DLCS Quality Endorsed Company ISO 9001:2008, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

BASIX

Thermal Comfort & BASIX Specification

Building Element	Material	Insulation
External Wall	Full Brick, Concrete, Hebel, Stud	R1.0, R1.5*
Internal Wall	Plasterboard on Stud	None
Roof	Concrete	None
Ceiling	Concrete above Plasterboard	None, R2.5*
Floor	Concrete Slab	None, 0.5*
Floor Coverings	Carpet/tiles to Living Carpet to Bedrooms	N/A
Windows	Group A Glazed Systems: U-value = 6.7, SHGC = 0.70, U-value = 5.4, SHGC = 0.49* Group B Glazed Systems: U-value = 6.7, SHGC = 0.57, U-value = 5.4, SHGC = 0.58*	N/A
Central Hot Water System	Centralised Gas-fired Boiler systems with R1.0 (~38mm) piping insulation to the ringmain and supply risers	
Outdoor Swimming Pool	Volume capacity of 110kL	
	No heating system	
	Pump is to be controlled by a timer	
Rainwater Storage	No rainwater tank required	
Fire Sprinkler System	The fire sprinkler test water for The car park and building fire sprinkler systems are to be contained in a closed system	
Draught seals to all external windows and doors		
Note: *Please refer to the BASIX Report for the individual insulation requirements of each residential dwelling		

LEGEND

LEGEND

- Westmead Railway Station
- Future Light Rail Station
- T-Way Bus Stop
- Lobby Entry
- Carpark Entry
- Lot 5 Site Boundary
- Existing Tree to be Removed

Rev	Date	Approved by	Revision Notes
H	02.08.16	JM	Development Application

CLIENT
Deicorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

Project Title
WSU - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

Drawing Title
Site Plan
Site Plan

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	16001	turner	
Status	Dwg No.	Rev	
For Information	DA-100-020	H	

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NOTES

DLCS Quality Endorsed Company ISO 9001:2008, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

BASIX

Thermal Comfort & BASIX Specification		
Building Element	Material	Insulation
External Wall	Full Brick, Concrete, Hebel, Stud	R1.0, R1.5*
Internal Wall	Plasterboard on Stud	None
Roof	Concrete	None
Ceiling	Concrete above Plasterboard	None, R2.5*
Floor	Concrete Slab	None, 0.5*
Floor Coverings	Carpet/tiles to Living Carpet to Bedrooms	N/A
Windows	Group A Glazed Systems: U-value = 6.7, SHGC = 0.70, U-value = 5.4, SHGC = 0.49* Group B Glazed Systems: U-value = 6.7, SHGC = 0.57, U-value = 5.4, SHGC = 0.58*	N/A
Central Hot Water System	Centralised Gas-fired Boiler systems with R1.0 (~38mm) piping insulation to the ringmain and supply risers	
Outdoor Swimming Pool	Volume capacity of 110kL	
	No heating system	
	Pump is to be controlled by a timer	
Rainwater Storage	No rainwater tank required	
Fire Sprinkler System	The fire sprinkler test water for The car park and building fire sprinkler systems are to be contained in a closed system	
Draught seals to all external windows and doors		
Note: *Please refer to the BASIX Report for the individual insulation requirements of each residential dwelling		

LEGEND

Rev.	Date	Approved by	Revision Notes
H	02.08.16	JM	Development Application

CLIENT
Deicorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

Project Title
WSU - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

Drawing Title
Site Plan
RailCorp Easement Plan

Scale: 1:200 @A1, 50%@A3
Project No.: 16001
Drawn by: turner
North
Status: For Information
Dwg No.: DA-100-050
Rev: H

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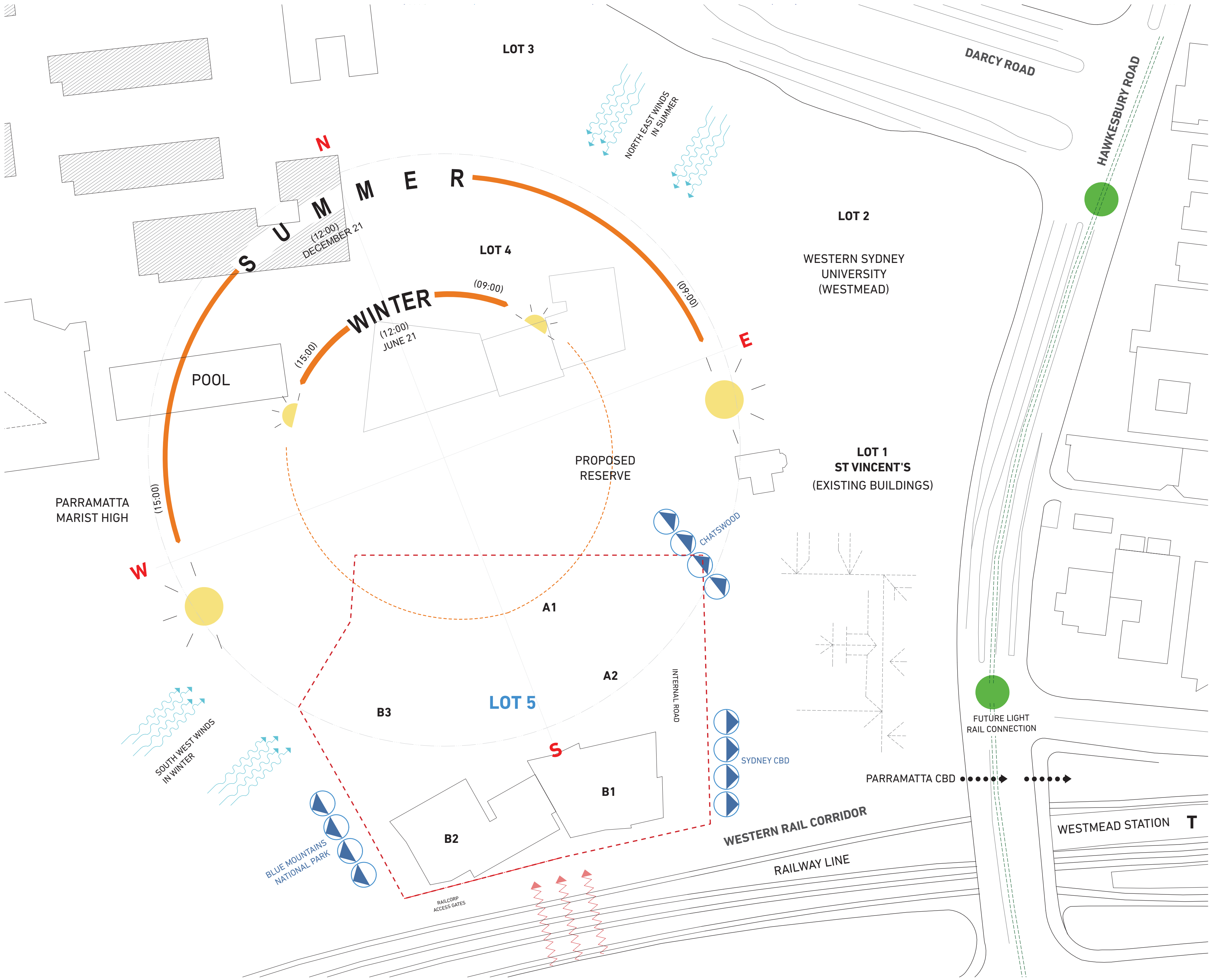

NOTES

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DLCS Quality Endorsed Company ISO 9001:2008, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

BASIX

Thermal Comfort & BASIX Specification		
Building Element	**Material**	**Insulation**
External Wall	Full Brick, Concrete, Hebel, Stud	R1.0, R1.5*
Internal Wall	Plasterboard on Stud	None
Roof	Concrete	None
Ceiling	Concrete above Plasterboard	None, R2.5*
Floor	Concrete Slab	None, 0.5*
Floor Coverings	Carpet/tiles to Living Carpet to Bedrooms	N/A
Windows	Group A Glazed Systems: U-value = 6.7, SHGC = 0.70, U-value = 5.4, SHGC = 0.49* Group B Glazed Systems: U-value = 6.7, SHGC = 0.57, U-value = 5.4, SHGC = 0.58*	N/A
Central Hot Water System	Centralised Gas-fired Boiler systems with R1.0 (~38mm) piping insulation to the ringmain and supply risers	
Outdoor Swimming Pool	Volume capacity of 110kL	
	No heating system	
	Pump is to be controlled by a timer	
Rainwater Storage	No rainwater tank required	
Fire Sprinkler System	The fire sprinkler test water for The car park and building fire sprinkler systems are to be contained in a closed system	
Draught seals to all external windows and doors		
Note: *Please refer to the BASIX Report for the individual insulation requirements of each residential dwelling		

LEGEND

LEGEND

- T Westmead Railway Station
- Future Light Rail Station
- T-Way Bus Stop
- RailCorp Right of Way
- Views
- Prevailing Winds
- Acoustic Issues
- Privacy Issues
- Lot 5 Site Boundary

NOTE:
LOT 4 INDICATIVE CONCEPT ENVELOPES SHOWN

Rev.	Date	Approved by	Revision Notes
H	02.08.16	JM	Development Application

CLIENT
Deicorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

Project Title
WSU - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

Drawing Title
Site Plan
Site Analysis Plan

Scale	Project No.	Drawn by	North
1:500 @A1, 50%@A3	16001	turner	
Status	Dwg No.	Rev	
For Information	DA-100-010	H	

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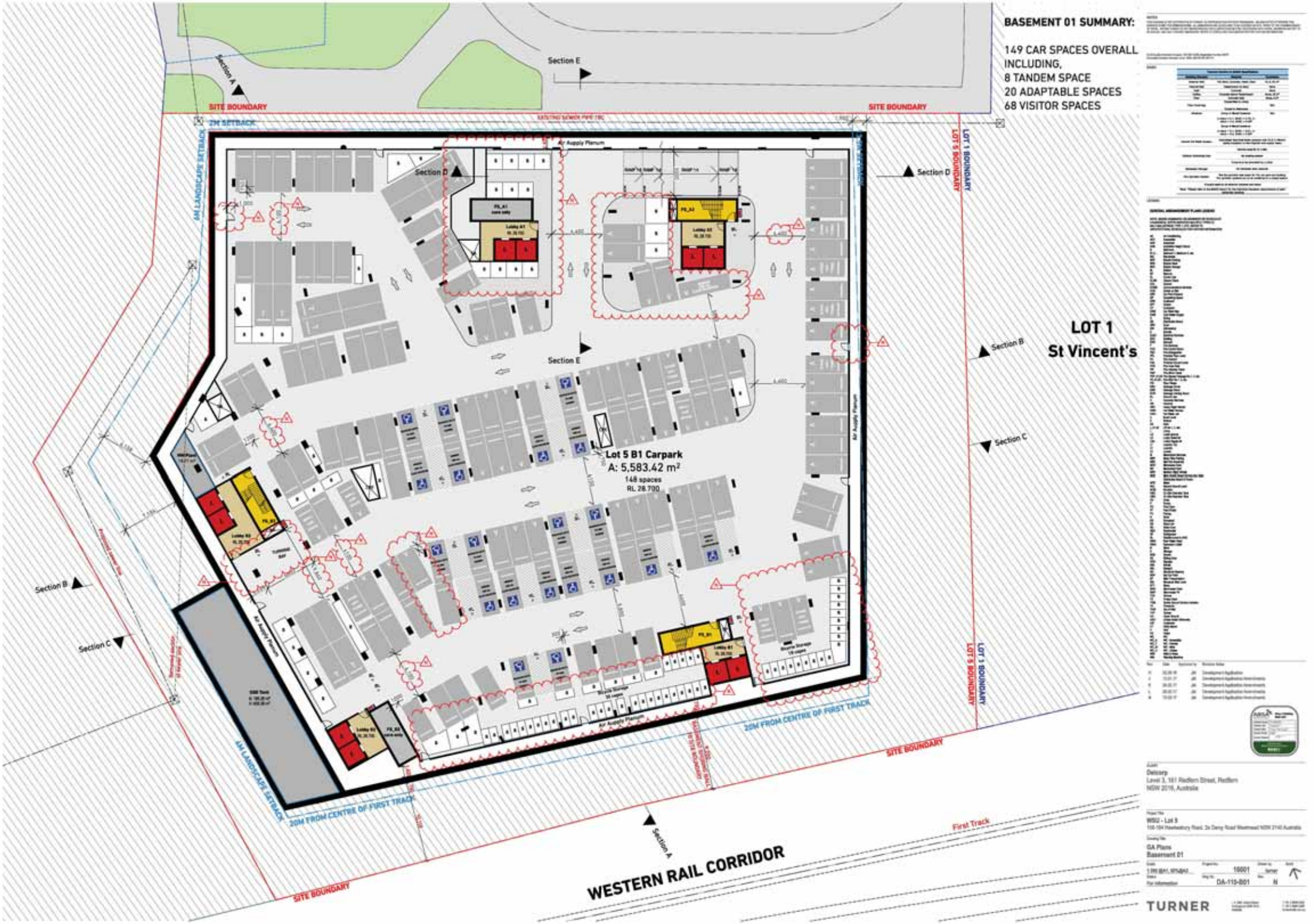
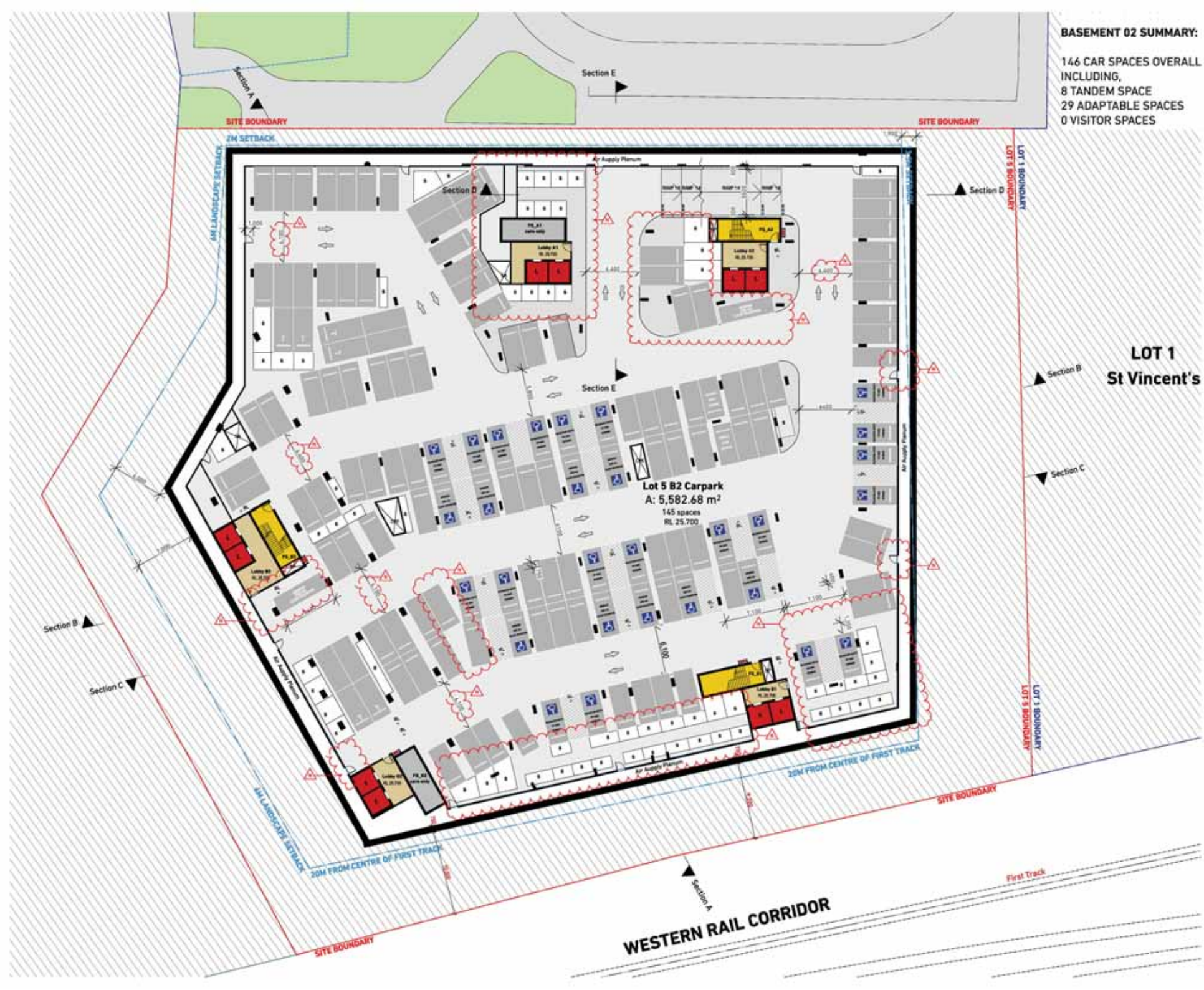

BASEMENT 01 SUMMARY:
149 CAR SPACES OVERALL INCLUDING,
8 TANDEM SPACE
20 ADAPTABLE SPACES
68 VISITOR SPACES
LOT 1
St Vincent's
Lot 5 B1 Carpark
A: 5,583.42 m²
148 spaces
RL 28.700
SITE BOUNDARY
20M SETBACK
4M LANDSCAPE SETBACK
20M FROM CENTRE OF FIRST TRACK
WESTERN RAIL CORRIDOR
First Track
LOT 5 BOUNDARY
Section A
Section B
Section C
Section D
Section E
Air Supply Plenum
Delcorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia
WSU - Lot 5
GA Plans
Basement 01
DA-110-B01
TURNER


BASEMENT 02 SUMMARY:
146 CAR SPACES OVERALL INCLUDING,
8 TANDEM SPACE
29 ADAPTABLE SPACES
0 VISITOR SPACES
LOT 1
St Vincent's
Lot 5 B2 Carpark
A: 5,582.68 m²
145 spaces
RL 25.700
SITE BOUNDARY
20M SETBACK
5M LANDSCAPE SETBACK
20M FROM CENTRE OF FIRST TRACK
WESTERN RAIL CORRIDOR
First Track
LOT 5 BOUNDARY
Air Supply Plenum
Section A
Section B
Section C
Section D
Section E
Detcorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia
WSU - Lot 5
GA Plans
Basement 02
DA-110-B02
TURNER

BASEMENT 03 SUMMARY:

163 CAR SPACES OVERALL
INCLUDING,
8 TANDEM SPACE
0 ADAPTABLE SPACES
0 VISITOR SPACES

Delcorp
Level 3, 181 Redfern Street, Redfern
NSW 2016, Australia

WSU - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

GA Plans
Basement 03

1:200 @A1, 1:400@A3	16001	turner	
For information	DA-110-B03	N	

TURNER


BASEMENT 04 SUMMARY:
165 CAR SPACES OVERALL
INCLUDING,
7 TANDEM SPACE
0 ADAPTABLE SPACES
0 VISITOR SPACES
LOT 1
St Vincent's
Lot 5 B4 Carpark
A: 5,584.05 m²
166 spaces
RL 19,700
SITE BOUNDARY
20M SETBACK
4M LANDSCAPE SETBACK
20M FROM CENTRE OF FIRST TRACK
WESTERN RAIL CORRIDOR
First Track
LOT 5 BOUNDARY
Air Supply Plenum
Section A
Section B
Section C
Section D
Section E

Delcorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

WS02 - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

GA Plans
Level 24 Plant and Roof

10001

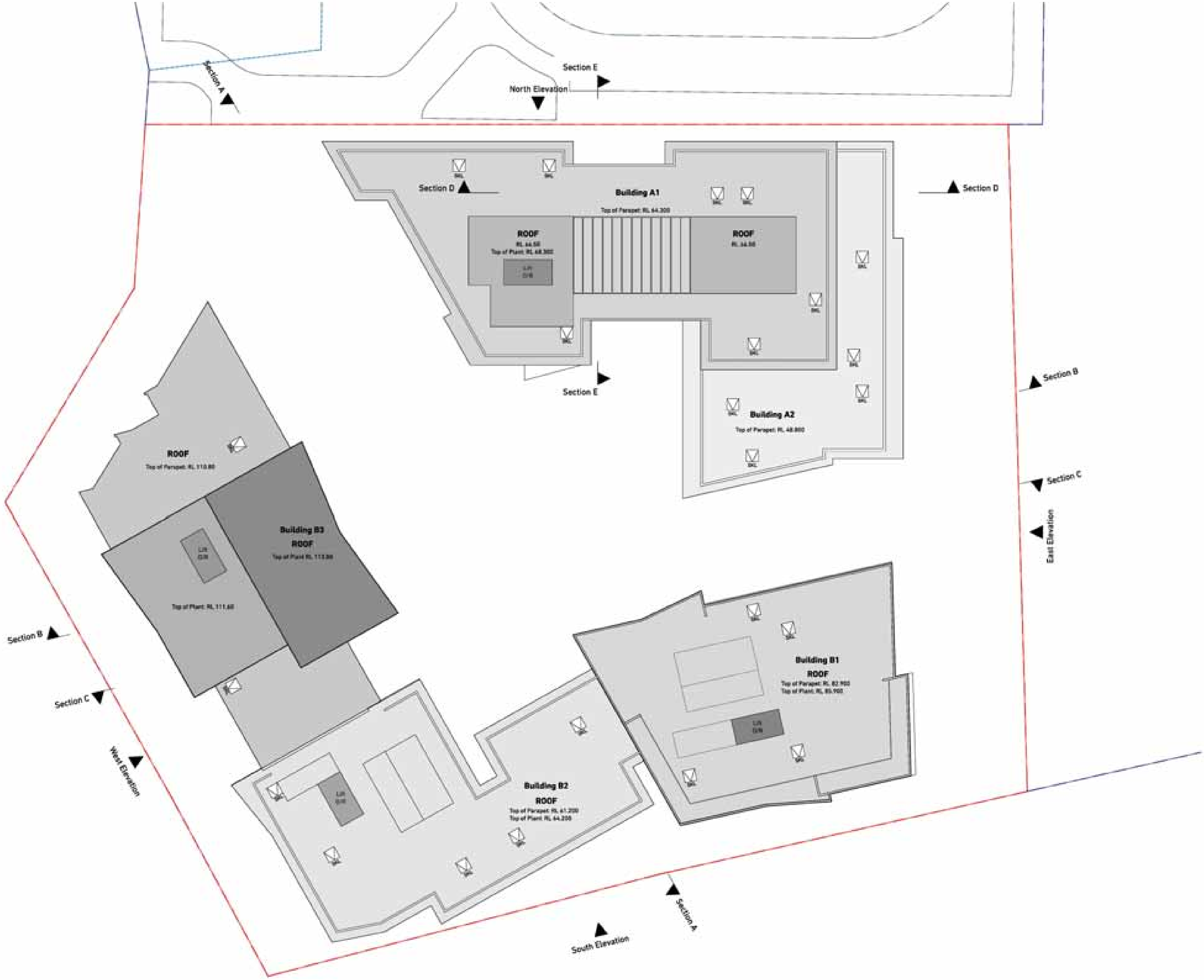
Turner

For Information

DA-119-240

J

TURNER



Delcorp
Level 3, 181 Redfern Street, Redfern
NSW 2016, Australia

WSQ - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

GA Plans
Overall Roof Plan

10001

For information

DA-110-250

J

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Client
Delcorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

Project Title
WSQ - Lot 5

Drawing Title
GA Elevation
North Elevation

10001	Turner	DA-210-001	M
For information			

TURNER

Delcorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

WS2 - Lot 5

GA Elevation
East Elevation

1:500, 1:100 @ A1, 50% @ A3

10001

DA-210-002

For information

TURNER

Elevation/ Section Legend

Brickwork Type 1 Brick Manufacturer: Boral Bricks Bricks Colour: Bondi Sand Paving pattern: Refer to sheet 700	Cladding Type 2 Fibre cement cladding - refer to sheet 410	Concrete off form Refer RAW or to landscape architect specification	Louvre Type 1 Clear fixed glass louvre system, refer to sheet 410	Louvre Type 4 Fixed vertical louvre system - Aluminium, Finish to match PF4	Powder Coated Steel Type 2 Powder Coated Steel, powder coating over weldspace, zinc shield except at interior surfaces. Colour to match PF1	Paint Finish Type 6 Finish to match Dulux 'Fly White' powder coat	Screen Type 2 Architectural, Finish to match to tenant with Railway requirements
Brickwork Type 2 Brick Manufacturer: Boral Bricks Bricks Colour: Bondi Sand Laid in stacked bond pattern with 'Flowing pattern, Refer to sheet 700	Cladding Type 3 FC cladding, refer to sheet 410	Glass Clear Type 1 Clear, low- E Glass with Acoustic laminated interlayer. Aluminium frame system, Refer to sheet 410	Louvre Type 5 Fixed vertical louvre system - Aluminium, Refer to sheet 410	Louvre Type 5 Fixed vertical louvre system - Aluminium, Finish to match PF4	Paint Finish Type 1 Dulux Natural White Refer to sheet Colour Record Sheet	Paint Finish Type 7 Finish to match Dulux 'Thunder Gum'	Screen Type 3 Metal mesh cladding aluminium with indoor interior
Brickwork Type 3 Bricks Colour: Bondi Sand, refer to sheet 410	Cladding Type 4 Metal cladding - refer to sheet 411	Glass Clear Type 2 Clear, light bronze tinted, to Glass and Acoustic laminated interlayer. Aluminium framing system. Refer to sheet 410	Louvre Type 6 Fixed vertical louvre system - Timber Finish to match 410	Louvre Type 6 Fixed vertical louvre system, Timber finish to match 410	Paint Finish Type 2 Dulux Deep Refer to sheet Colour Record	Paint Finish Type 8 Finish to match PF4	Screen Type 4 Metal mesh cladding aluminium with indoor interior
Cladding Type 1 Metal cladding - refer to sheet 410	Cladding Type 5 Timber look composite cladding, acoustic lam to balcony soffits and soffit, Sanitas Lunn' Wood	Glass Clear Type 3 Clear, light bronze tinted, to Glass and Acoustic laminated interlayer. Aluminium framing system. Refer to sheet 410	Louvre Type 7 Fixed vertical louvre system - Aluminium, Finish to match PF4	Louvre Type 7 Fixed vertical louvre system, Aluminium, Finish to match PF4	Paint Finish Type 3 Dulux Natural Cotton Refer to sheet Colour Record	Paint Finish Type 9 Finish to match PF4	Screen Type 5 Metal mesh cladding aluminium with indoor interior
Cladding Type 2 Metal cladding - refer to sheet 410	Cladding Type 6 Fibre cement cladding - refer to sheet 410	Glass Translucent Type 1 Clear, Light Bronze, to Glass and Acoustic laminated interlayer. Aluminium framing system. Refer to sheet 410	Louvre Type 8 Fixed vertical louvre system - Aluminium, Finish to match PF4	Louvre Type 8 Fixed vertical louvre system, Aluminium, Finish to match PF4	Paint Finish Type 4 Dulux Deep Refer to sheet Colour Record	Paint Finish Type 10 Finish to match PF4	Screen Type 6 Architectural, Finish to match to tenant with Railway requirements
Cladding Type 3 Metal cladding - refer to sheet 410	Cladding Type 7 Fibre cement cladding - refer to sheet 410	Glass Translucent Type 2 Clear, Dark Grey, to Glass and Acoustic laminated interlayer. Aluminium framing system. Refer to sheet 410	Louvre Type 9 Fixed vertical louvre system - Aluminium, Finish to match PF4	Louvre Type 9 Fixed vertical louvre system, glass louvre system, mirror to underside	Paint Finish Type 5 Dulux Natural Cotton Refer to sheet Colour Record	Paint Finish Type 11 Finish to match PF4	Screen Type 7 Metal mesh cladding aluminium with indoor interior
		Glass Translucent Type 3 Clear, Dark Grey, to Glass and Acoustic laminated interlayer. Aluminium framing system. Refer to sheet 410	Louvre Type 10 Fixed vertical louvre system, Aluminium, Finish to match PF4	Louvre Type 10 Fixed vertical louvre system, Aluminium, Finish to match PF4	Powder Concrete Type 1 Precast Concrete, Finish, powdercoating over weldspace, zinc shield except at interior surfaces. Colour to match PF1	Paint Finish Type 12 Finish to match Dulux 'Thunder Gum'	Metal Type 1 Metal cladding aluminium with indoor interior

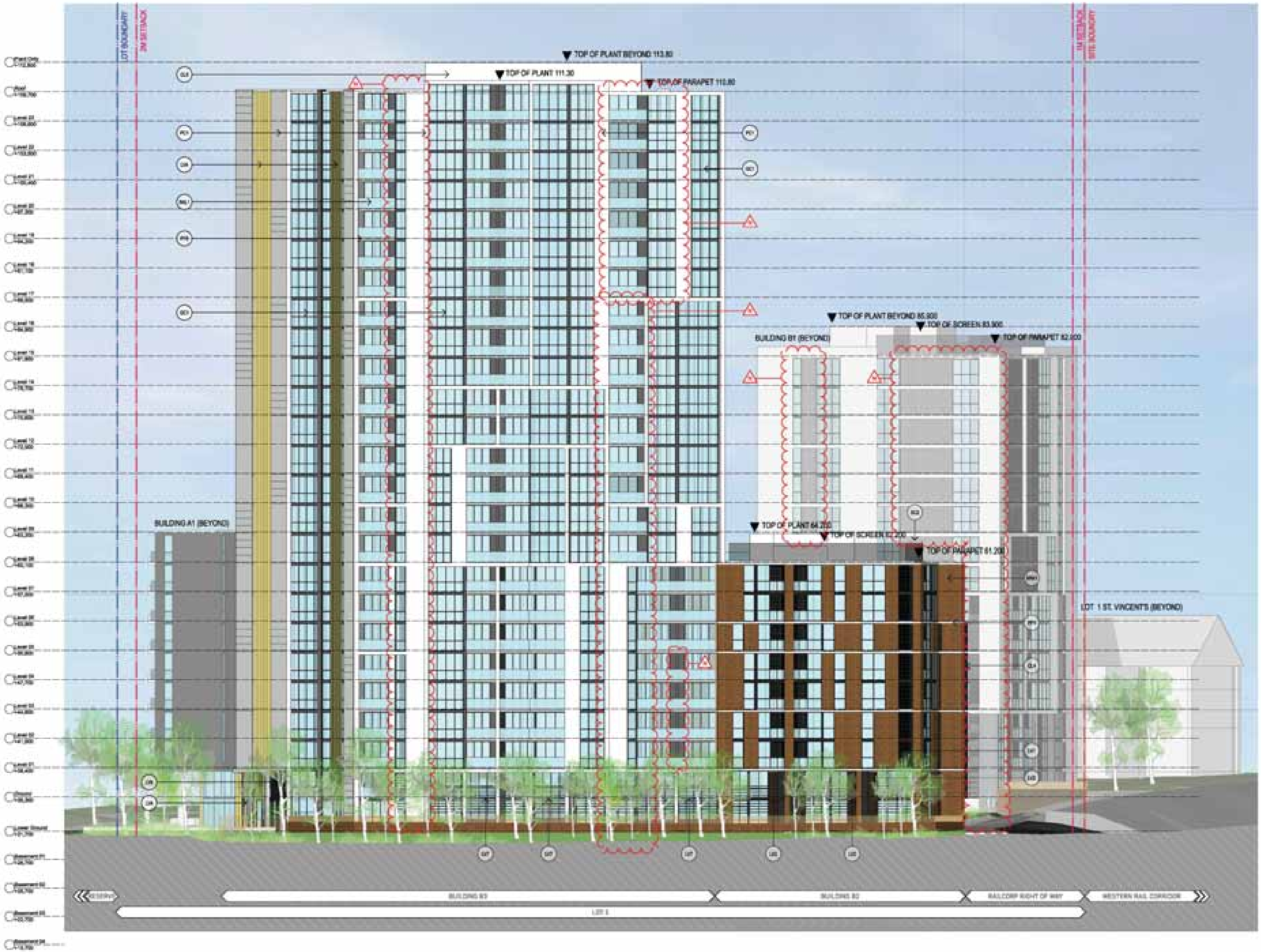
Delivery
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

Project Title
WSU - Lot 5
100-104 Hawkesbury Road, 2a Davy Road Westmead NSW 2145 Australia

Drawing Title
GA Elevation
South Elevation

Scale	Project No.	Drawn by	Issue
1:200, 1:100 @A1, 50%@A3	10001	Jamar	
Status	Dwg No.	Rev.	
For Information	DA-210-003	N	

TURNER



Delcorp
Level 3, 181 Redfern Street, Redfern
NSW 2016, Australia

WS2 - Lot 5

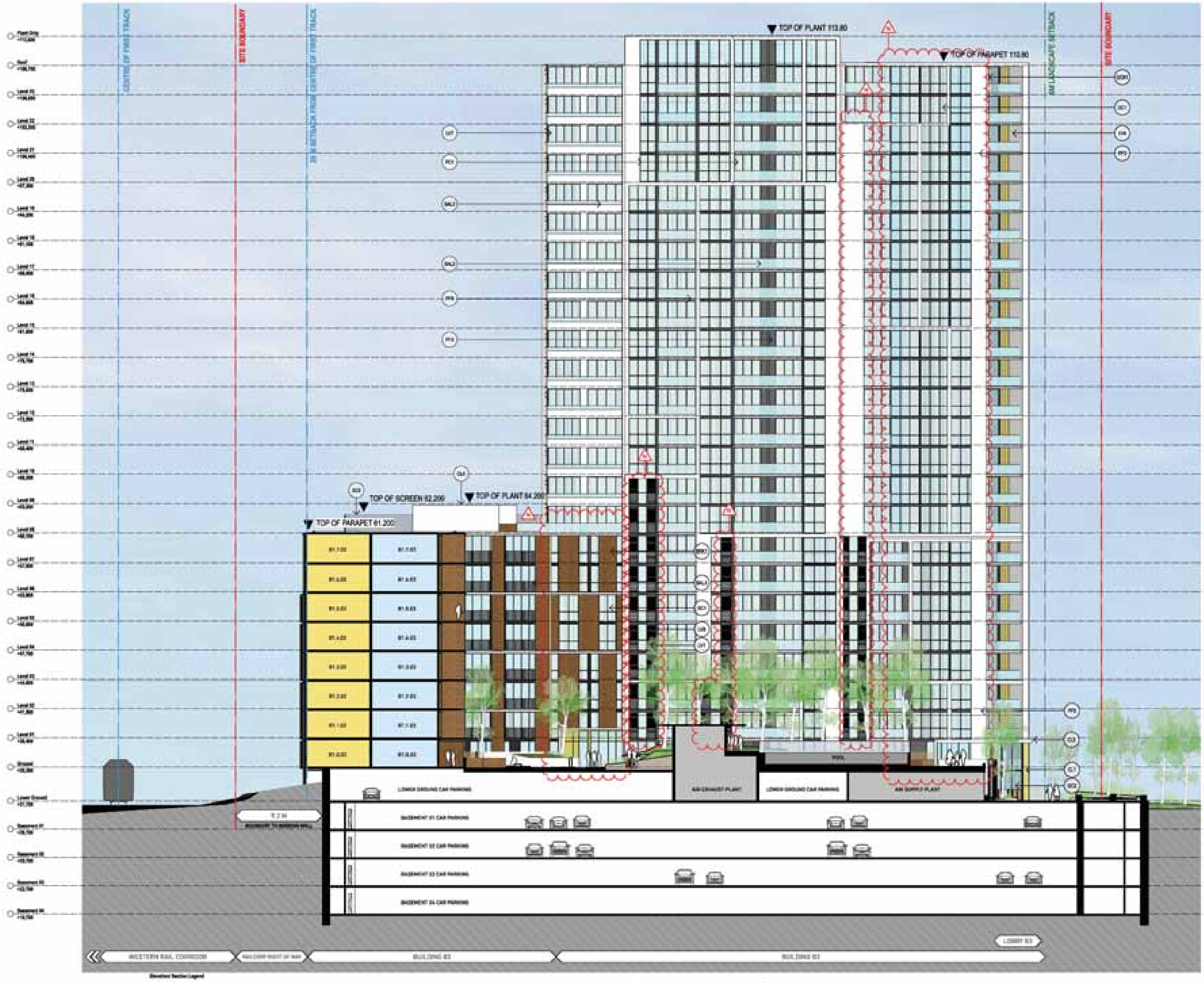
GA Elevation
West Elevation

10001

DA-210-004

N

TURNER



Elevation Section Legend

Delcorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

WS2 - Lot 5

GA Sections
Section AA

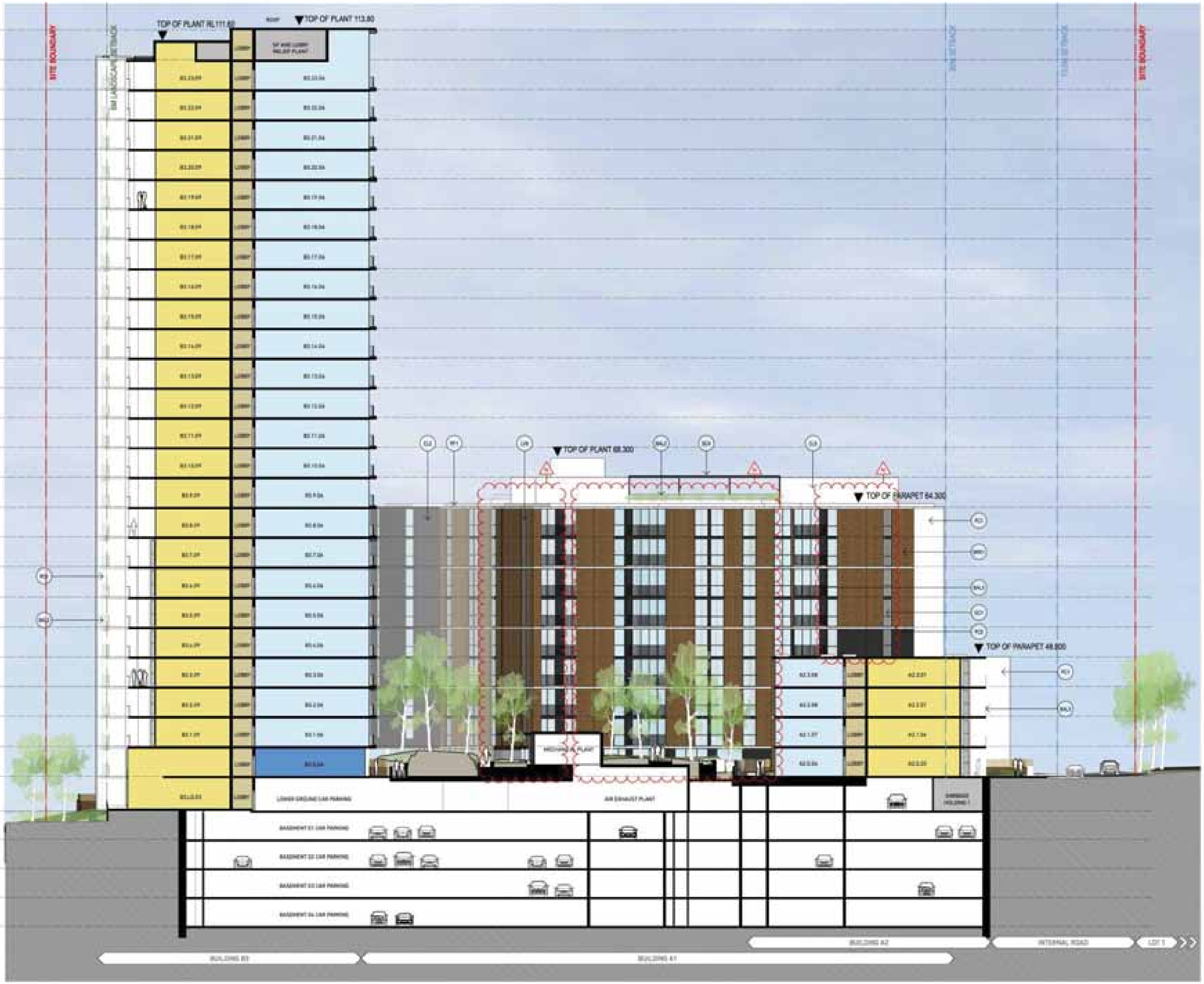
Project No. 10001

Dwg No. DA-310-001

Rev. N

For information

TURNER



Elevation Section Legend

Delcorp
Level 3, 181 Redfern Street, Redfern
NSW 2016, Australia

WSU - Lot 5

GA Sections
Section BB

1:200 @A1, 50%@A3

10001

For information

DA-310-002

N

TURNER

Elevation/ Section Legend

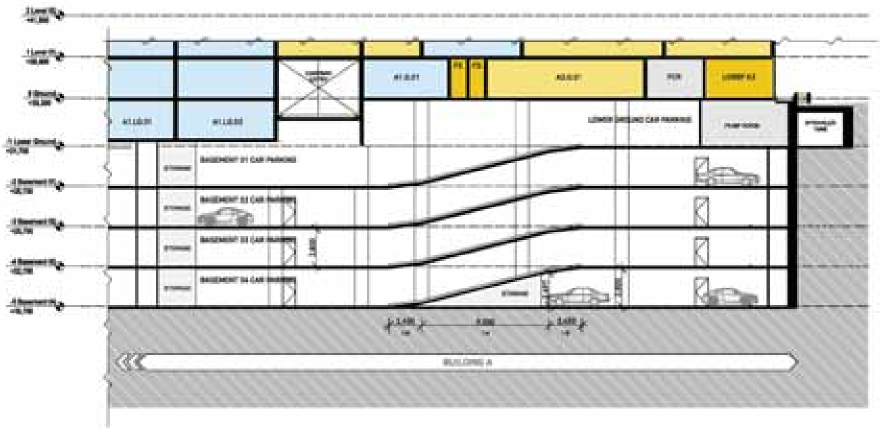
Client
Dalcorp
Level 3, 181 Redfern Street, Redfern
NSW 2016, Australia

Project Title
WSU - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

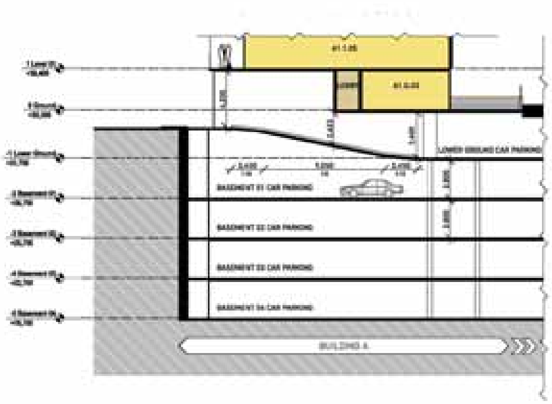
Drawing Title
GA Sections
Section CC

Scale	Project No.	Drawn by
1:300 @A1, 1:600 @A3	10001	Author
Status	Dwg No.	Rev
For Information	DA-310-003	N

TURNER



PARTIAL SECTION DD - CARPARK
1:200



PARTIAL SECTION EE - CARPARK
1:200

A Development Application Amendments

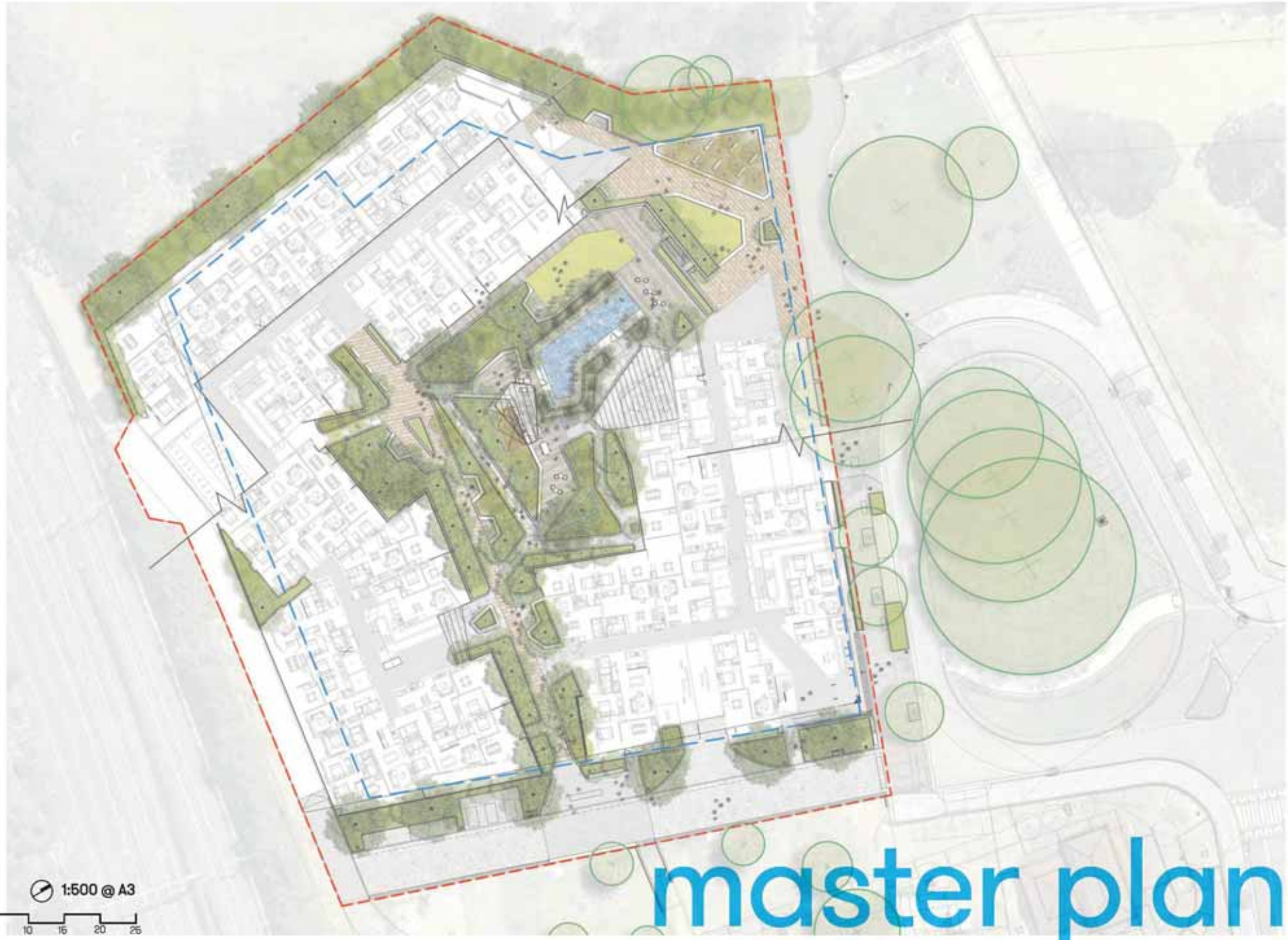
Delcorp
Level 3, 161 Redfern Street, Redfern
NSW 2016, Australia

WSU - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

GA Sections
Section DD & EE

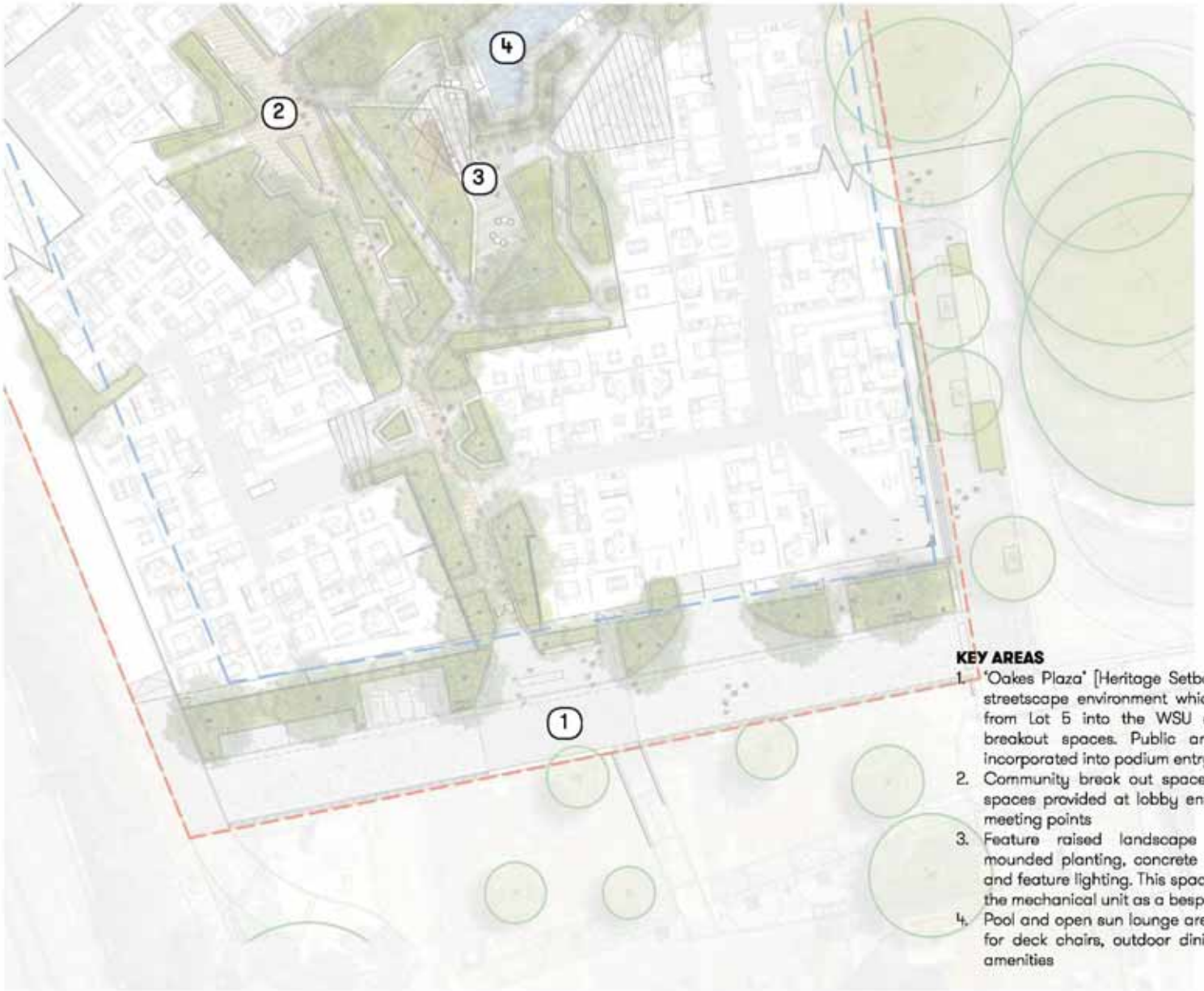
1:200 @A1, 50%@A3	10001	turner	
For Information	DA-310-004	A	

TURNER



master plan+

masterplan



KEY AREAS

1. 'Oakes Plaza' [Heritage Setback] - shared streetscape environment which transitions from Lot 5 into the WSU campus with breakout spaces. Public artwork to be incorporated into podium entry design
2. Community break out space - break out spaces provided at lobby entries and key meeting points
3. Feature raised landscape areas with mounded planting, concrete seating walls and feature lighting. This space also utilises the mechanical unit as a bespoke pavilion
4. Pool and open sun lounge area with space for deck chairs, outdoor dining and pool amenities

masterplan

KEY AREAS

1. Green open space for passive / active use in great northern aspect
2. 'Bayley's Grove' with lighting + seating in main forecourt between key lobby entries.
3. Community room + breakout space which is an indoor/outdoor space that integrates with the pool and lounge deck
4. Forecourt brick plaza and sloped civic lawn to encourage community engagement and interaction

Status: REVISED DA

Nom. Architect: Andrew Turnbull RLA | RUD #673

2016002fileLD-DA100[TREE MANAGEMENT PLAN].DWG

Print Date: 24 FEB 2017

Rev.	Description	Date
1	FOR DA	02.08.2016
2	REVISED DA	24.02.2017

LEGEND:

- Site Boundary
- Basement Extents
- Existing tree to be retained and protected (Significant Trees Numbered as per Arborists Report)
- Existing trees to be removed
- Proposed trees
- Tree Protection Zone [TPZ] (TPZ extents as per Arborists Report)
- Structural Root Zone [SRZ] (SRZ extents as per Arborists Report)

General Notes:

Plans to be read in conjunction with the following reports/ Documentation

- Arboricultural Impact Assessment report by Hayden Coulter - The Ents Tree Consultancy July 2016 + 15th February 2017 [Addendum]
- **Parramatta DCP, Westmead Special Precinct DCP and Parramatta & Westmead Public Domain Guidelines.**
- Survey - Whelan Insites [RPS Group] Feb-March 2015 + As built construction drawing 02140033-WD-301 [REV.3]

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www.scottcarver.com.au

Project: WSU - LOT 5 WESTMEAD

Client: COMBINED PROJECTS (WESTMEAD) PTY LTD

1 : 250 @ A1

0 4 8 12 16 20 40m

Title: TREE MANAGEMENT PLAN

Reference No.	Discipline	Drawing. No.	Rev.
20160021	LD	DA100	2

Status:	REVISED DA
Nom. Architect	Andrew Turnbull RLA | RUD #673
File:	20160021-LD-DA100[2].DWG
Print Date:	24 FEB 2017

Rev.	Description	Date
1	FOR DA	02.08.2016
2	REVISED DA	24.02.2017

LEGEND

Extent of Works

Site Boundary

Basement Extents

Existing tree to be retained and protected

Proposed trees

General Notes

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hello@scottcarver.com.au
www.scottcarver.com.au

Project: WSU - LOT 5 WESTMEAD

Client: COMBINED PROJECTS (WESTMEAD) PTY LTD

1 : 250 @ A1

0 2.5 5 7.5 10 12.5 25m

Title: GENERAL ARRANGEMENT PLAN

Reference No.	Discipline	Drawing. No.	Rev.
20160021	LD	DA101	2

Status: REVISED DA

Nom. Architect: Andrew Turnbull RLA | RUD #673

File: 20160021-LD-DA100[2].DWG

Print Date: 24 FEB 2017

Rev.	Description	Date
1	FOR DA	02.06.2016
2	REVISED DA	24.02.2017

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Project: WSU - LOT 5 WESTMEAD

Client: COMBINED PROJECTS (WESTMEAD) PTY LTD

1 : 200 @ A1

0 2 4 6 8 10 20m

Title: GROUND FLOOR DETAIL PLAN 1

Reference No.	Discipline	Drawing No.	Rev.
20150106	LD	DA102	2

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Sydney NSW 2000 Australia

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WSU - LOT 5 WESTMEAD
Project
COMBINED PROJECTS (WESTMEAD) PTY LTD
Client

1 : 200 @ A1

GROUND FLOOR DETAIL PLAN 2
Title

Reference No. 20150106
Discipline LD
Drawing No. DA103
Rev. 2

Status: FOR DA

Nom. Architect: Andrew Turnbull RLA | RUD #673

File: 20160021-LD-DA100 - ROOFTOP.DWG

Print Date: FEBRUARY 2017

Rev.	Description	Date
1	DA	29.07.2016
2	REVISED DA	24.02.2017

LEGEND:

+600 Proposed nominal design levels

Proposed trees with mounding

RPA Raised planter area

1.6m high glass balustrade edge

TD Modwood timber decking placed on 20mm pedestals

PER Pergola structure with lazer cut shade screen for shade and wind protection to dinning / kitchen areas

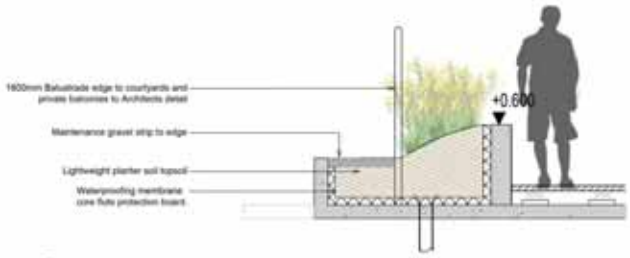
W1 Wall type 1: Insitu off white formed concrete walls, 200mm wide grade 2 finish

W2 Wall Type 2: Wall type 1: Insitu off white formed concrete walls, 500mm wide x 450mm high grade 2 finish with LED strip lighting + timber cladding

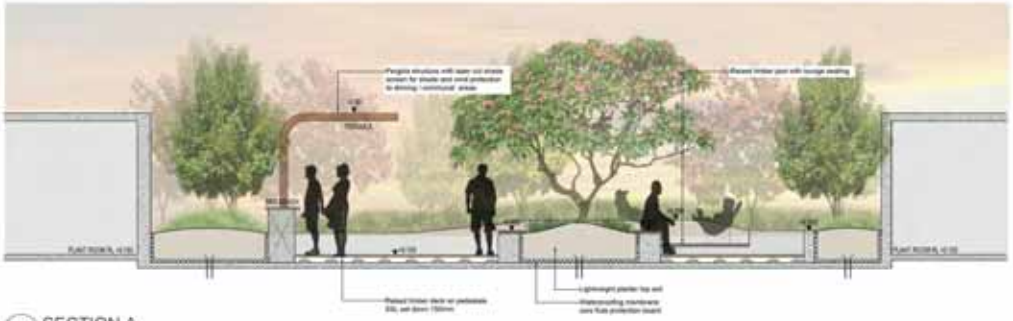
UL Proposed garden up light

Landscape plan to be read in conjunction with the Architectural and Engineers dwgs .

1 LEVEL 9 ROOFTOP TERRACE
1:100



2 TYPICAL ROOFTOP EDGE DETAIL
1:20



3 SECTION A
1:50

scott carver

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Project: WSU - LOT 5 WESTMEAD

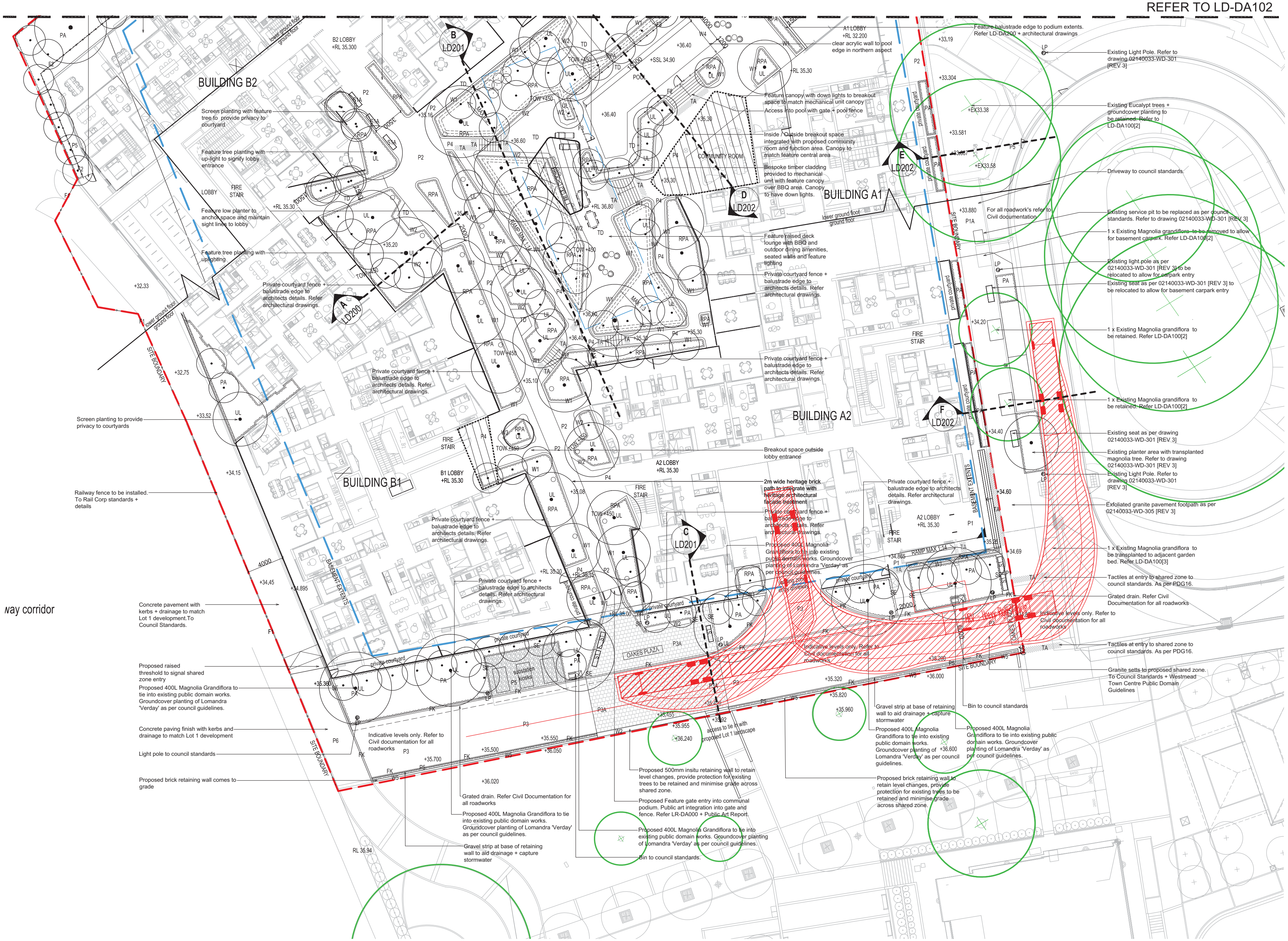
Client: COMBINED PROJECTS (WESTMEAD) PTY LTD

1 : 100 @ A1

0 1 2 3 4 5 10m

Title: LEVEL 9 - ROOFTOP TERRACE

Reference No.	Discipline	Drawing No.	Rev.
20160021	LD	DA104	2



Status:	REVISED DA
Nom. Architect	Andrew Turnbull RLA | RUD #673
File:	20160021-LD-DA100[3].DWG
Print Date:	24 FEB 2017

Rev.	Description	Date
1	FOR DA	02.08.2016
2	REVISED DA	24.02.2017

LEGEND:

- Site Boundary
- Basement Extents
- Existing tree to be retained and protected (Significant Trees Numbered as per Arborists Report)
- +99.50 Proposed nominal design levels: refer to engineers drawings
- Proposed trees
- PA Planter areas steel edge to unrestrained edges
- RPA Raised planter area 450mm min with max 1:3 graded mounding to achieve additional depth.
- TU Turf - Soft Leaf Buffalo Turf. To council standards.
- P1 Paving type 1: Australian Grandee 'Sydney Pearl' 600 x 300 x 50mm. Finish: exfoliated Laid in stretcherbond. To council standards.
- P1A Paving type 1A: Australian Grandee 'Sydney Pearl' 400 x 300 x 50mm to driveways. To council standards
- P2 Paving Type 2: Feature Brick paving. To integrate with architectural facades. Laid in staggered stretcherbond pattern.Refer arch documentation
- P3 Paving Type 3: Granite setts 'Sesame Grey' 90x90x50mm. Natural split/exfoliated finish. To Council Standards.
- P3A Paving Type 3A: Granite setts 'Sesame Grey' 200x100x50mm. Natural split/exfoliated finish. To Council Standards.
- P4 Paving Type 4: Granite Paver mix. Granite 'Silver Black' & 'Sesame Grey' 600 x 300 x 50mm
- P5 Paving Type 5: Decomposed granite paving - grey colour
- P6 Paving Type 6: Concrete paving finish to match Lot 1 development
- W1 Wall type 1: Insitu off white formed concrete walls, 200mm wide grade 2 finish
- W2 Wall Type 2: Wall type 2: Insitu off white formed concrete walls, 500mm wide x 450mm high grade 2 finish with LED strip lighting + timber cladding
- W3 Wall Type 3: Precast off white formed concrete planter wall with seated edge min 500mm wide x 450mm high with LED strip lighting + timber cladding
- W4 Wall Type 4: Clear acrylic pool panel
- W5 Wall Type 5: 230mm wide Brick Retaining Wall
- F1 Fence Type 1: Rail Corp fence. To engineers details
- F2 Fence Type 2: Steel security fence. To Australian Standards and engineers details.
- F3 Fence Type 3: 1.2m high glass balustrade. To engineers details.
- S1 Seat proprietary item. To Council Standards
- S1A Seat proprietary item. Mos Urban 'Sturt' Bench
- LP Light Pole to engineers documentation and to council standards.
- UL Uplighting to engineers documentation and to council standards
- FK 150mm Flush kerb to shared plaza. To council standards
- TD Hardwood Timber deck
- SE High grade steel edge
- TA Tactiles
- Bollard with lighting
- Steps + handrails to AS 1428.1 compliance

General Notes:

Plans to be read in conjunction with the following reports/ Documentation

- Arboricultural Impact Assessment report by Hayden Coulter - The Ents Tree Consultancy July 2016 + 15th February 2017 [Addendum].
- **Parramatta DCP, Westmead Special Precinct DCP and Parramatta & Westmead Public Domain Guidelines.**
- Survey - Whelan Insites [RPS Group] Feb-March 2015 + As built construction drawing 02140033-WD-301 [REV 3]. For Site levels and architectural information refer to Civil and Architects drawings respectively. For courtyard and overflow drainage refer to Hydraulic engineers drawings

Trees to be retained and are subject to tree protection & management in accordance with relevant Australian standards.

External Lighting and electrical : refer to engineers details.

Contractor to protect all landscape works during construction including but not exclusive to existing verge.

Levels general : contractor to ensure positive drainage to all pavements, turf and planter areas, install subsoil drainage to planter areas as required.
ALL PUBLIC DOMAIN WORKS IN ACCORDANCE WITH ***Parramatta City Council DCP / Westmead Special Precinct DCP*** & Westmead Town Centre Public Domain Guidelines / Parramatta City Council Public Domain Guidelines

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WSU - LOT 5 WESTMEAD
Project

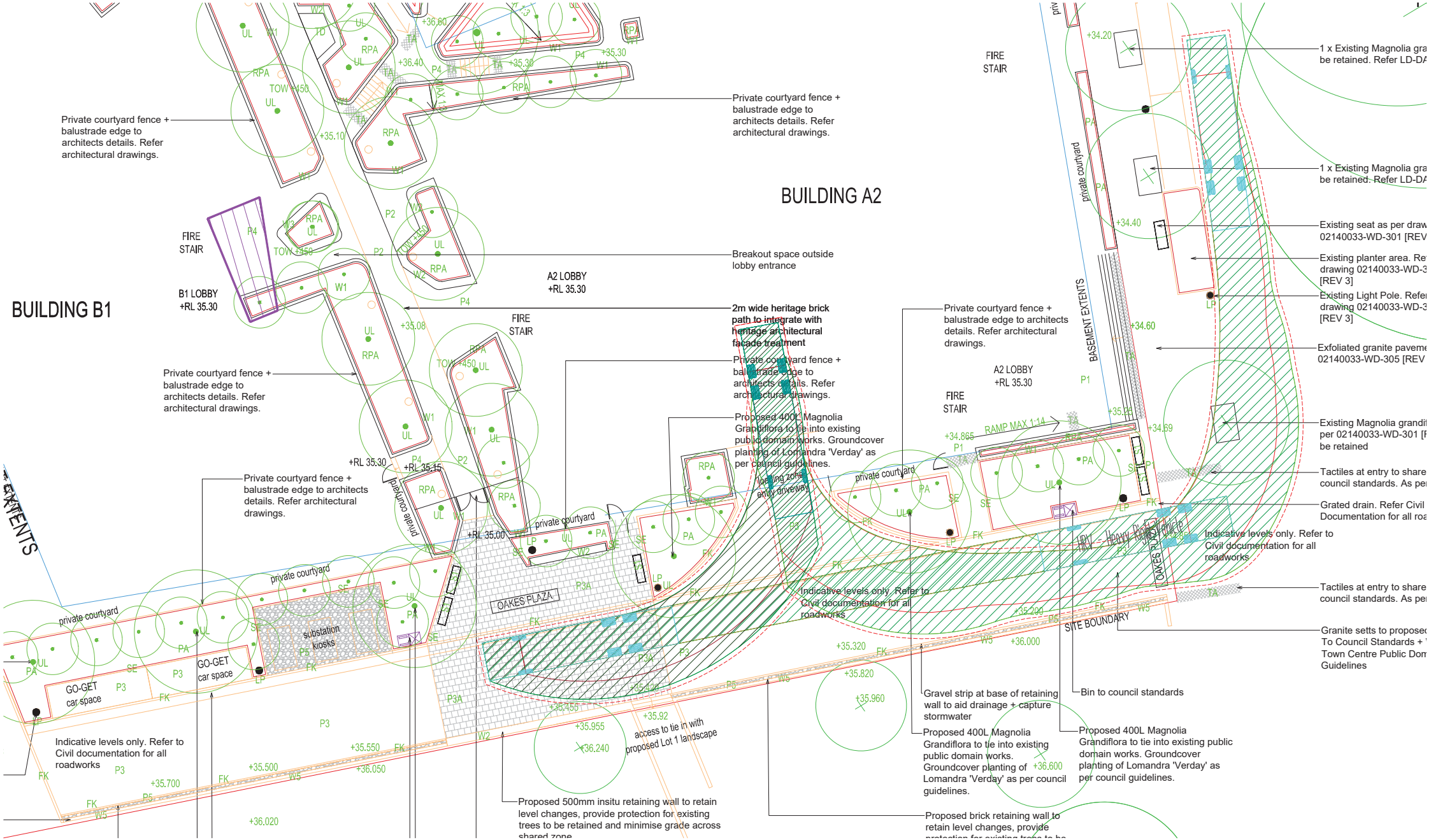
Client
COMBINED PROJECTS (WESTMEAD) PTY LTD

1 : 200 @ A1

0 2 4 6 8 10 20m

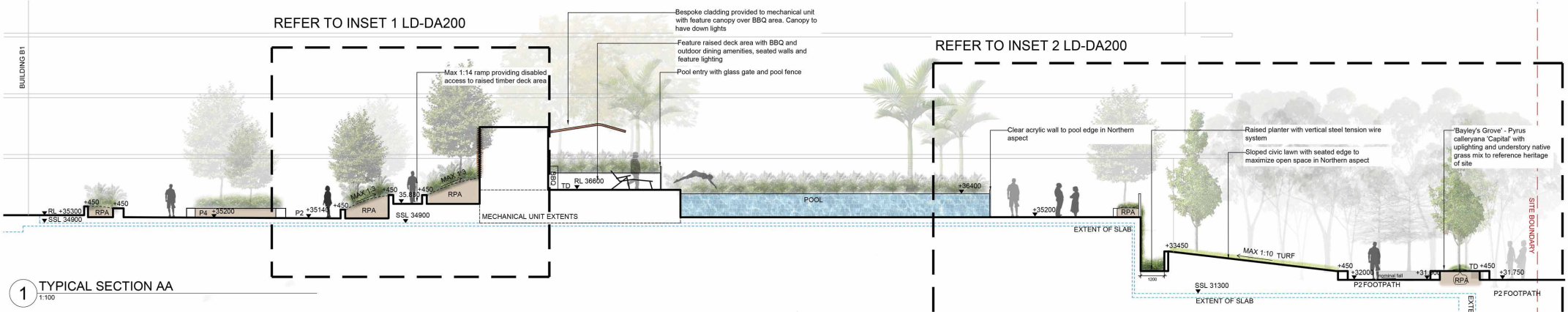
GROUND FLOOR DETAIL PLAN 2
Title

Reference No.	Discipline	Drawing. No.	Rev.
20150106	LD	DA103	2

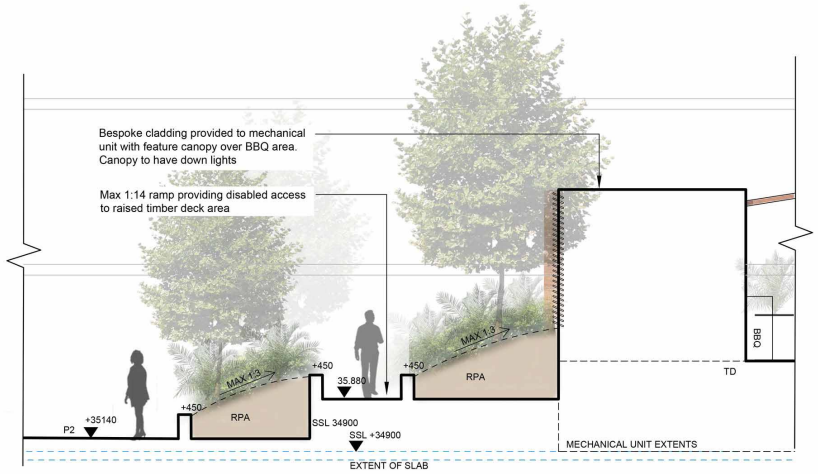

BUILDING B1
BUILDING A2
FIRE STAIR
B1 LOBBY +RL 35.30
A2 LOBBY +RL 35.30
Private courtyard fence + balustrade edge to architects details. Refer architectural drawings.
Breakout space outside lobby entrance
2m wide heritage brick path to integrate with heritage architectural facade treatment
Proposed 400L Magnolia Grandiflora to tie into existing public domain works. Groundcover planting of Lomandra 'Verday' as per council guidelines.
loading zone and driveway
private courtyard
OAKES PLAZA
substation kiosks
GO-GET car space
RAMP MAX 1:14
BASEMENT EXTENTS
SITE BOUNDARY
Indicative levels only. Refer to Civil documentation for all roadworks
access to tie in with proposed Lot 1 landscape
Proposed 500mm insitu retaining wall to retain level changes, provide protection for existing trees to be retained and minimise grade across shared zone
Gravel strip at base of retaining wall to aid drainage + capture stormwater
Proposed brick retaining wall to retain level changes, provide
Bin to council standards
1 x Existing Magnolia gra be retained. Refer LD-DA
Existing seat as per draw 02140033-WD-301 [REV
Existing planter area. Re drawing 02140033-WD-3 [REV 3]
Existing Light Pole. Refer drawing 02140033-WD-3 [REV 3]
Exfoliated granite paveme 02140033-WD-305 [REV
Existing Magnolia grandi per 02140033-WD-301 [R be retained
Tactiles at entry to share council standards. As per
Grated drain. Refer Civil Documentation for all roa
Granite setts to propose To Council Standards + Town Centre Public Dom Guidelines

Status:	DA
Nom. Architect	Andrew Turnbull RLA | RUD #673
File:	20160021-LD-DA100 - SECTIONS.DWG
Print Date:	02 AUG 2016

Rev.	Description	Date
1	FOR DA	02.08.2016



1 TYPICAL SECTION AA
1:100



2 INSET 1 SECTION AA
1:50

3 INSET 2 SECTION AA
1:50

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1 : 100 @ A1
0 1 2 3 4 5 10m

GROUND FLOOR SECTION AA
Title

Reference No.	Discipline	Drawing. No.	Rev.
20160021	LD	DA200	1

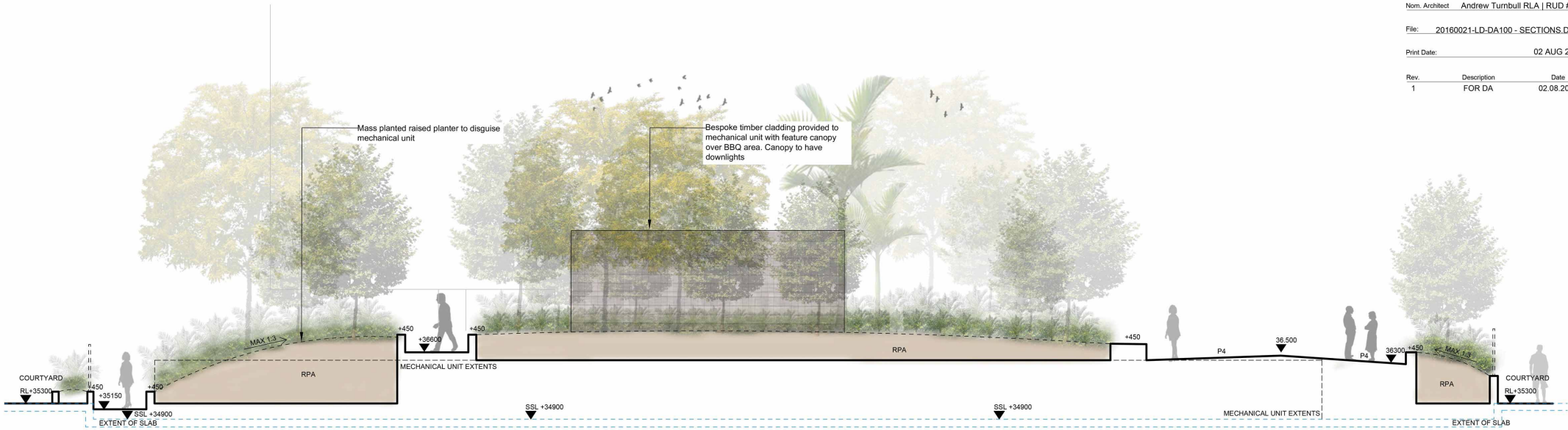
Status: DA

Nom. Architect Andrew Turnbull RLA | RUD #673

File: 20160021-LD-DA100 - SECTIONS.DWG

Print Date: 02 AUG 2016

Rev.	Description	Date
1	FOR DA	02.08.2016



4 SECTION BB
1:50

5 SECTION CC
1:50

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Project: WSU - LOT 5 WESTMEAD

Client: COMBINED PROJECTS (WESTMEAD) PTY LTD

1 : 50 @ A1

0 0.5 1.0 1.5 2.0 2.5 5m

Title: GROUND FLOOR SECTION BB AND CC

Reference No.	Discipline	Drawing. No.	Rev.
20160021	LD	DA201	1

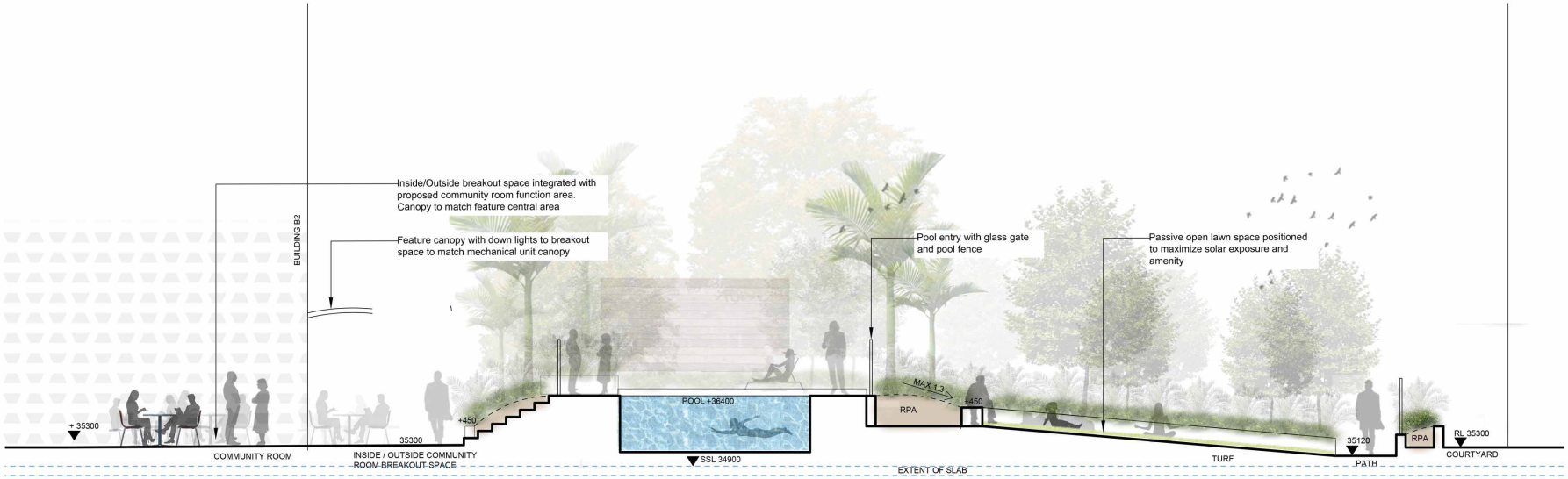
Status: DA

Nom. Architect Andrew Turnbull RLA | RUD #673

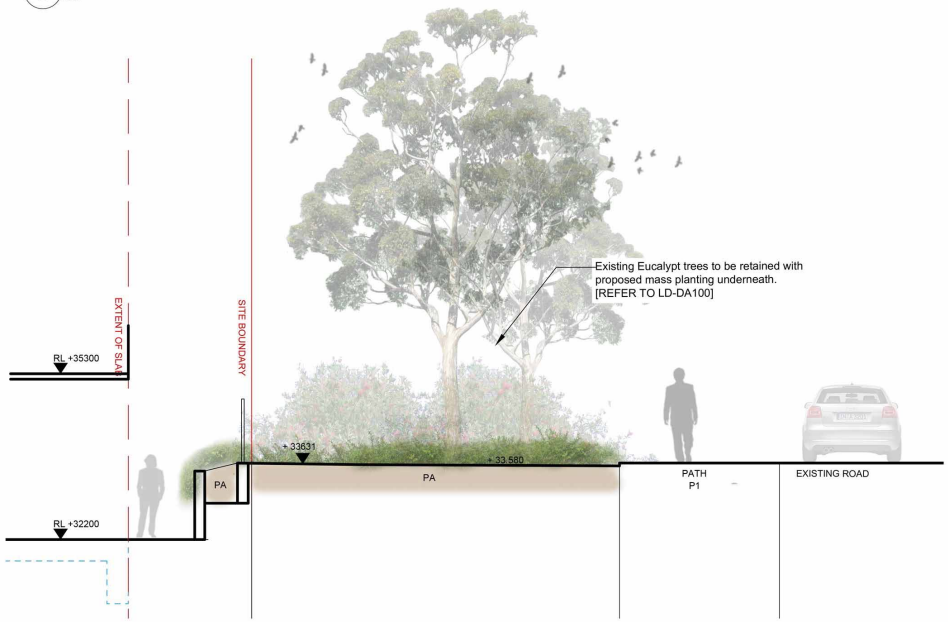
File: 20160021-LD-DA100 - SECTIONS.DWG

Print Date: 02 AUG 2016

Rev.	Description	Date
1	FOR DA	02.08.2016



6 SECTION DD
1:50



7 SECTION EE
1:50

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Project: WSU - LOT 5 WESTMEAD

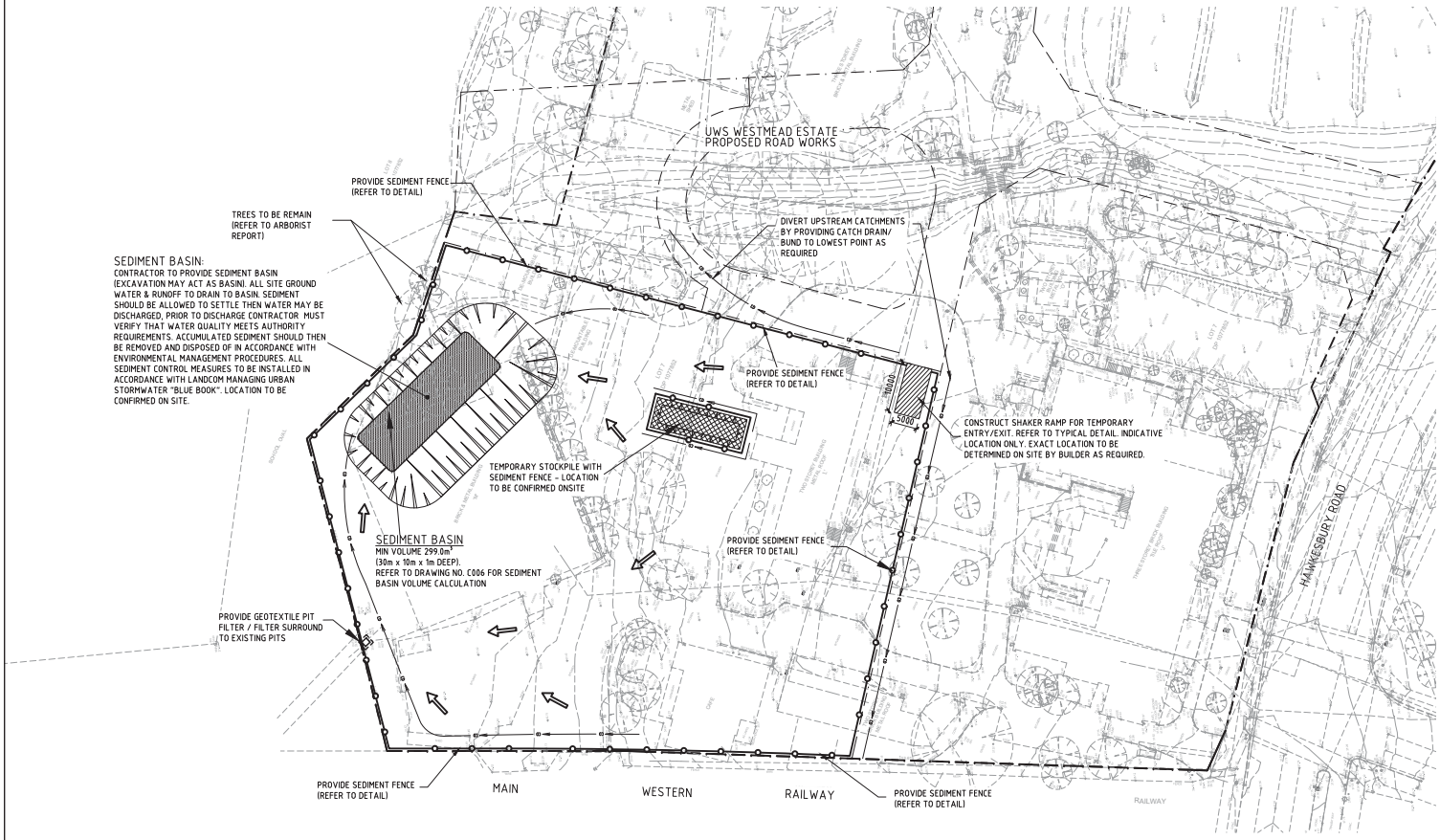
Client: COMBINED PROJECTS (WESTMEAD) PTY LTD

1 : 50 @ A1

0 0.5 1.0 1.5 2.0 2.5 5m

Title: GROUND FLOOR SECTION DD AND CC

Reference No.	Discipline	Drawing. No.	Rev.
20160021	LD	DA202	1



SOIL AND WATER MANAGEMENT PLAN

SCALE 1:500 0m 5m 10m 20m 30m

SOIL AND WATER MANAGEMENT NOTES

1. IT HAS BEEN ASSUMED THAT HOARDINGS/SILT FENCING WILL BE PROVIDED TO THE STAGE BOUNDARY SUFFICIENT TO PREVENT SEDIMENT RUNOFF FROM LEAVING SITE (EXCEPT IN THE CASE OF ENTRY/EXIT LOCATIONS WHERE TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP ARE PROVIDED). IF THIS IS NOT THE CASE, PROVIDE SEDIMENT FENCE TO STANDARD DETAIL BELOW AS REQUIRED TO PREVENT SEDIMENT FROM LEAVING SITE, DIRECT RUNOFF TO SEDIMENT BASIN.
2. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH LANDCOM MANAGING URBAN STORMWATER "BLUE BOOK".
3. MINIMISE CLEARING OUTSIDE ACCESS ROAD AND IN ACCORDANCE WITH THE ARBORIST REQUIREMENTS.

SEDIMENT CONTROL CONDITIONS

1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN AND ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER TO CONTAIN COARSER SEDIMENT FRACTIONS INCLUDING AGGREGATED FINES) AS NEAR AS POSSIBLE TO THEIR SOURCE.
2. SEDIMENT REMOVED FROM ANY TRAPPING DEVICE WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS & WATERWAYS CANNOT OCCUR.
3. STOCKPILES WILL BE PLACED WHERE SHOWN ON DRAWING OR ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER AND NOT WITHIN 5m OF HAZARD AREAS INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS & DRIVEWAYS.
4. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM WITH INLET FILTERS (SEE DETAILS) UNLESS IT IS SEDIMENT FREE.
5. TEMPORARY SEDIMENT TRAPS WILL BE RETAINED UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
6. CONTRACTOR TO DESIGN/SIZE/CONSTRUCT TEMPORARY SEDIMENT BASIN, WATER SHOULD BE ALLOWED TO SETTLE BEFORE DISCHARGE. CONTRACTOR MUST VERIFY THAT WATER QUALITY MEETS AUTHORITIES REQUIREMENTS PRIOR TO DISCHARGE . ACCUMULATED SEDIMENT SHOULD THEN BE REMOVED & DISPOSED OF IN ACCORDANCE WITH ENVIRONMENTAL MANAGEMENT PROCEDURES.

SITE INSPECTION & MAINTENANCE CONDITIONS

THE SITE MANAGER WILL INSPECT THE SITE AT LEAST WEEKLY AND WILL:

1. ENSURE THAT DRAINS OPERATE PROPERLY & TO EFFECT ANY NECESSARY REPAIRS
2. REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5m FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS & PAVED AREAS.
3. REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE
4. ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE.
5. CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS.
6. MAINTAIN EROSION & SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
7. REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.

AS PART OF THE STATUTORY 'DILIGENCE OF CARE' RESPONSIBILITIES, THE SITE MANAGER WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL.
ENTRIES WILL INCLUDE:

1. THE VOLUME & INTENSITY OF ANY RAINFALL EVENTS
2. THE CONDITION OF ANY SOIL & WATER MANAGEMENT WORKS
3. THE CONDITION OF VEGETATION & ANY NEED TO IRRIGATE
4. THE NEED FOR DUST PREVENTION STRATEGIES
5. ANY REMEDIAL WORKS TO BE UNDERTAKEN

THE BOOK WILL BE KEPT ONSITE & MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF WORKS.

SOIL AND WATER MANAGEMENT LEGEND

- 37.15 — EXSITING SURFACE LEVEL
- EXISTING SURFACE CONTOUR
- SEDIMENT FENCE
- TEMPORARY SHAKER RAMP FOR ENTRY/EXIT
- SEDIMENT BASIN (LOCATION TBC ON-SITE)
- TEMPORARY STOCKPILE (LOCATION TBC ON-SITE)
- GEOTEXTILE PIT FILTER / FILTER SURROUND INSTALLED ON EXISTING PIT
- OVERLAND FLOW
- CATCH DRAIN

WARNING
NO DRAINAGE WORKS SHALL COMMENCE UNTIL THE CONTRACTOR CONFIRMS THE I.L. OF ALL EXISTING DRAINS, AND CONFIRMS IN WRITING WITH THE ENGINEERING SUPERVISOR.

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

ALL EXISTING PROPERTY SERVICES' LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE VERIFIED ON SITE.
THE CONTRACTOR SHOULD SUPPLY PRECISE LOCATIONS AND DEPTHS TO THE ENGINEER FOR REVIEW PRIOR TO ANY WORKS THAT MAY AFFECT THESE SERVICES.

DIAL BEFORE YOU DIG www.1100.com.au The Essential First Step

Rev	Description	Date	By	App
A	ISSUE FOR CONSTRUCTION CERTIFICATE	22.07.16	RB	

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Project Name: PROPOSED DEVELOPMENT DARCY ROAD, HAWKESBURY ROAD WESTMEAD, NSW

Drawing Title: SOIL AND WATER MANAGEMENT DARCY RD, HAWKESBURY RD SITE PLAN

CONSTRUCTION CERTIFICATE

Designed	RB	Project Director Approved	Date
Drawn	RB		North
Scale	1:500		
Date	JULY 2016	Project Ref	Drawing No / Rev
Sheet		20 21746 01	C005 A

File: G:\Jobs\2021746\01_Civil\Issued\Dwg\20217460 1C-C005-CA03[A].dwg Plotted: 22.07.16 at 4:20 PM By: Rashida Bhuiyan

Appendix J

J Worksheets

J.1 The Standard Worksheet

Note: These "Standard Calculation" spreadsheets relate only to low erosion hazard lands as identified in figure 4.6 where the designer chooses to not use the RUSLE to size sediment basins. The more "Detailed Calculation" spreadsheets should be used on high erosion hazard lands as identified by figure 4.6 or where the designer chooses to run the RUSLE in calculations.

1. Site Data Sheet

Site name: Proposed Residential Development

Site location: Darcy Road, Hawkesbury Road Westmead, NSW

Precinct:

Description of site: Existing

Site Area	Site							Remarks
	Total							
Total catchment area (ha)	0.94							
Disturbed catchment area (ha)	0.94							

Soil analysis

Soil landscape	Soil Hydrological Group D/4							DNR mapping (if relevant)
Soil Texture Group	Type D/F							Sections 6.3.3(c), (d) and (e)

Rainfall data

Design rainfall depth (days)	5							See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85							See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	33.1							See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm								See IFD chart for the site
Rainfall erosivity (R-factor)								Automatic calculation from above data

Comments: The soil for the site is mostly mix of Silty Clay and Clay as per Geotechnical Report (Refer to Geotechnical Investigation Report E23033 GB, July 2016). More than 50% of the soil particle is less than 0.075mm which is assumed to be D/F & D/4 Soil Texture Group. The Parramatta North area rainfall depth has been used.

J-1

4. Volume of Sediment Basins, *Type D* and *Type F* Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for *Type F* and *Type D* soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$V = 10 \times C_v \times A \times R_{y\%ile,\ x\text{-}day}$ (m³)

where:

10 = a unit conversion factor

C_v = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

R = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

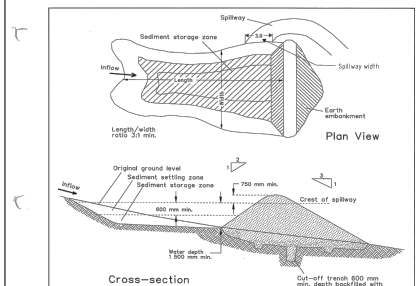
Sediment Storage Zone Volume

In the standard calculation, the sediment storage zone is 50 percent of the setting zone. However, designers can work to capture the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)), in which case the "Detailed Calculation" spreadsheets should be used.

Total Basin Volume

Site	C_v	R x-day y-%ile	Total catchment area (ha)	Setting zone volume (m³)	Sediment storage volume (m³)	Total basin volume (m³)
Total	0.64	33.1	0.94	199.2	99.6	299.0

J-4

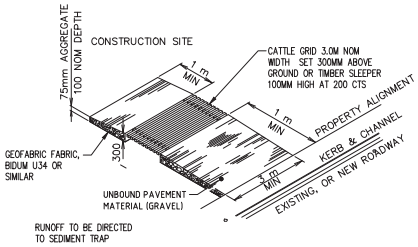


Construction Notes

1. Remove all vegetation and topsoil from under the dam wall and from within the storage area.
2. Construct a cut-off trench 500 mm deep and 1,200 mm wide along the centreline of the embankment extending to a point on the gully wall level with the riser crest.
3. Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
4. Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
5. Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
6. Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
7. Construct the emergency spillway.
8. Rehabilitate the structure following the SWMP.

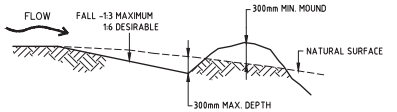
EARTH BASIN - WET (APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) — **SD 6-4**

6-19



TEMPORARY CONSTRUCTION VEHICLE ENTRY/EXIT SEDIMENT TRAP

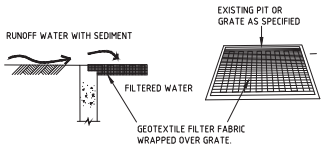
NOT TO SCALE



CATCH DRAIN

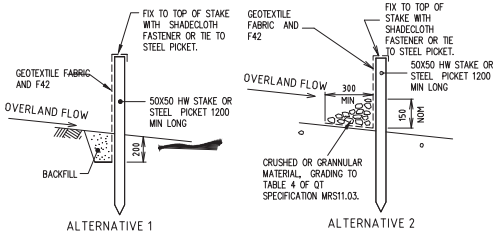
NOT TO SCALE

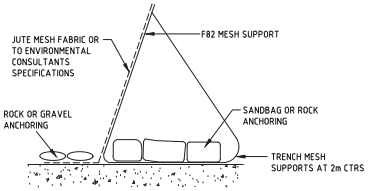
NOT TO SCALE



GEOTEXTILE PIT FILTER 2

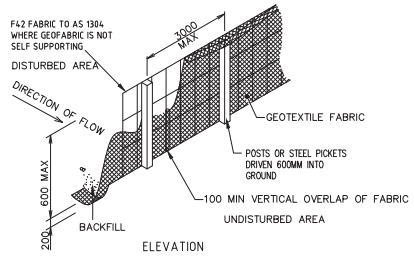
NOT TO SCALE





ALTERNATIVE SEDIMENT FENCE

NOT TO SCALE



ELEVATION

ALTERNATIVE SEDIMENT FENCE NOTES

1. INSTALL THIS TYPE OF SEDIMENT FENCE WHEN USE OF SUPPORT POSTS IS NOT DESIRABLE OR NOT POSSIBLE. SUCH CONDITIONS MIGHT APPLY, FOR EXAMPLE, WHERE APPROVAL IS GRANTED FROM THE APPROPRIATE AUTHORITIES TO PLACE THESE FENCES IN HIGHLY SENSITIVE ESTUARINE AREAS.
2. USE BENT TRENCH MESH TO SUPPORT THE F82 WELDED MESH FACING AS SHOWN ON THE DRAWING ABOVE. ATTACH THE JUTE MESH TO THE WELDED MESH FACING USING UV-RESISTANT CABLE TIES.
3. STABILISE THE WHOLE STRUCTURE WITH SANDBAG OR ROCK ANCHORING OVER THE TRENCH MESH AND THE LEADING EDGE OF THE JUTE MESH. THE ANCHORING SHOULD BE SUFFICIENTLY LARGE TO ENSURE STABILITY OF THE STRUCTURE IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.

Rev	Description	Date	By	App
A	ISSUE FOR CONSTRUCTION CERTIFICATE	22.07.16	RB	

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sydney@bonaccigroup.com
www.bonaccigroup.com

Project Name: PROPOSED DEVELOPMENT DARCY ROAD, HAWKESBURY ROAD WESTMEAD, NSW

Drawing Title: SOIL AND WATER MANAGEMENT CALCULATION SHEET AND DETAILS

CONSTRUCTION CERTIFICATE

Designed RB | Drawn RB | Scale As Noted | Date JULY 2016 | Sheet

Project Director Approved | Date | North

Project Ref: 20 21746 01 | Drawing No: C006 | Rev: A

File: G:\Jobs\2021746\01_Civil\Issued\Dwg\20217460 1C-C006-CAD[A].dwg Plotted: 22.07.16 at 2:11 PM By: Rashida Bhuiyan

WSU - LOT 5
DARCY 7 HAWKESBURY ROAD WESTMEAD
CIVIL WORKS

LEGEND

CIVIL DRAINAGE SYMBOLS

- STW — STORMWATER DRAINAGE PIPE
- STORMWATER DRAINAGE CHANNEL
- CO — SS — SUB SOIL DRAINAGE WITH CLEAN OUT
- SSRM — SUB SOIL RISING MAIN
- EB-LF — EARTH BANK LOW FLOW
- EB-HF — EARTH BANK HIGH FLOW
- EM — EXCAVATED MATERIAL
- FLUME
- DD — DIVERSION DRAIN
- DIVERSION DRAIN
- OFP — OVERFLOW PATH
- OFD — OVERFLOW DRAIN
- CLD — CONCRETE LINED DRAIN
- RLD — ROCK LINED DRAIN
- TD — TABLE DRAIN
- V DRAIN (L)
- V DRAIN (R)
- SWALE or SPEED HUMP
- OVERLAND FLOW DIRECTIONAL ARROW
- OVERLAND FLOW PATH
- DP — DOWN PIPE
- PAVED AREA DRAIN.
- DROP TO OR RISE FROM
- RISE TO OR DROP FROM
- TEE DROP
- TEE RISE
- VERT — VERTICAL RISER IN DRAINAGE
- FLOW DIRECTIONAL ARROWS ON ALL PIPING SERVICES
- PIPELINE TERMINATED WITH BLANK FLANGE
- PIPELINE PLUGGED OFF
- CO — CLEAROUT
- F.P. — FLUSHING POINT
- NEW PIPE
- RISER
- SERVICE
- SIZE
- DROPPER

CIVIL ABBREVIATIONS

DRAINAGE LEVELS

BWL	BOTTOM WATER LEVEL
IL	INVERT LEVEL
OL	OBVERT LEVEL
SL	SURFACE LEVEL
TWL	TOP WATER LEVEL

GRATES & COVERS

LD	LIGHT DUTY CLASS 'B'
MD	MEDIUM DUTY CLASS 'C'
HD	HEAVY DUTY CLASS 'D'
EHD	EXTRA HEAVY DUTY CLASS 'E'
MP	MULTI PART COVER OR GRATE

PITS

CDS	CDS TECHNOLOGIES, STORMWATER TRAPS
DCP	DISCHARGE CONTROL PIT
DGGP	DOUBLE GRATED GULLY PIT (CAST IRON)
GPT	GROSS POLUTANT TRAP
JP	JUNCTION PIT
KEP	KERB ENTRY PIT
KEU	KERB ENTRY UNIT
MPC	MULTI PART COVER
MPG	MULTI PART GRATE
SGGP	SINGLE GRATED GULLY PIT (GMS)
SWP	STORMWATER PIT

DRAINAGE LINES

SS	SUBSOIL DRAINAGE
STRW	STORMWATER RISING MAIN
STW	STORMWATER DRAIN
GD	AGGREGATED DRAIN
OLD	OPEN LINED DRAIN
OUD	OPEN UNLINED DRAIN

FEATURES

CO	CLEAROUT
DP	DOWN PIPE
FP	FLUSHING POINT
IO	INSPECTION OPENING
OF	GUTTER OVERFLOW PIPE
RO	RAINWATER OUTLET
DTU	DRAINAGE TURNUP

OSD

OSD	ONSITE DETENTION
PSD	PERMISSIBLE SITE DISCHARGE
OFP	OVERFLOW PATH
SWMP	STORM WATER MANAGEMENT PLAN
ESCP	EROSION & SEDIMENT CONTROL PLAN

- OSD ABOVE GROUND
- KEP - KERB ENTRY PIT
- DOUBLE GRATED GULLY PIT
- JUNCTION PIT WITH COVER
- SURFACE INLET PIT (FLUSH/RAISED)
- SURFACE INLET PIT (DEPRESSED)
- GRATED TRENCH DRAIN

EROSION & SEDIMENTATION SYMBOLS

FENCES
- B — BARRIER FENCE
- X — SEDIMENT FENCE
- SILT FENCE ON LEVEL
- SILT FENCE ON GRADE
- W — WIND FENCE

BANKS
- DIVERSION CHANNEL/BANK
- LEVEL SPREADER
- EB — EARTH BANK
- EBLF — EARTH BANK LOW FLOW
- EBHF — EARTH BANK HIGH FLOW
- EM — EXCAVATED MATERIAL

TRAPS
- GEOTEXTILE SEDIMENT TRAP
- CHECK DAMS (STRAW BALE OR ROCK)
- CONCRETE ENERGY DISSIPATOR
- STABALISED CONSTRUCTION SITE VEHICLE ENTRY/EXIT GRID
- SEDIMENT TRAP
- GEOTEXTILE FILTER BAGS OR SOCK

SURVEY & MAPPING SYMBOLS

- PROPERTY BOUNDARY
- EASEMENT
- FENCE OFF BOUNDARY
- FENCE ALONG BOUNDARY
- FENCE ON BOUNDARY
- STATE BOUNDARY
- X — COUNTY BOUNDARY
- PARISH BOUNDARY
- +++ — SHIRE/MUNICIPLE BOUNDARY
- P — NATIONAL PARK BOUNDARY
- R — STATE RECREATION BOUNDARY
- : — STATE FOREST BOUNDARY
- ⁎ — TELSTRA EXCHANGE BOUNDARY

GENERAL ABBREVIATIONS

CTS	CENTERS
℄	CENTRE LINE
DIA	DIAMETER
DMR	DEPARTMENT OF MAIN ROADS
DWG	DRAWING
EX.	EXISTING
GALV	GALVANIZED
HD GALV	HOT DIPED GALVANIZED
ID	INTERNAL DIAMETER
L.O.C.	LIMIT OF CONTRACT
MAX	MAXIMUM
MIN	MINIMUM
NB	NOMINAL BORE
N.I.C.	NOT IN CONTRACT
No.	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
REV	REVISION
RTA	ROADS AND TRAFFIC AUTHORITY
SQ	SQUARE
SRA	STATE RAIL AUTHORITY
STD	STANDARD
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL

LEVELS ABBREVIATIONS

CL	CEILING LEVEL
FFL	FINISHED FLOOR LEVEL
FGL	FINISHED GROUND LEVEL
GL	EXISTING GROUND LEVEL
HL	HIGH LEVEL
HP	HIGH POINT
LL	LOW LEVEL
ML	MID LEVEL
NS	NATURAL SURFACE LEVEL
PL	PLATFORM LEVEL
RL	REDUCED LEVEL
US	UNDER SIDE
USFL	UNDERSIDE FLOOR

SURVEY ABBREVIATIONS

AHD	AUSTRALIAN HEIGHT DATUM
BK	BOTTOM OF KERB
BM	BENCH MARK
CL	CENTRE LINE
D.E.	DRAINAGE EASEMENT
DH&W	DRILL HOLE & WING
FD	FOUND
INV	INVERT
K & G	KERB & GUTTER
R.O.W.	RIGHT OF CARRIAGEWAY
SSM	STATE SURVEY MARK
TK	TOP OF KERB

- RL 165.40 — PROPOSED SURFACE LEVEL

DRAFTING SYMBOLS

- D — AMENDMANT No.

SCALE BARS

2 0 4 8 12m

SCALE 1:200

2000 0 4000 8000 12000mm

SCALE 1:200

SECTION SYMBOL

- A / C-03 — SECTION No. / REFERENCE DRAWING

SERVICES & UTILITIES SYMBOLS

- A — AIR
- C — CABLES
- D — DRAINS
- E — ELECTRICAL
- LV — LOW VOLTAGE
- HV — HIGH VOLTAGE
- V — TRANSMISSION POWER LINES
- EFF — COMMON EFFLUENT
- ERM — EFFLUENT RISING MAIN
- F — FUEL
- G — GAS
- GIMP — GAS HIGH PRESSURE
- GIMP — GAS MEDIUM PRESSURE
- GILP — GAS LOW PRESSURE
- GAS — GAS
- NG — NATURAL GAS
- H — HYDRAULIC POWER
- I — IRRIGATION
- RTA — RTA ROADS & TRAFFIC AUTHORITY
- SRA — SRA STATE RAIL SERVICE
- S — SEWER
- SRM — SEWER RISING MAIN
- T — TELECOMMUNICATIONS TELSTRA
- OF — OPTICAL FIBRE OF
- SMOF — OPTICAL FIBRE CABLE SMOF
- OP — OPTUS
- OCC — OVERHEAD COMMUNICATION CABLE
- W — WATER
- WRM — WATER RISING MAIN
- MS — MISCELLANEOUS SERVICE
- X — X
- Y — Y
- Z — Z
- DRAINAGE CULVERTS & PIPE SIZES GREATER THAN & INCLUDING 450 DIA TO BE SHOWN IN FULL WIDTH

NOTE:-
'e' ON SERVICE LINE REPRESENTS EXISTING SERVICE OR THE USE OF LOWER CASE LETTER.

'x' ON SERVICE LINE REPRESENTS SERVICE TO BE ABANDONED.

WATER & SEWER ABBREVIATIONS

BT	BOUNDARY TRAP
GM	GRAVITY MAIN
HYD	HYDRANT
IO	INSPECTION OUTLET
LH	LAMP HOLE
MH	MAINTENANCE HOLE
MS	MAINTENANCE SHAFT
PS	PUMP STATION
RM	RISING MAIN
SV	STOP VALVE
SWW	SYDNEY WATER WATERMAIN
WM	WATER METER

WATER & SEWER SYNBOLS

- PROPOSED SYDNEY WATER SEWER
- FUTURE SYDNEY WATER SEWER
- EXISTING SYDNEY WATER SEWER
- EXISTING SYDNEY WATER SEWER
- EXISTING SYDNEY WATER SEWER TO BE DISUSED.

MATERIALS

Br	BRASS
CI	CAST IRON
CICL	CAST IRON CEMENT LINED
CONC	CONCRETE
CP	CHROMIUM PLATED
Cu	COPPER
DICL	DUCTILE IRON CEMENT LINED
FRC	FIBRE REINFORCED CEMENT
GMS	GALVANISED MILD STEEL
MS	MILD STEEL
NY	NYLON
PE	POLYETHYLENE
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RHS	RECTANGULAR HOLLOW SECTION
SS	STAINLESS STEEL

CATCHMENT SYMBOLS

- X — PIT CATCHMENT
- XX — LINE CATCHMENT
- XXX — MAJOR CATCHMENT
- SUB CATCHMENT
- LIMIT OF CATCHMENT

CATCHMENT ABBREVIATIONS

P( )	PAVED CATCHMENT AREA
R( )	ROOFED CATCHMENT AREA
A( )	LANDSCAPE CATCHMENT AREA
T( )	TERRACE CATCHMENT AREA
ARI	AVERAGE RECURRENCE INTERVAL
CA	CATCHMENT AREA
Ha	HECTARE
L/s	LITRES PER SECOND (VELOCITY)
m/s	METRES PER SECOND (VELOCITY)
CUMECS	CUBIC METRES PER SECOND
Q	QUANTITY OF FLOW

DRAWING LIST

		SCALE
C01	COVER SHEET & LEGEND	N.T.S.
C02	SPECIFICATION NOTES	N.T.S
C03	BULK EARTHWORKS PLAN	1:200
C04	INTERNAL ROADWAY & PATHWAY PLAN	1:250

THE ABOVE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION, ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, ELECTRICAL ENGINEERING AND HYDRAULIC SPECIFICATION

A1 SHEET

APPLICATION

No.	REVISION/ISSUE	DATE	BY	CHECKED
A	DEVELOPMENT APPLICATION ISSUE	20.07.16	NL	NL

CLIENT

DeiCorp Pty Limited

Suite 301, Level 3, 161 Redfern Street, Redfern NSW 2016
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HYDRAULIC CONSULTANT

Neil Lowry & Associates Pty Ltd
hydraulic & fire services consultants

Suite 3.09, Level 3, 7-9 Gibbons Street, Redfern NSW 2016
Tel: 02 9526 7922
Email: admin@nlapl.com.au
Neil Lowry & Associates Pty Ltd ABN 72 101 872 584

PROJECT

WSU - LOT 5
DARCY ROAD &
HAWKESBURY ROAD
WESTMEAD

DRAWING

CIVIL WORKS
COVER SHEET & LEGEND

DRAWN	DESIGNED	CHECKED	DATE	SCALE
NL	NL	NL	OCT 08	NTS

PROJECT	DWG No.	REV	STATUS
0789	C01	A	DA ISSUE

NOTES

GENERAL

G1. DESIGN HEREIN HAS BEEN PREPARED
BY NEIL LOWRY & ASSOCIATES
HYDRAULIC & CIVIL ENGINEERS,
SUITE 3.09, 7-9 GIBBONS STREET, REDFERN
TEL:- 02 9526 7922, FAX:- (02) 9526 7944

G2. THE DRAWINGS HEREIN SHALL BE READ AS
REQUIRED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS
BY TURNER
ARCHITECTS PTY LTD
Phone: (02) 8668 0000 FAX:- (02) 8668 0088

G3. ALL DIMENSIONS IN MILLIMETRES UNO.
REDUCED LEVELS AND CHAINAGES ARE IN METRES.
DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS.

G4. THE PROPOSED WORKS DETAILED HEREIN
SHALL BE CONSTRUCTED TO THE REQUIREMENTS
OF COUNCIL GENERALLY AS DETAILED HEREUNDER.

G5. ALL EXISTING SERVICES SHALL BE VERIFIED FOR
DEPTH AND HORIZONTAL POSITION BY PHYSICAL MEANS
PRIOR TO EXCAVATION. ANY DISCREPANCIES SHALL
BE BROUGHT FORTHWITH TO THE PROJECT MANAGER'S
ATTENTION.

SUB-SOIL DRAINAGE

MATERIALS:

SS1. PIPES & FITTINGS FOR SUBSOIL DRAINAGE SHALL BE
SLOTTED POLYVINYL CHLORIDE (PVC) WITH SOLVENT
WELDED JOINTS, MIN. 150mm DIAMETER.

SS2. ALL SUBSOIL DRAINAGE & DETAILS REFER
TO STORMWATER & SUBSOIL DRAINAGE
DRAWINGS BY N. LOWRY & ASSOCIATES
PTY LTD

GEOTECHNICAL REPORT

REFERENCE SHALL BE MADE TO THE GEOTECHNICAL
REPORT BY
COFFEY GEOSCIENCES Pty Ltd
"PROPOSED DEVELOPMENT, STAGE 2 STEEL RIVER
INDUSTRIAL DRIVE, MAYFIELD WEST. REPORT No.
N09973/02-AB, 9 AUG 2006

CONCRETE WORKS

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE
WITH AS3600, THE SAA STANDARDS CITED IN AS3600,
THE DRAWINGS AND THE SPECIFICATION.

C2. ALL CONCRETE SHALL BE 80mm NOMINAL SLUMP, 20mm MAXIMUM
AGGREGATE WITH NO ADMIXTURES OR FLY ASH,
UNLESS OTHERWISE APPROVED.

ALL CONCRETE WORK IN CONTACT WITH SEWER TO HAVE
TYPE SL PORTLAND CEMENT, OTHERWISE TYPE A CEMENT

FOR BRIDGE WORKS, A MAXIMUM 56 DAYS SHRINKAGE OF
600 MICROSTRAIN, A MINIMUM CEMENT CONTENT 350kg/m3 AND
MAXIMUM WATER:CEMENT RATIO OF 0.40

C3. STRENGTH GRADE OF CONCRETE SHALL BE : 25 MPa (KERBS, EDGE
STRIPS & CONCRETE ENCASEMENT), 4.25 Mpa FLEXUAL STRENGTH FOR
RIGID CONCRETE PAVEMENTS AT 80mm SLUMP, 20mm MAXIMUM
AGGREGATE SIZE, AND 32 MPa ELSEWHERE.

C4. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED
ONLY WHERE SHOWN OR APPROVED.
GENERALLY FOR HAND PLACED KERB & GUTTER 6mm THICK APPROVED
BITUMINOUS MASTIC JOINTING MATERIAL SHALL BE PROVIDED AT
INTERVALS NOT EXCEEDING 6m. FOR MACHINE PLACED KERB & GUTTER
6mm THICK APPROVED BITUMINOUS MASTIC JOINTING MATERIAL
SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 12m & GUILLOTINED
DUMMY GROOVED JOINTS, 25mm IN DEPTH, SHALL BE FORMED EVERY
3m OF GUTTER. JOINTS ARE ALSO REQUIRED AT EACH END OF GUTTER
CROSSING AND GULLY PITS. JOINTS SHALL BE SET VERTICAL AND
SQUARE TO THE KERB.

C5. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT
NECESSARILY SHOWN IN TRUE PROJECTION.

C6. WELDING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN
POSITIONS APPROVED BY THE ENGINEER.

C7. CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING
SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS
AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN
APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY
WET.

C8. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE
WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS
REMOVED WITHOUT APPROVAL.

C9. FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH FIG.13.2.4 OF
AS3600.

C10. HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH
AS3600 UNO.

C11. ALL CHEMICAL ANCHORS SHALL BE EITHER 'CHEMSET'
BY "RAMSET" WITH THE GLASS CAPSULE SYSTEM
INSTALLED IN STRICT ACCORDANCE WITH
MANUFACTURERS INSTRUCTIONS
HILTI HVU ADHESIVE ANCHOR WITH FOIL CAPSULE
SYSTEM INSTALLED IN STRICT ACCORDANCE WITH
MANUFACTURERS INSTRUCTION. ALL CHEMICAL
ANCHORS SHALL BE HOT DIPPED GALVANIZED AND
BE MIN M16 DIA. U.N.O.

EXCAVATION BATTERS:

SGE8. ALL TEMPORARY BATTERS CUT IN CLAY SUBSTRATE
SHALL BE 1 HORIZ : 1 VERT.
ALL LONG TERM EXPOSED BATTERS CUT IN CLAY
SUBSTRATE SHALL BE 2 HORIZ : 1 VERT.
ALL DETENTION BASIN BATTERS IN CLAY SUBSTRATE
SHALL BE 3 HORIZ : 1 VERT.
ALL DETENTION BASIN BATTERS IN ROCK SUBSTRATE
SHALL BE NEAR VERTICAL.

SGE9. GEOTECHNICAL TESTING IS TO BE UNDERTAKEN TO
AT LEAST LEVEL 1 CONTROL OF FILL COMPACTION
STANDARD, AS DEFINED IN AS. 3738 AS FOLLOWS

- FOR GENERAL FILL OR CUT AREAS OVER
THE AREA PROVIDE ONE (1) TEST PER
200mm LAYER, OVER AN AREA NOT
GREATER THAN 500 m².
- FOR GENERAL FILL AREAS IN CONCENTRATED AREAS
ADJACENT TO AND BEHIND THE STRUCTURE AND
ADJACENT TO AND BEHIND RETAINING WALLS PROVIDE
ONE (1) TEST PER 200mm LAYER, OVER AN AREA NOT
GREATER THAN 50m².

SGE10. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO
WARREN SMITH & PARTNERS FOR REVIEW
PRIOR TO CONTINUATION WITH SUBSEQUENT
SECTION OF WORK.

GENERAL EARTHWORKS, SITEWORKS & FILLING:

FILLING:

SGE1. THESE CLAUSES SHALL BE READ IN CONJUNCTION WITH
"REPORT ON GEOTECHNICAL INVESTIGATION BY
GEOTECHNIQUE PTY LTD
REPORT No. 10280/2-AA DATED 4 JUNE 04
PH 02 4722 2700 FAX: 02 4722 2777

SGE2. STRIP ALL TOPSOIL AND UNDERLYING FILL AND STOCKPILE
TOPSOIL FOR LATER REUSE FOR LANDSCAPING PURPOSES.

SGE3. NEW FILL REQUIRED TO REINSTATE CUT LEVELS TO
PROPOSED BENCHING LEVELS SHALL BE SOURCED FROM
OTHER PARTS OF THE EXCAVATION AS SELECT FILL OR
IMPORTED FILL AS SPECIFIED BELOW IN SGE 4 AND SGE
4. 5.

SGE5. SELECT FILL SHALL CONSIST OF LOCALLY DERIVED OR CUT
NATURAL CLAYS.

SGE6. IMPORTED FILL SHALL CONSIST OF RIPPED SANDSTONE OR
SHALE OR SIMILAR MATERIAL WITH MAXIMUM PARTICLE
SIZE NOT GREATER THAN 120mm AND A MOISTURE
CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

ALL FILL (COHESIVE SOIL) SHALL BE PLACED IN LAYERS
OF 200mm MAXIMUM THICKNESS, COMPACTED BY MACHINE
ROLLING TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS
SGE7. THAN 98% STANDARD MAXIMUM AT A CORRESPONDING
MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

IN AREAS WHERE HIGH IMPACT ROLLING IS USED TEST
EACH FINAL LAYER OF NOT GREATER THAN 300mm TO
400mm TO ACHIEVE A DRY DENSITY RATIO OF NOT LESS
THAN 98% STANDARD MAXIMUM AT A CORRESPONDING
MOISTURE CONTENT WITHIN 2-3% OF STANDARD OPTIMUM.

RESTORATION:

RES1. RESTORE ALL TRAFFIC AREAS TO PRE EXISTING
CONDITION.

RES2. FOR ALL SURFACES OTHER THAN IN TRAFFIC AREAS
RESTORE DISTURBED SURFACES TO PRE-EXISTING
CONDITIONS AND COMPACT AS SPECIFIED.

RES3. RESTORE ALL AUTHORITY OWNED AREAS
TO COUNCIL STANDARDS

ROAD WORKS, DRIVEWAYS & CARPARKS

R1. ALLOW FOR LEVEL 2 TESTING AND SUB-GRADE CONDITIONS
& PAVEMENT THICKNESS TO BE VERIFIED BY
GEOTECHNICAL CONSULTANT AFTER INSPECTION
OF PRELIMINARY BOXING.

R2. ALLOW FOR ANY SUB-GRADE REPLACEMENT WORK TO BE
DETERMINED AS REQUIRED BY GEOTECHNICAL CONSULTANT
AT THE TIME OF PAVEMENT CONSTRUCTION.

R3. MINIMUM DRY DENSITY RATIOS (AS 1289 3.4.1-1993) TO BE:

BASECOURSE	98% MODIFIED
SUB-BASE	95% MODIFIED
SUB-GRADE	100% STANDARD
SUB-GRADE REPLACEMENT	100% STANDARD

R4. PAVEMENT MATERIALS TO COMPLY WITH RTA SPECIFICATION
No. 3051 OR SIMILAR AS APPROVED BY
GEOTECHNICAL CONSULTANT.

R5. PROVIDE (1) TEST FOR EACH LAYER NOT
EXCEEDING 250mm THICK BEING BASECOURSE,
SUB-BASE & SUB-GRADE OVER AN AREA
NOT GREATER THAN 500m²

R6. SUBMIT ALL GEOTECHNICAL TEST RESULTS TO
WARREN SMITH & PARTNERS FOR REVIEW
PRIOR TO CONTINUATION WITH SUBSEQUENT
SECTION OF WORK.

APPROVALS

A1. THE AS CONSTRUCTED WORKS SHALL BE INSPECTED
BY DESIGN CONSULTANT. MINIMUM 48 HOURS
NOTICE SHALL APPLY TO ALL INSPECTIONS.

A2. THE DESIGN PLANS HEREIN ARE SUBJECT TO
COUNCIL APPROVAL PRIOR TO CONSTRUCTION. OBTAIN
EXPRESS (WRITTEN) ADVICE TO PROCEED FROM
PROJECT MANAGER PRIOR TO COMMENCEMENT.

A3. SUBMIT WORK-AS-EXECUTED DRAWINGS IN CIVILCAD OR DXF
DIGITAL FORMAT AND HARD COPY FORMAT. VERIFY ALL
CONSTRUCTION WORKS SHOWN HEREON.

A4. CERTIFY THAT THE AS CONSTRUCTED SYSTEM HAS BEEN
BUILT IN ACCORDANCE WITH THE APPROVED PLANS
ISSUED FOR CONSTRUCTION.

ROAD SIGNS & LINE MARKING

RS1. ALL SIGNS AND LINEMARKING SHALL BE TO ROADS & TRAFFIC AUTHORITY
STANDARDS AND SPECIFICATIONS AND AS.1742, MANUAL OF UNIFORM
TRAFFIC CONTROL DEVICES

RS2. ALL LINEMARKING SHALL BE AUGMENTED BY RETROREFLECTIVE RAISED
PAVEMENT MARKERS (RRPMs) AND ALL SHALL BE TO AS 1742.2 - 1994
AND AS 1742.2 /AMDT 1/1997-10-05

RS3. ALL ROAD SIGNS AND POSTS SHALL BE TO AS 1742.2 - 1994
AND AS 1742.2 /AMDT 1/1997-10-05

COUNCIL STANDARDS

LGA 1. THE DRAWINGS HEREIN SHALL BE READ IN
CONJUNCTION WITH COUNCIL'S STANDARDS &
SPECIFICATIONS WHICH SHALL OVERRIDE SPECIAL
DETAILS SHOWN ON THE DRAWINGS.

TRAFFIC NOTE:

1. A TRAFFIC CONTROL PLAN IS TO BE PREPARED BY AN
ACCREDITED RTA TRAFFIC CONTROLLER AND SUBMITTED
TO COUNCIL. THIS TRAFFIC PLAN IS TO BE CERTIFIED BY
AND IMPLEMENTED TO THE SATISFACTION OF AN
ACCREDITED RTA TRAFFIC CONTROLLER

2. ALL TRAFFIC CONTROL WORKS SHALL ONLY BE CARRIED OUT BY
ACCREDITED RTA TRAFFIC CONTROLLERS.

REINFORCED CONCRETE

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH
AS3600, THE SAA STANDARDS CITED IN AS3600, THE DRAWINGS AND
THE SPECIFICATION.

2. ALL CONCRETE SHALL BE 80mm SLUMP, 20mm MAXIMUM
AGGREGATE WITH NO ADMIXTURES OR FLY ASH UNLESS APPROVED
BY THE ENGINEER. ALL CONCRETE TO HAVE TYPE SL PORTLAND
CEMENT WITH NO FLY ASH.

3. CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY
WHERE SHOWN OR APPROVED BY THE ENGINEER.

4. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT
NECESSARILY SHOWN IN TRUE PROJECTION.

5. WELDING OR SPLICES IN REINFORCEMENT SHALL BE USED ONLY IN
POSITIONS APPROVED BY THE ENGINEER.

6. CONCRETE CURING SHALL BE IN ACCORDANCE WITH AS3600. CURING
SHALL BE COMMENCED WITHIN TWO HOURS OF FINISHING OPERATIONS
AND SHALL BE CONTINUED FOR A MINIMUM OF SEVEN DAYS BY AN
APPROVED PROPRIETARY COMPOUND OR BY KEEPING CONTINUOUSLY
WET.

7. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE
WITH AS3610. FORMWORK SHALL NOT BE STRIPPED NOR PROPS
REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

8. FABRIC LAP DETAILS SHALL BE IN ACCORDANCE WITH DRAWINGS

9. HOOKS, LAPS AND BENDS SHALL BE IN ACCORDANCE WITH AS3600 UNO.

10. THE CONCRETE STRENGTH SHALL COMPLY WITH THE
FOLLOWING:

ELEMENT	MIN CEMENT CONTENT (kg/m³)	SLUMP (mm)	NOM MAX AGGREGATE SIZE (mm)	GRADE DESIGNATION (Mpa)
REINFORCED CONCRETE	360	80	20	SL32
MASS CONCRETE	260	80	20	N20
PILES	360	80	20	N40

11. NO PENETRATIONS, RECESSES OR CHASES OTHER THAN THOSE
SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS

12. ALL EDGES TO HAVE 20mm CHAMFERS, WHERE VISIBLE IN THE FINISHED WORK.

ALL CHEMICAL ANCHORS SHALL BE EITHER 'CHEMSET'
BY "RAMSET" WITH THE GLASS CAPSULE SYSTEM INSTALLED
IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS
OR
HILTI HVU ADHESIVE ANCHOR WITH FOIL CAPSULE SYSTEM
INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS
INSTRUCTION. ALL CHEMICAL ANCHORS SHALL BE HOT DIPPED
GALVANIZED AND BE MIN M16 DIA. U.N.O.

A1 SHEET

No.	REVISION/ISSUE	DATE	BY	CHECKED
A	DEVELOPMENT APPLICATION ISSUE	20.07.16	NL	NL

CLIENT
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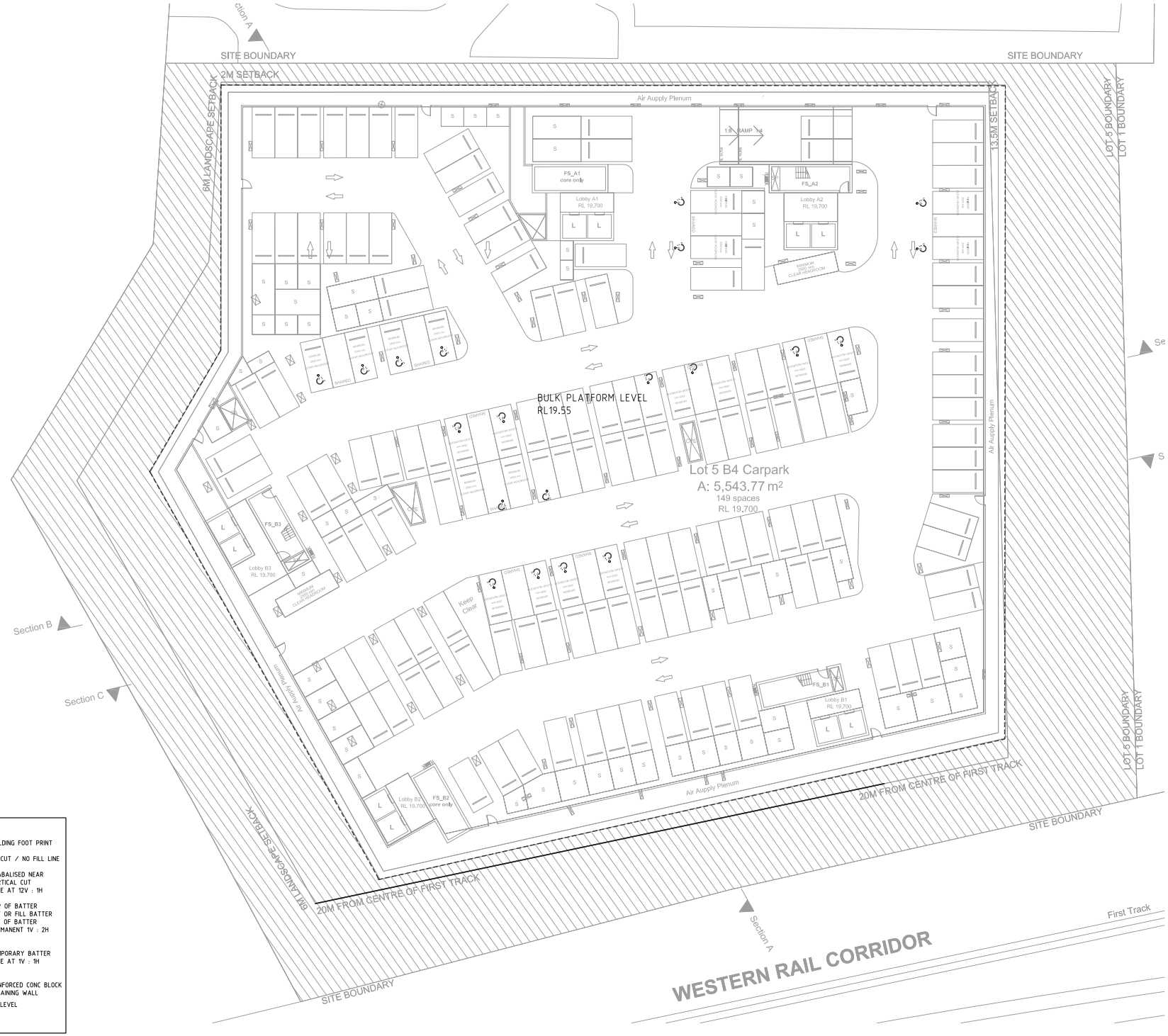
Email: admin@nlapl.com.au
Neil Lowry & Associates Pty Ltd ABN 72 101 872 584

PROJECT
WSU LOT 5
DARCY ROAD &
HAWKESBURY ROAD
WESTMEAD

DRAWING
CIVIL WORKS
SPECIFICATION NOTES

DRAWN	DESIGNED	CHECKED	DATE	SCALE
NL	NL	NL	OCT 08	NTS

PROJECT	DWG No.	REV	STATUS
0789	C02	A	DA ISSUE



LEGEND

- BUILDING FOOT PRINT
- NO CUT / NO FILL LINE
- STABALISED NEAR VERTICAL CUT FACE AT 12V : 1H
- TOP OF BATTER CUT OR FILL BATTER TOE OF BATTER PERMANENT 1V : 2H
- TEMPORARY BATTER FACE AT 1V : 1H
- REINFORCED CONC BLOCK RETAINING WALL

PL = EARTHWORKS PLATFORM LEVEL

FFL = FINISHED FLOOR LEVEL

A1 SHEET

APPLICATION

No.	REVISION/ISSUE	DATE	BY	CHECKED
B	REVISED ARCHITECTURE	08.08.16	NL	NL
A	DEVELOPMENT APPLICATION ISSUE	20.07.16	NL	NL

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Neil Lowry & Associates Pty Ltd ABN 72 101 872 584

PROJECT

WSU - LOT 5
DARCY ROAD &
HAWKESBURY ROAD
WESTMEAD

DRAWING

CIVIL WORKS
BULK EARTHWORKS PLAN

DRAWN	DESIGNED	CHECKED	DATE	SCALE
NL	NL	NL	JUN 16	1:200@A1

PROJECT	DWG No.	REV	STATUS
0789	C03	B	DA ISSUE

CONCRETE PAVING JOINT NOTES

THIS DRAWING IS ONLY INDICATIVE OF THE GENERAL JOINT DETAILS FOR TOP REINFORCED PAVING SLABS.

THE PAVEMENT THICKNESS, MATERIALS USED & CONCRETE MIX DESIGN, GRADE, FINISH & REINFORCEMENT WILL VARY FOR DIFFERENT AREAS.

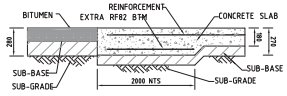
REFER TO THE PAVEMENT PLAN & DETAILS FOR SPECIFIC AREAS & THEIR THICKNESS DETAILS. JOINT LOCATION & TYPE.

READ THIS DRAWING IN CONJUNCTION WITH THE GENERAL SPECIFICATIONS & NOTES.

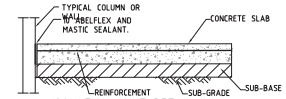
SAWN PANELS NOT TO EXCEED A RATIO OF LENGTH TO WIDTH OF 1.5 TO 1

DOWEL DIMENSIONS FOR CONCRETE PAVEMENTS

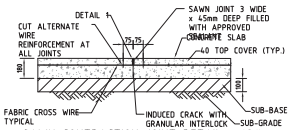
SLAB THICKNESS (mm)	DOWEL DIAMETER (mm)	DOWEL LENGTH (mm)
100	12	250
125	16	300
150	20	350
175	20	350
200	24	350
225	28	400
250	32	500



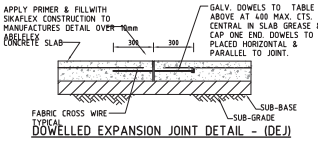
CONCTRET EDGE THICKENING DETAIL



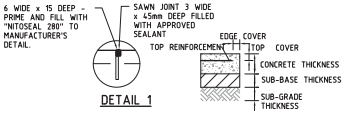
ISOLATION JOINT DETAIL (IJ)



SAWN CONTRACTION JOINT DETAIL - (SJ)



DOWELLED EXPANSION JOINT DETAIL - (DEJ)



PAVING JOINT TYPES

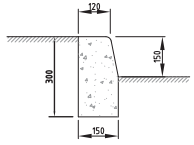
IJ ISOLATION JOINT

SJ SAWCUT JOINT

DEJ DOWELLED EXPANSION JOINT

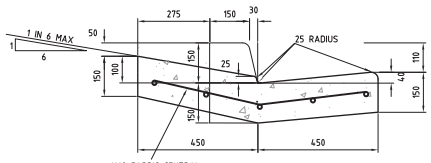
LEGEND

LOADING DOCK DRIVEWAY INSITU CONCRETE PAVEMENT — RIGID PAVEMENT	· 180mm REINFORCED INSITU 32 MPa (FLEXUAL STRENGTH 4.25Mpa, 80mm SLUMP, 20mm MAXIMUM AGGREGATE SIZE). CONCRETE PAVEMENT WITH RF82 MESH PLACED TOP REFER DETAIL HEREON · 100mm COMPACTED DGB 20 BASECOURSE BOUND WITH 5% CEMENT STABALIZATION COMPACTED SUBGRADE / IMPORTED FILL
LOADING DOCK DRIVEWAY INSITU CONCRETE PAVEMENT EDGE THICKENING — RIGID PAVEMENT	· 270mm CONCRETE PAVEMENT EDGE THICKENING 2m WIDE
PAVED AREAS AS NOMINATED	· GRANITE SETTS OVER 150mm CONCRETE WITH RF72 MESH PLACED CENTRALLY ON COMPACTED GRANULAR FILL · COMPACTED SUBGRADE
PEDESTRIAN FOOTPATH — RIGID PAVEMENT	· 75mm REINFORCED INSITU CONCRETE PAVEMENT WITH F72 MESH PLACED CENTRALY WITH TOOL JOINTS EVERY 1.2m AND EXPANSION JOINTS EVERY 6m · 50mm SAND OR DGB 20B BEDDING · COMPACTED SUBGRADE
COUNCIL VEHICULAR CROSSING — RIGID PAVEMENT	· 150mm REINFORCED CONCRETE RF82 MESH, 40mm TOP COVER
PAVED AREAS AS NOMINATED	· BRICK OVER 150mm CONCRETE WITH RF72 MESH PLACED CENTRALLY ON COMPACTED GRANULAR FILL · COMPACTED SUBGRADE



FLUSH KERB DETAIL

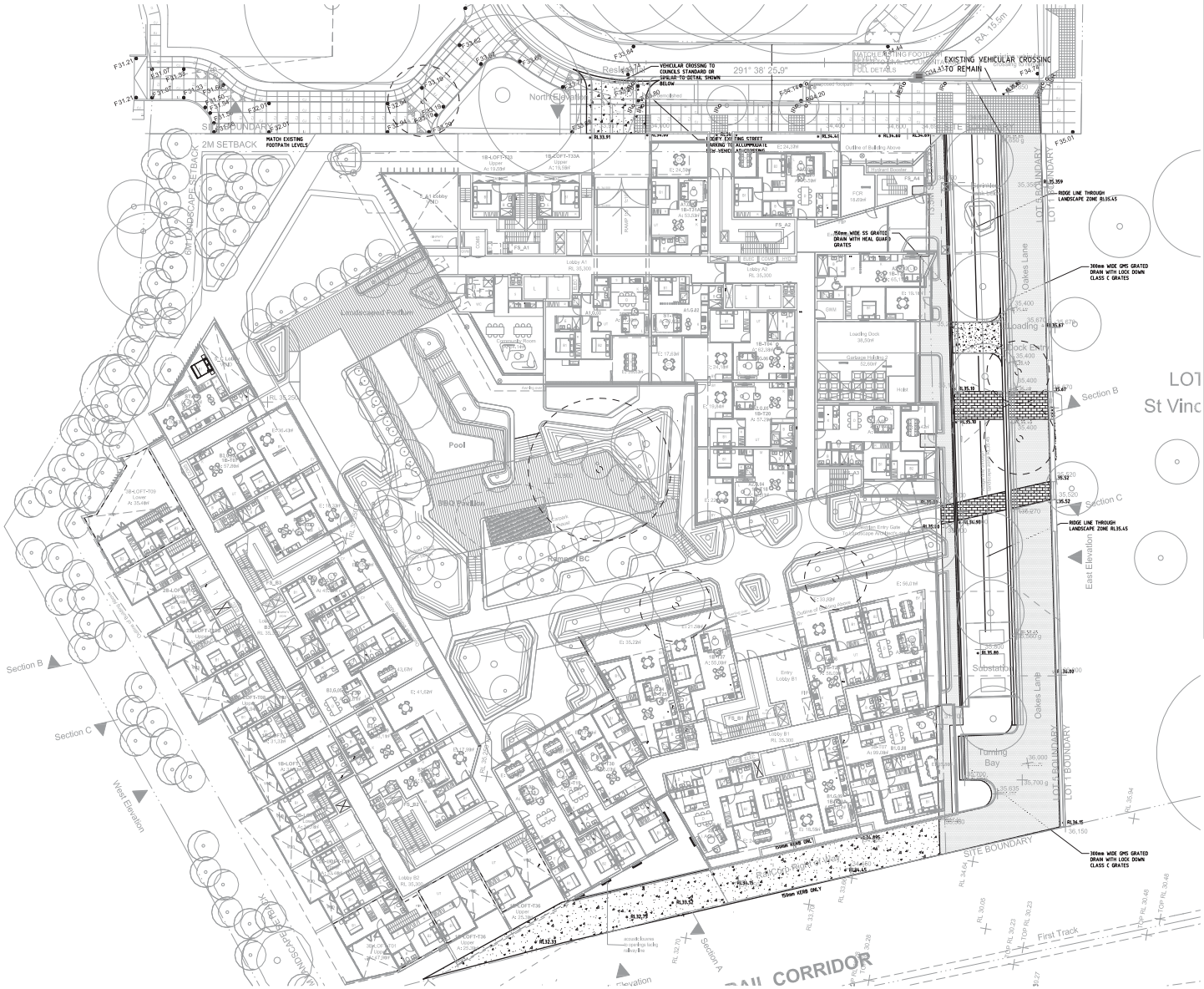
SCALE 1:10



SECTION

HEAVY DUTY GUTTER CROSSING

SCALE:- 1:10



APPLICATION

No.	REVISION/ISSUE	DATE	BY	CHECKED
D	DEVELOPMENT APPLICATION ISSUE	08.08.16	NL	NL
C	DEVELOPMENT APPLICATION ISSUE	27.07.16	NL	NL
B	DEVELOPMENT APPLICATION ISSUE	25.07.16	NL	NL
A	DEVELOPMENT APPLICATION ISSUE	14.07.16	NL	NL

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Neil Lowry & Associates Pty Ltd ABN 72 101 872 584

PROJECT

WSU - LOT 5 DARCY ROAD & HAWKESBURY ROAD WESTMEAD

DRAWING

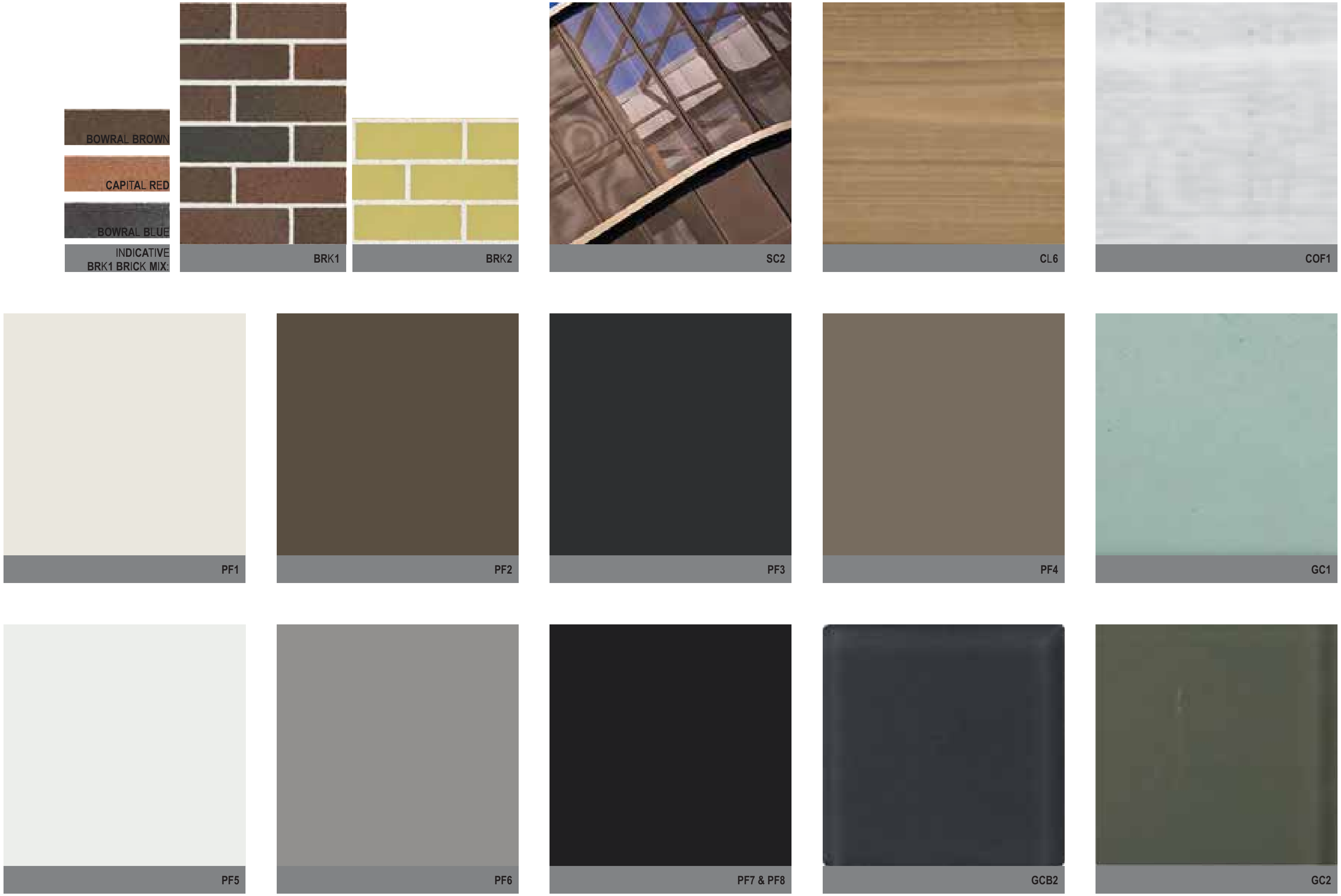
CIVIL WORKS

INTERNAL DRIVEWAYS & PATHWAY PLAN

DRAWN	DESIGNED	CHECKED	DATE	SCALE
NL	NL	NL	JUN 16	1:250

PROJECT	DWG No.	REV	STATUS
0789	C04	D	DA ISSUE

A1 SHEET



Elevation/ Section Legend

- BAL1 — Balustrade Type 1: Semi-Frameless clear glass balustrade. Framing system, finish to match PF8
- BAL2 — Balustrade Type 2: Semi-Frameless clear glass balustrade fixed to solid spandrel panel/parapet wall. Framing system, finish to match PF8
- BAL3 — Balustrade Type 3: Vertical metal balustrade, powder coat finish to match PF8
- CL1 — Cladding Type 1: Metal cladding, colour to match PF4
- CL2 — Cladding Type 2: Metal cladding, colour to match PF8
- CL3 — Cladding Type 3: Profiled metal cladding, colour to match PF6
- CL4 — Cladding Type 4: FC cladding, colour to match PF3
- CL5 — Cladding Type 5: Metal cladding, colour to match PF1
- CL6 — Cladding Type 6: Timber plastic composite cladding, acoustic lining to balcony sides and soffit, "spotted gum" finish
- CL7 — Cladding Type 7: Polished stainless steel cladding
- COF1 — Concrete, off form: Clear finish or to landscape architect specification
- GC1 — Glass, Clear, Type 1: Glass, clear, to Basix and Acoustic report requirements. Aluminium framing system, finish to match PF8
- GC2 — Glass, Clear, Type 2: Glass, light bronze tinted, to Basix and Acoustic report requirements. Aluminium framing system, finish to match PF4
- GCB1 — Glass, Colourback, Type 1: Glass, Light Bronze, to Basix and Acoustic report requirements. Aluminium framing system, finish to match PF4
- GCB2 — Glass, Colourback, Type 2: Glass, Dark Grey, to Basix and Acoustic report requirements. Aluminium framing system, finish to match PF8
- LV1 — Louvre Type 1: Clear fixed open glass louvre system similar to Breezeway
- LV2 — Louvre Type 2: Acoustic horizontal louvre system. Metal, timber effect finish
- LV3 — Louvre Type 3: Acoustic horizontal louvre system. Metal powder coated finish to match PF5
- LV4 — Louvre Type 4: Fixed vertical louvre system. Aluminium, finish to match PF4
- LV5 — Louvre Type 5: Fixed vertical louvre system. Aluminium, finish to match PF5
- LV6 — Louvre Type 6: Fixed vertical louvre system. Aluminium, finish to match PF8
- LV7 — Louvre Type 7: Fixed horizontal louvre system. Aluminium, finish to match PF8
- LV8 — Louvre Type 8: Fixed vertical louvre system. Timber finish to match CL6
- PC1 — Precast Concrete Type 1: Precast Concrete. Finish: penetrating low maintenance stain finish equal to Keim concrete Lasur system, to match PF1
- PC2 — Precast Concrete Type 2: Precast Concrete. Finish: penetrating low maintenance stain finish equal to Keim concrete Lasur system, to match PF7
- PF1 — Paint Finish Type 1: Natural White. Finish to match Dulux 'Natural White'
- PF2 — Paint Finish Type 2: Medium Beige. Finish to match Dulux 'Harold'
- PF3 — Paint Finish Type 3: Dark Grey. Finish to match Dulux 'Domino'
- PF4 — Paint Finish Type 4: Finish to match Dulux Electro 'Shimmering Champagne' powder coat
- PF5 — Paint Finish Type 5: Finish to match Dulux 'Flat White' powder coat
- PF6 — Paint Finish Type 6: Finish to match Dulux 'Flooded Gum'
- PF7 — Paint Finish Type 7: Finish to match PF8
- PF8 — Paint Finish Type 8: Finish to match Dulux powder coat 'Black Ace'
- SC1 — Screen Type 1: Timber batten fence, finish similar to Cedar
- SC2 — Screen Type 2: Architectural metal mesh screen to comply with Railcorp requirements
- SC3 — Screen Type 3: Metal louvered screen with integrated planting at mechanical air intake. Colour to match PF4
- SC4 — Screen Type 4: Metal framed shedding structure with timber battens
- BRK1 — Brick Type 1: Face brick similar in colour to Bowral 'Shorthorn Mix'
- BRK2 — Brick Type 2: Glazed face brick to address landscaped areas, to future selection

NOTES

DLCS Quality Endorsed Company ISO 9001:2008, Registration Number 20476
Nominated Architect: Nicholas Turner 6695, ABN 86 064 084 911

BASIX

Thermal Comfort & BASIX Specification

Building Element	Material	Insulation
External Wall	Full Brick, Concrete, Hebel, Stud	R1.0, R1.5*
Internal Wall	Plasterboard on Stud	None
Roof	Concrete	None
Ceiling	Concrete above Plasterboard	None, R2.5*
Floor	Concrete Slab	None, 0.5*
Floor Coverings	Carpet/tiles to Living Carpet to Bedrooms	N/A
Windows	Group A Glazed Systems: U-value = 6.7, SHGC = 0.70, U-value = 5.4, SHGC = 0.49* Group B Glazed Systems: U-value = 6.7, SHGC = 0.57, U-value = 5.4, SHGC = 0.58*	N/A
Central Hot Water System	Centralised Gas-fired Boiler systems with R1.0 (~38mm) piping insulation to the ringmain and supply risers	
Outdoor Swimming Pool	Volume capacity of 110kL	
	No heating system	
	Pump is to be controlled by a timer	
Rainwater Storage	No rainwater tank required	
Fire Sprinkler System	The fire sprinkler test water for The car park and building fire sprinkler systems are to be contained in a closed system	
Draught seals to all external windows and doors		
Note: *Please refer to the BASIX Report for the individual insulation requirements of each residential dwelling		

LEGEND

Rev.	Date	Approved by	Revision Notes
H	02.08.16	JM	Development Application

CLIENT
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NSW 2016, Australia

Project Title
WSU - Lot 5
158-164 Hawkesbury Road, 2a Darcy Road Westmead NSW 2145 Australia

Drawing Title
Materials Board
Materials and Finishes

Scale	Project No.	Drawn by	North
@A1, 50%@A3	16001	turner	
Status	**Dwg No.**	**Rev**	
For Information	DA-990-001	H	

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