years with an acceptable level of risk.	**4.Remove:** Trees that should be removed within the next 5 years.	**5.Small, young or regularly pruned:** Trees that can be reliably moved or replaced.
(A) Structurally sound trees located in positions that can accommodate future growth	**(A)** Trees that may only live between 15 and 40 more years.	**(A)** Trees that may only live between 5 and 15 more years.	**(A)** Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.	**(A)** Small trees less than 5 Metres in height.
(B) Trees that could be made suitable for retention in the long term by remedial tree care.	**(B)** Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.	**(B)** Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.	**(B)** Dangerous trees because of instability or recent loss of adjacent trees.	**(B)** Young trees less than 15 years old but over 5 metres in height.
(C) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	**(C)** Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	**(C)** Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	**(C)** Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.	**(C)** Formal hedges and trees intended for regular pruning to artificially control growth.
	(D) Trees that could be made suitable for retention in the medium term by remedial tree care.	**(D)** Trees that require substantial remedial tree care and are only suitable for retention in the short term.	**(D)** Damaged trees that are clearly not safe to retain.	
			(E) Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	
			(F) Trees that are damaging or may cause damage to existing structures within 5 years.	
			(G) Trees that will become dangerous after removal of other trees for the reasons given in (A) to (F).	
			(H) Trees in categories (A) to (G) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.	

Annexure B: Tree location plan



Annexure C: Tree impact plans



MATERIALS LEGEND

	Existing tree to be retained
	Proposed new tree / palm
	Proposed shrub planting
	Proposed mass planting
	Turf
	Decorative Gravel
	Existing stone wall
	Concrete paving
EXT15.59	Existing levels
FFL 15.99	Proposed levels

1 LANDSCAPE PLAN - POOL LEVEL
Scale 1:100

SECRET GARDENS

LANDSCAPE DESIGN, CONSTRUCTION & MAINTENANCE
17 AYLESBURY STREET, BOTANY NSW 2019
PHONE 9314 5335 FAX 9314 5322

NOTES
THIS DRAWING IS FOR DESIGN GUIDANCE ONLY. FINAL DETAILS MUST MEET SITE CONDITIONS, RELEVANT AUTHORITIES AND APPLICABLE BUILDING STANDARDS. VERIFY ALL DIMENSIONS ON SITE AND WITH DETAILED SITE SURVEY PRIOR TO OFF SITE FABRICATIONS.

PLEASE NOTE THAT THE PLANT GRAPHICS ARE INDICATIVE SIZES ONLY AND NOT AN ACCURATE REPRESENTATION AT TIME OF PURCHASE

PROJECT
JAKOB RESIDENCE
50 WOLSELEY RD
POINT PIPER 2027

DRAWN	SCALE	DATE
NHHP	1:100 [A2]	20.05.2020

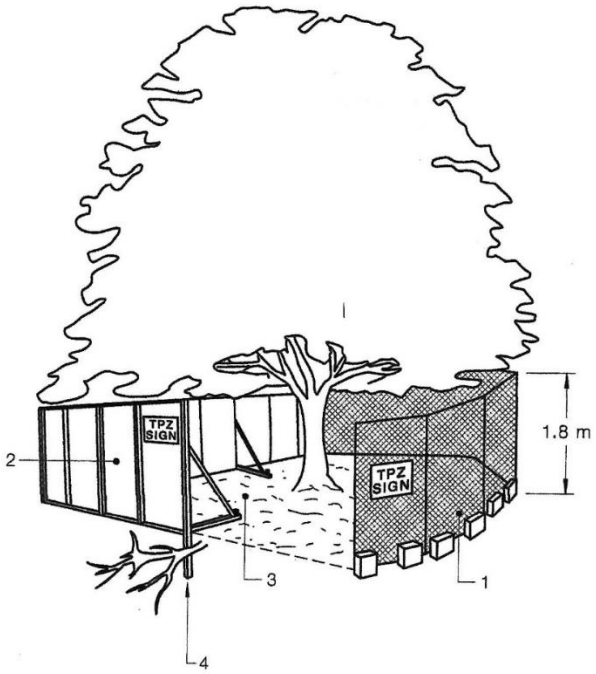
TITLE
LANDSCAPE PLAN - POOL LEVEL

N

DWG NO
L-DA-01

REV
C

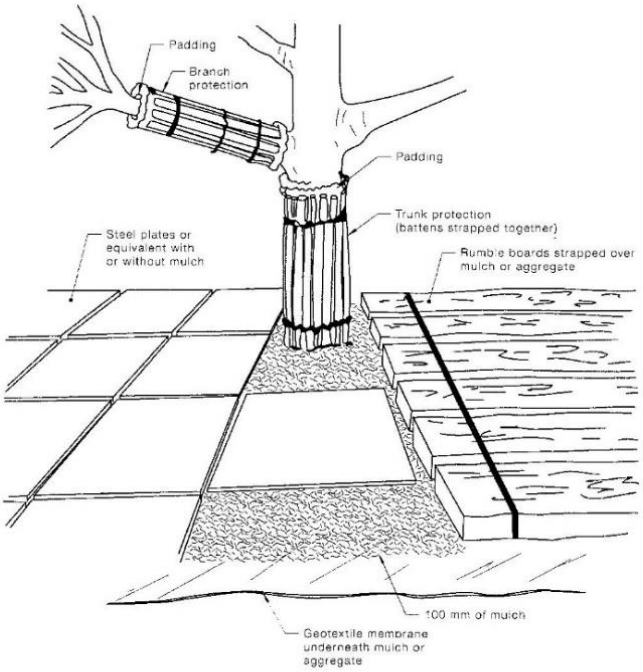
Annexure D: Tree protection details



LEGEND:

1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
2 Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

FIGURE 3 PROTECTIVE FENCING



NOTES:

1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION


ROBBOS

VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT

DRAWING TITLE
B85Entry

ADDRESS
50 Wolseley Road
Point Piper

1:100 @ A4

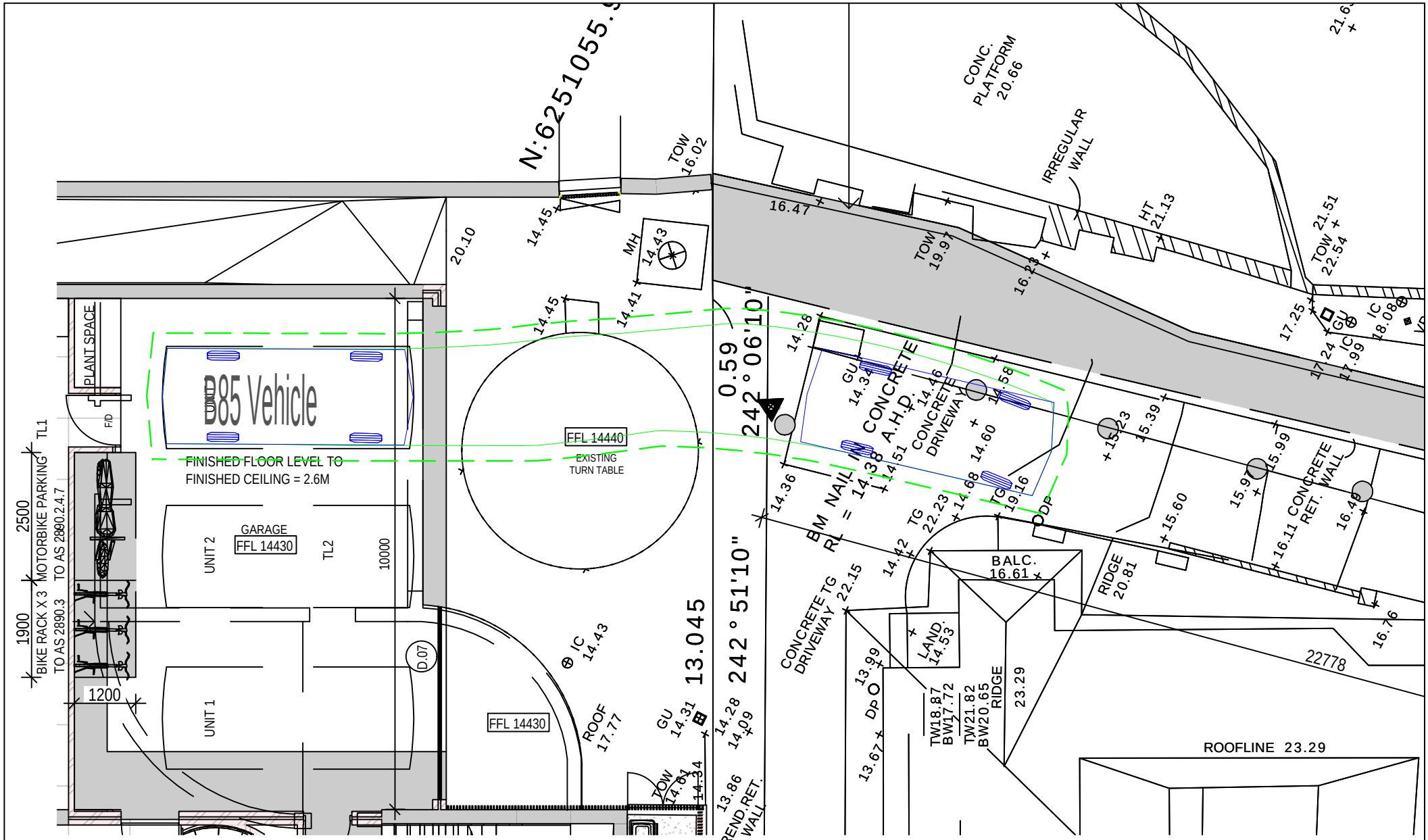
PROJECT NO.
21122

DATE DRAWN
2021-7-9

REVIEWED
RV

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089
Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT

DRAWING TITLE
B85Exit(1)

ADDRESS
50 Wolseley Road
Point Piper

1:100 @ A4

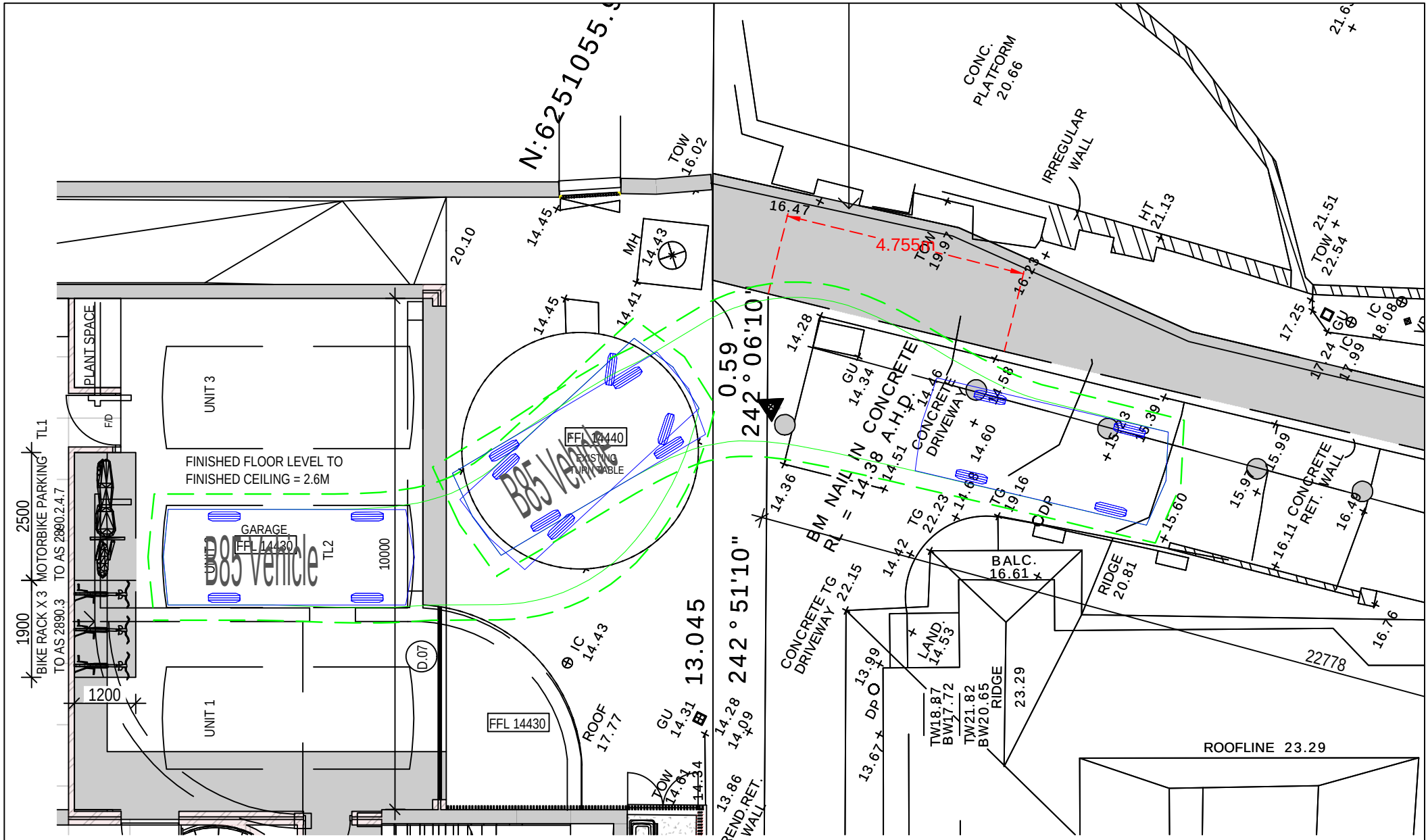
PROJECT NO.
21122

DATE DRAWN
2021-3-9

REVIEWED
RV

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089
Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT

DRAWING TITLE
B85Exit(2)

ADDRESS
50 Wolseley Road
Point Piper

1:100 @ A4

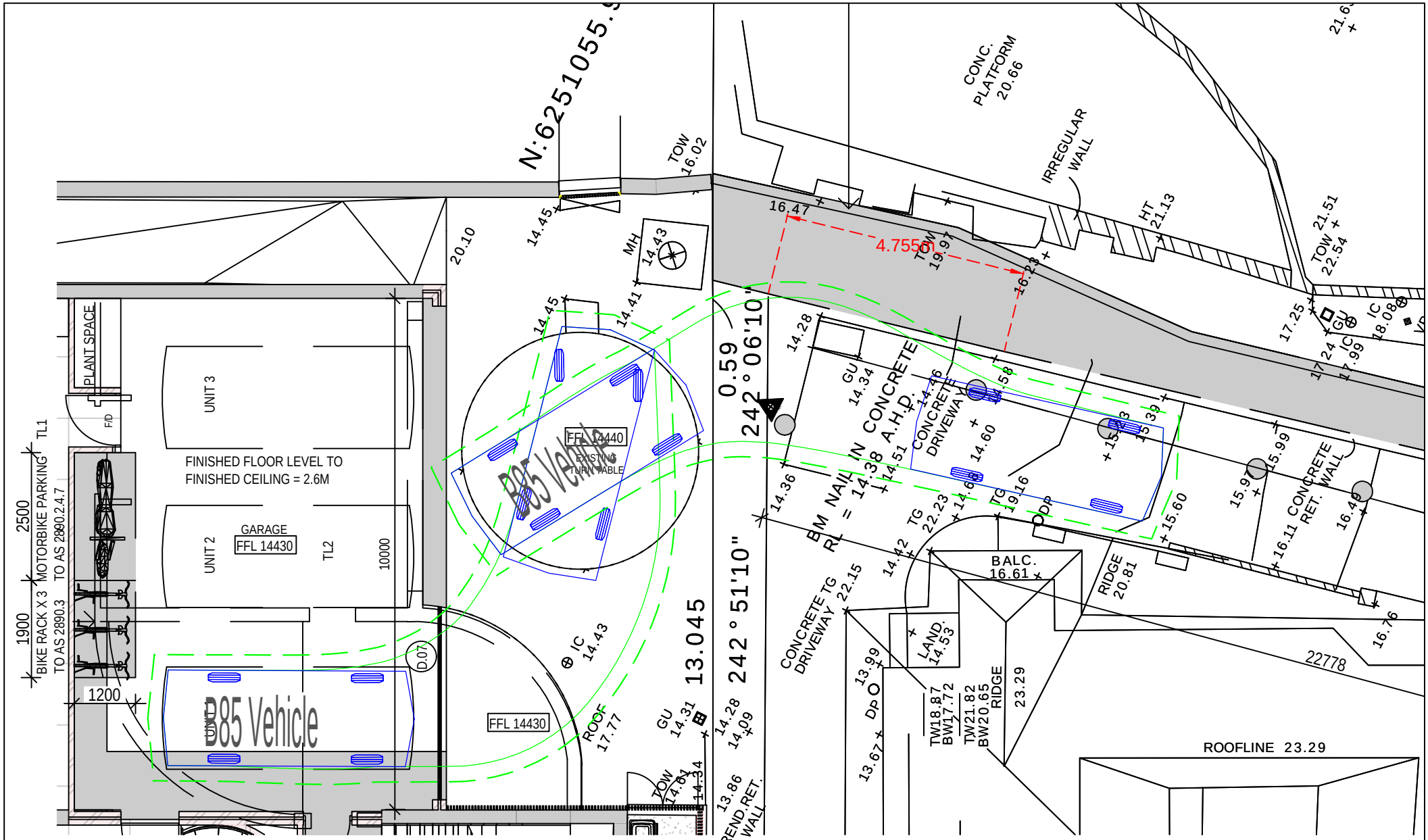
PROJECT NO.
21122

DATE DRAWN
2021-3-9

REVIEWED
RV

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT

DRAWING TITLE
B85Exit(3)

ADDRESS
50 Wolseley Road
Point Piper

1:100 @ A4

PROJECT NO.
21122

DATE DRAWN
2021-3-9

REVIEWED
RV

PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

PIPEWORK

STW	STORMWATER
SS	SUBSOIL
DP	DOWNPIPE
RD	ROOF DRAINAGE
	EXISTING SERVICE
	EXISTING SERVICE TO BE DISCONNECTED AND REMOVED

PIPEWORK SYMBOLS

R	RISER	
D	DROPPER	
DOF	DIRECTION OF FLOW	
C	CONTINUATION	
CO	CLEAR OUT	
STWKIP	STORMWATER KERB INLET PIT	
STWIP	STORMWATER INLET PIT	
GRD	GRATED DRAIN	
SO	SAFETY OVERFLOW	
SP	SPREADER	
RWO	RAINWATER OUTLET	
BRWO	BALCONY RAINWATER OUTLET	
PRWO	PLANTER RAINWATER OUTLET	
SRWO	SPOON DRAIN RAINWATER OUTLET	

ABBREVIATIONS

FFL	FINISH FLOOR LEVEL
IL	INVERT LEVEL
RL	REDUCED LEVEL
UPVC	UNPLASTICIZED POLYVINIL CHLORIDE
NTS	NOT TO SCALE
UNO	UNLESS NOTED OTHERWISE
SQ	SQUARE
mm	MILLIMETRES
m	METRES
m2	SQUARE METRES
m3	CUBIC METRES
/sec	PER SECOND
MIN	MINIMUM
MAX	MAXIMUM
APPR	APPROXIMATLY
DIA	DIAMETER
EX	EXISTING
AHD	AUSTRALIAN HEIGHT DATUM

STORMWATER

GENERAL NOTES

ALL IN ACCORDANCE WITH COUNCIL's STORMWATER REQUIREMENTS

PIPEWORK DESIGN

ALL PIPEWORK IS SIZED AND DESIGNED TO HANDLE A 1:100 YEAR EVENT RAINFALL

PIPEWORK

ALL PIPEWORK TO BE 100mm ⌀ 1% FALL (UNO)

STORMWATER PIT SIZES

MINIMUM INTERNAL MEASUREMENTS:				
DEPTH TO BASE OF CHAMBER	RECTANGULAR		CIRCULAR	LADDER / STEP IRON
	WIDTH	LENGTH		
SMALLER THAN 600	450	450	600	NO
601 TO 900	600	600	900	NO
901 TO 1200	600	900	1050	NO
GREATER THAN 1200	900	900	1050	YES

STORMWATER REQUIREMENTS

ALL IN ACCORDANCE WITH COUNCIL's 'STORMWATER AND FLOOD RISK MANAGEMENT' (CHAPTER E2)

GENERAL

TOTAL SITE AREA: 833.3m2

PROPOSED WORKS

ALTERATIONS AND ADDITIONS TO EXISTING SINGLE DWELLING. CONVERSION TO 3 RESIDENTIAL UNITS.

ON SITE DETENTION (OSD)

THE PROPERTY IS LOCATED IN COUNCIL's DETENTION EXEMPTION AREA

POINT OF DISCHARGE

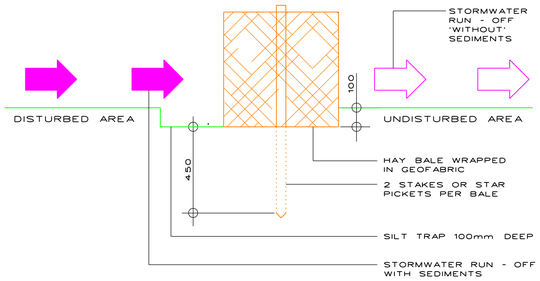
DISCHARGE INTO WATSONS BAY (SYDNEY HARBOUR)

WATER SENSITIVE URBAN DESIGN (WSUD)

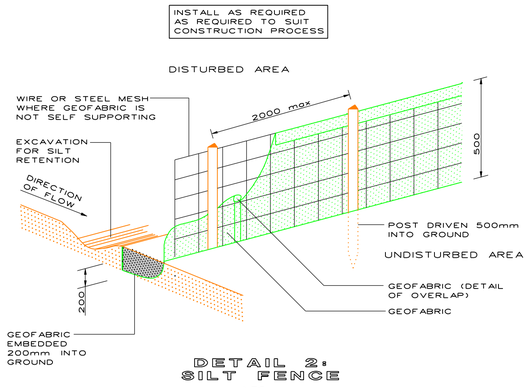
TREATMENT DEVICE IS PROPOSED IN LINE WITH COUNCIL's REQUIREMENTS AND THE MUSIC MODEL. REFER TO DRAWING H - DA - 01 FOR FURTHER DETAILS.

RAINWATER COLLECTION

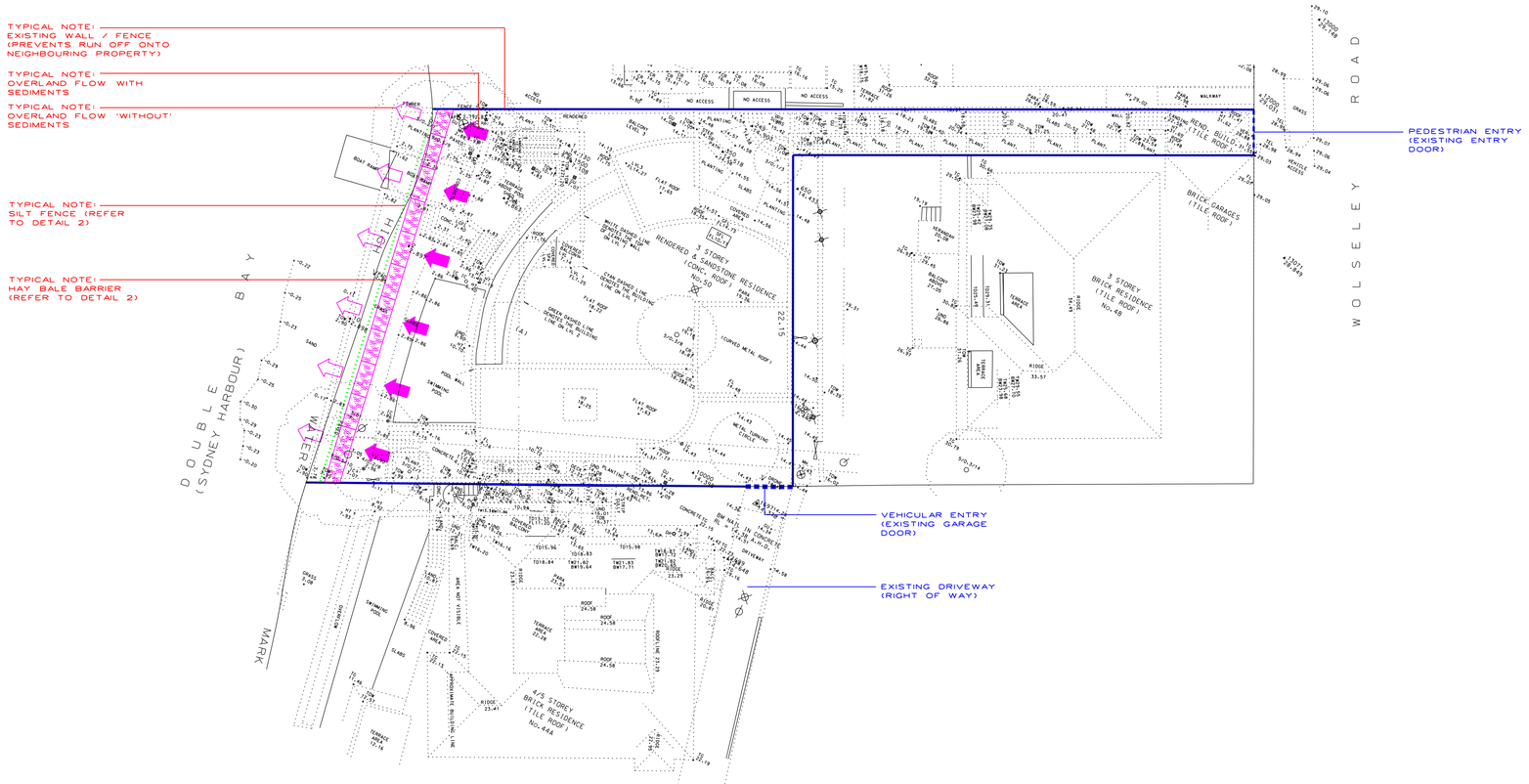
A RAINWATER COLLECTION TANK IS PROPOSED IN LINE WITH THE BASIX REPORT. REFER TO DRAWING H - DA - 01 FOR DETAILS.



DETAIL 1:
HAY BALE BARRIER
NTS



DETAIL 2:
SILT FENCE
NTS



SEDIMENTATION CONTROL DURING CONSTRUCTION

APPROVAL

N

REV	DESCRIPTION	DATE
B	RE - ISSUED FOR DA	18.11.20
A	ISSUED FOR DA	14.05.20

CLIENTS
ALEXANDRA & GABRIEL JAKOB

ARCHITECT
STAFFORD ARCHITECTURE

itmdesign pty ltd
consulting hydraulic engineers
unit 6 / 3 apollo st, warriewood nsw 2102
po box 1438 mona vale nsw 1660
tel (02) 9997 1566 fax (02) 9997 3266
email markus@itmdesign.com.au

PROJECT
50 WOLSELEY ROAD
POINT PIPER

DRAWING TITLE
LEGEND, DETAILS & SEDIMENTATION CONTROL

SCALE: 1:200 @ A1 / 1:400 @ A3
JOB No: 19/192
DISCIPLINE: HYD
DRAWING No: H-DA-00
REVISION: B

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

DRAWING STW

STORMWATER DA DRAWING ONLY

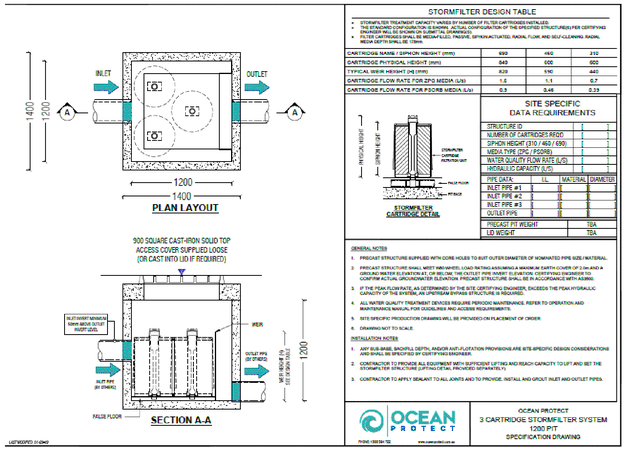
- NOT FOR CONSTRUCTION
- FINAL LOCATION OF ALL DOWNPIPES, PITS, RAINWATER OUTLETS AND SUBSOIL PIPES TO BE CONFIRMED DURING CONSTRUCTION CERTIFICATE STAGE OF THE PROPOSED DEVELOPMENT

LANDSCAPING DRAINAGE

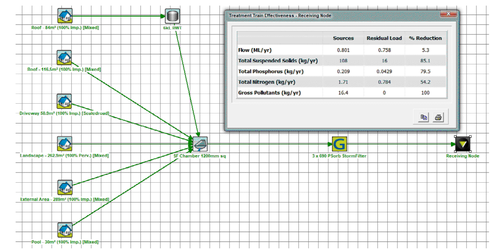
ALL LANDSCAPED AREAS LOCATED ABOVE CONCRETE SLABS TO BE EQUIPPED WITH WATERPROOFING MEMBRANE, DRAINAGE CELL AND GEOFABRIC

EXISTING DRAINAGE

DURING DEMOLITION / CONSTRUCTION! ALLOW TO INVESTIGATE EXACT LOCATION, SIZE AND CONDITION OF ALL DRAINAGE PIPES. LIAISE WITH itm design TO DISCUSS THE FINDINGS. ALLOW TO REPLACE / UPGRADE AS REQUIRED.



DETAIL 1
TREATMENT DEVICE DETAILS
NTS

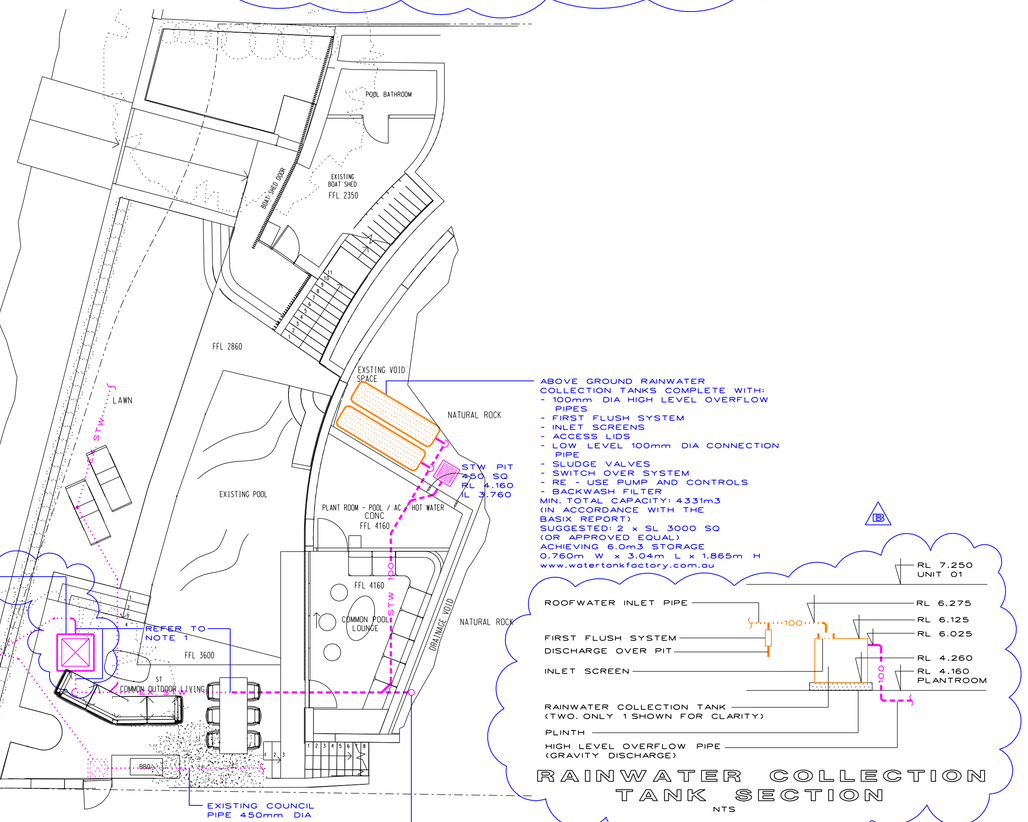


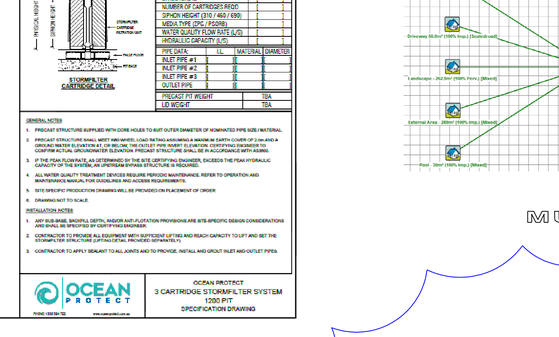
DETAIL 2
MUSIC MODEL
NTS

NOTES

FOR GENERAL NOTES AND LEGEND REFER TO DRAWING H - DA - 00

1. LOCATE AND CONNECT TO EXISTING DRAINAGE SYSTEM (EXACT LOCATION TO BE VERIFIED ON SITE)



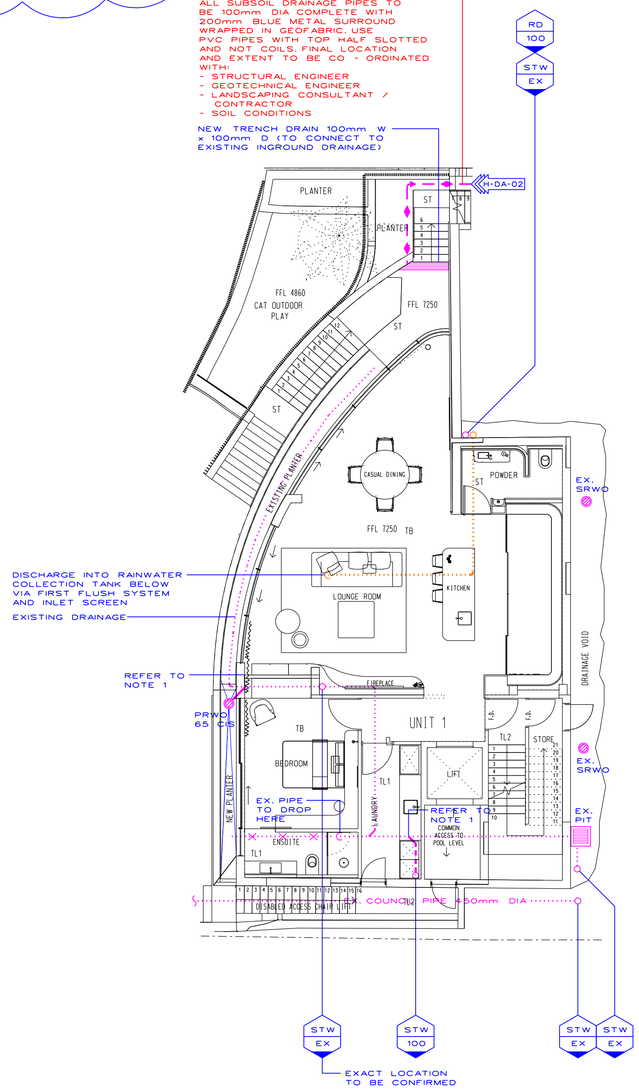


RAINWATER COLLECTION TANK SECTION
NTS

POOL AND PLANT SPACE

TYPICAL NOTE:
ALL SUBSOIL DRAINAGE PIPES TO BE 100mm DIA COMPLETE WITH 200mm BLUE METAL SURROUND WRAPPED IN GEOFABRIC. USE PVC PIPES WITH TOP HALF SLOTTED AND NOT COILS. FINAL LOCATION AND EXTENT TO BE CO - ORDINATED WITH:
- STRUCTURAL ENGINEER
- GEOTECHNICAL ENGINEER
- LANDSCAPING CONSULTANT / CONTRACTOR
- SOIL CONDITIONS

NEW TRENCH DRAIN 100mm W x 100mm D (TO CONNECT TO EXISTING INGROUND DRAINAGE)



UNIT 01 LEVEL

APPROVAL

REV	DESCRIPTION	DATE
B	RE - ISSUED FOR DA	18.11.20
A	ISSUED FOR DA	14.05.20

CLIENTS
ALEXANDRA & GABRIEL JAKOB

ARCHITECT
STAFFORD ARCHITECTURE

itm design pty ltd
consulting hydraulic engineers
unit 6 / 3 apollo st, warriewood nsw 2102
po box 1438 mona vale nsw 1660
tel (02) 9997 1566 fax (02) 9997 3266
email markus@itmdesign.com.au

PROJECT
50 WOLSELEY ROAD
POINT PIPER

DRAWING TITLE
POOL & UNIT 01 LEVEL STORMWATER

SCALE: 1:100 @ A1 / 1:200 @ A3
JOB No: 19/192
DISCIPLINE: HYD
DRAWING No: H-DA-01
REVISION: B

STW DA DRAWING

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STORMWATER DA DRAWING ONLY

- NOT FOR CONSTRUCTION
- FINAL LOCATION OF ALL DOWNPIPES, PITS, RAINWATER OUTLETS AND SUBSOIL PIPES TO BE CONFIRMED DURING CONSTRUCTION CERTIFICATE STAGE OF THE PROPOSED DEVELOPMENT

LANDSCAPING DRAINAGE

ALL LANDSCAPED AREAS LOCATED ABOVE CONCRETE SLABS TO BE EQUIPPED WITH WATERPROOFING MEMBRANE, DRAINAGE CELL AND GEOFABRIC

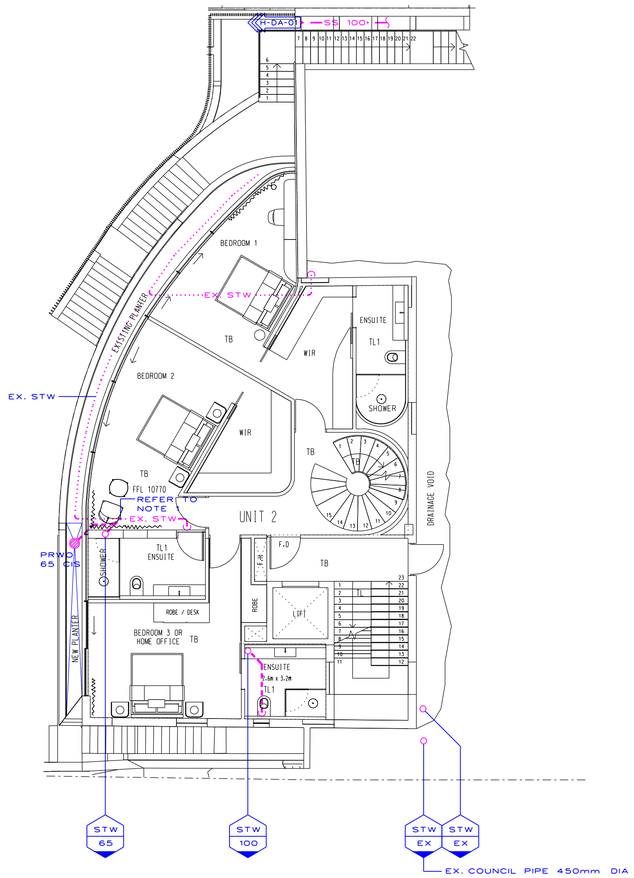
EXISTING DRAINAGE

DURING DEMOLITION / CONSTRUCTION: ALLOW TO INVESTIGATE EXACT LOCATION, SIZE AND CONDITION OF ALL DRAINAGE PIPES. LIAISE WITH itm design TO DISCUSS THE FINDINGS. ALLOW TO REPLACE / UPGRADE AS REQUIRED.

NOTES

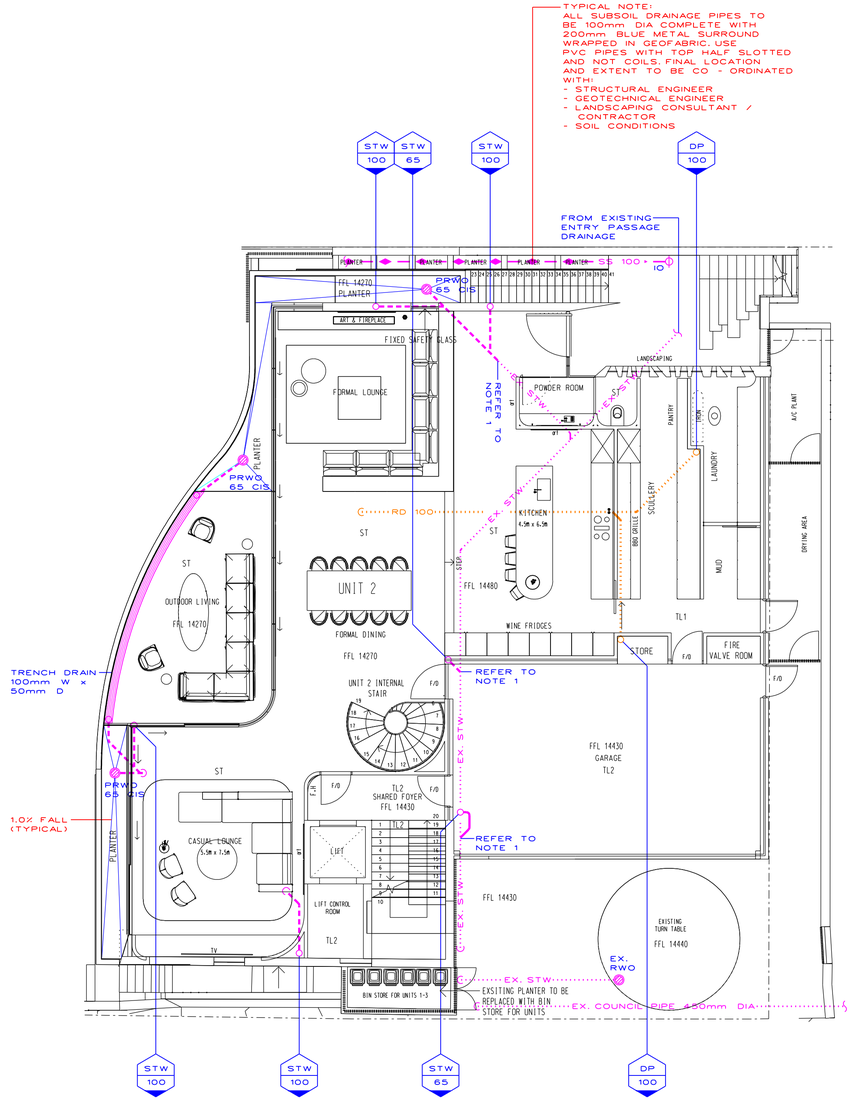
FOR GENERAL NOTES AND LEGEND REFER TO DRAWING H - DA - 00

1. LOCATE AND CONNECT TO EXISTING DRAINAGE SYSTEM (EXACT LOCATION TO BE VERIFIED ON SITE)



UNIT 02 - LOWER LEVEL

TYPICAL NOTE:
ALL SUBSOIL DRAINAGE PIPES TO BE 100mm DIA COMPLETE WITH 200mm BLUE METAL SURROUND WRAPPED IN GEOFABRIC. USE PVC PIPES WITH TOP HALF SLOTTED AND NOT COILS. FINAL LOCATION AND EXTENT TO BE CO - ORDINATED WITH:
- STRUCTURAL ENGINEER
- GEOTECHNICAL ENGINEER
- LANDSCAPING CONSULTANT / CONTRACTOR
- SOIL CONDITIONS



UNIT 02 - UPPER LEVEL

APPROVAL

REV	DESCRIPTION	DATE
B	RE - ISSUED FOR DA	18.11.20
A	ISSUED FOR DA	14.05.20

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itm design pty ltd
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unit 6 / 3 apollo st, warriewood nsw 2102
po box 1438 mona vale nsw 1660
tel (02) 9997 1566 fax (02) 9997 3266
email: markus@itmdesign.com.au

PROJECT
50 WOLSELEY ROAD
POINT PIPER

DRAWING TITLE
UNIT 02 LEVELS STORMWATER

SCALE 1:100 @ A1 / 1:200 @ A3
JOB No 19/192
DISCIPLINE HYD
DRAWING No H-DA-02
REVISION B

STW DA DRAWING

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STORMWATER DA DRAWING ONLY

- NOT FOR CONSTRUCTION
- FINAL LOCATION OF ALL DOWNPIPES, PITS, RAINWATER OUTLETS AND SUBSOIL PIPES TO BE CONFIRMED DURING CONSTRUCTION CERTIFICATE STAGE OF THE PROPOSED DEVELOPMENT

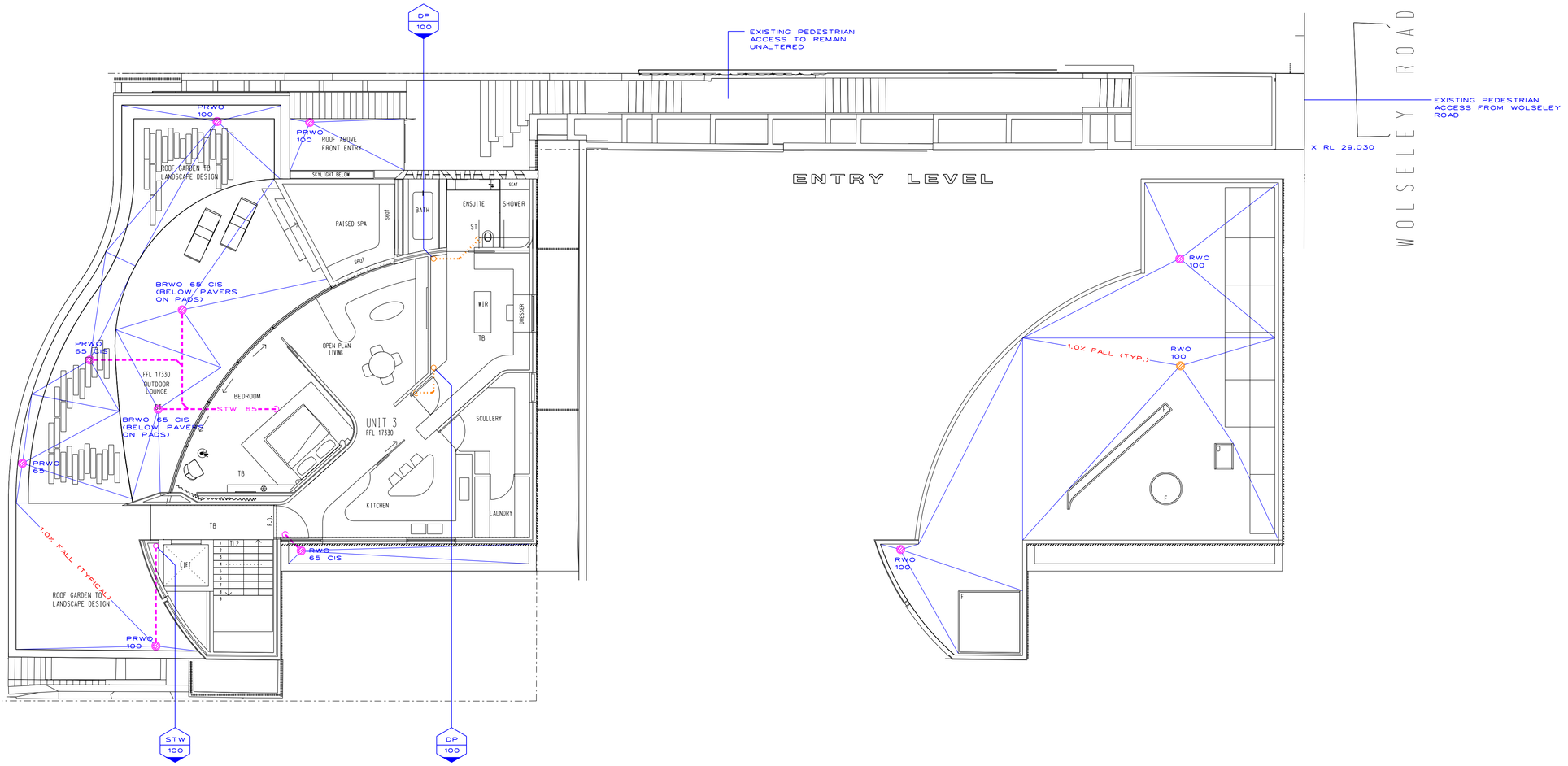
LANDSCAPING DRAINAGE

ALL LANDSCAPED AREAS LOCATED ABOVE CONCRETE SLABS TO BE EQUIPPED WITH WATERPROOFING MEMBRANE, DRAINAGE CELL AND GEOFABRIC

NOTES

FOR GENERAL NOTES AND LEGEND REFER TO DRAWING H - DA - 00

UNIT 03 LEVEL



ROOF

APPROVAL

REV	DESCRIPTION	DATE
B	RE - ISSUED FOR DA	30.11.20
A	ISSUED FOR DA	14.05.20

CLIENTS
ALEXANDRA & GABRIEL JAKOB

ARCHITECT
STAFFORD ARCHITECTURE

itmdesign pty ltd
consulting hydraulic engineers
unit 6 / 3 apollo st, warriewood nsw 2102
po box 1438 mona vale nsw 1660
tel (02) 9997 1566 fax (02) 9997 3266
email: markus@itmdesign.com.au

PROJECT
50 WOLSELEY ROAD
POINT PIPER

DRAWING TITLE
UNIT 03, ENTRY LEVELS & ROOF STORMWATER

SCALE 1:100 @ A1 / 1:200 @ A3
JOB No 19/192
DISCIPLINE HYD
DRAWING No H-DA-03
REVISION B

STW DA DRAWING

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Our Ref: NW30025/L001:PDT
Contact: Doug Treloar

29 June 2020

Cardno (NSW/ACT) Pty Ltd
ABN 95 001 145 035

Level 9 - The Forum
203 Pacific Highway
St Leonards 2065
Australia

Phone +61 2 9496 7700
Fax +61 2 9496 7748

www.cardno.com

50 Wolseley Road

Point Piper NSW 2027

Attention: Mr Chris Trotta – Associate, Stafford Architecture

Dear Sirs,

50 WOLSELEY ROAD, POINT PIPER

Introduction

Acting upon your instructions, we have reviewed the Woollahra Council Excel Estuary Planning Levels records and Coastal Zone Management Plan wave climate data base prepared by Cardno for this site at 50 Wolseley Road, Point Piper, for the purpose of the development project described below. **Figure 1** shows this site on the western side of Point Piper.

Annexure A provides a site survey and plans for proposed modifications to convert this property from a single residence to three residential units. **Annexure B** provides site photographs, including ones of the existing sandstone block seawall. No changes are proposed for this wall. It appears to sit on a concrete/rock base and to be in sound condition. Its crest level (TOW on the survey), is 2.9m AHD – see the survey presented in **Annexure A**, with slightly lower grassed levels landward of this wall. There are no habitable areas on the lowest ground level – pool and garden area.

This report addresses RFI requests made by Woollahra Municipal Council in terms of its Estuary Planning Level (EPL) and Coastal Zone Management Plan (CZMP) requirements.

Estuary Planning Level

Adopting the 100-years average recurrence interval (ARI), 2100 scenario for design, together with a freeboard of 0.3m (non-habitable areas), we have determined that the estuary planning level is 2.62m AHD – this includes 0.9m of projected sea level rise (SLR). Hence at 2100, the 100-years ARI design water level would not affect the grounds or the existing or modified residence(s) – below the seawall top of level 2.9m AHD. This still water level would not cause any inundation of the property – all levels at or above 2.8m AHD; noting the finished floor level of Unit 1 is 7.25m AHD – lowest unit.

Coastal Zone Management Plan

Wave Overtopping

Cardno's (2015) CZMP addresses wave run-up and overtopping at this site for 2100 with the projected SLR. Because the site is on the western side of Point Piper, the peak EPL, likely caused by a very severe east coast low (ECL) storm in the Tasman Sea. Will be associated with easterly to southerly winds. Hence there would likely be no incident waves on the seawall under those conditions. At other times peak wave conditions at 100-years average recurrence interval may be about 0.7m – with lower water levels.

Hence there will likely be no green water wave overtopping of the seawall now or at 2100, other than some white-water spray. Therefore the finished floor levels presented in **Annexure A** are acceptable.

Seawall Condition

Cardno has not undertaken a condition assessment of the site seawall, but the recent photographs presented in **Annexure B** show that it appears quite sound and stands on a solid base – no visible cracks or tilting.

No changes to the seawall are proposed, hence there will be no changes in the effects of the seawall on the narrow low tide beach that stands seaward of this wall.

Summary

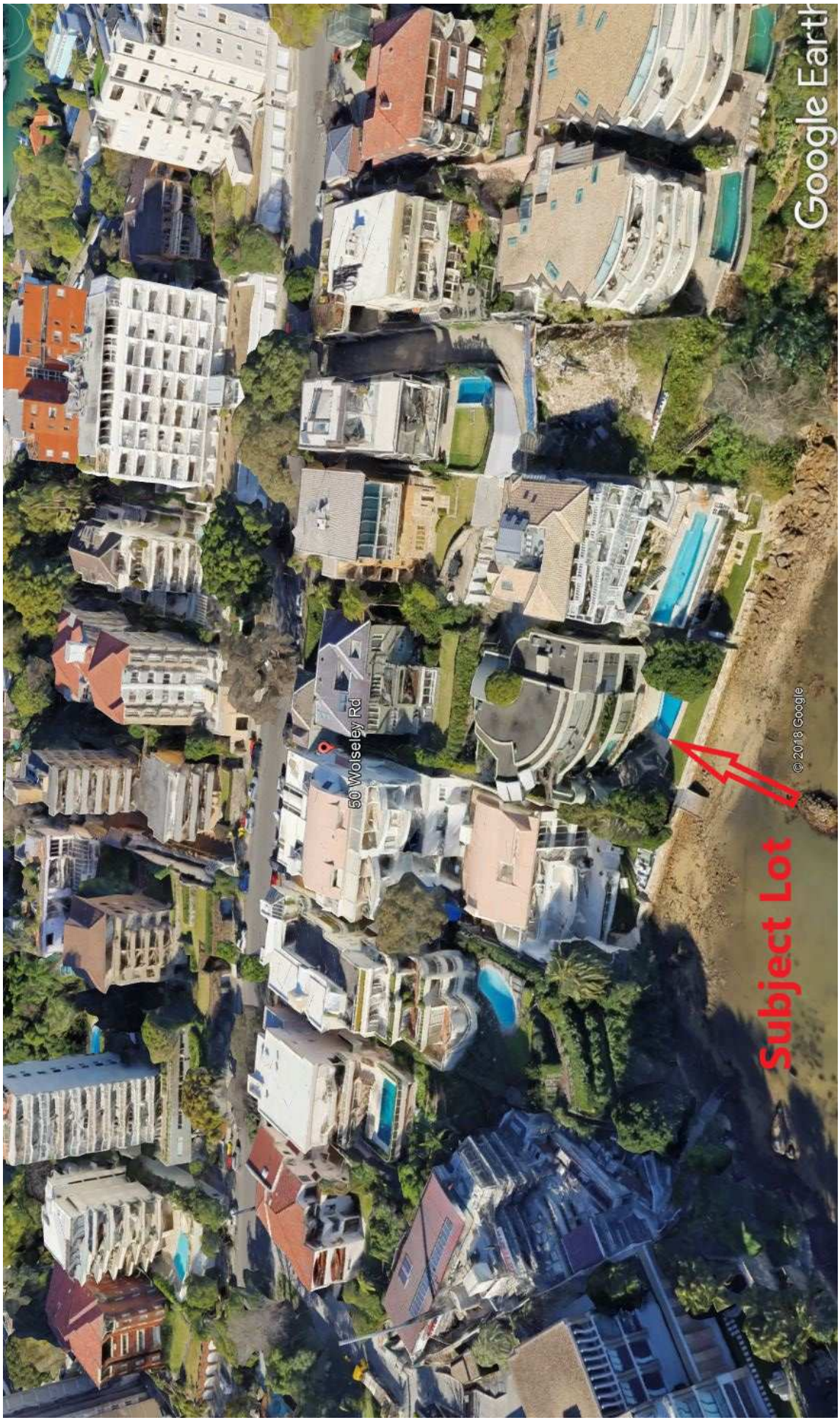
Based on these site specific EPL and CZMP investigations, there are no implications for this site at 2100, provided that the seawall is maintained.

Should you have any questions regarding this correspondence, please do not hesitate to contact me by telephone (9496 7823), or by email (doug.treloar@cardno.com.au).

Yours faithfully,

Doug Treloar
Senior Principal Coastal Engineering
for Cardno
Direct Line: +61 2 9496 7823
Email: Doug.Treloar@cardno.com.au

Cardno (2015): Woollahra Coastal Zone Management Plan, Stage 1. Report LJ3011/R2771 prepared for Woollahra Municipal Council.



50 Wolseley Road, Point Piper

Site Plan, 50 Wolseley Road, Point Piper

NW30025/L001 Jun 2020

Y:\2304\Projects_AWE\FY20\NW30025_50_Wolseley_Road_Point_Piper\4_ISSUED_DOCS\2_Report\

Figure 1

Annexure A

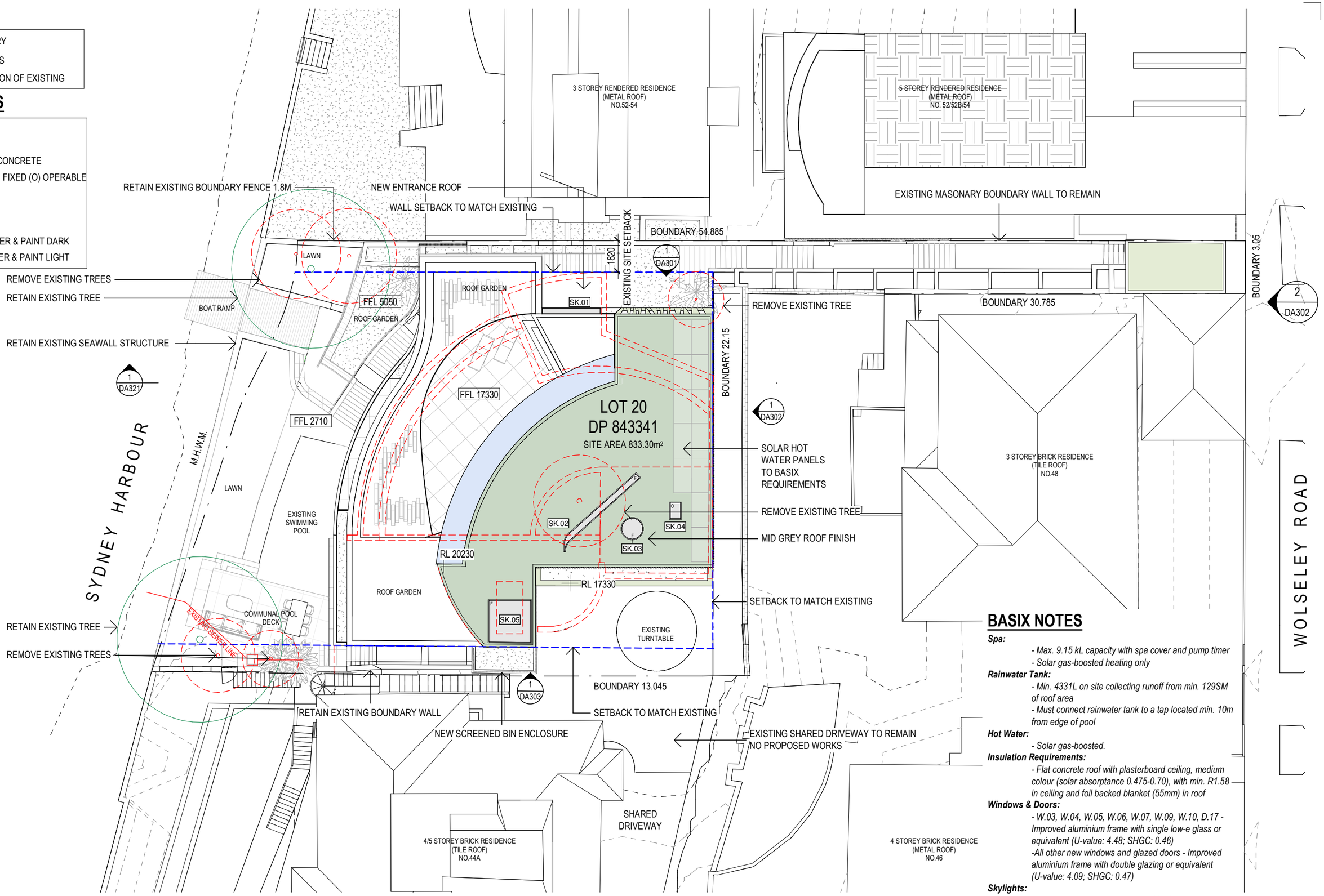
Site Survey and Plans

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT



BASIX NOTES

Spa:

- Max. 9.15 kL capacity with spa cover and pump timer
- Solar gas-boosted heating only

Rainwater Tank:

- Min. 4331L on site collecting runoff from min. 129SM of roof area
- Must connect rainwater tank to a tap located min. 10m from edge of pool

Hot Water:

- Solar gas-boosted.

Insulation Requirements:

- Flat concrete roof with plasterboard ceiling, medium colour (solar absorptance 0.475-0.70), with min. R1.58 in ceiling and foil backed blanket (55mm) in roof

Windows & Doors:

- W.03, W.04, W.05, W.06, W.07, W.09, W.10, D.17 - Improved aluminium frame with single low-e glass or equivalent (U-value: 4.48; SHGC: 0.46)
-All other new windows and glazed doors - Improved aluminium frame with double glazing or equivalent (U-value: 4.09; SHGC: 0.47)

Skylights:

- Minimum glass U-value: 2.5; SHGC: 0.456

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DEVELOPMENT APPLICATION

SITE PLAN / ROOF PLAN

GENERAL NOTES

Do not scale from drawings. All dimensions are to be checked on site before commencement of work. All discrepancies to be brought to the attention of the project architect. Larger scale drawings and written dimensions take preference. This drawing is copyright and the property of the author, it must not be retained, copied or used without the express authority of Stafford Architecture Pty Ltd.
ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO. 181 | STAGE DA101 | DWG NO. | REV A

DRAWING
SITE PLAN / ROOF PLAN

Drawn: JM | Scale: 1 : 200 @A3
Checked: CT/BS | Date: 2020/05/29

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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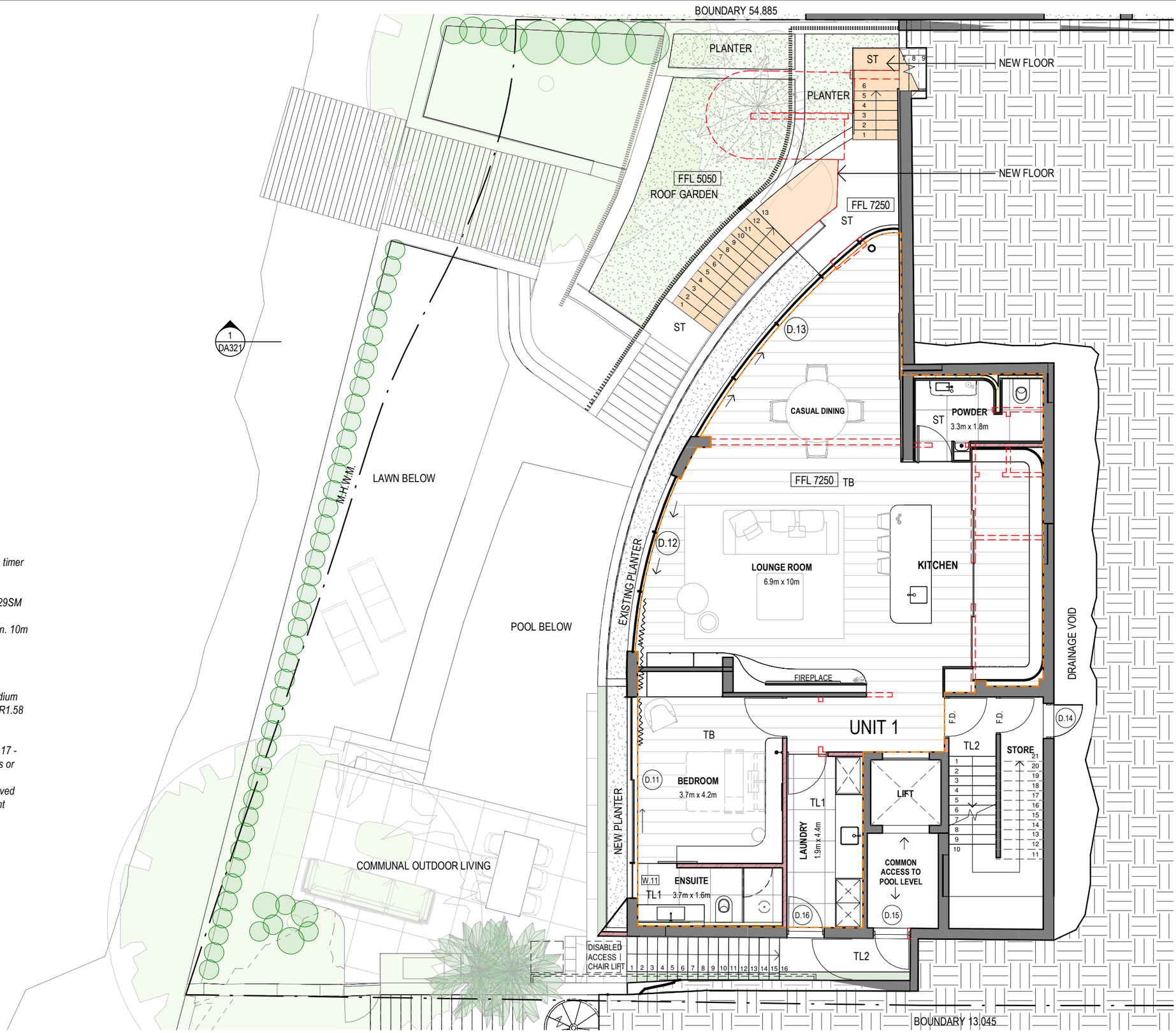

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DEVELOPMENT APPLICATION
UNIT 1

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA202		A

DRAWING
UNIT 1

Drawn:	JM	Scale:	1 : 100 @A3
Checked:	CT/BS	Date:	2020/05/29

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
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- ST - STONE
- TM - TIMBER
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- R+P(L) - RENDER & PAINT LIGHT

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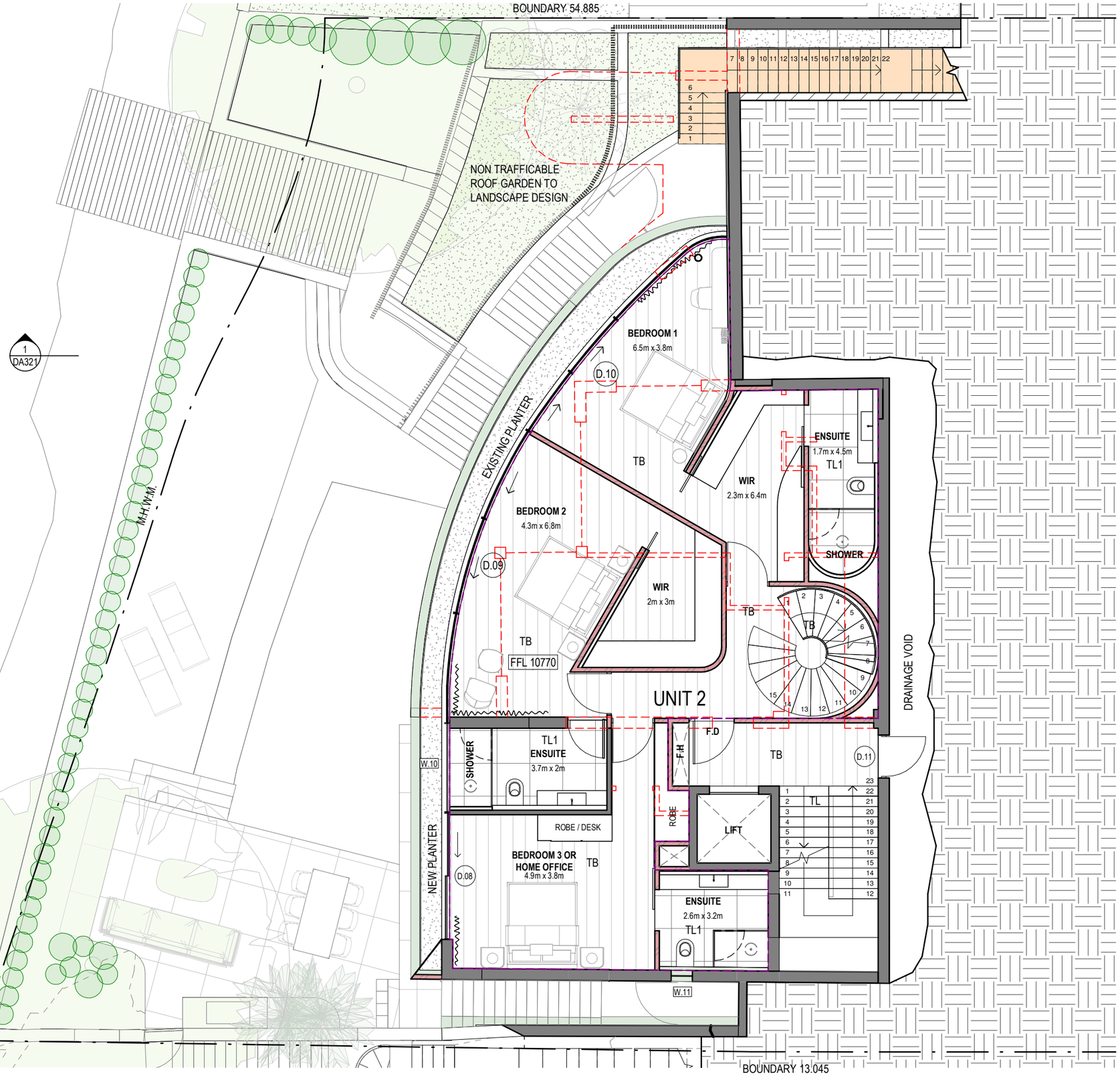

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DEVELOPMENT APPLICATION
UNIT 2 - LOWER LEVEL

GENERAL NOTES

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA203		A

DRAWING
UNIT 2 - LOWER LEVEL

Drawn:	JM	**Scale:**	1 : 100 @A3
Checked:	CT/BS	**Date:**	2020/05/29

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
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Skylights:

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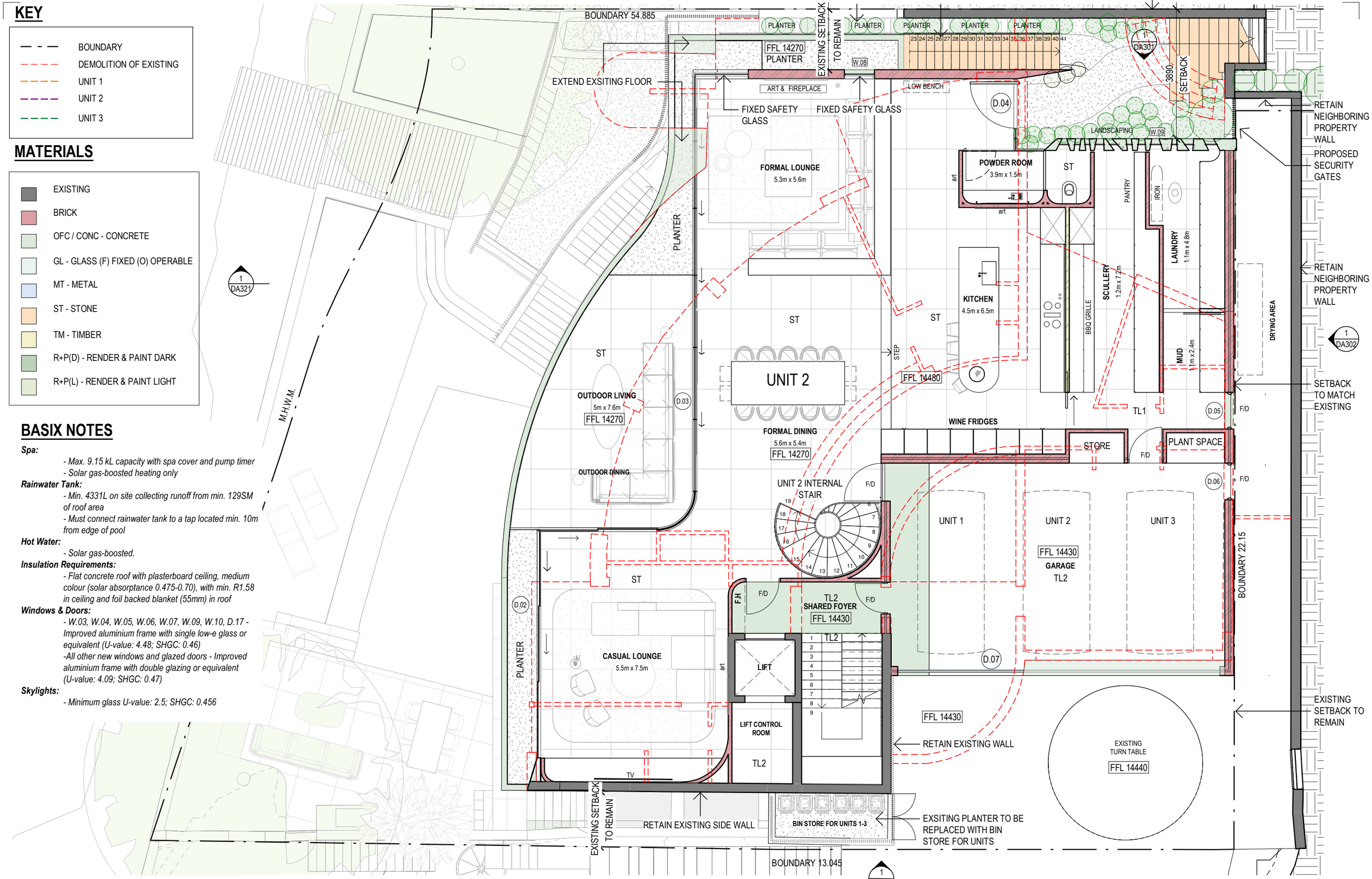

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DEVELOPMENT APPLICATION

UNIT 2 - UPPER LEVEL

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ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

DRAWING
UNIT 2 - UPPER LEVEL

PROJECT NO.	STAGE	DWG NO.	REV
181	DA204		A

Drawn:	JM	**Scale:**	1 : 100 @A3
Checked:	CT/BS	**Date:**	2020/05/29

KEY

- BOUNDARY
- DEMOLITION OF EXISTING
- UNIT 1
- UNIT 2
- UNIT 3

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
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- ST - STONE
- TM - TIMBER
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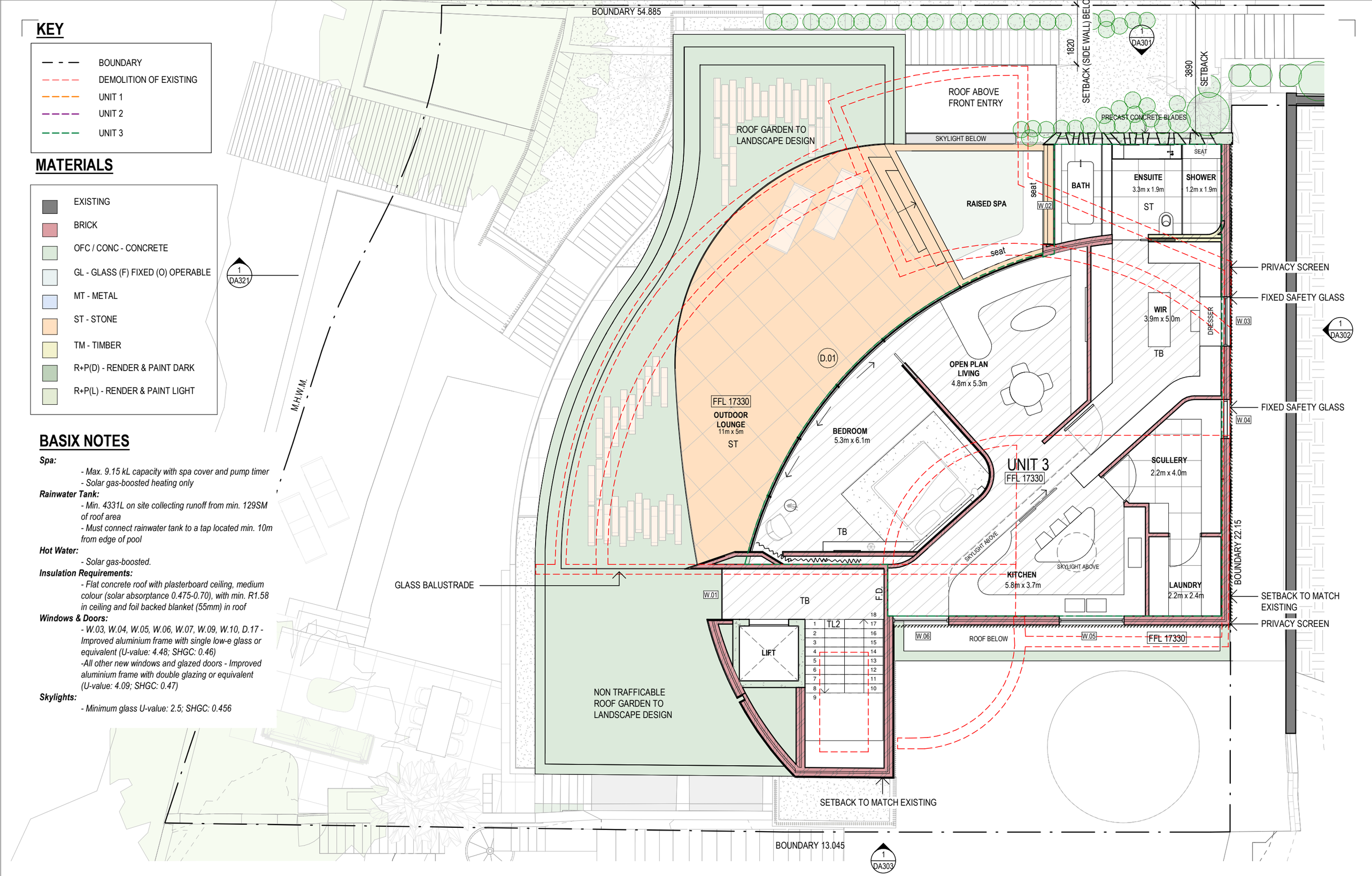

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DEVELOPMENT APPLICATION
UNIT 3

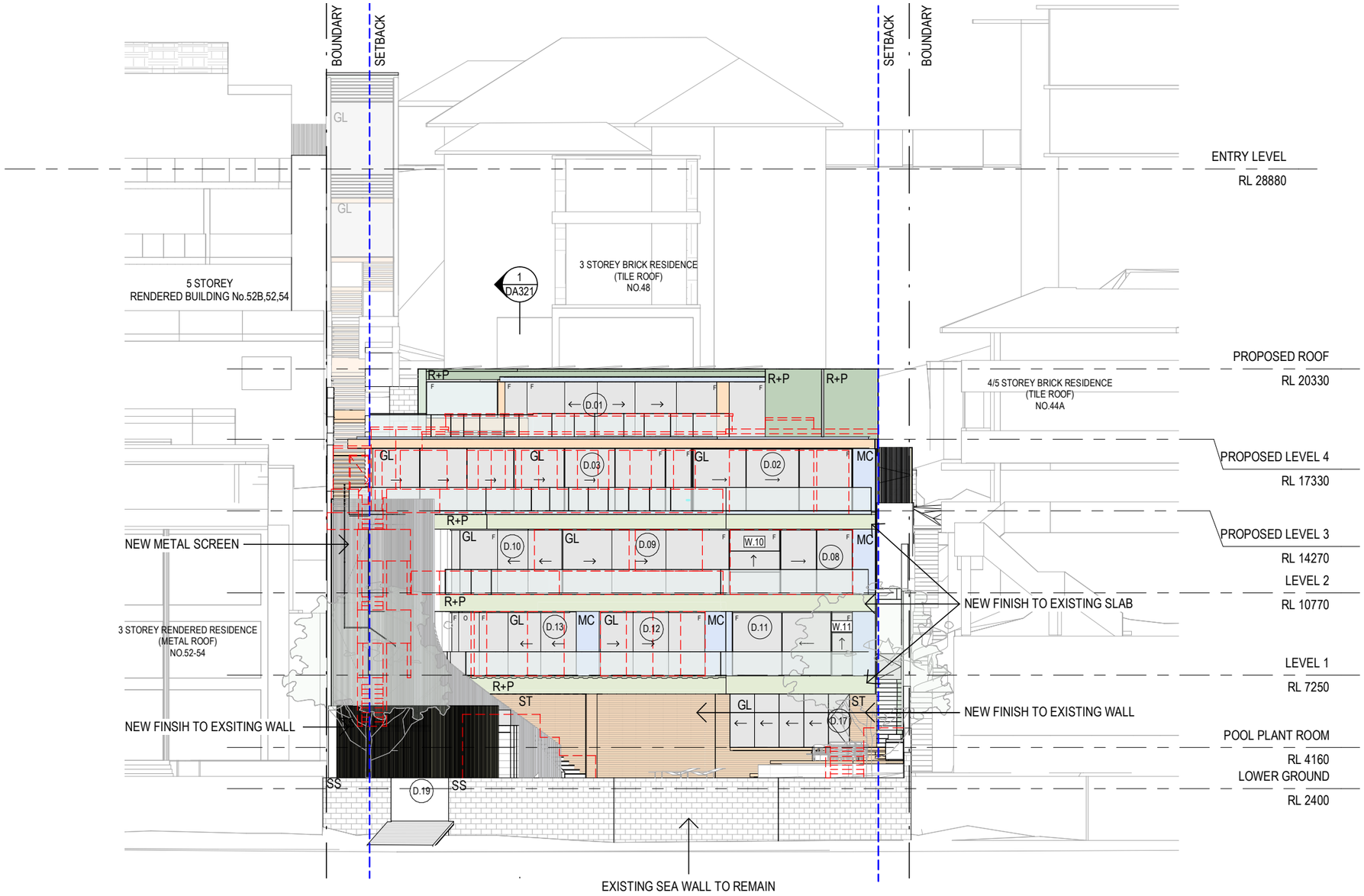
GENERAL NOTES

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA205		A

DRAWING
UNIT 3

Drawn:	JM	Scale:	1 : 100 @A3
Checked:	CT/BS	Date:	2020/05/29



1 WEST ELEVATION

1 : 200

KEY

- BOUNDARY
- SETBACKS
- DEMOLITION OF EXISTING

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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DEVELOPMENT APPLICATION
WEST ELEVATION

GENERAL NOTES

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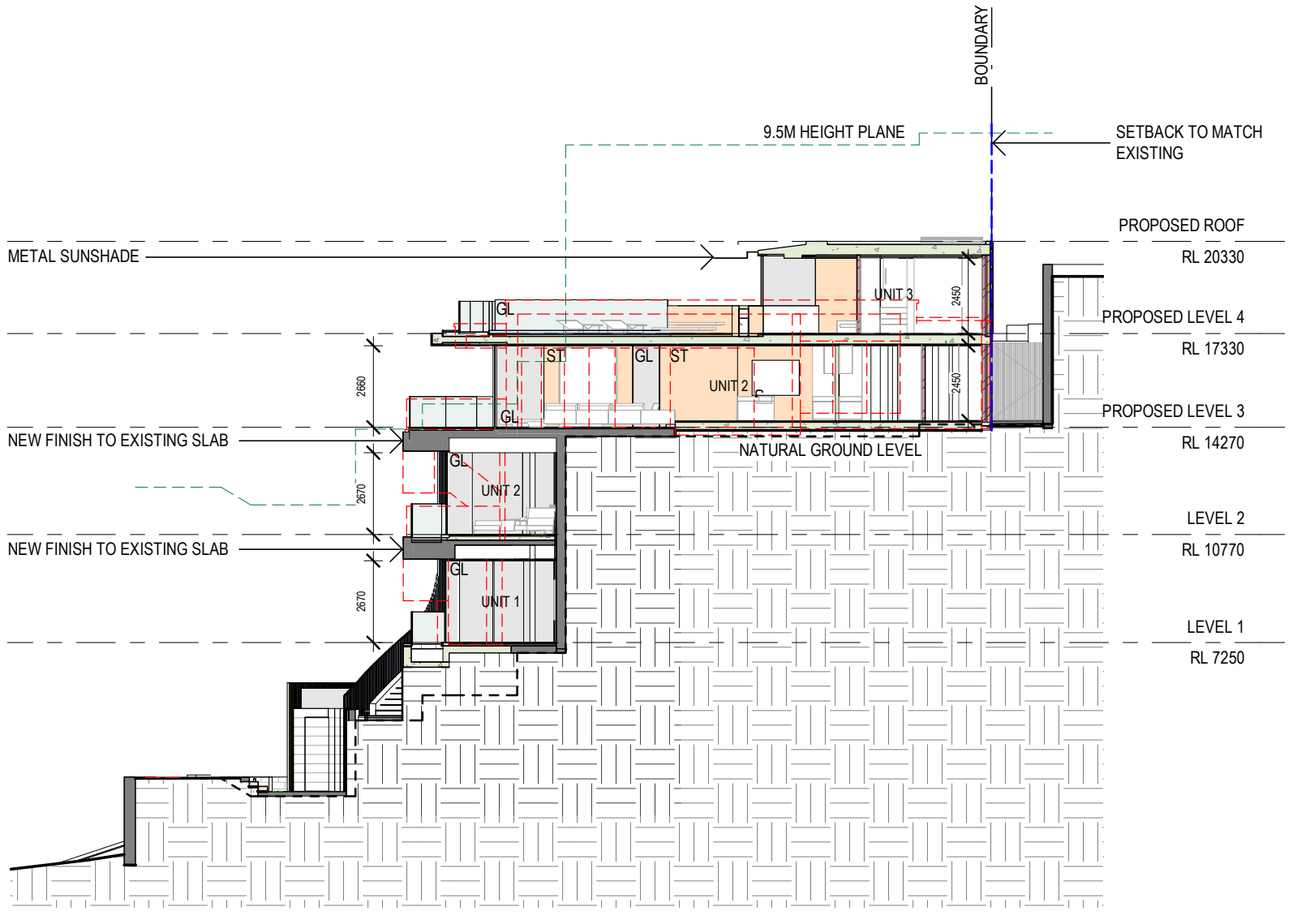
ACN 097664527 | Nom. Architect: Bruce Stafford - 7155

PROJECT
50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA304		A

DRAWING
WEST ELEVATION

Drawn:	JM	**Scale:**	1 : 200 @A3
Checked:	CT/BS	**Date:**	2020/05/29



1 SECTION AA

1 : 200

KEY

- BUILDING ENVELOPE
- DEMOLITION OF EXISTING
- LEP HEIGHT PLANE
- NATURAL GROUND LEVEL
- BOUNDARY

MATERIALS

- EXISTING
- BRICK
- OFC / CONC - CONCRETE
- GL - GLASS (F) FIXED (O) OPERABLE
- MT - METAL
- ST - STONE
- TM - TIMBER
- R+P(D) - RENDER & PAINT DARK
- R+P(L) - RENDER & PAINT LIGHT

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DEVELOPMENT APPLICATION

SECTION - AA

PROJECT

50 WOLSELEY ROAD POINT PIPER

PROJECT NO.	STAGE	DWG NO.	REV
181	DA321		A

DRAWING

SECTION - AA

Drawn:	JM	**Scale:**	1 : 200 @A3
Checked:	CT/BS	**Date:**	2020/05/29

Annexure B

Site Photographs


50 Wolseley Rd

REPORT TO

GABRIEL AND ALEXANDRA JAKOB

ON

GEOTECHNICAL ASSESSMENT

FOR

PROPOSED ADDITIONS AND ALTERATIONS

AT

50 WOLSELEY ROAD, POINT PIPER, NSW

Date: 8 May 2020
Ref: 33128YTrpt

JKGeotechnics
www.jkgeotechnics.com.au

T: +61 2 9888 5000
JK Geotechnics Pty Ltd
ABN 17 003 550 801

Report prepared by:

Arthur Billingham
Senior Geotechnical Engineer

Report reviewed by:

Woodie Theunissen
Principal Associate | Geotechnical Engineer

For and on behalf of
JK GEOTECHNICS
PO BOX 976
NORTH RYDE BC NSW 1670

DOCUMENT REVISION RECORD

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ATTACHMENTS

1 INTRODUCTION

This report presents the results of a geotechnical investigation for the proposed alterations and additions at 50 Wolseley Road, Point Piper, NSW. The location of the site is shown in Figure 1. The assessment was commissioned by Mr. Chris Trotta or Stafford Architecture by email confirmation dated 24 March 2020 and was completed in accordance with our fee proposal dated 23 March 2020, Ref: P51493YT.

We understand from the supplied sketch designs prepared by Stafford Architecture (Project No: 181, Drawing No's: DA201 to DA206 and DA 321) that the proposed alterations and additions will primarily comprise:

- construction of an additional fourth storey over the existing three-storey building that will have a finished floor level at RL17.62m,
- extensive reconfiguration of the existing second and third storeys with only minimal reconfiguration of Level 1 and
- Construction of a new deck at the southern end of the rear yard.

The purpose of the geotechnical assessment was to gain an appreciation of the likely geotechnical issues that face the project and to make some assessment of the possible subsurface conditions that will be encountered across the site. Based on this assessment we have provided comments and recommendations on the existing and proposed building footings and, from what could be observed the risk posed by the sandstone cliff lines/cut faces.

2 ASSESSMENT PROCEDURE

This report has been based on a site walkover, a literature review of previous geotechnical investigations we have completed close to the site and published data.

The site walkover was completed by one of our senior geotechnical engineers who assessed the positioning of the site within the local topography. In addition, apparent geological features that provided guidance on likely subsurface conditions across the site were noted. The location of surrounding structures such as buildings and retaining walls were also noted so that the potential impact of the proposed development on these nearby structures could be considered. Geotechnical mapping and observations have been carried out using hand held clinometer and tape measure techniques and are therefore only approximate. A plan showing geotechnical mapping is attached as Figure 2. A summary of our observations is presented in Section 3 below.

The literature review consisted of a search of our geographical database for subsurface investigations that we have completed in close proximity to the site. The borehole logs from these investigations were then examined to help develop our geotechnical model. Published data, such as geological maps were also viewed to help clarify the model adopted.

Based on geological information observed during the site walkover, and the results of nearby geotechnical investigations and review of published literature, a probable geological model was developed for the site.

3 RESULTS OF INVESTIGATION

3.1 Site Description

The site is situated towards the base of the western facing hillside of the Point Piper peninsula. From the site's eastern boundary at Wolseley Road to its western boundary at Double Bay there is a total change in elevation of about 29m. The site is a 'battle-axe' property with a narrow corridor providing pedestrian access from Wolseley Road to the north-eastern corner of the main body of the site. This access drops down through a series of stairs and ramps by about 14.5m to the Level 3 floor level of the existing residence. The existing residence then spans a retaining wall/cut face that drops down a further 12m to a level foreshore area that is supported by a 2.7m high seawall.

The existing residence comprises a three-storey rendered brick building which has been constructed over, and partially cut into, the hillside. The site is terraced and steps down through retaining walls and vertical cuts that have been formed through the sandstone bedrock. Approximately midway along the length of Level 3 the site steps down from the soffit of the Level 3 floor slab (RL14.2m) to the Level 1 floor level (RL7.2m). This change in elevation is supported by a contiguous pile wall founded on sandstone bedrock. Below the toe of the wall the sandstone bedrock has been cut vertically. Over Levels 1 and 2 this retaining wall and cut forms a plenum with the rear brick wall of the house. The length of the piles increases towards the north following the surface of the sandstone bedrock as it steps and slopes down to the north-east. The bedrock in the cut face was assessed to be of at least medium strength, though there is a noticeable decrease in strength to very low in the northern portion opposite the return in the retaining wall. Rock bolts have been installed to stabilise a wedge of rock that is present in the cut face towards the southern end of the plenum and has been isolated by adversely oriented joints. Seepage was observed across and at the base of the southern end of the cut.

Underneath the western end of Level 1 is a poolroom and adjacent sub-floor space in which sandstone bedrock is exposed throughout. The surface of the sandstone steps down about 2.5m adjacent to the northern end of the poolroom to the west and south-west. Beyond the pool room is the western (rear) yard of the property which is relatively level and contains an in-ground swimming pool. A sandstone block seawall with a height of 2.7m has been constructed along the western site boundary and supports this grassed level area.

South of the site is a four-storey rendered residence (No. 44A Wolseley Road) which is set back about 2m from the boundary. Surface levels in the site and adjoining property are similar at the eastern and western ends of this boundary. However, through the middle of the boundary the neighbouring building appears to be at a higher level than the site with the lower ground floor level of the adjoining property located at a similar to the Level 2 floor level of the subject site. The difference in levels appears to occur through a sandstone cliff line which is exposed on the southern site boundary and the neighbouring residence is likely cut into the hillside at the lower ground floor level. A suspended pool is located immediately west of the residence with surface levels beyond this dropping to a lawn area that has similar levels to that of the site.

North of the site is a three-storey rendered unit building (No. 52-54 Wolseley Road) which is set back about 1.5m from the site boundary. Surface levels across this boundary generally drop down to the neighbouring property. This change in level is supported by a sandstone block retaining wall that has a height of up to 8m and decreases in height as it extends west along the common boundary. At the western end of this common boundary, levels are similar in both the site and adjoining property.

Along the north-eastern site boundary is a 4.5m high sandstone block retaining wall that is raked back at about 80° from the horizontal. Levels step up approximately 5m through this wall to the grassed rear yard of No. 48 Wolseley Road. A three-storey rendered residence is situated approximately 5m from the crest of the retaining wall.

Based on what could be observed from the site, all retaining walls located along the site boundaries appeared in good condition showing no signs of distress in the form of cracking, bulging or outward rotation. Similarly, the adjoining buildings appeared to be in good condition when viewed from the site.

3.2 Subsurface Conditions

The Sydney 1:100,000 Geological Series Sheet 9130 indicates that the site is underlain by Hawkesbury Sandstone. Our site walkover confirmed the presence of sandstone bedrock across the site which was generally assessed to be of at least medium strength. The surface of the bedrock appears to step and slope down across the site towards the north-west from an approximate top of rock level at RL15.3m adjacent to the car turntable at the south-eastern corner of the site to RL5.4m within the underfloor area adjoining the pool room. An indicative profile of the sandstone is shown on the attached Figure 3.

While the rock was typically assessed to be of medium strength, high strength rock is present in the lower portion of the cut face in the plenum on Level 1 while very low strength sandstone was exposed at the northern end of the plenum where the Level 1 wall returns to the west. Where we were able to observe the bedrock it was generally free from adverse defects with the exception of the joints located in the plenum cut face on Level 1, where a sub-vertical joint intercepts another joint dipping down at 70° which has an associated weathered seam with an average thickness of 0.2m. Two 20mm diameter rock bolts have been installed to stabilise the wedge of rock isolated by the joints. Another joint dipping down at 40° was observed on the cut face on the southern site boundary near the edge of an exposed cliff line. No remedial measures have been installed at this location.

We anticipate that behind the existing retaining walls below Level 3 and within the rear yard fill will likely be present, possibly with some sandy residual and marine soils respectively. Notwithstanding this, we anticipated that the depth of this fill will be relatively shallow and that sandstone bedrock will similarly be encountered at relatively shallow depth. Figure 3 shows a section through the site, where sandstone bedrock is outcropping and an inferred rock depth where not outcropping.

4 COMMENTS AND RECOMMENDATIONS

4.1 Stability of Existing Cliff Lines/Cut Faces

The existing cut faces within the site generally appeared stable with remediation, in the form of rock bolts observed along the cut face at the southern end of the plenum. It was not determined whilst on site whether these rock bolts have been designed as permanent i.e. are stainless steel or permanent corrosion protection provided. The weathered seam that is situated between the stabilised wedge and the joint generally appeared to show minimal evidence of spalling. However, due to the presence of loose blocks towards the base of the joint we recommend that consideration be given to the provision of shotcrete, mesh and dowels over this weathered material and small loosened blocks to help prevent on going loss of material from the face which will necessitate the ongoing maintenance and cleaning of the drain at the base of the cut. Suitable drainage in the form of weep holes must be allowed for in the shotcrete to dissipate any hydrostatic pressures within the seam.

Adjacent to the south-western corner of the house the sandstone cut appears to transition into the natural sandstone cliff line that steps down to the west (as shown in Plate 1). Above the existing sandstone block boundary fence a number of brick and concrete underpins appear to have been constructed to support a boulder and the overlying brick wall that forms footpath levels on the neighbouring property. The construction quality of the brick walls at the crest of the cliff line generally appears to be poor and the north-western corner of the brick wall has been undercut. At this stage it appears that this undercut section may need to be underpinned to the underlying sandstone boulder. Additionally, it appears that some loose sandstone blocks are present near the crest of the cliff line and these may require stabilising. Although we understand this portion of the cliff line is not within the site, consideration should be given to carrying out the remedial work as part of the proposed development along with rebuilding or strengthening the brick wall at the crest of the cut. Permission will be required from the owners to complete this work. Once permission is provided by the adjoining owners to access their property the geotechnical engineer should reinspect this area so that further advice may be provided on potential remedial measures.

Plate 1. Sandstone cliff line adjacent to south-western corner of residence on site.

4.2 Footings

Structural drawings prepared by MPN Group Pty Ltd (Ref: 7455, Drawing Nos. 1 and 7, Revision D and E, dated 18 March 1998) of the existing building indicate that the building is founded on a combination of pad and piled footings. The piled footings support the upper or eastern portion of the building and have been installed behind the contiguous pile wall. The pad footings are typically located at the base of the contiguous pile wall/sandstone cut face over the western portion of the site. These drawings also indicate that the footings were designed to be founded on sandstone bedrock that is suitable for an allowable bearing pressure (ABP) of 1,200kPa.

Based on our site observations sandstone bedrock is outcropping over large portions of the site. Where exposed the sandstone bedrock is typically of medium strength or better. Similarly, where we have been able to observe the existing building on site it shows no signs of distress in the form of cracking. Consequently, it is our expectation that the existing structure is founded on sandstone bedrock suitable for an ABP of 1,200kPa although we have not been provided with any construction documentation confirming footings were inspected and approved for the design ABP.

As the proposed development will comprise the addition of a fourth storey to the building, the structural engineer must confirm whether this existing bearing capacity is adequate for the increased loads or whether a higher bearing pressure is required. Where higher bearing pressures are required additional testing may be necessary to confirm the suitability of the bedrock to carry these additional loads, particularly where these loads are applied to the piles that have been installed just behind the crest of the sandstone cut. To aid in our assessment of the suitability of the existing footings and their ability to carry additional loads, construction records that detail 'as-built' records of the footing construction such as the depth/reduced level at which they are founded, footing dimensions and quality of bedrock on which they are founded should be supplied to this office for review. To provide greater confidence in the long term performance of the structure, it would be prudent in the initial stages of construction to expose a number of the existing footings to confirm that the footing dimensions have been constructed as designed and that they are uniformly founded on sandstone bedrock suitable for an ABP of 1,200kPa.

Should new footings be required we recommend that they uniformly be founded on the underlying sandstone bedrock. Where new footings are required they may be designed for an ABP of 1,200kPa where they are founded on sandstone bedrock of at least low strength provided the closest edge of the footing is set back from the crest of any cuts or steps in the sandstone bedrock a distance equal to the height of the cut of step. Where footings are located within a distance equal to the height of cuts or steps in the sandstone bedrock from the crest of cuts or steps, an ABP of 1,200kPa may be adopted provided the sandstone bedrock is of at least medium strength and free from adverse defects. A geotechnical engineer must inspect the cut or step in bedrock to confirm that it is free from adverse defects.

Due to the unpredictable performance of fill we do not recommend founding footings in it. In this regard the proposed deck should be uniformly founded on the underlying sandstone bedrock. It is possible, depending on the depth to bedrock, that footings founded on bedrock in this part of the site may be located close to or below the water table. Consequently, we recommend that further investigation be completed in this part of

the site to confirm the depth to bedrock and the water table so that any constructability issues that may be faced during construction may be raised and suitable construction methodologies adopted. We note from the Dial Before You Dig plans that an existing sewer line is situated under the western half of the proposed deck. Care must be taken that all Sydney Water requirements are fulfilled in both the design and construction phases of the project.

Prior to pouring concrete we recommend that all footing excavations be inspected by a geotechnical engineer to confirm that the design ABP's have been achieved. All footing excavations must be free from all loose and softened materials prior to pouring concrete.

4.3 Further Geotechnical Input

The following is a summary of the further geotechnical input which is required and which has been detailed in the preceding sections of this report:

- Review of 'as-built' drawings or construction records, if available,
- Additional testing of the sandstone bedrock on which the footings are founded to confirm that it can withstand higher ABP's, if required,
- Additional testing in the area of the proposed deck to confirm the depth to bedrock and water levels,
- The exhumation of a number of footings in the early stages of construction to provide greater confidence that the constructed footings comply with the design drawings.
- Inspection of all footings by a geotechnical engineer prior to pouring concrete to confirm that the design ABP's have been achieved.
- Confirm the location of the sewer and Sydney Water requirements.

5 GENERAL COMMENTS

The recommendations presented in this report include specific issues to be addressed during the construction phase of the project. In the event that any of the construction phase recommendations presented in this report are not implemented, the general recommendations may become inapplicable and JK Geotechnics accept no responsibility whatsoever for the performance of the structure where recommendations are not implemented in full and properly tested, inspected and documented.

The subsurface conditions between the completed boreholes may be found to be different (or may be interpreted to be different) from those expected. Variation can also occur with groundwater conditions, especially after climatic changes. If such differences appear to exist, we recommend that you immediately contact this office.

This report provides advice on geotechnical aspects for the proposed civil and structural design. As part of the documentation stage of this project, Contract Documents and Specifications may be prepared based on our report. However, there may be design features we are not aware of or have not commented on for a variety of reasons. The designers should satisfy themselves that all the necessary advice has been obtained.

If required, we could be commissioned to review the geotechnical aspects of contract documents to confirm the intent of our recommendations has been correctly implemented.

A waste classification is required for any soil and/or bedrock excavated from the site prior to offsite disposal. Subject to the appropriate testing, material can be classified as Virgin Excavated Natural Material (VENM), Excavated Natural Material (ENM), General Solid, Restricted Solid or Hazardous Waste. Analysis can take up to seven to ten working days to complete, therefore, an adequate allowance should be included in the construction program unless testing is completed prior to construction. If contamination is encountered, then substantial further testing (and associated delays) could be expected. We strongly recommend that this requirement is addressed prior to the commencement of excavation on site.

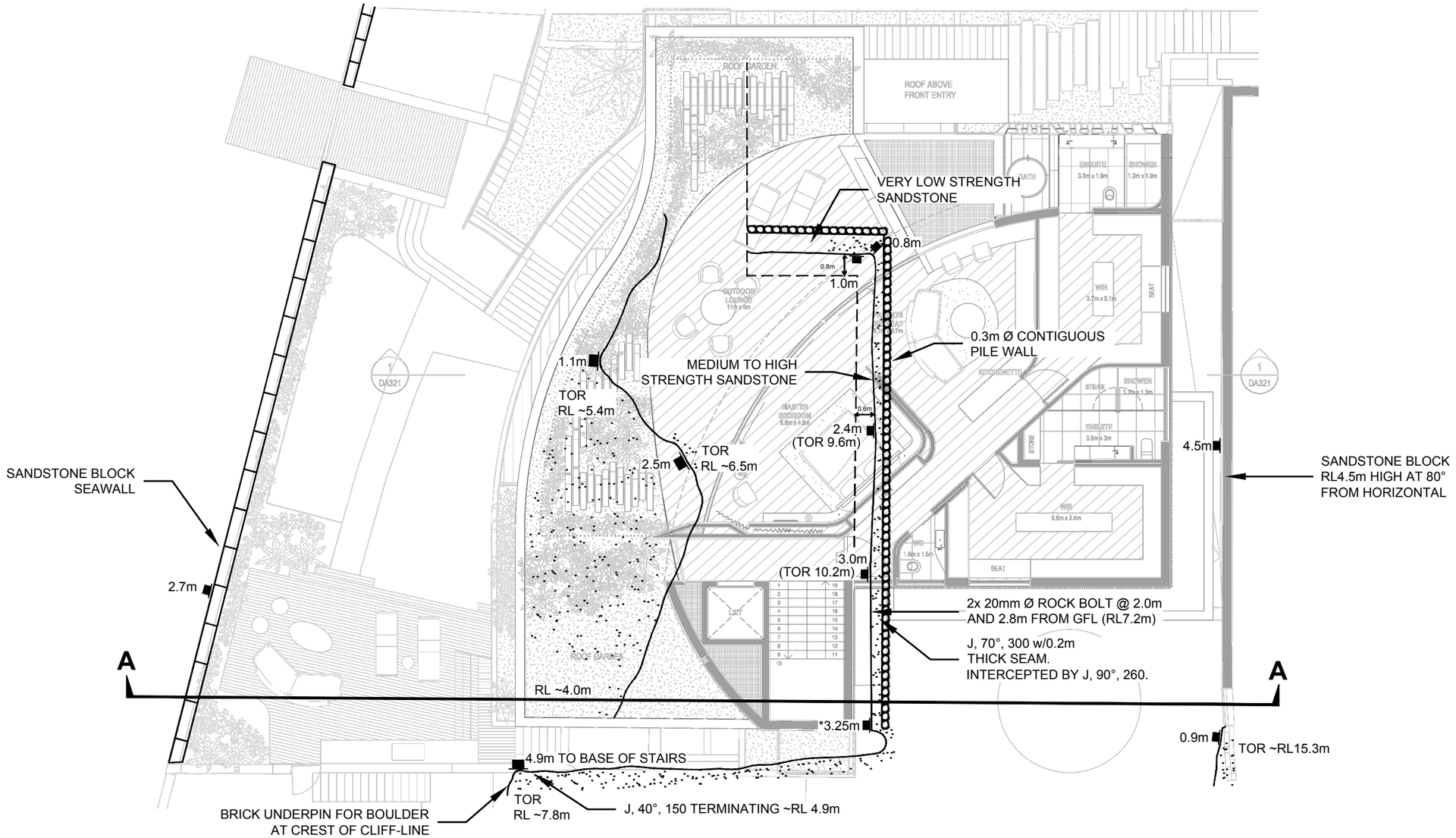
AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM

This plan should be read in conjunction with the JK Geotechnics report.

Title:	**SITE LOCATION PLAN**
Location:	50 WOLSELEY ROAD, POINT PIPER, NSW
Report No:	33128YT
Figure:	1

JKGeotechnics

PLOT DATE: 8/05/2020 1:20:00 PM DWG FILE: Y:\33000\S\33128YT POINT PIPER\CAD\33128YT.DWG



* DISTANCE FROM LEVEL 1 GROUND FLOOR TO SOFFIT LEVEL 2 SLAB.

0 1.5 3 4.5 6 7.5

SCALE 1:150 @A3 METRES

This plan should be read in conjunction with the JK Geotechnics report.

Title: **GEOTECHNICAL MAPPING PLAN**

Location: 50 WOLSELEY ROAD, POINT PIPER, NSW

Report No: 33128YT

Figure: 2

JKGeotechnics

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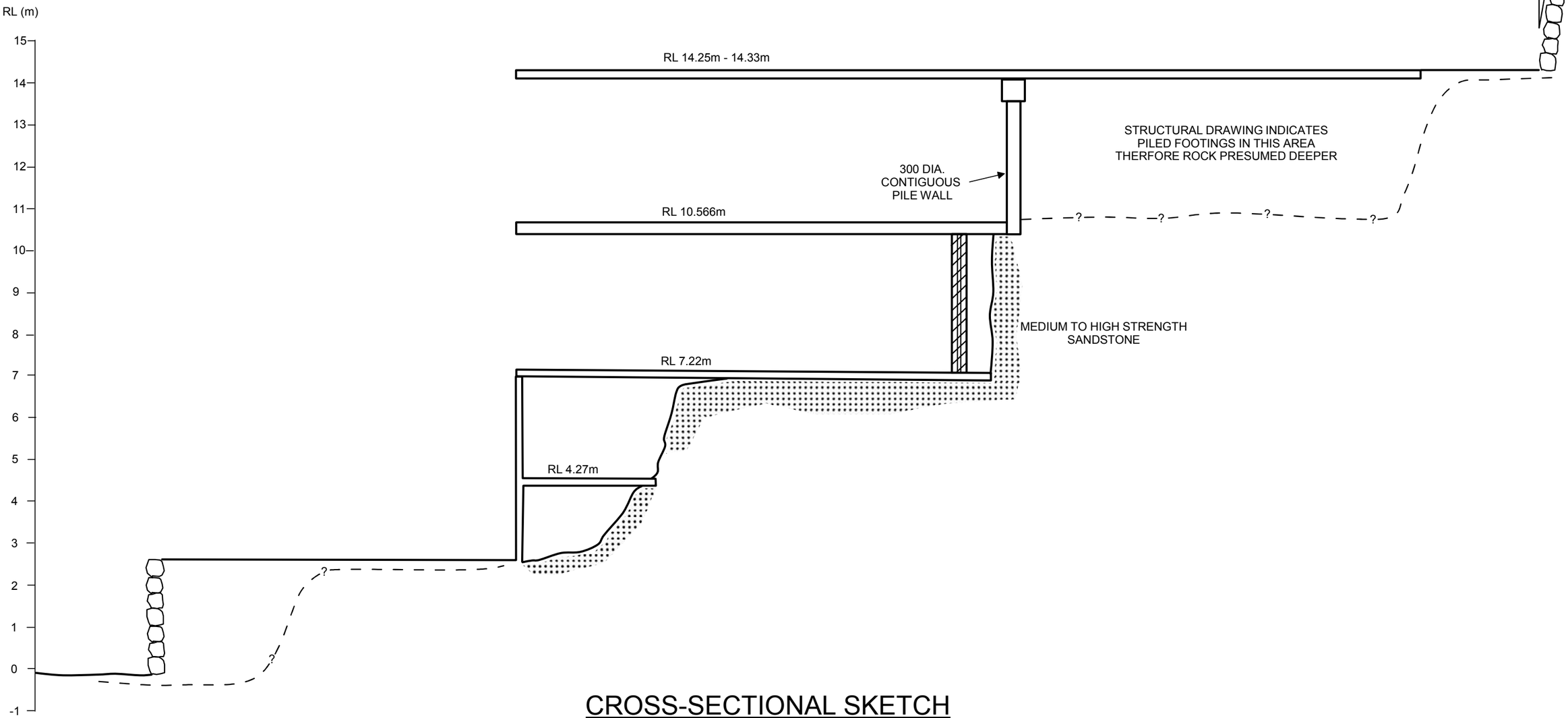

CROSS-SECTIONAL SKETCH
LOOKING NORTH-WEST

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Report No. 33128YT Figure No. 3

REPORT EXPLANATION NOTES

INTRODUCTION

These notes have been provided to amplify the geotechnical report in regard to classification methods, field procedures and certain matters relating to the Comments and Recommendations section. Not all notes are necessarily relevant to all reports.

The ground is a product of continuing natural and man-made processes and therefore exhibits a variety of characteristics and properties which vary from place to place and can change with time. Geotechnical engineering involves gathering and assimilating limited facts about these characteristics and properties in order to understand or predict the behaviour of the ground on a particular site under certain conditions. This report may contain such facts obtained by inspection, excavation, probing, sampling, testing or other means of investigation. If so, they are directly relevant only to the ground at the place where and time when the investigation was carried out.

DESCRIPTION AND CLASSIFICATION METHODS

The methods of description and classification of soils and rocks used in this report are based on Australian Standard 1726:2017 *'Geotechnical Site Investigations'*. In general, descriptions cover the following properties – soil or rock type, colour, structure, strength or density, and inclusions. Identification and classification of soil and rock involves judgement and the Company infers accuracy only to the extent that is common in current geotechnical practice.

Soil types are described according to the predominating particle size and behaviour as set out in the attached soil classification table qualified by the grading of other particles present (eg. sandy clay) as set out below:

Soil Classification	Particle Size
Clay	< 0.002mm
Silt	0.002 to 0.075mm
Sand	0.075 to 2.36mm
Gravel	2.36 to 63mm
Cobbles	63 to 200mm
Boulders	> 200mm

Non-cohesive soils are classified on the basis of relative density, generally from the results of Standard Penetration Test (SPT) as below:

Relative Density	SPT 'N' Value (blows/300mm)
Very loose (VL)	< 4
Loose (L)	4 to 10
Medium dense (MD)	10 to 30
Dense (D)	30 to 50
Very Dense (VD)	> 50

Cohesive soils are classified on the basis of strength (consistency) either by use of a hand penetrometer, vane shear, laboratory testing and/or tactile engineering examination. The strength terms are defined as follows.

Classification	Unconfined Compressive Strength (kPa)	Indicative Undrained Shear Strength (kPa)
Very Soft (VS)	≤ 25	≤ 12
Soft (S)	> 25 and ≤ 50	> 12 and ≤ 25
Firm (F)	> 50 and ≤ 100	> 25 and ≤ 50
Stiff (St)	> 100 and ≤ 200	> 50 and ≤ 100
Very Stiff (VSt)	> 200 and ≤ 400	> 100 and ≤ 200
Hard (Hd)	> 400	> 200
Friable (Fr)	Strength not attainable – soil crumbles	

Rock types are classified by their geological names, together with descriptive terms regarding weathering, strength, defects, etc. Where relevant, further information regarding rock classification is given in the text of the report. In the Sydney Basin, 'shale' is used to describe fissile mudstone, with a weakness parallel to bedding. Rocks with alternating inter-laminations of different grain size (eg. siltstone/claystone and siltstone/fine grained sandstone) is referred to as 'laminite'.

SAMPLING

Sampling is carried out during drilling or from other excavations to allow engineering examination (and laboratory testing where required) of the soil or rock.

Disturbed samples taken during drilling provide information on plasticity, grain size, colour, moisture content, minor constituents and, depending upon the degree of disturbance, some information on strength and structure. Bulk samples are similar but of greater volume required for some test procedures.

Undisturbed samples are taken by pushing a thin-walled sample tube, usually 50mm diameter (known as a U50), into the soil and withdrawing it with a sample of the soil contained in a relatively undisturbed state. Such samples yield information on structure and strength, and are necessary for laboratory determination of shrink-swell behaviour, strength and compressibility. Undisturbed sampling is generally effective only in cohesive soils.

Details of the type and method of sampling used are given on the attached logs.

INVESTIGATION METHODS

The following is a brief summary of investigation methods currently adopted by the Company and some comments on their use and application. All methods except test pits, hand auger drilling and portable Dynamic Cone Penetrometers require the use of a mechanical rig which is commonly mounted on a truck chassis or track base.

Test Pits: These are normally excavated with a backhoe or a tracked excavator, allowing close examination of the insitu soils and 'weaker' bedrock if it is safe to descend into the pit. The depth of penetration is limited to about 3m for a backhoe and up to 6m for a large excavator. Limitations of test pits are the problems associated with disturbance and difficulty of reinstatement and the consequent effects on close-by structures. Care must be taken if construction is to be carried out near test pit locations to either properly recompact the backfill during construction or to design and construct the structure so as not to be adversely affected by poorly compacted backfill at the test pit location.

Hand Auger Drilling: A borehole of 50mm to 100mm diameter is advanced by manually operated equipment. Refusal of the hand auger can occur on a variety of materials such as obstructions within any fill, tree roots, hard clay, gravel or ironstone, cobbles and boulders, and does not necessarily indicate rock level.

Continuous Spiral Flight Augers: The borehole is advanced using 75mm to 115mm diameter continuous spiral flight augers, which are withdrawn at intervals to allow sampling and insitu testing. This is a relatively economical means of drilling in clays and in sands above the water table. Samples are returned to the surface by the flights or may be collected after withdrawal of the auger flights, but they can be very disturbed and layers may become mixed. Information from the auger sampling (as distinct from specific sampling by SPTs or undisturbed samples) is of limited reliability due to mixing or softening of samples by groundwater, or uncertainties as to the original depth of the samples. Augering below the groundwater table is of even lesser reliability than augering above the water table.

Rock Augering: Use can be made of a Tungsten Carbide (TC) bit for auger drilling into rock to indicate rock quality and continuity by variation in drilling resistance and from examination of recovered rock cuttings. This method of investigation is quick and relatively inexpensive but provides only an indication of the likely rock strength and predicted values may be in error by a strength order. Where rock strengths may have a significant impact on construction feasibility or costs, then further investigation by means of cored boreholes may be warranted.

Wash Boring: The borehole is usually advanced by a rotary bit, with water being pumped down the drill rods and returned up the annulus, carrying the drill cuttings. Only major changes in stratification can be assessed from the cuttings, together with some information from "feel" and rate of penetration.

Mud Stabilised Drilling: Either Wash Boring or Continuous Core Drilling can use drilling mud as a circulating fluid to stabilise the borehole. The term 'mud' encompasses a range of products ranging from bentonite to polymers. The mud tends to mask the cuttings and reliable identification is only possible from intermittent intact sampling (eg. from SPT and U50 samples) or from rock coring, etc.

Continuous Core Drilling: A continuous core sample is obtained using a diamond tipped core barrel. Provided full core recovery is achieved (which is not always possible in very low strength rocks and granular soils), this technique provides a very reliable (but relatively expensive) method of investigation. In rocks, NMLC or HQ triple tube core barrels, which give a core of about 50mm and 61mm diameter, respectively, is usually used with water flush. The length of core recovered is compared to the length drilled and any length not recovered is shown as NO CORE. The location of NO CORE recovery is determined on site by the supervising engineer; where the location is uncertain, the loss is placed at the bottom of the drill run.

Standard Penetration Tests: Standard Penetration Tests (SPT) are used mainly in non-cohesive soils, but can also be used in cohesive soils, as a means of indicating density or strength and also of obtaining a relatively undisturbed sample. The test procedure is described in Australian Standard 1289.6.3.1–2004 (R2016) *'Methods of Testing Soils for Engineering Purposes, Soil Strength and Consolidation Tests – Determination of the Penetration Resistance of a Soil – Standard Penetration Test (SPT)'*.

The test is carried out in a borehole by driving a 50mm diameter split sample tube with a tapered shoe, under the impact of a 63.5kg hammer with a free fall of 760mm. It is normal for the tube to be driven in three successive 150mm increments and the 'N' value is taken as the number of blows for the last 300mm. In dense sands, very hard clays or weak rock, the full 450mm penetration may not be practicable and the test is discontinued.

The test results are reported in the following form:

- In the case where full penetration is obtained with successive blow counts for each 150mm of, say, 4, 6 and 7 blows, as

  N = 13
  4, 6, 7

- In a case where the test is discontinued short of full penetration, say after 15 blows for the first 150mm and 30 blows for the next 40mm, as

  N > 30
  15, 30/40mm

The results of the test can be related empirically to the engineering properties of the soil.

A modification to the SPT is where the same driving system is used with a solid 60° tipped steel cone of the same diameter as the SPT hollow sampler. The solid cone can be continuously driven for some distance in soft clays or loose sands, or may be used where damage would otherwise occur to the SPT. The results of this Solid Cone Penetration Test (SCPT) are shown as 'N_c' on the borehole logs, together with the number of blows per 150mm penetration.

Cone Penetrometer Testing (CPT) and Interpretation: The cone penetrometer is sometimes referred to as a Dutch Cone. The test is described in Australian Standard 1289.6.5.1–1999 (R2013) *'Methods of Testing Soils for Engineering Purposes, Soil Strength and Consolidation Tests – Determination of the Static Cone Penetration Resistance of a Soil – Field Test using a Mechanical and Electrical Cone or Friction-Cone Penetrometer'*.

In the tests, a 35mm or 44mm diameter rod with a conical tip is pushed continuously into the soil, the reaction being provided by a specially designed truck or rig which is fitted with a hydraulic ram system. Measurements are made of the end bearing resistance on the cone and the frictional resistance on a separate 134mm or 165mm long sleeve, immediately behind the cone. Transducers in the tip of the assembly are electrically connected by wires passing through the centre of the push rods to an amplifier and recorder unit mounted on the control truck. The CPT does not provide soil sample recovery.

As penetration occurs (at a rate of approximately 20mm per second), the information is output as incremental digital records every 10mm. The results given in this report have been plotted from the digital data.

The information provided on the charts comprise:

- Cone resistance – the actual end bearing force divided by the cross sectional area of the cone – expressed in MPa. There are two scales presented for the cone resistance. The lower scale has a range of 0 to 5MPa and the main scale has a range of 0 to 50MPa. For cone resistance values less than 5MPa, the plot will appear on both scales.
- Sleeve friction – the frictional force on the sleeve divided by the surface area – expressed in kPa.
- Friction ratio – the ratio of sleeve friction to cone resistance, expressed as a percentage.

  The ratios of the sleeve resistance to cone resistance will vary with the type of soil encountered, with higher relative friction in clays than in sands. Friction ratios of 1% to 2% are commonly encountered in sands and occasionally very soft clays, rising to 4% to 10% in stiff clays and peats. Soil descriptions based on cone resistance and friction ratios are only inferred and must not be considered as exact.

Correlations between CPT and SPT values can be developed for both sands and clays but may be site specific.

Interpretation of CPT values can be made to empirically derive modulus or compressibility values to allow calculation of foundation settlements.

Stratification can be inferred from the cone and friction traces and from experience and information from nearby boreholes etc. Where shown, this information is presented for general guidance, but must be regarded as interpretive. The test method provides a continuous profile of engineering properties but, where precise information on soil classification is required, direct drilling and sampling may be preferable.

There are limitations when using the CPT in that it may not penetrate obstructions within any fill, thick layers of hard clay and very dense sand, gravel and weathered bedrock. Normally a 'dummy' cone is pushed through fill to protect the equipment. No information is recorded by the 'dummy' probe.

Flat Dilatometer Test: The flat dilatometer (DMT), also known as the Marchetti Dilometer comprises a stainless steel blade having a flat, circular steel membrane mounted flush on one side.

The blade is connected to a control unit at ground surface by a pneumatic-electrical tube running through the insertion rods. A gas tank, connected to the control unit by a pneumatic cable, supplies the gas pressure required to expand the membrane. The control unit is equipped with a pressure regulator, pressure gauges, an audio-visual signal and vent valves.

The blade is advanced into the ground using our CPT rig or one of our drilling rigs, and can be driven into the ground using an SPT hammer. As soon as the blade is in place, the membrane is inflated, and the pressure required to lift the membrane (approximately 0.1mm) is recorded. The pressure then required to lift the centre of the membrane by an additional 1mm is recorded. The membrane is then deflated before pushing to the next depth increment, usually 200mm down. The pressure readings are corrected for membrane stiffness.

The DMT is used to measure material index (I_D), horizontal stress index (K_D), and dilatometer modulus (E_D). Using established correlations, the DMT results can also be used to assess the 'at rest' earth pressure coefficient (K_o), over-consolidation ratio (OCR), undrained shear strength (C_u), friction angle (ϕ), coefficient of consolidation (C_h), coefficient of permeability (K_h), unit weight (γ), and vertical drained constrained modulus (M).

The seismic dilatometer (SDMT) is the combination of the DMT with an add-on seismic module for the measurement of shear wave velocity (V_s). Using established correlations, the SDMT results can also be used to assess the small strain modulus (G_o).

Portable Dynamic Cone Penetrometers: Portable Dynamic Cone Penetrometer (DCP) tests are carried out by driving a 16mm diameter rod with a 20mm diameter cone end with a 9kg hammer dropping 510mm. The test is described in Australian Standard 1289.6.3.2–1997 (R2013) *'Methods of Testing Soils for Engineering Purposes, Soil Strength and Consolidation Tests – Determination of the Penetration Resistance of a Soil – 9kg Dynamic Cone Penetrometer Test'*.

The results are used to assess the relative compaction of fill, the relative density of granular soils, and the strength of cohesive soils. Using established correlations, the DCP test results can also be used to assess California Bearing Ratio (CBR).

Refusal of the DCP can occur on a variety of materials such as obstructions within any fill, tree roots, hard clay, gravel or ironstone, cobbles and boulders, and does not necessarily indicate rock level.

Vane Shear Test: The vane shear test is used to measure the undrained shear strength (C_u) of typically very soft to firm fine grained cohesive soils. The vane shear is normally performed in the bottom of a borehole, but can be completed from surface level, the bottom and sides of test pits, and on recovered undisturbed tube samples (when using a hand vane).

The vane comprises four rectangular blades arranged in the form of a cross on the end of a thin rod, which is coupled to the bottom of a drill rod string when used in a borehole. The size of the vane is dependent on the strength of the fine grained cohesive soils; that is, larger vanes are normally used for very low strength soils. For borehole testing, the size of the vane can be limited by the size of the casing that is used.

For testing inside a borehole, a device is used at the top of the casing, which suspends the vane and rods so that they do not sink under self-weight into the 'soft' soils beyond the depth at which the test is to be carried out. A calibrated torque head is used to rotate the rods and vane and to measure the resistance of the vane to rotation.

With the vane in position, torque is applied to cause rotation of the vane at a constant rate. A rate of 6° per minute is the common rotation rate. Rotation is continued until the soil is sheared and the maximum torque has been recorded. This value is then used to calculate the undrained shear strength. The vane is then rotated rapidly a number of times and the operation repeated until a constant torque reading is obtained. This torque value is used to calculate the remoulded shear strength. Where appropriate, friction on the vane rods is measured and taken into account in the shear strength calculation.

LOGS

The borehole or test pit logs presented herein are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on the frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will enable the most reliable assessment, but is not always practicable or possible to justify on economic grounds. In any case, the boreholes or test pits represent only a very small sample of the total subsurface conditions.

The terms and symbols used in preparation of the logs are defined in the following pages.

Interpretation of the information shown on the logs, and its application to design and construction, should therefore take into account the spacing of boreholes or test pits, the method of drilling or excavation, the frequency of sampling and testing and the possibility of other than 'straight line' variations between the boreholes or test pits. Subsurface conditions between boreholes or test pits may vary significantly from conditions encountered at the borehole or test pit locations.

GROUNDWATER

Where groundwater levels are measured in boreholes, there are several potential problems:

- Although groundwater may be present, in low permeability soils it may enter the hole slowly or perhaps not at all during the time it is left open.
- A localised perched water table may lead to an erroneous indication of the true water table.
- Water table levels will vary from time to time with seasons or recent weather changes and may not be the same at the time of construction.
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must be washed out of the hole or 'reverted' chemically if reliable water observations are to be made.

More reliable measurements can be made by installing standpipes which are read after the groundwater level has stabilised at intervals ranging from several days to perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from perched water tables or surface water.

FILL

The presence of fill materials can often be determined only by the inclusion of foreign objects (eg. bricks, steel, etc) or by distinctly unusual colour, texture or fabric. Identification of the extent of fill materials will also depend on investigation methods and frequency. Where natural soils similar to those at the site are used for fill, it may be difficult with limited testing and sampling to reliably assess the extent of the fill.

The presence of fill materials is usually regarded with caution as the possible variation in density, strength and material type is much greater than with natural soil deposits. Consequently, there is an increased risk of adverse engineering characteristics or behaviour. If the volume and quality of fill is of importance to a project, then frequent test pit excavations are preferable to boreholes.

LABORATORY TESTING

Laboratory testing is normally carried out in accordance with Australian Standard 1289 *'Methods of Testing Soils for Engineering Purposes'* or appropriate NSW Government Roads & Maritime Services (RMS) test methods. Details of the test procedure used are given on the individual report forms.

ENGINEERING REPORTS

Engineering reports are prepared by qualified personnel and are based on the information obtained and on current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal (eg. a three storey building) the information and interpretation may not be relevant if the design proposal is changed (eg. to a twenty storey building). If this happens, the Company will be pleased to review the report and the sufficiency of the investigation work.

Reasonable care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical aspects and recommendations or suggestions for design and construction. However, the Company cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions – the potential for this will be partially dependent on borehole spacing and sampling frequency as well as investigation technique.
- Changes in policy or interpretation of policy by statutory authorities.
- The actions of persons or contractors responding to commercial pressures.
- Details of the development that the Company could not reasonably be expected to anticipate.

If these occur, the Company will be pleased to assist with investigation or advice to resolve any problems occurring.

SITE ANOMALIES

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, the Company requests that it immediately be notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

REPRODUCTION OF INFORMATION FOR CONTRACTUAL PURPOSES

Where information obtained from this investigation is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. The Company would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Copyright in all documents (such as drawings, borehole or test pit logs, reports and specifications) provided by the Company shall remain the property of Jeffery and Katauskas Pty Ltd. Subject to the payment of all fees due, the Client alone shall have a licence to use the documents provided for the sole purpose of completing the project to which they relate. Licence to use the documents may be revoked without notice if the Client is in breach of any obligation to make a payment to us.

REVIEW OF DESIGN

Where major civil or structural developments are proposed or where only a limited investigation has been completed or where the geotechnical conditions/constraints are quite complex, it is prudent to have a joint design review which involves an experienced geotechnical engineer/engineering geologist.

SITE INSPECTION

The Company will always be pleased to provide engineering inspection services for geotechnical aspects of work to which this report is related.

Requirements could range from:

i) a site visit to confirm that conditions exposed are no worse than those interpreted, to

ii) a visit to assist the contractor or other site personnel in identifying various soil/rock types and appropriate footing or pile founding depths, or

iii) full time engineering presence on site.

SYMBOL LEGENDS

SOIL


FILL


TOPSOIL


CLAY (CL, CI, CH)


SILT (ML, MH)


SAND (SP, SW)


GRAVEL (GP, GW)


SANDY CLAY (CL, CI, CH)


SILTY CLAY (CL, CI, CH)


CLAYEY SAND (SC)


SILTY SAND (SM)


GRAVELLY CLAY (CL, CI, CH)


CLAYEY GRAVEL (GC)


SANDY SILT (ML, MH)


PEAT AND HIGHLY ORGANIC SOILS (Pt)

ROCK


CONGLOMERATE


SANDSTONE


SHALE/MUDSTONE


SILTSTONE


CLAYSTONE


COAL


LAMINITE


LIMESTONE


PHYLLITE, SCHIST


TUFF


GRANITE, GABBRO


DOLERITE, DIORITE


BASALT, ANDESITE


QUARTZITE

OTHER MATERIALS


BRICKS OR PAVERS


CONCRETE


ASPHALTIC CONCRETE

CLASSIFICATION OF COARSE AND FINE GRAINED SOILS

Major Divisions		Group Symbol	Typical Names	Field Classification of Sand and Gravel	Laboratory Classification	
Coarse grained soil (more than 65% of soil excluding oversize fraction is greater than 0.075mm)	GRAVEL (more than half of coarse fraction is larger than 2.36mm	GW	Gravel and gravel-sand mixtures, little or no fines	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	$C_u > 4$ $1 < C_c < 3$
		GP	Gravel and gravel-sand mixtures, little or no fines, uniform gravels	Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	Fails to comply with above
		GM	Gravel-silt mixtures and gravel-sand-silt mixtures	'Dirty' materials with excess of non-plastic fines, zero to medium dry strength	≥ 12% fines, fines are silty	Fines behave as silt
		GC	Gravel-clay mixtures and gravel-sand-clay mixtures	'Dirty' materials with excess of plastic fines, medium to high dry strength	≥ 12% fines, fines are clayey	Fines behave as clay
	SAND (more than half of coarse fraction is smaller than 2.36mm)	SW	Sand and gravel-sand mixtures, little or no fines	Wide range in grain size and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	$C_u > 6$ $1 < C_c < 3$
		SP	Sand and gravel-sand mixtures, little or no fines	Predominantly one size or range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength	≤ 5% fines	Fails to comply with above
		SM	Sand-silt mixtures	'Dirty' materials with excess of non-plastic fines, zero to medium dry strength	≥ 12% fines, fines are silty	N/A
		SC	Sand-clay mixtures	'Dirty' materials with excess of plastic fines, medium to high dry strength	≥ 12% fines, fines are clayey	

Major Divisions		Group Symbol	Typical Names	Field Classification of Silt and Clay			Laboratory Classification
				Dry Strength	Dilatancy	Toughness	% < 0.075mm
Fine grained soils (more than 35% of soil excluding oversize fraction is less than 0.075mm)	SILT and CLAY (low to medium plasticity)	ML	Inorganic silt and very fine sand, rock flour, silty or clayey fine sand or silt with low plasticity	None to low	Slow to rapid	Low	Below A line
		CL, CI	Inorganic clay of low to medium plasticity, gravelly clay, sandy clay	Medium to high	None to slow	Medium	Above A line
		OL	Organic silt	Low to medium	Slow	Low	Below A line
	SILT and CLAY (high plasticity)	MH	Inorganic silt	Low to medium	None to slow	Low to medium	Below A line
		CH	Inorganic clay of high plasticity	High to very high	None	High	Above A line
		OH	Organic clay of medium to high plasticity, organic silt	Medium to high	None to very slow	Low to medium	Below A line
	Highly organic soil	Pt	Peat, highly organic soil	–	–	–	–

Laboratory Classification Criteria

A well graded coarse grained soil is one for which the coefficient of uniformity $Cu > 4$ and the coefficient of curvature $1 < C_c < 3$. Otherwise, the soil is poorly graded. These coefficients are given by:

$$C_U = \frac{D_{60}}{D_{10}} \qquad and \qquad C_C = \frac{(D_{30})^2}{D_{10}\, D_{60}}$$

Where D_{10}, D_{30} and D_{60} are those grain sizes for which 10%, 30% and 60% of the soil grains, respectively, are smaller.

NOTES:

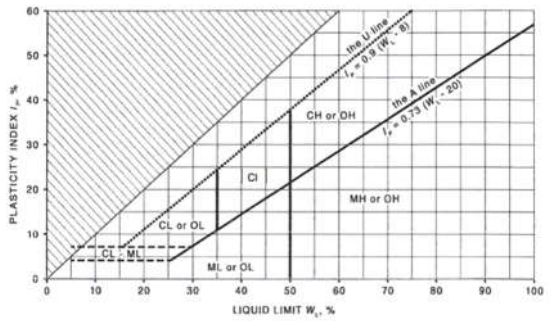
1 For a coarse grained soil with a fines content between 5% and 12%, the soil is given a dual classification comprising the two group symbols separated by a dash; for example, for a poorly graded gravel with between 5% and 12% silt fines, the classification is GP-GM.

2 Where the grading is determined from laboratory tests, it is defined by coefficients of curvature (C_c) and uniformity (C_u) derived from the particle size distribution curve.

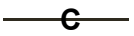
3 Clay soils with liquid limits > 35% and ≤ 50% may be classified as being of medium plasticity.

4 The U line on the Modified Casagrande Chart is an approximate upper bound for most natural soils.

Modified Casagrande Chart for Classifying Silts and Clays according to their Behaviour



LOG SYMBOLS

Log Column	Symbol	Definition
Groundwater Record		Standing water level. Time delay following completion of drilling/excavation may be shown.
		Extent of borehole/test pit collapse shortly after drilling/excavation.
		Groundwater seepage into borehole or test pit noted during drilling or excavation.
Samples	ES	Sample taken over depth indicated, for environmental analysis.
	U50	Undisturbed 50mm diameter tube sample taken over depth indicated.
	DB	Bulk disturbed sample taken over depth indicated.
	DS	Small disturbed bag sample taken over depth indicated.
	ASB	Soil sample taken over depth indicated, for asbestos analysis.
	ASS	Soil sample taken over depth indicated, for acid sulfate soil analysis.
	SAL	Soil sample taken over depth indicated, for salinity analysis.
Field Tests	N = 17 4, 7, 10	Standard Penetration Test (SPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration. 'Refusal' refers to apparent hammer refusal within the corresponding 150mm depth increment.
	N_c = 5 7 3R	Solid Cone Penetration Test (SCPT) performed between depths indicated by lines. Individual figures show blows per 150mm penetration for 60° solid cone driven by SPT hammer. 'R' refers to apparent hammer refusal within the corresponding 150mm depth increment.
	VNS = 25	Vane shear reading in kPa of undrained shear strength.
	PID = 100	Photoionisation detector reading in ppm (soil sample headspace test).
Moisture Condition (Fine Grained Soils)	w > PL	Moisture content estimated to be greater than plastic limit.
	$w \approx$ PL	Moisture content estimated to be approximately equal to plastic limit.
	w < PL	Moisture content estimated to be less than plastic limit.
	$w \approx$ LL	Moisture content estimated to be near liquid limit.
	w > LL	Moisture content estimated to be wet of liquid limit.
(Coarse Grained Soils)	D	DRY – runs freely through fingers.
	M	MOIST – does not run freely but no free water visible on soil surface.
	W	WET – free water visible on soil surface.
Strength (Consistency) Cohesive Soils	VS	VERY SOFT – unconfined compressive strength ≤ 25kPa.
	S	SOFT – unconfined compressive strength > 25kPa and ≤ 50kPa.
	F	FIRM – unconfined compressive strength > 50kPa and ≤ 100kPa.
	St	STIFF – unconfined compressive strength > 100kPa and ≤ 200kPa.
	VSt	VERY STIFF – unconfined compressive strength > 200kPa and ≤ 400kPa.
	Hd	HARD – unconfined compressive strength > 400kPa.
	Fr	FRIABLE – strength not attainable, soil crumbles.
	( )	Bracketed symbol indicates estimated consistency based on tactile examination or other assessment.
Density Index/ Relative Density (Cohesionless Soils)		**Density Index (I_D) Range (%)** / **SPT 'N' Value Range (Blows/300mm)**
	VL	VERY LOOSE – ≤ 15 – 0 – 4
	L	LOOSE – > 15 and ≤ 35 – 4 – 10
	MD	MEDIUM DENSE – > 35 and ≤ 65 – 10 – 30
	D	DENSE – > 65 and ≤ 85 – 30 – 50
	VD	VERY DENSE – > 85 – > 50
	( )	Bracketed symbol indicates estimated density based on ease of drilling or other assessment.
Hand Penetrometer Readings	300 250	Measures reading in kPa of unconfined compressive strength. Numbers indicate individual test results on representative undisturbed material unless noted otherwise.

Log Column	Symbol	Definition
Remarks	'V' bit	Hardened steel 'V' shaped bit.
	'TC' bit	Twin pronged tungsten carbide bit.
	T_{60}	Penetration of auger string in mm under static load of rig applied by drill head hydraulics without rotation of augers.
	Soil Origin	The geological origin of the soil can generally be described as: RESIDUAL – soil formed directly from insitu weathering of the underlying rock. No visible structure or fabric of the parent rock. EXTREMELY WEATHERED – soil formed directly from insitu weathering of the underlying rock. Material is of soil strength but retains the structure and/or fabric of the parent rock. ALLUVIAL – soil deposited by creeks and rivers. ESTUARINE – soil deposited in coastal estuaries, including sediments caused by inflowing creeks and rivers, and tidal currents. MARINE – soil deposited in a marine environment. AEOLIAN – soil carried and deposited by wind. COLLUVIAL – soil and rock debris transported downslope by gravity, with or without the assistance of flowing water. Colluvium is usually a thick deposit formed from a landslide. The description 'slopewash' is used for thinner surficial deposits. LITTORAL – beach deposited soil.

Classification of Material Weathering

Term		Abbreviation		Definition
Residual Soil		RS		Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.
Extremely Weathered		XW		Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.
Highly Weathered	Distinctly Weathered (Note 1)	HW	DW	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores.
Moderately Weathered		MW		The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable, but shows little or no change of strength from fresh rock.
Slightly Weathered		SW		Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.
Fresh		FR		Rock shows no sign of decomposition of individual minerals or colour changes.

NOTE 1: The term 'Distinctly Weathered' is used where it is not practicable to distinguish between 'Highly Weathered' and 'Moderately Weathered' rock. 'Distinctly Weathered' is defined as follows: *'Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores'*. There is some change in rock strength.

Rock Material Strength Classification

Term	Abbreviation	Uniaxial Compressive Strength (MPa)	Guide to Strength	
			Point Load Strength Index $Is_{(50)}$ (MPa)	Field Assessment
Very Low Strength	VL	0.6 to 2	0.03 to 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30mm thick can be broken by finger pressure.
Low Strength	L	2 to 6	0.1 to 0.3	Easily scored with a knife; indentations 1mm to 3mm show in the specimen with firm blows of the pick point; has dull sound under hammer. A piece of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium Strength	M	6 to 20	0.3 to 1	Scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
High Strength	H	20 to 60	1 to 3	A piece of core 150mm long by 50mm diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High Strength	VH	60 to 200	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
Extremely High Strength	EH	> 200	> 10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

Abbreviations Used in Defect Description

Cored Borehole Log Column		Symbol Abbreviation	Description
Point Load Strength Index		• 0.6	Axial point load strength index test result (MPa)
		x 0.6	Diametral point load strength index test result (MPa)
Defect Details	– Type	Be	Parting – bedding or cleavage
		CS	Clay seam
		Cr	Crushed/sheared seam or zone
		J	Joint
		Jh	Healed joint
		Ji	Incipient joint
		XWS	Extremely weathered seam
	– Orientation	Degrees	Defect orientation is measured relative to normal to the core axis (ie. relative to the horizontal for a vertical borehole)
	– Shape	P	Planar
		C	Curved
		Un	Undulating
		St	Stepped
		Ir	Irregular
	– Roughness	Vr	Very rough
		R	Rough
		S	Smooth
		Po	Polished
		Sl	Slickensided
	– Infill Material	Ca	Calcite
		Cb	Carbonaceous
		Clay	Clay
		Fe	Iron
		Qz	Quartz
		Py	Pyrite
	– Coatings	Cn	Clean
		Sn	Stained – no visible coating, surface is discoloured
		Vn	Veneer – visible, too thin to measure, may be patchy
		Ct	Coating ≤ 1mm thick
		Filled	Coating > 1mm thick
	– Thickness	mm.t	Defect thickness measured in millimetres