

EXECUTIVE SUMMARY

	REQUIRED	PROPOSED
01. SITE AREA	800.00m ²	SITE AREA 887.00m ²
02. ZONE	R4	R4
03. BUILDING HEIGHT	MAX. 18m	18m
04. FSR FSA	- -	- -
05. SITE COVERAGE	MAX. 443.50m ² (50% OF SITE)	355.40m ² / 887.00m ² 40.10% OF SITE PROVIDED OPEN SPACE: 531.60m ² -59.90% OF SITE
06. DEEP SOIL ZONE	133.05m ² 15% OF SITE (ADG)	187.60m ² 21.10% OF SITE
07. LANDSCAPE	310.45m ² 35% OF SITE	311.30m ² 35.10% OF SITE
08. COMMUNAL OPEN SPACE	15% OF SITE 133.05m ²	18.70% OF SITE 165.90m ²
09. NUMBER OF UNITS		20 UNITS 1 BEDROOM=4 2 BEDROOM=14 3 BEDROOM=2
10. CAR SPACE		
1 BEDROOM	1per UNIT	4 UNIT=4 4 SPACES
2 BEDROOM	1per UNIT	14 UNIT=14 14 SPACES
3 BEDROOM	1.5 per UNIT	2 UNIT=3 3 SPACES
VISITOR	1 SPACE per 5 UNIT	20/5=4 4 SPACES
	CAR SPACES REQUIRED	=25 27 SPACES
ADAPTABLE	20(10%)	=2 2 SPACES
BICYCLE	3 per UNIT 20/3	=6.66 8 SPACES
11. SOLAR ACCESS	70% OF UNITS TO HAVE 2HRS OF SOLAR ACCESS	70%(14/20 UNITS)
12. CROSS VENTILATION	60% OF UNITS TO HAVE CROSS VENTILATION	80%(16/20 UNITS)
13. ADAPTABLE UNIT	10% OF 20 UNITS=2	2 UNITS
14. LIVABLE UNIT	20% OF 20 UNITS=4	4 UNITS Including the 2 adaptable units



PERSPECTIVE-CAMERA VIEW FROM CASTLEREAGH STREET

NatHERS Thermal Performance Specifications (BASIX Thermal Comfort)
29-31 Castlereagh Street, Penrith

These are the Specifications upon which the NatHERS Assessment is based. If details included in these Specifications vary from other drawings or written specifications, these Specifications shall take precedence. If only one specification option is detailed for a building element, that specification must apply to all instances of that element for the project.

Windows	Glass	Frame	U value	SHGC	Detail
Default	Single glazed, clear	Aluminium	6.7	0.57	Generally for window types: Awning, bi-fold, casement, tilt 'n' turn
Default	Single glazed, clear	Aluminium	6.7	0.70	Generally for window types: Sliding window/ door, double hung, fixed, louvre
Default	Single glazed, low E low solar gain	Aluminium	5.6	0.41	To units: 5 – living room east facing glazing 18 – all glazing
Default	Single glazed, low E high solar gain	Aluminium	5.4	0.58	To units: 7 – north and west facing glazed doors to balcony

Skylights	Glass	Frame	U value	SHGC	Detail

External walls	Construction	Added Insulation	Detail
Brick veneer		R2.0	To ground level and level 1
Hebel panel		R2.0	To levels 2, 3, 4 and 5

Internal walls	Construction	Added Insulation	Detail
Plasterboard on studs		None	Within units
Hebel		None	Party/ common walls generally
Hebel / Concrete		R1.0	Internal apartment walls adjoining common lobbies, lift core, stairwells to units: 1, 2, 3, 7, 19

Floors	Construction	Added Insulation	Covering	Detail
Concrete		None	Carpet generally, tiles for wet areas	
Concrete		R1.0	Carpet generally, tiles for wet areas	To units: 1, 4
Concrete		R1.5	Carpet generally, tiles for wet areas	To units: 2, 3

Ceilings	Construction	Added Insulation	Detail
Plasterboard		(see roof detail below)	

Roof	Construction	Added Insulation	Detail
Concrete		R1.0	To units: 1, 2, 3, 6, 7, 13, 14
Concrete		R2.5	To units: 18, 19, 20

Other Requirements
All mechanical fans and downlights (if installed) to be sealed to prevent air-infiltration

ARCHITECTURAL DRAWINGS

DRAWING NUMBERS SHEET NAME

16011 DA00	COVER PAGE
16011 DA01	SITE CONTEXT
16011 DA02	SITE PLAN
16011 DA03	BASEMENT PLAN LVL-1
16011 DA04	BASEMENT PLAN LVL-2
16011 DA05	GROUND FLOOR PLAN
16011 DA06	LEVEL-1
16011 DA07	LEVEL-2
16011 DA08	LEVEL-3
16011 DA09	LEVEL-4
16011 DA10	LEVEL-5
16011 DA11	ROOF PLAN
16011 DA12	ELEVATIONS
16011 DA13	ELEVATIONS
16011 DA14	SECTIONS
16011 DA15	SHADOW DIAGRAMS
16011 DA16	STREETSCAPE ELEVATION
16011 DA17	STREETSCAPE PERSPECTIVE
16011 DA18	PHOTOMONTAGE

PROPOSED RESIDENTIAL DEVELOPMENT
29/31 CASTLEREAGH STREET PENRITH, NSW 2750

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES AND SHOULD BE VERIFIED ON SITE BY BUILDER PRIOR TO COMMENCEMENT OF WORKS
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4. DIMENSIONS TO TAKE PRECEDENCE OVER SCALED DIMENSIONS IF IN CONFLICT CALL CAD PLANS PTY LTD
5. ALL TIMBER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE NATIONAL TIMBER FRAMING CODE AS 1684
6. ROOF WATER AND SUB SOIL DRAINAGE TO BE DESIGNED BY AN APPROVED MANAGER AS INDICATED ON THE DISPERSEMENT PLANS DRAWN BY THE STRUCTURAL ENGINEER
7. ALL STRUCTURAL DETAILS TO BE DESIGNED BY AN APPROVED STRUCTURAL ENGINEER
8. DRAWING NOT TO BE USED FOR CONSTRUCTION UNLESS MARKED 'ISSUED FOR CONSTRUCTION'



PROJECT STATUS:
DEVELOPMENT APPLICATION

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PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW
2750
CLIENT:

SHEET TITLE:
COVER PAGE

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

ISSUE:
A
SHEET:
16011 DA00

BASIX COMMITMENTS

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

1. Commitments for Residential flat buildings - Building 1

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: <ul style="list-style-type: none"> (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling. 		✓	✓
(f) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(g) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

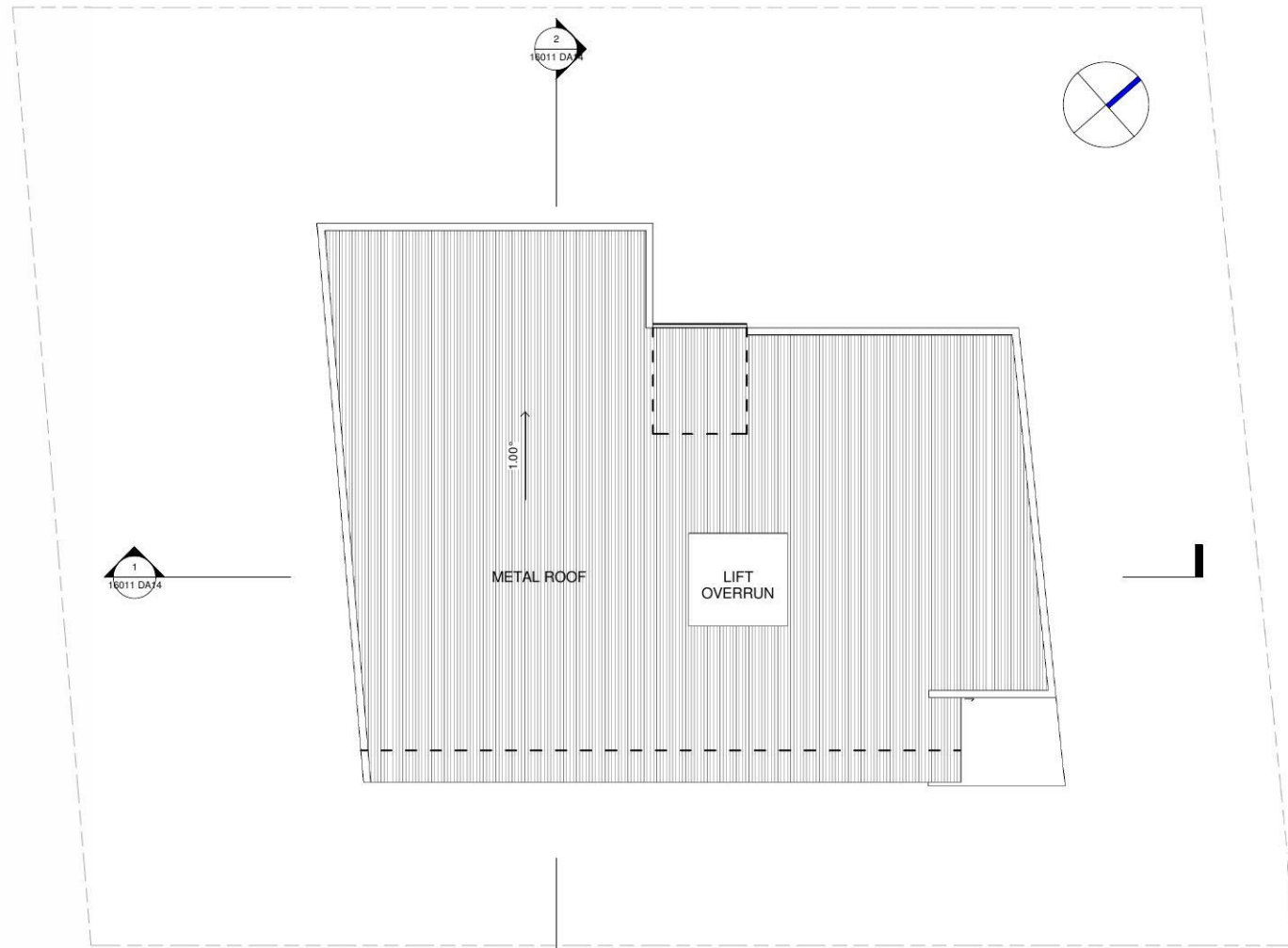
Dwelling no.	Fixtures				Appliances			Individual pool			Individual spa			
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa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

Alternative water source									
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up	
None	-	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in or at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(iii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: <ul style="list-style-type: none"> (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump. 		✓	✓
(h) The applicant must install in the dwelling: <ul style="list-style-type: none"> (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table. 		✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

Dwelling no.	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off



ROOF PLAN
SCALE 1:100@A1
1:200@A3

Dwelling no.	Cooling		Heating		No. of bedrooms &/or study	No. of living &/or dining rooms	Artificial lighting				Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas			Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bedrooms &/or toilets	Main kitchen
5	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1	2	yes	yes	yes	yes	1	no
7	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	2	2	yes	yes	yes	yes	0	yes
10, 13	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	3	2	yes	yes	yes	yes	1	yes
15, 18	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	2	2	yes	yes	yes	yes	1	yes
1, 17, 20	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1	2	yes	yes	yes	yes	0	no
3, 4, 9, 12	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	2	2	yes	yes	yes	yes	1	no
All other dwellings	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	1-phase airconditioning 3 Star	2	2	yes	yes	yes	yes	0	no









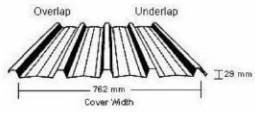
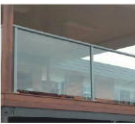
Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3.5 star	-	2 star	-	-

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	✓
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: <ul style="list-style-type: none"> (aa) install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab. 	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
1	59.0	46.7
2	62.6	26.5
3	59.4	22.7
4	16.0	27.1
5	52.8	61.3



COLOUR AND FINISHES

F01		FACE BRICKS BRAHMA GRANITE	F06		DOOR AND WINDOW FRAMES,FENCE POWDER COATED FINISH WOODLAND GREY-DULUX
F02		RENDERED FINISH ANTIQUE WHITE U.S.A DULUX	F07		BALCONY CEILING GREEN BOUY DULUX
F03		RENDERED FINISH HOT GINGER DULUX	F08		BALCONY CEILING ZATAR LEAF DULUX
F04		WALL,PLANTER BOX RENDERED FINISH WOODLAND GREY DULUX	F09		 MAIN ROOF-TRIMDEK PROFILE WINDSPRAY-COLORBOND
F05		GLASS BALUSTRADE			



SOUTH ELEVATION
SCALE 1:100@A1
1:200@A3



EAST ELEVATION
SCALE 1:100@A1
1:200@A3

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

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5. ALL TIMBER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE NATIONAL TIMBER FRAMING CODE AS NBS 1:2012.
6. ROOF WATER AND SUB SOIL DRAINAGE TO BE DISPOSED OF IN THE APPROVED MANNER AS INDICATED ON THE DRAINAGE PLAN DRAWING BY THE STRUCTURAL ENGINEER.
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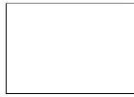




PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
**29-31 CASTLEREAGH ST, PENRITH,NSW
2750**
CLIENT:

SHEET TITLE:
ELEVATIONS

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

ISSUE:
A
SHEET:
16011 DA12

COLOUR AND FINISHES

F01		FACE BRICKS BRAHMA GRANITE	F06		DOOR AND WINDOW FRAMES,FENCE POWDER COATED FINISH WOODLAND GREY-DULUX
F02		RENDERED FINISH ANTIQUE WHITE U.S.A DULUX	F07		BALCONY CEILING GREEN BOUY DULUX
F03		RENDERED FINISH HOT GINGER DULUX	F08		BALCONY CEILING ZATAR LEAF DULUX
F04		WALL,PLANTER BOX RENDERED FINISH WOODLAND GREY DULUX	F09		MAIN ROOF-TRIMDEK PROFILE WINDSPRAY-COLORBOND
F05		GLASS BALUSTRADE			



NORTH ELEVATION

SCALE 1:100@A1
1:200@A3



WEST ELEVATION

SCALE 1:100@A1
1:200@A3

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SITE ADDRESS:
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2750
CLIENT:

SHEET TITLE:
ELEVATIONS

DESIGN: NS
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A3- 1:400

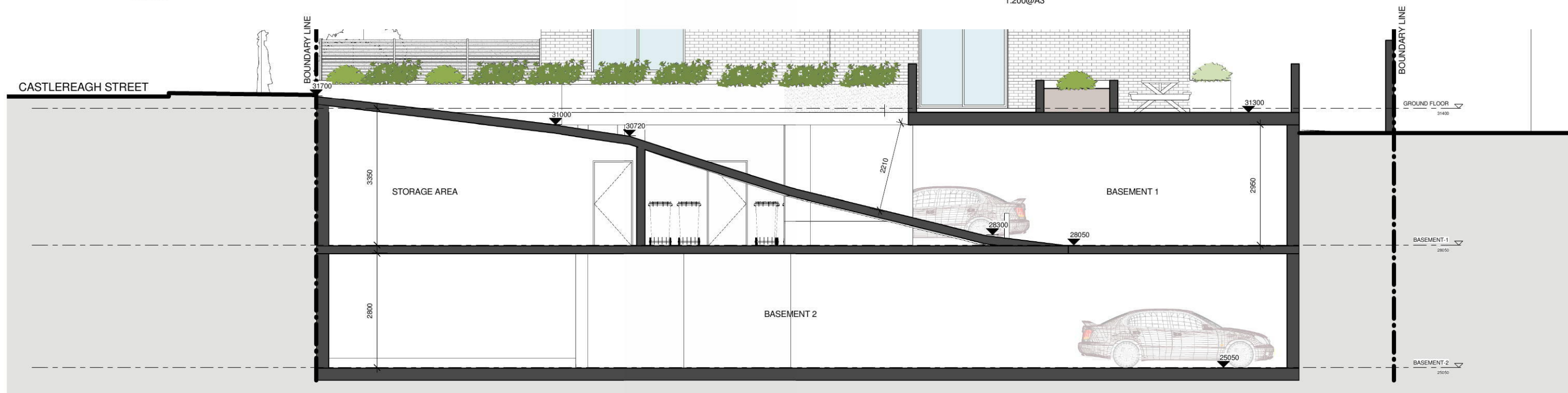
ISSUE:
A
SHEET:
16011 DA13



SECTION-A
SCALE 1:100@A1
1:200@A3



SECTION-B
SCALE 1:100@A1
1:200@A3



DRIVEWAY SECTION
SCALE 1:50 @A1
1:100@A3

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Design Studio
ABN 47 814 246 589
REGISTRATION NUMBER: 5986

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

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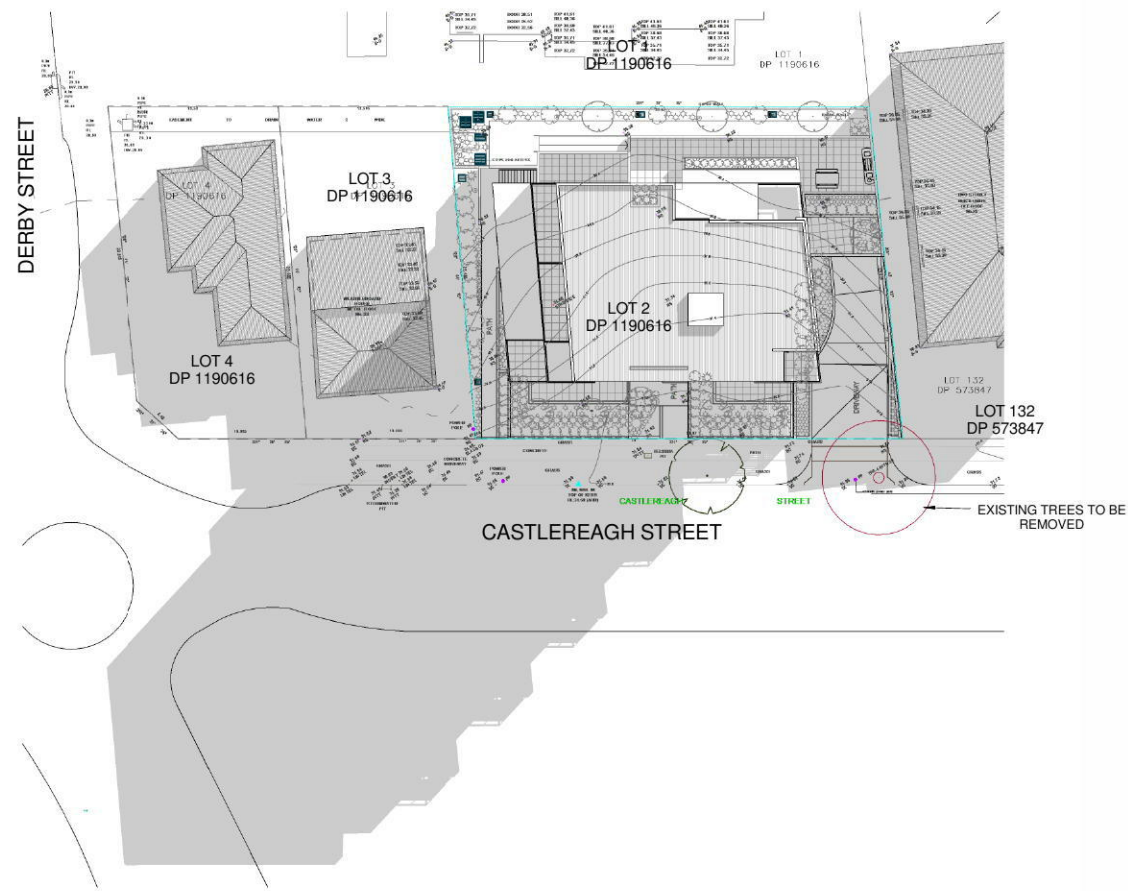
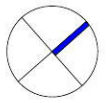
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CLIENT:

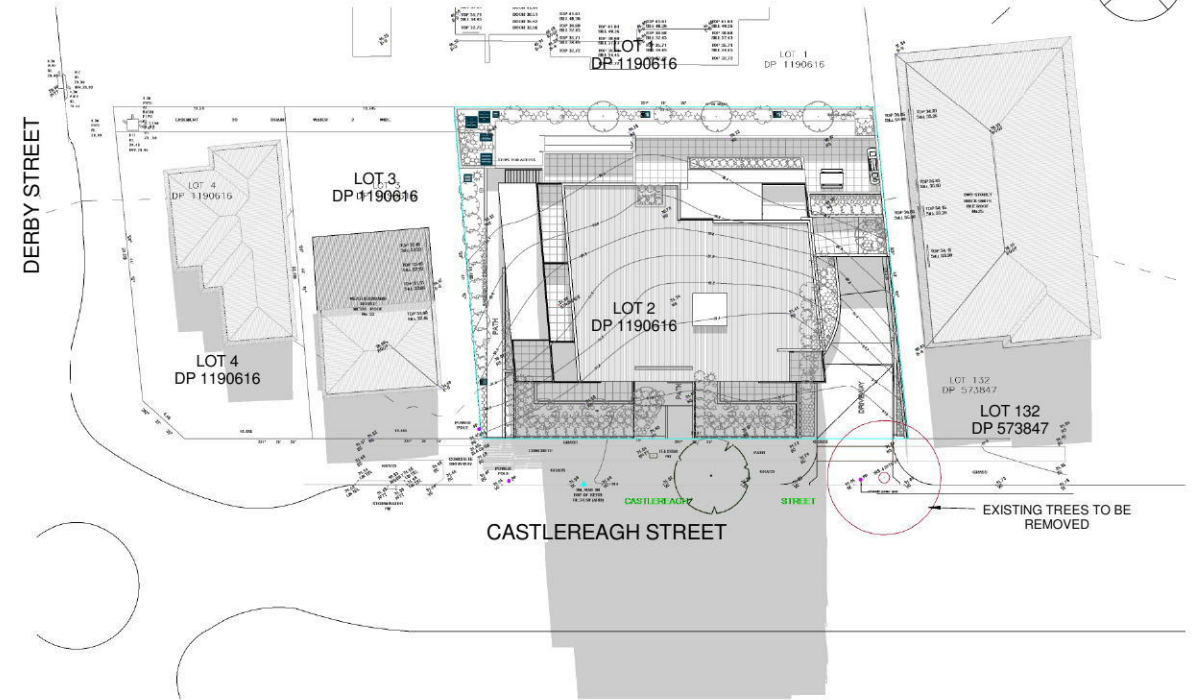
SHEET TITLE:
SECTIONS

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

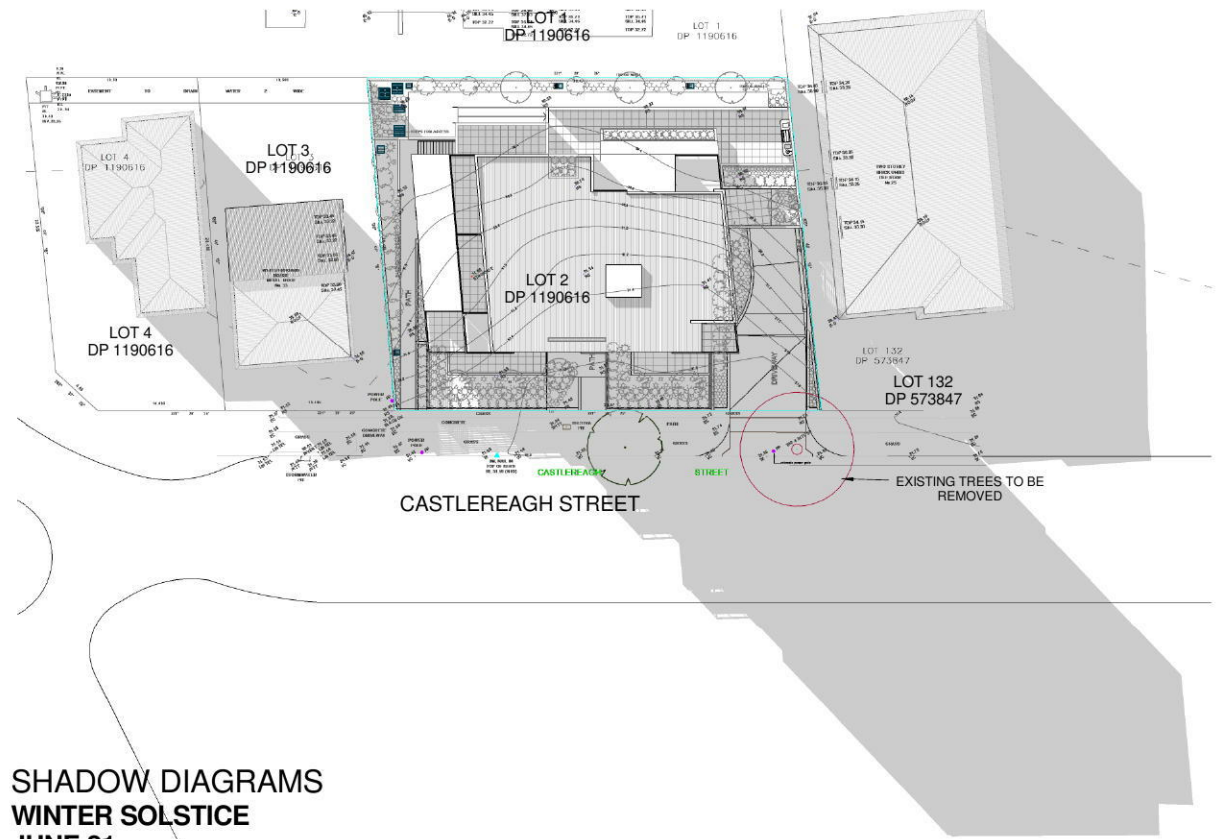
ISSUE:
A
SHEET:
16011 DA14



SHADOW DIAGRAMS
WINTER SOLSTICE
JUNE 21
9:00 AM
SCALE 1:300@A1
1:600@A3



SHADOW DIAGRAMS
WINTER SOLSTICE
JUNE 21
12:00 PM
SCALE 1:300@A1
1:600@A3



SHADOW DIAGRAMS
WINTER SOLSTICE
JUNE 21
3:00 PM
SCALE 1:300@A1
1:600@A3

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES AND SHOULD BE VERIFIED ON SITE BY BUILDER PRIOR TO COMMENCEMENT OF WORKS
 2. ALL CONSTRUCTION TO COMPLY WITH THE BUILDING CODE OF AUSTRALIA, RELEVANT AUSTRALIAN STANDARDS AND APPROVED DEVELOPMENT CONSENT CONDITIONS.
 3. ALL DIMENSIONS THAT RELATE TO SITE BOUNDARIES AND EASEMENTS ARE SUBJECT TO VERIFICATION ON SITE BY SURVEYOR
 4. FIGURED DIMENSIONS TO TAKE PRECEDENCE OVER SCALED DIMENSIONS, IF IN CONFLICT CALL CAD PLANS PTY LTD
 5. ALL TIMBER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE NATIONAL TIMBER FRAMING CODE AS 1684:1999
 6. ROOF WATER AND SUB SOIL DRAINAGE TO BE DISPOSED OF IN THE APPROVED MANNER AS INDICATED ON THE DRAINMASTER PLANS DRAWN BY THE STORMWATER ENGINEER.
 7. ALL STRUCTURAL DETAILS TO BE DESIGNED BY AN APPROVED STRUCTURAL ENGINEER
 8. DRAWINGS NOT TO BE USED FOR CONSTRUCTION UNLESS MARKED 'ISSUED FOR CONSTRUCTION'



PROJECT STATUS:
DEVELOPMENT APPLICATION

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PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW
2750
CLIENT:

SHEET TITLE:
SHADOW DIAGRAMS

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

ISSUE:
A
SHEET:
16011 DA15

COLOUR AND FINISHES

F01		FACE BRICKS BRAHMAN GRANITE	F06		DOOR AND WINDOW FRAMES,FENCE POWDER COATED FINISH WOODLAND GREY-DULUX
F02		RENDERED FINISH ANTIQUE WHITE U.S.A DULUX	F07		BALCONY CEILING GREEN BOUY DULUX
F03		RENDERED FINISH HOT GINGER DULUX	F08		BALCONY CEILING ZATAR LEAF DULUX
F04		WALL, PLANTER BOX RENDERED FINISH WOODLAND GREY DULUX	F09		MAIN ROOF-TRIMDEK PROFILE WINDSPRAY-COLORBOND
F05		GLASS BALUSTRADE			



STREETSCAPE ELEVATION

1 : 100

DERBY STREET

BASIX COMMITMENTS

Dwelling no.	Thermal loads	
	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)
6	54.2	54.9
7	63.2	46.4
8	9.2	29.2
9	26.2	27.3
10	34.5	26.3
11	7.2	16.5
12	38.2	27.1
13	38.5	32.9
14	4.7	31.1
15	35.6	34.4
16	50.2	30.0
17	17.4	19.3
18	50.1	62.0
19	61.9	59.6
All other dwellings	34.4	43.7

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	4 star	no common laundry facility

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

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park area, basement LVL1	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	motion sensors	No
Car park area, basement LVL2	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	motion sensors	No
Lift car (No. 1)	-	-	compact fluorescent	connected to lift call button	No
Garbage rooms	ventilation exhaust only	-	fluorescent	motion sensors	No
Plant or service rooms	ventilation supply only	thermostatically controlled	fluorescent	manual on / manual off	No
Other internal, storage	ventilation supply only	time clock or EMS controlled	fluorescent	motion sensors	No
Ground floor lobby types	no mechanical ventilation	-	compact fluorescent	manual on / timer off	No
Hallway/lobby types	no mechanical ventilation	-	compact fluorescent	manual on / timer off	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired storage (manifested)	Piping insulation (riser/main & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement) 8

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

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	4 star	no common laundry facility

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

pens Design Studio
ABN 47 814 248 589
REGISTRATION NUMBER: 5986

CAD Plans DESIGN Solutions PTV LTD
39 Cumberland Rd Auburn NSW 2144
P: (02) 8068 2177
M: 0416009172
E: info@cadplans.net.au
ABN 88 608 740 361

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7. ALL STRUCTURAL DETAILS TO BE DESIGNED BY AN APPROVED STRUCTURAL ENGINEER.
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DEVELOPMENT APPLICATION

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PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT

SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW

2750

CLIENT:

SHEET TITLE:
STREETSCAPE ELEVATION

ISSUE:
A

SHEET:
16011 DA16

DESIGN: NS | DRAWN: AJRSA | DATE: JUNE 2016 | SCALE: A1: 1:200 | A3: 1:400



VIEW FROM CASTLEREAGH STREET

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

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PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
**29-31 CASTLEREAGH ST, PENRITH, NSW
2750**
CLIENT:

SHEET TITLE:
STREETSCAPE PERSPECTIVE

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

ISSUE:
A
SHEET:
16011 DA17



CAMERA VIEW FROM CASTLEREAGH STREET

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

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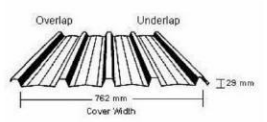
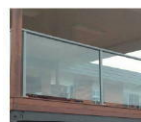
PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW
2750
CLIENT:

SHEET TITLE:
PHOTOMONTAGE

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

ISSUE:
A
SHEET:
16011 DA18

COLOUR AND FINISHES

F01		FACE BRICKS BRAHMAN GRANITE	F06		DOOR AND WINDOW FRAMES,FENCE POWDER COATED FINISH WOODLAND GREY-DULUX
F02		RENDERED FINISH ANTIQUE WHITE U.S.A DULUX	F07		BALCONY CEILING GREEN BOUY DULUX
F03		RENDERED FINISH HOT GINGER DULUX	F08		BALCONY CEILING ZATAR LEAF DULUX
F04		WALL,PLANTER BOX RENDERED FINISH WOODLAND GREY DULUX	F09		 MAIN ROOF-TRIMDEK PROFILE WINDSPRAY-COLORBOND
F05		GLASS BALUSTRADE			



SOUTH ELEVATION
SCALE 1:100@A1
1:200@A3



EAST ELEVATION
SCALE 1:100@A1
1:200@A3

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

NOTES:
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5. ALL TIMBER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE NATIONAL TIMBER FRAMING CODE AS NBS 1:2012.
6. ROOF WATER AND SUB SOIL DRAINAGE TO BE DISPOSED OF IN THE APPROVED MANNER AS INDICATED ON THE DRAINAGE PLAN DRAWING BY THE STRUCTURAL ENGINEER.
7. ALL STRUCTURAL DETAILS TO BE DESIGNED BY AN APPROVED STRUCTURAL ENGINEER.
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PROJECT STATUS:
DEVELOPMENT APPLICATION

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PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH,NSW 2750
CLIENT:

SHEET TITLE:
ELEVATIONS

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

ISSUE:
A
SHEET:
16011 DA12

COLOUR AND FINISHES

F01		FACE BRICKS BRAHMA GRANITE	F06		DOOR AND WINDOW FRAMES,FENCE POWDER COATED FINISH WOODLAND GREY-DULUX
F02		RENDERED FINISH ANTIQUE WHITE U.S.A DULUX	F07		BALCONY CEILING GREEN BOUY DULUX
F03		RENDERED FINISH HOT GINGER DULUX	F08		BALCONY CEILING ZATAR LEAF DULUX
F04		WALL,PLANTER BOX RENDERED FINISH WOODLAND GREY DULUX	F09		MAIN ROOF-TRIMDEK PROFILE WINDSPRAY-COLORBOND
F05		GLASS BALUSTRADE			



NORTH ELEVATION

SCALE 1:100@A1
1:200@A3



WEST ELEVATION

SCALE 1:100@A1
1:200@A3

ISSUE	DATE	AMENDMENT
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PROJECT STATUS:
DEVELOPMENT APPLICATION

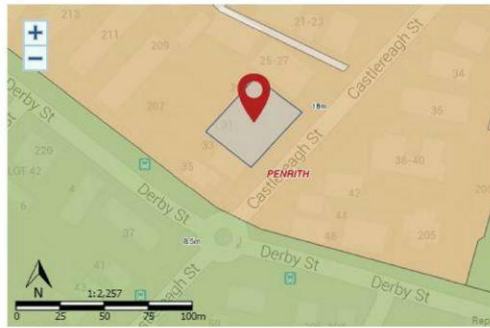
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PROJECT:
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SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW
2750
CLIENT:

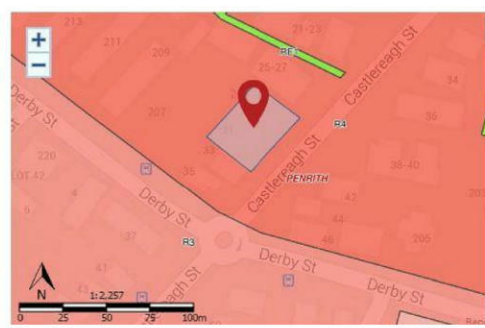
SHEET TITLE:
ELEVATIONS

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1- 1:200
A3- 1:400

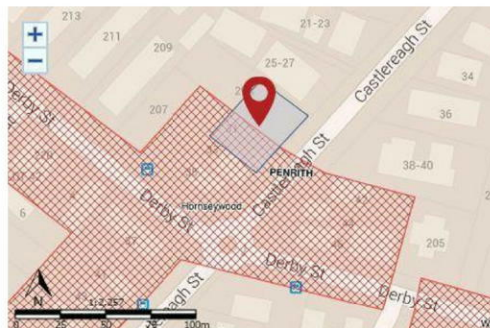
ISSUE:
A
SHEET:
16011 DA13



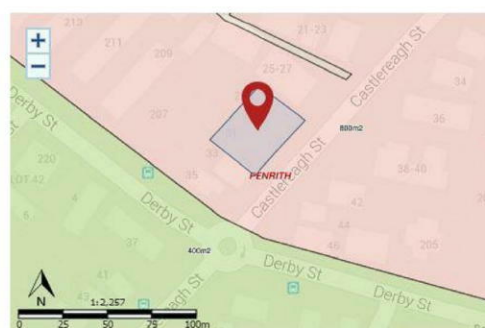
Height of Building
+ P-18 m : Range [17.0 - 18.9 m] (pub. 2015-02-25)



Land Zoning
+ R4 - High Density Residential : (pub. 2015-02-25)



Heritage
+ Conservation Area - General : Hornseywood (pub. 2015-02-25)

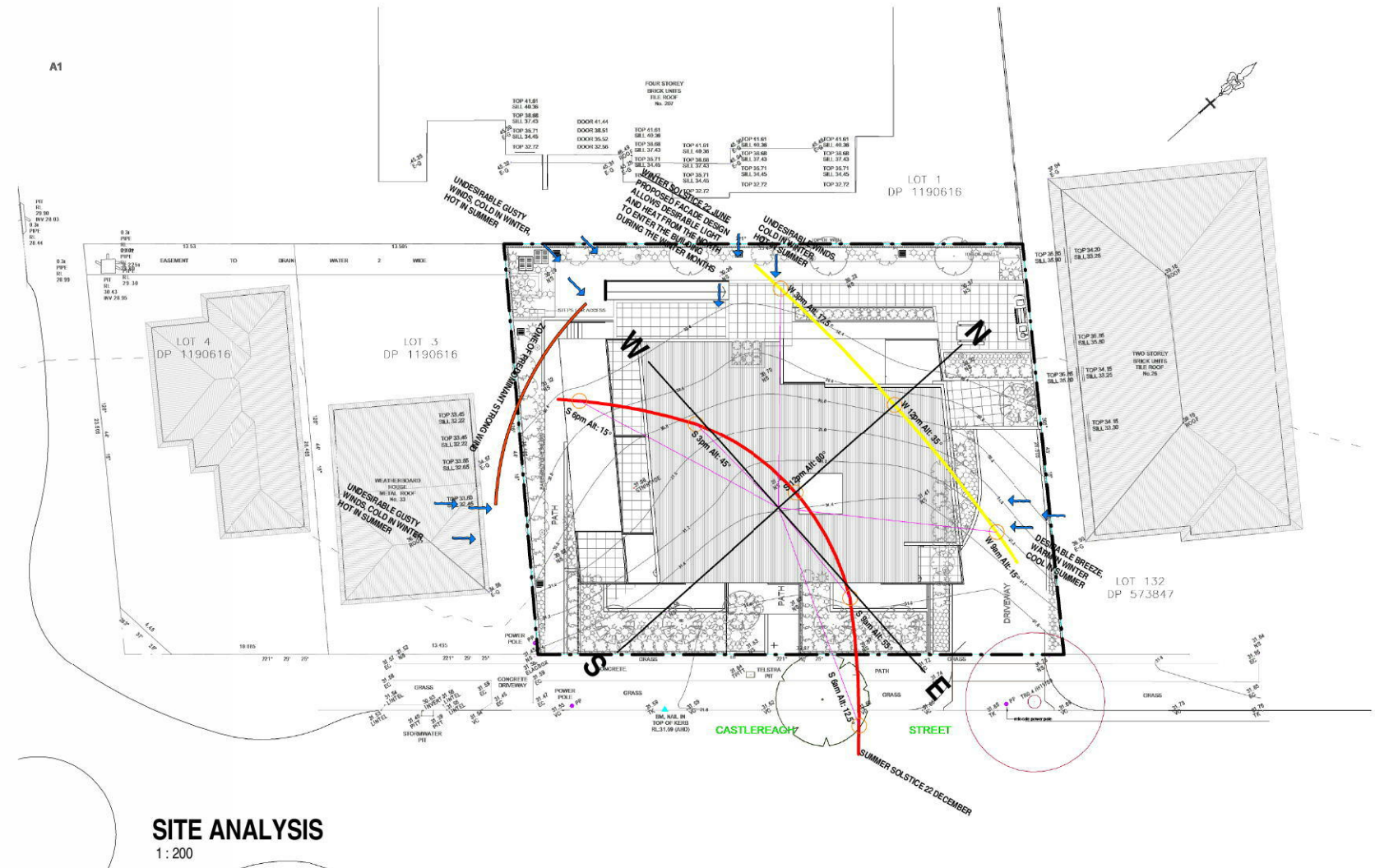


Minimum Lot Size
+ 5-800 m2 : Range [800 - 899 sqm] (pub. 2015-02-25)

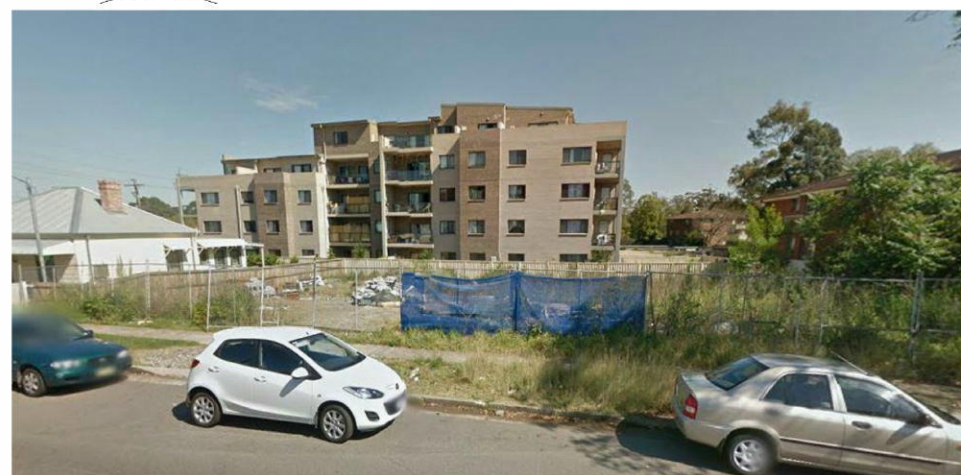
LEP MAPS



SITE LOCATION



SITE ANALYSIS
1:200



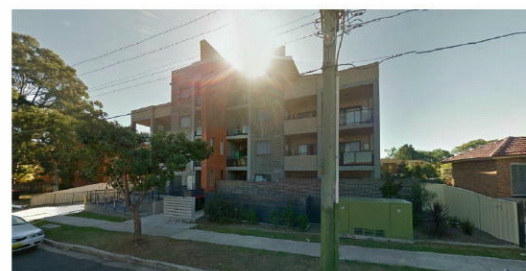
VIEW FROM CASTLEREAGH STREET-THE SITE



VIEW FROM CASTLEREAGH STREET-PENRITH RSL



VIEW FROM CASTLEREAGH STREET



VIEW FROM DERBY ST-APARTMENT BLDG.



VIEW FROM DERBY STREET-PENRITH BOWLING CLUB



VIEW FROM DERBY STREET-KMART

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

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PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW
2750
CLIENT:

SHEET TITLE:
SITE CONTEXT

DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1: 1:200
A3: 1:400

ISSUE:
A
SHEET:
16011 DA01

0.3m
PIPE
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28.03
PIT
RI
29.90
INV 28.03
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PIPE
RL
28.44

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PIPE
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PIT
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30.43
INV 28.95

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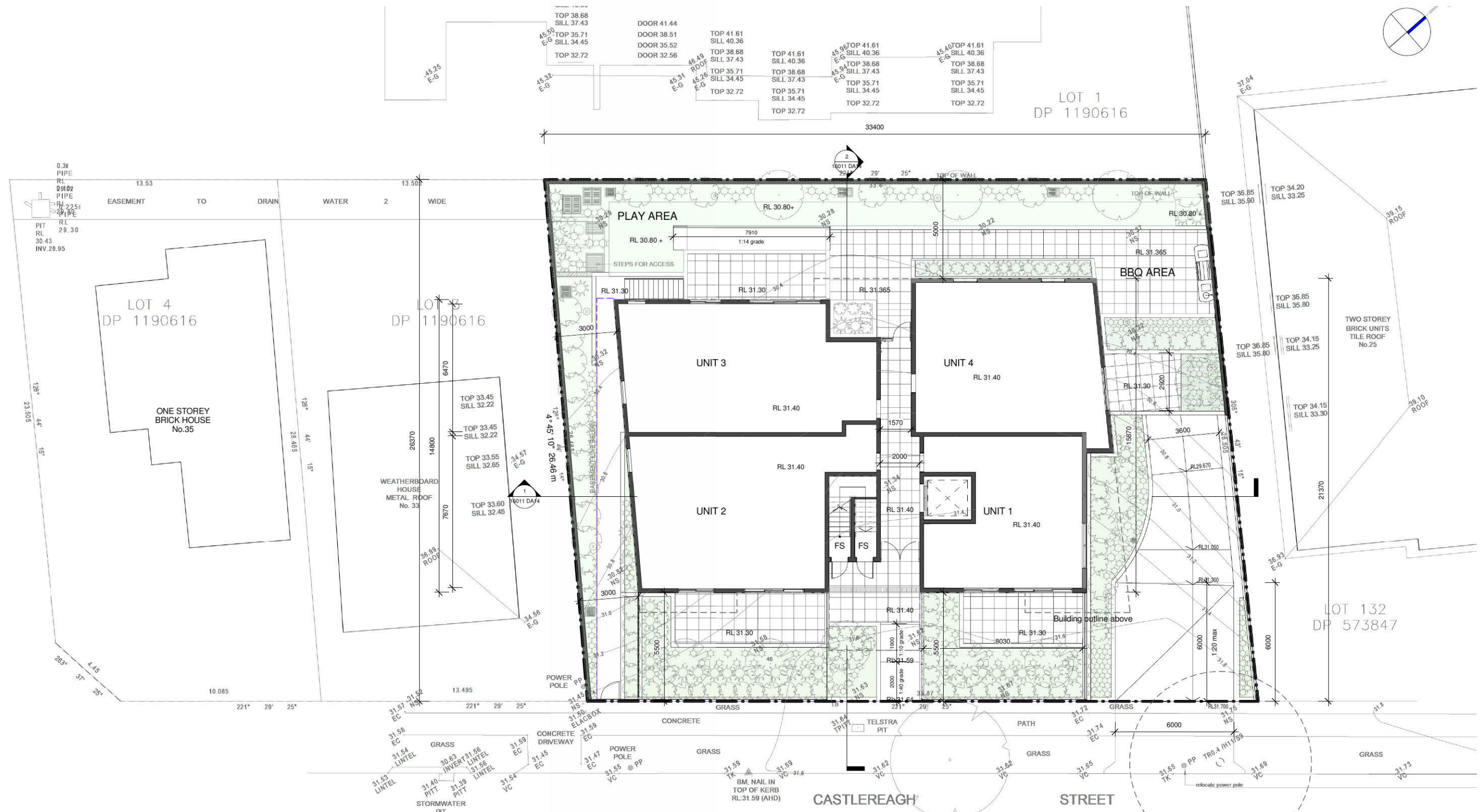
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SITE PLAN
SCALE 1:200@A3
SCALE 1:100@A1



ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

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DESIGN Solutions
39 Cumberland Rd Auburn NSW 2144
P: (02) 8068 2177
M: 0416009172
E: info@cadplans.net.au

NOTES:
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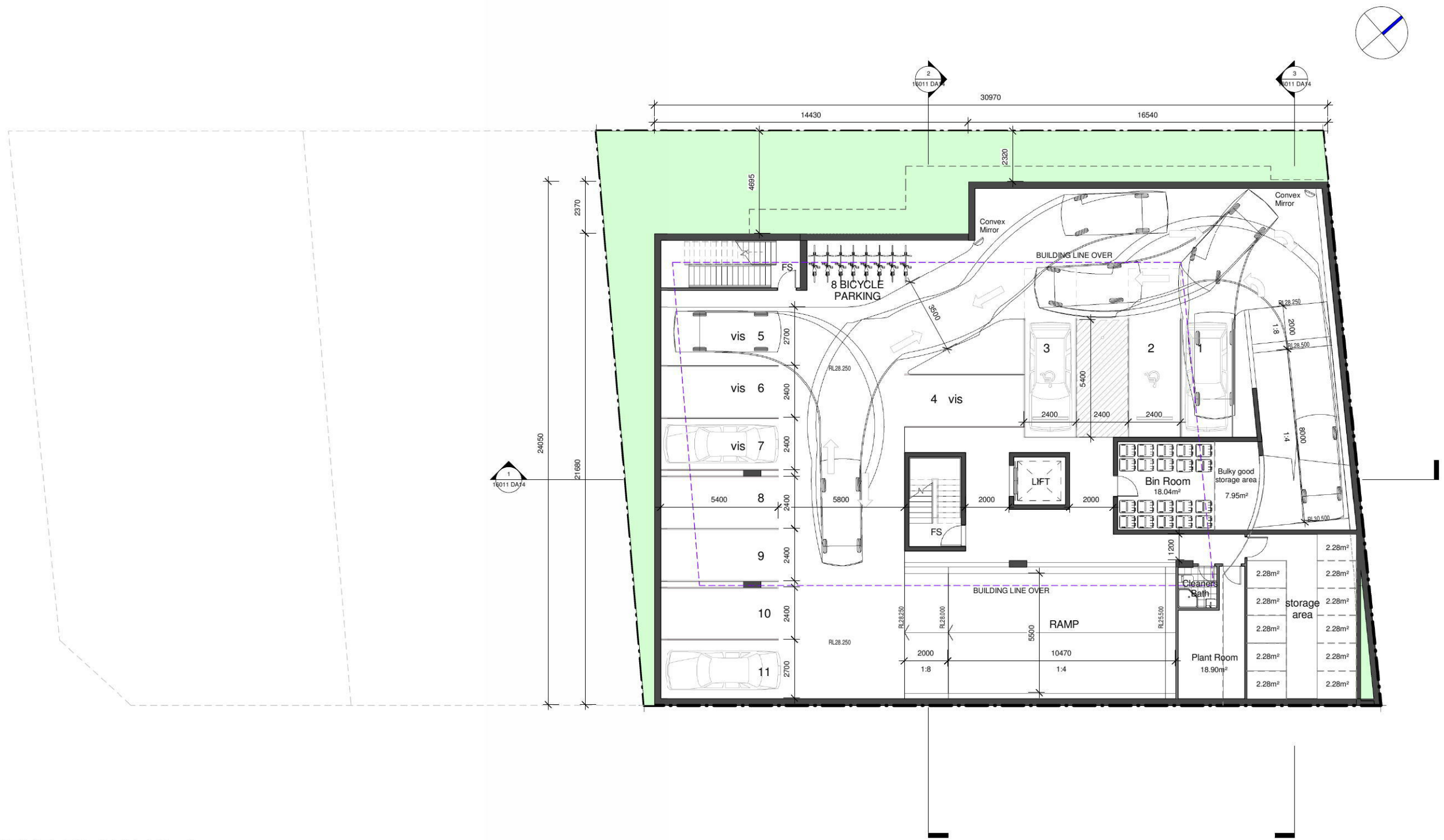


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DEVELOPMENT APPLICATION
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PROJECT:
RESIDENTIAL BUILDING DEVELOPMENT
SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW 2750
CLIENT:

SHEET TITLE:
SITE PLAN
DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1-1:200
A3-1:400

ISSUE:
A
SHEET:
16011 DA02



BASEMENT PLAN LVL-1

SCALE 1:100@A1
1:200@A3

ISSUE	DATE	AMENDMENT
A	23.5.17	ISSUE FOR D.A.

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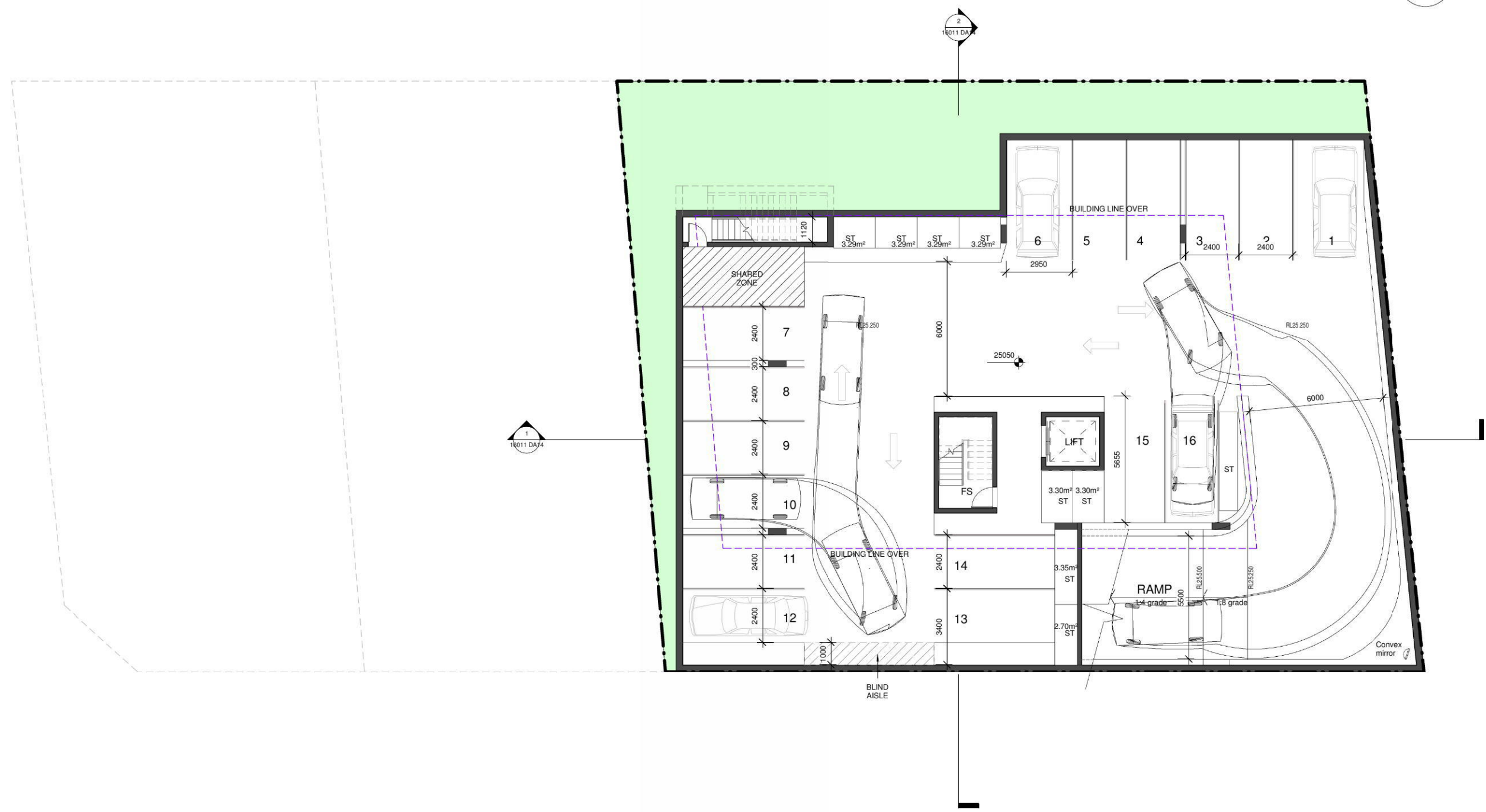
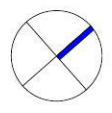
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DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1 - 1:200
A3 - 1:400

ISSUE:
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SHEET:
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BASEMENT PLAN LVL-2
 SCALE 1:100@A1
 1:200@A3



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SHEET TITLE:
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DESIGN: NS DRAWN: AJRSA DATE: JUNE 2016 SCALE: A1 - 1:200, A3 - 1:400

ISSUE:
 A

SHEET:
 16011 DA04

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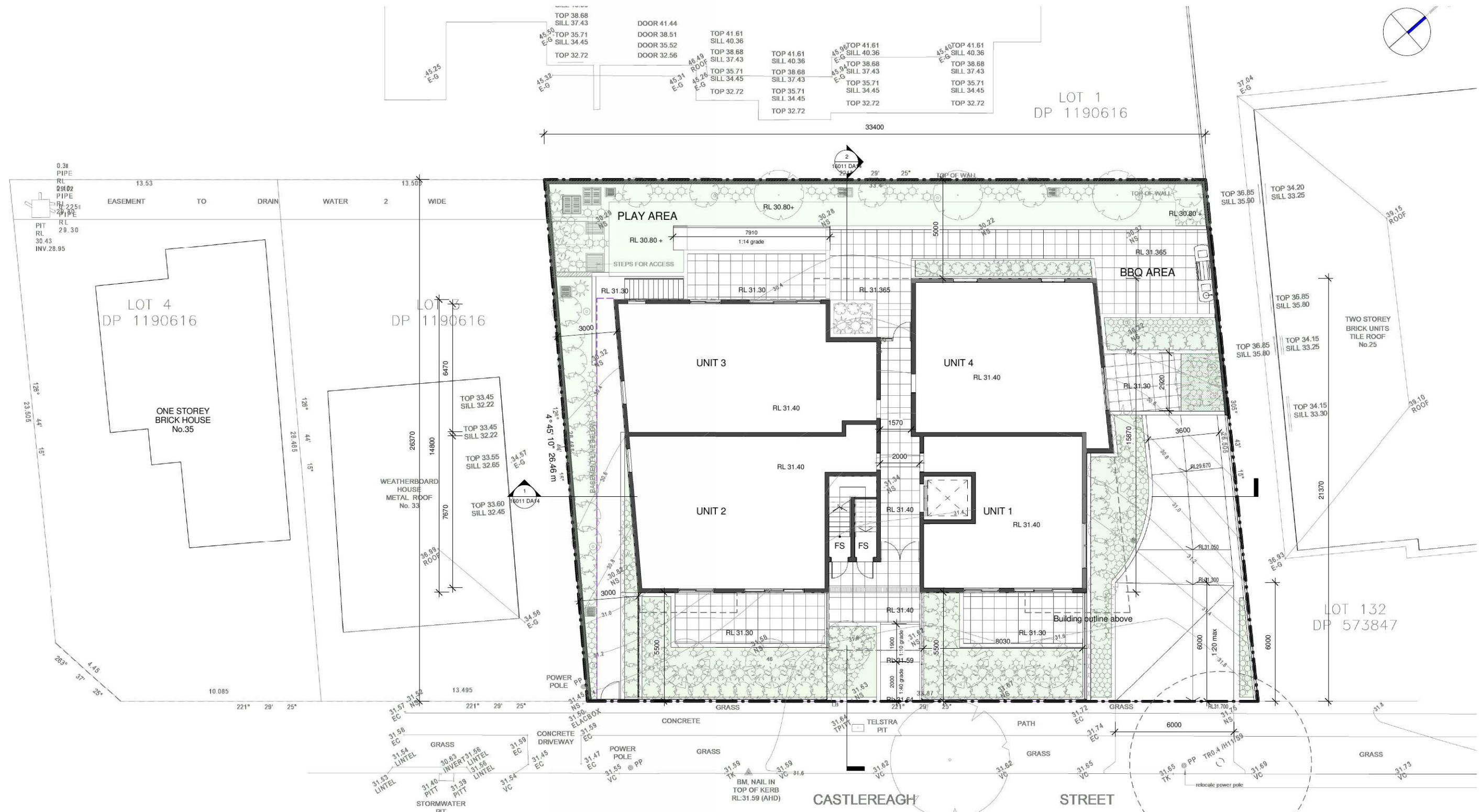
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SITE PLAN
SCALE 1:200@A3
SCALE 1:100@A1



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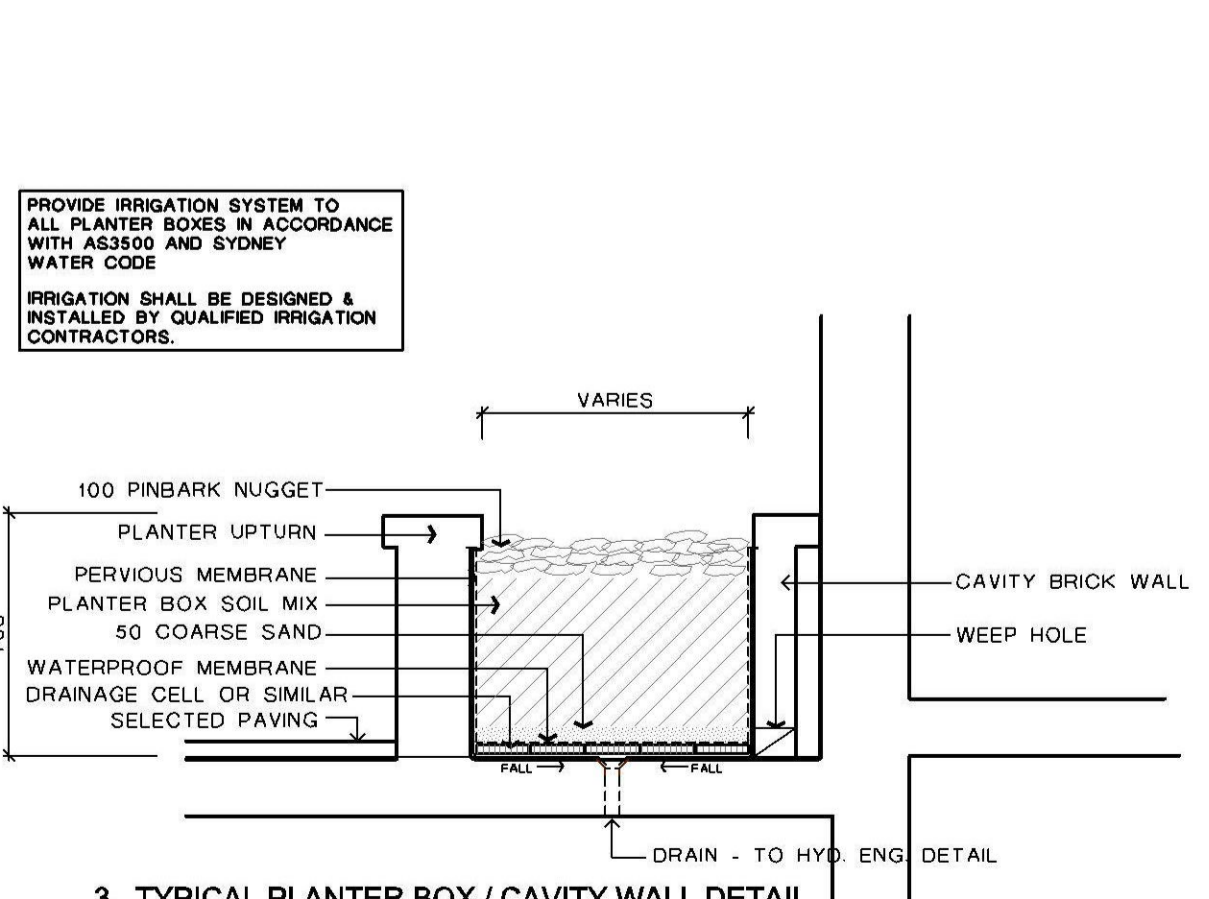
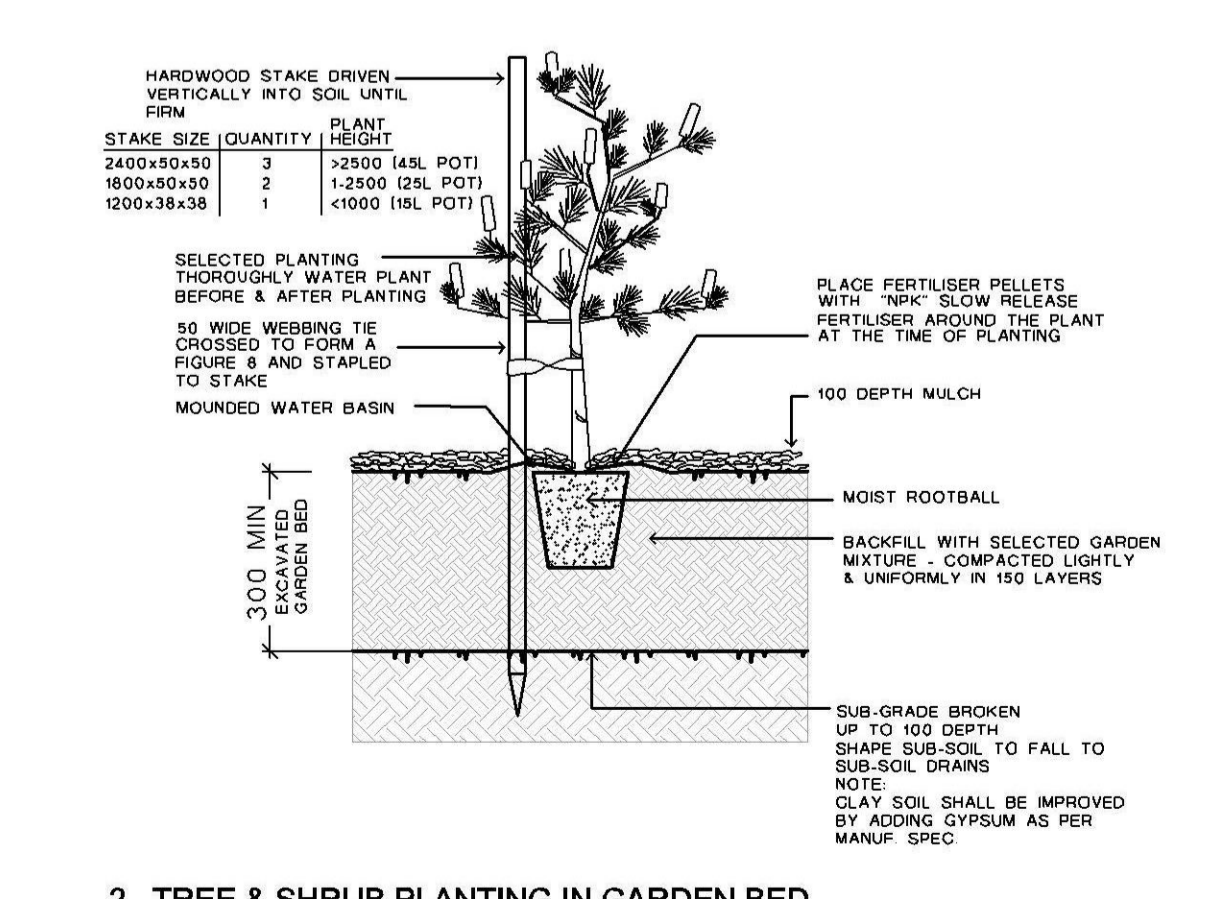
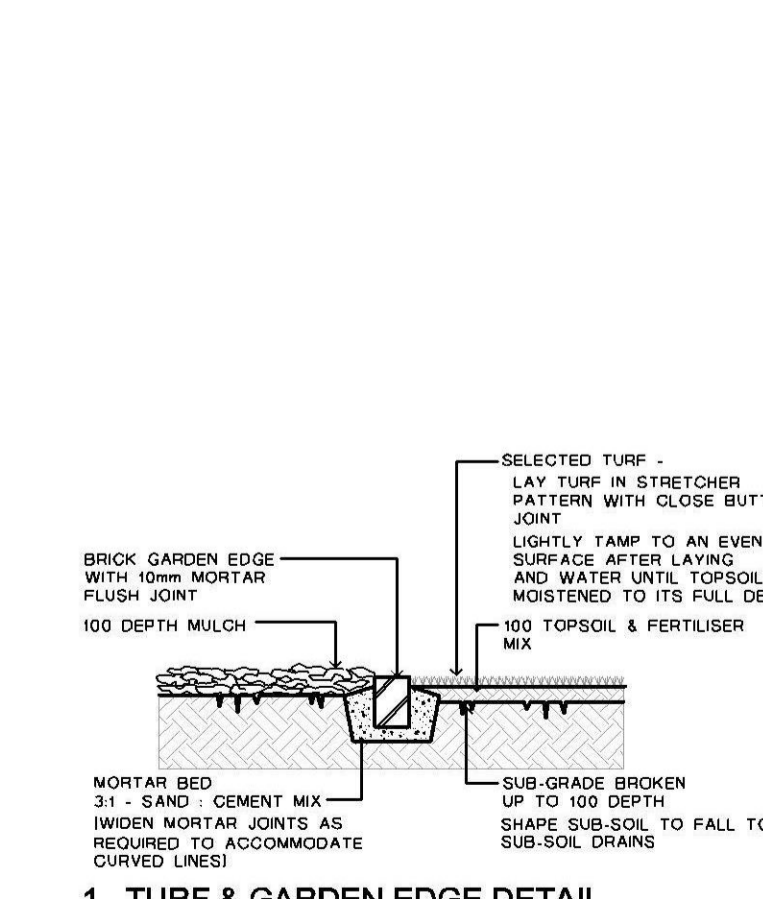
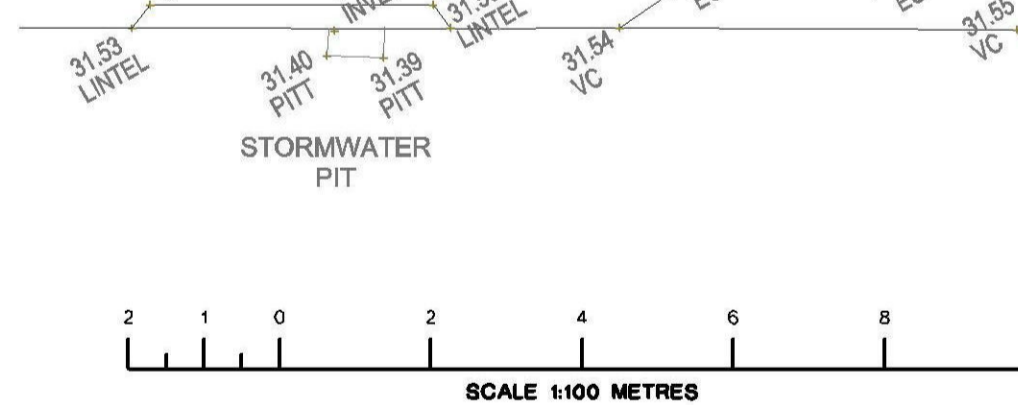
SHEET TITLE:
SITE PLAN
DESIGN: NS
DRAWN: AJRSA
DATE: JUNE 2016
SCALE: A1-1:200
A3-1:400

ISSUE:
A
SHEET:
16011 DA02

LEGEND / FINISHES SCHEDULE

- EXISTING RL
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE RETAINED AND SHALL BE PROTECTED DURING CONSTRUCTION
- PROPOSED TREES, SHRUBS & GROUND COVER (REFER NO. TO PLANT SCHEDULE)
- BOUNDARY FENCE
- GARDEN BED 900 WIDE MIN.
- SELECTED BRICK GARDEN EDGE OR AS SELECTED REFER TO DETAIL 1
- LAWN AREA: SIR WALTER BUFFALO REFER TO DETAIL 1
- PEBBLE AREA: SELECTED 100 DEPTH RIVER PEBBLES WITH WEED MAT UNDER
- PATIO / TERRACE / PATH: SELECTED TILES
- SELECTED RETAINING WALL / OSD WALL TO ENGINEER DETAIL
- INSITU PLANTER BOX TO ENGINEER DETAIL
- 1000 HIGH PLANTER
- 800 HIGH PLANTER
- SELECTED MASONRY COURTYARD FENCE TO ARCHITECT / ENGINEER DETAIL
- SELECTED LETTER BOX TO AUST POST REQUIREMENTS AND TO AS/NZS 4253:1994
- SELECTED AUTOMATIC BOLLARD - ILLUMINATION SHALL BE DESIGNED BY A QUALIFIED LIGHTING CONSULTANT AND IN ACCORDANCE WITH AS 4282 & AS 1158
- STORM WATER PIT TO ENGINEER DETAIL

ITEM	MATERIAL
SOIL	NOTE: ALL SOIL TYPE AS PER AUST. NATIVE LANDSCAPE SUPPLY OR EQUIVALENT
LAWN AREA	1st QUALITY TOP SOIL
NATIVE GARDEN BED	NATIVE GARDEN MIX
EXOTIC GARDEN BED	ORGANIC GARDEN MIX
PLANTER BOX	PLANTER BOX MIX IN ACCORDANCE WITH AS4419:1998 & AS3743
MULCH	SELECTED HARD WOOD CHIP DECORATIVE GRAVEL TO OSD AREA REFER TO DETAIL 1 & 2
PLANT MATERIAL	AS PER PLANT SCHEDULE REFER TO DETAIL 2
GARDEN EDGE	SELECTED PRESSED BRICK OR AS SELECTED REFER TO DETAIL 1
RETAINING WALL & PLANTER BOX	SELECTED MASONRY RETAINING WALL AND DRAINAGE TO ENG. DETAIL
FENCE	1800 HIGH LAPPED & CAPPED TIMBER FENCE OR 1800 HIGH COLOURBOND
SIDES & REAR BOUNDARY	NOTE: SIDE FENCES ARE TO BE TAPER FROM THE FRONT BUILDING LINE TO BE NOT MORE THAN 900mm HIGH AT THE FRONT BOUNDARY
FRONT	REFER TO ARCHITECT'S DETAIL
IRRIGATION	PROVIDE DRIP IRRIGATION SYSTEM TO ALL PLANTER BOXES IN ACCORDANCE WITH AS3300 AND SYDNEY WATER CODE IRRIGATION SHALL BE DESIGNED & INSTALLED BY QUALIFIED IRRIGATION CONTRACTORS.



PROPOSED PLANT SCHEDULE
IN ACCORDANCE WITH AS 2303: 2016

No.	BOTANICAL NAME	COMMON NAME	APPROX. MATURED HEIGHT	POT SIZE	QUANTITY
GROUND COVER / BOARDER					
2	Lomandra 'TANKA'	Dwarf Lomandra	0.75	150mm	31
4	Liriope muscari 'Just Right'	Just Right Liriope	0.5	150mm	19
5	Dianella tasmanica 'Destiny'	Destiny Flax Lily	0.4	150mm	43
6	Juncus usitatus	Common Rush	0.6	150mm	31
7	Phormium Chocomint Mist	Chocomint Mist	0.6	150mm	21
8	Dianella caerulea	Paroo Lily	0.6	150mm	13
9	Trachelospermum Tricolour	Tricolour Jasmine	0.3	150mm	41
LOW SHRUBS					
11	Westringia Ozbreed Aussie Box	Aussie Box Westringia	0.5	200mm	30
18	Dodonaea viscosa 'Purpurea'	Purple-leaved Hop bush	2	200mm	7
19	Melaleuca thymifolia	Thyme Honey-myrtle	1	200mm	42
20	Westringia fruticosa	Westringia	1.5	200mm	3
TALL SHRUBS					
21	Callistemon citrinus	crimson bottlebrush	4	200mm	5
26	Leptospermum spectabile	Leptospermum spectabile	3	200mm	10
28	Callistemon citrinus 'Endeavour'	Endeavour Bottlebrush	2.5	200mm	3
FEATURE SHRUBS					
31	Cordyline stricta	Slender palm lily	3	200mm	10
33	Cyathochaeta australis	Tree fern	4	25 L	2
34	Phormium tenax purpurea	Dianella	1.2	200mm	11
35	Cordyline 'Red Sensation'	Red Sensation	1.2	25 L	6
36	Cycas revoluta	Sago Palm	1.5	25 L	1
37	Streitizia juncea	Bird of Paradise	1.2	25 L	6
39	Thysanotus maxima	Tiger grass	1.5	200mm	4
40	Alpinia zerumbet variegata	Variegated Shell Ginger	1.5	200mm	17
TREES					
44	Tristanopsis laurina 'luscious'	Water box	7	45 L	3
46	Lagerstroemia indica 'Indian Summer'	Crepe Myrtle	7	45 L	4
48	Magnolia Little Gem	Magnolia	5	45 L	2
51	Melaleuca decora	White Feather Honey-myrtle	7	25 L	1
53	Lophostemon confertus	Brush box	20	75 L	1

REV	DESCRIPTION	REVISION DATE
A	COUNCIL DA ISSUE	15.17

- NOTE:**
- Contractors must verify all dimensions at the site before commencing any work or making any shop drawings which must be approved before manufacturing.
 - Do not scale drawing, if in doubt - ASK
 - This drawing is to be read in conjunction with Architectural, Hydraulic and survey plans
 - All existing trees to remain shall be protected as per arborist report & council requirements
 - All pruning shall be in accordance with the AS 4373
 - Thoroughly eradicate weeds from all garden areas.
 - No variation to the works to be carried out without prior approval from owner.
 - All materials to be the best of their respective kinds and shall comply with approved sample type submitted or specified.
 - Substitution of plant species or varieties will not be permitted.
 - Unless otherwise specified or directed, all instructions are to be issued by the consulting landscape designer.
 - All storm water outlets & surface run off shall be to Hydraulic Engineers detail.
 - Provide sub-soil drainage to garden beds & lawn areas where required - To be confirmed on site.
 - Refer to survey plan for position of all existing services.
 - Refer to Architectural elevations & Sections for existing and proposed ground lines.
 - All landscape works shall comply with all councils DA & CC conditions and all relevant "AUSTRALIAN STANDARDS" and AUS SPEC-NO-1 Specification C273-Landscaping.
 - Irrigation system - If required, shall be designed & installed to comply with AS 2698, AS 2698.1-1994, AS 2698.2-1985, AS 2698.3-1990, water board and other relevant authority regulations.

MAINTENANCE: All landscape works are to be maintained for a period of 12 months after final completion. Replace all plants which have failed with the same species. Mulch is to be maintained at specified depth. All plants and turf shall be watered on a regular basis to maintain moisture levels required for optimum growth. All garden areas are to be maintained free from weeds.

PROPOSED HOME UNITS
29-31 CASTLEREAGH ST
PENRITH

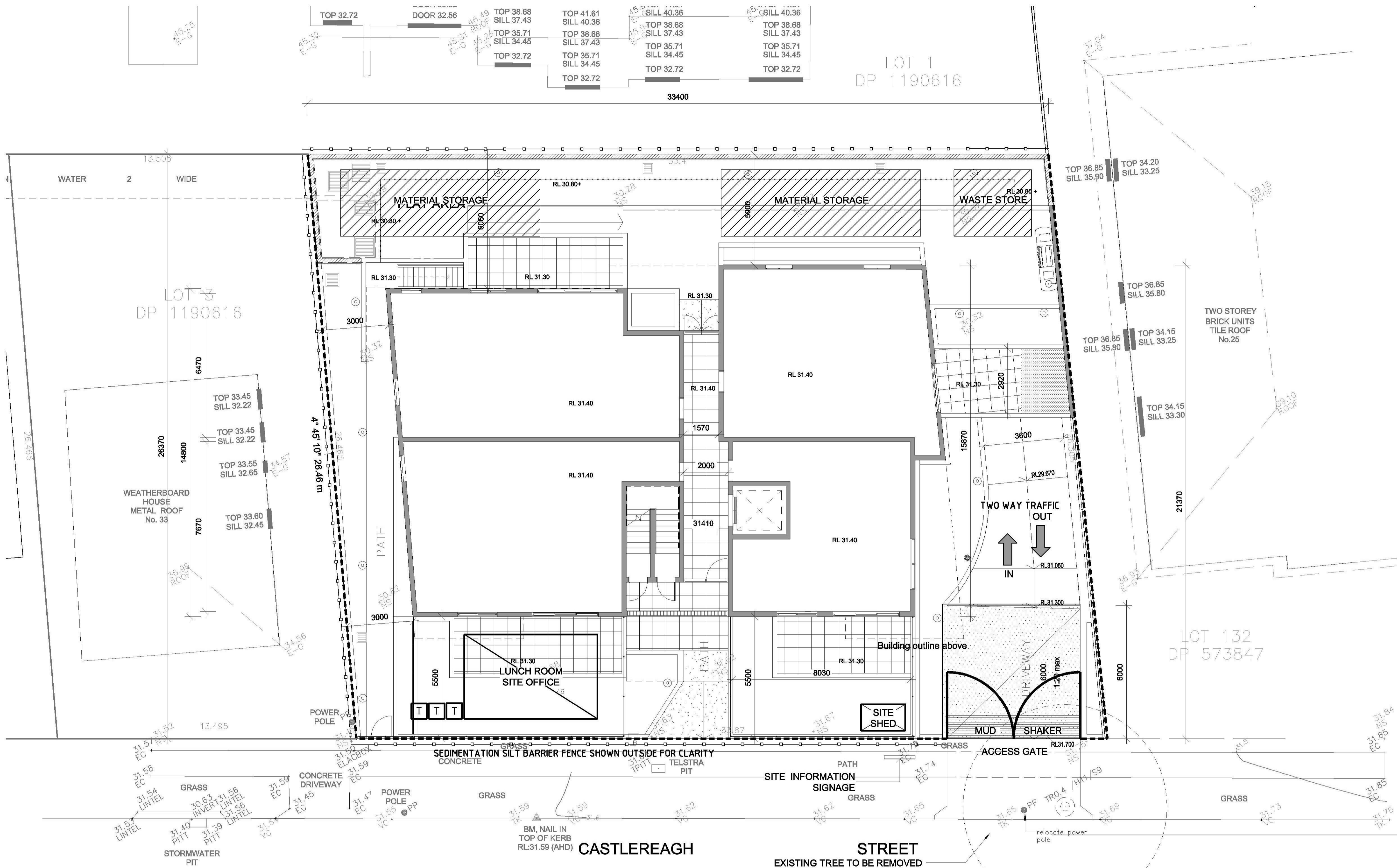
ARCHITECT: **CAD Plans**
DESIGN Solutions

vision dynamics
landscape design
8 Blaxland Road
Killara NSW 2071
Ph: (02) 9499 8888 Fax: (02) 9499 8899
em: v@visiondynamics.com.au

LANDSCAPE CONCEPT PLAN

DRAWN FF SCALE 1:100@A1 OR 1:200@A3 REV. A
DRAWING NUMBER 17082 DA 1

MEMBER Australian Institute of Landscape Designers & Managers Ltd

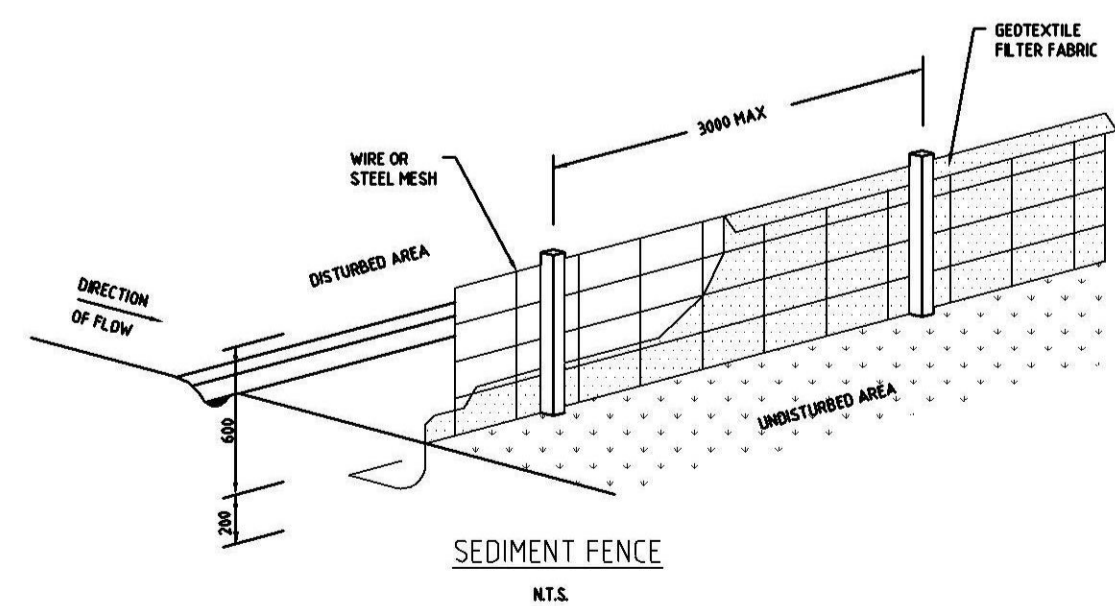
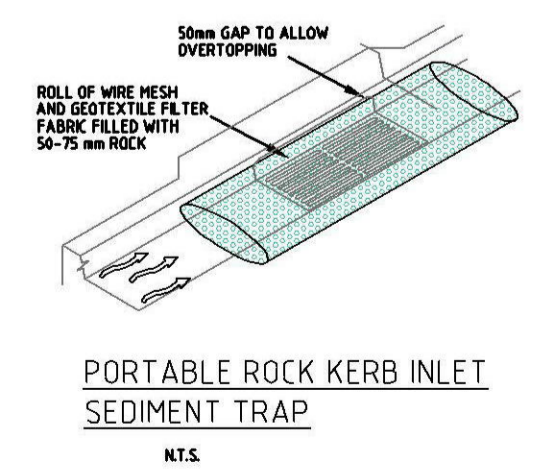
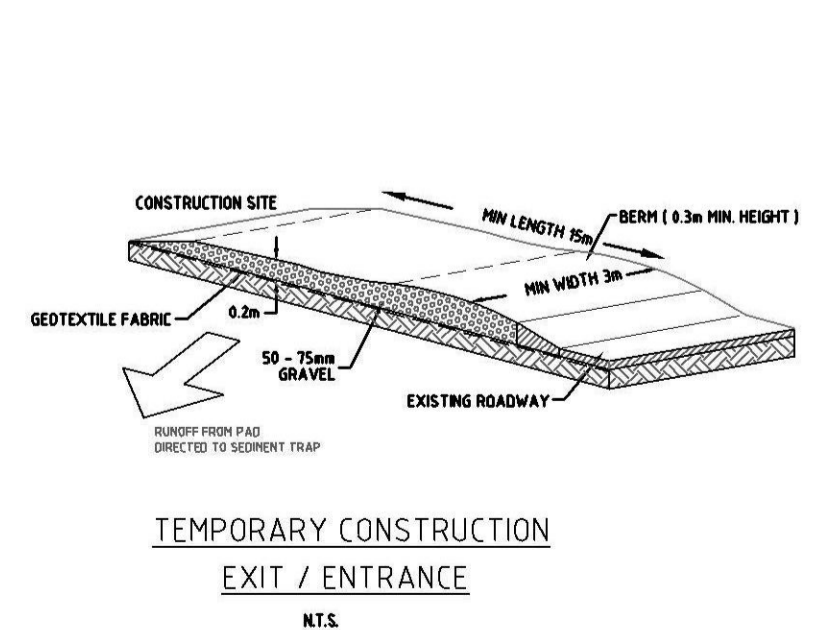


SEDIMENT CONTROL LEGEND

- SILT BARRIER FENCE
- SITE TOILET
- SITE SHED
- SITE OFFICE / LUNCH ROOM
- STABILIZED SITE ACCESS
- SITE ACCESS
- MATERIAL STORAGE
- WASTE STORAGE

A FILTER FENCE SHALL BE CONSTRUCTED BY STRETCHING A FLEXIBLE FABRIC (PROPEX OR SIMILAR) BETWEEN POSTS AT 2000mm CENTRES. FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE. DRAINAGE CHANNELS SHALL LEAD TO A STRAW BALE LOCATED AT THE REAR OF THE SITE.
 ALL VEHICLES TO HAVE WHEELS WASHED DOWN PRIOR TO LEAVING THE SITE.

SITE MANAGEMENT PLAN
 SCALE 1:200



NOMINATED ARCHITECT:		
pens Design Studio		
ABN 47 814 246 580		
REGISTRATION NO: 5968		
ISSUE	DATE	AMENDMENTS
A	23.5.17	ISSUED FOR DA

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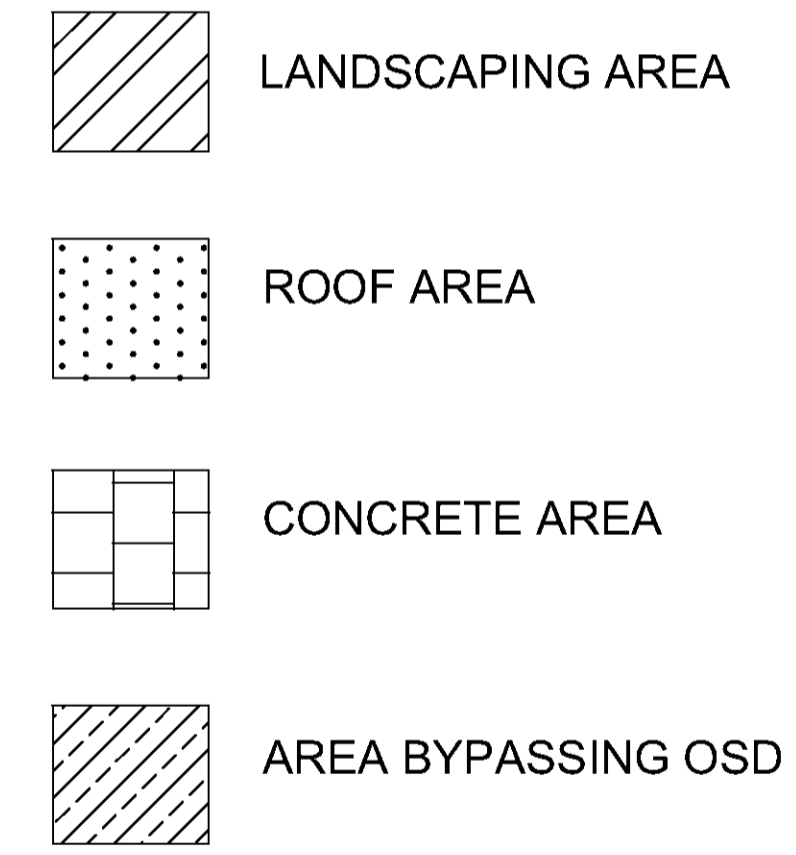
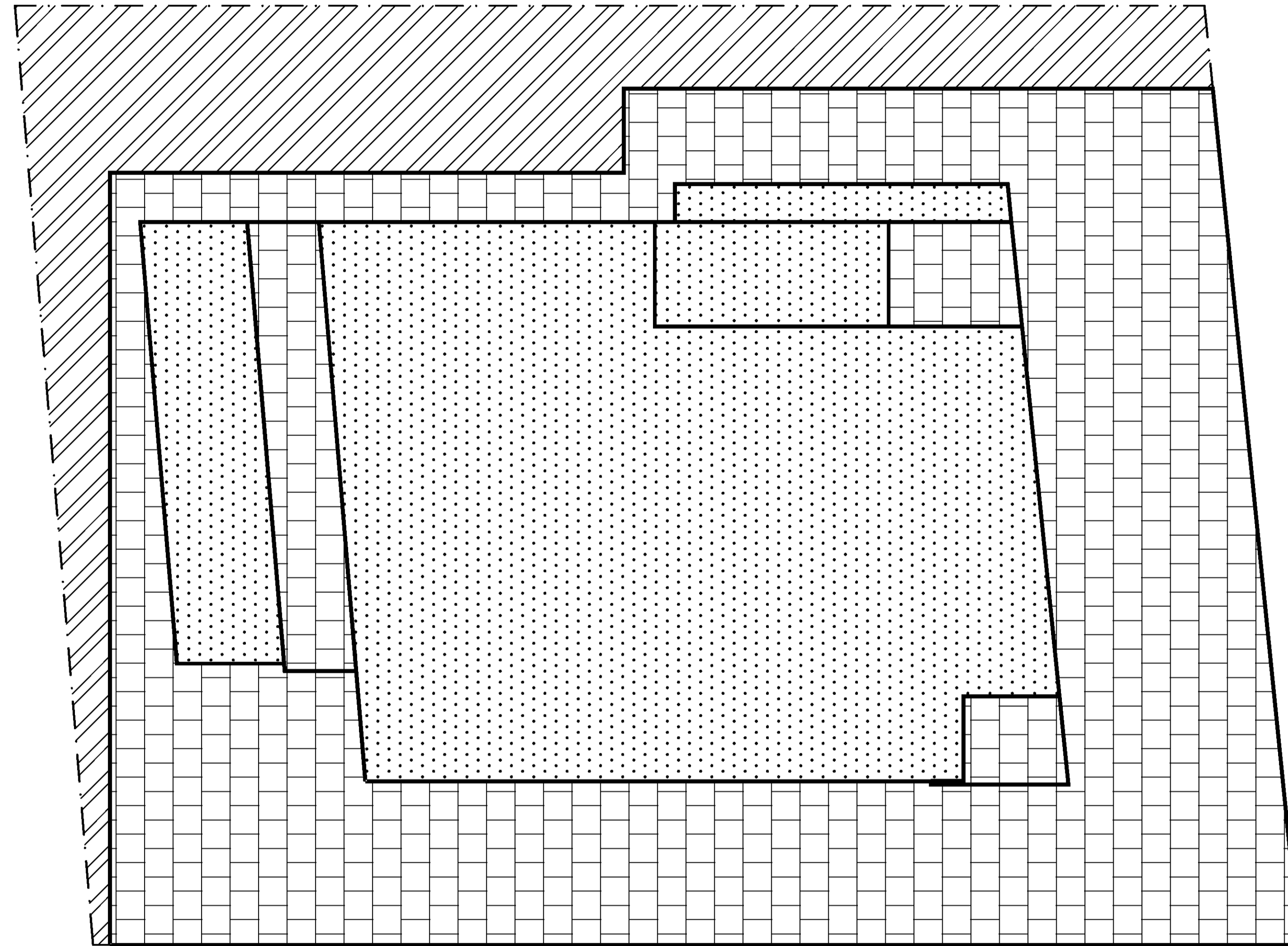
SITE ADDRESS:
29-31 CASTLEREAGH ST, PENRITH, NSW 2750

CLIENT:

SHEET TITLE:
SIDEMENT CONTROL PLAN SITE MANAGEMENT

DESIGN: NS
 DRAWN: AIRP
 DATE: JUNE 2016
 SCALE: A1 - 1:100
 A3 - 1:200

ISSUE: **A**
 SHEET: **SK-1**



MUSIC MODELLING LEGEND

SCALE 1:100

TOTAL SITE = 886m²
LANDSCAPE = 147m² (16.6%)
ROOF AREA = 337m² (38%)
CONCRETE AREA = 402m² (45.4%)

EROSION CONTROL NOTES

- ALL EROSION AND SILTATION CONTROL DEVICES ARE TO BE PLACED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS, AND ALL SILT TRAPS ARE TO HAVE DEPOSITED SILT REMOVED REGULARLY DURING CONSTRUCTION.
- ALL TREES ARE TO BE PRESERVED UNLESS INDICATED OTHERWISE ON THE ARCHITECTS OR LANDSCAPE ARCHITECTS DRAWINGS. EXISTING GRASS COVER SHALL BE MAINTAINED EXCEPT IN AREAS CLEARED FOR BUILDINGS, PAVEMENTS ETC.
- INSTALL TEMPORARY SEDIMENT BARRIERS TO ALL INLET PITS LIKELY TO COLLECT SILT LADDED WATER, TO COUNCIL'S STANDARDS.
- NOT WITHSTANDING DETAILS SHOWN IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT ALL SITE ACTIVITIES COMPLY WITH THE REQUIREMENTS OF THE CLEAN WATERS ACT.
- ALL TOPSOIL TO BE CONSERVED FOR RE-USE ON SITE.

NOTES

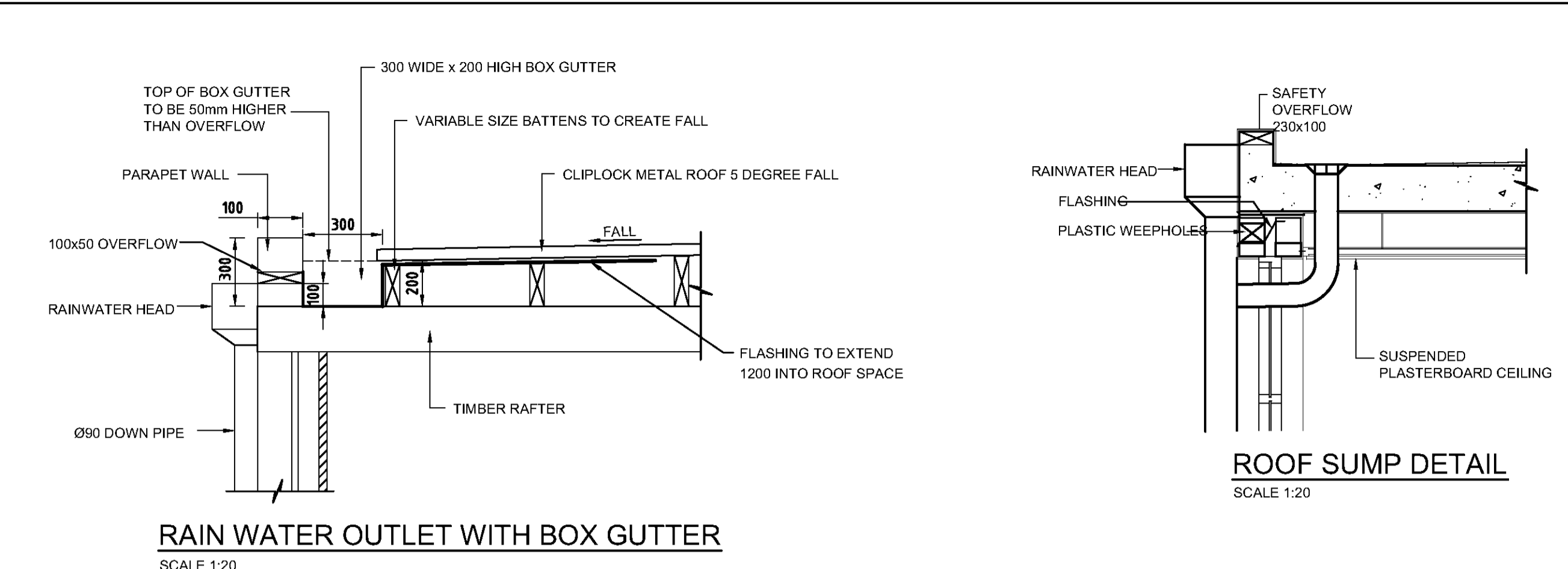
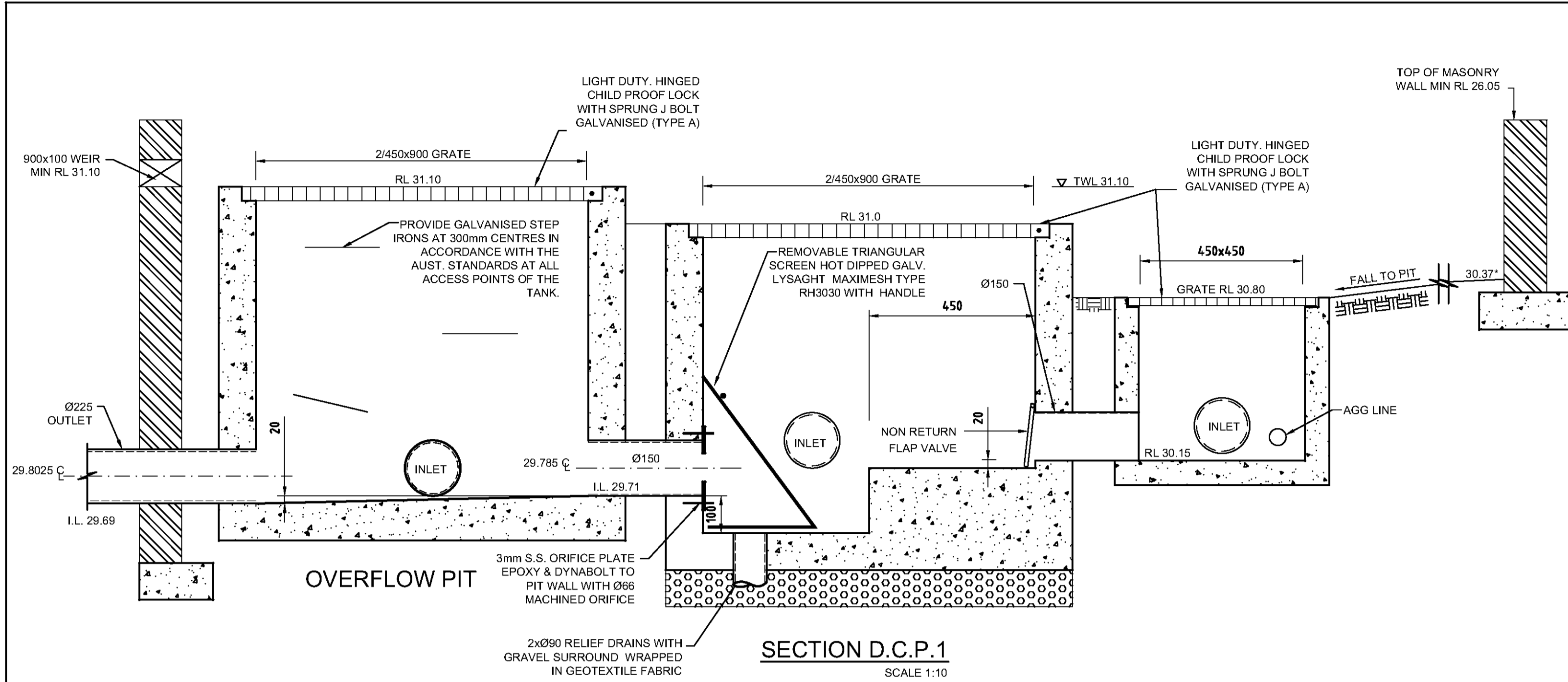
- ALL LINES ARE TO BE Ø100 J.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWER GRADE & SEALED.
- IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
- ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC.
- PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE.
- PITS DEEPER THAN 600 MUST BE 900x900 AND HAVE STEP RUNGS AT 300 CENTRES.
- ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- ALL EXTERNAL SLABS TO BE WATERPROOFED.
- ALL GRATES TO HAVE CHILD PROOF LOCKS.
- ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
- ALL D.P.'S TO HAVE LEAF GUARDS.
- ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
- ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
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SYMBOLS

- F.F.L FINISHED FLOOR LEVEL
- F.G.L FINISHED GARAGE LEVEL
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- +11.0 EXISTING LEVEL
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- I.L. INVERT LEVEL
- 20 R ROOF CATCHMENT AREA (m²)
- 20 I IMPERVIOUS CATCHMENT AREA (m²)
- 20 L LANDSCAPED CATCHMENT AREA (m²)
- DP Ø100 DOWN PIPE OR EQUIVALENT
- SP SPREADER
- VD VERTICAL DROP
- VR VERTICAL RISER
- ⊗ RAIN WATER HEAD & DOWN PIPE
- ⊙ CLEAN OUT POINT
- ⊙ SUMP Ø150 SUMP
- CONCRETE COVER JUNCTION PIT
- GRATED INLET PIT 450x450
- ▨ 200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
- STORMWATER PIPE
- - - SUSPENDED STORMWATER PIPE
- · - · CHARGED STORMWATER PIPE
- · - · PUMP LINE
- · - · Ø100 SUBSOIL PIPE
- · - · SILT FENCE
- ← OVERLAND FLOW

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	ZAIT Engineering Solutions Pty Ltd 6/23 Hunt Street, North Parramatta, NSW 2151 Mobile: 0413 598 863 Email: david@zait.com.au ABN 40 608 862 899 ACN 608 862 899 Copyright		DATE ISSUED: 28-04-17	REVISION: A ISSUE FOR D.A.	PROJECT: PROPOSED MULTI-STOREY 29-31 CASTLEREAGH STREET, PENRITH PENRITH COUNCIL	ACHITECT: CAD PLANS PTY LTD	DRAWING TITLE: MUSIC MODELLING LEGEND FOR D.A. ONLY	ISSUE: A	NORTH:
	DESIGNED: D.Z.	DRAWN: V.S.	CHECKED: D.Z.	DATE: MARCH-17	SCALE: 1:100	JOB NUMBER: 17DZ1289	APPROVED: DAVID ZAITER <small>BEng (Hons), MIEAust CPEng NER RPEQ</small>		
	CLIENT:		DRAWING NUMBER: D12		APPROVED: DAVID ZAITER <small>BEng (Hons), MIEAust CPEng NER RPEQ</small>				
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ROOF SUMP DETAIL
SCALE 1:20

O.S.D. SUMMARY CALCULATIONS

TOTAL SITE AREA = 887m²
 AREA BYPASSING O.S.D = 0m² (0%)

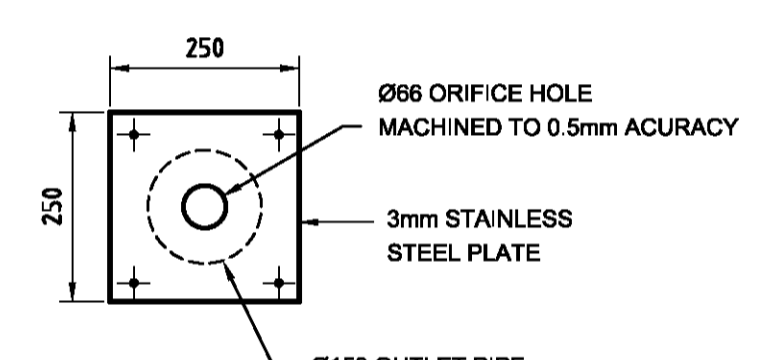
PERMITTED SITE DISCHARGE & REQUIRED OSD STORAGE IS IN ACCORDANCE WITH PENRITH CITY COUNCILS: STORMWATER DRAINAGE SPECIFICATION FOR BUILDING DEVELOPMENTS - SECTION 4.35 TABLE 8

VOLUME = 24.0m³ PER 1000m² OF SITE AREA
 DISCHARGE = 12.0 l/s PER 1000m² OF SITE AREA

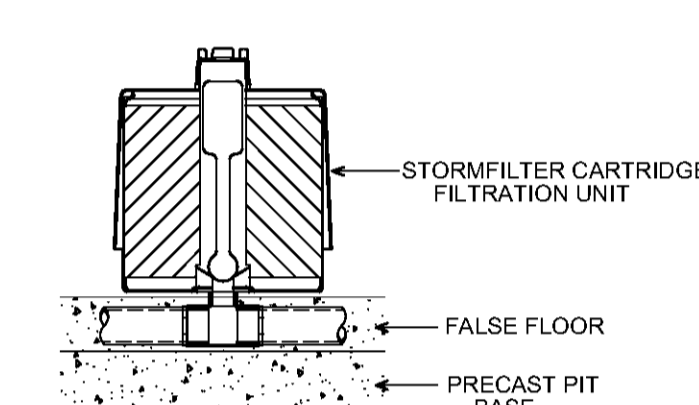
TOTAL VOLUME REQUIRED = 21.28m³
 MAXIMUM DISCHARGE = 10.64 l/s

ORIFICE CALCULATIONS

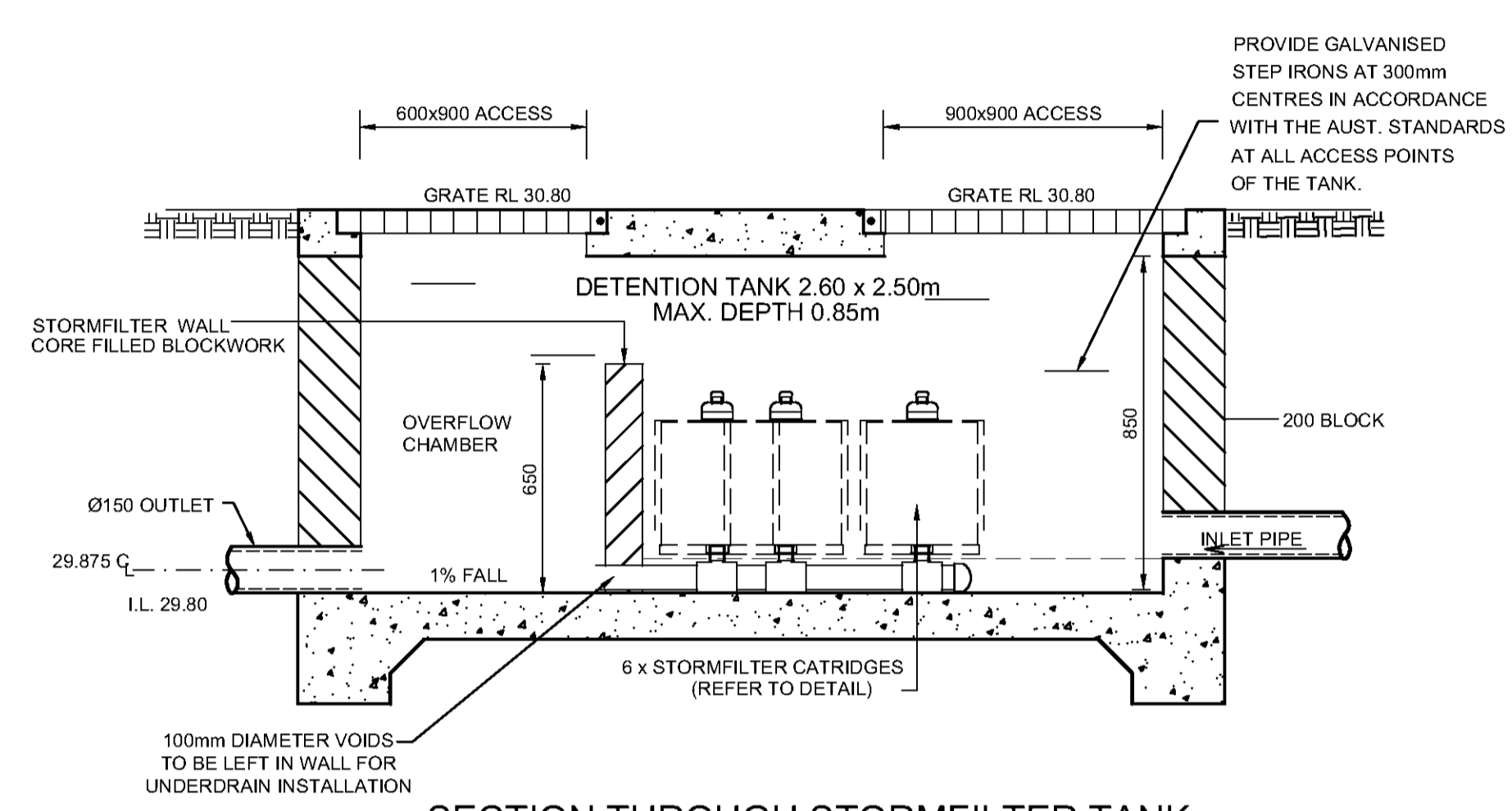
$A = Q(100) / (0.6 \sqrt{2gh})$ $Q(100) = 10.64 \text{ l/s PRE-DEVELOPMENT}$
 $A = .0035 \text{ m}^2$ $g = 9.81$
 ORIFICE $\phi = 66\text{mm}$ $H = 1.315\text{m}$



ORIFICE PLATE ELEVATION
SCALE 1:10



STORMFILTER CARTRIDGE DETAIL



SECTION THROUGH STORMFILTER TANK
SCALE 1:20

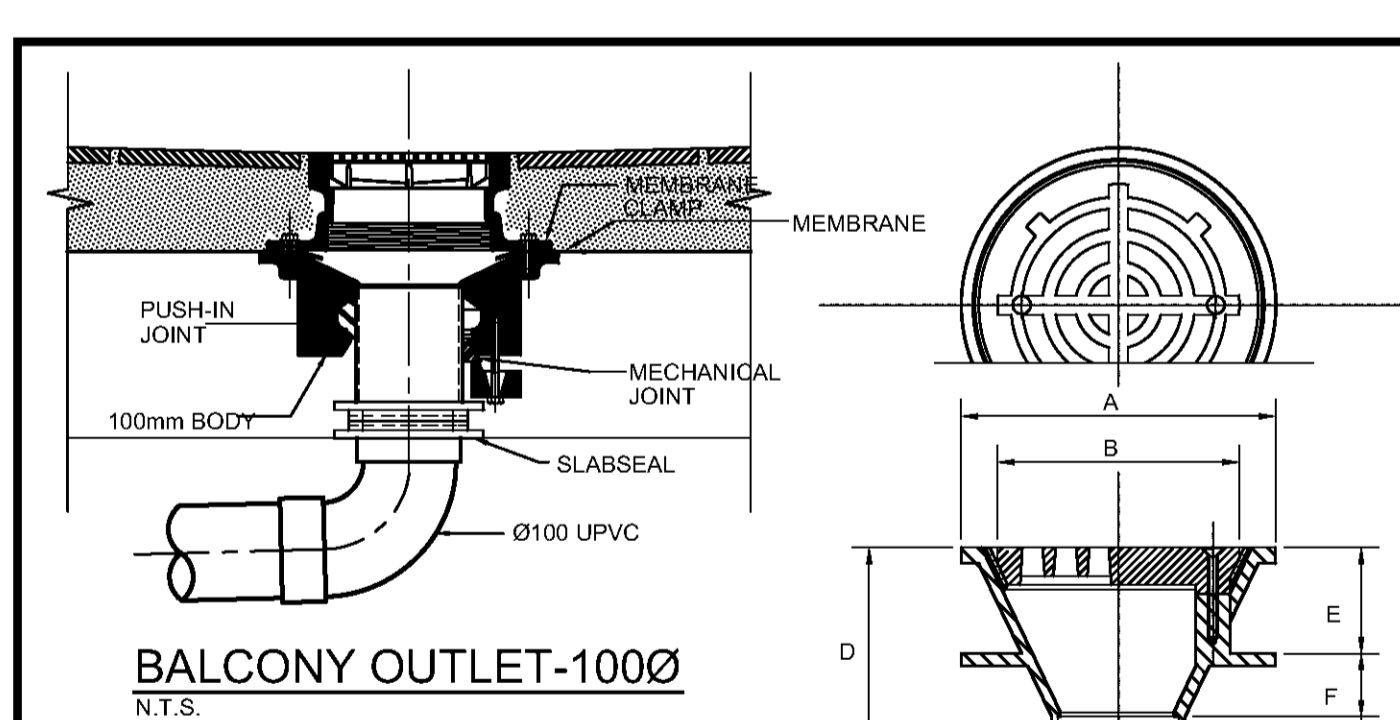
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 - PITS LESS THAN 600 DEEP MAY BE BRICK, PRECAST OR CONCRETE.
 - PITS DEEPER THAN 900 MUST BE 900x900 AND HAVE STEP RUNGS AT 300 CENTRES.
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NO RAINWATER TANK REQUIRED BY BASIX CERTIFICATE



BALCONY OUTLET-1000
N.T.S.

DIMENSIONAL DATA

N.B.	A	B	C	D	E	F	G	FLOW RATE L/S
50	160	110	58	72	31	14	27	
80	200	150	85	80	33	22	25	
100	260	200	110	95	44	26	25	8.2
150	260	200	160	110	46	6	38	10.2
SUPERFLO	400	300	160	143	66	39	38	17

BASED ON 50mm HEAD OF WATER ABOVE SURFACE LEVEL.
 FOR FURTHER DATA REFER TO FLOW RATE CHARTS.

USPS TRUFLO FLAT GRATE
N.T.S.

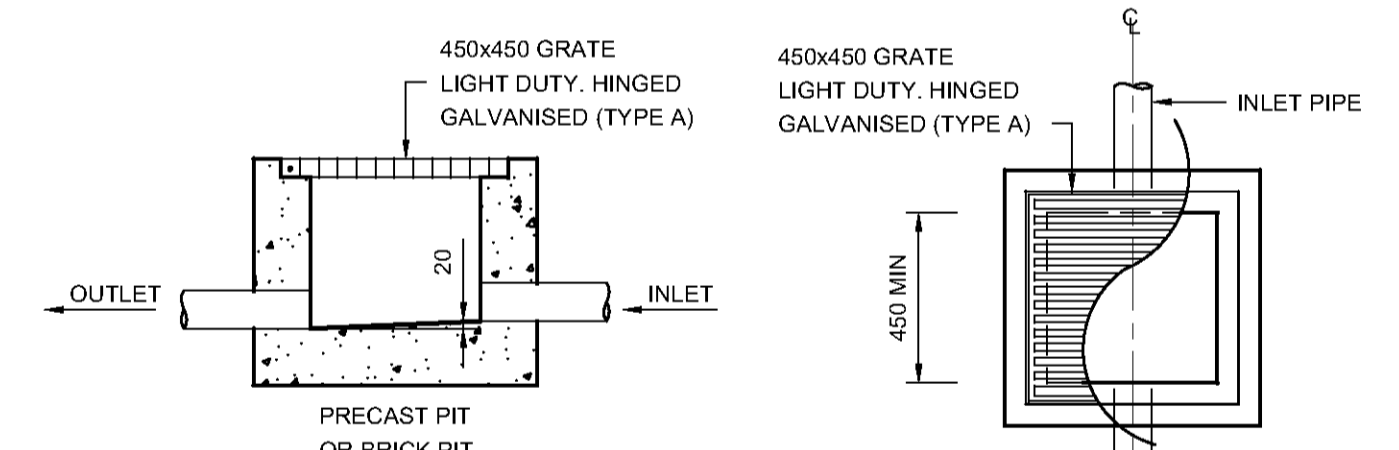
STORMFILTER GENERAL NOTES

- INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
- IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT STORMWATER360 FOR OPTIONS.
- THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. CONCRETE STRUCTURE TO BE PROVIDED BY OTHERS.
- SEE STORMFILTER DESIGN TABLE FOR REQUIRED HYDRAULIC DROP. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT STORMWATER360 FOR DESIGN OPTIONS.
- ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
- STRUCTURE AND ACCESS COVERS DESIGNED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900x900 ABOVE CARTRIDGES.
- THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
- ANY BACKFILL DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
- CARTRIDGE HEIGHT AND ASSOCIATED DESIGN PARAMETERS PER STORMFILTER DESIGN TABLE.
- STORMFILTER BY STORMWATER360: SYDNEY (AU) PHONE: 1300 354 722 www.stormwater360.com.au

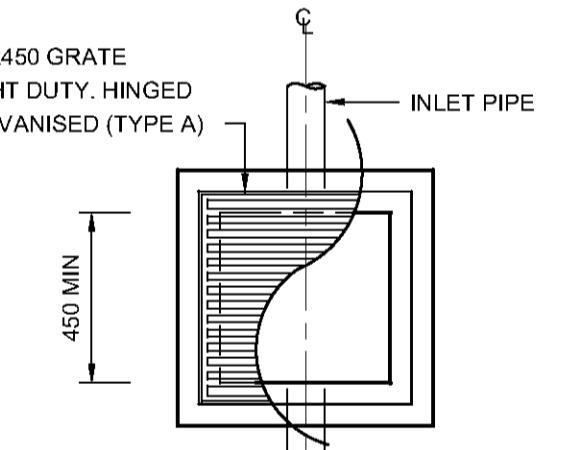
STORMFILTER DESIGN TABLE

CARTRIDGE HEIGHT	690	460	310
SYSTEM HYDRAULIC DROP (H - REQ'D. MIN.)	930	700	550
TREATMENT BY MEDIA SURFACE AREA L/S/m ²	1.4	0.7	1.4
CARTRIDGE FLOW RATE (L/s)	1.42	0.71	0.95
			0.47
			0.63
			0.32

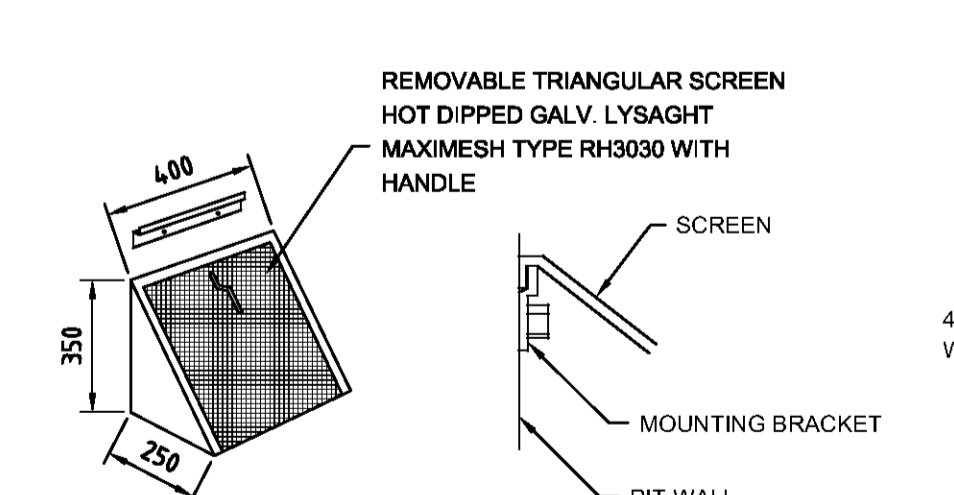
• THE SIZE 4.5 x 2.1m STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS.
 • THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER
 WILL BE SHOWN ON SUBMITTAL DRAWING(S).
 • ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 UNLESS OTHERWISE NOTED.



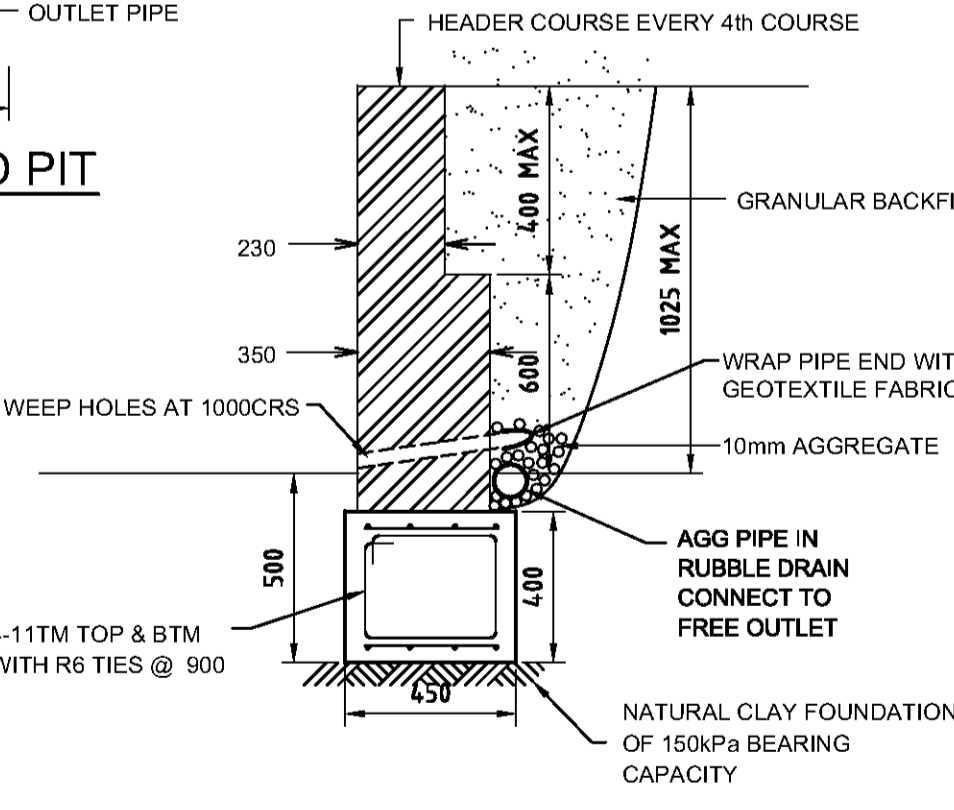
TYPICAL PIT SECTION
SCALE 1:20



STANDARD PIT
SCALE 1:20

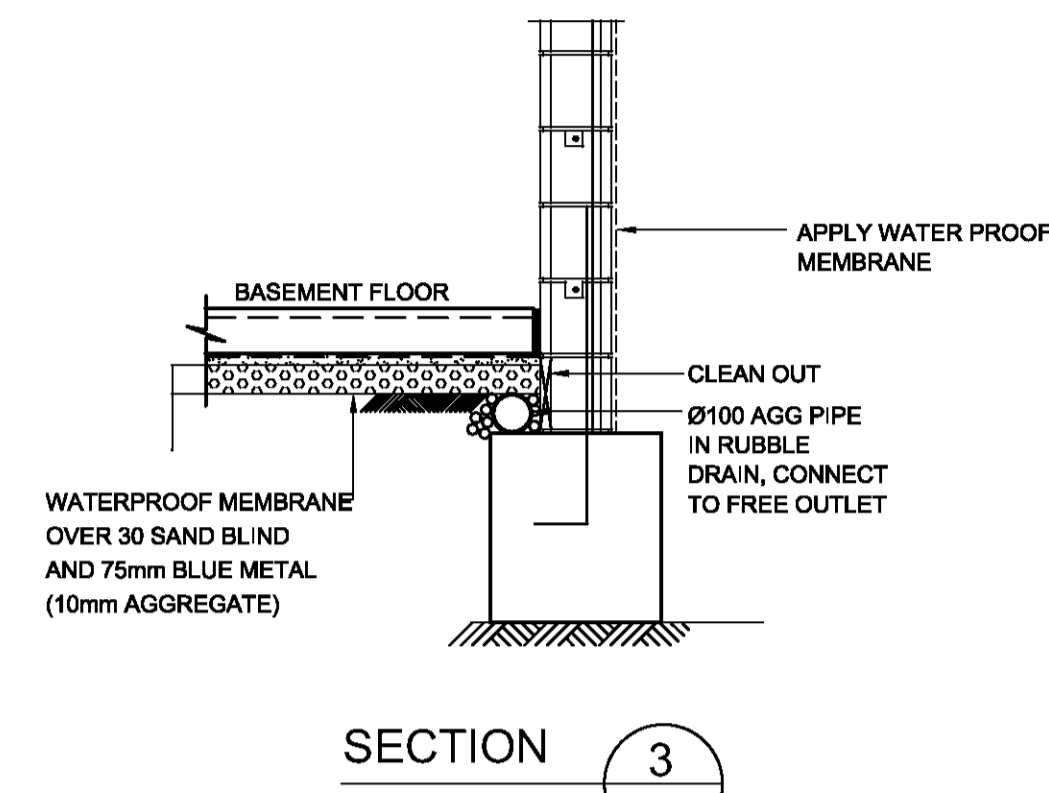
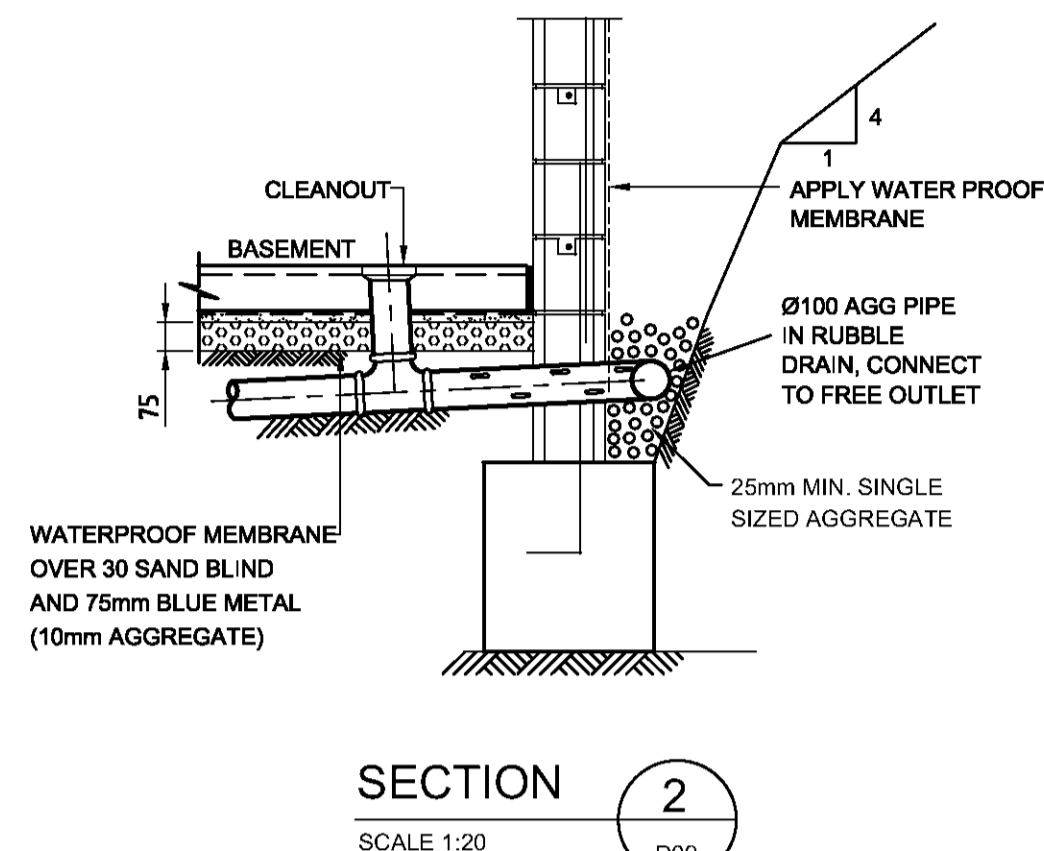
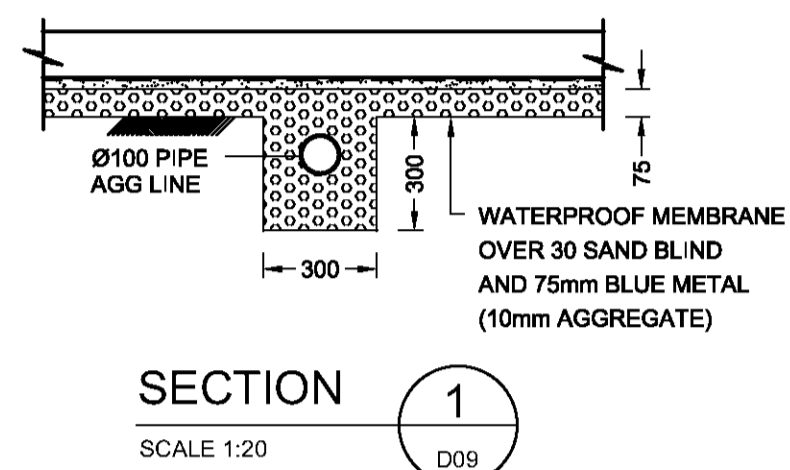
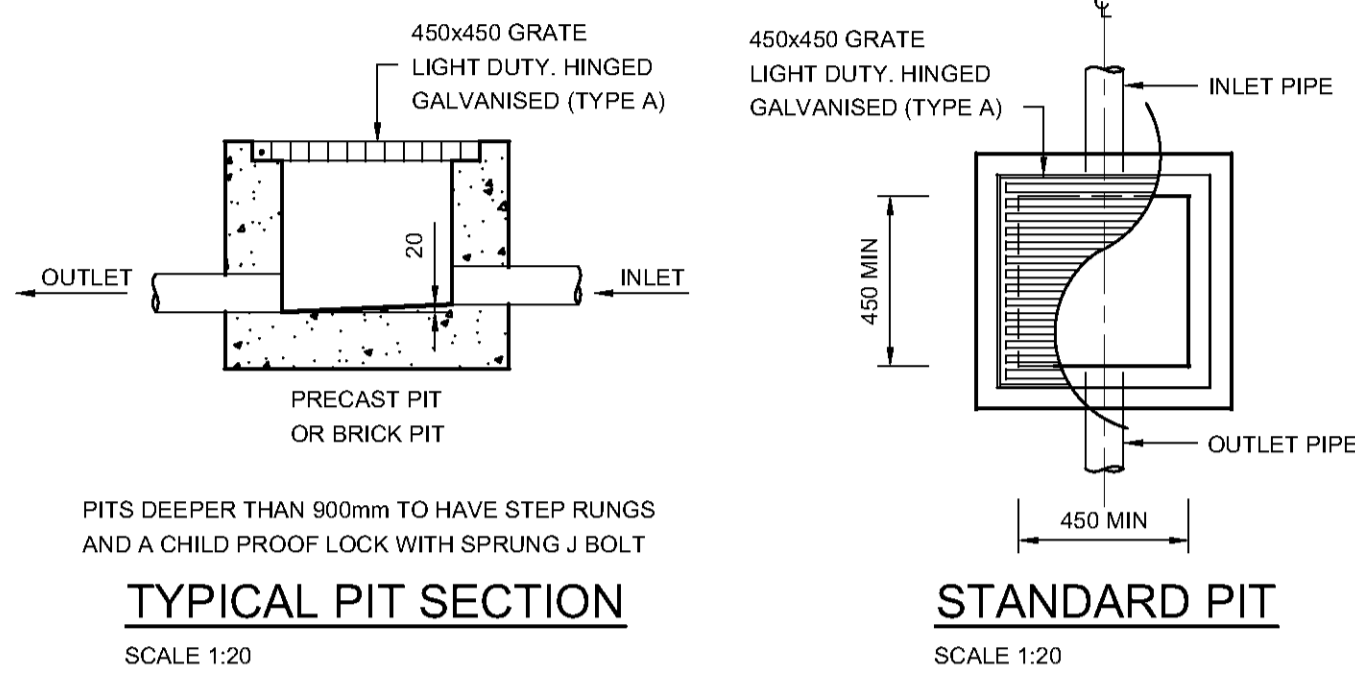


MULTI PURPOSE FILTER SCREEN
SCALE 1:20
PRODUCT CODE: MMPS (MASCOT ENGINEERING)



TYPICAL RETAINING WALL
SCALE 1:20
R.W. EXCEEDING 600 TO BE DESIGNED BY STRUCTURAL ENGINEER

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	<p>DESIGNED: D.Z.</p>	<p>DRAWN: V.S.</p>	<p>CHECKED: D.Z.</p>	<p>DATE: MARCH-17</p>	<p>SCALE: 1:100</p>	<p>APPROVED: DAVID ZAITER BEng (Hons), MIEAust, CPEng, NER, RPEQ</p>	<p>DRAWING NUMBER: D10</p>



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STANDARD PUMP OUT DESIGN NOTES

THE PUMP SHALL BE PROGRAMMED TO WORK ALTERNATIVELY SO AS TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.

A LOW LEVEL FLOAT SHALL BE PROVIDED TO ENSURE THAT THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS.

A SECOND FLOAT SHALL BE PROVIDED AT A HIGHER LEVEL, APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL, WHEREBY ONE OF THE PUMPS WILL OPERATE AND DRAIN THE TANK TO THE LEVEL OF THE LOW LEVEL FLOAT.

A THIRD FLOAT SHALL BE PROVIDED AT A HIGH LEVEL WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHOULD START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.

AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AN A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL. THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.

PUMP WELL DETAILS

SUMP SIZE AND PUMP SIZE BASE ON 100 YEAR 4.5 HOURS STORM INTENSITY IS 34.7 mm/hr, AREA DRAINING TOWARDS SUMP IS 95m²
 $Q = CIA/3600 = 1.0 \times 34.7 \times 95 / 3600 = 0.92 \text{ l/s}$
 VOLUME REQUIRED IS $0.92 \times (4.5 \times 60 \times 60) = 14,094 \text{ litres}$
 STORAGE PROVIDED $3600 \times 3600 \times 1200 = 15,552 \text{ litres}$
 THEREFORE ADEQUATE STORAGE PROVIDED

USE DUAL OMEGA ZSS-040 PUMPS TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL PANEL WHICH WILL ALLOW FOR THE PUMPS TO ACT ALTERNATIVELY AT 6.0m HEAD

COMPONENTS

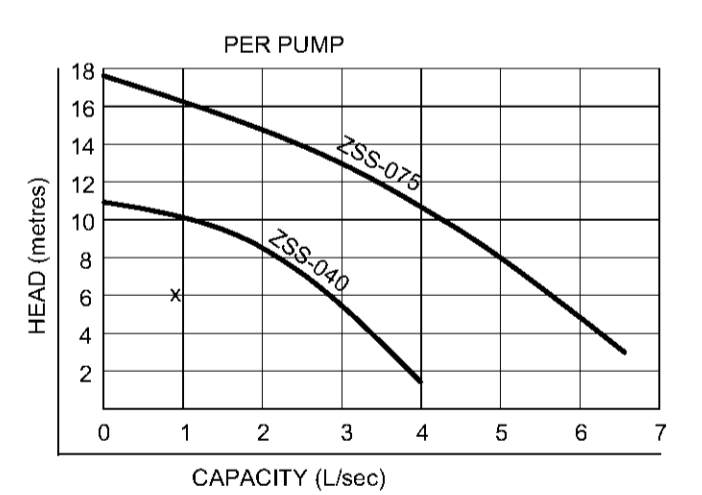
- TWO(2) PUMPS OMEGA SUBMERSIBLE PUMPS (240v)
- ONE(1) PUMPS START CONTROL PANEL (CONTROL DESIGN TO ALTERNATE PUMPS ON START ON CONSECUTIVE START OPERATION)
- TWO(2) GATE VALVES (BRONZE)
- TWO(2) CHECK VALVES (SWING TYPE) (BRONZE)
- TWO(2) SETS OF DISCHARGE HOSES WITH KAMLOK QUICK RELEASE COUPLINGS
- ALL IN TANK PIT/PIPE AND PIPE FITTINGS, BRACKETS/SUPPORTS, HD GAL. CHAINS
- FOUR(4) KWIK START KEMRAHN MERCURY LEVEL FLOAT REGULATORS
- INSTALLATION IN PROVIDED TANK/PIT

OPTIONS

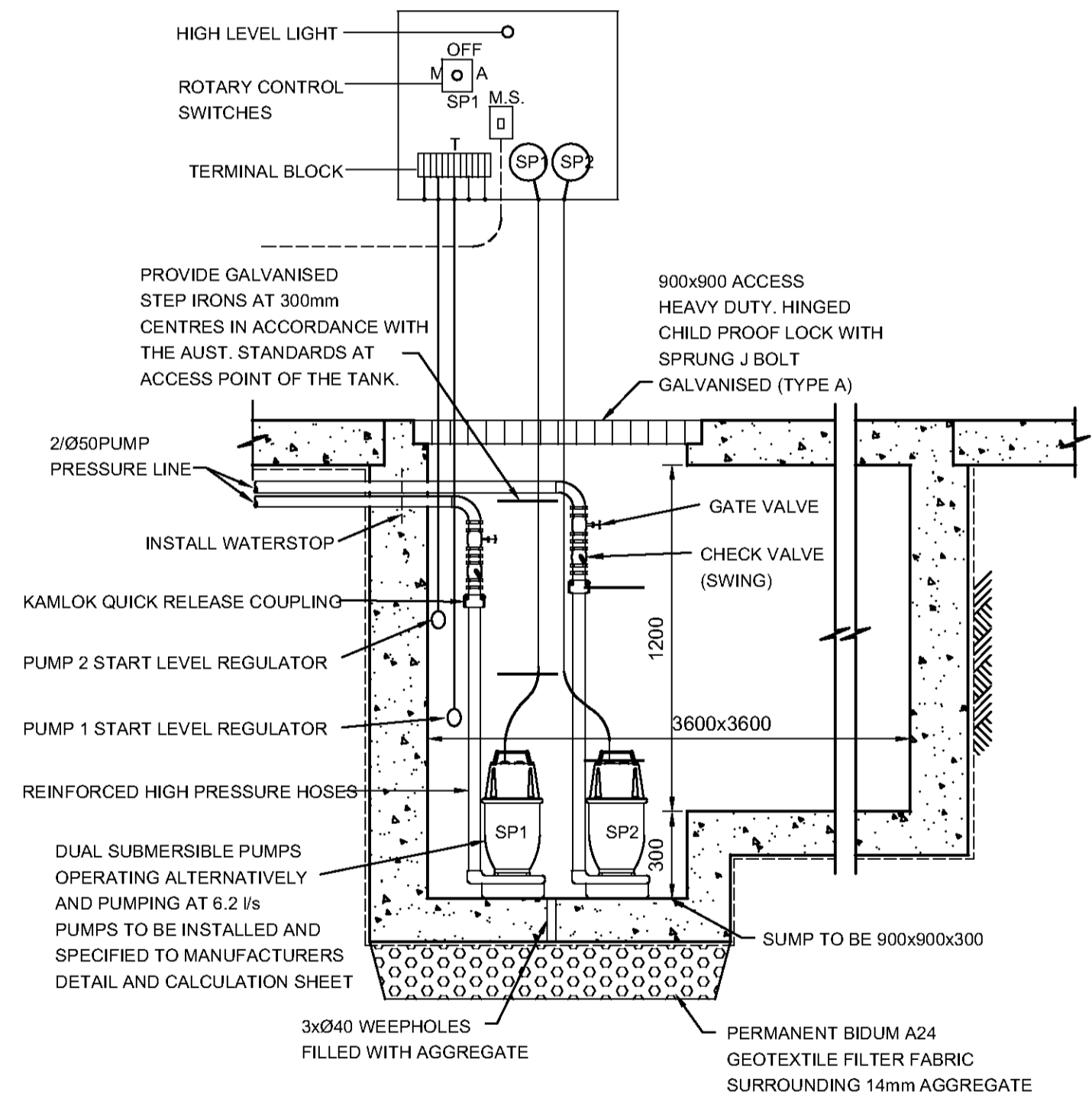
- TANK PACKAGE/COVERS/MANHOLE, ALARM BELL, LOW LEVEL ALARM REGULATOR

MODEL - ALINE	OUTLET SIZE	MAX FLOW	MAX HEAD	MOTOR SIZE	WEIGHT	POWER
OMEGA ZSS-040	50mm	3.9 L/sec	11m	0.40 kW	11 kg	240v
OMEGA ZSS-075	50mm	6.6 L/sec	18m	0.75 kW	18 kg	240v

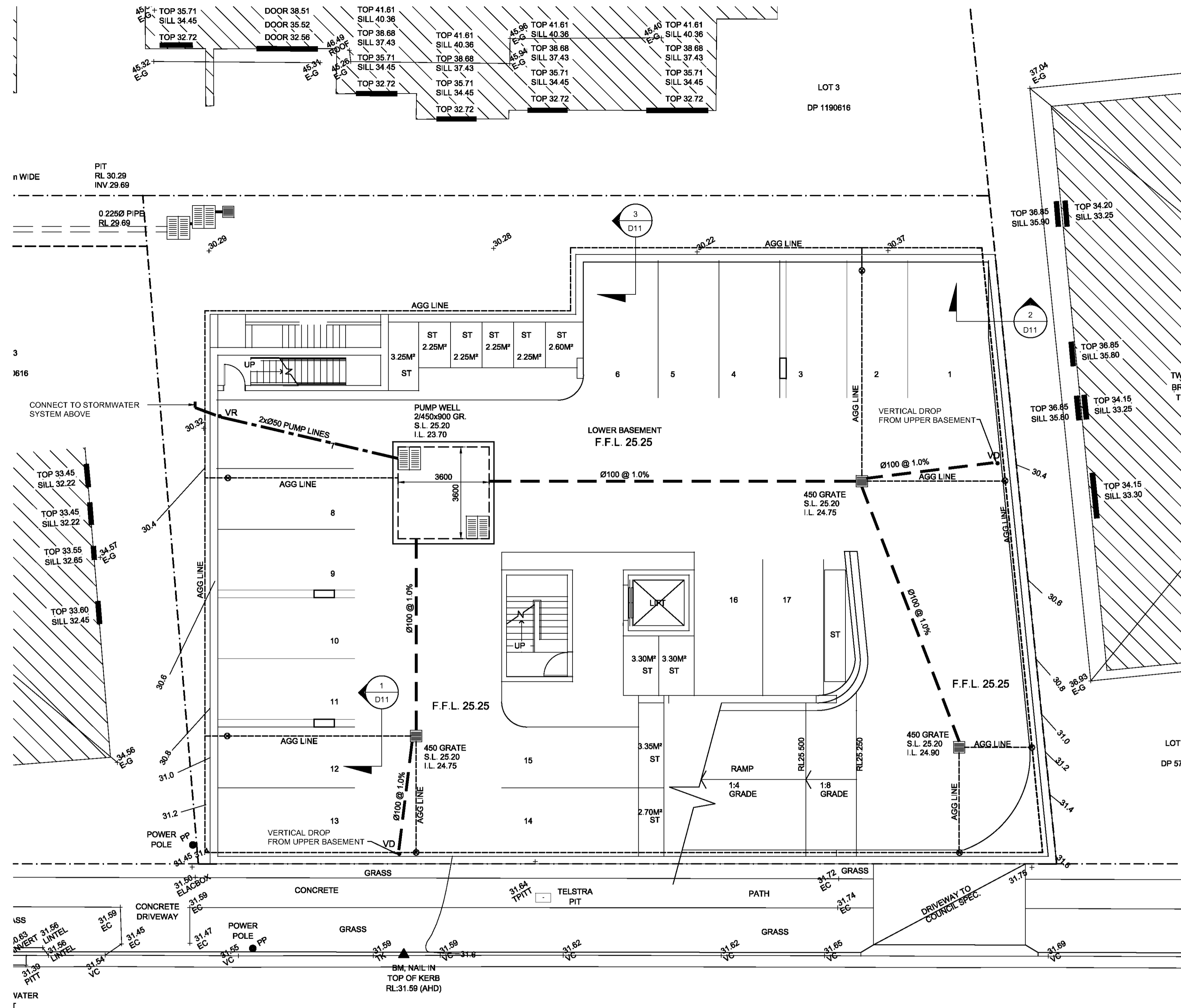
PUMP SPECIFICATIONS



PUMP PERFORMANCE CURVES
SCALE 1:20



	ZAIT Engineering Solutions Pty Ltd		DATE ISSUED:		REVISION:		PROJECT:		ACHITECT:		DRAWING TITLE:				ISSUE:		NORTH:							
	6/23 Hunt Street, North Parramatta, NSW 2151 Mobile: 0413 598 863 Email: david@zait.com.au ABN 40 608 862 899 ACN 608 862 899 Copyright		28-04-17		A ISSUE FOR D.A.		PROPOSED MULTI-STOREY 29-31 CASTLEREAGH STREET, PENRITH PENRITH COUNCIL		CAD PLANS PTY LTD		BASEMENT DRAINAGE DETAILS FOR D.A. ONLY				A		NORTH:							
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											D.Z.		V.S.		D.Z.		MARCH-17		1:100		17DZ1289		DAVID ZAITER BEng (Hons), MIEAust CPEng NER RPEQ	



CASTLEREAGH STREET

LOWER BASEMENT DRAINAGE PLAN

SCALE 1:100
NOTE: 1. MIN. FALL 0.7% DRAINAGE SUMPS AND PITS

REFER TO DRAWING NUMBER: D11
FOR ALL BASEMENT DRAINAGE DETAILS

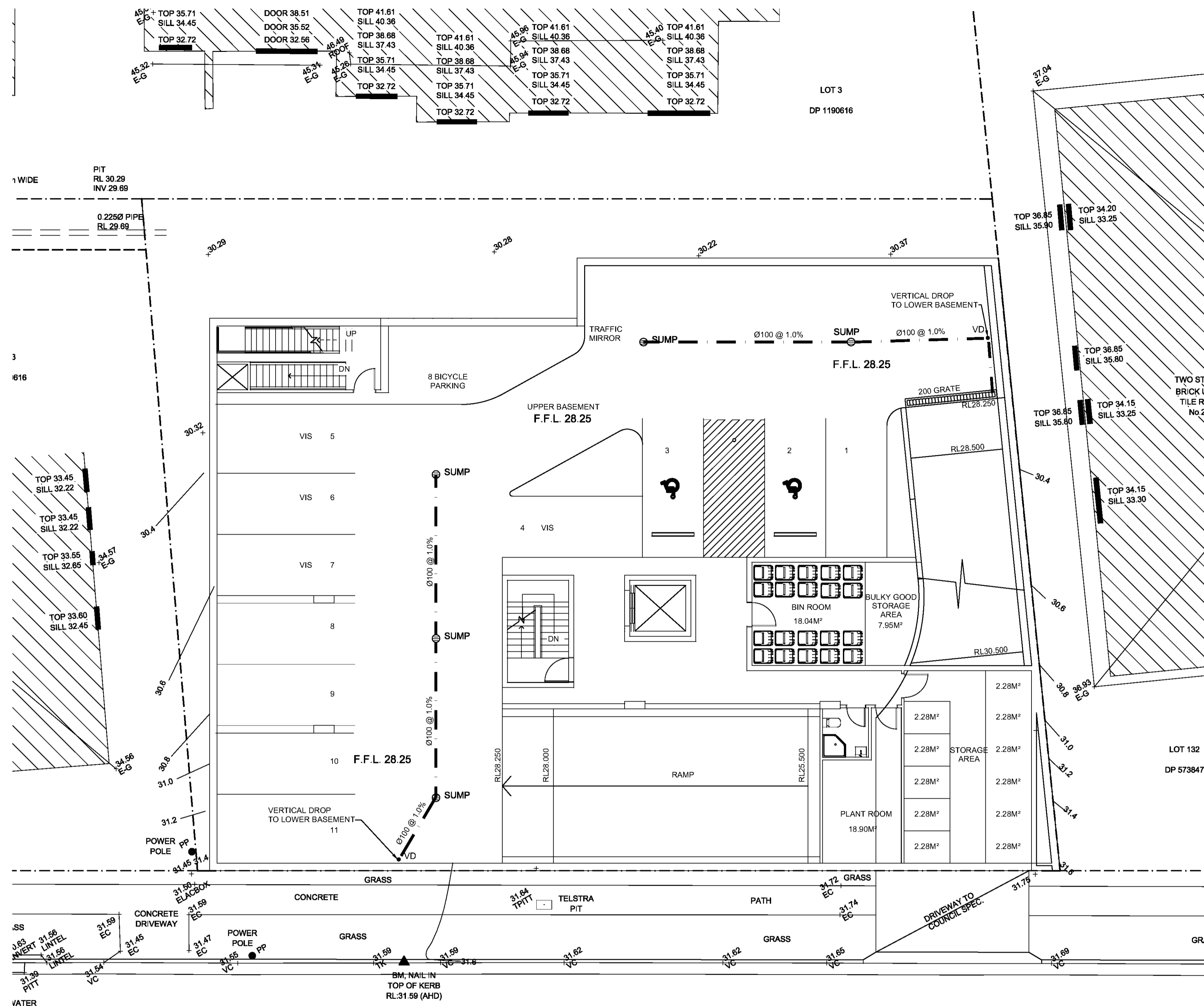
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 - F.G.L. FINISHED GARAGE LEVEL
 - T.K. TOP OF KERB
 - +11.0 FINISHED LEVEL
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 - I.L. INVERT LEVEL
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 - 20 I IMPERVIOUS CATCHMENT AREA (m2)
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 - DP Ø100 DOWN PIPE OR EQUIVALENT
 - SP SPREADER
 - VD VERTICAL DROP
 - VR VERTICAL RISER
 - R/W RAIN WATER HEAD & DOWN PIPE
 - CLEAN OUT POINT
 - Ø150 SUMP
 - CONCRETE COVER JUNCTION PIT
 - GRATED INLET PIT 450x450
 - 200Wx100D GRATED DRAIN WITH 2% BTM SLOPE
 - STORMWATER PIPE
 - SUSPENDED STORMWATER PIPE
 - CHARGED STORMWATER PIPE
 - PUMP LINE
 - Ø100 SUBSOIL PIPE
 - SILT FENCE
 - OVERLAND FLOW

DIAL 1100 BEFORE YOU DIG
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DIAGRAMS FROM RELEVANT AUTHORITIES

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					CLIENT:		DESIGNED: D.Z.	DRAWN: V.S.	CHECKED: D.Z.	DATE: MARCH-17		SCALE: 1:100	APPROVED: DAVID ZAITER BEng (Hons), MIEAust, CPEng, NER, RPEQ



UPPER BASEMENT DRAINAGE PLAN

SCALE 1:100
 NOTE: 1. MIN. FALL 0.7% DRAINAGE SUMPS AND PITS

REFER TO DRAWING NUMBER: D11
 FOR ALL BASEMENT DRAINAGE DETAILS

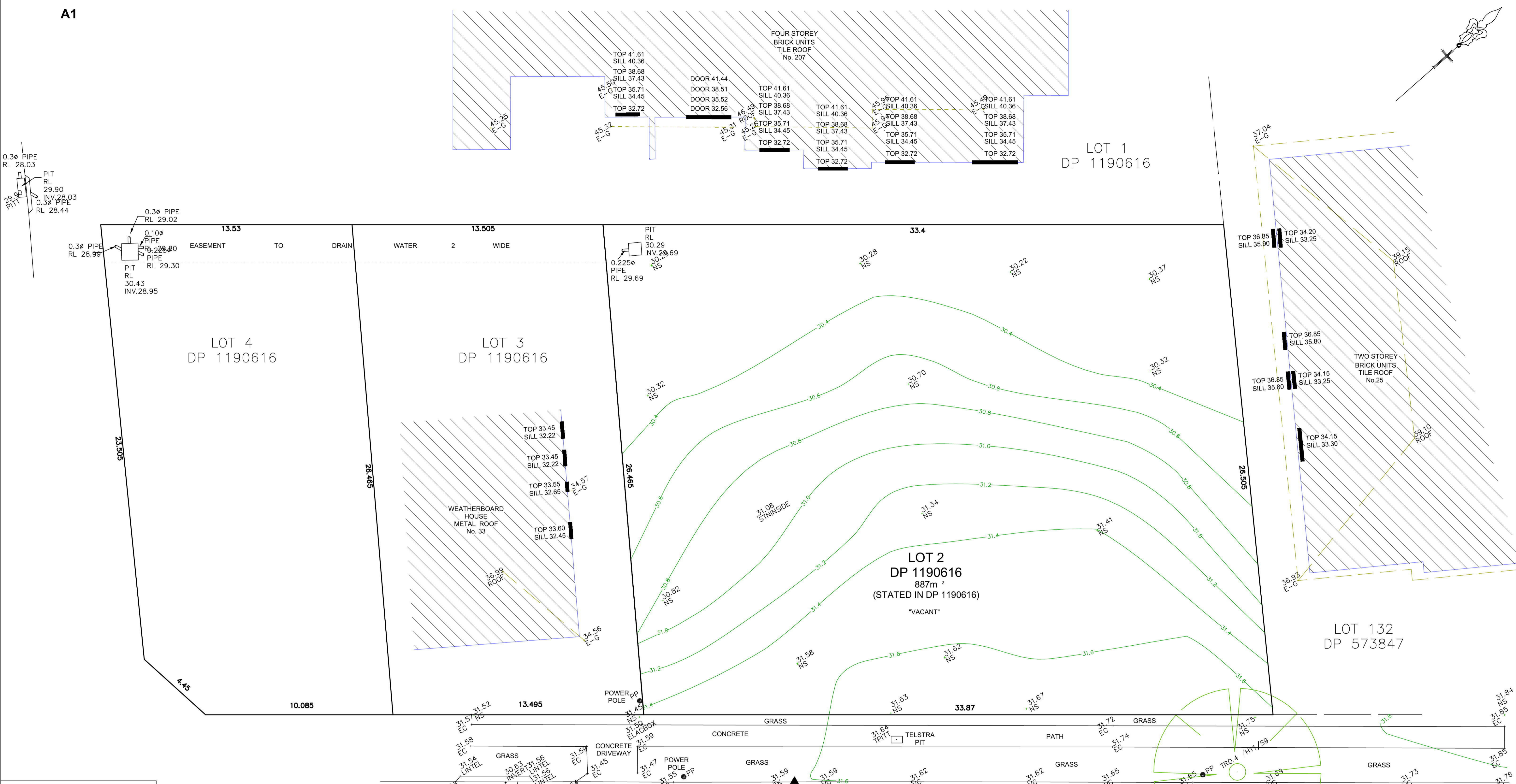
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LEGEND:

ADJ	ADJOINING BUILDING
AHD	AUSTRALIAN HEIGHT DATUM
BM	BENCH MARK
COMM	COMMUNICATION PIT
CONC	CONCRETE
D/H/S	DIAMETER/HEIGHT/SPREAD
D	DOOR
E-G	EAVE & GUTTER
FL	FLOOR LEVEL
GUTT	GUTTER
PP	POWER POLE
RL	REDUCED LEVEL
S	STEPS
SILL	WINDOW SILL
TK	TOP OF KERB
TOP	TOP OF WINDOW
U/E	UNDERSIDE OF EAVE
VC	VEHICLE CROSSING
W	WINDOW
WM	WATER METER

NOTES:

A) THIS SURVEY IS SPECIFICALLY FOR CONTOUR PURPOSES ONLY. THE BOUNDARIES OF THE SUBJECT PROPERTY HAVE NOT BEEN INVESTIGATED BY US AND THE POSITION SHOWN IS APPROXIMATE ONLY.

B) IF THE DIMENSIONS OR DESCRIPTION OF THE TITLE ARE CRITICAL FOR DESIGN AND/OR CONSTRUCTION OF NEW STRUCTURES OR FINANCIAL DECISIONS WE RECOMMEND THAT AN IDENTIFICATION SURVEY OR RE-SURVEY OF BOUNDARIES BE CARRIED OUT.

C) SERVICES SHOWN HAVE BEEN DERIVED FROM VISUAL EVIDENCE APPARENT AT THE TIME OF SURVEY. SERVICES MAY EXIST WHICH ARE NOT SHOWN. THE RELEVANT SERVICE AUTHORITY SHOULD BE CONTACTED TO VERIFY THE EXISTENCE AND POSITION OF SERVICES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION.

D) DETAIL ON THIS PLAN HAS BEEN LOCATED FOR PLOTTING PURPOSES ONLY.

E) DIAMETER, HEIGHT & SPREAD OF TREES ARE APPROXIMATE ONLY.

F) LEVELS SHOWN ARE OF AUSTRALIAN HEIGHT DATUM.

G) USE STATED DIMENSIONS. DO NOT SCALE.

H) THESE NOTES FORM PART OF THIS PLAN AND CANNOT BE REMOVED.

I) NO COVENANTS AND/OR RESTRICTIONS HAVE BEEN INVESTIGATED BY C & A SURVEYORS PTY LTD.

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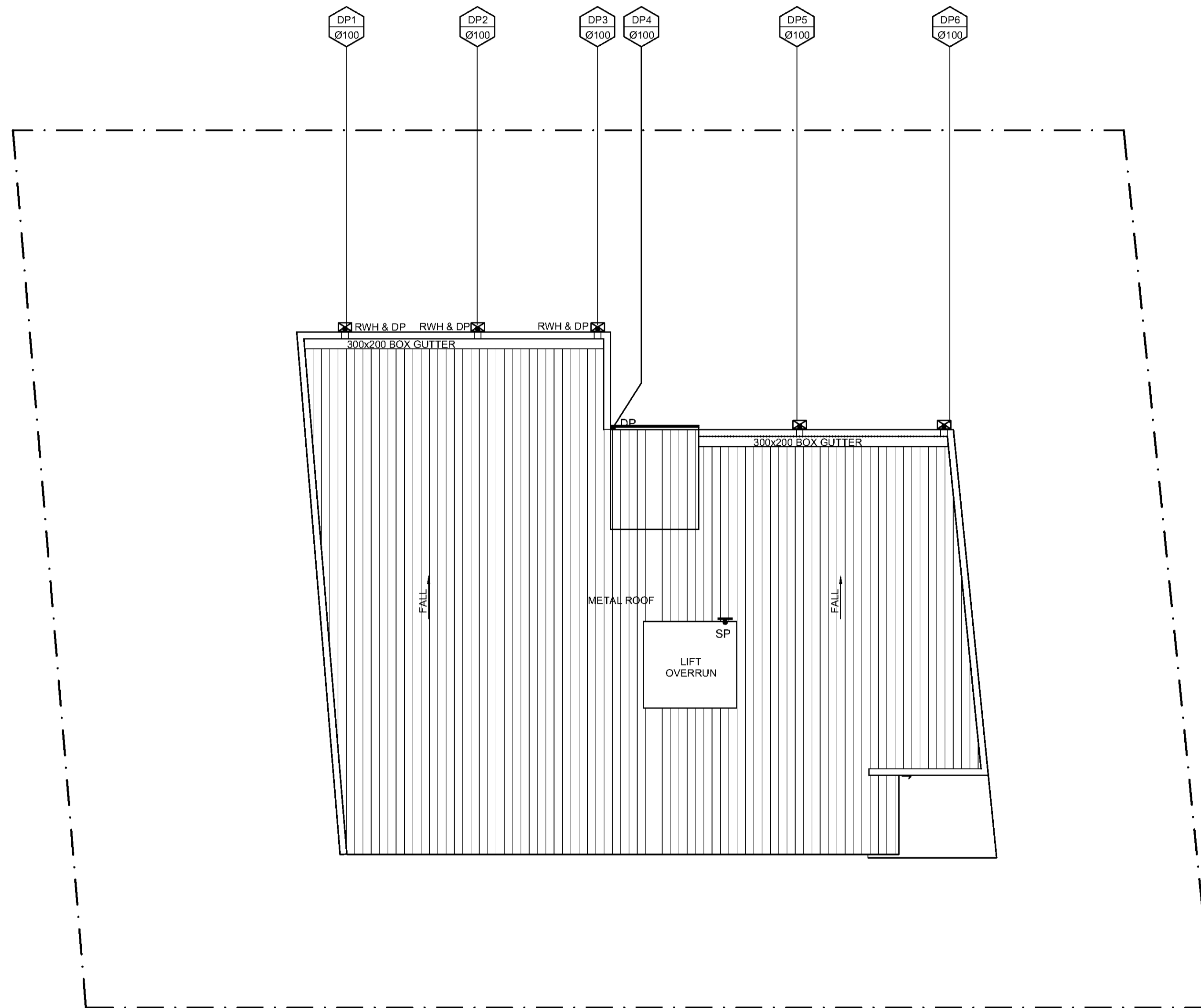
C & A SURVEYORS NSW P/L
 Ph:9638 4136 Fax:9638 1199
 Suite 3, Level 4, 460 CHURCH STREET,
 NORTH PARRAMATTA NSW 2151
 P.O. Box 5203 GREYSTANES NSW 2145
 info@candasurveyors.com.au
 www.candasurveyors.com.au

DETAIL SURVEY OF
LOT 2 IN DP 1190616, LOCATED AT
No. 29-31 CASTLEREAGH STREET, PENRITH

INSTRUCTING PARTY: BB & B PENRITH PTY LTD
UPDATED DRAWN: 13.03.2017

DATUM: A.H.D
SURVEY DATE: 11.04.2016
DATE DRAWN: 19.04.2016
REFERENCE: 4104-16 DET

SURVEYED BY: JM
DRAWN BY: KU
SCALE: 1:100
SHEET: 1 OF 1



ROOF DRAINAGE PLAN

SCALE 1:100

- NOTE:
1. MINIMUM ROOF FALL 1% TO OUTLETS
 2. PROVIDE SAFETY OVERFLOW TO ALL ROOFS
 3. ALL DOWNPIPES TO BE CONSTRUCTED OF ONE MATERIAL FOR AESTHETICS REASONS AND PAINTED TO PROTECT THEM AGAINST ULTRA-VIOLET LIGHT DAMAGE.

REFER TO DRAWING NUMBER: D10
FOR ALL DRAINAGE DETAILS

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						APPROVED: DAVID ZAITER BEng (Hons), MIEAust CPEng NER RPEQ			JOB NUMBER: 17DZ1289		