DRAWING REGISTER							
	Cover Sheet						
DA01	Site Locality						
DA02	Site Analysis Plan						
DA03	Streetscape Analysis + Site Photos						
DA04	Site Plan - Existing						
DA05	Site Plan - Proposed						
DA06	Level 1 plan (Date \$t)						
DA07	Level 2 plan (Victoria St)						
DA08	Level 3 plan						
DA09	Level 4 plan (Brunker Road)						
DA10	Level 5 plan						
DA11	Roof plan						
DA12	Sections						
DA13	Elevations - SHEET 01						
DA14	Elevations - SHEET 02						
DA15	Level 3 Fit Out Plan						
DA16	Level 4 Fit Out Plan						
DA17	Level 5 Fit Out Plan						
DA18	Concept View 01 - Victoria St						
DA19	Concept View 02 - Cnr Date & Victo						
DA20	Concept View 03 - Date Street						

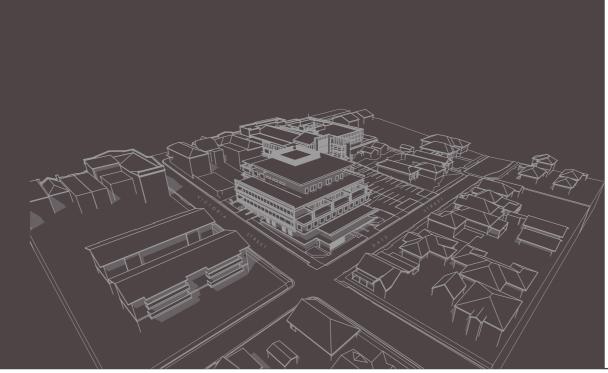
DA21	Concept View 04 - Aerial
DA22	Proposed External Finishes
DA23	Building Envelope Analysis
DA24	Shadow Diagrams
DA25	CCTV & Security Lighting Diagrams
DA30	Notification Plan

DEVELOPMENT APPLICATION DECEMBER 2021

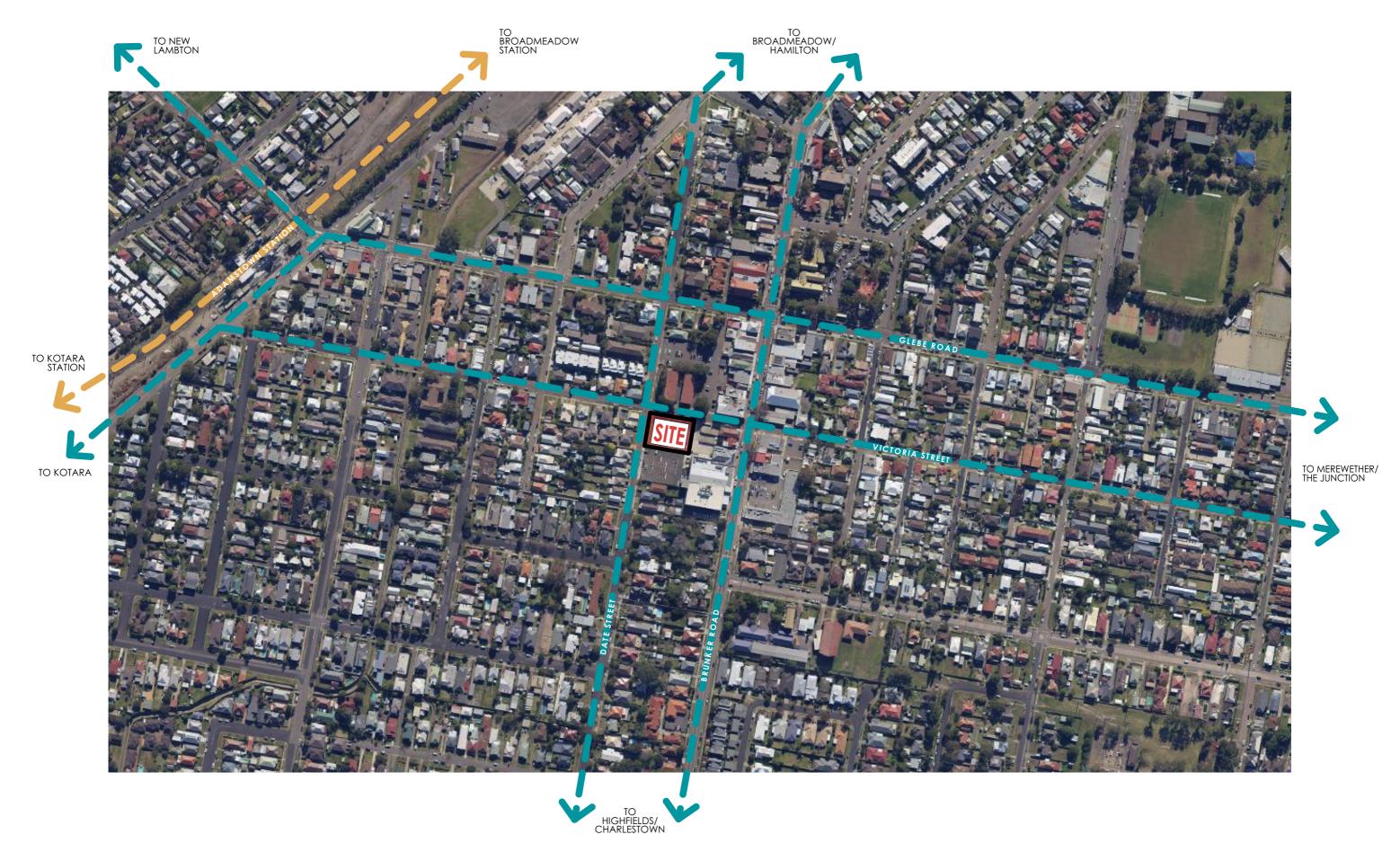
ADAMSTOWN DAY HOSPITAL AND SPECIALIST CENTRE 43 DATE STREET, ADAMSTOWN NSW 2289

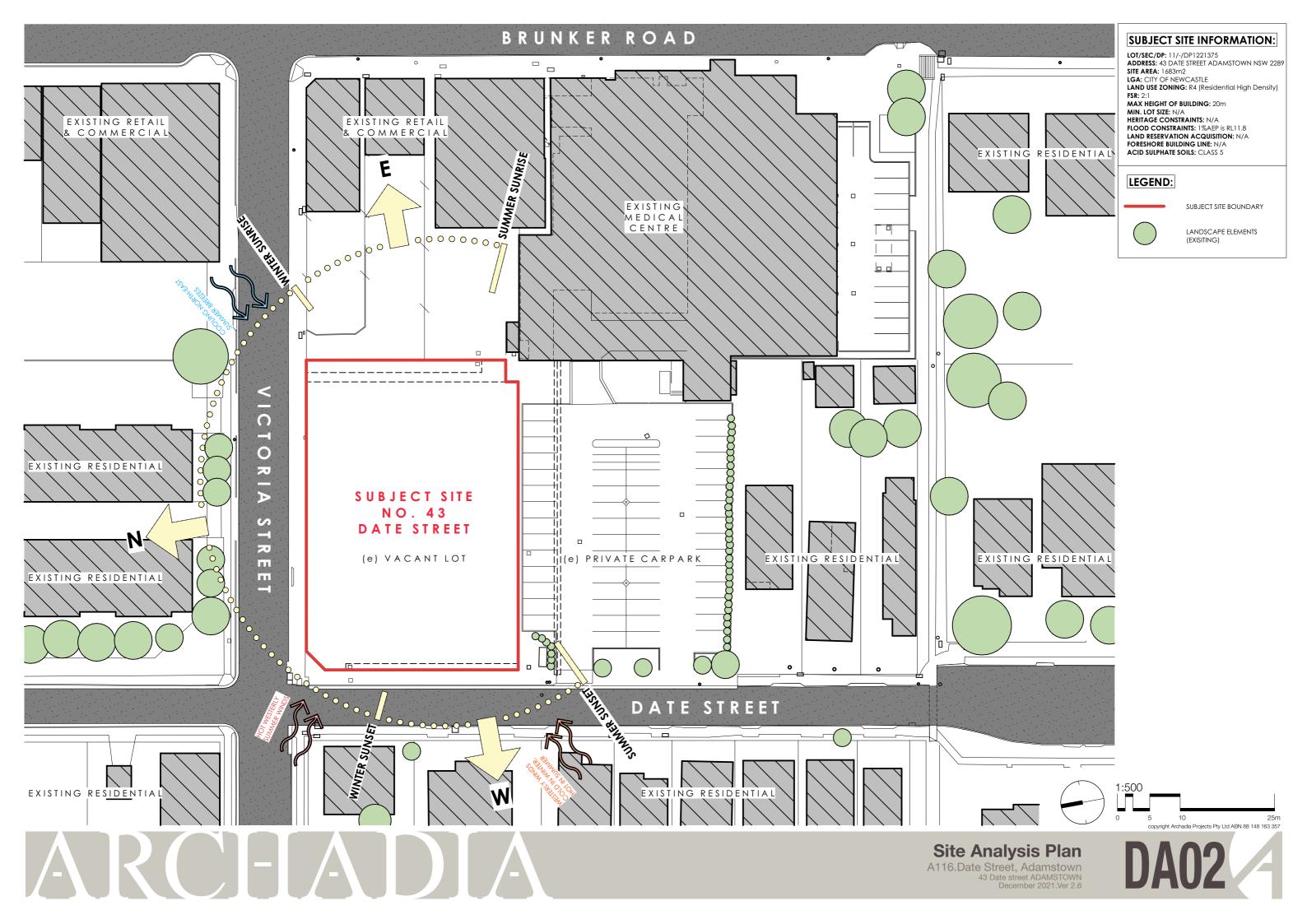
PREPARED BY

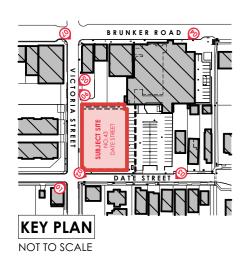
ARCHADIA PROJECTS PTY LTD
ABN: 88 148 163 357













MEDICAL CENTRE



01 PHOTO - EXISTING: THE SITE - CNR. DATE & VICTORIA ST



02 PHOTO - EXISTING: DATE ST - OPPOSITE SITE



03 PHOTO - EXISTING: DATE ST - OPPOSITE SITE



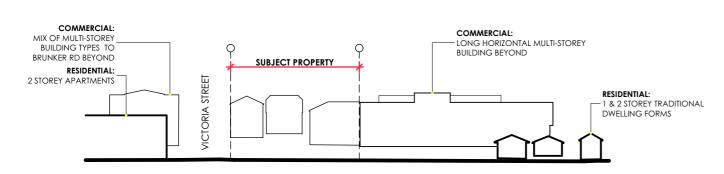
05 PHOTO - EXISTING: VICTORIA ST -OPPOSITE SITE

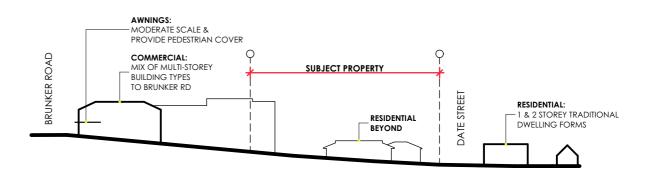


06 PHOTO - EXISTING: VICTORIA ST -OPPOSITE SITE

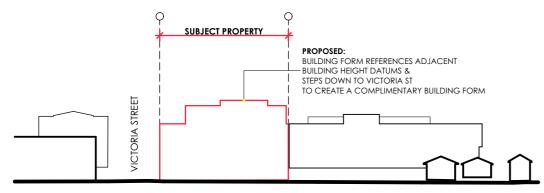


07 PHOTO - EXISTING: CNR. BRUNKER RD & VICTORIA ST



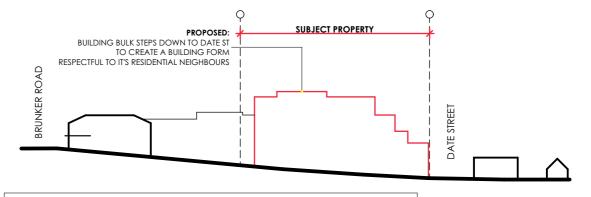


STREETSCAPE ANALYSIS - EXISTING: DATE STREET

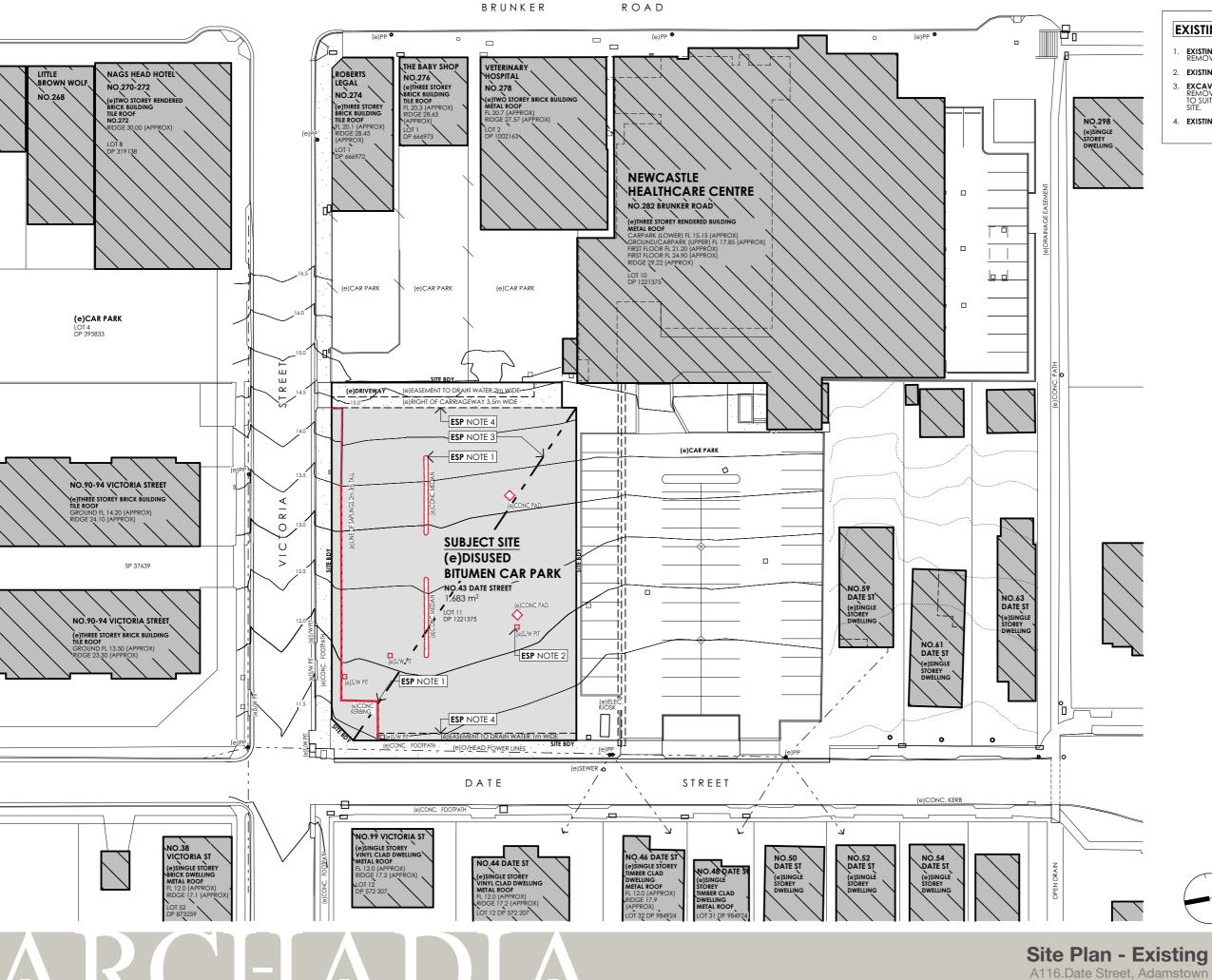


STREETSCAPE ANALYSIS - PROPOSED: DATE STREET

STREETSCAPE ANALYSIS - EXISTING: VICTORIA STREET

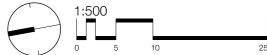


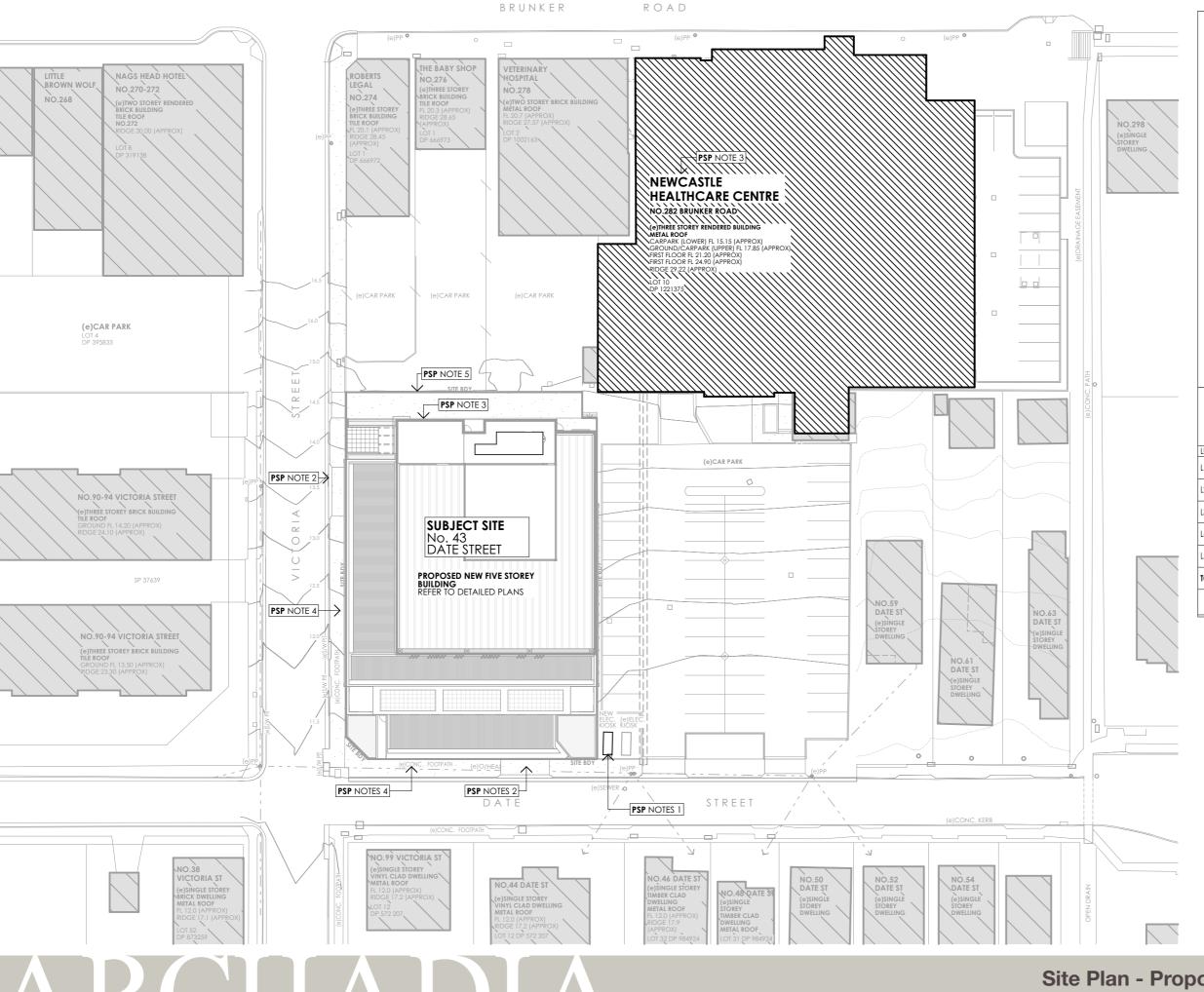
STREETSCAPE ANALYSIS - PROPOSED: VICTORIA STREET



EXISTING SITE PLAN (ESP) NOTES:

- 1. **EXISTING KERBING AND CONCRETE PAVEMENT:** TO BE
- 2. EXISTING REDUNDANT S/W PIPEWORK: TO BE REMOVED.
- 3. EXCAVATION & SPOIL: EXISTING BITUMEN PAVEMENT REMOVED TO FULL EXTENT OF SITE. ALLOW FOR EXCAVATION TO SUIT PROPOSED NEW BUILDING & DISPOSAL OF SPOIL OFF SITE.
- 4. **EXISTING EASEMENTS:** PROTECT & RETAIN.





PROPOSED SITE PLAN (PSP) NOTES:

- NEW ELECTRICAL KIOSK/SUBSTATION: TO AUSGRID
- 2. NEW DRIVEWAY CROSSING: TO COUNCIL REQUIREMENTS.
- 3. **NEW R/CONC KERB**: NEW 150H R/CONC KERB TO FULL LENGTH OF EXISTING RIGHT OF CARRIAGEWAY/DRIVEWAY.
- 4. NEW R/CONC PAVEMENT/LANDSCAPING: RE-INSTATE CONCRETE PAVEMENT TO FULL EXTENT OF DATE & VICTORIA STREET FRONTAGES (TO COUNCIL REQUIREMENTS).
- 5. **NEW DRIVEWAY: R/CONC PAVEMENT**

AREAS SCHEDULE:

ALLOWABLE FSR (2:1) = 3366m² MAX. GROSS FLOOR AREA

ACTUAL FSR (1.8:1)

LEVEL	CIRC/COMM. (1)	NLA (2)	GFA (= 1+2)	ANCILLARY		
L1	12	-	12	1447		
L2	31	-	31	1364		
L3 137		1009	1146	92		
L4	39	1010	1049	71		
L5	33	700	733	71		
TOTALS*:	252	2719	2971	3045		

* EXCLUDES EXTERNAL PAVEMENT, LANDSCAPED AREAS, ROOFS AND AWNINGS.





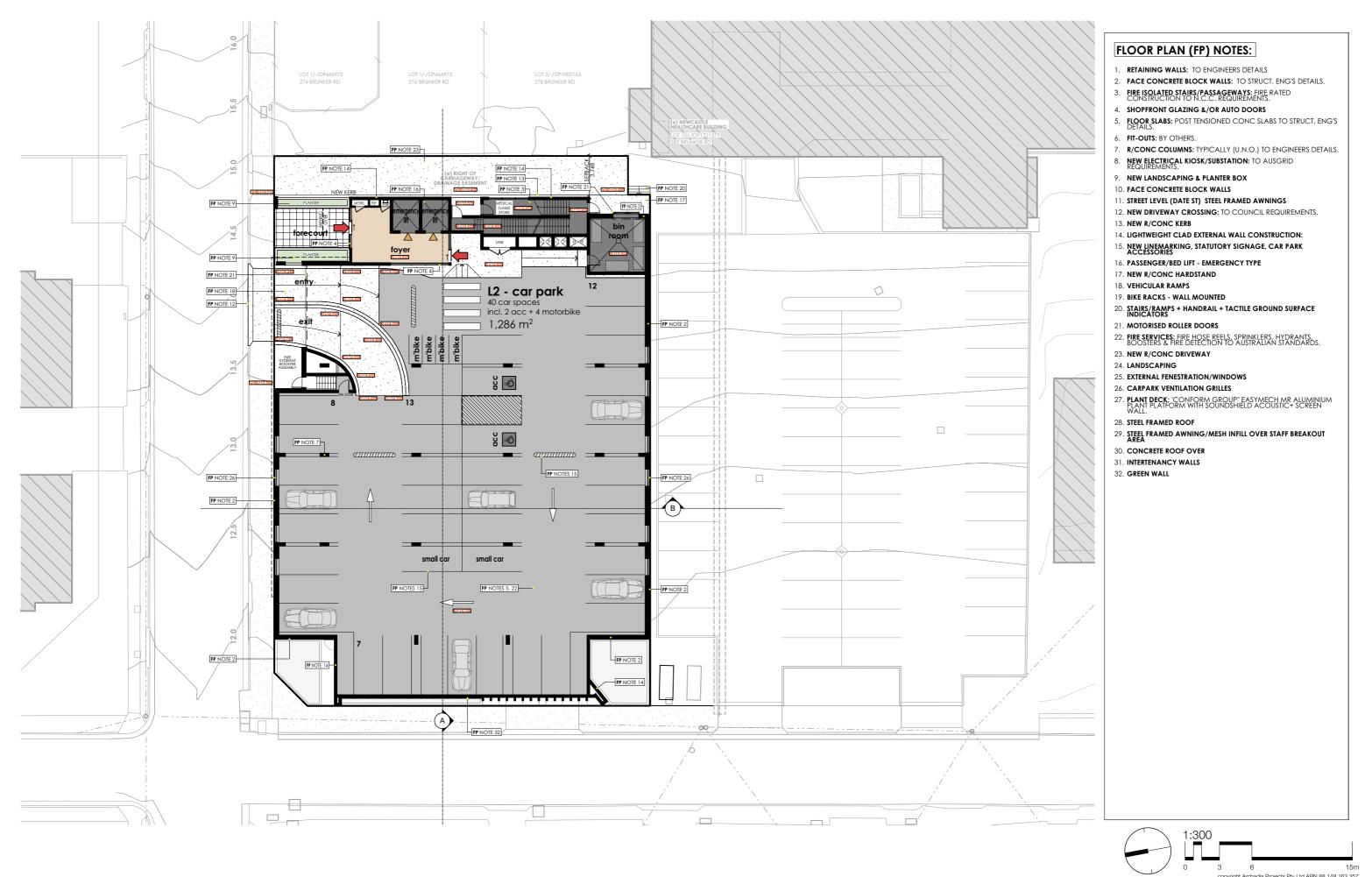
Site Plan - Proposed

A116.Date Street, Adamstown 43 Date street ADAMSTOWN December 2021.Ver 2.6

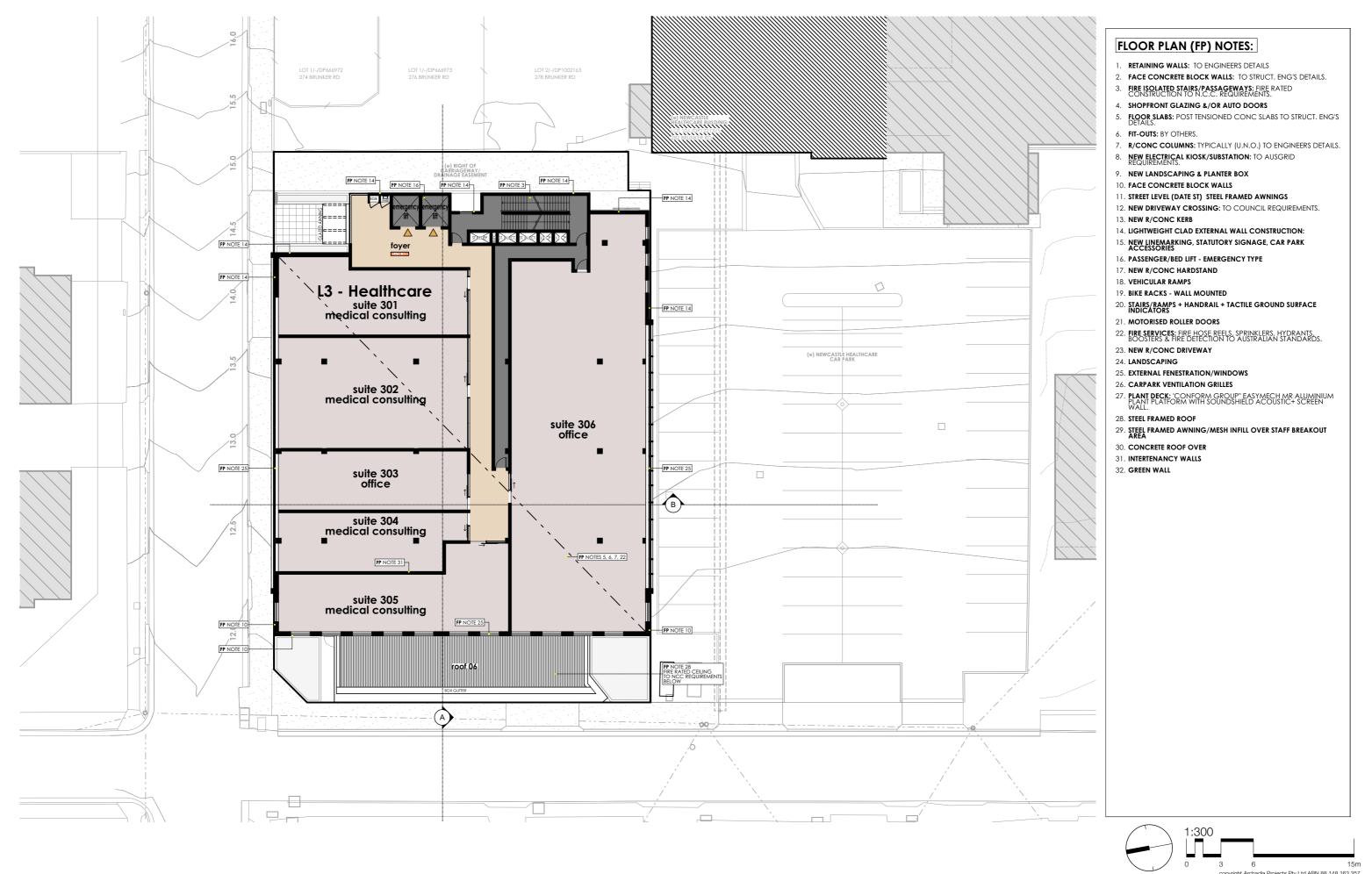


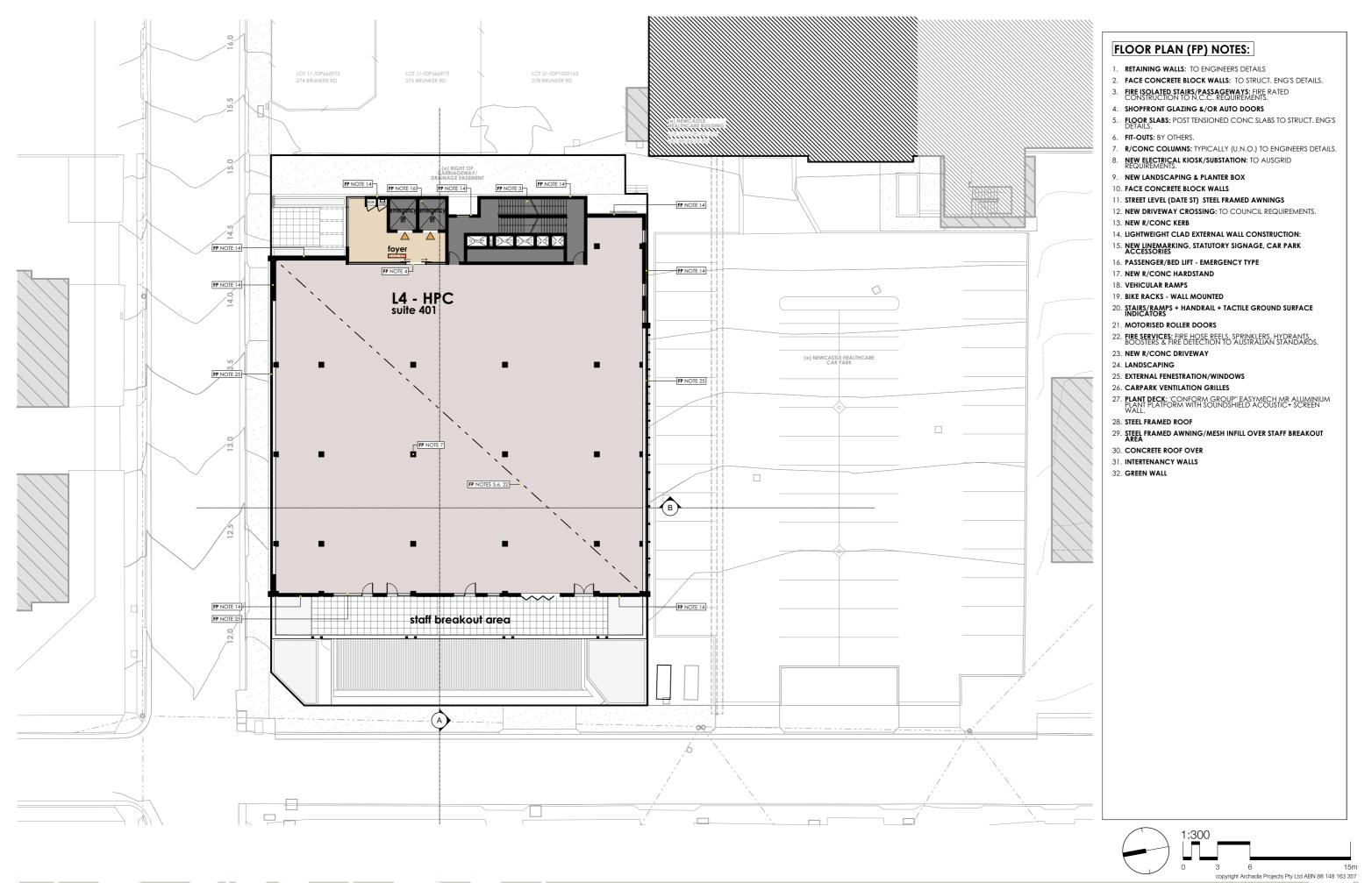


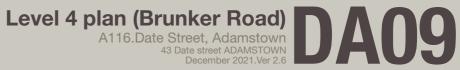
Level 1 plan (Date St)
A116.Date Street, Adamstown
43 Date Street ADAMSTOWN
December 2021.Ver 2.6

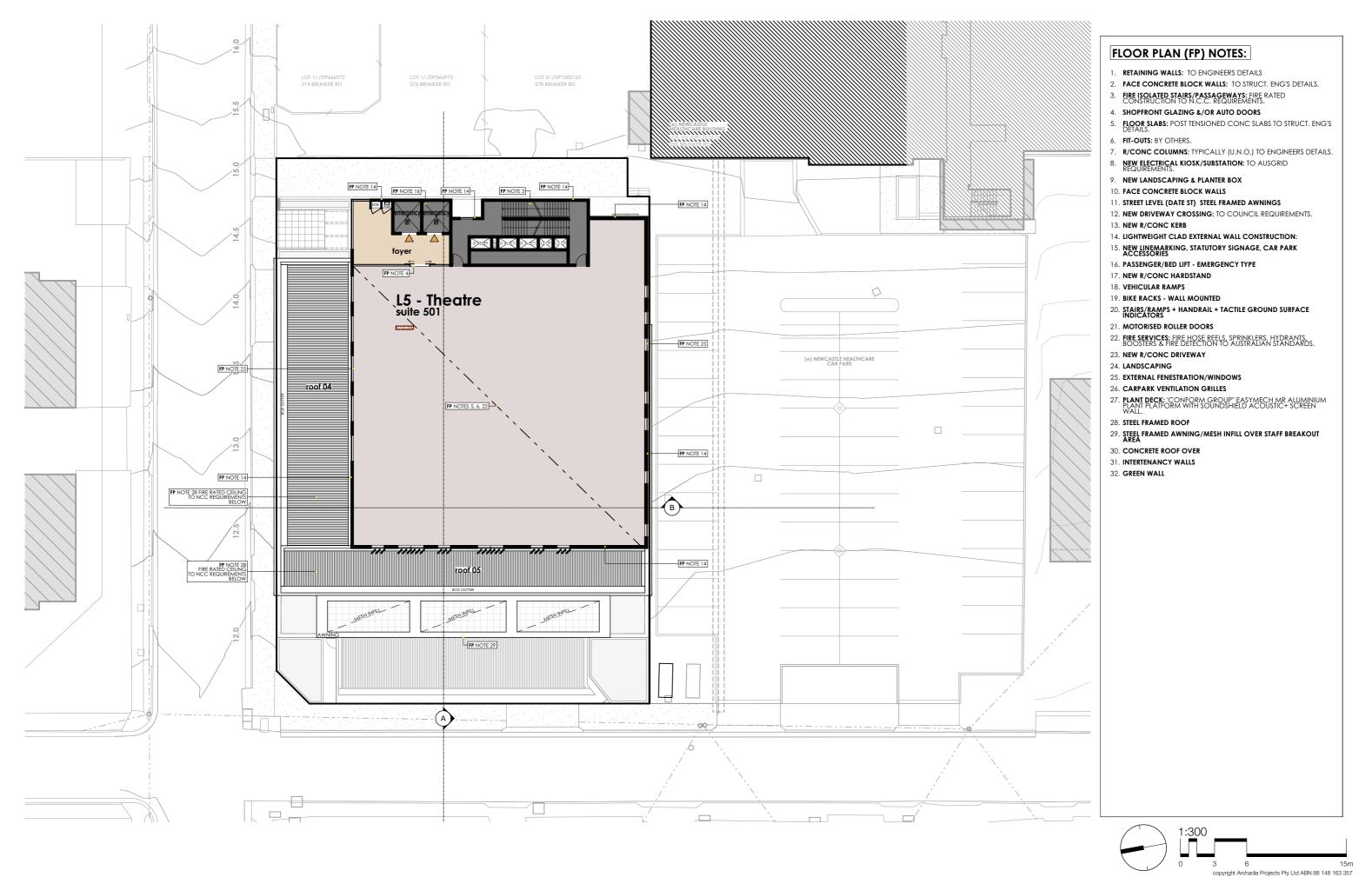




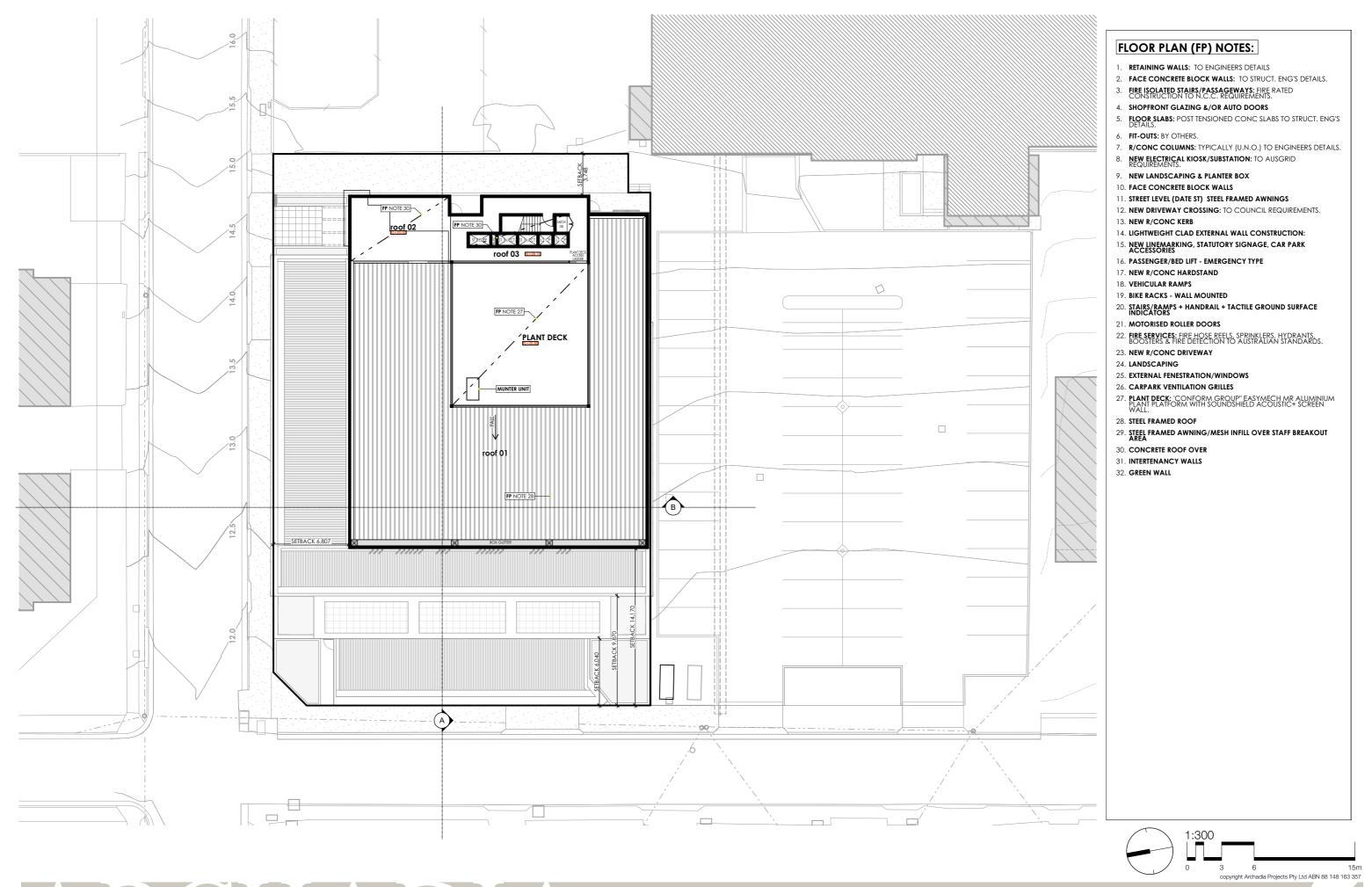


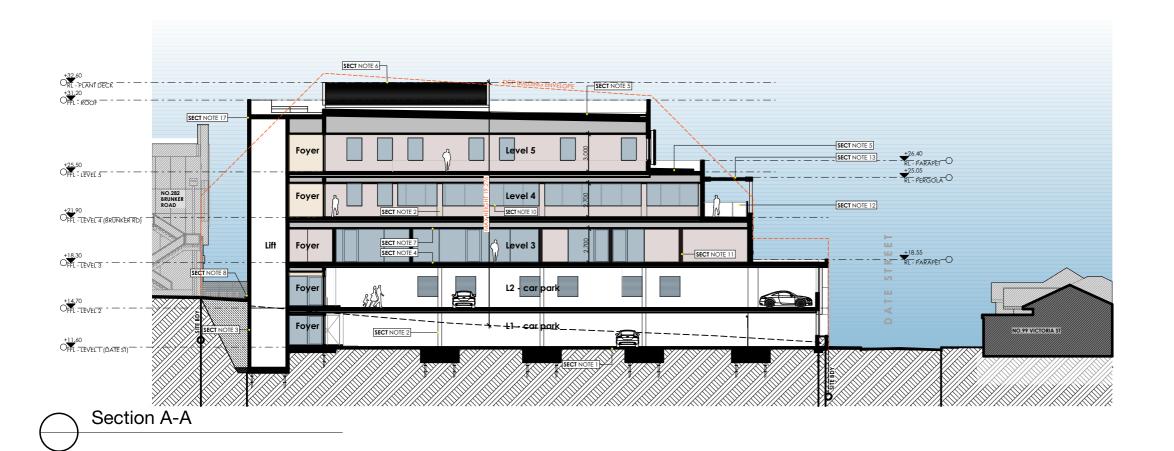


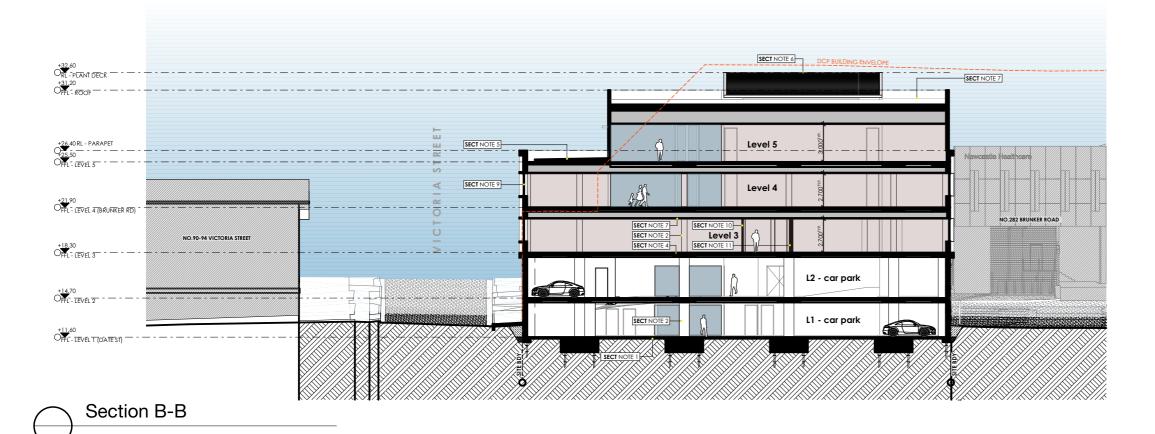










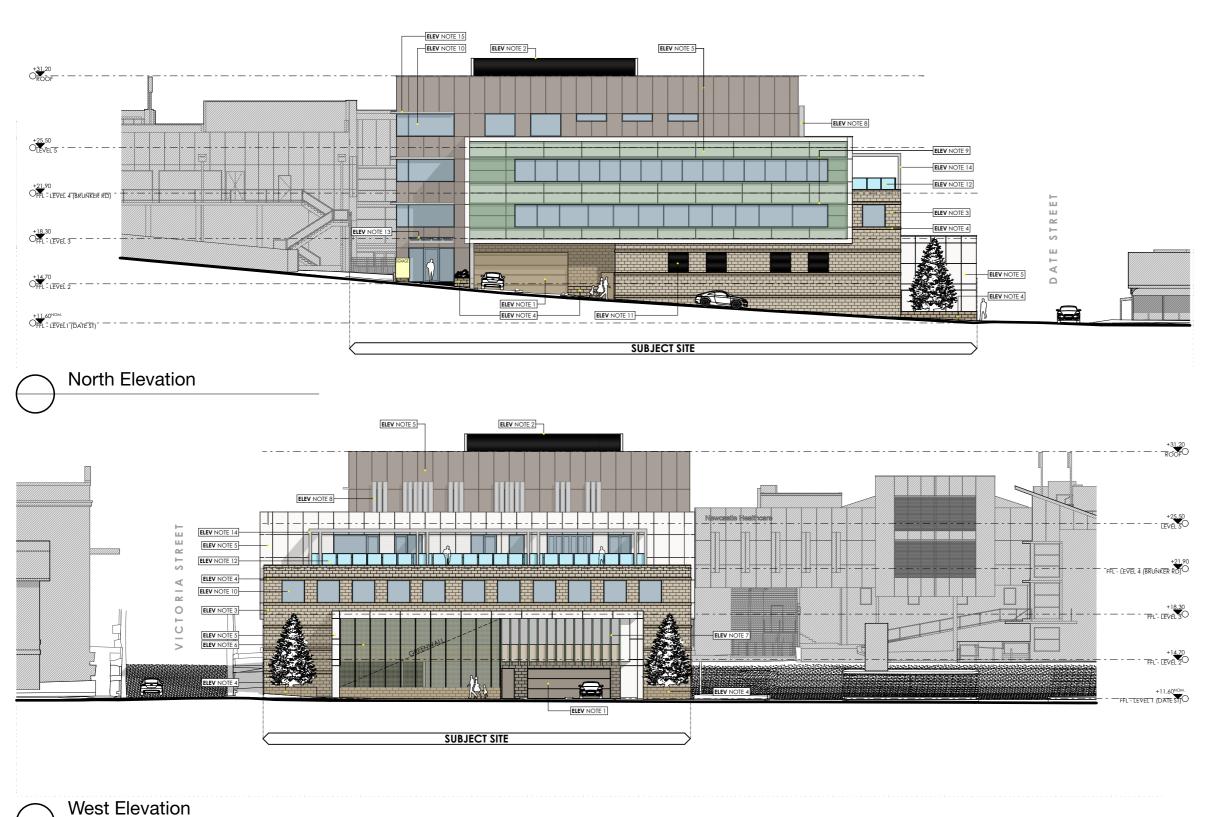


ARCI-ADIA

Sections A116.Date Street, Adamstown 43 Date street ADAMSTOWN December 2021.Ver 2.6

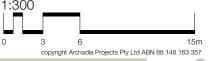
SECT (SECT) NOTES:

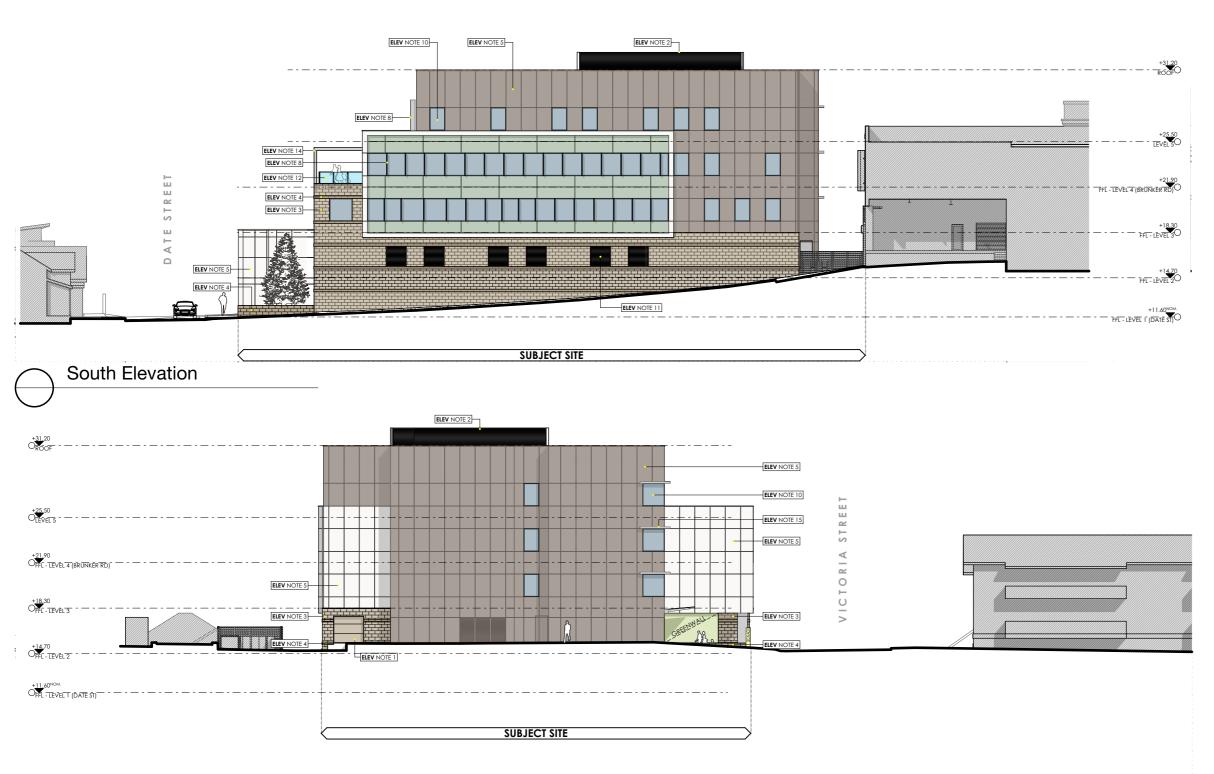
- 1. FLOOR STRUCTURE/FOOTINGS: R/CONC SLAB WITH R/CONC PILE CAP & SCREW PILES TO ENGINEERS DRAWINGS
- 2. R/CONC COLUMNS
- 3. **RETAINING WALLS:** 190 R/CONC BLOCK TO ENGINEERS DETAILS
- 4. CONC FLOOR STRUCTURE L2, L3, L4, L5: POST TENSIONED CONC SLAB TO ENGINEERS DETAILS
- 5. STEEL FRAMED ROOF: COLORBOND FINISH
- PLANT DECK: 'CONFORM GROUP" EASYMECH MR ALUMINIUM
 PLANT PLATFORM WITH SOUNDSHIELD ACOUSTIC+ SCREEN
 WALL
- 7. SUSPENDED CEILING: PROPRIETARY SUSPENDED CEILING SYSTEM.
- 8. NEW R/CONC KERB
- 9. **EXTERNAL FENESTRATION:** COMMERCIAL GLAZING SYSTEM WITH POWDERCOAT FINISH.
- 10. COMMERCIAL GLAZING TO FULL EXTENT OF WALLS TO FOYERS AND TENANCIES FACING PUBLIC CIRCULATION AREAS:
- 11. INTERTENANCY WALLS
- 12. **GLASS BALUSTRADE:** FRAMELESS SAFETY GLASS FIXED WITH S/S PATCH FITTINGS. S/S CHANNEL TOP RAIL.
- 13. STEEL FRAMED PERGOLA OVER TERRACE AREAS: GALVANISED MESH INFILL.



ELEVATION (ELEV) NOTES:

- 1. MOTORISED ROLLER DOORS VENTILATED, POWDERCOAT FINISH
- PLANT DECK: 'CONFORM GROUP" EASYMECH MR ALUMINIUM PLANT PLATFORM WITH SOUNDSHIELD ACOUSTIC+ SCREEN WALL. POWDERCOAT FINISH
- 3. MASONRY BLOCKWORK TYPE 1
- 4. MASONRY BLOCKWORK TYPE 2
- 5. LIGHTWEIGHT CLADDING PREFINISHED PANEL
- 6. METAL MESH INFILL GALVANISED STEEL
- 7. ALUMINIUM FEATURE BATTENS. POWDERCOAT FINISH
- 8. SUNSHADING VERTICAL LOUVRES. POWDERCOAT FINISH
- 9. SUNSHADING HORIZONTAL BLADE. POWDERCOAT FINISH
- 10. **GLAZING** COMMERCIAL FRAMED ALUMINIUM WINDOWS & DOORS
- 11. MECHANICAL LOUVRES POWDERCOAT FINISH
- 12. GLASS BALUSTRADE
- 13. GLAZED AWNING
- 14. STEEL FRAMED PERGOLA PAINT FINISH
- 15. SUN HOOD PAINT FINISH





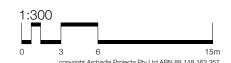
ELEVATION (ELEV) NOTES:

- 1. MOTORISED ROLLER DOORS VENTILATED, POWDERCOAT FINISH
- PLANT DECK: "CONFORM GROUP" EASYMECH MR ALUMINIUM PLANT PLATFORM WITH SOUNDSHIELD ACOUSTIC+ SCREEN WALL. POWDERCOAT FINISH
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- 5. LIGHTWEIGHT CLADDING PREFINISHED PANEL
- 6. METAL MESH INFILL GALVANISED STEEL
- 7. ALUMINIUM FEATURE BATTENS. POWDERCOAT FINISH
- 8. **SUNSHADING** VERTICAL LOUVRES. POWDERCOAT FINISH
- 9. SUNSHADING HORIZONTAL BLADE. POWDERCOAT FINISH
- 10. GLAZING COMMERCIAL FRAMED ALUMINIUM WINDOWS 8
- 11. MECHANICAL LOUVRES POWDERCOAT FINISH
- 12. GLASS BALUSTRADE
- 13. GLAZED AWNING
- 14. STEEL FRAMED PERGOLA PAINT FINISH
- 15. SUN HOOD PAINT FINISH



East Elevation

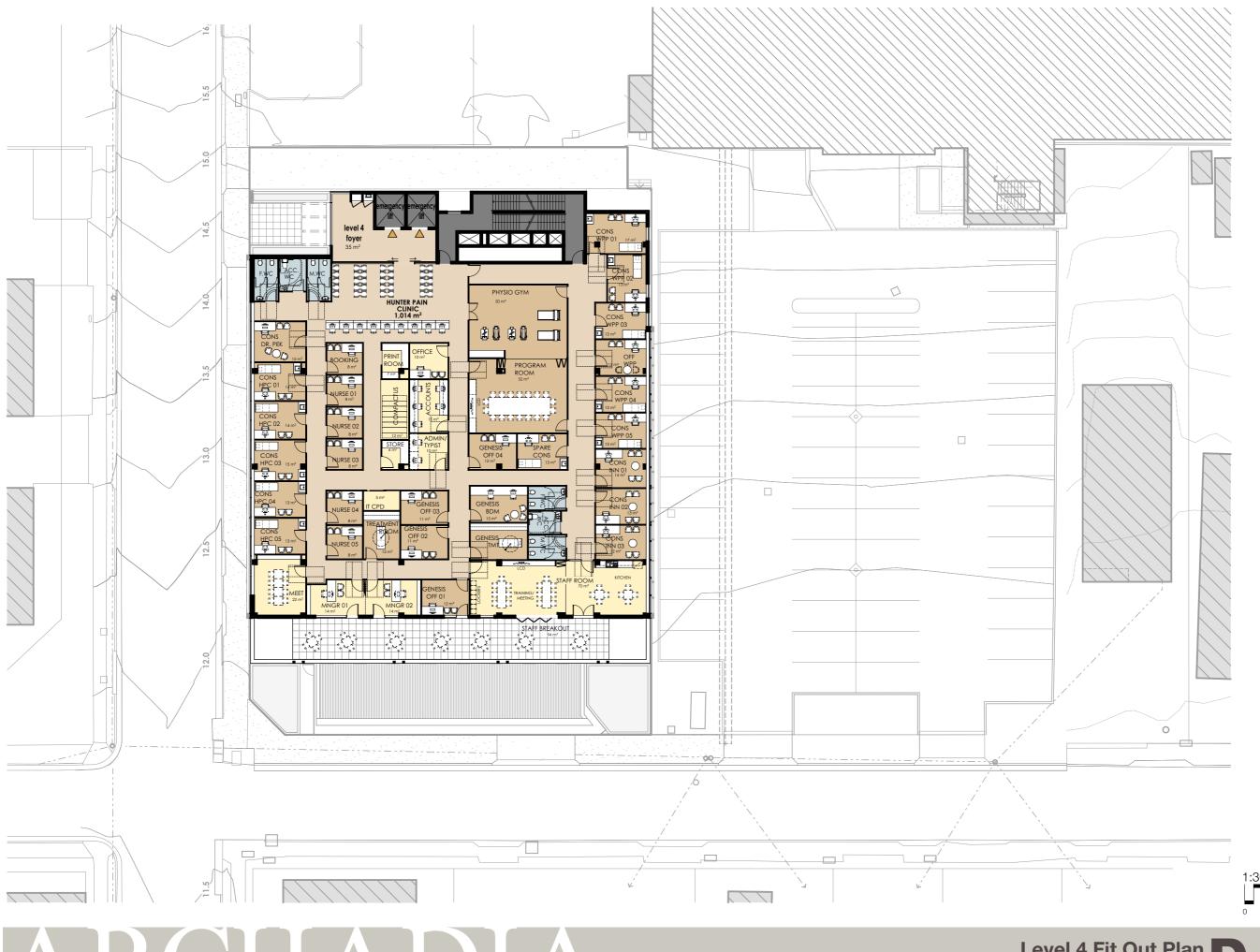




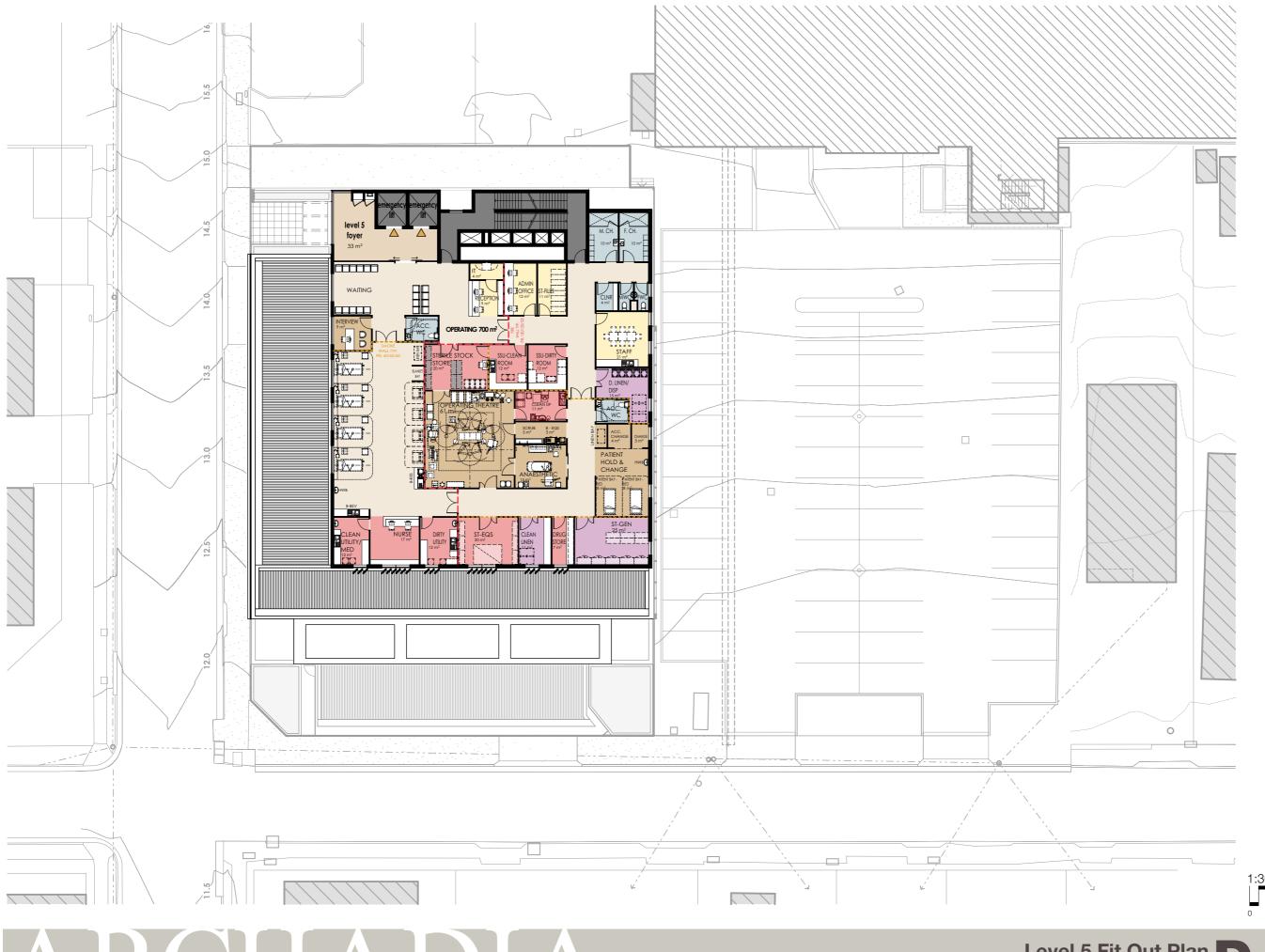
ARCI-ADIA

Level 3 Fit Out Plan
A116.Date Street, Adamstown
43 Date street ADAMSTOWN
December 2021.Ver 2.6

DA15



Level 4 Fit Out Plan
A116.Date Street, Adamstown
43 Date street ADAMSTOWN
December 2021.Ver 2.6



1:300 0 3 6 15r

ARCI-ADIA

Level 5 Fit Out Plan
A116.Date Street, Adamstown
43 Date street ADAMSTOWN
December 2021.Ver 2.6

DA17







DA20





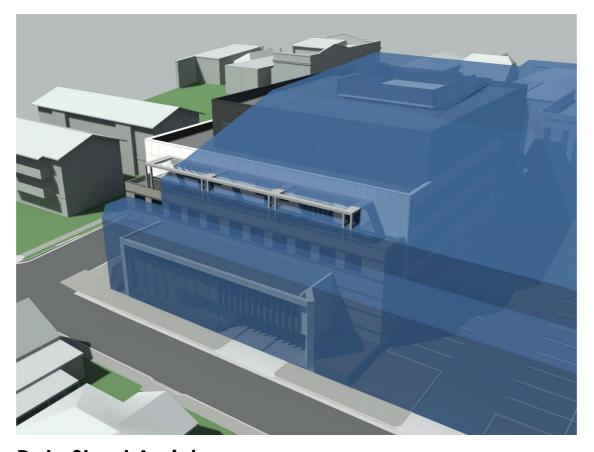




Victoria Street Aerial



Corner Date & Victoria Street Aerial



Date Street Aerial



Shadow Diagrams - 9am 22nd December



Shadow Diagram - 9am 22nd June



Shadow Diagram - 12pm 22nd December



Shadow Diagram - 12pm 22 June

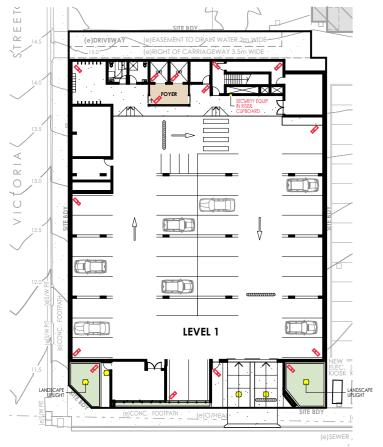


Shadow Diagram - 3pm 22nd December

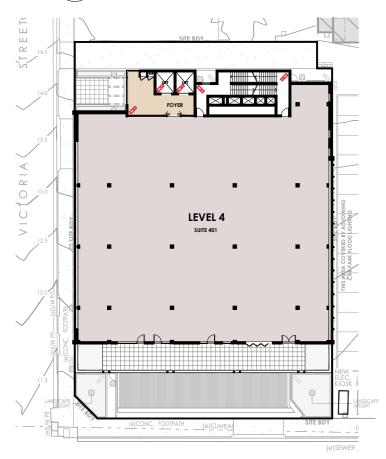


Shadow Diagram 3pm 22nd June





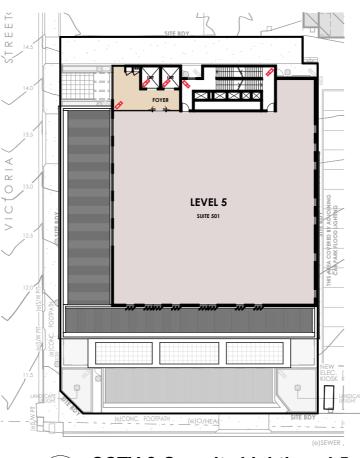
CCTV & Security Lighting- L1



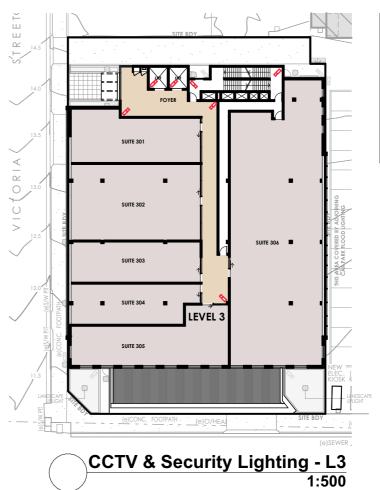
CCTV & Security Lighting - L4



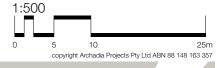
CCTV & Security Lighting - L2 1:500



CCTV & Security Lighting - L5



CCTV & SECURITY LIGHTING LEGEND: CCTV SECURITY CAMERA LOCATION COMMON AREA TENANCY AREA SECURITY &/OR FACADE LIGHTING



PROPOSED NEW COMMERCIAL BUILDING

43 DATE STREET, ADAMSTOWN NSW 2289 CIVIL ENGINEERING PACKAGE



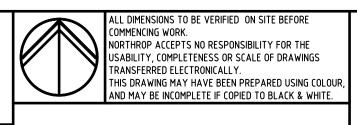


LOCALITY PLAN

DRAWING SCHEDULE								
DWG NO.	DRAWING TITLE							
DA-C01.01	COVER SHEET, DRAWING LIST AND LOCALITY PLAN							
DA-C02.01	EROSION AND SEDIMENT CONTROL PLAN							
DA-C03.01	STORMWATER MANAGEMENT PLAN LEVEL 1							
DA-C04.01	STORMWATER MANAGEMENT PLAN LEVEL 2							
DA-C05.01	CIVIL DETAILS - SHEET 1							

NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	
1	ISSUED FOR INFORMATION	JS		KS	19.11.21			
Α	ISSUED FOR APPROVAL	JS		KS	29.11.21			K
							ARCHADIA	\
							PROJECTS	
						DRAWING NOT TO BE USED FOR CONSTRUCTION	THE COPYRIGHT OF THIS DRAWING REMAINS WITH	l
						UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED	NORTHROP CONSULTING ENGINEERS PTY LTD	<u> </u>





ABN 81 094 433 100

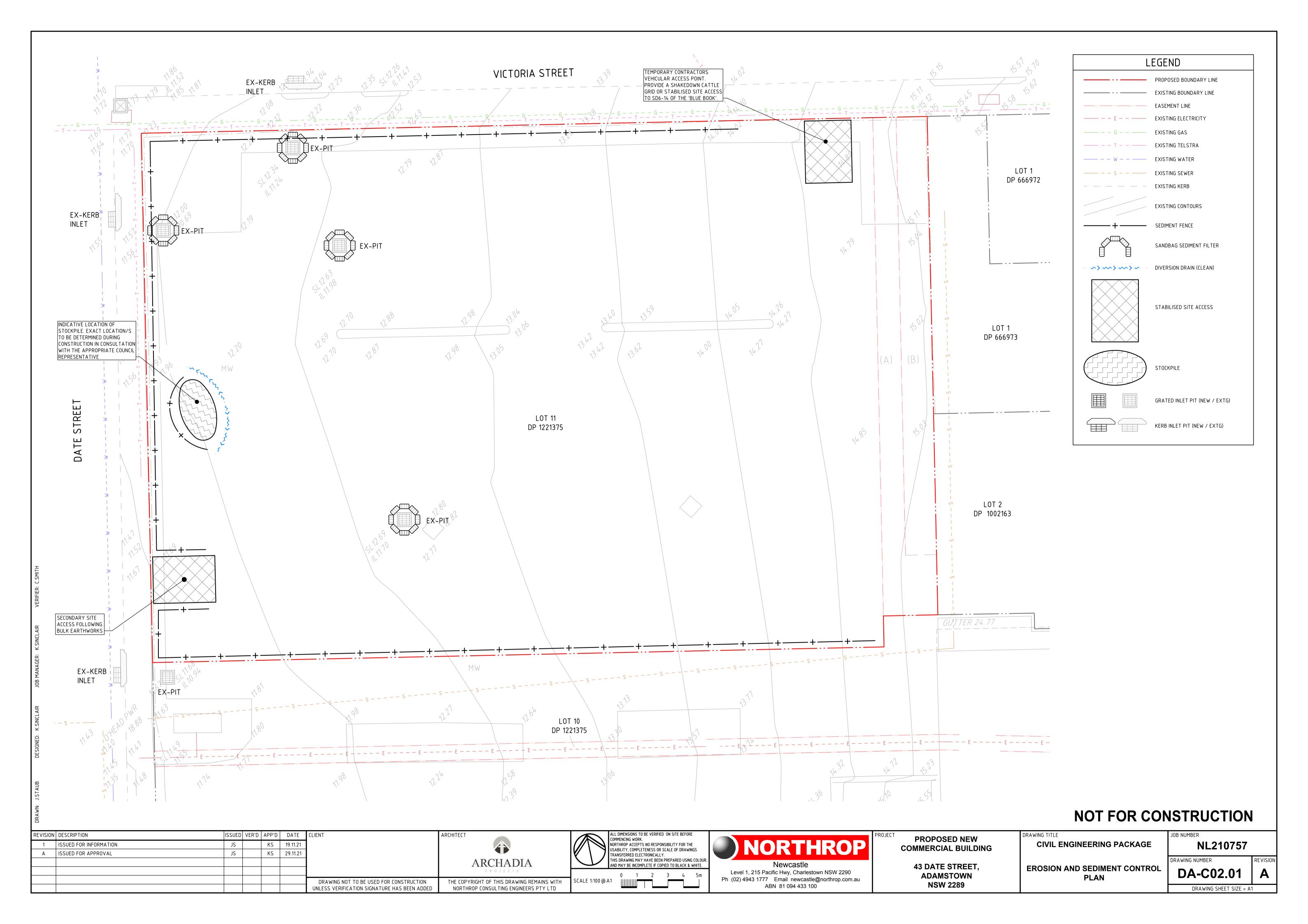
PROPOSED NEW COMMERCIAL BUILDING

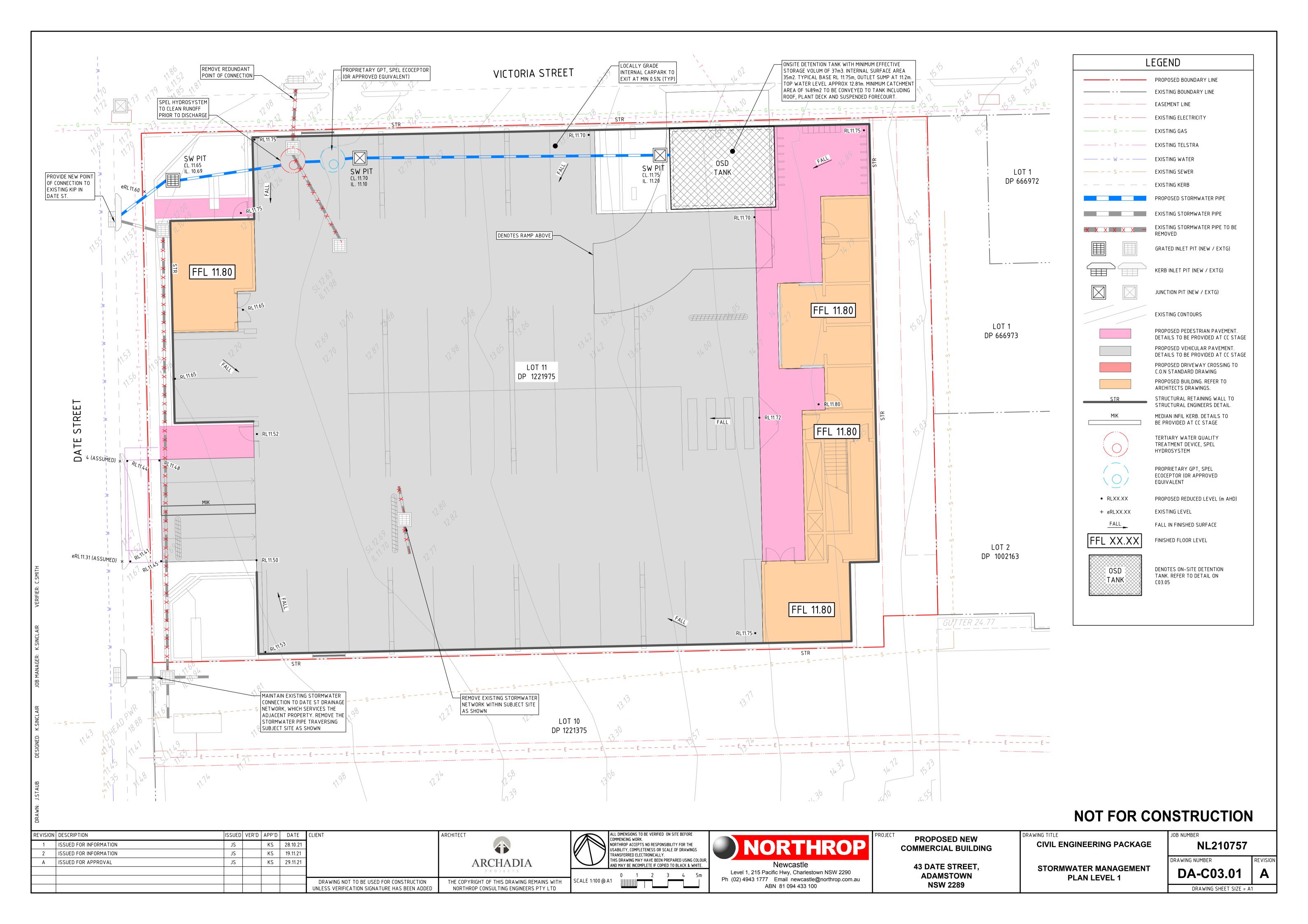
43 DATE STREET, **ADAMSTOWN NSW 2289**

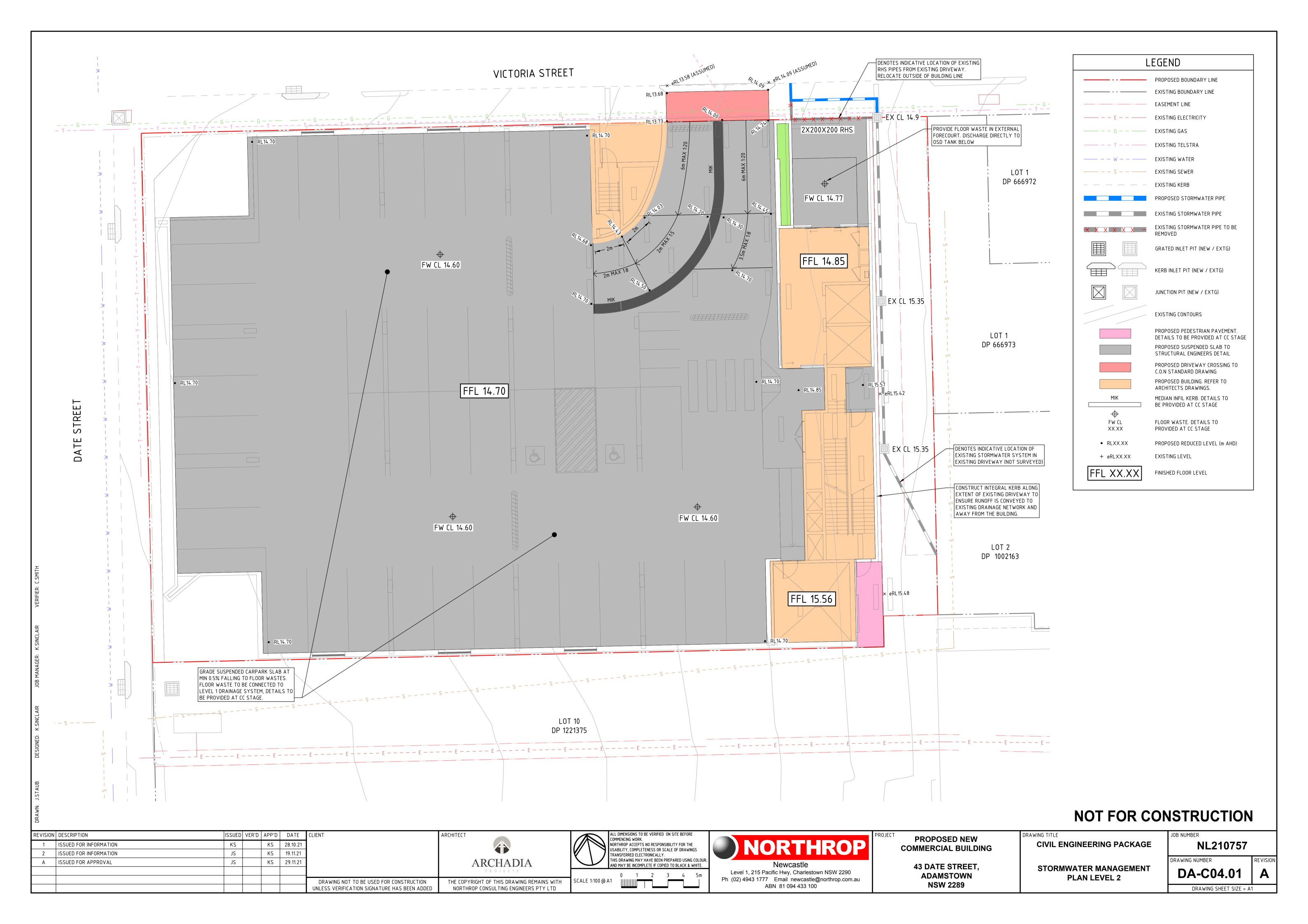
CIVIL ENGINEERING PACKAGE

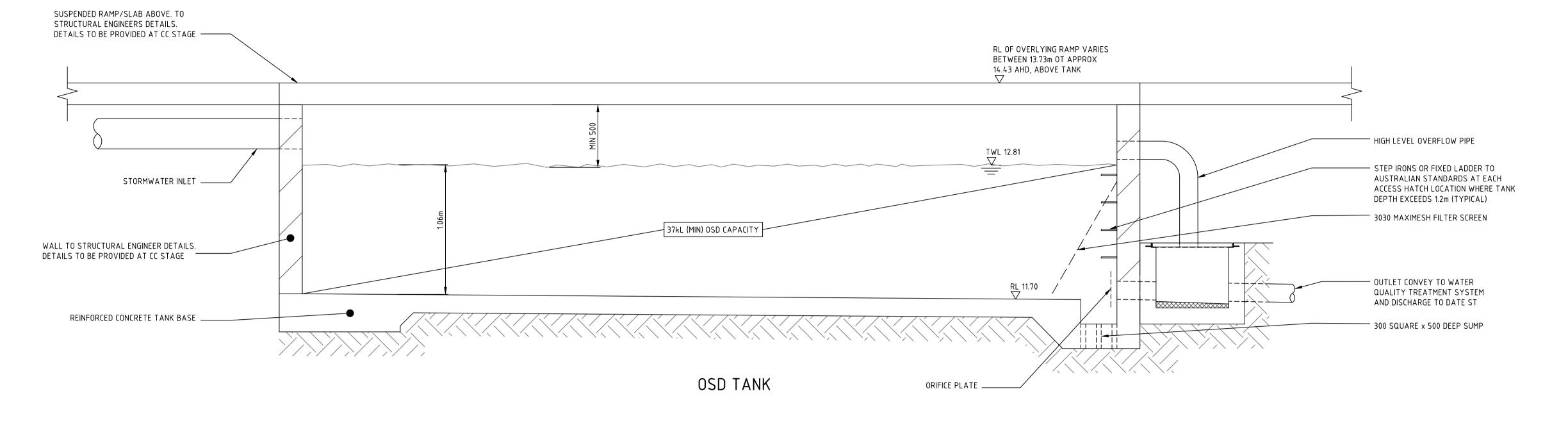
COVER SHEET, DRAWING LIST AND LOCALITY PLAN

NL210757 DRAWING NUMBER **DA-C01.01**









CONCEPT STORMWATER MANAGEMENT SUMMARY

LGA: CITY OF NEWCASTLE (CoN)

NORTHROP CONSULTING ENGINEERS HAVE BEEN ENGAGED TO PREPARE A CONCEPT STORMWATER MANAGEMENT PLAN FOR THE PROPOSED DEVELOPMENT AT 43 DATE STREET, ADAMSTOWN. THE PROPOSED MANAGEMENT PLAN HAS BEEN DEVELOPED IN ACCORDANCE WITH THE CoN'S DEVELOPMENT CONTROL PLAN (2012), WITH SPECIAL CONSIDERATION GIVEN TO SECTION 7.06 STORMWATER AND ALSO THE STORMWATER AND WATER EFFICIENCY FIR DEVELOPMENT TECHNICAL MANUAL (2015).

THE SITE HAS A TOTAL AREA OF 1683m² AND IS CURRENTLY USED AS A CARPARK. A RIGHT OF CARRIAGWAY EXISTS ON THE EASTERN SIDE OF THE SITE (APPROXIMATELY 112M2) WHICH IS BEING MAINTAINED AND ALSO DRAINS INDEPENDENTLY TO THE REST OF THE SITE - THEREFORE THIS AREA HAS NOT BEEN CONSIDERED IN WATER QUALITY/QUANTITY CALCULATIONS. THE SITE HAS AN AVERAGE SLOPE OF APPROXIMATELY 6%, FALLING GENERALLY FROM EAST TO WEST TOWARD DATE ST. THE SITE CURRENTLY HAS THREE POINTS OF CONNECTION FOR STORMWATER, TWO TO VICTORIA ST AND ONE TO DATE ST.

PROPOSED DEVELOPMENT:

THE DEVELOPMENT PROPOSES THE CONSTRUCTION OF A MULTI-STOREY MEDICAL CENTRE INCLUDING TWO LEVELS OF CARPARKING. VEHICULAR ACCESS IS PROPOSED FROM VICTORIA ST TO THE SUSPENDED LEVEL 2 PARKING, AND FROM VICTORIA ST FOR THE LEVEL 1 ON GRADE CARPARK. DEVELOPMENT AREAS CAN BE SUMMARISED AS FOLLOWS:

= 1571 m² (112M² R.O.C. DEDUCTED) - TOTAL SITE AREA - ROOF AREA = 1255 m² OTHER IMPERVIOUS = 268 m² LANDSCAPING = 48 m² - TOTAL IMPERVIOUS AREA = 1523 m²(97 %)

STORMWATER MANAGEMENT:

AREA TO OSD AND TREATMENT

RUNOFF FROM THE MAJORITY OF THE SITE (95%) WILL BE CAPTURED AT A HIGH LEVEL AND CONVEYED TO AN ABOVE GROUND OSD TANK LOCATED WITHIN LEVEL 1. OUTLET FROM THE TANK WILL BE CONVEYED THROUGH A SPEL ECOCEPTOR AND HYDROSYSTEM THEN CONNECTED TO THE EXISTING KIP IN VICTORIA ST. THE REMAINING CATCHMENT WILL SHEET DIRECTY TO VICTORIA ST OR THE RIGHT OF CARRIAGEWAY.

= 1489 m²(95%)

THIE SITE STORAGE REQUIREMENT WILL BE PROVIDED BY THE FOLLOWING:

IN ACCORDANCE WITH SECTION 7.06 OF CoN DCP, A MINIMUM OF 24.25mm OF STORAGE PER m2 OF IMPERVIOUS AREA IS REQUIRED: = 0.02425m X 1523 = 36.9 m³

AT CC STAGE AN ORIFICE SHALL BE SIZED TO LIMIT POST DEVELOPMENT RUNOFF TO PRE DEVELOPMENT FLOW RATES.

STORMWATER QUALITY:

THE PROPOSED TREATMENT TRAIN HAS BEEN MODELLED IN MUSIC VERSION 6.3. THE SCREENSHOT BELOW DEMONSTRATES COUNCIL REDUCTION TARGETS HAVE BEEN SATISFIED. MUSICLINK REPORT HAS BEEN PROVIDED WITH DA AND MODEL CAN BE PROVIDED UPON REQUEST.

TREATMENT TRAIN EFFECTIVENESS - RECEIVING NODE										
	OURCES RESIDUAL LOAD %REDUCTION									
FLOW (ML/yr)	1.57	1.57	0							
TOTAL SUSPENDED SOLIDS (kg/yr)	92.8	13.5	85.5							
TOTAL PHOSPHORUS (kg/yr)	0.315	0.054	82.8							
TOTAL NITROGEN (kg/yr)	3.63	1.25	65.6							
GROSS POLLUTANTS (kg/yr)	42.3	1.43	96.6							

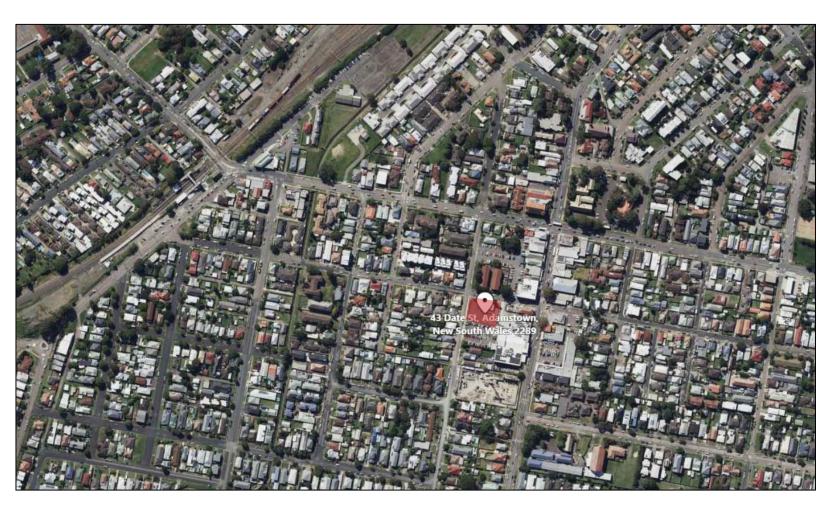
FLOODING INFORMATION WAS PROVIDED BY FIC FL2021/00306 WHICH INDICATED THE FAR WESTERN PART OF THE SITE IS LOCATED IN A FLOOD FRINGE ZONE AND A VERY SMALL PORTION OF THE SITE (APPROX 50M2 LESS THAN 20% OF SITE) IS LOCATED IN FLOOD STORAGE. THE PROPOSED LEVELS ON THE SITE ARE GENERALLY LESS THAN EXISTING, INCLUDING IN THE FLOOD STORAGE ZONE, AS SUCH IS UNLIKELY TO HAVE ANY SIGNIFICANT IMPACT TO FLOOD BEHAVIOUR. THE 1% AEP FLOOD LEVEL IS ESTIMATED AT 11.80m AHD, AND PMF 12.6m AHD. THE LEVEL 1 BUILDINGS (NON-HABITABLE) ARE PROPOSED TO BE AT 11.80m, WITH THE ON-GRADE CARPARK LESS THAN THIS, HENCE WILL BE INUNDATED IN THE 1% AEP EVENT. THE PROPOSED BUILDING WILL BE REQUIRED TO WITHSTAND

LEVEL 2 AND ALL LEVELS ABOVE THIS ARE WELL ABOVE THE PMF, THEFORE FLOOD FREE REFUGE CAN BE SOUGHT ON-SITE OR EVACUATION ONTO VICTORIA

NOT FOR CONSTRUCTION

REVISION DESCRIPTION ISSUED VER'D APP'D DATE CLIENT ARCHITECT PROPOSED NEW OMMENCING WORK. CIVIL ENGINEERING PACKAGE NL210757 1 ISSUED FOR INFORMATION KS | 19.11.21 NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE COMMERCIAL BUILDING USABILITY, COMPLETENESS OR SCALE OF DRAWINGS KS 29.11.21 A ISSUED FOR APPROVAL JS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, DRAWING NUMBER **ARCHADIA** Newcastle AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE. 43 DATE STREET, **CIVIL DETAILS - SHEET 1** DA-C05.01 Level 1, 215 Pacific Hwy, Charlestown NSW 2290 0.0 0.2 0.4 0.6 0.8 1.0m **ADAMSTOWN** Ph (02) 4943 1777 Email newcastle@northrop.com.au SCALE 1:20@ A1 DRAWING NOT TO BE USED FOR CONSTRUCTION THE COPYRIGHT OF THIS DRAWING REMAINS WITH **NSW 2289** ABN 81 094 433 100 NORTHROP CONSULTING ENGINEERS PTY LTD UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED DRAWING SHEET SIZE = A1

PROPOSED SPECIALIST MEDICAL CENTRE



DRAWING SCHEDULE

LDA00 COVERSHEET

LDA01 SITE ANALYSIS PLAN

LDA02 LEVEL 1&2 LANDSCAPE CONCEPT

PLAN

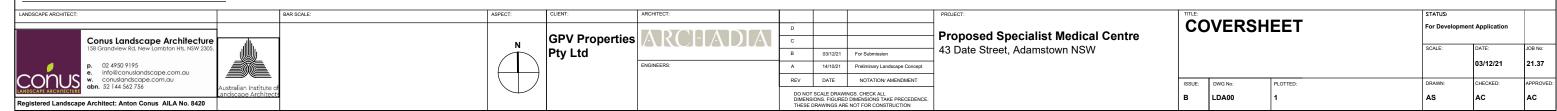
LDA03 NORTH & WEST ELEVATIONS

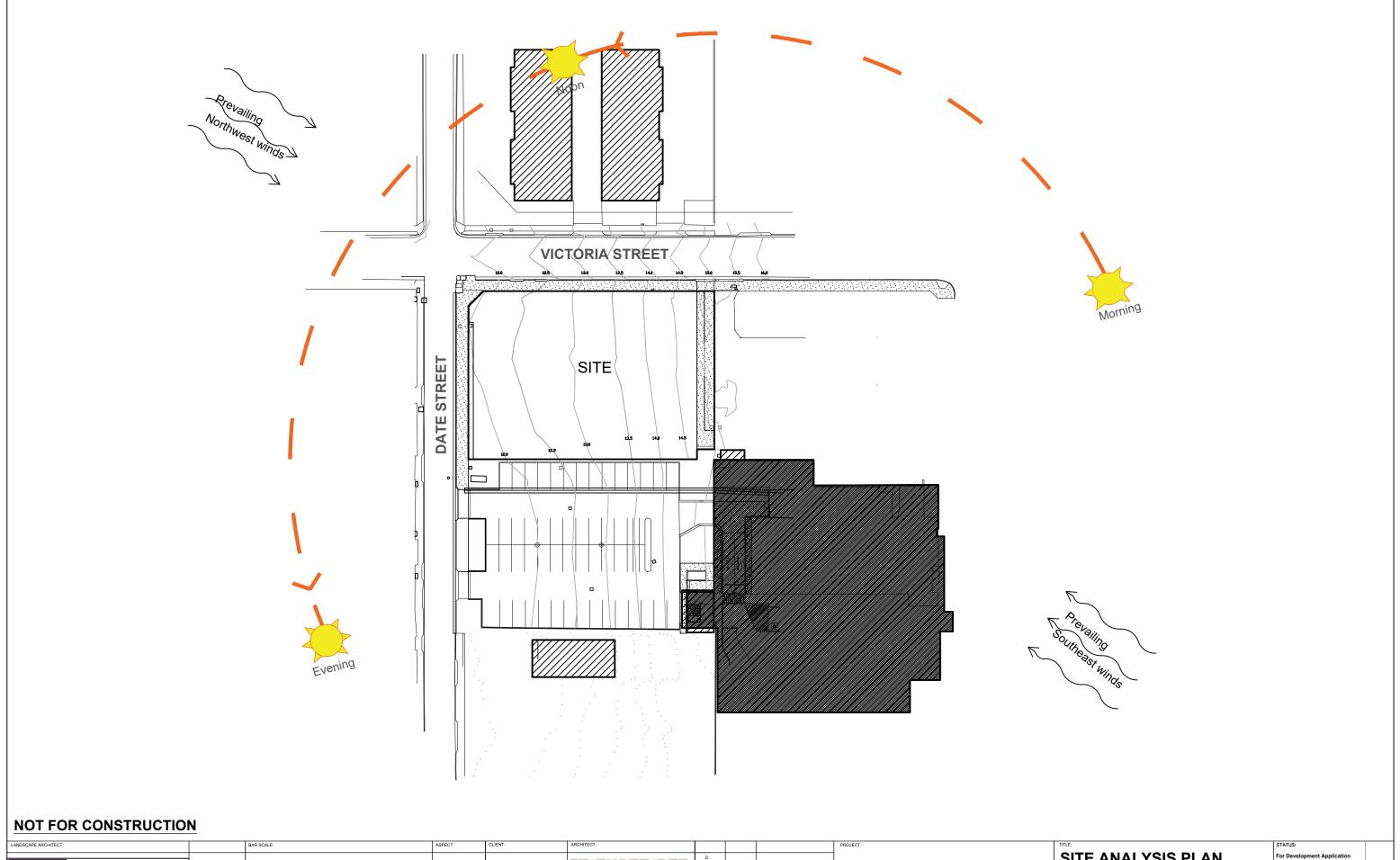
LDA04 PLANT SCHEDULE & DETAILS

LOCATION:

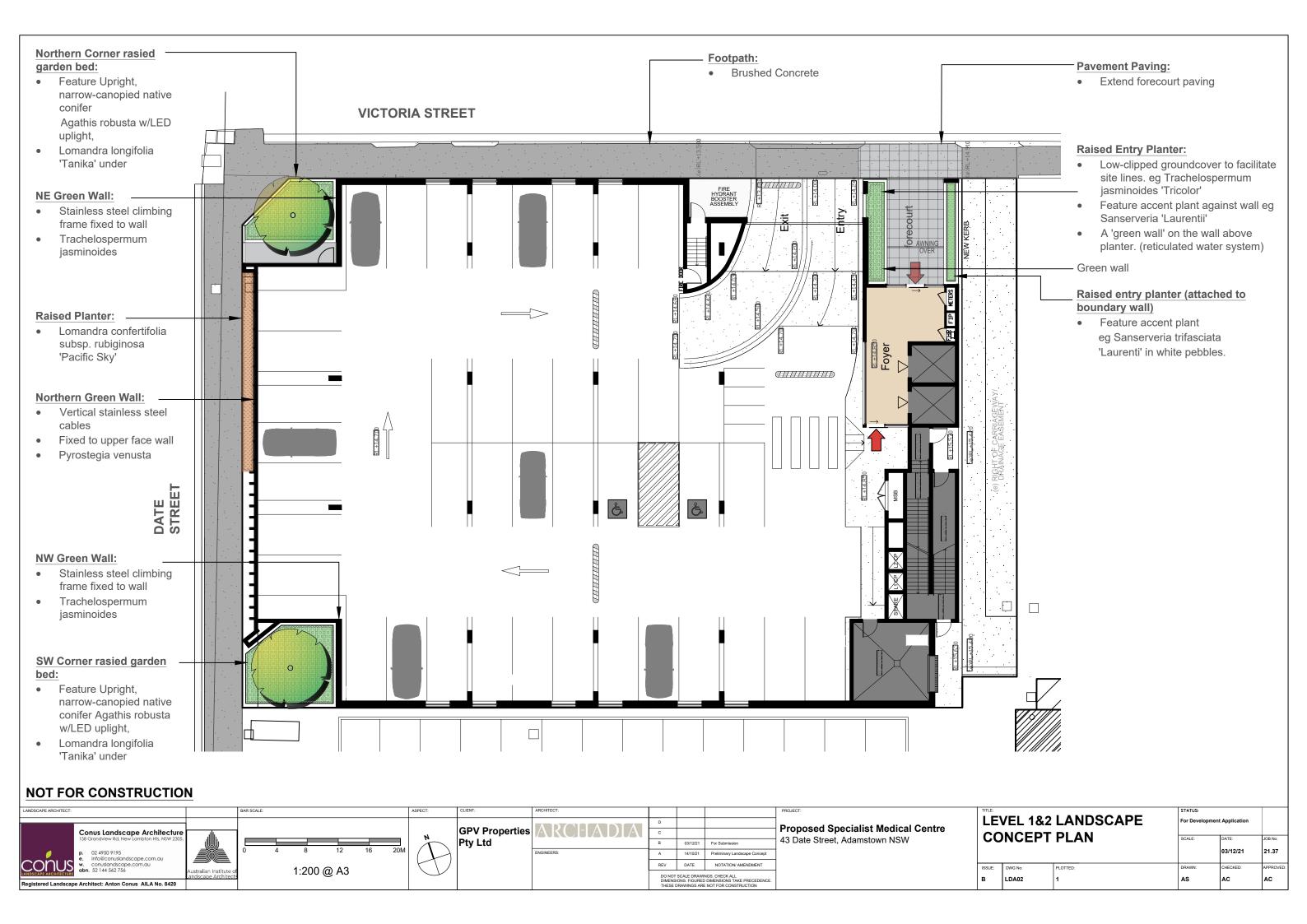
43 Date Street, Adamstown NSW

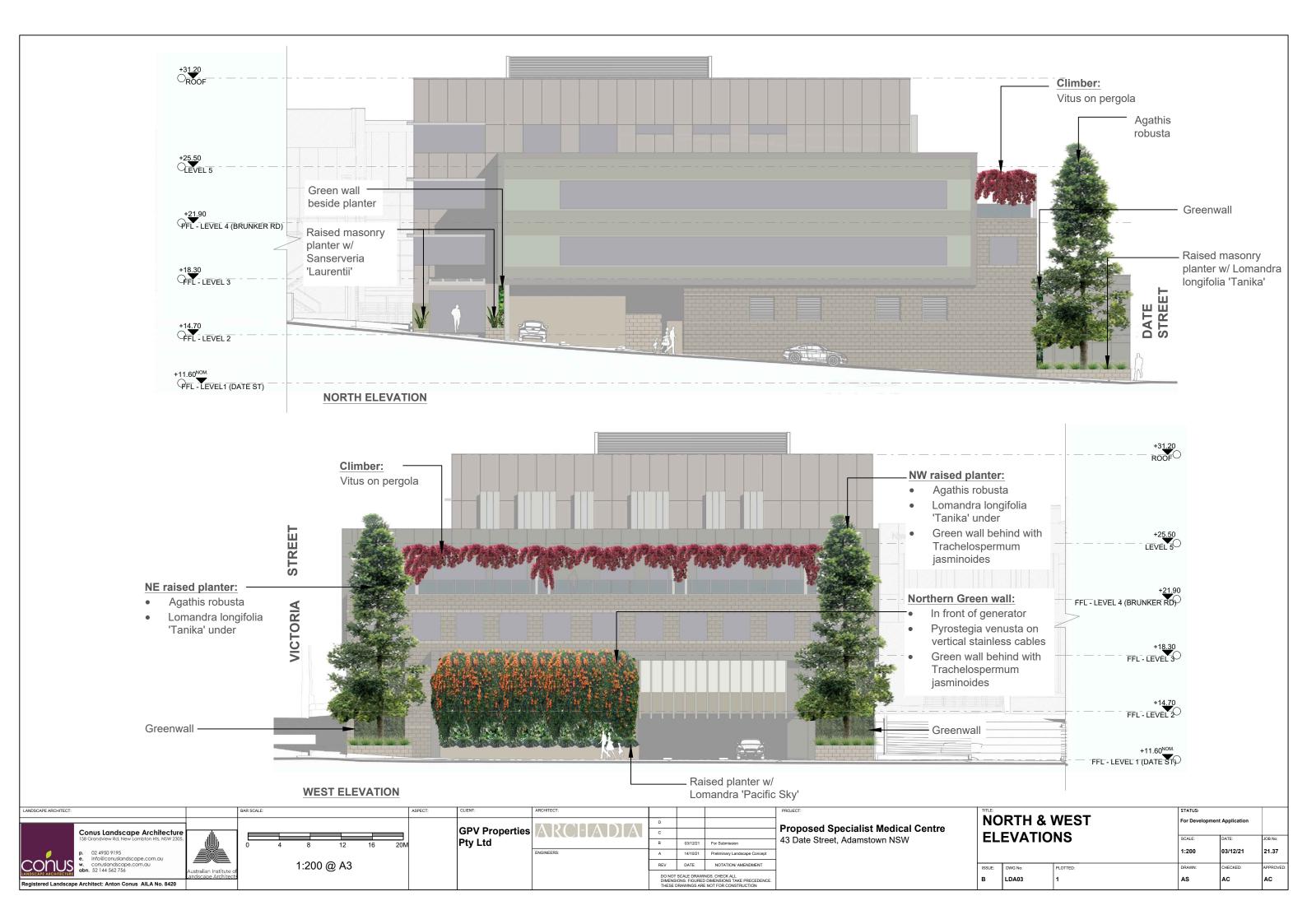
NOT FOR CONSTRUCTION





	LANDSCAPE ARCHITECT:		BAR SCALE:	ASPECT:	CLIENT:	ARCHITECT:				PROJECT:	TITLE:			STATUS		
							D			Dranged Charielist Medical Cantra	∣ SI⊺	E ANAL	YSIS PLAN	For Development	t Application	
	Conus Landscape Architecture	.illi.	7	N	GPV Properties	AKCHADIA	С			Proposed Specialist Medical Centre	-				T	
	158 Grandview Rd, New Lambton Hts, NSW 2305.	رالالل			Pty Ltd		В	03/12/21	For Submission	43 Date Street, Adamstown NSW				SCALE:	DATE:	JOB No:
	p. 02 4950 9195					ENGINEERS:	А	14/10/21	Preliminary Landscape Concept						03/12/21	21.37
	w. conusiandscape.com.au conusiandscape.com.au gbn. 52 144 562 756	A saturalism landitudes					REV	DATE	NOTATION/ AMENDMENT		ISSUE:	DWG No: PL	OTTED:	DRAWN:	CHECKED:	APPROVED:
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PLANT SCHEDULE

Botanic Name	Common Name	Size (m)	Pot Size
Feature tree			
Agathis robusta	Kauri Pine	12H x 4W	100L
Accent plant			
Sanserveria trifasciata 'Laurentii'	Snake Plant	1H x 0.3W	200mm
Groundcovers and climbers			
Lomandra confertifolia subsp. rubiginosa 'Pacific Sky'	Pacifc Sky Mattrush Grass	0.7H x 0.9W	140mm
Lomandra longifolia 'Tanika'	Fine-leaved Mattrush Grass	0.6H x 0.7W	140mm
Pyrostegia venusta	Orange Trumput Vine	0.3H x 6W	140mm
Trachelospermum jasminoides	Chinese Star Jasmine	0.3H x 3W	140mm
Trachelospermum jasminoides 'Tricolor'	Variegated Chinese Star Jasmine	0.3H x 2W	140mm
Vitus 'Rogers Red'	Vitis 'Rogers Red'	0.3H x 4W	200mm

Green walls
T.B.D.

NOTES:

- 1. All garden beds to contain premium imported garden mix with 30% organics mixed with site soil
- 2. Provide slow-release fertiliser to each plant to manufacturer's instructions
- 3. All garden beds to contain 80mm depth native hardwood chip mulch, similar to ANL 'Forest Fines' accept in entry forecourt raised planters, which are to contain 20-30mm dia 'Cowra White' pebble mulch
- 4. All trees to be staked by 1800 x 50 x 50mm hardwood timber stakes fastened with hessian ties
- 5. All trees to comply with NATSPEC specifications

INDICATIVE PLANT IMAGES



Agathis robusta



Sanserveria trifasciata 'Laurentii'



Pyrostegia venusta



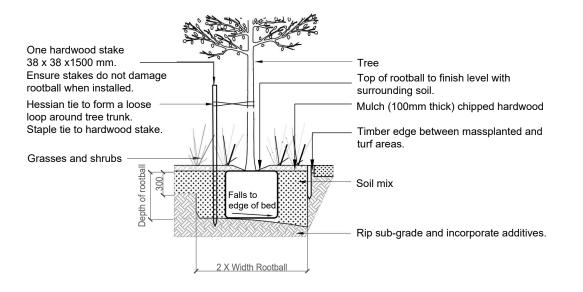
Lomandra longifolia 'Tanika'



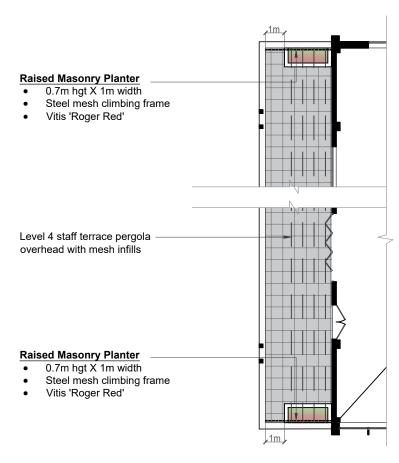
Vitus 'Rogers Red'



Trachelospermum jasminoides 'Tricolor'

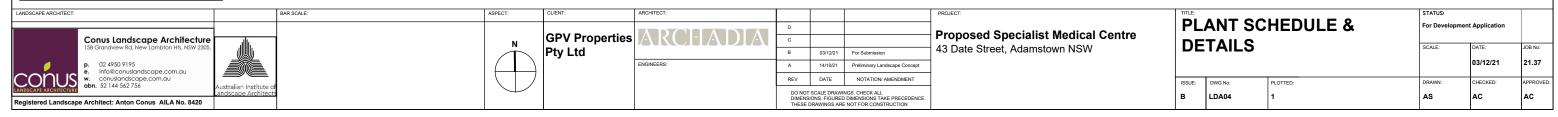


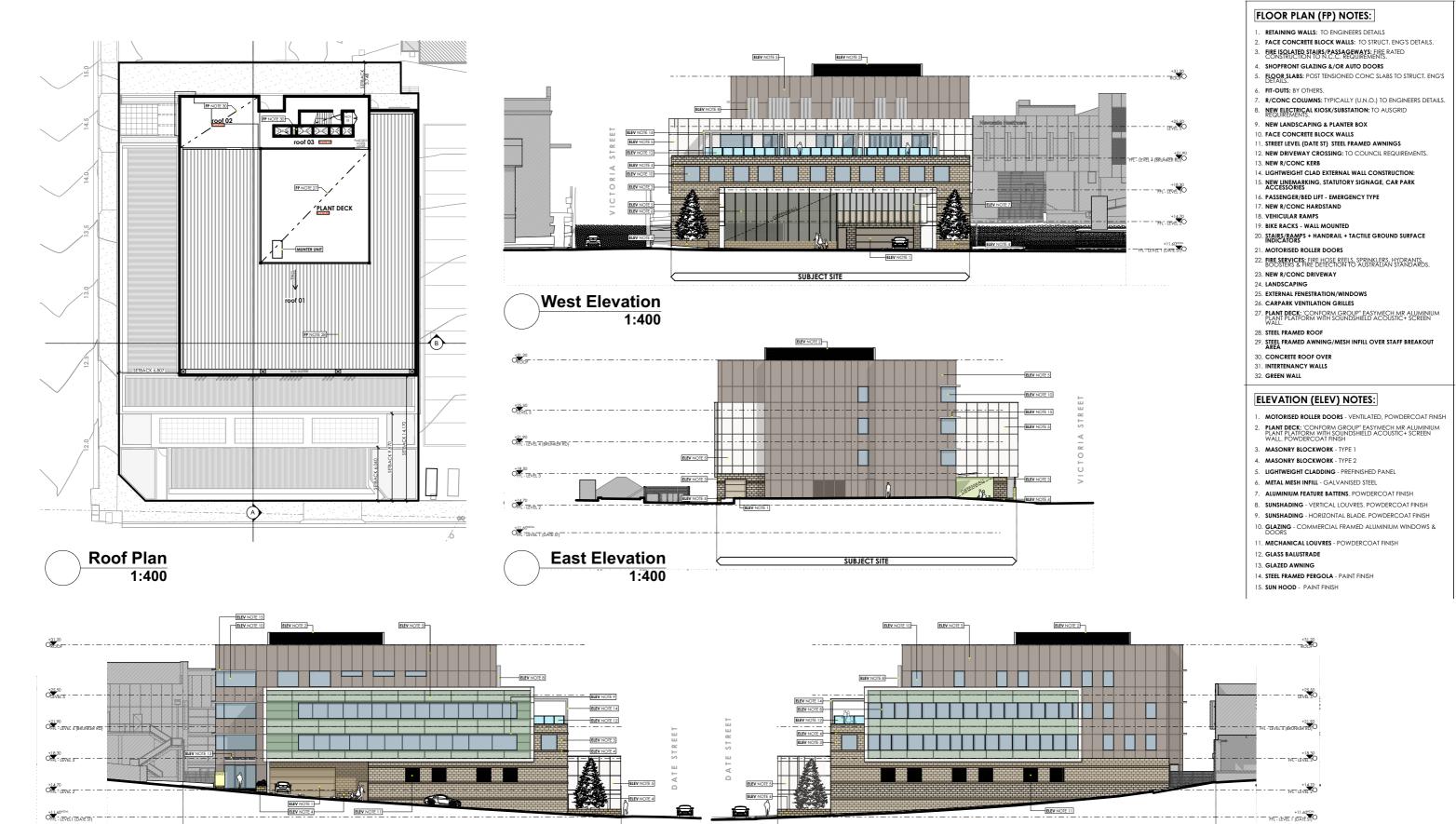






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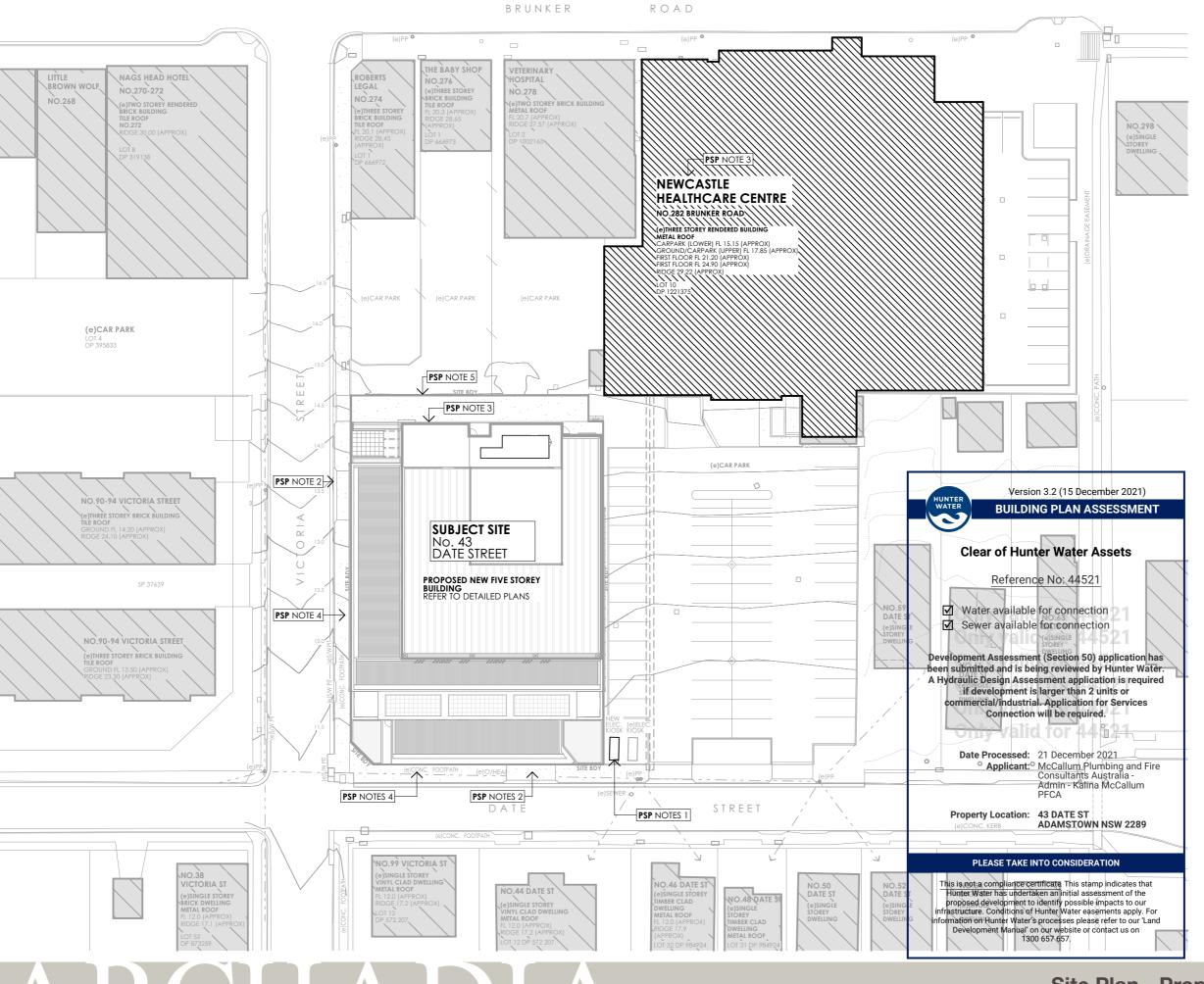
South Elevation

1:400

ARCI-ADIA

North Elevation

Notification Plan
A116.Date Street, Adamstown
43 Date street ADAMSTOWN
December 2021.Ver 2.6



PROPOSED SITE PLAN (PSP) NOTES:

- 1. NEW ELECTRICAL KIOSK/SUBSTATION: TO AUSGRID
- NEW DRIVEWAY CROSSING: TO COUNCIL REQUIREMENTS.
- 3. NEW R/CONC KERB: NEW 150H R/CONC KERB TO FULL LENGTH OF EXISTING RIGHT OF CARRIAGEWAY/DRIVEWAY.
- 4. NEW R/CONC PAVEMENT/LANDSCAPING: RE-INSTATE CONCRETE PAVEMENT TO FULL EXTENT OF DATE & VICTORIA STREET FRONTAGES (TO COUNCIL REQUIREMENTS).
- 5. **NEW DRIVEWAY:** R/CONC PAVEMENT

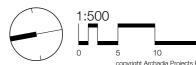
AREAS SCHEDULE:

ALLOWABLE FSR (2:1) = 3366m² MAX. GROSS FLOOR AREA

ACTUAL FSR (1.8:1)

LEVEL	CIRC/COMM. (1)	NLA (2)	GFA (= 1+2)	ANCILLARY
L1	12	-	12	1447
L2	31	-	31	1364
L3	137	1009	1146	92
L4	39	1010	1049	71
L5	33	700	733	71
TOTALS*:	252	2719	2971	3045

f * EXCLUDES EXTERNAL PAVEMENT, LANDSCAPED AREAS, ROOFS AND AWNINGS.





A116.Date Street, Adamstown
43 Date street ADAMSTOWN
December 2021.Ver 2.6



PROPOSED NEW COMMERCIAL BUILDING

43 DATE STREET, ADAMSTOWN NSW 2289 CIVIL ENGINEERING PACKAGE



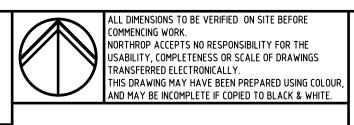


LOCALITY PLAN

	DRAWING SCHEDULE				
DWG NO. DRAWING TITLE					
DA-C01.01 COVER SHEET, DRAWING LIST AND LOCALITY PLA					
	DA-C02.01	EROSION AND SEDIMENT CONTROL PLAN			
	DA-C03.01	STORMWATER MANAGEMENT PLAN LEVEL 1			
	DA-C04.01	STORMWATER MANAGEMENT PLAN LEVEL 2			
	DA-C05.01	CIVIL DETAILS - SHEET 1			

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE	CLIENT	ARCHITECT	_
1	ISSUED FOR INFORMATION	JS		KS	19.11.21			
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ABN 81 094 433 100

PROPOSED NEW COMMERCIAL BUILDING

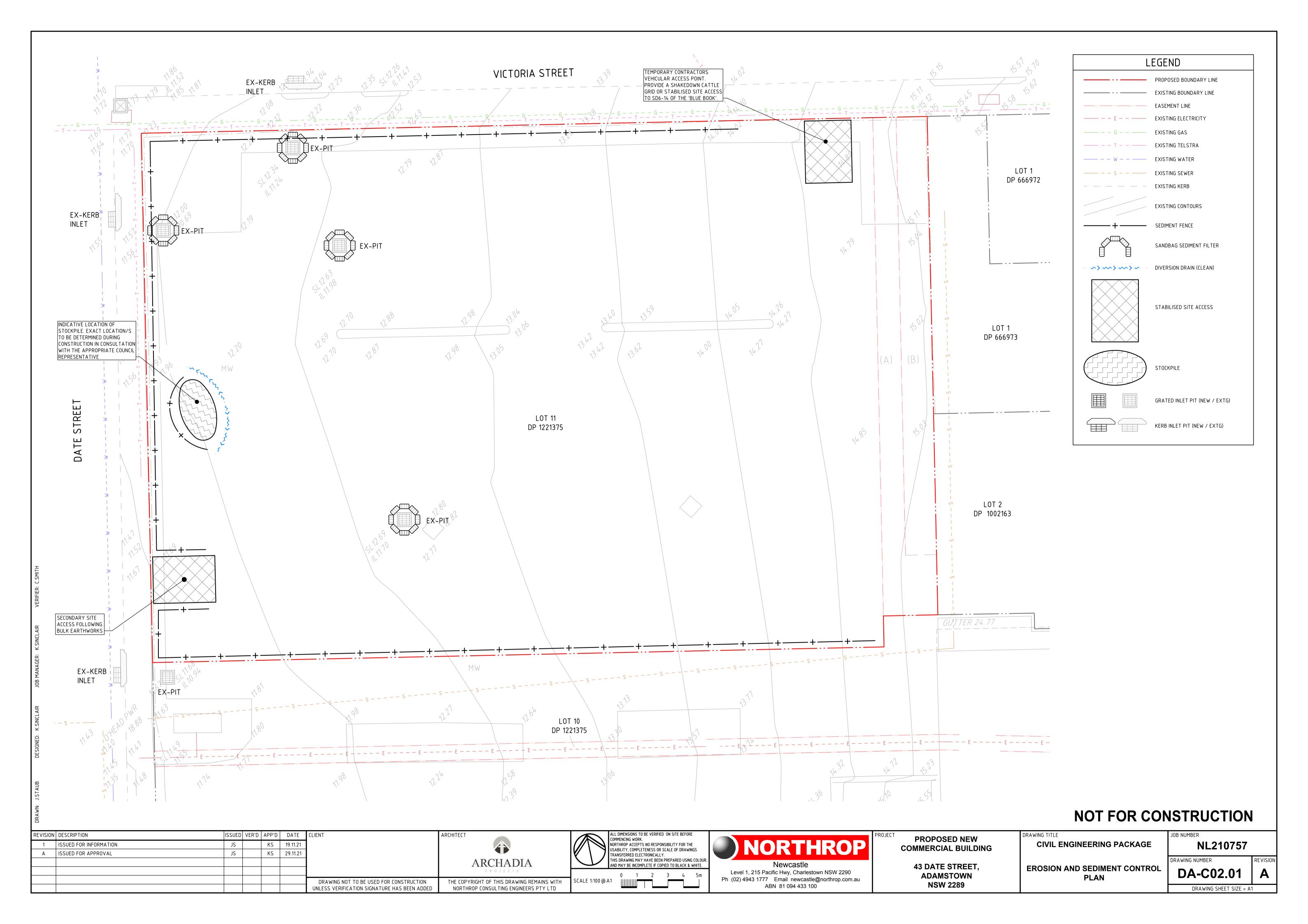
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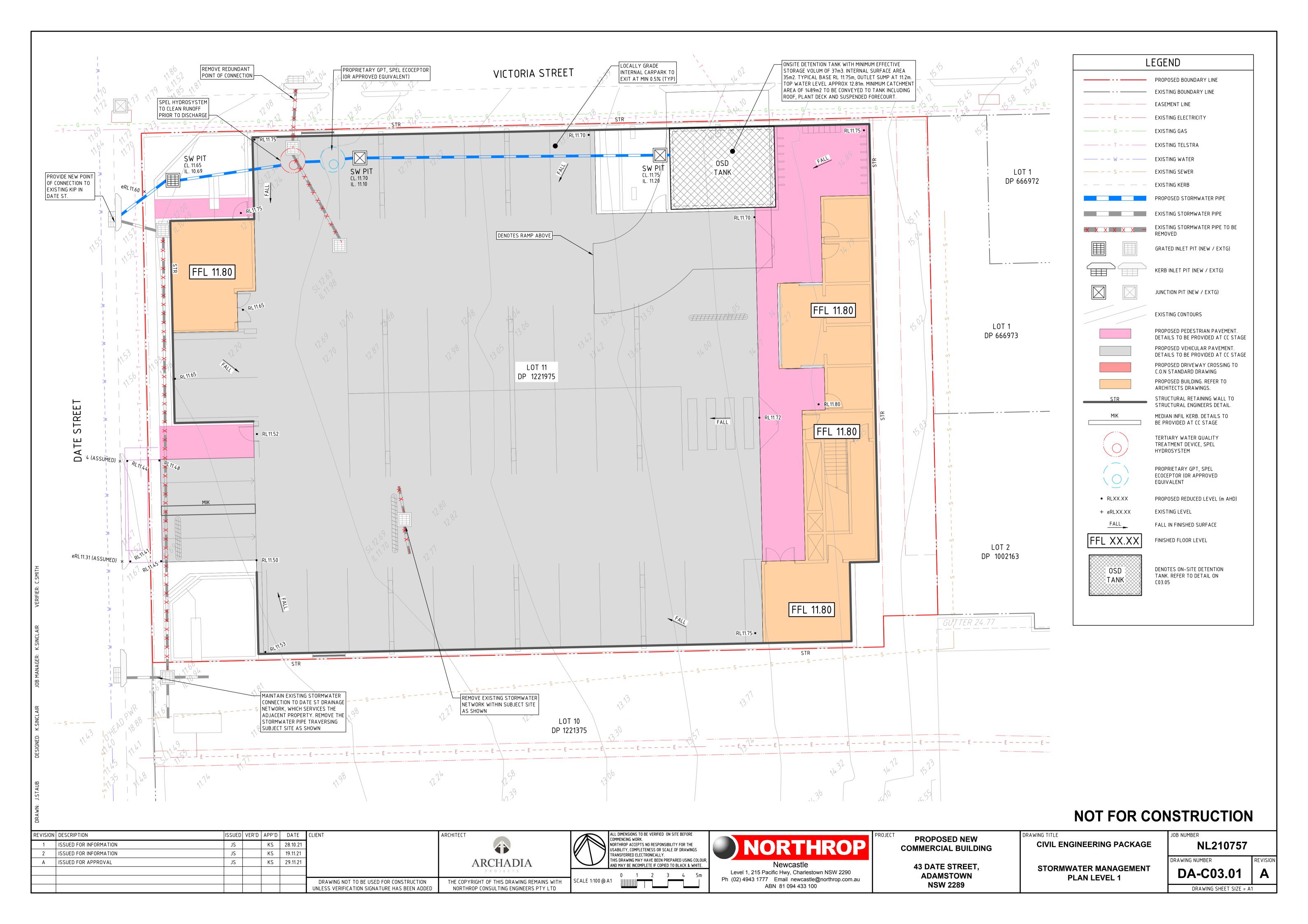
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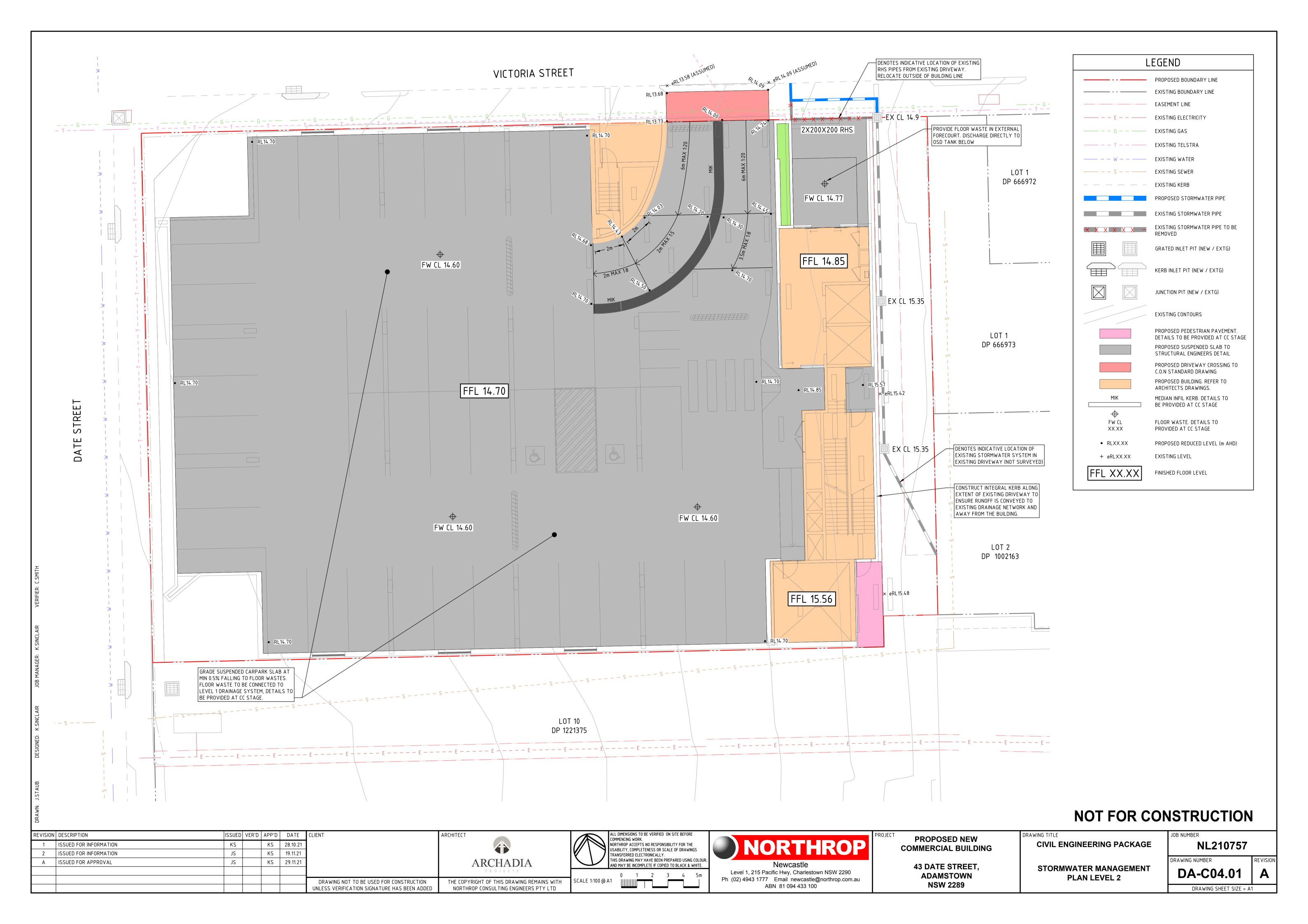
COVER SHEET, DRAWING LIST AND LOCALITY PLAN

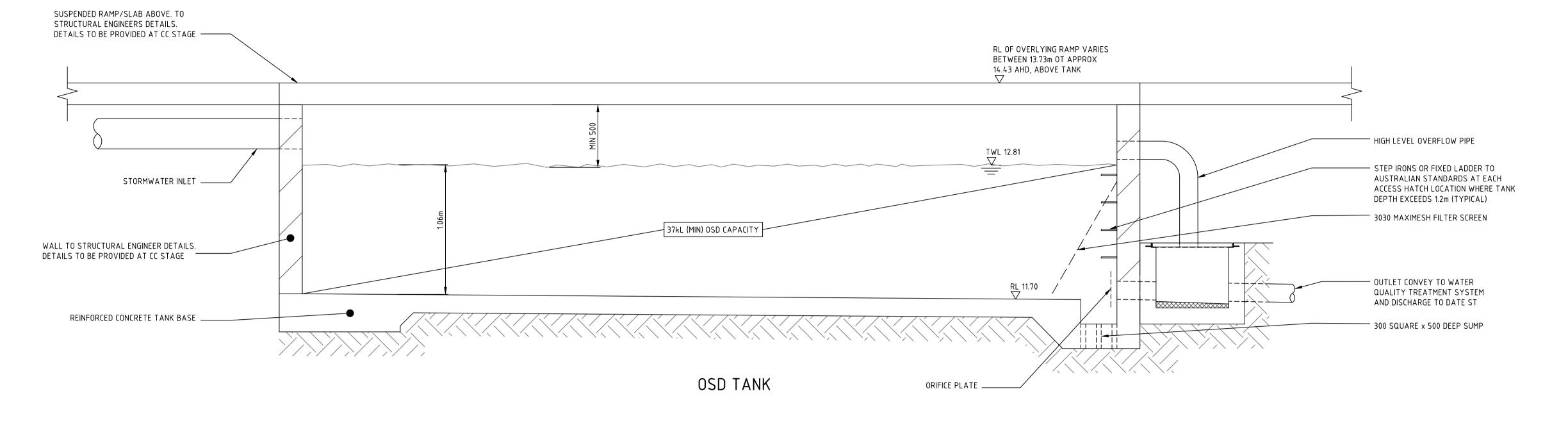
NL210757 DRAWING NUMBER **DA-C01.01**

DRAWING SHEET SIZE = A1









CONCEPT STORMWATER MANAGEMENT SUMMARY

LGA: CITY OF NEWCASTLE (CoN)

NORTHROP CONSULTING ENGINEERS HAVE BEEN ENGAGED TO PREPARE A CONCEPT STORMWATER MANAGEMENT PLAN FOR THE PROPOSED DEVELOPMENT AT 43 DATE STREET, ADAMSTOWN. THE PROPOSED MANAGEMENT PLAN HAS BEEN DEVELOPED IN ACCORDANCE WITH THE CoN'S DEVELOPMENT CONTROL PLAN (2012), WITH SPECIAL CONSIDERATION GIVEN TO SECTION 7.06 STORMWATER AND ALSO THE STORMWATER AND WATER EFFICIENCY FIR DEVELOPMENT TECHNICAL MANUAL (2015).

THE SITE HAS A TOTAL AREA OF 1683m² AND IS CURRENTLY USED AS A CARPARK. A RIGHT OF CARRIAGWAY EXISTS ON THE EASTERN SIDE OF THE SITE (APPROXIMATELY 112M2) WHICH IS BEING MAINTAINED AND ALSO DRAINS INDEPENDENTLY TO THE REST OF THE SITE - THEREFORE THIS AREA HAS NOT BEEN CONSIDERED IN WATER QUALITY/QUANTITY CALCULATIONS. THE SITE HAS AN AVERAGE SLOPE OF APPROXIMATELY 6%, FALLING GENERALLY FROM EAST TO WEST TOWARD DATE ST. THE SITE CURRENTLY HAS THREE POINTS OF CONNECTION FOR STORMWATER, TWO TO VICTORIA ST AND ONE TO DATE ST.

PROPOSED DEVELOPMENT:

THE DEVELOPMENT PROPOSES THE CONSTRUCTION OF A MULTI-STOREY MEDICAL CENTRE INCLUDING TWO LEVELS OF CARPARKING. VEHICULAR ACCESS IS PROPOSED FROM VICTORIA ST TO THE SUSPENDED LEVEL 2 PARKING, AND FROM VICTORIA ST FOR THE LEVEL 1 ON GRADE CARPARK. DEVELOPMENT AREAS CAN BE SUMMARISED AS FOLLOWS:

= 1571 m² (112M² R.O.C. DEDUCTED) - TOTAL SITE AREA - ROOF AREA = 1255 m² OTHER IMPERVIOUS = 268 m² LANDSCAPING = 48 m² - TOTAL IMPERVIOUS AREA = 1523 m²(97 %)

STORMWATER MANAGEMENT:

AREA TO OSD AND TREATMENT

RUNOFF FROM THE MAJORITY OF THE SITE (95%) WILL BE CAPTURED AT A HIGH LEVEL AND CONVEYED TO AN ABOVE GROUND OSD TANK LOCATED WITHIN LEVEL 1. OUTLET FROM THE TANK WILL BE CONVEYED THROUGH A SPEL ECOCEPTOR AND HYDROSYSTEM THEN CONNECTED TO THE EXISTING KIP IN VICTORIA ST. THE REMAINING CATCHMENT WILL SHEET DIRECTY TO VICTORIA ST OR THE RIGHT OF CARRIAGEWAY.

= 1489 m²(95%)

THIE SITE STORAGE REQUIREMENT WILL BE PROVIDED BY THE FOLLOWING:

IN ACCORDANCE WITH SECTION 7.06 OF CoN DCP, A MINIMUM OF 24.25mm OF STORAGE PER m2 OF IMPERVIOUS AREA IS REQUIRED: = 0.02425m X 1523 = 36.9 m³

AT CC STAGE AN ORIFICE SHALL BE SIZED TO LIMIT POST DEVELOPMENT RUNOFF TO PRE DEVELOPMENT FLOW RATES.

STORMWATER QUALITY:

THE PROPOSED TREATMENT TRAIN HAS BEEN MODELLED IN MUSIC VERSION 6.3. THE SCREENSHOT BELOW DEMONSTRATES COUNCIL REDUCTION TARGETS HAVE BEEN SATISFIED. MUSICLINK REPORT HAS BEEN PROVIDED WITH DA AND MODEL CAN BE PROVIDED UPON REQUEST.

TREATMENT TRAIN EFFECTIVENESS - RECEIVING NODE				
	%REDUCTION			
FLOW (ML/yr)	1.57	1.57	0	
TOTAL SUSPENDED SOLIDS (kg/yr)	92.8	13.5	85.5	
TOTAL PHOSPHORUS (kg/yr)	0.315	0.054	82.8	
TOTAL NITROGEN (kg/yr)	3.63	1.25	65.6	
GROSS POLLUTANTS (kg/yr)	42.3	1.43	96.6	

FLOODING INFORMATION WAS PROVIDED BY FIC FL2021/00306 WHICH INDICATED THE FAR WESTERN PART OF THE SITE IS LOCATED IN A FLOOD FRINGE ZONE AND A VERY SMALL PORTION OF THE SITE (APPROX 50M2 LESS THAN 20% OF SITE) IS LOCATED IN FLOOD STORAGE. THE PROPOSED LEVELS ON THE SITE ARE GENERALLY LESS THAN EXISTING, INCLUDING IN THE FLOOD STORAGE ZONE, AS SUCH IS UNLIKELY TO HAVE ANY SIGNIFICANT IMPACT TO FLOOD BEHAVIOUR. THE 1% AEP FLOOD LEVEL IS ESTIMATED AT 11.80m AHD, AND PMF 12.6m AHD. THE LEVEL 1 BUILDINGS (NON-HABITABLE) ARE PROPOSED TO BE AT 11.80m, WITH THE ON-GRADE CARPARK LESS THAN THIS, HENCE WILL BE INUNDATED IN THE 1% AEP EVENT. THE PROPOSED BUILDING WILL BE REQUIRED TO WITHSTAND

LEVEL 2 AND ALL LEVELS ABOVE THIS ARE WELL ABOVE THE PMF, THEFORE FLOOD FREE REFUGE CAN BE SOUGHT ON-SITE OR EVACUATION ONTO VICTORIA

NOT FOR CONSTRUCTION

REVISION DESCRIPTION ISSUED VER'D APP'D DATE CLIENT ARCHITECT PROPOSED NEW OMMENCING WORK. CIVIL ENGINEERING PACKAGE NL210757 1 ISSUED FOR INFORMATION KS | 19.11.21 NORTHROP ACCEPTS NO RESPONSIBILITY FOR THE COMMERCIAL BUILDING USABILITY, COMPLETENESS OR SCALE OF DRAWINGS KS 29.11.21 A ISSUED FOR APPROVAL JS TRANSFERRED ELECTRONICALLY. THIS DRAWING MAY HAVE BEEN PREPARED USING COLOUR, DRAWING NUMBER **ARCHADIA** Newcastle AND MAY BE INCOMPLETE IF COPIED TO BLACK & WHITE. 43 DATE STREET, **CIVIL DETAILS - SHEET 1** DA-C05.01 Level 1, 215 Pacific Hwy, Charlestown NSW 2290 0.0 0.2 0.4 0.6 0.8 1.0m **ADAMSTOWN** Ph (02) 4943 1777 Email newcastle@northrop.com.au SCALE 1:20@ A1 DRAWING NOT TO BE USED FOR CONSTRUCTION THE COPYRIGHT OF THIS DRAWING REMAINS WITH **NSW 2289** ABN 81 094 433 100 NORTHROP CONSULTING ENGINEERS PTY LTD UNLESS VERIFICATION SIGNATURE HAS BEEN ADDED DRAWING SHEET SIZE = A1

ADAMSTOWN DAY HOSPITAL AND SPECIALIST CENTRE (HEALTH SERVICES FACILITY)

43 DATE STREET, ADAMSTOWN

STATEMENT OF ENVIRONMENTAL EFFECTS

NOVEMBER 2021

VERSION 2



Document Information

Client: GPV Adamstown Pty Ltd ATF GPV Adamstown Trust

Project: Health services facility

Our Reference: 2021-1450

Author: WW

Reviewed by Client: 3 December 2021

Document History

Version	Date	Description	Author	Checked
1	15/09/21	DRAFT	WW	-
2	03/12/21	FINAL FOR COUNCIL SUBMISSION	WW	-

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1.0 Introduction

1.1 Site Details

The site comprises Lot 11 DP 1221375 and is known as 43 Date Street, Adamstown. The site has a total area of 1,683m² and is located on the south-eastern corner of the intersection of Date and Victoria Streets. The site has frontage of 47 metres to Victoria Street and a frontage of 31 metres to Date Street, with a 5 metre slay at the intersection. The site slopes from its eastern boundary to its western, Date Street, boundary with a fall of approximately 3 metres.

The site is devoid of vegetation. A 2-metre-wide easement for drainage and 3.5-metre-wide Right of Carriageway are located along the site's eastern boundary, providing access to and drainage from properties fronting Brunker Road to the east, and a 1-metre-wide easement to drain water is located along most of the western boundary of the site. Concrete footpaths are located along the northern and western boundaries of the site and overhead powerlines run parallel to the western boundary, above the concrete footpath.

The site contains an at-grade, bitumen-lined car park that was formerly used in conjunction with the Adamstown RSL Club. The RSL Club was sold and GPV Property, a recognised healthcare developer in the Hunter Region, breathed new life into the defunct building with an adaptive re-use project called Newcastle Healthcare Centre, which provides essential healthcare infrastructure for the community.

The at-grade car park within the subject site was not required to service the Newcastle Healthcare Centre and has remained fenced and unused since 2014.

The site is zoned R4 High Density Residential pursuant to Newcastle Local Environmental Plan 2012 and is located within the Adamstown Renewal Corridor pursuant to Section 6.08 of Newcastle Development Control Plan 2012. The location of the site is shown in Figure 1 below. Photos of the site and current improvements are shown in Figures 2-6.



Figure 1 - Location Plan

Source: ePlanning Spatial Viewer, 2021



Figure 2 – The subject site viewed from Date Street, looking to the north-east



Figure 3 – The subject site looking towards Date Street, viewed from the eastern boundary



Figure 4 – The subject site viewed from the intersection of Date Street and Victoria Street, with the Newcastle Healthcare Centre (former RSL Club) to the south-east and high density residential building under construction to the south



Figure 5 – The subject site viewed from Date Street, looking to the east.



Figure 6 – Easement to Drain Water and Right of Carriageway over the northern portion of the subject site. No development to occur within these easements.

1.2 Surrounding Development

The site is bounded by 2-3 storey commercial buildings and their associated at-grade car parks immediately to the east, one of which is a locally listed heritage item - see Figure 7.

The Newcastle Healthcare Centre (former Adamstown RSL Club building) and associated basement and at-grade car parks are located immediately to the south-east and south of the site. Further to the south are single dwellings and a multi storey residential apartment building under construction (reflecting the R4 high density zoning of this locality). See Figure 8 for adjoining development to the south-east and south of the site.

A mixture of older single dwellings and modern medium density residential development is located to the west and north-west, on the opposite side of Date Street - see Figures 9 and 10.

Two x 3 storey residential buildings and associated at-grade carparking and access, together with a 2-3 storey hotel and at-grade carpark, are located to the north and north-east, on the northern side of Victoria Street – see Figures 11 and 12.



Figure 7 – 2-3 storey commercial buildings (one heritage listed) and their associated at-grade car parks immediately to the east



Figure 8 – Adjoining commercial and residential development to the south-east and south of the site



Figure 9 – Low and medium residential development located to the west of the site, on the western side of **Date Street**



Figure 10 – Low and medium residential development located to the north-west of the site, on the western side of Date Street



Figure 11 – Residential buildings to the north of the site, on the northern side of Victoria Street



Figure 12 – 2-3 storey hotel (heritage listed) and at-grade carpark located to the north-east of the site, on the northern side of Victoria Street

1.3 Planning History

As previously stated, the site contains an at-grade car park that was formerly used in conjunction with the Adamstown RSL Club, which has since been redeveloped.

A larger site, incorporating the former RSL Club building and adjoining at-grade carparks, was the subject of a Pre-DA for a 5-storey health services facility in 2018. This Pre-DA was GPV Property's first attempt at Stage 2 of Newcastle Healthcare Centre (Stage 1 was already complete). The aim was to make the second stage fully integrate with Stage 1; however, it was not financially viable. The Stage 1 DA and previous Pre-DA have little bearing on the current design, which is substantially different. Notwithstanding, the comments made by Council's town planners and engineers were helpful in guiding the current design.

1.4 Proposed Development

Consent is sought for the erection of a 5-storey health services facility on the subject site. GPV Property, a recognised healthcare developer in the Hunter Region, is developing this property as a second stage to the successful Newcastle Healthcare Centre development, an adaptive re-use project that breathed new life into the defunct Adamstown RSL and provides essential healthcare infrastructure for the community.

The Newcastle Healthcare Centre Stage 2 proposal centres on a purpose-designed facility to consolidate and replace a number of disparate sites and supports the needs of the well-established Hunter Specialist Medical Centre over Levels 4 and 5 of the proposed building. The new building will be known as 'Adamstown Day Hospital and Specialist Centre'.

The proposal is shown in Figures 13 and 14 below and in the set of architectural plans prepared by Archadia Projects and accompanying the application.



Figure 13 - 3D perspective of the proposed building from Date Street



Figure 14 - 3D perspective of the proposed building from Victoria Street

1.4.1 Design and Built Form

The site is located within Precinct 2 - Glebe Road (Mixed Use Focus) Character Precinct of the Adamstown Renewal Corridor and the building has been designed having regard to the built form controls applicable to this precinct set out in Section 6.08 of Newcastle Development Control Plan (DCP).

The building has been designed to step up the slope of the site, thereby reducing the bulk and scale of the building at the interface with the medium density residentially zoned land on the western side of Date Street, and then increasing towards the maximum permissible height limit of 20 metres at the top (eastern end) of the site. The primary bulk and height of the building is contained in the eastern portion of the site facing the B2 zoned land immediately to the east of the site.

A mixture of materials has been used in the design of the building, with a large number of windows and openings facing the Victoria Street frontage for passive surveillance of the public domain and carpark entries and exits. Less openings are provided at lower levels along Date Street to alleviate the impression of being overlooked by residences on the western side of Date Street. The lower levels are still well articulated and provide surveillance of the street with the use of perforated steel and louvres along the Date Street frontage of the two carparking levels. A greater number of openings are provided at Level 4, along with a shade structure to provide articulation as well as amenity for staff of the medical centre at that level. The car park levels will be enclosed to reduce their visual dominance and to reduce potential impacts associated with noise and headlights.

The building will have a zero setback to the northern and western boundaries (Victoria and Date Streets), as desired in Section 6.08 of the DCP, and also a zero setback to the southern boundary. Level 5 is set back 6.8 metres from the Victoria Street frontage. The building will be set back a minimum of 3.75 metres to the eastern boundary.

The building will have a maximum height of 6.95 metres (2 storey – Levels 1 and 2) facing Date Street. Level 3 will have a setback of 6.04 metres from Date Street and a height of 12.73 metres (to the top of a shade structure). Level 4 will have a setback of 9.87 metres to Date Street, with a balustrade for the outdoor terrace aligning with the setback of Level 3 below. Level 4 will have a height of 13.9

metres. Level 5 will have a setback of 14.17 metres to Date Street and a height of 18.475 metres. Level 6 (services and plant deck only) will have a maximum height of 19.275 metres from natural ground level, thereby delivering a building that is wholly under the maximum height limit of 20 metres identified for the site pursuant to Newcastle Local Environmental Plan, 2012. Each carparking level will have a ceiling height of between 2.92 metres and 3.4 metres. Levels 3-5 will have a minimum internal ceiling height of 2.7 metres.

The main pedestrian entry to the building will be off Victoria Street, with a forecourt provided in front of the lift foyer. Vehicular access will be provided from both Victoria Street (to Level 2 Carpark) and Date Street (to Level 1 Carpark). The building will have a total gross floor area of 2,971m², resulting in a FSR of 1.76:1, which is below the maximum FSR of 2:1 permitted for this site.

1.4.2 Waste Management

A dedicated waste storage room (identified as 'Bin Room' on the plans) is provided on Level 2 and has direct vehicular access via a roller door to the driveway along the eastern boundary. This room has sufficient capacity to accommodate $2 \times 1.5 \text{m}^3$ waste trolley bins; one for putrescible waste and one for recyclable waste. It will be provided with a hose and drainage plumbed into the sewer.

Cleaners will transport waste from the tenancies to the Bin Room using the lift and the trolley bins will be collected on an as-needs routine basis by commercial contractors from the laneway. Typically, this will be outside of business hours (as is done for the Stage 1 component of the development).

The Bin Room will also have 2 x 'secure waste' wheelie bins. Secure waste will be deposited into the secure wheelie bins and disposal will be carried out by private contractors servicing the Bin Room from the laneway, typically, outside of business hours, (as is done for the Stage 1 component of the development).

Medical waste, including sharps and other bio-contaminated waste materials, will be stored in dedicated, sealed containers and collected by specialised medical waste contractors directly from individual tenancies. Parking Space No. 11 on Level 1 will act as a loading zone for these vehicles.

Laundry storage requirements for the Day Hospital will be managed within the Day Hospital Tenancy itself. It has its own clean and dirty linen stores which will be serviced by private contractors directly to/from their tenancy. Parking Space No. 11 on Level 1 will act as a loading zone for these vehicles.

1.4.3 Public Domain Works

- Removal of existing kerb and gutter and driveway, including re-installation of sandstone kerbing, as may be required by Council.
- New commercial type vehicle crossings in Date Street and Victoria Street.
- Replacement of any damaged or redundant pedestrian footpath, kerb and gutter to match existing.
- Drainage connection in Date Street.

1.4.4 Signage

Only 1 Building identification sign is proposed on the Victoria Street frontage (at the front of the pedestrian forecourt). This will have an area less than 2.5m2 and is exempt pursuant to the provisions of Part 2, Division 2 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

1.4.5 Details of Each Level

The use of each level is outlined in further detail below.

Level 1 – Staff Carpark with 36 parking spaces, 4 motorcycle parking spaces, and secure storage for 14 bicycles and end of trip facilities. Accessed from Date Street only. This level also includes a lift lobby, storerooms, utilities and rainwater detention tank.

Level 2 — Patient Carpark with 40 parking spaces, including 2 accessible parking spaces, and 4 motorcycle parking spaces. Accessed from Victoria Street only. This level also includes a pedestrian forecourt and main pedestrian access to the building, lift lobby, storeroom, and bin storage room.

Level 3 – Medical centre with 6 suites, two of which (Suites 303 and 306) have end users locked in and fitouts submitted with this application. The remaining 4 are speculative medical suites at this stage.

Suite 303 will accommodate allied functions relating to Sonic Healthcare Group, one of Australia's leading providers of occupational healthcare; while Suite 306 will accommodate the executive and medical training functions of Hunter Imaging Group, Newcastle and the Hunter's largest provider of diagnostic medical imaging services who has suites in the adjacent Stage 1 Newcastle Healthcare Centre. Each suite will be provided with their own amenities, including accessible WC.

Level 4 – Medical centre – Hunter Pain Specialists – incorporating treatment rooms, consultation rooms, exercise space, offices, meeting rooms, and staff training room and amenities on Level 4; and day surgery with 1 operating theatre and associated waiting and recovery areas, offices and staff amenities on Level 5.

Hunter Pain Specialists treat over 6,000 patients a year at their current clinics in Broadmeadow, Tuggerah and Singleton, and via surgical procedures at Hamilton Day Surgery, Lingard Private Hospital, and Norwest Private Hospital. Level 4 will be the main headquarters for Hunter Pain Specialists with their other satellite facilities at Tuggerah and Singleton continuing to operate as normal.

Level 5 – licensed, fully accredited Day Hospital, which will primarily be used by Hunter Pain Specialists for minor day procedures requiring general anaesthesia and short recovery periods, but not requiring overnight stay. The Day Hospital will be utilised by Hunter Pain Specialists approximately 50% of the time which will allow for the placement of a suitable specialist craft group that is complementary to the needs of the Hunter Pain surgeons. Consulting space will be provided for the complementary surgical disciplines on Level 3.

1.4.6 Hours of operation

Hours of operation will be as follows:

Day	Hours	Deliveries and Waste Collection
Monday – Friday 8am – 6pm		7am-8am weekdays, as arranged
Weekends	Closed	with private contractor.

2.0 The provisions of any environmental planning instruments

2.1 Environmental Planning and Assessment Act 1979 (the Act)

2.1.1 Section 4.46 'Integrated Development'

Legislation	Section	Applicable
Fisheries Management Act 1994	s144	No
	s201	
	s205	
	s219	
Heritage Act 1977	s58	No
Coal Mine Subsidence Compensation Act 2017	s22	No
National Parks & Wildlife Act 1974	s90	No
Protection of the Environmental Operations	ss43 (a), 47, 55, ss43 (b),	No
Act 1997	48, 55, ss43(d), 55,122	
Roads Act 1993	s138	No
Rural Fires Act 1997	s100B	No

2.2 Road Act 1993

Under Section 138 of the Road Act, consent is required from the appropriate roads authority to:

- (a) erect a structure or carry out a work in, on or over a public road, or
- (b) dig up or disturb the surface of a public road, or
- (c) remove or interfere with a structure, work or tree on a public road, or
- (d) pump water into a public road from any land adjoining the road, or
- (e) connect a road (whether public or private) to a classified road,

Therefore, an approval under Section 138 will be required once a consent has been granted. This can be addressed at the Construction Certificate stage.

2.3 State Environmental Planning Policies (SEPPs)

2.3.1 State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)

Division 5 Subdivision 2 Clause 45

Pursuant to Clause 45, earthworks will be required within 2 metres of existing power poles and within 5 metres of exposed overhead power lines, and Ausgrid will need to be consulted as part of the application process.

A new kiosk sub-station will be installed adjacent to the current kiosk to ensure adequate electricity provision for the new building.

Division 10 Health service facilities

Health Service Facilities are permissible with consent in the R4 zone, a prescribed zone, pursuant to Clause 57. They are also permissible with consent pursuant to Newcastle Local Environmental Plan 2012, as discussed in Section 2.4 of this report.

Clause 101 Development with frontage to classified road

The site does not have a frontage to, or access from, a classified road.

Clause 104 Traffic generating development

The site does not have a frontage to, or access from, a classified road. The site is not within 90 metres of a classified road. As such, it is not classified as a traffic generating development and the application will not need to be considered by Transport for NSW (TfNSW).

2.3.2 State Environmental Planning Policy (State and Regional Development) 2011

Part 4 Regionally Significant Development

Pursuant to Schedule 7 Clause 5, the proposal has a Capital Investment Value of \$12.564M and is therefore classified as Regionally Significant Development.

2.3.3 State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 (Vegetation SEPP)

The Vegetation SEPP applies to this site. The aims of this SEPP are to protect biodiversity values of trees and other vegetation in non-rural areas and preserve the amenity of non-rural areas through the preservation of trees and other vegetation.

The site is devoid of native vegetation and there is no further assessment required.

2.3.4 State Environmental Planning Policy No. 55 - Remediation of Land (SEPP 55)

The site has historically been used as an at-grade carpark (fully sealed bitumen surface). A Geotechnical and Preliminary Waste Classification Investigation was carried out by Douglas Partners in September 2021. Douglas Partners carried out a physical assessment of the site, bore holes required for geotechnical soil testing, and a desktop review of the land use history of the site. No obvious off site and upslope potential sources of contamination were identified during the assessment.

The site was used for residential purposes until circa 2007, when the current at-grade asphalt carpark was constructed.

A review of the NSW EPA public registers indicates the following:

- The site is not on the NSW EPA Contaminated Land Management Register
- The site is not on the list of contaminated sites notified to NSW EPA
- The site is not on the Protection of the Environment Operations Act list for licences, notices etc.

Douglas Partners makes the following comments in relation to potential contaminants within the site:

Existing Filling

The concentrations returned (refer Table 6 to Table 8) are generally below general solid waste criteria (CT1 values) with the exception of Lead and Benzo(a)pyrene, which were exceeded in eleven of the twenty-six (26) samples. Toxicity characteristic leachable procedure (TCLP) was undertaken on these samples which returned total and leachable concentrations below the maximum permissible concentrations for GSW (i.e. SCC1 and TCLP1). It is noted that insufficient sample was left after primary testing of the sample from Bore 3008 at 0.12 m depth. The primary testing slightly exceeded the criteria for Benzo(a)pyrene returning a concentration of 0.87 mg/kg against a criteria of 0.8 mg/kg. It is noted, however, that all other samples of similar material returned non-detectable leachable concentration.

Preliminary testing on fill indicated the absence of hazardous building materials (HBM) including asbestos within the samples tested.

Therefore, the filling and natural soils tested would be classified as General Solid Waste (non-putrescible) for disposal in landfill.

It is noted, however, that the site has been subject to demolition of former structures and demolition waste was identified in the some of the pits, which are indicators of potential HBM including asbestos. There is therefore a risk that HBM will be encountered on site in untested areas. Asbestos wastes (if identified) would be classified as 'Special Waste – asbestos waste' in addition to the chemical classification (ie GSW).

A number of samples tested exceeded the adopted ENM guidelines for concentrations of lead, zinc, benzo(a)pyrene and polycyclic aromatic hydrocarbons (PAH). The gravel fill in Bore 3004 also recorded a pH outside of the allowable range for ENM. It is noted that variable fill was encountered on the site, including granular pavement material, sandy silt and silty clay with the fill containing variable anthropogenics including slag cobbles, glass, ceramic, bricks, coal, coal chitter and metal. Samples of each of these fill types exceeded the adopted ENM criteria. It is noted that while the samples tested contained less than the maximum and average criteria of Type I foreign materials as set out in the ENM order, the ENM order also requires a total foreign material concentration of less than 2%. A number of samples exceeded this total concentration.

Fill materials containing coal, coal chitter and carbonaceous materials would also be considered as containing sulfidic ores which would also preclude the classification of these materials as ENM.

Therefore, the fill material is not considered suitable for classification as ENM.

It may be possible for parts of the fill, which contain less anthropogenics and no coal/carbonaceous material, such as the clay fill, to be segregated and further tested during construction, which may result in some of the existing fill being suitable for classification as ENM.

It is noted that the asphalt is pre-classified as General Solid Waste in accordance with (NSW EPA, 2014). It could potentially be re-used for beneficial off site use subject to assessment

against the Reclaimed Pavement Asphalt Order 2014, which would require testing for the presence of coal tar and asbestos.

Natural Soils

The soil contamination testing within the natural silty clay soils returned concentrations within the criteria for General Solid Waste as defined in the EPA Waste Classification Guidelines. In the absence of specific guidelines for chemical concentrations for Virgin Excavated Natural Material (VENM), the results of the heavy metal testing were compared to the NSW EPA Excavated Natural Material (ENM) order. All natural soil sample heavy metal results were below the absolute maximum and allowable maximum average concentration values and concentrations of other potential contaminants (ie TRH, BTEX, PAH, OCP, OPP, PCB) were generally below laboratory reporting limits with the exception of trace levels of PAHs detected in natural clay samples 3004/0.7 m and 3008/0.9 m. With the exception of the natural materials containing trace PAHs and any natural materials containing coal or carbonaceous materials the natural soil encountered beneath the fill is likely to be classified as VENM. Natural soil impacted with PAHs or other contaminants (if identified during construction) would be suitable for classification as General Solid Waste for disposal to landfill based on the testing conducted to date.

Based on the results of the investigation, the majority of the natural silty clay soils, described as yellow brown mottled red, grey mottled yellow brown or yellow brown mottled orange would be suitable for a classification of Virgin Excavated Natural Material (VENM) contingent on prior acceptance by the receptor site/relevant authority to receive the material. The VENM materials should not be mixed/cross contaminated with non-VENM materials (e.g. overlying fill or anthropogenic inclusions). During construction an inspection regime should include the following:

- Stripping and segregation of the overlying fill over the excavation area;
- Inspection of the exposed soils by a geo-environmental engineer to assess for the presence of material which may affect the VENM classification;
- Supplementary laboratory testing of the exposed soils to confirm the suitability for VENM, particularly in the vicinity of Pits 3004 and 3008; and
- Regular inspections and testing during construction to ensure that the excavated materials
 are appropriately handled and that material different to those encountered during the
 investigation are assessed, if encountered.

It is noted that if the coal/carbonaceous material is intersected during drilling, such coal spoil would not be suitable for classification as VENM owing to the presence of sulfidic minerals. Therefore, careful segregation of any coal/carbonaceous spoil from the remaining VENM would be required.

Additional assessment will be required in the event that the conditions encountered are different to those found in this assessment, or if anthropogenic inclusions, staining or odours are observed.

It is noted that the conditions set out in the relevant general Resource Recovery Order are designed to minimise the risk of potential harm to human health or the environment, however, they do not guarantee that human health or the environment will not be harmed. The suitability of any exempted material should be confirmed with respect to the particular use proposed (i.e. areas fit for purpose), as stated in the relevant exemptions.

Any groundwater which is encountered at the site during construction should be appropriately assessed prior to disposal in accordance with regulatory requirements.

In summary:

- The existing fill material is classified as General Solid Waste (GSW) and therefore suitable for direct disposal to landfill as GSW;
- The existing fill is not suitable for classification as Excavated Natural Material (ENM);
- The underlying natural silty clay is generally suitable for classification as Virgin Excavated Natural Material (VENM) subject to appropriate stripping, inspection and additional testing.

If any materials are encountered that are different to those sampled and tested or exhibit signs of potential contamination (e.g.: HBM including asbestos), staining or odours) this waste classification does not apply and the advice of a qualified environmental consultant should be sought.

During the excavation of stockpiled materials, it is recommended that an unexpected finds protocol is implemented including appropriate inspections. If any materials are encountered that are different to those sampled and tested or exhibit signs of potential contamination (e.g.: HBM including asbestos, staining or odours) these should be appropriately segregated for further assessment.

2.4 Newcastle Local Environmental Plan 2012 (NLEP)

2.4.1 Zone and Zone Objectives

The subject site is zoned R4 High Density Residential under the NLEP, as shown in Figure 15 below. The objectives of the R4 zone are:

- To provide for the housing needs of the community within a high density residential environment.
- To provide a variety of housing types within a high density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.
- To promote a denser urban form along transport corridors while respecting the residential character of adjoining streets.
- To maximise redevelopment and infill opportunities for high density housing within walking distance of centres.
- To provide for commercial development that contributes to the vitality of the street where provided within a mixed use development.
- To promote a balance of residential accommodation within a mixed use development.

Several of the objectives are not relevant to the land use proposed. Section 4.15(1) of the Environmental Planning and Assessment Act 1979 states, inter alia:

(1) Matters for consideration—general

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application—

(a) the provisions of—

- (i) any environmental planning instrument, and
- (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and
- (iii) any development control plan

Section 4.15 of the Act makes it clear that a consent authority is to take into consideration only matters of relevance to a development the subject of a DA in an environmental planning instrument, draft environmental planning instrument, or development control plan. When considering a development against the objectives of a particular zone, Council must consider whether all of the objectives are applicable to the development, as proposed.

In this instance, as with countless others, there are objectives in the LEP that may apply to the land the subject of the DA but are clearly not relevant to the development the subject of the development application.

The proposal is for a health services facility that will meet the medical needs of the local community in an architecturally designed building that has had very detailed regard to the height, FSR, built form and other planning controls of the LEP and DCP, reflects the desired built form in the Adamstown Renewal Corridor, and has carefully considered the character of, and potential impacts on, the adjoining R3 medium density residential zone to the west.



Figure 15 – Zone extract showing the site within the R4 Zone

Source: ePlanning Spatial Viewer, 2021

2.4.2 Land Use Table

The proposal is for a 'health services facility' incorporating a 'medical centre' on Levels 3 and 4 and a day hospital with associated operating theatre on Level 5. There will be out-patients only (i.e. all patients will have surgery and be discharged within the same day).

A medical centre is defined as a 'premises that are used for the purpose of providing health services (including preventative care, diagnosis, medical or surgical treatment, counselling or alternative therapies) to out-patients only, where such services are principally provided by health care professionals. It may include the ancillary provision of other health services'.

'Health services facilities', including 'medical centres' and 'hospitals', are permissible with consent within the R4 Zone.

2.4.3 Principal Development Standards

The following table provides an assessment of the proposal against other relevant clauses of NLEP, including consideration of Principal Development Standards.

Newcas	Newcastle Local Environmental Plan 2012				
Clause	Provision	Comment			
4.3	Height of buildings	The Height of Building Map identifies a height limit of 20 metres for this site.			
		The building has a maximum height of 18.1m, well below the 20m height limit.			
4.4	Floor space ratio	The Floor Space Ratio Map identifies a maximum FSR of 2:1.			
		The building will have a total gross floor area of 2,971m ² , resulting in a FSR of 1.76:1, which is well below the maximum FSR of 2:1 permitted for this site.			
5.10	Heritage conservation	European			
		The site does not contain any listed items of heritage significance, nor is it located within a heritage conservation area.			
		The site adjoins and is located within close proximity to two locally listed heritage items, as follows:			
		 278 Brunker Road – Item I6 – Adamstown RSL Memorial Hall. 268 Brunker Road – Item I4 – Nag's Head Hotel. 			
		An assessment of the potential impact of the development on these items is contained in the table within Section 4.1 of this report.			
		Aboriginal			

An AHIMS search reveals no Aboriginal sites or places recorded within or near the site. The site does not contain any landscape features that indicate the presence of Aboriginal objects, such as waterfront land or creeklines.

No further assessment or studies required.

5.21 Flood planning

- (2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—
- (a) is compatible with the flood function and behaviour on the land, and
- (b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and
- (c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and
- (d) incorporates appropriate measures to manage risk to life in the event of a flood, and
- (e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
- (3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—
- (a) the impact of the development on projected changes to flood behaviour as a result of climate change,
- (b) the intended design and scale of buildings resulting from the development,
- (c) whether the development incorporates measures to minimise the

Flood Information Certificate (FL2021/00306) was obtained on 28 September 2021. This confirms that the site is not identified as a floodway however small sections of the site along the western boundary are identified as flood storage and the lower section of the site, again along the western boundary, is below the 1% AEP flood level of 11.8m AHD. The site has a Property Hazard Category of P1 and a Life Hazard Category of L4(H3).

Filling of flood storage more than 20% is not permitted. Filling of the site is not proposed.

The minimum floor level for new development is 12.3m AHD and onsite flood refuge is required.

The impact of flooding and amelioration measures are addressed in the table within Section 4.1 of this report.

	Participation of the second	
	risk to life and ensure the safe evacuation	
	of people in the event of a flood, (d) the potential to modify, relocate or	
	remove buildings resulting from	
	development if the surrounding area is	
	impacted by flooding or coastal erosion.	
6.1	Acid sulfate soils	The site is identified as being located on Class
0.1	Acid sulfate solls	5 Acid Sulfate Soils. No further assessment is
		required.
6.2	Earthworks	The proposal involves significant earthworks
0.2	Eurthworks	to remove the current carpark and to create
	Before granting development consent	the new semi-basement carpark level.
	for earthworks, the consent authority	the new seriii basement carpark level.
	must consider the following matters—	A geotechnical assessment of sub-soils, fill
		material, and groundwater has been prepared
	(a) the likely disruption of, or any	by Douglas Partners and accompanies the
	detrimental effect on, existing drainage	application. This addresses all of the matters
	patterns and soil stability in the locality	raised in Clause 6.2.
	of the development,	
	(b) the effect of the proposed	The site does not contain any natural
	development on the likely future use or	watercourses and an AHIMS search did not
	redevelopment of the land,	reveal any potential relics within the site or
	(c) the quality of the fill or the soil to be	within close proximity of the site.
	excavated, or both,	
	(d) the effect of the development on the	The proposed cut will be contained to within
	existing and likely amenity of adjoining	the building envelope and retained by the built
	properties,	form rather than needing to rely on external
	(e) the source of any fill material and the	retaining walls.
	destination of any excavated material,	
	(f) the likelihood of disturbing relics,	Sediment and erosion control measures will be
	(g) the proximity to and potential for	implemented during the demolition and
	adverse impacts on any watercourse,	construction phases of the development.
	drinking water catchment or	
	environmentally sensitive area.	Excavated material will be sorted into
	(h) any appropriate measures proposed	different categories depending on
	to avoid, minimise or mitigate the	classification and disposed of at approved
	impacts of the development.	destinations.
<i>C A</i>	Land in Zono PA High Donoity Posidortial	This clause applies to development on land in
6.4	Land in Zone R4 High Density Residential	This clause applies to development on land in Zone R4 High Density Residential that is
		development for the purposes of a business
		premises, food and drink premises or office
		premises and requires any such development
		to include residential accommodation
		comprising at least 75% of the gross floor area
		of the building.
		of the bullang.
		A health services facility is separately defined
		under NLEP and is not listed in clause 6.4(2) as
		a development type that triggers the need for
		75% residential accommodation.
		. 5,5 . Coldential accommission

3.0 Any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority

There are no current draft or proposed instruments applicable to the proposal.

4.0 The provisions of any development control plans

4.1 Newcastle Development Control Plan 2012 (NDCP)

The following table provides an assessment of the proposed development against relevant sections of NDCP.

Newcastle Devel	Newcastle Development Control Plan 2012						
Clause	Provision	Comment					
Section 3.11 Con	nmunity Services (including health servi	ces facilities)					
3.11.01 Building	Design						
Objectives	Ensure community facilities integrate with the surrounding environment and built form.	Section 1.4.1 of this report and the Site Analysis and Streetscape Analysis prepared by Archadia Projects					
Controls	When designing and siting community facilities consideration is given to, but not limited to: (a) location and use of surrounding buildings (b) views to and from the site (c) access to the site (d) existing vegetation and topography of the site.	accompanying the application deal with building design, planning controls, context and amenity.					
Section 4.01 Floo	, , ,						
4.01.01 Floodways	No building or structure erected, and no land filled by way of the deposition of any material within any area identified as a floodway except for minor alterations to ground levels which do not significantly alter the fundamental flow patterns for:	A Flood Information Certificate (FL2021/00306) was obtained on 28 September 2021. This confirms that the site is not identified as a floodway.					

(a) roads

- (b) parking
- (c) below ground structures
- (d) landscaping.

fences dividing Where across floodways are unavoidable, they are constructed only of open type fencing that does not restrict the flow of flood waters and are resistant to blockage. New development shall be designed to avoid fences in floodways.

4.01.02 Flood storage areas

Not more than 20% of the area of any development site in a flood storage area is filled. The remaining 80% is generally developed allowing for underfloor storage of floodwater by use of suspended floor techniques such as pier and beam construction.

Flood Information Certificate (FL2021/00306) was obtained on 28 September 2021. This confirms that small sections of the site along the western boundary are identified as flood storage.

Where it is proposed to fill development sites, the fill does not impede the flow of ordinary drainage from neighbouring properties, including overland flow.

Suspended concrete floors will be used within the development.

No filling proposed.

No filling of flood storage is proposed.

4.01.03 Management of risk to property

Floor levels of all occupiable rooms of all buildings are not set lower than the FPL.

Basement garages be may acceptable where all potential water entry points are at or above the probable maximum flood (PMF), excepting that vehicular entry points can be at the FPL. In these cases, explicit points of refuge are accessible from the carpark in accordance with the provisions for risk to life set out below.

Flood Information Certificate (FL2021/00306) was obtained on 28 September 2021. This confirms that the lower section of the site along the western boundary is identified below the 1% AEP flood level of 11.8m AHD.

The minimum floor level for new occupiable rooms is 12.3m AHD (FPL) and onsite flood refuge is required.

Electrical fixtures such as power points, light fittings and switches are sited above the FPL unless they are on a separate circuit (with earth leakage protection) to the rest of the building.

The site has a Property Hazard Category of P1 and a Life Hazard Category of L4(H3).

Where parts of the building are proposed below the flood planning level, they are constructed of waterresistant materials.

The lowest pedestrian entry to the building from Level 1 will have a FFL of 11.50m AHD, which is below the FPL; however, on-site refuge can be sought on the higher levels above. All occupiable rooms are above the FPL.

The lowest vehicular entry to the site is at RL 11.50m AHD on Level 1. This is above

Areas where cars, vans and trailers are parked, displayed or stored are not located in areas subject to property hazard of P2 or higher. Containers, bins, hoppers and other large floatable objects also are not stored in these areas. Heavy vehicle parking areas are not located in areas subject to property hazard P3 or higher.

Timber framed, light steel construction, cavity brickwork and other conventional domestic building materials are generally not suitable forms of construction where the property hazard is P4 or higher. Where property hazard is P4, the structure is certified by a practising structural engineer to withstand the hydraulic loads (including debris) induced by the flood waters.

Property hazards of P5 are generally unsuitable for any type of building construction and building is discouraged from these areas. Where building is necessary, the structure is certified by a practising structural engineer to withstand the hydraulic loads (including debris) induced by the flood waters.

4.01.04 Management of potential risk to life Risk to life category L5

Risk to life hazards of L5 are generally unsuitable for any type of building construction and building discouraged from these areas. Reliable safe escape to high ground is likely not possible and normal building construction would likely suffer structural failure from the force of floodwaters, so that any people seeking refuge in the building would likely perish. Where building is necessary, the structure is certified by a practising structural engineer to withstand the hydraulic loads (including debris) induced by the flood waters.

Islands

the 1% AEP flood level of 11.80m AHD. The parking area is located with a P1 property hazard category. No heavy vehicle parking proposed.

All parts of the building below 12.3m AHD will be flood compatible and water resistant. The generator room is proposed to be set at 11.80m AHD, all electrical fixtures within the room shall be above the FPL.

All construction of the building on Level 1 below the PMF level will be constructed of water resistant materials that can withstand hydraulic loads (masonry blockwork, concrete etc). Full details will be submitted with an application for a Construction Certificate.

Not applicable.

The site has a Property Hazard Category of P1 and a Life Hazard Category of L4(H3). On-site refuge is required.

Level 2 and all levels above this are located above the PMF level. All construction of the building below the PMF level will be constructed of water-resistant materials that can withstand hydraulic loads (masonry blockwork, concrete etc) and will be certified by a practising structural engineer. Full details will be submitted with an application for a Construction Certificate.

In addition to this access from the building to flood free ground on Victoria Street can sought from Level 2.

The formation of islands in the floodplain during a flood is a potentially dangerous situation, especially when floods larger than the FPL totally inundate the island for an extended period. Development of such land is considered with great care. On-site refuge On-site refuge is to be provided for all development where the life hazard category is L4 unless the proposed development is less than 40m from the perimeter of the PMF extent and the higher ground is accessible Standards for on-site refuge Where on-site refuge is required for a development, it should comply with the following minimum standards: (a) The minimum on-site refuge level is the level of the PMF. On-site refuges are designed to cater for the number of people reasonably expected on the development site and are provided with emergency lighting. (b) On-site refuges are of a construction type able to withstand the effects of flooding. Design certification by a practising structural engineer that the building is able to withstand the hydraulic loading due to flooding (at the PMF) **Section 4.02 Bushfire Protection General Control** Various controls The site is not identified as being bush fire prone land. **Section 4.03 Mine Subsidence** General Control The site is not within a Proclaimed Mine All developments located in areas affected by mine subsidence must Subsidence District. have approval from the Mine Subsidence **Board** prior to lodgement with The City of Newcastle. Section 4.04 Safety and Security 4.04.01 Crime Prevention through A Crime Risk Assessment has been

prepared

application.

and

accompanies

the

Principles

Environmental

Design

(CPTED)

	Developments incorporate the	
	CPTED Principles into the design of	
	the proposed development.	
4.04.02	General Principles	
	A Crime Risk Assessment may be	
	required for developments which	
	are: major developments; involve an	
	increased risk to public safety;	
	and/or include a component to	
4.04.03	serve, sell or supply alcohol.	
4.04.03	Principles for specific uses - Carparks (or developments including carparks)	
Section 4.05 Socia		
General	Development applications comply	The social impacts of the proposed
Control	with the requirements of the 'Social	development are outlined in Section 5.2
	Impact Assessment Policy for	of this report.
	Development Applications, 1999',	·
	The City of Newcastle.	
Section 5.01 Soil		
5.01.01 Erosion	Various controls	Sediment and erosion control measures
prevention	Mariana aantuula	will be implemented during the
5.01.02 Sediment	Various controls	demolition and construction phases of the development, as outlined in the
control		Sediment and Erosion Control Plan
Control		prepared by Northrop Engineers and
		accompanying the application.
5.01.03 Cut and	A site plan prepared by a registered	Earthworks are proposed to
fill	surveyor is submitted demonstrating	accommodate the semi-basement
	the existing levels of the property	carpark level. Geotechnical and civil
	and proposed levels of the landfill.	engineering reports and plans have been
	Davidonment minimizes the amount	prepared by Douglas Partners and
	Development minimises the amount of cut and fill required by:	Northrop Engineers and accompany the application.
	or cut and mirrequired by.	application.
	(a) maximum cut of 3m within the	The proposed cut will be contained to
	building envelope	within the building envelope and
		retained by the built form rather than
		needing to rely on external retaining
		walls. The basement level will be cut in a
		maximum of 3 metres, as required, apart
		from the lift well, which will need to be
		excavated to a level of approximately 5.5
		metres for the lifts to be able to service the Level 1 carpark. This small area below
		the 3-metre requirement is considered to
		be very minor, will have no impact
		external to the site, and is appropriate in
		this instance.

No cut or fill is to take place within easements.

Stormwater or surface water runoff is not to be redirected or concentrated onto adjoining properties so as to cause a nuisance.

No cut or fill is proposed within the existing easements.

Roof water will be captured and transferred to an on-site detention tank for reuse within the building's toilets. Overflows will be piped to the drainage system in Date Street.

Full details are outlined on the Stormwater Management Plan prepared by Northrop Engineers and accompanying the application.

Buildings are designed to relate to the existing topography with minimal excavation or fill and with the height of foundations kept to a minimum. The design of the building, including the stepping of the building up the slope of the land and provision of car park entries and exits at 2 street frontages, is considered to represent the best outcome for this site and results in the least amount of necessary cut and fill.

Section 5.02 Land Contamination

See Section 2.3.4 of this report for consideration of land contamination.

Section 5.03 Vegetation Management

5.03.05

Various controls

The site is devoid of vegetation and there are no existing public trees adjoining the site.

5.04 Aboriginal Heritage

See the table within Section 2.4.3 of this report.

5.05 Heritage Items

5.05.06

New development and alterations and additions in the vicinity of heritage items respects and enhances the setting and significance of the heritage item with regard to the following elements:

- (a) building envelope
- (b) proportions
- (c) setbacks
- (d) material and colours.

Development in the vicinity of heritage items respect the heritage item by:

- (a) retaining adequate space around the heritage item to enable its interpretation
- (b) conserving significant landscaping including horticultural features, trees, and outbuildings

The site adjoins and is located within close proximity of two locally listed heritage items, as follows:

- 278 Brunker Road Item I6 Adamstown RSL Memorial Hall.
- 268 Brunker Road Item I4 Nag's Head Hotel.

Adamstown RSL Memorial Hall

The site originally contained a wooden building built in the 1800s and known as the Adamstown Mechanic's Institute. This building was removed in 1928 as part of the widening of Union Street (now known as Brunker Road) and a new brick building was erected on the site in the same year. The Adamstown RSL took possession of the new building in May 1942. Source: Adamstown Council | A bit of this, a bit of that (lachlanwetherall.com)

(c) enabling archaeological sites to be conserved in accordance with relevant approvals

(d) retaining significant views and lines of sight to the heritage item.

The Heritage Register indicates that the building's listing is based on the following:

The item is historically significant at the local level and representative of the civic history of Adamstown. The building represents a place of social importance in the erection of memorial halls in honour of those who served in the First World War. The building has been sensitively adapted for use as a veterinary surgery. The front façade has been carefully restored under the guidance of a local heritage architect and this adds to its heritage significance and its contribution to the streetscape.



Photo of RSL Memorial Hall in 1996 Source: Newcastle City Wide Heritage Study 1996



Photo of RSL Memorial Hall in 2017, adaptively reused for a veterinary centre

Source: Adamstown Council | A bit of this, a bit of that (lachlanwetherall.com)

As part of the change of use to a veterinary centre, modernisation of the rear of the building took place and a new concrete carpark constructed, as shown in Figure 7. It is clear from the listing and from the approval for the veterinary centre that the heritage significance of the building was the Brunker Road façade and its social importance to those that served in the first world war and their families.

It is clear that the rear of the building was not considered as important as the original fabric has been significantly altered, with

modern fenestration including glass bricks, window coverings, rendered and painted walls, and signage.

The proposed building will not be visible from the footpath in front of the RSL Memorial Hall and will therefore not impact on the front façade, interpretation, or social significance of this listed item. It will not impact on view lines to the front façade of the RSL Memorial Hall and does not change the setting of the front of the building.

Nag's Head Hotel

The Adamstown Hotel, as it was formerly known, is the suburb's oldest pub, first licensed back in September 1874 to Edward Reay, who, according to local historian Ed Tonks, reportedly paid eight pounds for the corner block.

"The character of the present building dates back to 1928 and the name change to Nag's Head occurred in 1989," Mr Tonks said. Source: Historic links paving way | Newcastle Herald

The Heritage Register indicates that the building's listing is based on the following:

Illustrates form and style of hotel development in the early 20th century. Located on prominent corner site.



Photo of Nags Head Hotel (to the right of photo) in 1950

Source: Adamstown Council | A bit of this, a bit of that (lachlanwetherall.com)



Photo of Nags Head Hotel in 1992

Source: Nag's Head Hotel in Adamstown (Newcastle) < New South Wales | Gday Pubs - Enjoy our Great Australian Pubs



Photo of Nags Head Hotel in 2020 Source: GoogleMaps, 2021

The hotel has been modernised over its life, with fresh paint and additions to the rear of the building to create additional dining area for the restaurant. The rear wall of the hotel is predominantly blank, rendered and painted brick with services and 4 small windows only (see Figure 12).

It is clear from the listing that the prominent corner location of the hotel was of importance, as was the form and style.

The rear façade of the hotel, adjacent to an at-grade carpark and the closes element to the subject site is not considered as important as the facades facing Brunker Road and Victoria Street.

These important historical elements of the hotel, its prominent corner location, its form and its style, will not be negatively impacted upon by the proposed building, which will not block views, interpretation, or enjoyment of the hotel from Brunker Road or Victoria Street. It will not impact on view lines to the front and side façades

of the hotel and does not change the setting of the hotel.

6.08 Adamstown Renewal Corridor

Precinct 2 - Glebe Road (Mixed Use Focus) Character Statement

Precinct 2 transverses Glebe Road from Wood Street (near Adamstown Station) to the west and Bryant Street to the east and also partly engulfs the Adamstown commercial centre. The amenity of Glebe Road is affected by the relatively high volumes of through traffic. This precinct will support Adamstown commercial centre with opportunities for mixed use development, consisting of commercial uses and services along Brunker and Glebe Roads. Increased residential densities are proposed for the remainder of the precinct and at upper levels. This precinct has a target of providing three hundred (300) additional dwellings. The eastern extremities of this precinct, adjoining the Adamstown playing fields, will continue to provide neighbourhood level retail and services.

6.08.01 Land use

Provide a range of compatible uses including higher density residential and employment including commercial, wholesaling, and retailing (other than groceries, clothing, newsagencies, or chemists).

The proposed land use is considered to be compatible with higher density residential development by providing much needed specialist medical services to the local population, supporting the role of the adjoining Adamstown Town Centre, and providing local employment opportunities within close proximity of excellent public transport modes and routes.

Provide ground floor retail uses in neighbourhood centre and local centre areas, with other commercial or residential uses located in upper levels. Not applicable.

Activate street edge at ground level through provision of retail or commercial uses in mixed use and mixed use (residential focus) areas.

Due to the specialised nature of the proposed land use, and the large number of carparking spaces required, ground floor activation along both street frontages is not possible; however, the building has been designed with a large number of windows and openings facing the Victoria Street frontage for passive surveillance of the public domain and carpark entries and exits.

Less openings are provided at lower levels along Date Street to alleviate the impression of being overlooked by dwellings on the western side of Date Street. The lower levels are still well articulated and provide surveillance of the street with the use of perforated steel screening along the Date Street frontage of the two carparking levels.

Where residential dwellings are located on the ground floor of mixed use or mixed use (residential focus)

Not applicable.

areas, individual pedestrian entrances are provided to such dwellings. 6.08.02 Building form Refer to the Newcastle Local Environmental Plan 2012 for floor space ratio controls. Height Refer to the Newcastle Local Environmental Plan 2012 for building height controls.
6.08.02 Building form Refer to the Newcastle Local Environmental Plan 2012 for floor space ratio controls. Height Refer to the Newcastle Local Environmental Plan 2012 for floor space ratio controls. Refer to the Newcastle Local Environmental Plan 2012 for building
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Refer to the Newcastle Local Environmental Plan 2012 for building
Refer to the Newcastle Local Environmental Plan 2012 for building
Environmental Plan 2012 for building
height controls.
Buildings heights within the renewal Fronting Date Street, the height of the
corridor, where adjoining areas proposed building is lower (7.1m) than the
outside the corridor, should not be maximum height (14m) of the R3 zoned
more than 4m above the envisaged land to the west, on the western side o
maximum height of these adjoining Date Street.
areas.
Building Setbacks – Ground Floor The proposed building will have a zero
setback to both Date Street and Victoria
Zero front setback to street boundary Street, as envisaged in Map 2 (see extrac
for ground floor non-residential uses. below and Figure 16 below this table).
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See 1
Upper Building Setbacks
Opper building Setbacks
1. Upper building setbacks are Figures 17 and 18 below this table show
consistent with those in Figure 1 how the proposed building achieves the
(see Figure 14 below this table). building setback controls from Figure 1. A
Figure 17 shows, the building is very
2. Upper level setbacks are compliant at the Date Stree
encouraged to be used for frontage/interface with R3 residentia
provision of open space and zone so as to reduce amenity (overlooking
landscaping, provided privacy of and overshadowing) impacts.
adjoining uses are protected.

3. Emphasise street corners by permitting the maximum permissible height along each front setback for a maximum length of 12m from the corner.

The loss of built form in this location has been moved to the northern and eastern sides of the building, where there is a more commercial context and limited impacts are anticipated (no overshadowing and little potential of overlooking of the 3 storey residential buildings that have almost blank elevations facing Victoria Street and the subject site. This component of the building is somewhat out of the prescribed upper setback controls (see Figure 18); however, this is considered to be an appropriate and sensitive response to the site's topography and transition to a lower density residential zone to the west.

Level 4 will have a terrace that will provide staff amenities and opportunities for landscaping (climbing 'vitus' over pergola).

Building Design Elements

- Development incorporates elements that respond to facade features (identified in Map 2) of heritage and character buildings.
- Building facades incorporate a range of balconies and fenestration for visual interest and improved amenity.
- Building facades at street level include a combination of openings and glazing to encourage an active street edge.
- Ground level facades incorporate awnings or colonnades to encourage pedestrian activity and allow 'spilling' of indoor activities out to the street.
- 5. Entry porches, window awnings, and verandas are provided to contribute to facade articulation and streetscape interest.
- Prominent built form statements are used to emphasise street corners but not detract from any adjoining heritage items.

See comments about heritage previously in this table. The building provides an attractive, modern design commensurate with adjoining and surrounding buildings.

Achieved, with varied fenestration on both street frontages, upper level terraces and pergola, green walls and climbing plants to soften the facades and provide interest.

The slope of the site, the specialised nature of the proposed building, and the need for a large number of parking spaces have dictated the design in this instance. The pedestrian forecourt on Victoria Street provides activation and pedestrian activity at the street. The Date Street façade is provided with a green wall at the first two levels to soften the development and provide a buffer to residential development on the western side of the street. Activation in this location would not be supported by residents.

The corner of Victoria and Date Streets is not a prominent corner and it is proposed to reduce the built form here with the planting of a large growing tree.

- 7. Utilise potential open space on upper levels by including roof gardens and terraces.
- 8. The selection of materials used for new development considers and respects the character of existing buildings in the surrounding streetscape.

Level 4 will have a terrace that will provide staff amenities and opportunities for landscaping (climbing 'vitus' over pergola).

The building has been designed to step up the slope of the site, thereby reducing the bulk and scale of the building at the interface with the medium density residentially zoned land on the western side of Date Street, and then increasing towards the maximum permissible height limit of 20 metres at the top (eastern end) of the site. The primary bulk and height of the building is contained in the eastern portion of the site facing the B2 zoned land immediately to the east of the site.

A mixture of materials has been used in the design of the building, with a large number of windows and openings facing the Victoria Street frontage for passive surveillance of the public domain and carpark entries and exits. Less openings are provided at lower levels along Date Street to alleviate the impression of being overlooked by residences on the western side of Date Street. The lower levels are still well articulated and provide surveillance of the street with the use of perforated steel and louvres along the Date Street frontage of the two carparking levels. A greater number of openings are provided at Level 4, along with a shade structure to provide articulation as well as amenity for staff of the medical centre at that level. The car park levels will be enclosed to reduce their visual dominance to reduce potential impacts associated with noise and headlights.

6.08.03 Public Domain

Traffic and Transport

 Vehicle access is not provided directly to Brunker or Glebe Road but is off side streets and rear laneways, except where no other options for access exist, as identified on Map 3: Vehicle Access. Vehicle entries/exits are split between Date Street and Victoria Street so as to reduce the traffic volumes concentrated on Date Street and thereby reduce the impact of traffic generation on the residences on the western side of Date Street.

Staff parking will be allocated to the lowest carpark level with access/egress via Date

Street. This will reduce vehicle movements in Date Street and ensure the least impact on amenity to adjoining residential development as these vehicles will likely be on site a majority of the day.

Visitor parking will be allocated to the Level 2 carpark, where there is public parking opposite and little opportunity for amenity impacts resulting from headlight glare or noise.

Existing laneways and right-ofways are retained for access by new and existing development. The existing Right of Carriageway will remain undeveloped and unencumbered.

3. New public laneways are provided as shown on Map 3 and dedicated to Council.

Not applicable.

4. Where negotiated prior to determination of a development proposal, such laneways may be incorporated into the development or allow development of their airspace but only where this allows for unrestricted public access.

Not applicable.

5. Vehicle entrances do not dominate the streetscape and are recessed from building facades.

The two vehicle access/exist points do not dominate either street frontage.

6. At-grade (ground level) car parking is only provided where:(a) it is set back behind other uses that provide activation to the street edge

Not applicable.

- (b) it is under cover and integrated into the built form and covered by upper levels of development or upper level open space/landscaping provision
- (c) ceiling heights and floor levels allow for future adaption to other uses
- (d) it is not within building setbacks
- (e) it is not impeding an ability to meet minimum on site landscape requirements.

7. Above-ground car parking facilities are located to the rear of

Achieved.

development along Brunker and Glebe Roads and appropriately screened from any street frontages by use of built form, architectural screens or landscaping.

- 8. Driveways directly accessing Brunker or Glebe Roads, where necessary, have a maximum width of 3m per direction and contain a centre refuge where allowing two-way access. The design also minimises queuing across footpath.
- 9. New development enhances safety and amenity of bus stops by encouraging adjoining active uses, passive surveillance, and weather protection.
- 10. Car parking is provided in accordance with Section 7.03 Traffic, Parking and Access.

Not applicable.

Not applicable.

See Section 7.03 assessment later in this table.

Pedestrian Amenity

- New and improved pedestrian links provided as shown on Map 4: Pedestrian access.
- 2. Pedestrian-only links through street blocks are along the most direct route, preferably straight, well lit and offer passive surveillance from surrounding uses

Not applicable to the subject site.

Open Space and Landscaping

- Landscaping is provided in accordance with Section 3.03.01 D - Landscaped Area.
- 2. Provides lighting to front setback to ensure well lit building entries and landscaped areas.
- 3. Landscape/Communal Open Space requirements for mixed use development and non-residential development is assessed on its merits, having respect for the character of the existing streetscape and that of adjoining land.
- 4. On-site open space requirements may be achieved

A set of landscape plans has been Conus prepared by Landscape Architecture and accompany the application. While there little opportunity for deep soil planting, the landscape design focuses on providing a softening of the hard edges of the building, with the provision of a two storey high green wall along the Date Street frontage, a climbing plant over the Level 4 pergola, and raised garden beds with native species of trees and smaller plants.

- on upper levels and rooftops of development.
- 5. Soft landscaping (plantings) on upper levels and roof tops through use of roof and wall gardens and the like is encouraged and is calculated as part of the landscape requirements of the development.
- Waste management facilities are appropriately screened and/or located where not visible from the streetscape.
- 7. Development fronting Brunker Road that requires four or more wheelie bins are required to use a waste removal contractor rather than Council's kerbside service.
- 13. Provide landscaped setback to all property boundaries adjoining the existing walkway between Brunker Road and Date Street, along the southern boundary of Adamstown RSL and 57 Date Street, Adamstown, with passive surveillance provided from adjoining development.
- 14. Development along Date Street is setback a minimum of 4.5m for non residential uses to enable embellishment of the footpath and provision of street trees.
- 15. Where residential uses are provided at ground floor along Date Street, provide a setback of 8m to the edge of balconies (or 10m to building facade) to enable a sufficient landscape buffer and individual front gardens per dwelling
- 16. Redevelopment of the existing open air RSL car park to provide all onsite car parking at lower levels, whereas open space and landscaping should be provided at upper level setbacks and roof tops as shown in Figure 5.

Bin Room is internal and not visible from the streets.

Not applicable.

Not applicable.

This control is contradictory to the previous control which encourages a zero setback to Date Street. Notwithstanding, 2 large, native trees will be planted in raised beds along this frontage, together with a two storey green wall to soften the carpark levels facing Date Street.

Not applicable.

Achieved, with the lower 2 levels dedicated to parking, as recommended. Level 4 will have a terrace that will provide staff amenities and opportunities for landscaping (climbing 'vitus' over pergola).

Section 7.02 Landscape, Open Space and Visual Amenity

7.02.01	Categories of Development Category 3 - large scale development or development on prominent or ecologically sensitive sites with a high degree of visual significance and environmental impact.	The development is considered a Category 3 development. A Landscape Plan has been prepared by Conus Landscape Architecture and accompanies the application.
7.02.02	General Controls	
	affic Parking and Access	
7.03.01	Traffic studies and plans Parking provision	The application is accompanied by Traffic and Parking Assessment prepared by Intersect Traffic.
7.03.04	Design and layout of parking and access	Traffic Generation
		This assessment shows that even with the additional development traffic from both the proposed day hospital & specialist centre, the proposed residential development south of the site, as well as background traffic growth, the local and state road network will remain below the two-way mid-block capacity of the network through to and beyond 2031. It is also noted that both Date Street and Victoria Street remain below the TfNSW recommended environmental capacity of a local collector street, being 500 vtph, ensuring acceptable residential amenity remains in these streets post development.
		It is therefore concluded that subject to satisfactory intersection performance the development will not adversely impact on the local and state road network.
		Access Design
		As a day hospital & specialist centre the on-site car park for this development will be accessed via two new median separated entry / exit access crossings and driveways. The Victoria Street access will be used for access to the car parking for visitors on level 1 and the Date Street access for staff car parking on ground level.
		In accordance with the requirements of Australian Standards AS 2890.1-2004

Parking Facilities – Off-street car parking whereby the access to the development is providing access to a user class 3 (medical centres) car parking facility of between 25 and 100 car spaces fronting a local road the access is required to be a category 2 access (Table 3.1 of AS 2890.1-2004).

Table 3.2 of AS 2890.1-2004 specifies a category 2 access facility as combined entry and exit 6.0 to 9.0 metres wide, or if separated, both entry and exit widths should be 3.0 metres minimum. As each of the accesses provide entry and exit lanes 3 metres wide and are separated by an island, the access facility complies with the requirements of AS2890.1-2004.

Suitable pedestrian and vehicular sight lines from the access as required by AS2890.1-2004 has been achieved with the provision of two way accesses to the car park.

A review of the plans indicates that by scaling the parking layout also complies with the requirements of Australian Standard AS2890.1-2004 Parking Facilities – Part 1 - Off-street car parking facilities in regard to the size of parking modules and circulating aisles.

The car park layout provides excellent circulation ensuring convenient manoeuvrability through the site and forward entry and exit from the site.

Overall, it is concluded that the proposed access arrangements are satisfactory and would comply with the requirements of Australian Standards AS 2890.1-2004 Parking Facilities – Off-street car parking.

Newcastle Council officers have frequently raised the issue of the carriageway width in Date Street during preliminary discussions. A 6-metre carriageway whilst narrow is not prohibited for a local street and does allow two-way traffic flow if no on-street car parking is provided. It is noted that on-street car parking on both

sides of the road along the Date Street frontage of the site has already been prohibited thereby guaranteeing sufficient carriageway width for traffic volumes up to 1200 vtph. Therefore, no nexus exists for any further widening of the carriageway in Date Street as a result of this development, particularly as post development traffic flows in Date Street will be a maximum of only 375 vtph in 2031.

Servicing

Servicing of the site will be via small courier vans for supplies and medium rigid vehicles for waste collection. A service bay is provided on Level 1 for normal courier van deliveries while a bin room is provided on Level 2 which allows bins to be moved to the kerb on Brunker Street for kerbside collection by Council or private contractor prior to 8 am once a week. Service vehicles will be able to enter and exit the site in a forward direction.

Servicing will be infrequent and occur outside peak parking demand periods for the development ensuring impact on and inconvenience to visitors is minimised.

Pedestrian facilities

The proposed development will generate additional pedestrian traffic as visitors seek to utilise the services provided not only from the on-site car parking but from nearby bus stops, car parks and shopping centres. A suitable concrete footpath network already exists along Glebe Road, Brunker Road, Victoria Street and Date Street. Pedestrian crossing facilities are available at the signalised traffic signals and via a pedestrian crossing of Brunker Street near Victoria Street. It is concluded that no nexus exists for additional pedestrian facilities.

Parking Numbers

A full assessment of parking demand and supply is provided in the Intersect Traffic Report. In summary:

The total on-site car parking required by the DCP for the development is calculate as follows;

- On-site car parking = 8 + 40 + 31 = 79 spaces;
- On-site bicycle parking = 2 + 4 + 5 = 11 spaces, (6 - Class 2 and 5 - Class 3); and
- Motorcycle parking = 1 + 2 + 2 = 5 spaces.

It is noted the current plans show a total of 76 on-site car spaces, 14 bicycle spaces and 8 motorcycle spaces representing a 3 space car parking deficiency as well as an excess of 3 bicycle spaces and 3 motorcycle spaces.

Justification for 3 space deficiency

In justifying the car parking deficiency, the key points that need to be considered are;

- 1. The car parking deficiency is only minor being only 3 spaces.
- The excess in bicycle parking and motorcycle parking within the development is sufficient to cover the minor car parking deficiency within the development.
- 3. The excellent accessibility of the site to public transport; and
- 4. The location of the site adjacent to or within the Adamstown Renewal Corridor which includes a significant retail and commercial centre adjacent to the site.
- 5. The car parking deficiency is less than 5 car parking spaces therefore is considered minor and within the limits generally accepted by Council as being acceptable subject to justification.
- 6. The development encourages alternate transport mode trip making by providing additional bicycle and motorcycle parking and end of trip facilities within the development.

7. The site has excellent accessibility to public transport with bus services running past the site and heavy rail connection within convenient walking distance of the site. Further the site is within easy walking distance of a major residential area within inner Newcastle all of which would result in a higher percentage of visitors utilising alternative transport modes in making trips to and from the centre. 8. Similarly being adjacent to a retail and commercial area it is likely that some visitors would undertake multipurpose trips when attending the centre and could park in other on and off-street car parks provided for the other destinations. This argument is similar to the argument that Council adopts in requiring a 1 space per 60m² parking requirement in the Newcastle City Centre area. Conclusion Overall it is concluded that sufficient and suitable on-site parking and servicing facilities are provided within the development and that the internal car parking and manoeuvring areas proposed for the development are considered satisfactory. 7.06 Stormwater 7.06.01application is accompanied Various controls 7.06.2 Stormwater Management Plan prepared by Northrop Engineers. An on-site detention tank with 37m³ capacity is proposed to slow water leaving the site. A gross pollutant trap and ecoceptor will be installed to ensure pollutants are captured before stormwater leaves the site via a new connection point the existing kerb inlet pit in Date Street. 7.07 Water Efficiency 7.07.01 Water efficiency – various controls The development will be provided with minimum WELS 3.5 Star Water Rating and maximum 6L dual flush toilet cisterns.

7.08 Waste Management

The application is accompanied by a Waste Management plan prepared by Archadia Projects.

This details demolition, construction, and operational waste.

Operational

A dedicated waste storage room (identified as 'Bin Room' on the plans) is provided on Level 2 and has direct vehicular access via a roller door to the driveway along the eastern boundary. This room has sufficient capacity to accommodate 2 x 1.5m³ waste trolley bins; one for putrescible waste and one for recyclable waste. It will be provided with a hose and drainage plumbed into the sewer.

Cleaners will transport waste from the tenancies to the Bin Room using the lift and the trolley bins will be collected on an as-needs routine basis by commercial contractors from the laneway. Typically, this will be outside of business hours (as is done for the Stage 1 component of the development).

The Bin Room will also have 2 x 'secure waste' wheelie bins. Secure waste will be deposited into the secure wheelie bins and disposal will be carried out by private contractors servicing the Bin Room from the laneway, typically, outside of business hours, (as is done for the Stage 1 component of the development).

Medical waste, including sharps and other bio-contaminated waste materials, will be stored in dedicated, sealed containers and collected by specialised medical waste contractors directly from individual tenancies. Parking Space No. 11 on Level 1 will act as a loading zone for these vehicles.

Laundry storage requirements for the Day Hospital will be managed within the Day Hospital Tenancy itself. It has its own clean

		and dirty linen stores which will be serviced by private contractors directly to/from their tenancy. Parking Space No. 11 on Level 1 will act as a loading zone for these vehicles.
7.09 Advertisin	g and Signage	
7.09.01	Building identification signage	Only 1 Building identification sign is proposed on the Victoria Street frontage (at the front of the pedestrian forecourt) and this is exempt pursuant to the provisions of Part 2, Division 2 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

Figure 1: Building envelopes for Precincts 1 and 2

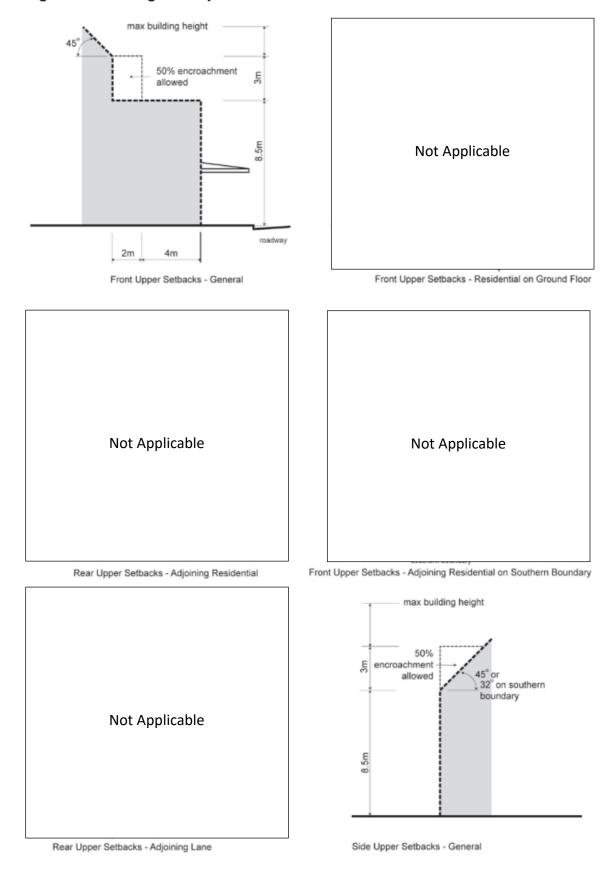


Figure 16 – DCP Building Envelopes for Precinct 2

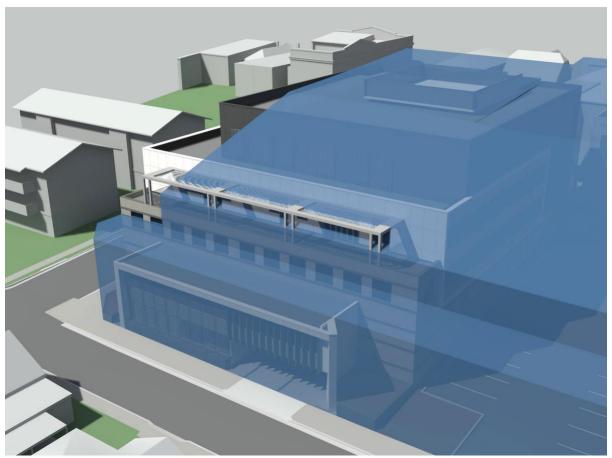


Figure 17 – Proposed built form from Date Street in relation to DCP building envelopes

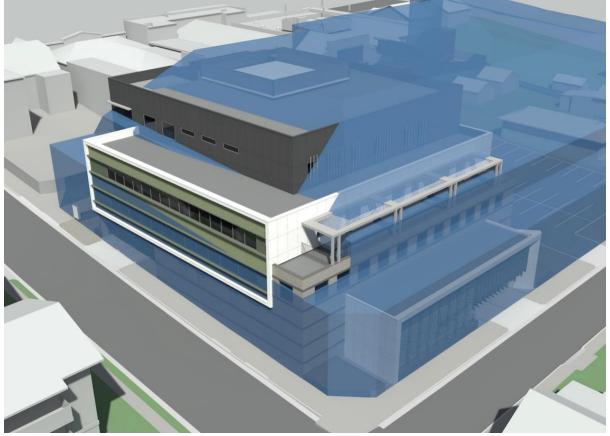


Figure 18 – Proposed built form from Date Street (west) in relation to DCP building envelopes

5.0 The likely impacts of the development, including environmental impacts on both the natural and built environment

5.1 Environmental impacts on both the natural and built environments

5.1.1 Noise

Noise generated by the development (mechanical plant and equipment, together with vehicles in the carpark) has the potential to impact on adjoining residential development. The application is accompanied by a Noise Impact Assessment prepared by Reverb Acoustics.

Long-term background noise level measurements were conducted by Reverb Acoustics for a nearby development in Date Street. Additional attended noise level measurements were conducted at the north west corner of the site during peak day and night periods.

The existing L(A)eq for the receiver areas is dominated by traffic on nearby roads, and commercial/light industrial activity during the day, evening and night. All receiver areas are classified as urban for the subject site.

The Assessment makes several noise control recommendations, as follows:

- Glass installed in window assemblies must comply with AS1288-2006. Materials, construction and installation of all windows are to comply with the requirements of AS2047-2014.
- Roof construction may consist of either reinforced concrete or sisalation or wire mesh laid down on roof trusses/purlins. This is to be completely covered with a 30-40mm foil faced building blanket hard under the roof sheeting (in situations where joists are at centres close enough to avoid excessive sagging of the blanket, the sisalation/wire mesh may be omitted). Close off gaps between purlins and roof sheeting with Unisil Eaves Filler Strips, bituminous compound, or similar.
- Install an impervious ceiling of 1 sheet of taped and set 10mm plasterboard or suspended acoustic tile ceiling. To further assist in low frequency attenuation, all ceiling voids should contain a layer of fibreglass or rockwool insulation. The insulation is to be installed in addition to, not in lieu of the building blanket.
- Masonry construction is acceptable. These high mass building elements will adequately attenuate low frequency noise produced by passing traffic.
- Lightweight cladding (i.e. Shadowclad, Colorbond, or similar) should include internal lining 1 sheet taped and set 13mm plasterboard, and a cavity infill of R1.5/S1.5 fibreglass or polyester insulation. The external face of all lightweight cladding should also be backed with either 6mm fibre cement sheeting (Villaboard, Hardiflex) or 10mm construction plywood.
- An acoustic barrier will be required along the north edge of the roof-top plant deck. The barrier must be equal in height to the highest plant item. Barrier construction is to consist of either Acoustisorb panels (available through Modular Walls) or an outer layer of 12mm fibre cement sheeting, 25mm construction plywood, or similar material, with an absorbent inner surface of perforated metal (minimum 15% open Area) fixed to furring channels, with a cavity infill of S1.5 polyester insulation. If a solid barrier presents ventilation problems, acoustic louvres may be installed.

- If noise emissions from exhaust plant exceed the limits shown in Item 7.4.2, acoustic barriers must be constructed to enclose the fan discharge. Barriers must fully enclose at least three sides towards any residence.
- If noise emissions from individual items of air conditioning plant exceed the limits shown in Item 7.4.2, acoustic barriers must be constructed between the plant and residences.
- The contractor responsible for supplying and installing the plant should be asked to supply
 evidence that installed plant meets specified noise emission limits, or that noise control
 included with the plant is effective in reducing the sound level to the specified limit. Once
 selection and location of plant has been finalised, details should be forwarded to the acoustic
 consultant for approval.
- It should be noted that no penalties have been applied for tonality produced by mechanical plant, therefore the contractor's attention is drawn to the fact that the plant will be near sensitive receivers and it is vitally important that units are free from specifically annoying characteristics (eg. tones, squeaks, pulsations etc). Careful selection of plant and equipment is recommended to ensure quiet and vibration free operation in compliance with the specified noise criteria. Replacement and/or modification will be necessary to all systems causing undue noise or vibration exceeding the specified criteria.
- Once the plant layout and selection has been finalised, details should be forwarded to the
 acoustic consultant for approval. Revision of the plant layout may result in modification to
 acoustic recommendations.
- Parapet walls minimum 1200mm above FGL must be erected at the carpark perimeter where louvred openings are installed to provide natural ventilation.
- To avoid tyre squeal, polished concrete finish is not recommended for floors in carparks.

The Assessment concludes that the site is suitable for the intended purpose, providing the recommendations given in the report are implemented. Conditions on any consent granted regarding acoustic mitigation measures and recommendations will be accepted.

5.1.2 Air Quality

The proposed development does not have the potential for any nuisance in relation to air quality.

5.1.3 Hazards

There are no other known hazards or risks, other than those identified previously within this report, that would preclude approval of the proposal.

5.2 Social and Economic Impacts

The World Health Organisation published a report in 2019 entitled 'Economic and Social Impacts and Benefits of Health Systems', within which it acknowledges the role of health services in any society and economy. It states:

'Health systems have a net contribution to economic and social progress, in the way they contribute to sustainable development and equitable economic growth. They achieve this by:

- increasing employment opportunities and implementing inclusive employment policies
- improving the skills base in regional and local labour markets
- targeting investment in deprived areas, or those with relatively low economic output
- increasing use of micro, small and medium-sized enterprises (MSMEs) when purchasing and procuring

contributing to improving social cohesion in disadvantaged communities.

Source: https://www.euro.who.int/en/publications/abstracts/economic-and-social-impacts-and-benefits-of-health-systems-2019

The proposal will have the following local positive social impacts:

- Consolidate much needed specialist health services into one location adjacent to the existing Newcastle Healthcare Centre, encouraging less vehicle trips and providing complementary facilities close to other medical centres and health facilities within the immediate locality.
- Opportunities for cross referrals within an accessible and safe location. The site is well served by public and private car parking facilities and by public transport.
- Provide new employment opportunities for the area; some 40 jobs during construction, but also ongoing local jobs in a centralised, consolidated location.

6.0 The suitability of the site for the development

The site is considered to be suitable for the proposed development given that the proposed use is permissible within the R4 zone, the site with within a designated renewal corridor and adjoining a town centre.

The medical centre is perfectly located providing complementary facilities close to other medical centres and health facilities within the immediate locality. There will be numerous opportunities for cross referrals within an accessible and safe location. The site is well served by public and private car parking facilities and by public transport.

The development complies with NLEP and predominantly complies with NDCP. Where there are variations to the NDCP in terms of minor breaches of the building envelope and small deficiency in carparking spaces, these have been justified within this report and specialised reports accompanying the application. The development will not have detrimental impacts on the natural or built environments.

There are no significant physical, ecological, technological or social constraints on the proposed development.

7.0 The public interest

The proposed development is considered to be in the public interest as it meets the objectives of the R4 zone and complies with the provisions of relevant environmental planning instruments. It is compatible with the desired future character of the Adamstown Renewal Corridor, without detrimentally impacting on adjoining residential land to the west in terms of solar access and privacy. Parking is adequate for the development and the traffic impacts are acceptable based on the findings of Intersect Traffic's modelling and assessment.

Where there are variations to the NDCP, these have been justified within this document and considered to be acceptable given the context, constraints of the site, and specific requirements of the land use proposed.

The proposal will consolidate much needed specialist health services into one location adjacent to the existing Newcastle Healthcare Centre, encouraging less vehicle trips and providing complementary facilities close to other medical centres and health facilities within the immediate locality.

8.0 Conclusion

This Statement of Environmental Effects has considered all natural and built constraints and hazards and found the site to be suitable for the proposed development.

The medical centre is perfectly located providing complementary facilities close to other medical centres and health facilities within the immediate locality. There will be numerous opportunities for cross referrals within an accessible and safe location. The site is well served by public and private car parking facilities and by public transport.

Additionally, it has been found that the proposal will have acceptable impacts on the natural and built environment, with excellent design reflecting site constraints and conditions, and the adoption of amelioration measures outlined in expert consultant reports submitted with the application.

The proposed development is permissible in, and meets the objectives of, the R4 zone and complies with the provisions of relevant environmental planning instruments. It is compatible with the desired future character of the Adamstown Renewal Corridor, without detrimentally impacting on adjoining residential land to the west in terms of solar access and privacy. Parking is adequate for the development and the traffic impacts are acceptable based on the findings of Intersect Traffic's modelling and assessment.

Where there are variations to the NDCP, these have been justified within this document and considered to be acceptable given the context, constraints of the site, and specific requirements of the land use proposed.

Council's favourable consideration of the application is requested.





ADAMSTOWN DAY HOSPITAL & SPECIALIST CENTRE
LOT 11 DP 1221375
43 DATE STREET, ADAMSTOWN

PREPARED FOR: ARCHADIA PROJECTS PTY LTD

DECEMBER 2021



21/191

TRAFFIC & PARKING ASSESSMENT ARCHADIA PROJECTS PTY LTD

ADAMSTOWN DAY HOSPITAL & SPECIALISTS CENTRE LOTS 11 DP 1221375
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QUALITY ASSURANCE

This document has been prepared, checked and released in accordance with the Quality Control Standards established by Intersect Traffic Pty Ltd.

Issue	Date	Description	Ву
Α	28/09/21	Draft	JG
В	13/10/21	Edit	JG
С	25/11/21	Proof	JG
D	25/11/21	Approved	JG
E	03/12/21	Final Plans	

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This document has been authorised by

Date 3rd December 2021



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1.0 INTRODUCTION

Intersect Traffic Pty Ltd has been engaged by Archadia Projects Pty Ltd to prepare a traffic and parking assessment report for a proposed day hospital and specialists centre on Lot 11 in DP 1221375, 43 Date Street, Adamstown. The development will compliment and be consolidated with the adjoining Newcastle Healthcare Centre on the adjoining site (282 Brunker Road, Adamstown) providing a much-needed healthcare hub in the area. Vehicular access to each of the two levels of car park for the hospital will be via proposed separate combined entry / exit driveways at Date Street and Victoria Street which will result in separation of the staff and visitor car parking as well as spreading the traffic impacts of the development on the road network. The development concept plans are shown in **Attachment A**.

This report is required to support a development application to Newcastle City Council and allow the Council to assess the proposal in respect of its impact on the local and state road network.

This report presents the findings of the traffic and parking assessment and includes the following:

- 1. An outline of the existing situation near the site.
- 2. An assessment of the traffic impacts of the proposed development including the predicted traffic generation and its impact on existing road and intersection capacities.
- 3. A review of parking, public transport, pedestrian, and cycle way requirements for the proposed development, including assessment against Council, Australian Standards and Transport for NSW (TfNSW) standards as required.
- 4. A presentation of conclusions and recommendations.



2.0 SITE DESCRIPTION

The subject site is located on the south-east corner of the Date Street / Victoria Street four way stop sign controlled cross intersection, Adamstown approximately 60 metres west of the centre of the Adamstown Commercial Centre and Brunker Road. The property shares its southern boundary with a carpark utilised for the Newcastle Healthcare Centre, and its northern boundary with the rear of three commercial properties that front Brunker Road. The site has a road frontages to Victoria Street at its northern Boundary and also to Date Street at its western boundary, with residential development opposite the site across these two streets. The site contains a vacant sealed and line marked carpark which is surplus to the needs of the Newcastle Healthcare Centre. The site is shown in context of the surrounding roads and development in *Figure 1* below.



Figure 1 – Site Location

The site contains the following property descriptors:

- Formal land title of Lot 11 in DP 1221375,
- Street address of 43 Date Street, Adamstown,
- > Total site area of approximately 1,683 m²; and
- ▶ Land zoning of R4 High Density Residential pursuant to the Newcastle City Council LEP (2012) and adjoins B2 Local Centre to the east and R4 to the south.

A combined entry and exit access crossing currently exists at Victoria Street, providing R.O.W access solely for the 3 properties adjoining the subject site's eastern boundary, and is not proposed for use for this development. **Photograph 1** shows the existing development on the site and **Photograph 2** shows the existing vehicular access to the site.





Photograph 1 – Development site from Date Street.



Photograph 2 – Existing vehicular access – Victoria Street



3.0 EXISTING ROAD NETWORK

3.1 - Brunker Road

Brunker Road is a major urban collector road that connects the Pacific Highway at Adamstown Heights via Adamstown to Lambton Road, Broadmeadow. It is part of the classified state road network (MR223) under the care and control of Transport for NSW (TfNSW). Near the site it is a two-lane two-way sealed road with adjacent parking lanes. Brunker Road has a 12-metre-wide carriageway with concrete kerb and gutter and longitudinal drainage along its edges. Outside of school zone periods, a 60 km/h speed limit applies to this section of road. At the time of inspection Brunker Road was observed to be in good condition. **Photograph 3** shows Brunker Road near the site.



Photograph 3 – Brunker Road near the site

3.2 – Victoria Street

Under a functional road hierarchy Victoria Street would be considered a local access street with its primary function to provide access to properties along its length. It is under the care and control of the Newcastle City Council. Near the site it is a two-lane two-way sealed road. The carriageway width is approximately 9 metres and a 50 km/h speed limit applies to this section of road. At the time of inspection Victoria Street was observed to be in fair condition. **Photograph 4** shows Victoria Street near the site.





Photograph 4 – Victoria Street near the site

3.3 – Date Street

Under a functional road hierarchy Date Street is considered a local access street with its main purpose to provide access to properties along its length. It provides vehicular access to the development site via separate entry and exit accesses. It is under the care and control of Newcastle City Council, has a 50 km/h speed zoning and at the time of inspection was in good condition. It has a carriageway width of approximately 6 metres along the site frontage with kerb and gutter along its edges. It has a single travel lane in each direction. **Photograph 5** shows Date Street near the site. Victoria Street connects to Date Street to the north-west of the site via a four way stop sign controlled cross intersection. It is noted that along the site frontage on-street car parking on Date Street is prohibited at all times along both sides of the street to maintain a 6-metre-wide travel carriageway suitable for two-way traffic flows with traffic volumes less than 1,200 vtph. (600 vtph per lane).

It is noted that Date Street to the south of the development site has a carriageway width of 11 metres.

3.4 – Glebe Road

Glebe Road is a major urban collector road that connects the Pacific Highway at The Junction via Adamstown to Northcote Street, Lambton. It is part of the classified state road network (MR188) under the care and control of TfNSW. Near the site it is a four-lane two-way sealed road. The left-hand lane in each direction is used as a parking shoulder in non-peak hour periods. Glebe Road has a 12-metre-wide carriageway with concrete kerb and gutter and longitudinal drainage along its edges. A 60 km/h speed limit applies to this section of road and at the time of inspection Glebe Road was observed to be in good condition. Date Street connects to Glebe Road via a four way give way-controlled intersection. Movement within the north side of Date Street / Glebe Road intersection is restricted to a left in left out only intersection via signage and a concrete median strip. **Photograph 6** shows Glebe Road near the site.





Photograph 5 – Date Street near of the site



Photograph 6 – Glebe Road near the site



4.0 ROAD NETWORK IMPROVEMENTS

There are no known major road upgrades near the site that will improve the capacity of the local road network in the near future.

5.0 TRAFFIC VOLUMES

Northern Transport Planning and Engineering (NTPE) previously undertook manual intersection counts for Intersect Traffic for this assessment at the following intersections on Wednesday 20th June 2018 and Thursday 21st June 2018 during the afternoon and morning peaks.

- Glebe Road / Date Street;
- Date Street / Victoria Street: and
- Brunker Road / Victoria Street.

The tally sheets for these counts are provided in *Attachment B*.

Based on the data collected the 2018 mid-block two-way traffic volumes on the road network around the development site are as shown in *Table 1* below.

Table 1 – 2018 network traffic volumes

Road	AM peak (vph)	PM peak (vph)
Brunker Road	900	916
Glebe Road	1,554	1,414
Date Street	389	233
Victoria Street	193	146

It is noted when comparing the 2018 counts undertaken by NTPE and the 2014 counts of the same intersections undertaken by NTPE for the traffic assessment for the Newcastle Healthcare Centre the following was identified;

- In the PM peak no traffic growth has occurred on the local road network. Peak traffic volumes have remained either constant or decreased slightly.
- In the AM peak significant traffic growth has occurred with annual growth rates of between 2.7 % per annum (Glebe Road) and 11 % per annum (Date Street). This reflects the operation of the Newcastle Healthcare Centre and the traffic generated by this development.

Based on this data it is considered suitable to adopt a 1 % per annum background traffic growth in this assessment excluding the additional traffic generated by other major developments in the area such as the residential units proposed and currently under construction south of the site between Brunker Road and Date Street. Therefore, the determined 2021 and 2031 mid-block peak hour traffic volumes as shown in *Table 2*, below are relevant and have been adopted for the analysis of the development.

Table 2 – 2021 and 2031 road network traffic volumes

Road	2021AM peak (vtph)	2021PM peak (vtph)
Brunker Road	927	944
Glebe Road	1601	1671
Date Street	258	246
Victoria Street	152	150



6.0 ROAD CAPACITY

The capacity of the road network is generally determined by the capacity of intersections. However, the *RTA's Guide to Traffic Generating Developments* provides some guidance on midblock capacities and likely levels of service. For urban roads *Table 4.3* of the *RTA's Guide to Traffic Generating Developments*, reproduced below, provides guidance on mid-block capacities for a LoS C.

Table 4.3

Typical mid-block capacities for urban roads with interrupted flow

Type of Road	One-Way Mid-block Lane Capacity (pcu/hr)	
Madian ariana basa	Divided Road	1,000
Median or inner lane:	Undivided Road	900
Outer or kerb lane:	With Adjacent Parking Lane	900
	Clearway Conditions	900
	Occasional Parked Cars	600
4 lane undivided:	Occasional Parked Cars	1,500
	Clearway Conditions	1,800
4 lane divided:	Clearway Conditions	1,900

Source: - RTA's Guide to Traffic Generating Developments (2002).

Noting Glebe Road and Brunker Road in this location as two-lane two-way roads they would have a one-way mid-block capacity of at least 900 vtph and a two-way mid-block capacity of 1,800 vtph for a LoS C from the above table. However, as a major sub-arterial / collector road it is accepted that a lower level of service i.e., a LoS D would still be acceptable with lane capacities of up to 1,100 vtph and a two-way mid-block capacity of 2,200 vtph. Therefore, the adopted two-way mid-block capacity of Glebe Road and Brunker Road within this assessment is 2,200 vtph.

However, with a narrow 6-metre-wide carriageway the section of Date Street along the site frontage and with Victoria Street subject to significant on-street car parking both streets would have a restricted capacity of 600 vtph per lane i.e., a technical capacity of only 1,200 vtph. Therefore, this assessment has adopted a road capacity for both Date Street and Victoria Street of 1,200 vtph.

It can be seen that, as the traffic data collected and reported in **Section 5** is lower than the two-way mid-block capacity thresholds determined above, the road network adjacent to the development site is operating within its technical capacity and has, subject to satisfactory intersection performance, scope to cater for additional traffic generated by new development.



7.0 ALTERNATE TRANSPORT MODES

Newcastle Transport (Keolis Downer) runs public transport (bus) services in the area. A review of the route maps and timetables for the service indicates that the site being within the Adamstown CBD is well serviced by public transport. Bus routes that service the site are listed below with the nearest bus stops located on Brunker Road and Glebe Road, 200 metres and 150 metres respectively from the site.

- Route 14 Swansea Heads to Newcastle via Belmont, Charlestown and Kotara (Glebe Road); and
- Route 28 Mount Hutton to Newcastle West via Broadmeadow and Newcastle Interchange (Brunker Road).

These services provide access to all major shopping, building, entertainment, transport, health and educational centres and through connections at the Newcastle Interchange all residential areas in Newcastle. The bus route map extract for the area is shown below in *Figure 2*.

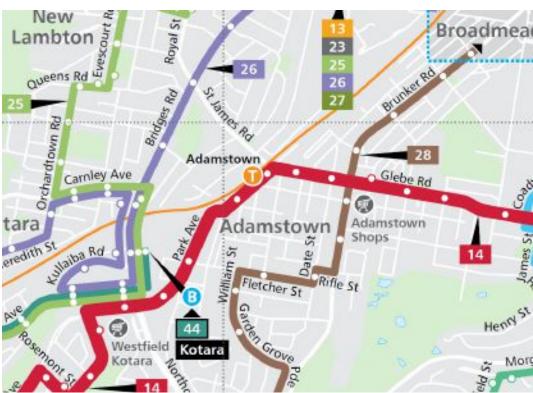


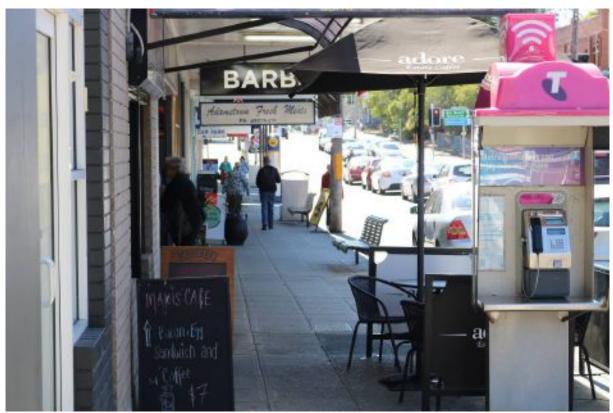
Figure 2 – Local Bus Routes

Photographs 7 & 8 show the bus stops on Brunker Road and Glebe Road respectively.

Adamstown Railway Station is located 650 metres west of the site and is considered within convenient walking distance. It is located on the Newcastle and Central Coast line run by Sydney Trains therefore is well serviced by public transport rail service to both Sydney in the south and north to Newcastle and the Hunter Line. This service is regular and frequent. The rail network map is shown below in *Figure 3*.

There are currently no cycle ways in the immediate vicinity of the site, however there is a cycleway approximately 110 metres west of the site that connects Newcastle through Adamstown to Belmont via the Fernleigh track. There is a proposed extension that would connect the site to this cycle way however, there are currently no firm plans to complete this extension.





Photograph 7 – Bus Stop – Brunker Road, Adamstown



Photograph 8 – Bus Stop – Glebe Road, Adamstown



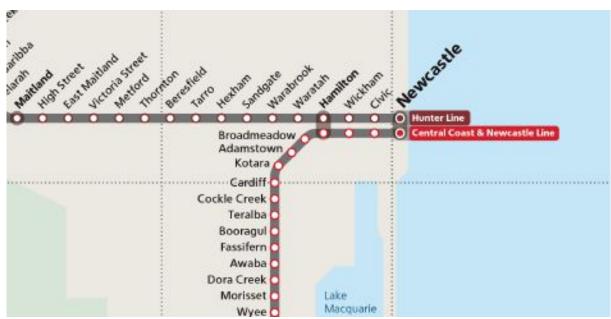


Figure 3 – Rail network map

A concrete pedestrian footpath network exists along Brunker Road, Glebe Road, Victoria Street and Date Street providing access to the site from the public transport facilities within Adamstown. At the time of inspection, the footpaths were deemed to be in good condition. *Photographs 7, 8, 9 and 10* show the footpaths near the site and across the various frontages of the site.



Photograph 9 – Pedestrian frontage – Date Street





Photograph 10 - Pedestrian frontage - Victoria Street

8.0 DEVELOPMENT PROPOSAL

The proposed development involves the construction of a medical specialists centre on the site. Specifically, the development will contain the following:

- A ground floor (level 1) car park with access via Date Street to 36 car spaces including 1 specific service car space, 4 motorbike spaces, 14 bicycle spaces as well as end of trip facilities, plant rooms, maintenance and storage areas and two lifts and a lift lobby to be used for staff parking (low turnover);
- Level 2 car park with access via Victoria Street to 40 car spaces including 2 accessible spaces, 4 motorbike spaces, a waste area as well as a pedestrian entrance from Victoria Street and Brunker Road, a forecourt, two lifts and a lift lobby to be used for visitor / patient parking;
- Level 3 containing 1009 m² Nett Leasable Area (NLA) and 1,146 m² Gross Floor Area (GFA) consulting room and office space;
- Level 4 containing 1010 m² (NLA) and 1,049 m² (GFA) consulting room space; and
- Level 5 containing 686 m² (NLA) and 719 m² (GFA) for Day Hospital.

This totals 2,705 m² NLA (or 2,914 m² GFA) for the day hospital & specialist centre. The concept plans are provided within *Attachment A*.

Vehicular accesses to the site will be provided via a new combined entry and exit access crossing with median separation of travel directions via Date Street to L1 carpark and a new combined entry and exit driveway with median separation of travel directions via Victoria Street to L2 carpark.





9.0 TRAFFIC GENERATION

The RTA's Guide to Traffic Generating Development's provides specific advice on the traffic generation potential of various land uses.

In regard to extended hours medical centres the following advice is provided.

AM peak traffic ranges from $4.4 - 19.0 \text{ veh/hr/}100 \text{ m}^2$ with an average of 10.4 veh/hr/100 m2. PM peak traffic ranges from 3.1 - 19.4 veh/hr/100 m2 with an average of 8.8 veh/hr/100 m2.

It is considered that this is the most relevant data to determine a likely peak traffic generation from the Healthcare consulting rooms on the site. Now as a Specialist Centre providing appointment times of 30 mins to 1 hour and with the likely occupancy of specialist rooms only being approximately 75 % at any one time due to the specialists commitments to other offices in the lower Hunter area it would be expected that the traffic generation rate would be lower than the average rate. Therefore it is recommended that the traffic generation adopted be half way between the minimum rate and the average rate as a worst case scenario for the specialists centre. Therefore the adopted traffic generation rates are as follows noting this applies to the Nett Lettable areas;

AM peak = $7.4 \text{ veh/hour/}100 \text{ m}^2$; and PM peak = $5.95 \text{ veh/hr/} 100 \text{ m}^2$.

Further Level 3 contains some Office space used for Healthcare administration purposes not treatments which as stated in the RTA Guide is likely to generate the following traffic;

AM and PM peak = 2 vehicle trips per 100 m^2 GFA.



Level 5 contains a day hospital and peak period traffic generation for a private hospital is dependent on average staff numbers per shift and can be determined from the following formula's within the RTA Guide.

```
MVT = 10.21 + 0.47 B + 0.06 ASDS (R2 = 0.64)
EVT = 2.84 + 0.25 B + 0.40 ASDS (R2 = 0.69)
```

Where MVT = morning peak, EVT = Evening peak, B = bed numbers, and ASDS = staff numbers per shift.

Noting the Day Hospital will operate with 10 staff and 8 recovery beds as well as the Health Administration office space on Level 3 being 525 m² GFA the additional peak hour traffic generation from the development can be calculated as follows noting the total net lettable floor area of the consulting room spaces is approximately 1,514 m²;

```
AM peak traffic = 15.14 \times 7.4 + 5.25 \times 2 + 10.21 + 0.47 \times 8 + 0.06 \times 10 = 138 \text{ vtph}
PM peak traffic = 15.14 \times 5.95 + 5.25 \times 2 + 2.84 + 0.25 \times 8 + 0.4 \times 10 = 107 \text{ vtph}
```

In distributing these trips onto the local road network, the following assumptions have been made;

- Traffic with origin / destination to the south-west (30%) would utilise Brunker Road, and Date Street to the south of the site to access the car park;
- Traffic with origin / destination to the west and north-west (35%) would utilise Glebe Road and Date Street to the north of the site to access the car park.
- Traffic with origin / destination to the east and north-east (35%) would utilise Glebe Road, Brunker Road, Victoria Street and Date Street north of the site to access the car park.
- In both the AM and PM peaks the inbound and outbound movements have been split 50:50.
- 60 % of traffic during the peak hours is associated with visitors / patients and 40 % with staff.

The resulting development traffic trip distribution is shown below in *Figure 4*.

It is however noted that a major residential development is currently being constructed immediately south of this site and the cumulative impacts of this development on the road network also needs to be considered. Intersect Traffic in its Traffic Assessment for this development, TPA 17_089 dated 25 June 2018, identified the trip distribution for the residential development as shown in *Figure 5*, below.



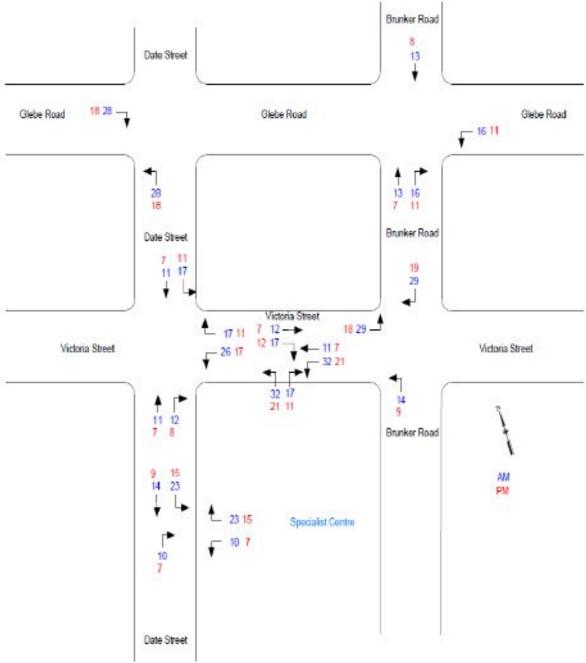


Figure 4 – Development traffic trip distribution



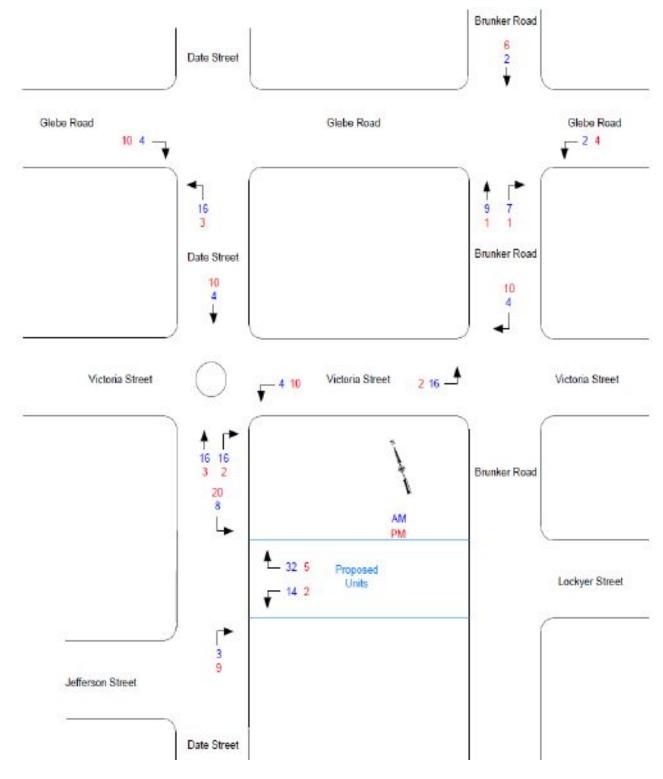


Figure 5 – Development traffic trip distribution – Adjoining residential development



10.0 TRAFFIC IMPACTS OF DEVELOPMENT

10.1 – Road Network Capacity

It has previously been shown in **Section 6** of this report that the local road network is currently operating within its technical capacity for two-way mid-block traffic volumes. Based on the traffic distribution provided in **Figure 3** above the development will increase the two-way mid-block traffic volumes as follows;

- Brunker Road 58 vtph in the AM peak and 37 vtph in the PM peak;
- Glebe Road 56 vtph in the AM peak and 36 vtph in the PM peak;
- Date Street 80 vtph in the AM peak and 53 vtph in the PM peak; and
- ➤ Victoria Street 72 vtph in the AM peak and 47 vtph in the PM peak.

Also, the resultant additional traffic distributed on the road network due to the residential development based on the traffic distribution as per *Figure 4* is as follows;

- Brunker Road 20 vtph in the AM peak and 12 vtph in the PM peak;
- Glebe Road 20 vtph in the AM peak and 13 vtph in the PM peak;
- Date Street(north of Victoria Street) 20 vtph in the AM peak and 13 vtph in the PM peak;
- Victoria Street 20 vtph in the AM peak and 12 vtph in the PM peak.

When both these developments' additional traffic is added to the 2021 and 2031 traffic volumes on the road network and including a background traffic growth rate of 1 % per annum on the following two-way mid-block assessment as shown in *Table 3* below is carried out.

Table 3 – 2021 and 2031 Two-way mid-block traffic volumes

		2021 Traffic + dev		2031 Traffic + dev		Proposed Development		Residential Development	
	Capacity	AM peak	PM peak	AM peak	PM peak	AM peak	PM peak	AM peak	PM peak
Road	(vtph)	(vtph)	(vtph)	(vtph)	(vtph)	(vtph)	(vtph)	(vtph)	(vtph)
Brunker Road	2200	1005	993	1102	1091	58	37	20	12
Glebe Road	2200	1677	1720	1845	1895	56	36	20	13
Date Street	1200	378	324	405	350	80	53	40	25
Victoria Street	1200	244	209	260	225	72	47	20	12

This assessment has shown that even with the additional development traffic from both the proposed day hospital & specialist centre and the proposed residential development south of the site as well as background traffic growth the local and state road network will remain below the two-way mid-block capacity of the network through to and beyond 2031. It is also noted that both Date Street and Victoria Street remain below the TfNSW recommended environmental capacity of a local collector street, being 500 vtph, ensuring acceptable residential amenity remains in these streets post development.

It is therefore concluded that subject to satisfactory intersection performance the development will not adversely impact on the local and state road network.



10.2 - Intersection Capacity

The main intersections of concern in assessing this development are;

- Victoria Street / Date Street intersection four way stop sign controlled cross intersection;
- 2. Brunker Road / Victoria Street give way controlled cross intersection with turning restrictions; and
- 3. Glebe Road / Date Street four way give way controlled cross intersection. Movement within Date Street is restricted via signage and a concrete median strip on Glebe Road.

To assess the impact of this development on these intersections they have been modelled using the Sidra Intersection modelling program. This micro-analytical program identifies "Level of Service" (LoS) criteria for intersection analysis which range from LoS A to LoS F, with a LoS F deemed an intersection 'failure' with delays in excess of 70 seconds. Assessment is then based on the level of service requirements of TfNSW shown below;

Table 4.2 Level of service criteria for intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs Good operation	
Α	< 14	Good operation		
В	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity	
Ç	29 to 42	Satisfactory	Satisfactory, but accident study required	
D	43 to 58	Operating near capacity	Near capacity & accident study required	
E	57 to 70	At capacity; at signals, incidents will cause excessive delays	At capacity, requires other control mode	
		Roundabouts require other control mode		

Source: - RTA's Guide to Traffic Generating Developments (2002).

These intersections have been modelled for post development 2021 and for 2031 with 1 % per annum background growth justified in **Section 5** in both the AM and PM peak periods. In undertaking the modelling development traffic trip distribution for this development was as per **Figure 4** and no upgrades were for the intersections was initially assumed. To ensure a robust assessment and consider cumulative impacts of other known developments in the area development traffic from the adjoining residential development currently under construction to the south of the site was also added to the modelling as per **Figure 5**.

The results of the modelling for the 'all movements' summary and the worst level of service (LoS) are summarised in **Table's 4, 5,** and **6** below. The Sidra movement summary tables are provided in **Attachment C.**

Table 4 – Sidra results – Glebe Road / Date Street – Give way.

Modelled Peak	Degree of Saturation (v/c)	Worst Average Delay (s)	Level of Service	95% back of queue length (cars)
2021 AM	0.675	63.3	E	4.3
2021 PM	0.265	42.3	С	1.0
2021 AM + development	0.792	78.4	F	6.5
2021 PM + development	0.344	46.7	D	1.4
2031 AM + development	1.094	211.3	F	27.6
2031 PM + development	0.463	64.8	Е	2.0



This modelling shows the intersection currently is already operating at or in excess of capacity for the right turn movement out of Date Street particularly in the AM peak Post development the delay for this movement continues to deteriorate however it is only in the AM peak where queuing vehicles becomes significant. Improved performance occurs with prohibiting the right turn movement out of the southern leg of Date Street and will need to be considered in the future by the relevant road authority. As there is significant existing traffic and other developments that would benefit from this intersection modification it would be unfair and unreasonable to require this development to fully fund any modifications to this intersection. There are also a number of alternative routes motorist could take to avoid accessing Glebe Road from Date Street therefore it is unlikely actual intersection performance will match the modelled results in the future.

Table 5 - Sidra results - Date Street / Victoria Street - Give way.

Modelled Peak	Degree of Saturation (v/c)	Worst Average Delay (s)	Worst Level of Service	95% back of queue length (cars)
2021 AM	0.191	10.7	Α	0.7
2021 PM	0.074	9.2	Α	0.3
2021 AM + development	0.230	12.1	Α	1.0
2021 PM + development	0.100	9.8	Α	0.4
2031 AM + development	0.255	13.1	Α	1.1
2031 PM + development	0.117	10.2	Α	0.5

Table 6 – Sidra results – Brunker Road / Victoria Street – Give wav.

Modelled Peak	Degree of Saturation (v/c)	Worst Average Delay (s)	Worst Level of Service	95% back of queue length (cars)	
2021 AM	0.253	23.1	В	0.9	
2021 PM	0.228	18.1	В	0.5	
2021 AM + development	0.308	26.5	В	1.4	
2021 PM + development	0.257	19.7	В	0.7	
2031 AM + development	0.376	33.0	С	1.8	
2031 PM + development	0.287	23.2	В	0.9	

This modelling shows that the Date Street / Victoria Street and the Brunker Road / Victoria Street intersections will both continue to operate satisfactorily post development of the specialist centre through to 2031. The impact o the development is to increase average delay by 2 to 4 seconds and increase queuing by less than half a vehicle with no actual deterioration in the overall LoS of the intersection.

Modelling of the Brunker Road / Glebe Road signalised intersection has not been undertaken in this assessment for the following reasons;

- The intersection already experiences significant congestion issues during the AM and PM peak due to the traffic volumes on the road network and queuing associated with the operation of the Adamstown railway gates. The additional traffic from the development is minor compared to the existing traffic volumes through the intersection (< 10 %) therefore it is considered unfair and unreasonable to expect this development to fund any improvements to the intersection to improve its operation particularly as this is a redevelopment of an existing building.
- TfNSW have identified that congestion at this intersection is of a regional concern.
- There are a number of alternative routes around this intersection that staff, patients and visitors could use during peak periods to avoid this intersection. As such it is considered that travel routes to and from the site will be self-regulating as motorists seek out these



alternate routes that result in less delay. On this basis it is considered the redevelopment of the site will not impact on the operation of the intersection.

Noting the results of the Sidra Intersection modelling carried out above it is concluded the proposed specialists centre development does not adversely impact on the performance of the local and state road network.

10.3 - Access

As a day hospital & specialist centre the on-site car park for this development will be accessed via two new median separated entry / exit access crossings and driveways. The Victoria Street access will be used for access to the car parking for visitors on level 1 and the Date Street access for staff car parking on ground level.

In accordance with the requirements of Australian Standards *AS 2890.1-2004 Parking Facilities – Off-street car parking* whereby the access to the development is providing access to a user class 3 (medical centres) car parking facility of between 25 and 100 car spaces fronting a local road the access is required to be a category 2 access (Table 3.1 of *AS 2890.1-2004*). Table 3.2 of *AS 2890.1-2004* specifies a category 2 access facility as combined entry and exit 6.0 to 9.0 metres wide, or if separated, both entry and exit widths should be 3.0 metres minimum. As each of the accesses provide entry and exit lanes 3 metres wide and are separated by an island, the access facility complies with the requirements of *AS2890.1-2004*. Suitable pedestrian and vehicular sight lines from the access as required by *AS2890.1-2004* has been achieved with the provision of two way accesses to the car park.

Overall, it is concluded that the proposed access arrangements are satisfactory and would comply with the requirements of Australian Standards *AS 2890.1-2004 Parking Facilities – Off-street car parking*.

Newcastle Council officers have frequently raised the issue of the carriageway width in Date Street during preliminary discussions. During the site inspection the following carriageway widths were found to exist in Date Street.

- South of site carriageway width 12 metres, road reserve 20 metres wide;
- > Site frontage carriageway width 6 metres, road reserve 10 metres wide; and
- North of site carriageway width 6 metres, road reserve 13 metres wide.

A 6-metre carriageway whilst narrow is not prohibited for a local street and does allow two-way traffic flow if no on-street car parking is provided. It is noted that on-street car parking on both sides of the road along the Date Street frontage of the site has already been prohibited thereby guaranteeing sufficient carriageway width for traffic volumes up to 1200 vtph. Therefore, no nexus exists for any further widening of the carriageway in Date Street as a result of this development particularly as post development traffic flows in Date Street will be a maximum of only 375 vtph in 2031.





10.4 - Off-Street Parking

With regard to on-site parking and manoeuvrability the proposal should comply with Australian Standard AS2890.1-2004 Parking facilities – Off-street car parking and Section 7.03 of Newcastle City Council's DCP. The appropriate rates for use within the DCP are as follows;

Health Consulting Rooms

Car parking

1 space per practitioner plus 1 space per 2 other staff; and

2 spaces per practitioner for patients / visitors

Bicycle Parking

1 space per 10 practitioners (Class 2); and

1 space per 10 staff (Class 3)

Motorcycle Parking

1 space per 20 car spaces.

Hospital

Car parking

1 space per 2 staff; and

1 space per 3 beds for visitors.

Bicycle Parking

1 space per 10 staff (Class 2); and

1 space per 10 staff for visitors (Class 3)

Motorcycle Parking

1 space per 10 car spaces.

<u>Office</u>

Car Parkina

1 space per 50 m² GFA

Bicycle Parking

1 space per 200 m² GFA (Class 2)

Motorcycle Parking

1 space per 20 car spaces.

The following RTA Guide to Traffic Generating Developments (2002) parking rate for medical centres has also been used where staff numbers for consulting suites is unknown as uses of the tenancies are unknown.

Medical Centres

Car Parking

1 space per 25 m² GFA

Information on staff numbers provided by the client are as follows;

Level 5 Day Hospital – 10 staff plus 8 recovery beds.

Level 4 – Hunter Pain Clinic – 14 practitioners plus 30 other staff.

Level 3 – Hunter Imaging Group & Sonic IT – 525 m² – Office space.

Healthcare Consulting Suites – Staff requirements unknown for 503 m² GFA.

It is further noted that the Hunter Pain Clinic tenancy will operate at approximately 70% full occupancy on any one day for the following reasons;

- Sick leave, annual leave, RDO's etc;
- Surgeons on at least 1 day a week will be at local hospitals visiting patients or operating;



- Surgeons on at least 1 day a week will be in their rooms at other clinics (Central Coast, Maitland, Lake Macquarie and lower Hunter Valley).
- Nursing staff are not required on site when surgeons are note on site in their rooms.
- Nursing staff and surgeons utilising the day hospital will also utilise this level for office space and have already been accounted for within the level 5 parking demand.
- The Psychiatrist within the clinic only works 4 half days per week while the Psychologists within the clinic only work 4 days per week; and
- There will only be 3 Physiotherapists within the clinic at any one time despite there being 5 consult rooms due to rostering of Physiotherapists and home and workplace visits.

On this basis the car parking, bicycle parking and motorcycle parking DCP requirement for the development can be calculated as follows;

```
Level 5 – Car Parking – 10/2 + 8/3 = 7.7 say 8 car spaces.
Bicycle Parking – 10/10 + 10/10 = 2 spaces (1 – Class 2 & 1 – Class 3).
Motorcycle Parking – 8/10 = 0.8 say 1 space.
```

Level 4 - Car parking $-0.7 \times (14 \times 1 + 30/2 + 14 \times 2) = 40$ spaces. Bicycle Parking $-0.7 \times (14/10 + 30 / 10) = 3.08$ say 4 bicycle spaces (1 - Class 2 & 3 - Class 3). Motorcycle parking -40 / 20 = 2 spaces.

Level 3 Car Parking -525 / 50 + 503 / 25 = 30.62 say 31 spaces. Bicycle Parking -1028 / 200 = 5 spaces (4 - Class 2 and 1 - Class 3). Motorcycle Parking -31/20 = 1.55 say 2 spaces.

Therefore the total on-site car parking required by the DCP for the development is calculate as follows:

```
On-site car parking = 8 + 40 + 31 = 79 spaces;
On-site bicycle parking = 2 + 4 + 5 = 11 spaces, (6 - Class 2 and 5 - Class 3); and Motorcycle parking = 1 + 2 + 2 = 5 spaces.
```

It is noted the current plans show a total of 76 on-site car spaces, 14 bicycle spaces and 8 motorcycle spaces representing a 3 space car parking deficiency as well as an excess of 3 bicycle spaces and 3 motorcycle spaces. Council will therefore need to support a minor variation to its DCP car parking rates to support the development.

In justifying the car parking deficiency the key points that need to be considered are;

- 1. The car parking deficiency is only minor being only 3 spaces.
- 2. The excess in bicycle parking and motorcycle parking within the development is sufficient to cover the minor car parking deficiency within the development.
- 3. The excellent accessibility of the site to public transport; and
- 4. The location of the site adjacent to or within the Adamstown Renewal Corridor which includes a significant retail and commercial centre adjacent to the site.

This is discussed further below.

- 1. The car parking deficiency is less than 5 car parking spaces therefore is considered minor and within the limits generally accepted by Council as being acceptable subject to justification.
- 2. The development encourage alternate transport mode trip making by providing additional bicycle and motorcycle parking and end of trip facilities within the development.
- 3. The site has excellent accessibility to public transport with bus services running past the site and heavy rail connection within convenient walking distance of the site. Further the site is within easy walking distance of a major residential area within inner



- Newcastle all of which would result in a higher percentage of visitors utilising alternative transport modes in making trips to and from the centre.
- 4. Similarly being adjacent to a retail and commercial area it is likely that some visitors would undertake multi-purpose trips when attending the centre and could park in other on and off-street car parks provided for the other destinations. This argument is similar to the argument that Council adopts in requiring a 1 space per 60 m² parking requirement in the Newcastle City Centre area.

Overall it is considered the cumulative impact of these points would be sufficient to justify a minor variation to Council's DCP parking rates and Council should be confident the proposed parking supply will not adversely impact on the supply and availability of on-street car parking in the Adamstown shopping Precinct.

A review of the plans indicates that by scaling the parking layout also complies with the requirements of Australian Standard *AS2890.1-2004 Parking Facilities – Part 1 - Off-street car parking facilities* in regard to the size of parking modules and circulating aisles. The car park layout provides excellent circulation ensuring convenient manoeuvrability through the site and forward entry and exit from the site.

Servicing of the site will be via small courier vans for supplies and medium rigid vehicles for waste collection. A service bay is provided on Level 1 for normal courier van deliveries while a bin room is provided on Level 2 which allows bins to be moved to the kerb on Brunker Street for kerbside collection by Council or private contractor prior to 8 am once a week. Service vehicles will be able to enter and exit the site in a forward direction. Servicing will be infrequent and occur outside peak parking demand periods for the development ensuring impact on and inconvenience to visitors is minimised.

Overall it is concluded that sufficient and suitable on-site parking and servicing facilities are provided within the development and that the internal car parking and manoeuvring areas proposed for the development are considered satisfactory.

11.0 PEDESTRIAN FACILITIES

The proposed development will generate additional pedestrian traffic as visitors seek to utilise the services provided not only from the on-site car parking but from nearby bus stops, car parks and shopping centres. A suitable concrete footpath network already exists along Glebe Road, Brunker Road, Victoria Street and Date Street. Pedestrian crossing facilities are available at the signalised traffic signals and via a pedestrian crossing of Brunker Street near Victoria Street (see **Photograph 11**). It is therefore concluded that no nexus exists for additional pedestrian facilities.

12.0 ALTERNATE TRANSPORT MODE FACILITIES

The proposed development is expected to generate increased patronage of the existing public transport system (rail and buses) however the site is already well serviced by public transport with a number of routes passing the site. There are also a number of nearby bus stops with seats and shelters in close proximity to the site. Therefore, it is concluded that the existing public transport services and infrastructure near of the site is suitable for the development. Changes to the existing public transport system or additional infrastructure are therefore not required.

Similarly, whilst the development may generate some additional bicycle traffic, the level of the increase will not be enough to warrant the provision of additional cycle ways near of the site. Bicycle racks will be provided within the development for use by staff and visitors.



13.0 CONCLUSIONS

This traffic and parking assessment for the proposed Adamstown Specialist Centre on Lot 11 DP 43 Date Street, Adamstown has determined the following;

- The existing local and state road network is generally operating within the technical two-way mid-block capacity of the network.
- It is expected that the additional traffic generated by the development in the AM and PM peak period will be up to 138 vtph and 107 vtph respectively.
- There are a number of travel routes to the site from all directions and as a result the impact of traffic generated by the development will be dampened because of the use of all these travel routes.
- Following an assumed distribution of the development traffic onto the local and state road network it was found that the network has sufficient spare mid-block two-way capacity to cater for the additional development traffic as well as the cumulative development traffic from a proposed adjoining residential development without adversely impacting on current mid-block levels of service (LoS) experienced by motorists on the road network.
- Sidra Intersection modelling of the Glebe Road / Date Street give way-controlled intersection showed that a minor modification to the intersection may be required in the future to ensure it continued to operate satisfactorily. The modification required is that the right turn movement out of the southern Date Street leg be prohibited. Alternative routes are available, and it is unlikely that this modification will be required as the modelled results are unlikely to occur due to the availability of these alternate routes.
- Sidra Intersection modelling of the Date Street / Victoria Street and Brunker Road / Victoria Street intersections has shown that both these intersections will continue to operate satisfactorily post development for both the proposed Day Hospital & Specialist Centre and the adjoining residential flat development.
- Traffic generated by the development represents less than 10 % of current traffic volumes through the Brunker Road / Glebe Road signalised intersection which may already be operating at or near capacity. As such the development will not have a noticeable impact on the operation of the signals.
- The development seeks to utilise new access arrangements via Date Street and Victoria Street for vehicular access to the site car park. The proposed access arrangements are satisfactory and would comply with the requirements of Australian Standards AS 2890.1-2004 Parking Facilities Part 1 Off-street car parking.
- It is considered there is no nexus for the provision of a widened road pavement along the Date Street frontage of the site even though there is a narrow road carriageway in the street. This is because on-street car parking is prohibited on both sides of the street and traffic volumes on this section of Date Street will not only remain well below the restricted technical two way mid-block capacity of the road but also the environmental capacity of the street.
- Subject to Council supporting a minor 3 space variation to its on-site car parking requirements as justified in this report the development provides sufficient on-site car parking to meet the expected peak parking demand from the development.
- The internal car parking and manoeuvring areas proposed for the development are by scaling considered satisfactory and compliant with Australian Standard AS2890.1-2004 Parking Facilities Part 1 Off-street car parking facilities.
- Sufficient motorcycle parking and bicycle storage as well as end of trip facilities have been provided within the development to meet the requirements of the Newcastle DCP (2012).
- Servicing of the site will be via small courier style vehicles for supplies which will utilise a marked service bay in the car park. Service vehicles will be able to enter and exit the site in a forward direction. Servicing will be infrequent and occur outside peak parking demand periods for the development ensuring impact on and inconvenience to visitors is minimised.
- Waste collection will be undertaken as kerbside collection on Brunker Road by Council or private contractor with the bins being wheeled to the kerb from the bin room on level 2 by



Centre management prior to collection and returned to the bin room after collection. Collection is to be organised such that this occurs once a week prior to 8 am in the morning

- Existing pedestrian facilities near of the site are satisfactory and no nexus exists for additional pedestrian facilities.
- The existing public transport services and infrastructure near of the site is considered suitable for the development. Changes to the existing public transport system or additional infrastructure are therefore not required.
- Whilst the development may generate some additional bicycle traffic the level of the increase will not be enough to warrant the provision of additional cycle ways near of the site. Bicycle racks for use by visitors and staff will be provided within the development.

14.0 RECOMMENDATION

Having carried out this traffic and parking assessment for the proposed Adamstown Day Hospital & Specialist Centre on Lot 11 in DP 1221375, 43 Date Street, Adamstown, it is recommended that the proposal can be supported from a traffic impact perspective as it will not adversely impact on the local and state road network and subject to Council supporting a variation to its on-site car parking requirements complies with or the intent of all relevant Newcastle City Council, Australian Standard and TfNSW requirements.

JR Garry BE (Civil), Masters of Traffic

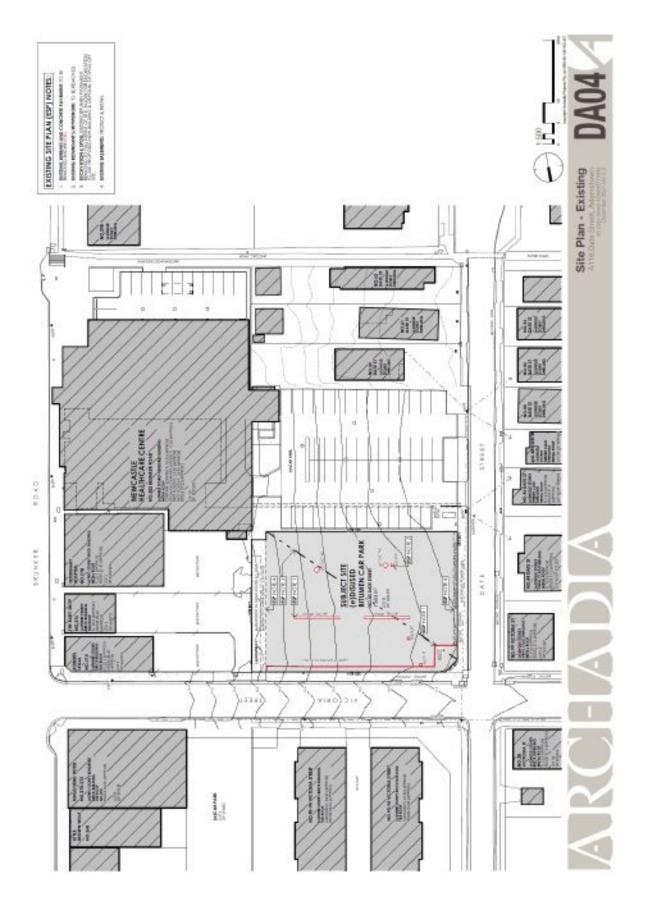
Director

Intersect Traffic Pty Ltd

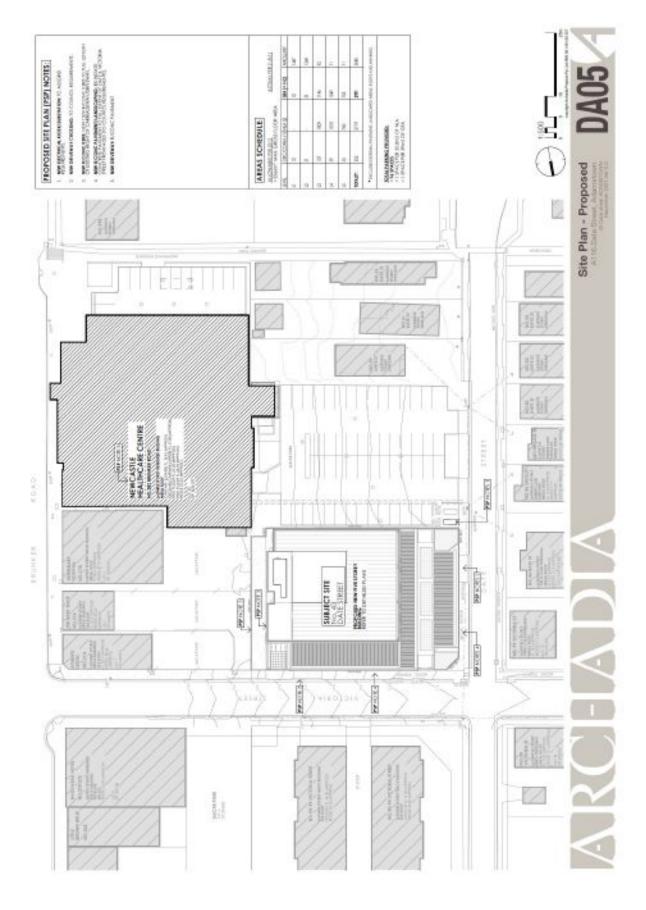


ATTACHMENT A Development Plans

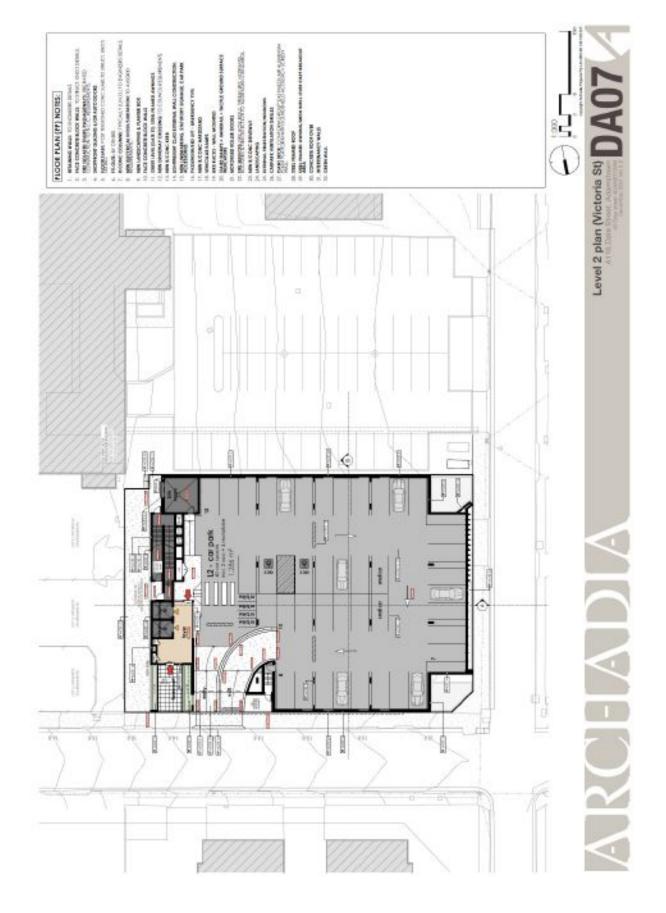




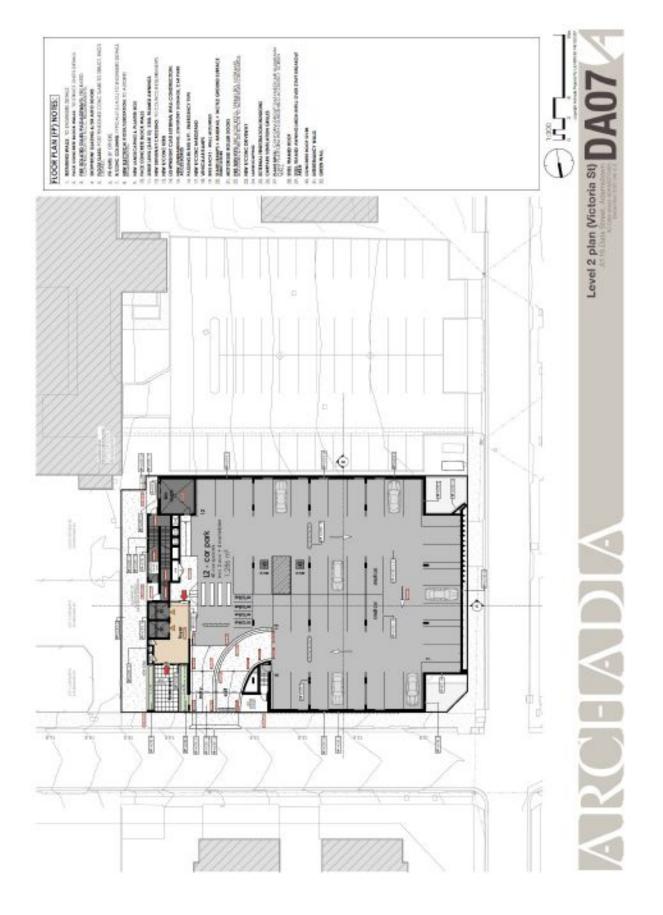




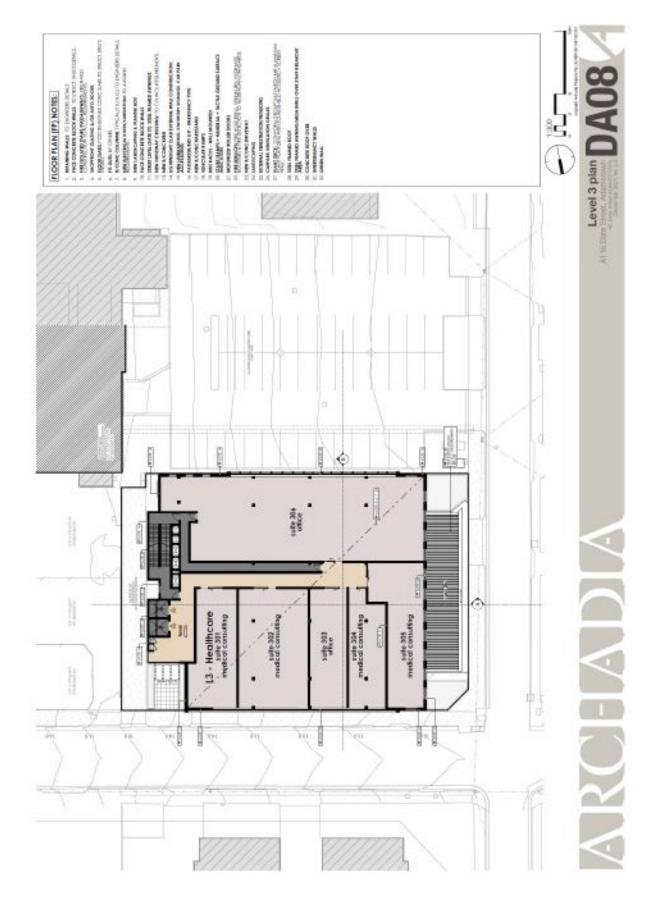




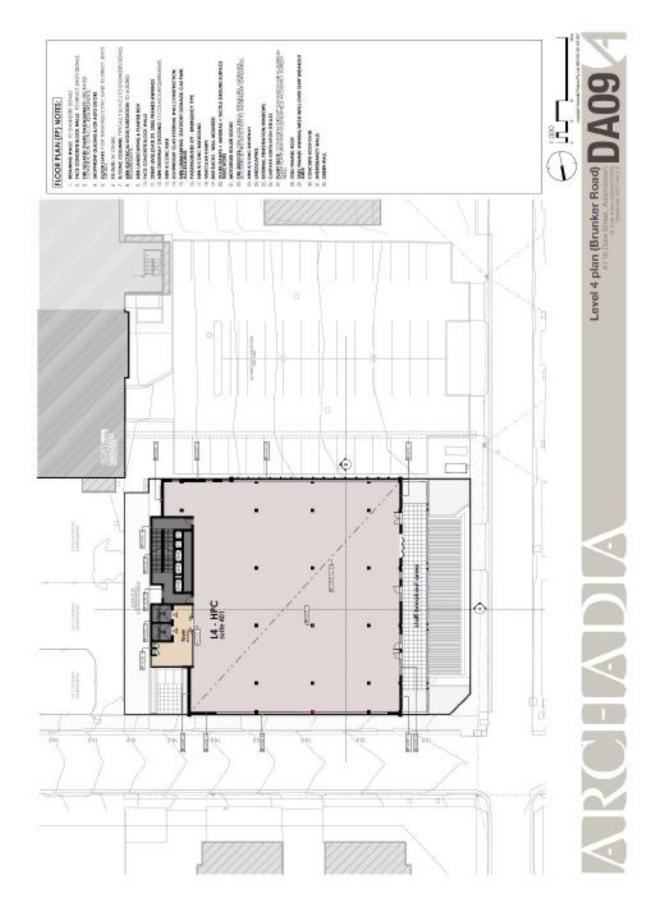




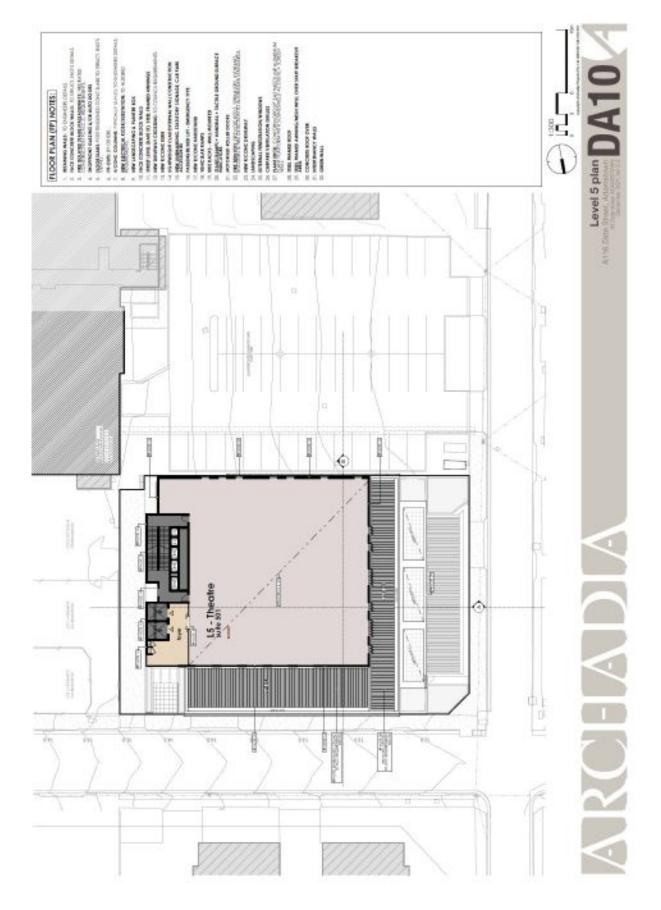




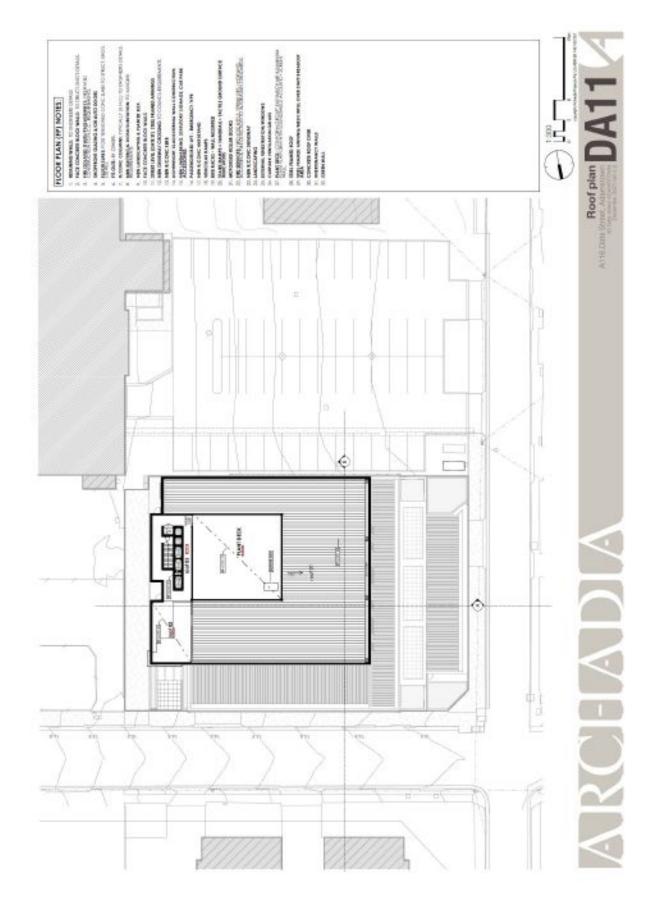








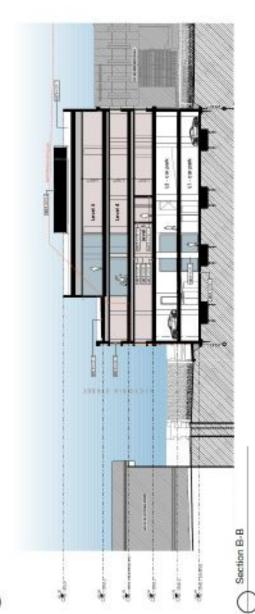




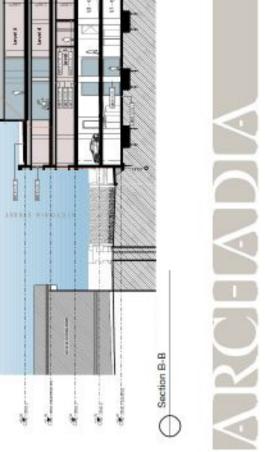




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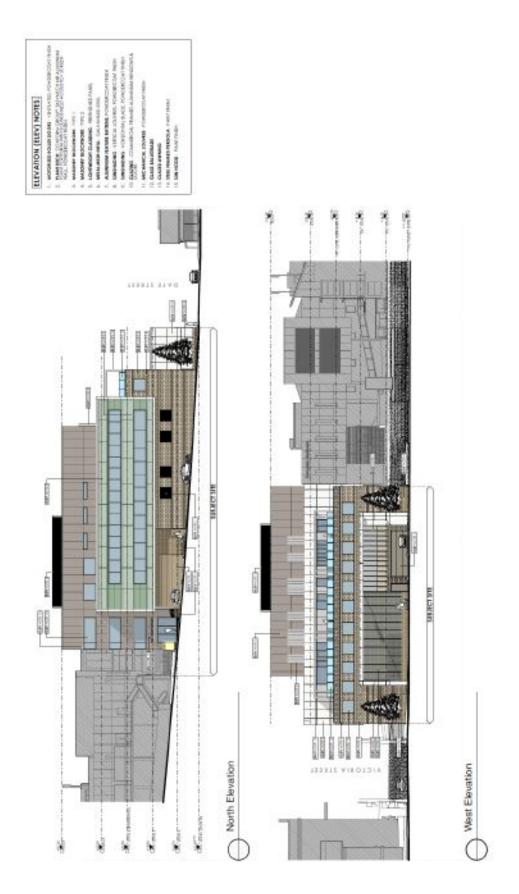






Section A-A

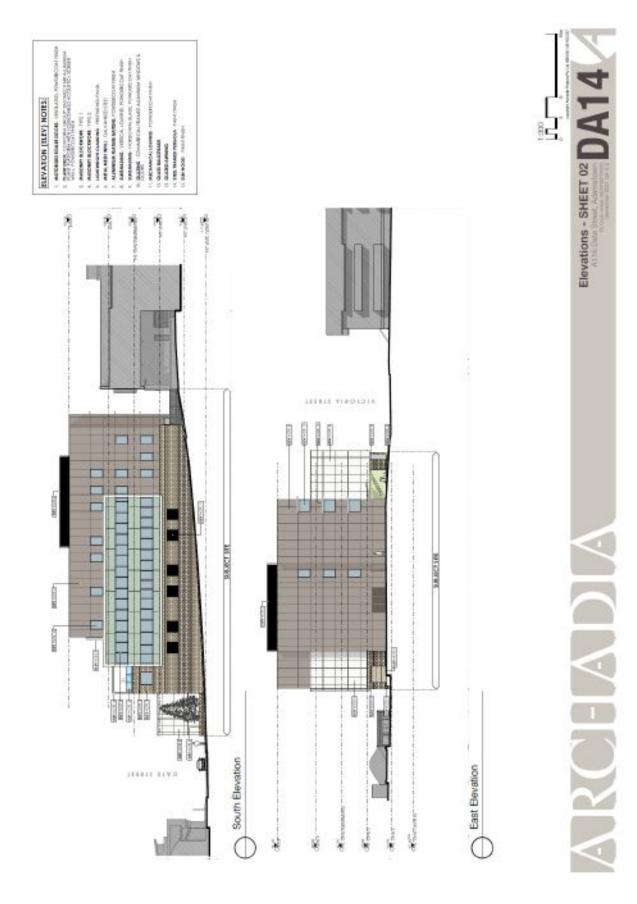






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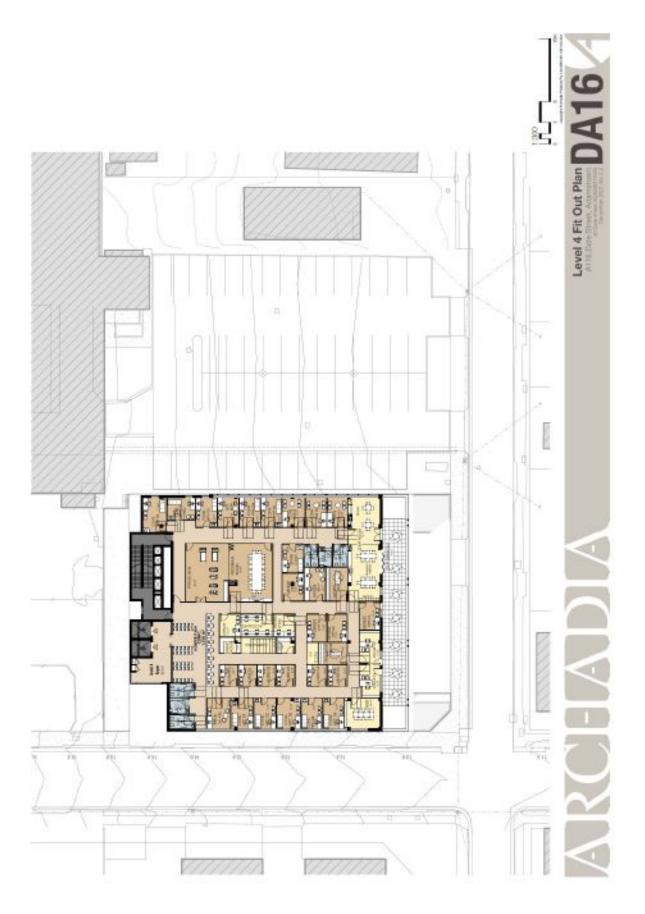




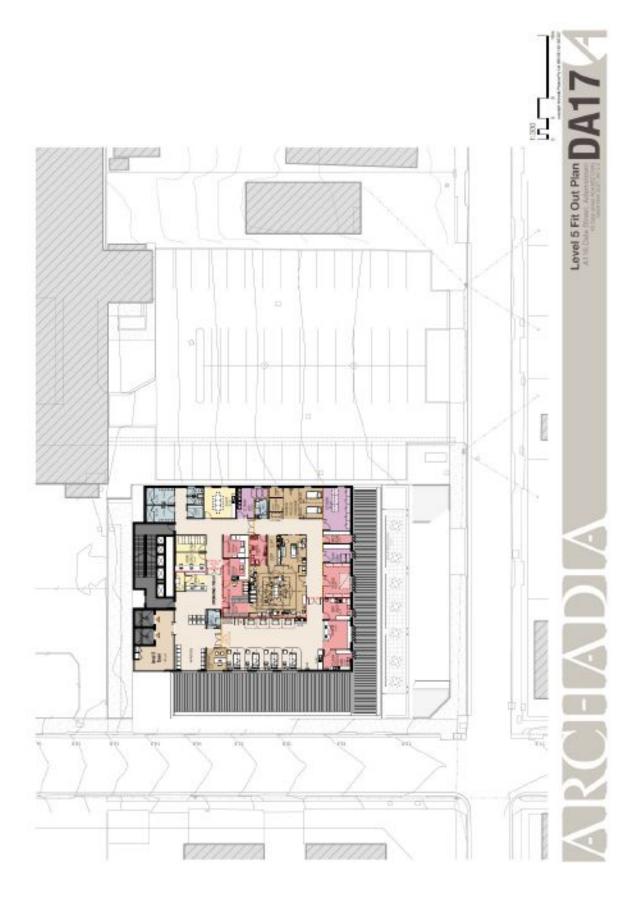








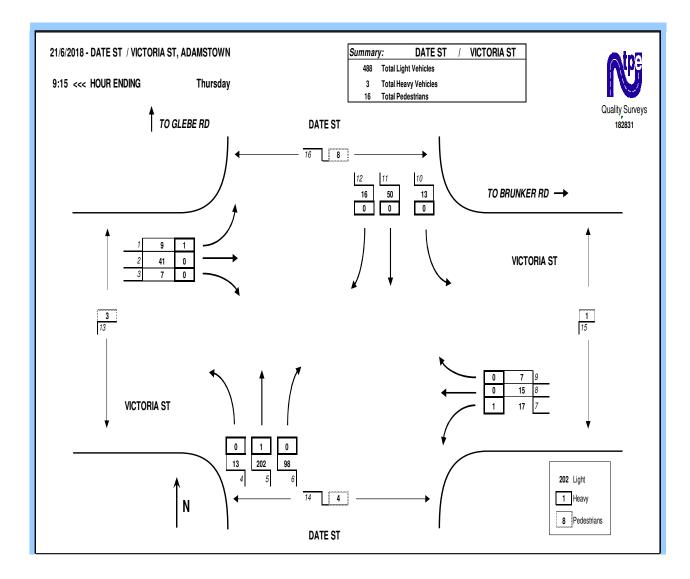




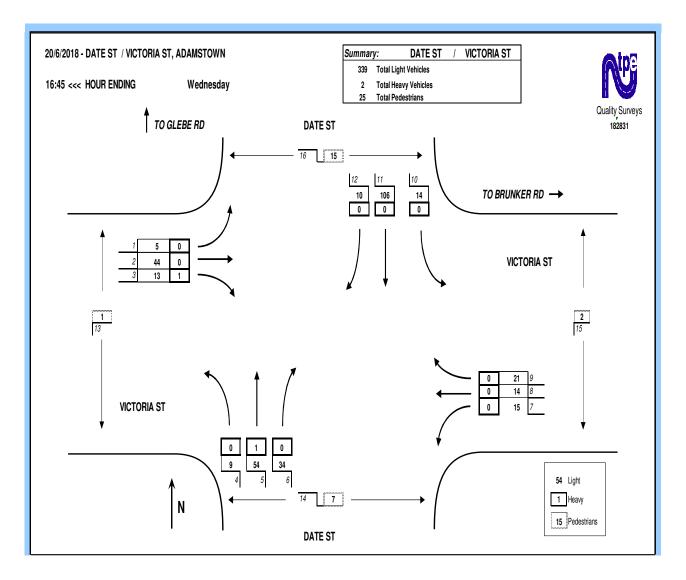


ATTACHMENT BTraffic count tally sheets

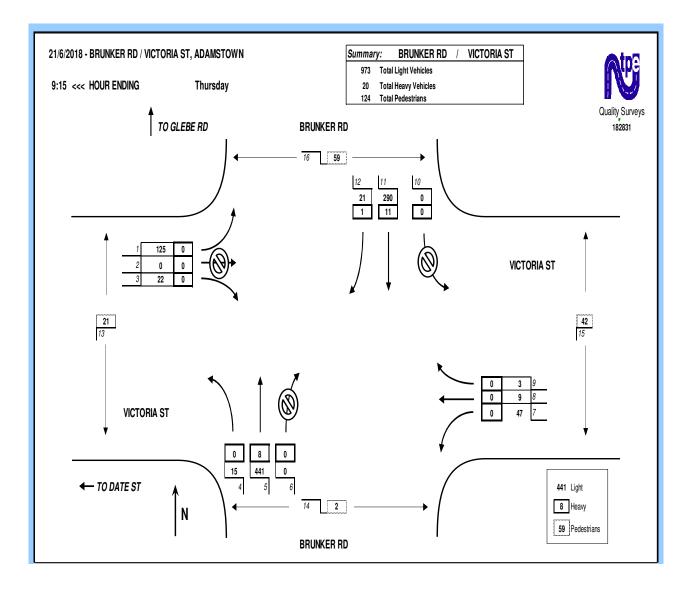




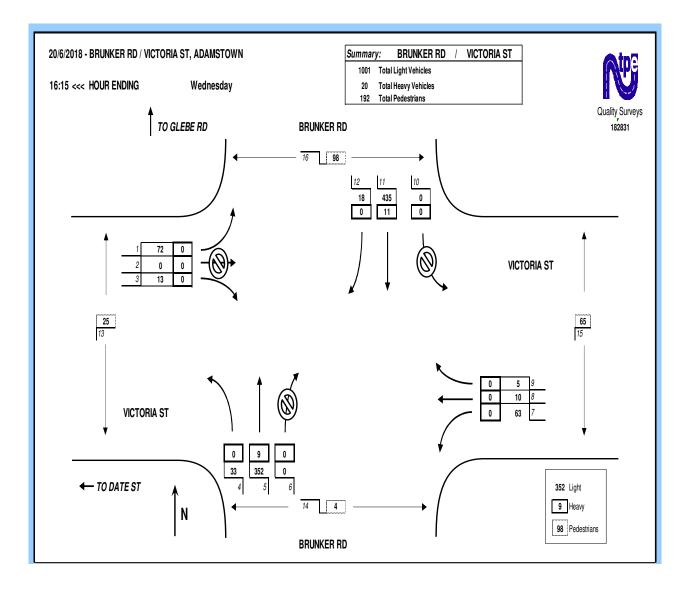




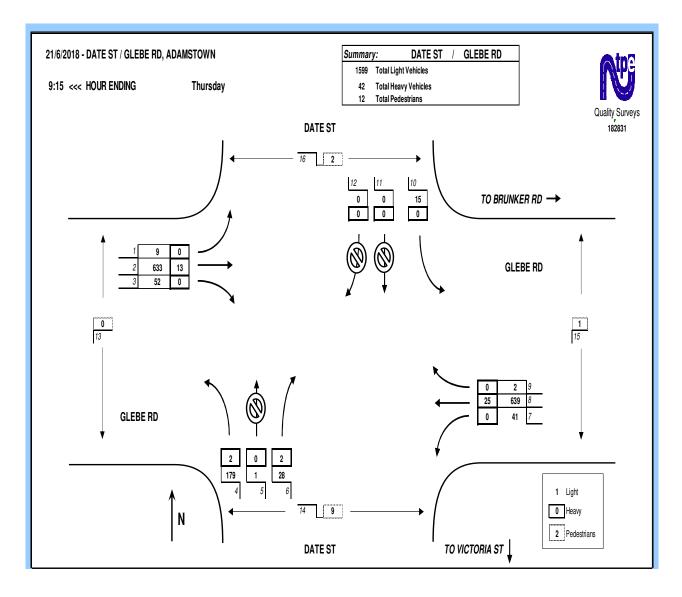




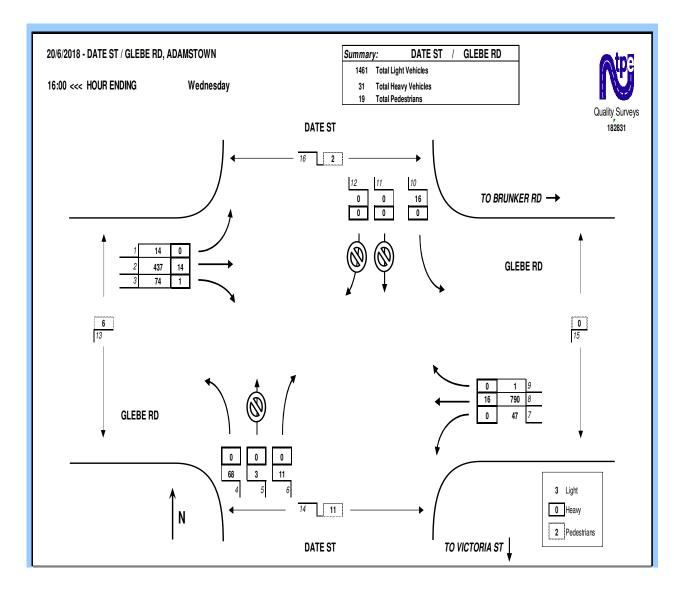














ATTACHMENT CSidra movement summary tables



∇ Site: 1 [2021 AM Peak Glebe (Site Folder: General)]

Date Street and Glebe Road Intersection Existing Traffic

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Turn	INF VOL	MES	DEM FLO	WS	Deg Satn		Level of Service	QU	ACK OF EUE	Prop. Que	Effective Stop	Aver No	Aver. Speed
		[Total velvh	HV J veh/h	Total vehih	HV]	wic	sec		(Veh.	Dist]		Rate	Cycles	km/h
Sout	h: Date	St												
1	L2	181	2	186	1.1	0.675	20.0	LOSB	4.3	30.4	0.84	1.23	1.72	36.8
3	R2	30	2	31	6.7	0.675	64.3	LOS E"	4.3	30.4	0.84	1.23	1.72	30.5
Appr	oach	211	4	217	1.9	0.675	26.3	LOSB	4.3	30.4	0.84	1.23	1.72	36.1
East	Glebe	Road												
4	L2	41	0	42	0.0	0.191	5.5	LOSA	0.0	0.0	0.00	0.07	0.00	56.3
5	T1	664	25	684	3.8	0.191	0.0	LOSA	0.0	0.0	0.00	0.03	0.00	59.3
Appr	oach	705	25	726	3.5	0.191	0.3	NA.	0.0	0.0	0.00	0.03	0.00	59.1
Norti	n: Date	St												
7	L2	15	0	15	0.0	0.028	9.0	LOSA	0.1	0.7	0.55	0.72	0.55	33.6
Appr	oach	15	0	15	0.0	0.028	9.0	LOSA	0.1	0.7	0.55	0.72	0.55	33.6
West	: Glebe	e Road												
10	12	9	0	9	0.0	0.211	5.6	LOSA	0.0	0.0	0.00	0.01	0.00	57.0
11	T1	643	13	662	2.0	0.211	0.5	LOSA	0.7	5.2	0.11	0.06	0.11	57.7
12	R2	52	0	54	0.0	0.211	9.4	LOSA	0.7	5.2	0.26	0.12	0.26	50.9
Appr	oach	704	13	725	1.8	0.211	1.3	NA.	0.7	5.2	0.12	0.06	0.12	56.8
All Vehic	cles	1635	42	1685	2.6	0.675	4.2	NA.	4.3	30.4	0.16	0.21	0.28	51.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

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V Site: 1 [2021 PM Peak Glebe (Site Folder: General)]

Date Street and Glebe Road Intersection Existing Traffic

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Tum	VOLU Total web/h		DEM FLO Total vehiti		Deg. Satn wc		Level of Service	95% B/ QUI [Veh. veh	CK OF EUE Dist] m	Prop. E Que	Stop Rate	Aver. No. Cycles	Avei Spear
Sout	h: Date		-	-										
1	L2	68	0	70	0.0	0.265	12.9	LO5 A	1.0	6.9	0.78	0.93	0.88	41.
3	R2	11	0	11	0.0	0.265	42.3	LOS C	1.0	6.9	0.78	0.93	0.88	35.
Appr	roach	79	0	81	0.0	0.265	17.0	LOS B	1.0	6.9	0.78	0.93	0.88	40.4
East	Glebe	Road												
4	L2	47	0	48	0.0	0.229	5.5	LOSA	0.0	0.0	0.00	0.07	0.00	56.
5	T1	808	16	830	2.0	0.229	0.0	LOSA	0.0	0.0	0.00	0.03	0.00	50.
Appr	roach	853	16	879	1.9	0.229	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.
Norti	h: Date	St												
7	L2	16	0	16	0.0	0.024	7.3	LOSA	0.1	0.6	0.47	0.64	0.47	35.
Appr	roach	16	0	16	0.0	0.024	7.3	LOSA	0.1	0.6	0.47	0.64	0.47	35.
Wes	t: Glebe	Road												
10	L2	14	0	14	0.0	0.187	5.6	LOSA	0.0	0.0	0.00	0.02	0.00	56.
11	T1	451	14	465	3.1	0.187	1.0	LOSA	1.0	7.0	0.14	0.10	0.14	56.
12	R2	75	1	77	1.3	0.187	10.5	LOSA	1.0	7.0	0.55	0.32	0.55	48.
Appr	roach	540	15	556	2.8	0.187	2.4	NA	1.0	7.0	0.20	0.13	0.20	54.
All Vehi	des	1488	31	1533	2.1	0.265	2.0	NA	1.0	7.0	0.12	0.12	0.12	54.

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included)

Queue Model: SIDRA Standard

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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∇ Site: 1 [2021 AM Peak Glebe + development (Site Folder:

General)]

Date Street and Glebe Road Intersection Existing Traffic + all developments

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Turn	VOLU		DEM	WS	Deg. Satn		Level of Service	QU	ACK OF EUE	Prop. Que	Stop	Aver. No.	Aver Speed
		[Total veh/h	HV]	Total veh/h	HV]	wic	sec		[Veh.	Dist]		Rate	Cydes	km/t
Sout	h: Date				- 10	7,0100	40000		53710	100000				0.000
1	L2	225	2	232	0.9	0.792	26.4	LOSB	6.5	46.0	0.87	1.45	2.35	34.4
3	R2	30	2	31	6.7	0.792	78.4	LOSF	6.5	46.0	0.87	1.45	2.35	28.1
Appr	oach	255	4	263	1.6	0.792	32,5	LOS C	6.5	46.0	0.87	1.45	2.35	33.8
East	Glebe	Road												
4	1.2	41	0	42	0.0	0.191	5.5	LOSA	0.0	0.0	0.00	0.07	0.00	56.3
5	T1	664	25	684	3.8	0.191	0.0	LOSA	0.0	0.0	0.00	0.03	0.00	59.3
Appr	oach	705	25	726	3.5	0.191	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.1
North	h: Date	St												
7	12	15	0	15	0.0	0.029	9.1	LOSA	0.1	0.7	0.56	0.72	0.56	33.6
Appr	oach	15	0	15	0.0	0.029	9.1	LOSA	0.1	0.7	0.56	0.72	0.56	33.6
West	t: Glebe	Road												
10	1.2	9	0	9	0.0	0.233	5.6	LOSA	0.0	0.0	0.00	0.01	0.00	57.0
11	T1	643	13	662	2.0	0.233	0.7	LOSA	1.1	7.8	0.13	0.08	0.14	57.1
12	R2	84	0	87	0.0	0.233	9.4	LOSA	1.1	7.8	0.40	0.22	0.42	49.7
Appr	oach	736	13	758	1.8	0.233	1.8	NA	1.1	7.8	0.16	0.10	0.17	55.5
All Vehic	cles	1711	42	1763	2.5	0.792	5.8	NA	6.5	46.0	0.20	0.28	0.43	49.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

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Site: 1 [2021 PM Peak Glebe + development (Site Folder:

General)]

Date Street and Glebe Road Intersection

Existing Traffic + cumulative development including specialist centre

Site Category. (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

	Tum	INP		DEM		Deg		Level of		ACK OF	Prop.	Effective	Aver.	Aver
ID		VOLU [Total veh/h	HV] veh/h	FLO [Total veh/h	WS HV] %	Sath	Delay	Service	[Veh.	Dist]	Que	Stop Rate	No. Cycles	Speed km/h
Sout	th: Date		7-1011	101011	-70	-			7-11					Miller
1	L2	98	0	101	0.0	0.344	14.0	LOSA	1.4	9.8	0.78	0.96	0.98	41.0
3	R2	11.	0	11	0.0	0.344	46.7	LOS D	1.4	9.8	0.78	0.96	0.98	34.9
Appr	roach	109	0	112	0.0	0.344	17.3	LOSB	1.4	9.8	0.78	0.96	0.98	40.5
East	Glebe	Road												
4	L2	47	0	48	0.0	0.229	5.5	LOSA	0.0	0.0	0.00	0.07	0.00	56.3
5	T1	805	16	830	2.0	0.229	0.0	LOSA	0.0	0.0	0.00	0.03	0.00	59.3
Appr	roach	853	16	879	1.9	0.229	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.1
Norti	h: Date	St												
7	L2	16	0	16	0.0	0.024	7.3	LOSA	0.1	0.6	0.48	0.64	0.48	35.5
Appr	roach	16	0	16	0.0	0.024	7.3	LOSA	0.1	0.6	0.48	0.64	0.48	35.5
Wes	t Glebe	Road												
10	L2	14	0	14	0.0	0.217	5.6	LOSA	0.0	0.0	0.00	0.02	0.00	56.9
11	T1	451	14	465	3.1	0.217	0.7	LOSA	1.1	7.5	0.09	0.10	0.09	57.3
12	R2	112	1	115	0.9	0.217	10.5	LOSA	1.1	7.5	0.64	0.56	0.67	46.6
Appr	roach	577	15	594	2.6	0.217	27	NA	1.1	7.5	0.19	0.18	0.20	53.6
All Vehi	des	1555	31	1602	2.0	0.344	2.5	NA	1.4	9.8	0.13	0.16	0.15	54.0

Site Level of Service (LOS) Method: Delay (RTA NSW), Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

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Site: 1 [2031 AM Peak Glebe + development (Site Folder:

General)]

Date Street and Glebe Road Intersection Existing Traffic + all developments

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 13 years

Mov ID	Turn	VOLU Total veh/h		DEM FLO [Total veh/h		Deg. Satn v/c		Level of Service		ACK OF EUE Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver Speer km/l
South	: Date	St						-						
1	L2	225	2	256	0.9	1.094	138.1	LOS F	27.6	195.8	1.00	3.21	7.62	15.
3	R2	30	2	34	6.7	1.094	211.3	LOS F"	27.6	195.8	1.00	3.21	7.62	11.
Appro	oach	255	4	290	1.6	1.094	146.7	LOSF	27.6	195.8	1.00	3.21	7.62	15.
East	Glebe	Road												
4	L2	41	0	47	0.0	0.211	5.5	LOSA	0.0	0.0	0.00	0.07	0.00	56.
5	T1	664	25	756	3.8	0.211	0.0	LOSA	0.0	0.0	0.00	0.03	0.00	59.
Appro	oach	705	25	802	3.5	0.211	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.
North	: Date	St												
7	L2	15	0	17	0.0	0.035	10.0	LOSA	0.1	0.8	0.60	0.77	0.60	32
Appro	oach	15	0	17	0.0	0.035	10.0	LOSA	0.1	0.8	0.60	0.77	0.60	32
West	Glebe	Road												
10	L2	9	0	10	0.0	0.263	5.6	LOSA	0.0	0.0	0.00	0.01	0.00	57.
11	T1	643	13	732	2.0	0.263	0.9	LOSA	1.4	10.1	0.15	0.08	0.17	56.
12	R2	84	0	96	0.0	0.263	10.3	LOSA	1.4	10.1	0.46	0.23	0.52	49.
Appro	oach	736	13	838	1.8	0.263	2.1	NA	1.4	10.1	0.18	0.10	0.21	55.
All Vehic	les	1711	42	1947	2.5	1.094	23.0	NA	27.6	195.8	0.23	0.54	1.23	34.

Site Level of Service (LCS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

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V Site: 1 [2031 PM Peak Glebe + development (Site Folder:

General)]

Date Street and Glebe Road Intersection

Existing Traffic + cumulative development including specialist centre

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 13 years

Mov ID	Turn	VOLL	IMES	DEM	WS	Deg. Satn		Level of Service	QU	ACK OF	Prop. Que	Effective Stop	Aver. No.	Aver Speed
		[Total veh/h	HV I veh/h	[Total vehih	HVI	v/c	sec		[Veh.	Dist J m		Rate	Cycles	kmħ
Sout	h: Date	St							11000011					
1	L2	98	0	112	0.0	0.463	18.1	LOSB	2.0	13.9	0.85	1.04	1.20	38.3
3	R2	11	0	13	0.0	0.463	64.8	LOS E11	2.0	13.9	0.85	1.04	1.20	32.1
Appr	roach	109	0	124	0.0	0.463	22.8	LOSB	2.0	13.9	0.85	1.04	1.20	37.8
East	: Glebe	Road												
4	L2	47	0	53	0.0	0.253	5.5	LOSA	0.0	0.0	0.00	0.07	0.00	56.3
5	T1	806	16	917	2.0	0.253	0.0	LOSA	0.0	0.0	0.00	0.03	0.00	59.3
Appr	oach	853	16	971	1.9	0.253	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.1
Nort	h: Date	St												
7	L2	16	0	18	0.0	0.028	7.8	LOSA	0.1	0.7	0.50	0.67	0.50	35.0
Appr	roach	16	0	18	0.0	0.028	7.8	LOSA	0.1	0.7	0.50	0.67	0.50	35.0
Wes	t: Glebe	Road												
10	L2	14	0	16	0.0	0.252	5.6	LOSA	0.0	0.0	0.00	0.02	0.00	56.9
11	T1	451	14	513	3.1	0.252	0.6	LOSA	1.2	8.6	0.07	0.08	0.07	57.7
12	R2	112	1	127	0.9	0.252	11.7	LOSA	1.2	8.6	0.70	0.66	0.79	45.5
Appr	roach	577	15	657	2.6	0.252	2.9	NA	1.2	8.6	0.19	0.19	0.21	53.4
All Vehi	des	1555	31	1770	2.0	0.463	2.9	NA	2.0	13.9	0.13	0.17	0.17	53.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

11 Level of Service is worse than the Level of Service Target specified in the Parameter Settings dialog.

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∇ Site: 2 [2021 AM Victoria (Site Folder: General)]

Date Street and Victoria Street Intersection Existing traffic volumes Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mav ID	Turn	VOLL		DEM		Deg Satn		Level of Service		ACK OF	Prop. Que	Effective Stop	Aver	Avor
		[Total velvh	HV] vet/h	[Total veh/h	HV]	v/c	sec	Del Mich	[Veh.	Dist]	Gue	Rate	Cycles	kmt
South	n: Date	-						r .	1770					
1	1.2	13	0	13	0.0	0.191	4.8	LOSA	0.7	5.1	0.12	0.19	0.12	47.3
2	TI	203	1	209	0.5	0.191	0.1	LOSA	0.7	5.1	0.12	0.19	0.12	47.
3	R2	98	0	101	0.0	0.191	4.8	LOSA	0.7	5.1	0.12	0.19	0.12	46.3
Appn	oach	314	1	324	0.3	0.191	1.8	NA	0.7	5.1	0.12	0.19	0.12	47.
East:	Victori	a Street												
4	1.2	18	1	19	5.6	0.051	7.9	LOSA	0.2	1.5	0.20	0.95	0.20	41.0
5	T1	15	0	15	0.0	0.051	10.6	LOSA	0.2	1.5	0.20	0.95	0.20	33.3
6	R2	7	0	7	0.0	0.051	10.7	LOSA	0.2	1.5	0.20	0.95	0.20	30.
Appn	oach	40	1	41	2.5	0.051	9.4	LOSA	0.2	1.5	0.20	0.95	0.20	37
North	: Date	St												
7	L2	13	0	13	0.0	0.048	5.2	LOSA	0.2	1.1	0.18	0.19	0.18	41.
8	T1	50	0	52	0.0	0.048	0.3	LOSA	0.2	1.1	0.18	0.19	0.18	47.
9	R2	16	0	16	0.0	0.048	5.5	LOSA	0.2	1.1	0.18	0.19	0.18	42.0
Appn	oach	79	0	81	0.0	0.048	2.2	NA	0.2	1.1	0.18	0.19	0.18	46.
West	: Victor	ia Street	ř.											
10	1.2	10	1	10	10.0	0.085	9.0	LOSA	0.4	2.5	0.50	0.93	0.50	33.0
11	T1	41	0	42	0.0	0.085	10.7	LOSA	0.4	2.5	0.50	0.93	0.50	32
12	R2	7	0	7	0.0	0.085	10.6	LOSA	0.4	2.5	0.50	0.93	0.50	41.
Appn	oach	58	1	60	1.7	0.085	10.4	LOSA	0.4	2.5	0.50	0.93	0.50	34.
All Vehic	iles	491	3	506	0.6	0.191	3.5	NA	0.7	5.1	0.18	0.34	0.18	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW), Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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∇ Site: 2 [2021PM Victoria (Site Folder: General)]

Date Street and Victoria Street Intersection Existing traffic volumes Site Category: (None)

Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Turn	VOLU		DEM FLO		Deg. Satn		Level of Service		ACK OF EUE	Prop. Que	Effective Stop	Aver. No.	Aver
10.		[Total veh/h	HV]	Total vehih	HV]	v/c	sec	Detaile	(Veh.	Dist	600	Rate	Cycles	kmil
Sour	th: Date	-	1000000	-500000	2018	1000	4000		5-110/11	2000				S-2007
1	L2	9	0	9	0.0	0.062	5.0	LOSA	0.2	1.7	0.18	0.23	0.18	46.
2	T1	55	1	57	1.8	0.062	0.3	LOSA	0.2	1.7	0.18	0.23	0.18	47.
3	R2	34	0	35	0.0	0.062	5.0	LOSA	0.2	1.7	0.18	0.23	0.18	45.
Арр	roach	98	1	101	1.0	0.062	2.4	NA	0.2	1.7	0.18	0.23	0.18	46.
East	: Victori	a Street												
4	L2	15	0	15	0.0	0.057	7.9	LOSA	0.2	1.7	0.33	0.88	0.33	41.
5	T1	14	0	14	0.0	0.057	8.8	LOSA	0.2	1.7	0.33	0.88	0.33	34.
6	R2	21	0	22	0.0	0.057	8.9	LOSA	0.2	1.7	0.33	0.88	0.33	31.
App	roach	50	0	52	0.0	0.057	8.6	LOSA	0.2	1.7	0.33	0.88	0.33	36.
Nort	h: Date	St												
7	L2	14	0	15	0.9	0.073	4.7	LOSA	0.1	0.7	0.04	0.10	0.04	44
8	T1	107	1	111	1.2	0.073	0.0	LOSA	0.1	0.7	0.04	0.10	0.04	48.
9	R2	10	0	10	0.8	0.073	4.8	LOSA	0.1	0.7	0.04	0.10	0.04	44.
Арр	roach	132	2	136	1.2	0.073	0.9	NA.	0.1	0.7	0.04	0.10	0.04	48
Wes	t: Victor	ia Street												
10	1.2	5	0	5	0.0	0.074	7.7	LOSA	0.3	23	0.36	0.92	0.36	34
11	T1	44	0	45	0.0	0.074	8.9	LOSA	0.3	2.3	0.36	0.92	0.36	34
12	R2	14	1	14	7.1	0.074	9.2	LOSA	0.3	2.3	0.36	0.92	0.36	41.
App	roach	63	1	65	1.6	0.074	8.9	LOSA	0.3	2.3	0.36	0.92	0.36	37.
All Vehi	icles	343	4	353	1,0	0.074	3.9	NA	0.3	2.3	0.18	0.40	0.18	44

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average detay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Site: 2 [2021 AM Victoria + development (Site Folder:

General)]

Date Street and Victoria Street Intersection Existing traffic volumes + all development Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Turn	VOLU	UT IMES	DEM FLO	all the same of th	Deg Satn		Level of Service		ACK OF EUE	Prop. Que	Effective Stop	Aver.	Aver
		[Total veh/h	HV J veh/h	[Total veh/h	HVI	v/c	sec	DOLVILO	[Veh.	Dist]	Gue	Rate	Cycles	km/l
Sout	h: Date		1000000			-	11000			111				-
1	L2	13	0	13	0.0	0.230	5.0	LOSA	1.0	6.9	0.17	0.21	0.17	47.
2	T1	230	1	237	0.4	0.230	0.3	LOSA	1.0	6.9	0.17	0.21	0.17	47
3	R2	126	0	130	0.0	0.230	5.0	LOSA	1.0	6.9	0.17	0.21	0.17	46.
Appr	oach	369	1	380	0.3	0.230	2.0	NA	1.0	6.9	0.17	0.21	0.17	46.5
East:	Victori	a Street												
4	L2	48	1:	49	2.1	0.114	7.8	LOSA	0.5	3.3	0.23	0.93	0.23	40.
5	T1	15	0	15	0.0	0.114	12.0	LOSA	0.5	3.3	0.23	0.93	0.23	32
6	R2	24	0	25	0.0	0.114	12.1	LOSA	0.5	3.3	0.23	0.93	0.23	29.
Appr	oach	87	1	90	1.1	0.114	9.7	LOSA	0.5	3.3	0.23	0.93	0.23	37.
North) Date	St												
7	L2	30	0	31	0.0	0.066	5.1	LOSA	0.2	1.3	0.16	0.21	0.16	41.
8	T1	65	0	67	0.0	0.066	0.3	LOSA	0.2	1.3	0.16	0.21	0.16	47.
9	R2	16	0	16	0.0	0.066	5.6	LOSA	0.2	1.3	0.16	0.21	0.16	413
Appr	oach:	111	0	114	0.0	0.066	2.4	NA	0.2	1.3	0.16	0.21	0.16	46.
West	. Victor	ia Street	E)											
10	L2	10	1	10	10.0	0.097	9.2	LOSA	0.4	2.8	0.55	0.96	0.55	32
11	T1	41	0	42	0.0	0.097	11.9	LOSA	0.4	2.8	0.55	0.96	0.55	31.
12	R2	7	0	7	0.0	0.097	12.0	LOSA	0.4	2.8	0.55	0.96	0.55	40.
Appr	oach	58	1	60	1.7	0.097	11.4	LOSA	0.4	2.8	0.55	0.96	0.55	33.
All Vehic	des	625	3	644	0.5	0.230	4.0	NA	1.0	6.9	0.21	0.38	0.21	44.

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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∇ Site: 2 [2021PM Victoria + development (Site Folder: General)]

Date Street and Victoria Street Intersection Existing traffic volumes + all developments Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Tum	VOLU		DEM FLO		Deg. Satn		Level of Service		ACK OF EUE	Prop. Que	Effective	Aver. No.	Aver Spee
		[Total veh/h	HV] veh/h	Total veh/h	HV]	w/c	sec		[Veh.	Dist]		Rate	Cycles	km/l
South	h: Date	St	10000			1112.0	.0.00		- Antes	- 111				- 22.00
1	L2	9	0	9	0.0	0.073	5.1	LOSA	0.3	2.1	0.21	0.24	0.21	46.5
2	T1	62	1	64	1.6	0.073	0.4	LOSA	0.3	2.1	0.21	0.24	0.21	46.
3	R2	42	0	43	0.0	0.073	5.2	LOSA	0.3	2.1	0.21	0.24	0.21	45.
Appr	oach	113	1	116	0.9	0.073	2.5	NA	0.3	2.1	0.21	0.24	0.21	46.
East:	Victor	ia Street												
4	L2	42	0	43	0.0	0.100	8.1	LOSA	0.4	2.9	0.33	0.89	0.33	41.
5	T1	14	0	14	0.0	0.100	9.3	LOSA	0.4	2.9	0.33	0.89	0.33	34.
6	R2	32	0	33	0.0	0.100	9.4	LOSA	0.4	2.9	0.33	0.89	0.33	31.
Appr	oach	88	0	91	0.0	0.100	8.8	LOSA	0.4	2.9	0.33	0.89	0.33	38.
North	c Date	St												
7	L2	25	0	26	0.5	0.088	4.7	LOSA	0.1	0.7	0.03	0.12	0.03	44.
8	T1	124	1	128	1.1	0.088	0.0	LOSA	0.1	0.7	0.03	0.12	0.03	48.
9	R2	10	0	10	8.0	0.088	4.9	LOSA	0.1	0.7	0.03	0.12	0.03	44.
Appr	oach	160	2	164	1.0	0.088	1.1	NA	0.1	0.7	0.03	0.12	0.03	48.
West	Victor	ria Street	Ē.											
10	L2	5	0	5	0.0	0.079	7.7	LOSA	0.3	2.5	0.39	0.92	0.39	34.
11	T1	44	0	45	0.0	0.079	9.3	LOSA	0.3	2.5	0.39	0.92	0.39	33.
12	R2	14	1	14	7.1	0.079	9.8	LOSA	0.3	2.5	0.39	0.92	0.39	41.
Appr	oach	63	1	65	1.6	0.079	9.3	LOSA	0.3	2.5	0.39	0.92	0.39	36.
All Vehic	los	424	4	436	0.8	0.100	4.3	NA	0.4	2.9	0.20	0.43	0.20	44.

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2 [2031 AM Victoria + development (Site Folder: General)]

Date Street and Victoria Street Intersection Existing traffic volumes + all development

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 13 years

Mov ID	Tum	VOLU		DEM FLO		Deg.		Level of Service		ACK OF EUE	Prop.	Effective	Aver No.	Aver
		[Total veh/h	HV] veh/h	[Total veh/h	HV]	Satn v/c	Sec	Service	[Veh.	Dist]	Que	Stop Rate	Cycles	Speed
South	n: Date		10.100	VOI 111	.,,		300		4011	- "				POT 11
1	L2	13	0	15	0.0	0.255	5.1	LOSA	1.1	7.9	0.19	0.21	0.19	46.5
2	T1	230	1	262	0.4	0.255	0.3	LOSA	1.1	7.9	0.19	0.21	0.19	47
3	R2	126	0	143	0.0	0.255	5.1	LOSA	1.1	7.9	0.19	0.21	0.19	45.5
Appro	oach	369	. 1	420	0.3	0.255	2.1	NA	1.1	7.9	0.19	0.21	0.19	46.8
East:	Victori	ia Street												
4	12	48	- 1	55	2.1	0.134	7.9	LOSA	0.5	3.9	0.25	0.93	0.25	40.
5	T1	15	0	17	0.0	0.134	12.8	LOSA	0.5	3.9	0.25	0.93	0.25	32
6	R2	24	0	27	0.0	0.134	13.1	LOSA	0.5	3.9	0.25	0.93	0.25	29.
Appro	oach	87	1	99	1.1	0.134	10.2	LOSA	0.5	3.9	0.25	0.93	0.25	37
North	Date	St												
7	L2	34	0	39	0.0	0.072	5.0	LOSA	0.2	1.1	0.13	0.21	0.13	41.6
8	T1	65	0	74	0.0	0.072	0.3	LOSA	0.2	1.1	0.13	0.21	0.13	47
9	R2	12	0	14	0.0	0.072	5.8	LOSA	0.2	1.1	0.13	0.21	0.13	42
Appro	oach	111	D	126	0.0	0.072	2.3	NA.	0.2	1.1	0.13	0.21	0.13	46.
West	Victor	ria Street	10											
10	L2	10	1	11	10.0	0.116	9.4	LOSA	0.5	3.4	0.58	0.98	0.58	31.
11	T1	41	0	47	0.0	0.116	12.7	LOSA	0.5	3.4	0.58	0.98	0.58	31.
12	R2	7	0	8	0.0	0.116	12.8	LOSA	0.5	3.4	0.58	0.98	0.58	40.
Appro	oach	58	1	66	1.7	0.116	12.2	LOSA	0.5	3.4	0.58	0.98	0.58	33.
All Vehic	toe	625	3	711	0.5	0.255	4.2	NA	1.1	7.9	0.22	0.38	0.22	44

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 2 [2031PM Victoria + development (Site Folder:

General)

Date Street and Victoria Street Intersection Existing traffic volumes + all developments

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 13 years

Mov ID	Tum	INF VOLU		DEM. FLO		Deg. Satn		Level of Service		ACK OF EUE	Prop. Que	Effective Stop	Aver. No.	Aver Speed
		[Total veh/h	HV J wah/h	[Total veh/h	HV1	wc	Sec		[Veh.	Dist		Rate	Cycles	km/t
Sout	h: Date	St	4000000	2000	0102		277033			72.				1111111111
1	L2	9	0	10	0.0	0.082	5.2	LOSA	0.3	2.4	0.22	0.24	0.22	46.5
2	T1	62	1	71	1.6	0.082	0.4	LOSA	0.3	2.4	0.22	0.24	0.22	46.5
3	R2	42	0	48	0.0	0.082	5.3	LOSA	0.3	2.4	0.22	0.24	0.22	45.4
Appr	oach	113	1	129	0.9	0.082	2.6	NA	0.3	2.4	0.22	0.24	0.22	46.3
East	Victor	ia Street												
4	L2	42	0	48	0.0	0.117	8.2	LOSA	0.5	3.5	0.36	0.89	0.36	41.5
5	T1	14	0	16	0.0	0.117	9.6	LOSA	0.5	3.5	0.36	0.89	0.36	341
6	R2	34	0	39	0.0	0.117	9.8	LOSA	0.5	3.5	0.36	0.89	0.36	30.5
Appr	oach	90	0	102	0.0	0.117	9.0	LOSA	0.5	3.5	0.36	0.89	0.36	38.0
North	h: Date	St												
7	1.2	25	0	29	0.5	0.097	4.7	LOSA	0.1	0.8	0.04	0.12	0.04	44.5
8	T1	124	1	141	1.1	0.097	0.0	LOSA	0.1	0.8	0.04	0.12	0.04	48.
9	R2	10	0	11	0.8	0.097	4.9	LOSA	0.1	0.8	0.04	0.12	0.04	44
Appr	oach	160	2	182	1.0	0.097	1.1	NA	0.1	0.8	0.04	0.12	0.04	48.
West	t. Victor	ria Street												
10	L2	5	0	6	0.0	0.091	7.8	LOSA	0.4	2.8	0.42	0.92	0.42	34.
11	T1	44	0	50	0.0	0.091	9.6	LOSA	0.4	2.8	0.42	0.92	0.42	33.
12	R2	14	1	16	7.1	0.091	10.2	LOSA	0.4	2.8	0.42	0.92	0.42	41.
Appr	oach	63	1	72	1.6	0.091	9.6	LOSA	0.4	2.8	0.42	0.92	0.42	36.
All Vehic	des	426	4	484	8.0	0.117	4.4	NA.	0.5	3.5	0.21	0.43	0.21	44

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Brunker Road / Victoria Street give way intersection Existing traffic volumes + all development

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Turn	INP VOLU [Total		DEM FLO Total		Deg. Satn		Level of Service		ACK OF EUE Dist]	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver Speed
7		veh/h	veh/h	veh/h	- %	w/c	58C		veh	m				km/h
Sout	h: Brur	iker Road	1											
1	L2	30	1	33	3.3	0.018	5.6	LOSA	0.0	0.0	0.00	0.58	0.00	49.0
2	T1	449	8	487	1.8	0.253	0.1	LOSA	0.0	0.0	0.00	0.00	0.00	59.9
Appr	oach	479	9	519	1.9	0.253	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.0
East	Victor	ia Street												
4	1.2	47	0	51	0.0	0.081	7.0	LOSA	0.3	2.1	0.46	0.67	0.46	51.6
5	T1	9	0	10	0.0	0.081	14.8	LOSB	0.3	2.1	0.46	0.67	0.46	47.6
6	R2	3	0	3	0.0	0.026	26.5	LOSB	0.1	0.4	0.80	0.92	0.80	33.4
Appr	oach	59	0	64	0.0	0.081	9.2	LOSA	0.3	2.1	0.48	0.68	0.48	50.2
Norti	h: Brun	ker Road	ii.											
8	T1	301	11	326	3.7	0.205	1.0	LOSA	0.8	5.9	0.22	0.10	0.22	56.8
9	R2	55	1	60	1.8	0.205	8.8	LOSA	0.8	5.9	0.29	0.14	0.29	15.8
Appr	oach	356	12	386	3.4	0.205	2.2	NA.	0.8	5.9	0.23	0.11	0.23	49.2
West	t: Victo	ria Street												
10	L2	170	0	184	0.0	0.308	8.9	LOSA	1.4	9.6	0.59	0.85	0.68	15.7
12	R2	22	0	24	0.0	0.308	19.4	LOSB	1.4	9.6	0.59	0.85	0.68	45.1
Appr	oach	192	0	208	0.0	0.308	10.1	LOSA	1.4	9.6	0.59	0.85	0.68	19.0
All Vahi	rles	1086	21	1178	1.9	0.308	3.2	NA	1.4	9.6	0.20	0.24	0.22	46.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vahicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V Site: 1 [2021 PM Brunker + development (Site Folder:

Brunker Road / Victoria Street give way intersection Existing traffic volumes + all developments

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 3 years

Mov ID	Turn	VOLU Total	MES HV J	DEM FLO Total	WS HV]	Deg. Satn	Delay	Level of Service	QUI [Veh.	ACK OF EUE Dist]	Prop. Que	Effective Stop Rate	Aver No. Cycles	Aver
South	h Davi	welch ker Road	veh/h	vehih	%	WC	sec		veh	m				km/h
			2.5	22	1222			2222		222	200	2.22	27.13	112
1	12	42	0	46	0.0	0.025	5.5	LOSA	0.0	0.0	0.00	0.58	0.00	49.1
2	T1	361	9	392	2.5	0.204	0.1	LOSA	0.0	0.0	0.00	0.00	0.00	59.9
Appr	oach	403	9	437	2.2	0.204	0.6	NA	0.0	0.0	0.00	0.06	0.00	58.6
East	Victor	a Street												
4	L2	63	0	68	0.0	0.120	8.1	LOSA	0.4	3.0	0.54	0.76	0.54	50.9
5	T1	10	0	11	0.0	0.120	16.3	LOSB	0.4	3.0	0.54	0.76	0.54	46.7
6	R2	5	0	5	0.0	0.018	17.3	LOSB	0.1	0.5	0.78	0.85	0.78	38.8
Appr	oach	78	0	85	0.0	0.120	9.8	LOSA	0.4	3.0	0.56	0.76	0.56	49.8
Norti	h: Brun	ker Road	į.											
8	T1	446	11	484	2.5	0.257	0.5	LOSA	0.7	4.9	0.14	0.06	0.14	58.1
9	R2	47	0	51	0.0	0.257	8.2	LOSA	0.7	4.9	0.17	0.08	0.17	16.2
Appr	oach	493	11	535	22	0.257	1.2	NA	0.7	4.9	0.14	0.06	0.14	53.2
Wes	t: Victo	ria Street												
10	L2	92	.0	100	0.0	0.161	7.5	LOSA	0.6	4.2	0.51	0.73	0.51	:16.0
12	R2	13	0	14	0.0	0.161	19.4	LOSB	0.6	4.2	0.51	0.73	0.51	46.2
Appr	oach	105	0	114	0.0	0.161	9.0	LOSA	0.6	4.2	0.51	0.73	0.51	19.7
All Vehi	eta e	1079	20	1170	1.9	0.257	2.4	NA	0.7	4.9	0.15	0.18	0.15	50.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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∇ Site: 1 [2031 AM Brunker + development (Site Folder: General)]

Brunker Road / Victoria Street give way intersection Existing traffic volumes + all development

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 13 years

Mov	Turn	INP	UT	DEM	AND	Deg.	Aver	Level of	95% B	ACK OF	Prop	Effective	Aver	Aver
ID		VOLUM [Total		FLO [Total		Satn		Service		EUE Dist)	Que	Stop Rate	No. Cycles	5peex
		veh/h	vehih	veluh	%	w/c	sec		veh	m				km/h
Sout	n: Brun	iker Road	i											
1	1.2	30	1	36	3.3	0.020	5.6	LOSA	0.0	0.0	0.00	0.58	0.00	49.0
2	T1	449	8	538	1.8	0.279	0.1	LOSA	0.0	0.0	0.00	0.00	0.00	59.8
Appn	oach	479	9	574	1.9	0.279	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.0
East	Victor	a Street												
4	1.2	47	0	56	0.0	0.098	7.2	LOSA	0.4	2.5	0.50	0.69	0.50	51.1
5	T1	9	0	11	0.0	0.098	17.4	LOSB	0.4	2.5	0.50	0.69	0.50	47.0
6	R2	3	0	4	0.0	0.036	33.0	LOS C	0.1	0.6	0.85	0.94	0.85	30.4
Appr	oach	59	0	71	0.0	0.098	10.1	LOSA	0.4	2.5	0.51	0.70	0.51	49.6
North	Brun	ker Road	l)											
8	T1	301	11	361	3.7	0.232	1.2	LOSA	1.0	7.2	0.24	0.11	0.24	56.4
9	R2	55	1	66	1.8	0.232	9.5	LOSA	1.0	7.2	0.32	0.14	0.32	15.6
Appn	oach	356	12	426	3.4	0.232	2.5	NA	1.0	7.2	0.25	0.11	0.25	48.8
Wast	Victo	ria Street												
10	L2	170	0	204	0.0	0.376	10.0	LOSA	1.8	12.8	0.63	0.91	0.83	15.2
12	R2	22	0	26	0.0	0.376	23.7	LOSB	1.8	12.8	0.63	0.91	0.83	43.8
Арри	oach	192	0	230	0.0	0.376	11.6	LOSA	1.8	12.8	0.63	0.91	0.83	18.6
All Vehic	les	1086	21	1301	1.9	0.376	3.6	NA	1.8	12.8	0.22	0.25	0.26	46.

Site Level of Service (LOS) Method: Delay (RTA NSW), Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average datay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements,

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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∇ Site: 1 [2031 PM Brunker + development (Site Folder: General)]

Brunker Road / Victoria Street give way intersection Existing traffic volumes + all developments

Site Category: (None) Give-Way (Two-Way)

Design Life Analysis (Final Year): Results for 13 years

Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Level of Delay Service		95% BACK OF QUEUE		Prop. Que	Effective Stop	Aver No.	
		[Total velsh	HV]	[Total vehiti	HV]	vic	sec		[Veh.	Dist]		Rate	Cycles	km/h
Sout	h: Brur	iker Road	1											
1	1.2	42	0	50	0.0	0.027	5.5	LOSA	0.0	0.0	0.00	0.58	0.00	49.1
2	T1	361	9	432	2.5	0.225	0.1	LOSA	0.0	0.0	0.00	0.00	0.00	59.9
Appr	oach	403	9	483	22	0.225	0.6	NA	0.0	0.0	0.00	0.06	0.00	58.5
East	Victor	ia Street												
4	L2	63	0	75	0.0	0.148	8.6	LOSA	0.5	3.7	0.58	0.80	0.58	50.3
5	T1	10	0	12	0.0	0.148	19.3	LOSB	0.5	3.7	0.58	0.80	0.58	45.9
6	R2	5	0	6	0.0	0.025	20.4	LOSB	0.1	0.6	0.82	0.91	0.82	36.8
Appr	oach	78	0	93	0.0	0.148	10.7	LOSA	0.5	3.7	0.59	0.80	0.59	49.1
North	h: Brun	ker Road												
8	T1	446	11	534	2.5	0.287	0.6	LOSA	0.9	6.3	0.15	0.06	0.16	57.8
9	R2	47	0	56	0.0	0.287	8.8	LOSA	0.9	6.3	0.19	0.08	0.20	16.1
Appr	oach	493	11	591	2.2	0.287	1.4	NA	0.9	6.3	0.15	0.07	0.17	53.0
West	t: Victo	ria Street												
10	12	92	.0	110	0.0	0.196	7.9	LOSA	0.7	5.1	0.55	0.76	0.55	15.8
12	R2	13	0	16	0.0	0.196	23.2	LOSB	0.7	5.1	0.55	0.76	0.55	45.5
Appr	roach	105	0	126	0.0	0.196	9.8	LOSA	0.7	5.1	0.55	0.76	0.55	19.4
All Vehic	rles	1079	20	1293	1.9	0.287	2.6	NA	0.9	6.3	0.17	0.18	0.17	50.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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WASTE MANAGEMENT PLAN

VERSION 2.0 - DECEMBER 2021

PROPOSED ADAMSTOWN DAY HOSPITAL & SPECIALIST CENTRE
DP1221375
43 DATE ST
ADAMSTOWN

PREPARED BY

ARCHADIA PROJECTS PTY LTD

ARN. 88 148 163 387



Report Details

Report:	Title	Waste Management Plan
	Status	Development Application
	Version	2.0
	Date	December 2021
Project:	Proposed	Adamstown Day Hospital & Specialist Centre
	Location	43 Date Street
		Adamstown NSW
Prepared for:	Client	GPV Adamstown Pty Ltd ATF
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Summary of Revisions

Version:	Date:	Author:	Status:
1.0	06 December 2021	АВ	Preliminary Draft
2.0	07 December 2021	АВ	DA Issue



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3.0 OPERATIONAL WASTE MANAGEMENT	07
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1.0 INTRODUCTION

This Waste Management Plan relates to the proposed construction of a new 5-storey Specialist Medical Centre known as Adamstown Day Hospital & Specialist Centre to be located at 43 Date Street, Adamstown. This document should be read in conjunction with the accompanying drawings and reports.

The proposed Adamstown Day Hospital & Specialist Centre facing the corner of Date & Victoria Streets is designed to be used for:

- a) Level 1 Car Parking; with
- b) Level 2 Car Parking; and
- c) Level 3 Healthcare Consulting Rooms / Commercial Office Space; and
- d) Level 4 Healthcare Consulting Rooms; and
- e) Level 5 Day Hospital; and
- f) Building identification & Business identification signage.

The cost of the works is expected to be in the order of \$11.2M excl GST – refer Budget Estimate by RPS Group Quantity Surveyors.



2.0 CONSTRUCTION WASTE MANAGEMENT

The Intent of Council's requirements in respect of Construction Waste Management is to show how the proposal promotes waste minimisation and how any waste will be disposed of.

The finalised Construction Waste Management Plan will be prepared by the selected Contractor under the guidance of the Consultant Team before submission to the PCA and subsequent implementation. Whilst the exact details have not yet been determined, the following represents a reasonable approximation of the Construction Waste Management Plan that may be adopted for the Works (subject to Council approval).

- a) Construction Waste: The waste from the construction project will be separated broadly into a number of primary classification groups: nonrecyclable general waste; recyclable concrete and masonry waste; recyclable steel and metals waste; recyclable timber waste and recyclable plaster-based products waste.
- b) Non-recyclable Waste Materials: Non-recyclable waste materials will be identified, handled, separated and disposed of in accordance with instructions from the qualified Site Supervisor at approved LGA facilities. This waste is likely to be disposed of at the Council Summerhill Waste Management Facility.
- c) Recyclable Waste Materials: Recyclable waste materials will be identified, handled, separated and disposed of in accordance with instructions from the qualified Site Supervisor at approved recycling facilities. This waste will be disposed of at facilities such as the Council Summerhill Waste Management Facility; Concrush; etc.
- d) Green Waste: will be identified, handled and disposed of in accordance with instructions from the qualified Site Supervisor. Nil to minimal Green waste is anticipated as the site is already cleared.



- e) Contaminated Waste: Should any hazardous materials such as asbestos, or asbestos containing materials, synthetic mineral fibre, lead-based paint and PCBs be identified, they will be disposed of using methodology authorised by an appropriately qualified environmental consultant. No Hazardous Waste is anticipated as the site is already cleared.
- f) Traffic Control: will be undertaken by appropriately accredited contractors under the management of the Site Supervisor.
- g) Vehicles: The building, the contractor is likely to medium to large excavators on site. Excavation and civil works haulage will be via 12 tonne, six-wheel trucks due to the limited manoeuvring area available in nearby streets. Some drilling or piling requiring other heavy machinery may be required subject to geotechnical investigation and structural engineering advice. A crane will be required during some phases of the construction process.



3.0 OPERATIONAL WASTE MANAGEMENT

The Intent of Council's requirements in respect of Operational Waste Management is to show how the proposal promotes waste minimisation and how any hazardous wastes will be disposed of.

The finalised Operational Waste Management Plan will be prepared by the Consultant Team in tandem with the Tenant/Operation Managers before submission to the PCA and subsequent implementation. Whilst the exact details cannot yet be determined, the following represents a reasonable approximation of the Operational Waste Management Plan that can be adopted for the Works (subject to Council approval).

a) General and Putrescible Waste: The Tenants in the proposed development (or their respective cleaning service providers) will be required to transport their general waste from their Tenancy to the secure Waste Storage Room on Level 2. All tenants will access the Waste Storage Room via the Lift.

The Waste Storage Room will be equipped with two 1.5cubm waste skips, one of which is for general waste and is will be emptied by a commercial contractor 3 to 4 days per week depending on needs. Note that the Waste Storage Room has capacity for an additional skip if required.

b) Confidential Waste: Tenants who require confidential waste disposal will be required to engage a commercial contractor to provide and collect confidential waste receptacles to/from the Tenancies using the Lift. Frequency of servicing will depend on the individual Tenant requirements.



- c) Recyclable Waste: The Tenants in the proposed development (or their respective cleaning service providers) will be required to transport their recyclable waste from their Tenancy to the secure Waste Storage Room on Level 2. This Waste Storage Room will be equipped with a recyclable waste skip bin that will be emptied by a commercial contractor 2 to 3 days per week depending on needs. Note that the Waste Storage Room has capacity for an additional skip if required.
- d) Contaminated Waste: Medical contaminated waste such as "sharps" will be generated by the Day Hospital and Healthcare Consulting Tenancies as a result of the processes inherent in the operation of these facilities. The relevant Tenants will be required to engage licensed commercial contractors to provide suitable receptacles and medical contaminated waste removal services accordingly. The contaminated waste receptacles will remain inside the Tenancy at all times except for removal/replacement of the receptacles by the licensed contractor. The licensed contractor will service the premises on an as-needs basis.

4.0 CONCLUSION

GPV Adamstown Pty Limited ATF GPV Adamstown Trust seek approval for the construction of a new 5-storey Specialist Medical Centre at 43 Date St, Adamstown, known as Adamstown Day Hospital & Specialist Centre.

The proposed development is well situated in close proximity to major roads servicing the Adamstown and surrounding communities. The site provides ready access to nearby commercial/retail infrastructure and public transport.

The proposed development will accommodate and support the growth of the adjoining General Medical Practice, Pathology Laboratory, and Imaging facilities, as well as provide speculative tenancies suitable for commercial businesses.

The development strategy includes provisions for the management and disposal of waste during the construction period as well as for the operational phase of the building.

The following documents have been prepared to accompany this Waste Management Plan and should be read in conjunction with this report:

- a) ARCHITECTURAL DRAWINGS Archadia Projects (2021).
- b) STATEMENT OF ENVIRONMENTAL EFFECTS Wilson Planning Pty Ltd (2021)



ADAMSTOWN DAY HOSPITAL AND SPECIALIST **CENTRE (HEALTH SERVICES FACILITY)**

43 DATE STREET, ADAMSTOWN

CRIME RISK ASSESSMENT

DECEMBER 2021



Document Information

Client: GPV Adamstown Pty Ltd ATF GPV Adamstown Trust

Project: Health services facility

Our Reference: 2021-1450

Author: WW

Reviewed by Client: 3 December 2021

Document History

Version	Date	Description	Author	Checked
1	03/12/21	DRAFT	WW	-
2	06/12/21	FINAL FOR COUNCIL SUBMISSION	WW	-

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Appendices

Appendix A – Location of CCTV and Security Lighting

1.0 Introduction

1.1 Purpose of Report

This Report has been prepared for GPV Adamstown Pty Ltd ATF GPV Adamstown Trust, the proponent of the subject application. It undertakes a Crime Risk Assessment and Safety Audit of the proposed Health Services Facility against the provision of the NSW Police Guidelines 'Safer by Design' and the Department of Planning and Infrastructure's Crime Prevention and the Assessment of Development Applications: Guidelines.

The purpose of this Report is to undertake an assessment of the crime profile of the area, the likely crime risks associated with the development, and amelioration measures to ensure that the proposal adequately minimises crime opportunity through implementation of the Crime Prevention Through Environmental Design (CPTED) Principles. This report also has regard to the objectives and controls contained in Newcastle Development Control Plan 2012 Section 4.04 - Safety and Security.

This Report is to be read in conjunction with the Statement of Environmental Effects prepared by Wilson Planning Pty Ltd together with the architectural plans prepared by Archadia Projects Pty Ltd accompanying the application.

The author has a Bachelor of Urban and Regional Planning from the University of New England and has undertaken the Safer By Design course and is knowledgeable in Crime Prevention Through Environmental Design (CPTED).

1.2 Site Analysis

The site comprises Lot 11 DP 1221375 and is known as 43 Date Street, Adamstown. The site has a total area of 1,683m² and is located on the south-eastern corner of the intersection of Date and Victoria Streets. The site has frontage of 47 metres to Victoria Street and a frontage of 31 metres to Date Street, with a 5 metre slay at the intersection. The site slopes from its eastern boundary to its western, Date Street, boundary with a fall of approximately 3 metres.

Concrete footpaths are located along the Date Street and Victoria Street boundaries of the site and overhead powerlines run parallel to the western boundary, above the concrete footpath.

The site is zoned R4 High Density Residential pursuant to Newcastle Local Environmental Plan 2012 and is located within the Adamstown Renewal Corridor pursuant to Section 6.08 of Newcastle Development Control Plan 2012.

The site is bounded by 2-3 storey commercial buildings and their associated at-grade car parks immediately to the east.

The Newcastle Healthcare Centre (former Adamstown RSL Club building) and associated basement and at-grade car parks are located immediately to the south-east and south of the site. Further to the south are single dwellings and a multi storey residential apartment building under construction (reflecting the R4 high density zoning of this locality).

The site is bounded by 2-3 storey commercial buildings and their associated at-grade car parks immediately to the east. The Newcastle Healthcare Centre (former Adamstown RSL Club building)

and associated basement and at-grade car parks are located immediately to the south-east and south of the site. Further to the south are single dwellings and a multi storey residential apartment building under construction (reflecting the R4 high density zoning of this locality). A mixture of older single dwellings and modern medium density residential development is located to the west and north-west, on the opposite side of Date Street.

Two x 3 storey residential buildings and associated at-grade carparking and access, together with a 2-3 storey hotel and at-grade carpark, are located to the north and north-east, on the northern side of Victoria Street.

1.3 The Proposed Development

Consent is sought for the erection of a 5-storey health services facility on the subject site. The Newcastle Healthcare Centre Stage 2 proposal centres on a purpose-designed facility to consolidate and replace a number of disparate sites and supports the needs of the well-established Hunter Specialist Medical Centre over Levels 4 and 5 of the proposed building. The new building will be known as 'Adamstown Day Hospital and Specialist Centre'.

The site is located within Precinct 2 - Glebe Road (Mixed Use Focus) Character Precinct of the Adamstown Renewal Corridor and the building has been designed having regard to the built form controls applicable to this precinct set out in Section 6.08 of Newcastle Development Control Plan (DCP).

The building has been designed to step up the slope of the site, thereby reducing the bulk and scale of the building at the interface with the medium density residentially zoned land on the western side of Date Street, and then increasing towards the maximum permissible height limit of 20 metres at the top (eastern end) of the site. The primary bulk and height of the building is contained in the eastern portion of the site facing the B2 zoned land immediately to the east of the site.

The main pedestrian entry to the building will be off Victoria Street, with a forecourt provided in front of the lift foyer. Vehicular access will be provided from both Victoria Street (to Level 2 Carpark) and Date Street (to Level 1 Carpark). Level 1 will provide parking for staff, while Level 2 will provide parking for patients.

Figures 1-4 show all of the proposed vehicular and pedestrian access points for the building.

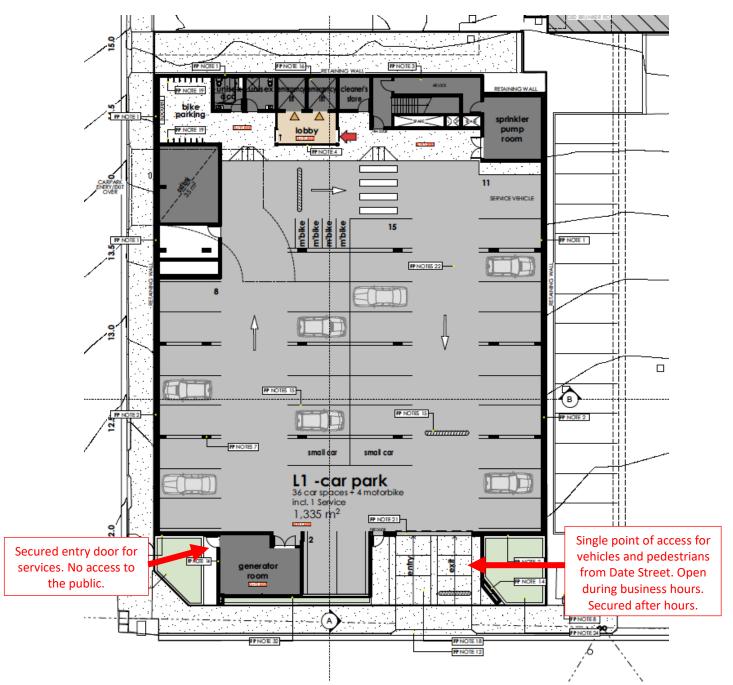


Figure 1 – Plan showing vehicular and pedestrian access points – Level 1

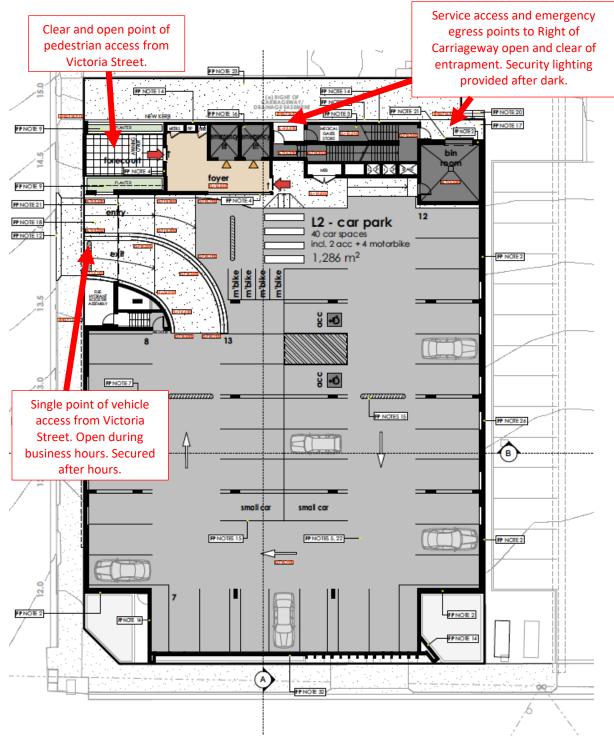


Figure 2 – Plan showing vehicular and pedestrian access points – Level 2



Figure 3 – 3D Perspective showing vehicular and pedestrian access points on Date Street



Figure 4 – 3D Perspective showing vehicular and pedestrian access points on Victoria Street

1.4 Crime Statistics for Adamstown

A review of the NSW Crime Maps for Adamstown (published by the NSW Bureau of Crime Statistics and Research) indicates that for July 2020 to June 2021 the area had 'low' rates of crime per 100,000 persons in the following relevant categories:

- Non-domestic assaults (370.1 per 100,000 population, lower than NSW state average)
- Homicide (0 per 100,000 population, lower than NSW state average)
- Robbery (16.1 per 100,000 population, lower than NSW state average)
- Sexual offences (sexual assault/indecent assault) (418.3 per 100,000 population, higher than NSW state average)
- Theft (break and enter, motor vehicle theft, steal from motor vehicle, steal from person)
 (3,652.5 per 100,000 population, higher than NSW state average particularly for motor vehicle theft and steal from motor vehicle)
- Malicious damage to property (788.4 per 100,000 population, higher than NSW state average)
- Disorderly conduct (225.3 per 100,000 population, on par with NSW state average)
- Arson (0 per 100,000 population, on par with NSW state average).

All categories were identified as 'stable' using a 2-year trend assessment.

As indicated above, Adamstown experiences higher than state average instances of theft, sexual assault, and malicious damage to property. As such, the probability of an incident or damage occurring within or to the proposed building, particularly the carpark levels, is higher and the safety of carpark users, particularly females, security of personal property, and protection of the building itself are key areas to address in the design of the building.

It is also important to consider the fact that the facility will not be open or occupied at night or on weekends, and the facility will be at higher risk of criminal activity during these times. To ameliorate this risk, the proposal's design has considered the principles of Crime Prevention Through Environmental Design (CPTED) and specifically the following security measures:

- Built form, including building to the two street frontages, low level landscaping with underpruned trees along the Date Street frontage, open and clearly visible pedestrian forecourt facing Victoria Street, limited vehicular access points that will be secured after hours
- Surveillance (CCTV)
- Building security system (monitored alarm system)
- Pedestrian safety and signage for safety of movement between the facility, car park levels and street
- Graffiti control
- Security lighting.

The CPTED principles and above issues are addressed in Section 2.0 of this assessment.

2.0 Crime Prevention Through Environmental Design

2.1 The CPTED Principles

The publication 'Crime Prevention Legislative Guidelines to Section 4.15 of the Environmental Planning and Assessment Act, 1979 identify four Crime Prevention through Environmental Design (CPTED) principles which are summarised below.

Inclusion of the principles in the design of developments seeks to:

- Maximise risk to offenders (increasing the likelihood of detection, challenge and apprehension),
- Maximise the effort required to commit crime (increasing the time, energy and resources required to commit crime),
- Minimise the actual and perceived benefits of crime (removing, minimising or concealing crime attractors and rewards), and
- Minimise excuse making opportunities (removing conditions that encourage/facilitate rationalisation of inappropriate behaviour).

CPTED Principles	
Territorial Re- enforcement	Community ownership of public space sends positive signals to the community. Places that feel owned and cared for are likely to be used, enjoyed and revisited. People who have guardianship or ownership of areas are more likely to provide effective supervision and to intervene in crime than passing strangers and criminals rarely commit crime in areas where the risk of detection and challenge are high. Effective guardians are often ordinary people who are spatially 'connected' to a place and feel an association with, or responsibility for it.
	Territorial Re-enforcement uses actual and symbolic boundary markers, spatial legibility and environmental cues to 'connect' people with space, to encourage communal responsibility for public areas and facilities, and to communicate to people where they should/not be and what activities are appropriate.
Surveillance	People feel safe in public areas when they can see and interact with others, particularly people connected with that space, such as shopkeepers or adjoining residents. Criminals are often deterred from committing crime in places that are well supervised.
	Natural surveillance is achieved when normal space users can see and be seen by others. This highlights the importance of building layout, orientation and location; the strategic use of design; landscaping and lighting — it is a byproduct of well-planned, well-designed and well-used space.
	Technical/mechanical surveillance is achieved through mechanical/electronic measures such as CCTV, help points and mirrored building panels. It is commonly used as a 'patch' to supervise isolated, high risk locations.

	Formal (or Organised) surveillance is achieved through the tactical positioning of guardians. An example would be the use of on-site supervisors, e.g. security guards at higher risk locations.
Access Control	Access control treatments restrict, channel and encourage people and vehicles into, out of and around the development. Way-finding, desire-lines and formal/informal routes are important crime prevention considerations. Effective access control can be achieved by using physical and symbolic barriers that channel and group pedestrians into areas, therefore increasing the time and effort required for criminals to commit crime.
	Natural access control includes the tactical use of landforms and waterways features, design measures including building configuration; formal and informal pathways, landscaping, fencing and gardens.
	Technical/Mechanical access control includes the employment of security hardware. Crime, Design and Urban Planning: From theory to Practice Formal (or Organised) access control includes on-site guardians such as employed security officers.
	Formal (or Organised) access control includes on-site guardians such as employed security officers.
Space/Activity Management	Space/Activity Management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control and care of the development. All space, even well planned and well-designed areas need to be effectively used and maintained to maximise community safety. Places that are infrequently used are commonly abused. There is a high correlation between urban decay, fear of crime and avoidance behaviour.

2.2 **Safety Audit**

CPTED Principles	
Territorial Re- enforcement	The building will be built to Victoria and Date Streets in line with the design guidance for the site outlined in Section 6.08 Adamstown Renewal Corridor of Newcastle Development Control Plan (DCP); reinforcing the built form edge in these locations; and removing opportunities for offenders to hide and loiter. This is especially important for the lower-level carparks (again encouraged by Section 6.08 of the DCP) which will have limited human supervision/surveillance (which will be overcome with CCTV and security lighting, as outlined below).
	Physical vehicle access to the two lower parking levels will be limited to a single entry/exit point on each street frontage, thereby reducing penetrability by unwanted pedestrians and allowing access to be monitored and controlled. Either 'Staff Parking' or 'Patient Parking Only' Signage at the entry to parking levels will be provided to further reinforce the change from public space to private property. These access points will be secured after hours.

The pedestrian forecourt off Victoria Street will be large enough to allow congregation of patients, staff and the public before entering the private lift foyer inside the building. An awning over the pedestrian entry will further signal the change from public to private space and CCTV and low-level lighting will provide incentives for unwanted persons to move on.

Low level landscaping with underpruned trees along the Date Street frontage, together with low level plantings in the pedestrian forecourt facing Victoria Street will provide softened facades without increasing the risk of concealment.

All surfaces on each elevation will be maintained regularly, with graffiti removed and damage repaired immediately to reduce repeat offending and further anti-social behaviour.

Surveillance

The pedestrian forecourt off Victoria Street will be large enough to allow congregation of patients, staff and the public before entering the private lift foyer inside the building.

Natural surveillance of both street frontages will be provided – along Victoria Street by medical suite windows at Level 3 and along Date Street through the carpark screening and green wall. Natural surveillance of the carpark level entry/exit points and footpaths surrounding the site is also provided by existing residential development to the north and west.

CCTV will be provided at each vehicle entry/exit, within each carpark level, within the lift foyers on each level, above the pedestrian forecourt, within the stairwells, and above the service entrances (on the eastern easement). CCTV will be used 24/7 to deter theft, opportunity for sexual assault, and malicious damage to property. CCTV will be designed and installed in compliance with Australian Standard 806.1: Closed Circuit Television (CCTV) Management and Operation. Appendix A shows the location of CCTV and Security Lighting in and around the site.

Lighting will be provided to both carpark levels, which, along with being painted in a very light tone, will reduce dark spaces, and increase the effectiveness and quality of CCTV content.

Access Control

Physical vehicle access to the two lower parking levels will be limited to a single entry/exit point on each street frontage, thereby reducing penetrability by unwanted pedestrians and allowing access to be monitored and controlled. Either 'Staff Parking' or 'Patient Parking Only' Signage at the entry to parking levels will be provided to further reinforce the change from public space to private property. These access points will be secured after hours, including on weekends during the day.

The pedestrian forecourt off Victoria Street will be large enough to allow congregation of patients, staff and the public before entering the private lift foyer inside the building. An awning over the pedestrian entry will further signal the change from public to private space and CCTV and low-level lighting will provide incentives for unwanted persons to move on.

	A back to base security system will be installed and used after hours, including
	overnight and on weekends to deter theft and malicious damage within the
	property.
Space/Activity	It is in the building owner's commercial interests to ensure that the building
Management	and surrounds are maintained to an acceptable level and to ensure that any
	damage is repaired quickly, and any graffiti is removed immediately. On-site
	management, together with dedicated cleaning and maintenance services,
	will ensure that the site remains attractive and well maintained.
	Motion-activated security lighting will be installed in and around the building
	to provide additional security to the centre while low level lighting will be
	provided within the carparks and along the pedestrian footpaths so as not to
	be obtrusive to residential development.
	There is existing residential development to the north and west of the site
	There is existing residential development to the north and west of the site that will provide natural surveillance of the carpark level entry/exit points and
	footpaths surrounding the site at night and on weekends. There will be a natural desire for the surrounding residents to take ownership of the area
	around the building, and to report anti-social behavior or damage to the
	building when not in operation.
	building when not in operation.

3.0 Recommendations

To ensure a safe and secure environment in and around the building and carpark levels, the following measures are recommended:

- 1. 'Staff Parking' or 'Patient Parking Only' Signage to be provided at the entry to parking levels to deter persons who are not patients or staff of the centre.
- 2. Vehicle access points to be secured after hours with lockable garage roller doors, or equivalent.
- 3. Trees are to be underpruned and underplanted with low level plantings and groundcovers.
- CCTV to be provided in the locations shown in Appendix A. CCTV to be designed and installed in compliance with Australian Standard 806.1: Closed Circuit Television (CCTV) Management and Operation.
- 2. A back to base security system to be installed on the site.
- 3. Motion-activated security lighting to be provided in the locations shown in Appendix A. Lighting is to be in accordance with Australian Standard 1158 Lighting for roads and public spaces and Australian Standard 4282 Control of the obtrusive effects of outdoor lighting.
- 4. All surfaces on the building to be maintained regularly, with graffiti removed and damage repaired immediately to reduce repeat offending and further anti-social behaviour.

4.0 Conclusion

Due to the slope of the site, design of the lower level carparks, and limited opening hours (not occupied at nights and on weekends) of the proposed health services facility, it is important to consider CPTED principles in its design.

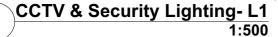
The built form design has had regard to CPTED principles and controls outlined in Newcastle DCP Section 4.04.

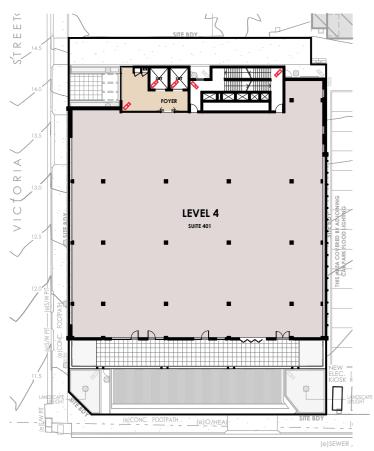
The ameliorative measures outlined in this report, and responding to the four principles of CTPED, will ensure the site and premises are at less risk of criminal activity both during the day, and outside of opening hours. Appendix A shows the location of CCTV and Security Lighting in and around the site.

Appendix A

Location of CCTV and Security Lighting in and around the site



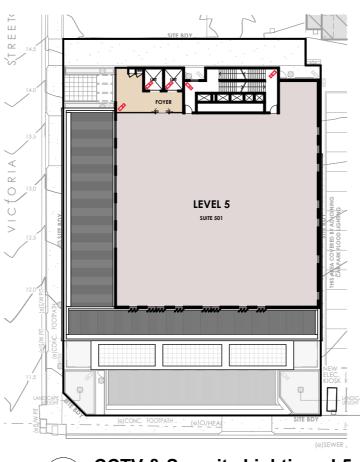




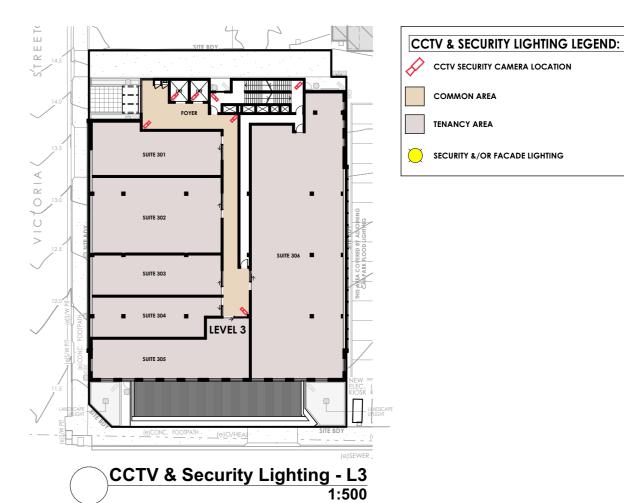
CCTV & Security Lighting - L4



CCTV & Security Lighting - L2 1:500



CCTV & Security Lighting - L5



COMMON AREA

TENANCY AREA