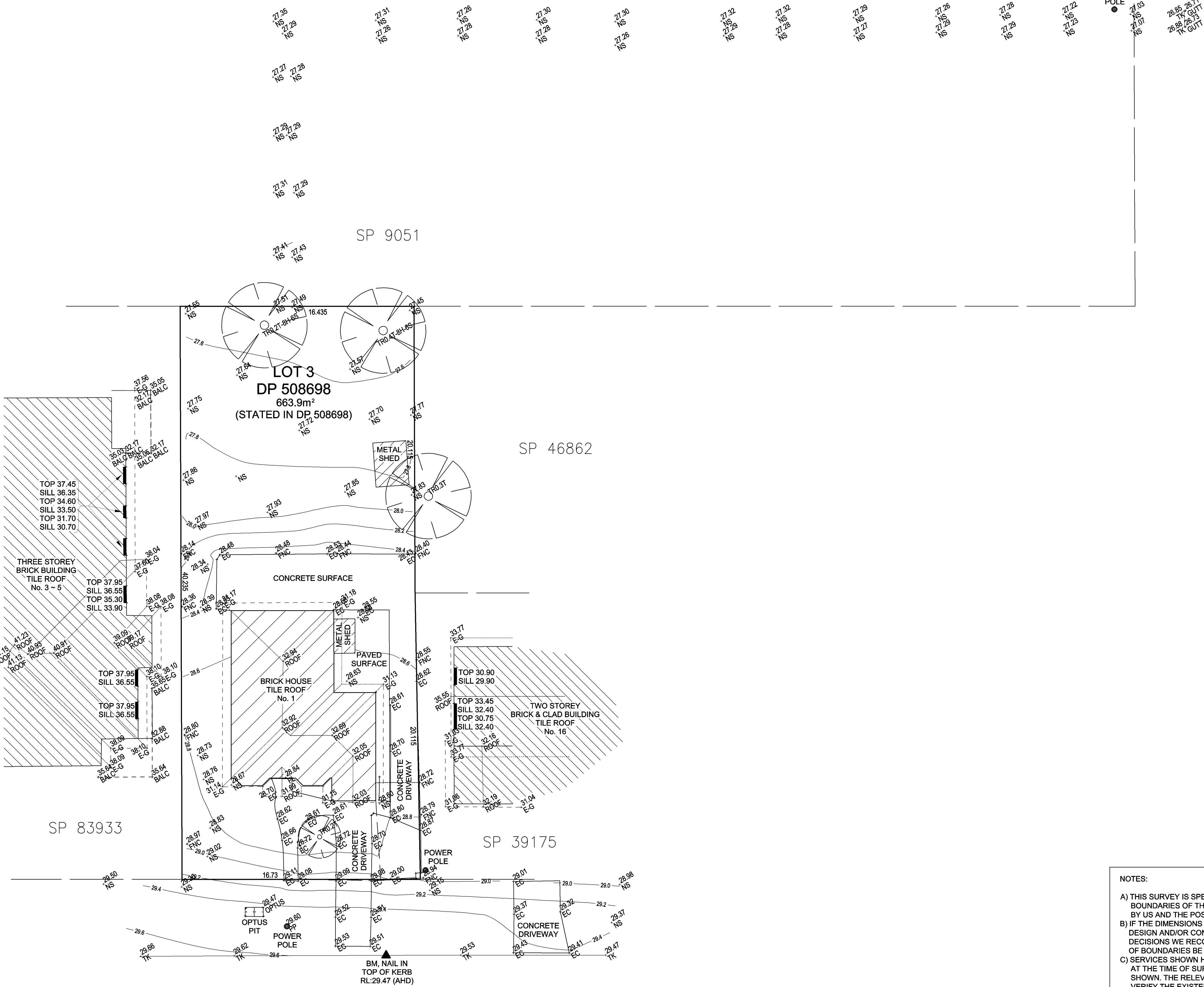




LEGEND:	
ADJ	ADJOINING BUILDING
AHD	AUSTRALIAN HEIGHT DATUM
BM	BENCH MARK
COMM	COMMUNICATION PIT
CONC	CONCRETE
D/H/S	DIAMETER/HEIGHT/SPREAD
D	DOOR
E-G	EAVE & GUTTER
FL	FLOOR LEVEL
GUTT	GUTTER
PP	POWER POLE
RL	REDUCED LEVEL
S	STEPS
SILL	WINDOW SILL
TK	TOP OF KERB
TOP	TOP OF WINDOW
U/E	UNDERSIDE OF EAVE
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 3B, Level 1, 1C Grand Avenue, ROSEHILL NSW 2142
P.O. Box 5203 GREYSTANES NSW 2145
info@candasurveyors.com.au
www.candasurveyors.com.au

DETAIL SURVEY OF
LOT 3 IN DP 508698, LOCATED AT
No. 1 GARNER STREET, St MARYS

INSTRUCTING PARTY:

GABCON P/L

DATUM:

A.H.D.

SURVEYED BY: HR

SURVEY DATE:

12-8-2015

DRAWN BY: TP

DATE DRAWN:

20-8-2015

SCALE: 1:150

REFERENCE:

948-13 DET

SHEET: 1 OF 1

RESIDENTIAL FLAT BUILDING / UNDER AFFORDABLE HOUSING

1 GARNER STREET, ST. MARYS, NSW

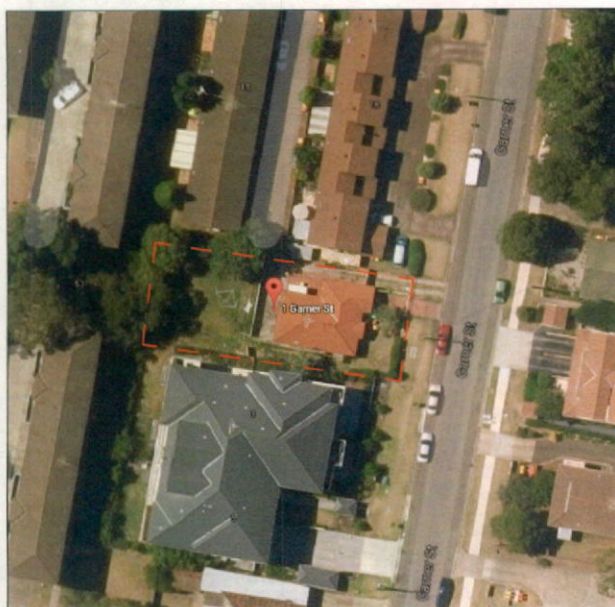
16047

DRAWING LIST

16047/1	COVER PAGE
16047/2	COMPLIANCE TABLE
16047/3	EXTENDED SITE PLAN
16047/4	SITE PLAN
16047/5	SITE ANALYSIS
16047/6	DEMOLITION PLAN
16047/7	BASEMENT - GROUND FLOOR
16047/8	FIRST - SECOND & THIRD FLOOR

16047/9	ROOF PLAN / BASIX COMMITMENTS
16047/10	SOUTH - NORTH ELEVATIONS
16047/11	EAST - WEST ELEVATIONS
16047/12	SECTIONS
16047/13	EXTERNAL COLOURS & FINISHES
16047/14	EXTERNAL COLOURS & FINISHES
16047/15	MATERIALS & FINISHES SCHEDULE
16047/16	FLOOR CALCULATIONS PLANS

16047/17	SOLAR ANGLE / CROSS VENTILATION
16047/18	STREETSCAPE ELEVATION
16047/19	SHADOWS
16047/20	3D VIEWS
16047/21	NOTIFICATION PLAN



LOCATION PLAN



3D VIEW

Energy Rating	
☐ Single dwelling rating	6.27 stars
☒ Multi-unit development (attach to copy of ratings)	Trading 23.84, NABERS Rating 21.19
Exceeded overlays on development: ☐ Flooded ☒ Flooded without	
Approved by Council: Anthony Thwait (DAWA/VC/13/151)	
Approved Signature: _____	Date: 07-04-16

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRE-DA	09/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

SCALE
NTS @ A3



PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING
ADDRESS
1 GARNER STREET, ST. MARYS
CLIENT
GASCON HOLDINGS
REVIEWED
CHARLIE BAINI
DRAWN
JOSE HEREDIA

DRAWING TITLE
COVER PAGE

PROJECT NO.	DRAWING NO.	REVISION
16047	01	A
DATE	DRAWN	AUTHORISED
26/05/16	JH	CB



RESIDENTIAL FLAT BUILDING / UNDER AFFORDABLE HOUSING

1 GARNER STREET, ST. MARYS, NSW

16047

COMPLIANCE TABLE

ITEM	SUBJECT	PROPOSED	REQUIREMENT	COMPLIANT
A	UNITS			
	1 BEDROOM UNIT	4 UNITS	-	-
	2 BEDROOMS UNIT	8 UNITS	-	-
	3 BEDROOMS UNIT	-	-	-
	TOTAL NUMBER OF UNITS	12 UNITS	-	-
B	CAR PARKING			
	1 BEDROOM UNITS	2 SPACES	0.5 SPACE PER UNIT	YES
	2 BEDROOM UNITS	8 SPACES	1 SPACE PER UNIT	YES
	3 BEDROOM UNIT	-	1 SPACE PER UNIT	-
	VISITORS	-	-	YES
	TOTAL NUMBER OF CAR PARKING	11 SPACES	10 SPACES	YES
C	SITE AREA	663.9 m ²	-	-
D	SETBACKS			
	FRONT	6.47 m	6 m	YES
	REAR	6 m	6 m	YES
	SIDE	3 m	3 m	YES
E	HEIGHT	15 m	0 m	YES
F	GROSS FLOOR AREA			
	BASEMENT LEVEL 01	474.74 m ²	-	-
	GROUND FLOOR	222.47 m ²	-	-
	LEVEL 01	222.47 m ²	-	-
	LEVEL 02	222.47 m ²	-	-
	LEVEL 03	222.47 m ²	-	-
	TOTAL GROSS FLOOR AREA	913.40 m ²	-	-
G	DEEP SOIL AREA	7 %	7 %	YES
H	COMMON AREA		-	-

DEVELOPMENT ANALYSIS

SCHEDULE OF BUILDING AREAS						
UNIT NO.	LEVEL	BEDROOMS	STORAGE	GROSS FLOOR AREA (M2)	P.O.S (M2)	
1	GF	2	8 M3	82	115	
2	GF	2	8 M3	85	35	
3	GF	1	8 M3	64	16	
4	1	2	8 M3	72	29	
5	1	1	8 M3	50	10	
6	1	2	8 M3	79	13	
7	2	2	8 M3	72	10	
8	2	1	8 M3	50	10	
9	2	2	8 M3	79	13	
10	3	2	8 M3	72	10	
11	3	1	8 M3	50	10	
12	3	2	8 M3	79	13	

BEDROOMS SUMMARY				
	1BR	2BR	3BR	
GF	1	2	0	
1L	1	2	0	
2L	1	2	0	
3L	1	2	0	
TOTAL	4	8	0	12

THERMAL LOADS 13 UNITS - BAIN DESIGN 205 MILITARY ROAD GUILFORD NSW 2161 - BDV 1511017						
FLOOR	UNIT	HEATING	COOLING	STARS	CONSTRUCTION NOTES	
Ground	GF 01	55.9	16.9	4.5	EXTERNAL WALLS - BRICK VENEER WITH POLYURETHANE BARRIER	
	GF 02	33.2	14.7	6.0	PARTY WALLS - CONCRETE UNLINED	
	GF 03	58.7	16.6	4.0	WALL COLOUR RANGE - MEDIUM	
Level 1	1.01	27.1	16.7	6.5	FLOORS- SUSPENDED CONCRETE SLABS	
	1.02	0.2	21.7	8.0	ROOF-SUSPENDED CONCRETE SLAB, INSULATION RIGID FOAMBOARD P.I.R R2.0, FIX TO SLAB SOFFIT	
	1.03	18.7	28.3	6.0	FLOOR FINISHES - TILES	
Level 2	2.01	27.1	16.7	6.5	GROUND FLOOR SLAB (ABOVE CARPARK)	
	2.02	0.2	21.7	8.0	INSULATION RIGID FOAMBOARD P.I.R R2.0, FIX TO SLAB SOFFIT	
	2.03	18.7	28.3	6.0	ROOF COLOUR RANGE - MEDIUM	
Level 3	3.01	27.1	16.7	6.5	WINDOWS CLEAR SINGLE GLASS, ALUMINIUM FRAMESQUE VALUE 7.63SHGC 0.75 MAX	
	3.02	0.2	21.7	8.0		
	3.03	18.7	28.3	6.0		
Level 4	4.01	24.1	27.2	5.5		
AVERAGES 13 UNITS		23.84	21.19	6.27		

BDV Certificate Number: 15110317

Energy Rating

Single dwelling rating: 6.27 stars

Multi-unit development (each rating of ratings): 23.84 stars

Relevant energy conservation: ☐ Rated with ☒ Rated without

Assessment/Verification: Anthony Peter BDA/15110317/1511

Assessor Signature:  Date: 07-04-16

CONSULTANTS

SPECIALITY	COMPANY	NAME	PHONE	E-MAIL
LANDSCAPE ARCHITECT	RAY FUGGLE & ASSOCIATES PTY LTD	RAY FUGGLE	(02) 8850 0022	ray@fuggle.net.au
HYDRAULICS STORMWATER	UMBRELLA GROUP CONSULTING ENGINEERS	JOE BACHA	0414 263 233	info@umbrellaconsulting.com.au
TRAFFIC MANAGEMENT	NSA CONSULTING	BERNARD LO	0422 283 798	info@nsaconsulting.com.au
TOWN PLANNER	THINK PLANNERS	JONATHON WOOD	(02) 9690 8543	jonathon@thinkplanners.com.au

SPECIALITY	COMPANY	NAME	PHONE	E-MAIL
BASIX	ACCLAIM TOWN PLANNING	GREG SMITH	(02) 6672 7961 0400 876 531	greg@acclaintownplanning.com.au
SEPP 65	VITALE DESIGN	BEN VITALE	(02) 9517 1418	ben@vitaledesign.com.au
ARBORIST	HASKESWOOD SCIENTIFIC CONSULTING	TREVOR HAKESWOOD	0423 498 942	dr@hakeswood@gmail.com.au

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRE-DA	09/11/13	OK	CB
B	DEVELOPMENT APPLICATION	29/05/16	OK	CB

SCALE
NTS @ A3



PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING

ADDRESS
1 GARNER STREET, ST. MARYS

CLIENT
GABCON HOLDINGS

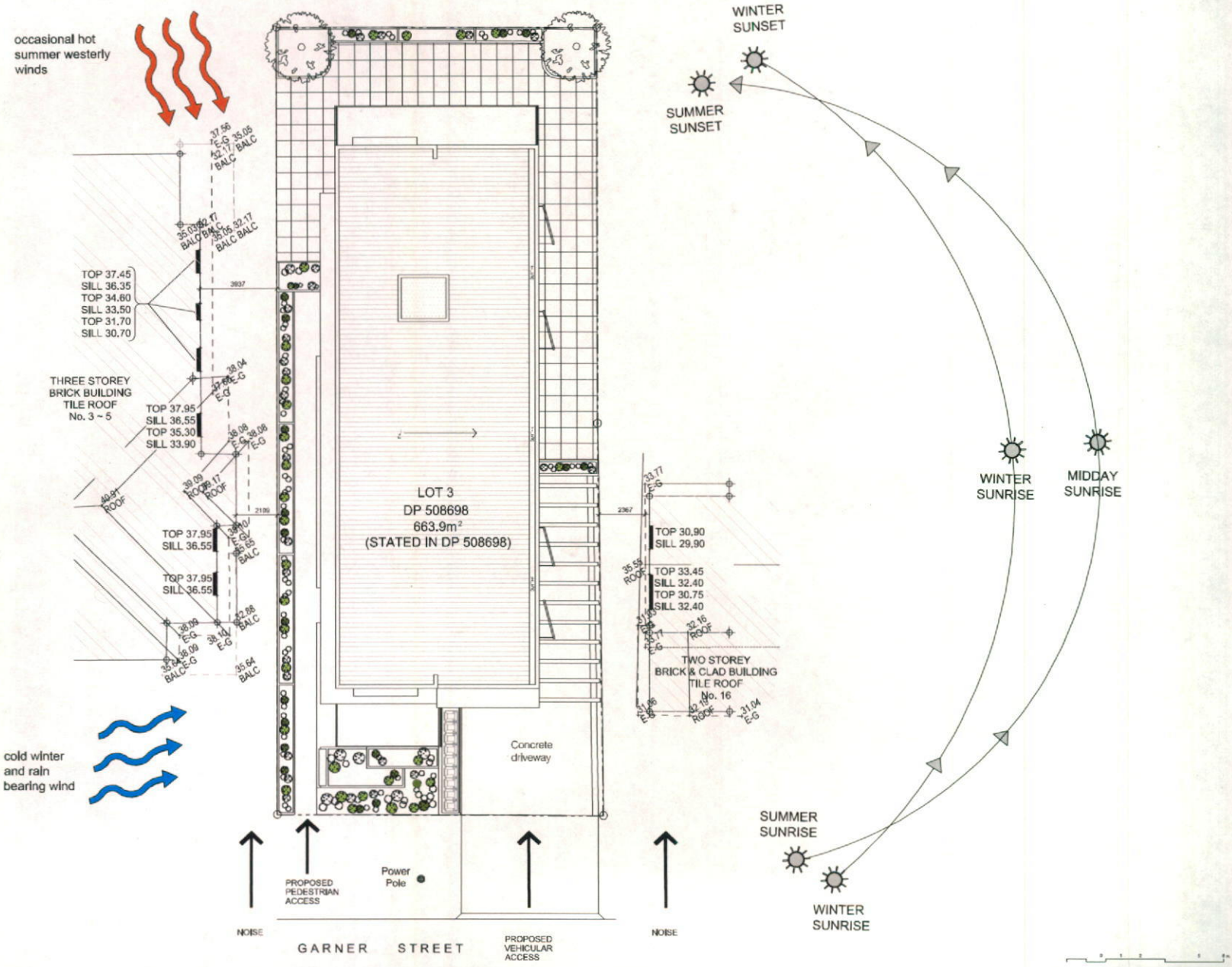
DESIGNED BY
CHARLIE BAINI

DRAWN BY
JOSE HEREDIA

COMPLIANCE TABLE

PROJECT NO.	DRAWING NO.	REVISION
16047	02	A
DATE	DRAWN	AUTHORISED
26/05/16	JH	CB





15110317

Energy Rating

6.27 stars

23.84 kWh/m²/yr

21.19 kWh/m²/yr

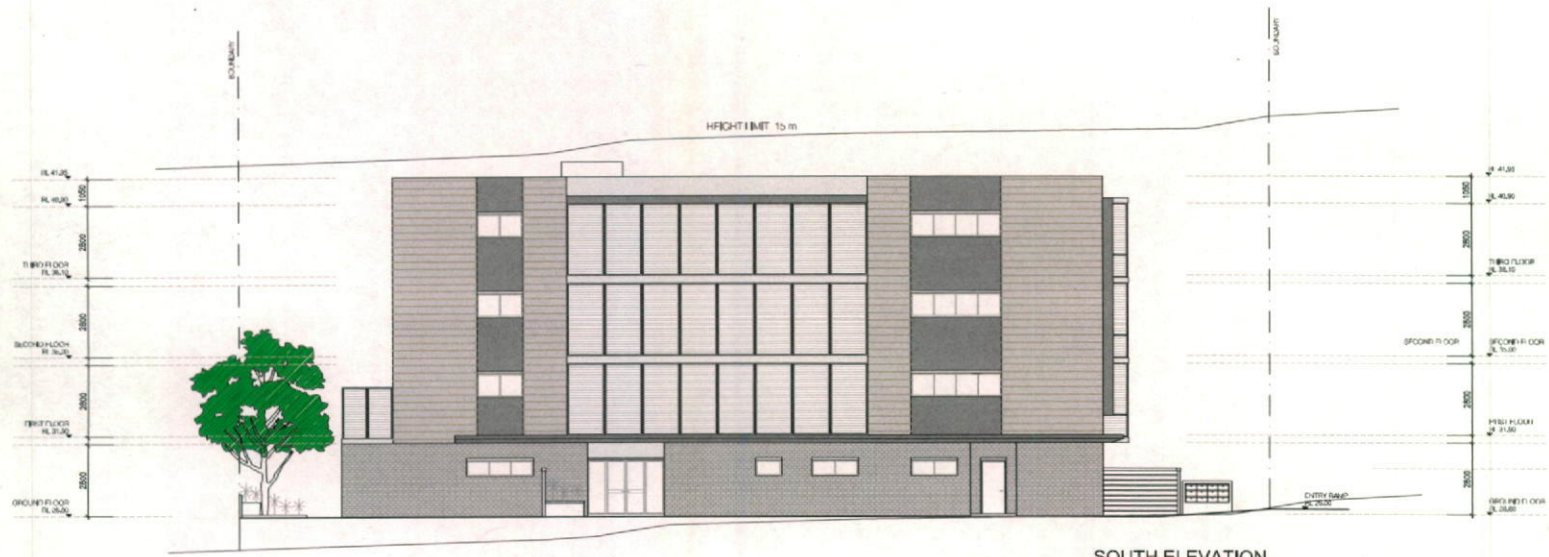
Approved by the Council: ☐ Noted with ☒ Noted without

Assessor Name/Number: Anthony Peart 1804562311

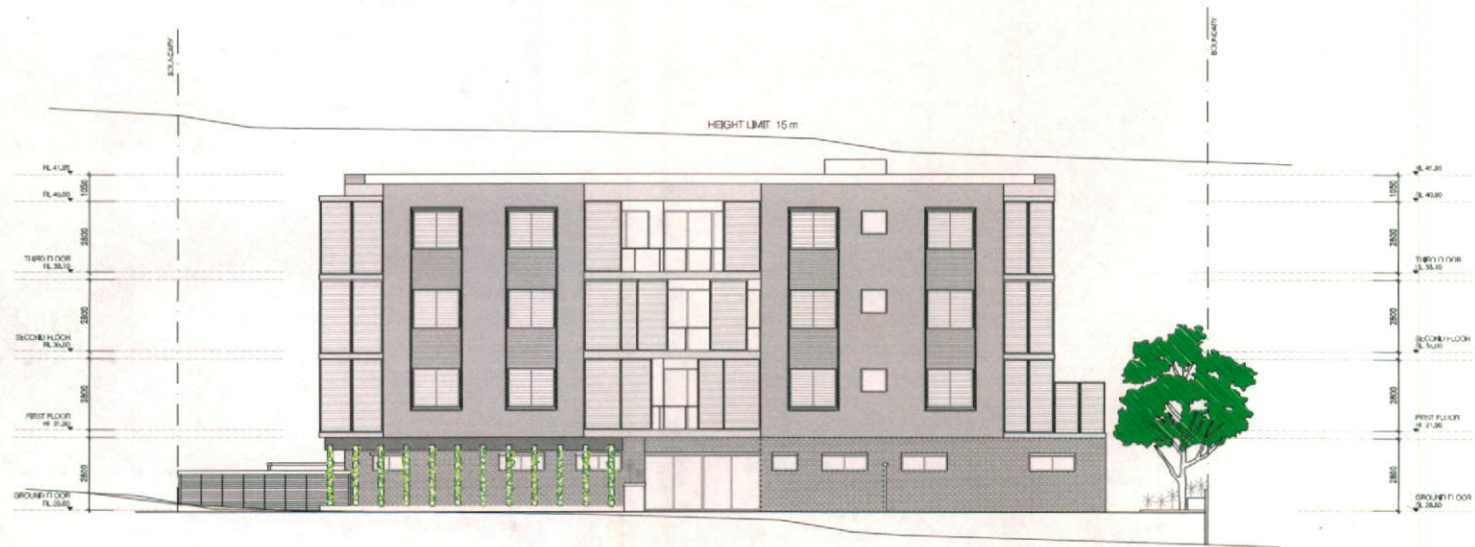
Assessor Signature: [Signature] Date: 07-04-16

BAINI DESIGN ABN: 51 066 732 103 Off 2, Level 4, 25-43 Old Northern Road Parramatta Hills, NSW 2155		Phone: +61 2 9539 1874 info@bainidesign.com.au www.bainidesign.com.au		
REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIM	06/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB





SOUTH ELEVATION



NORTH ELEVATION



BAINT DESIGN	Phone: 01 2 9639 1874
ADN: 51 066 732 532	info@baintdesign.com.au
Or: 2, Level 4, 2nd/3	www.baintdesign.com.au
Or: Northern Road	Sydney, Australia
Blackburn Hills, NSW 2153	

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIMINARY	06/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

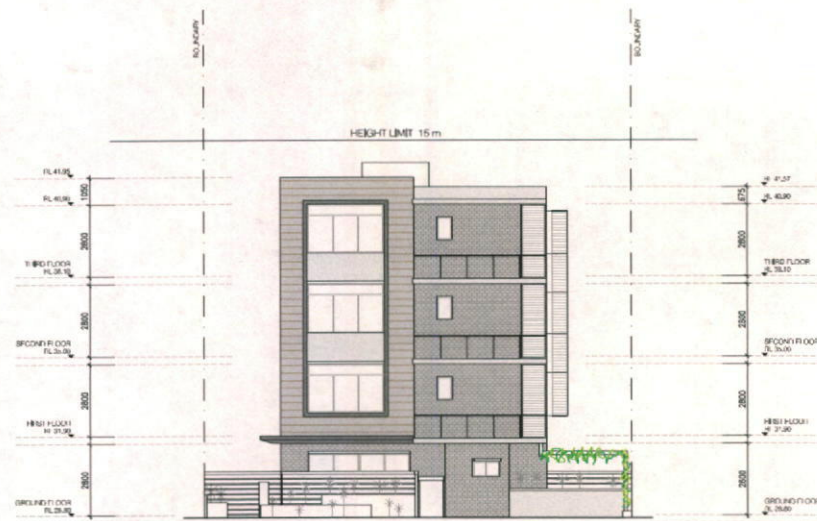
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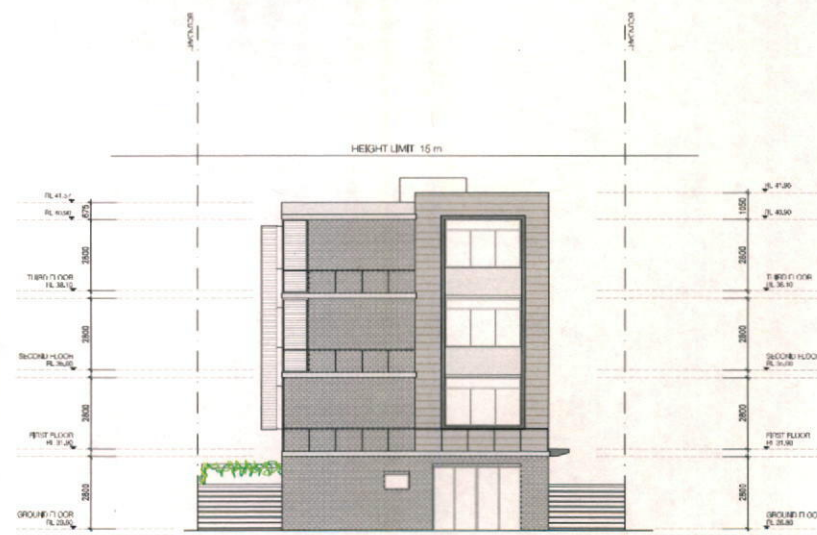
PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING
ADDRESS
1 GARNER STREET, ST. MARYS
CLIENT
GABCON HOLDINGS
REVISOR
CHARLIE BAINI
DRAWN
JOSE HEREDIA

DRAWING TITLE		
SOUTH - NORTH ELEVATIONS		
PROJECT NO.	DRAWING NO.	REVISOR
16047	10	A
DATE	DRAWN	AUTHORIZED
26/05/16	JH	CB





EAST ELEVATION



WEST ELEVATION



BAINI DESIGN
 40/41 51 52 72 53
 01 2 1638 1874
 01 2 1638 1874
 01 2 1638 1874
 01 2 1638 1874

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIMINARY	09/11/15	OK	OK
B	DEVELOPMENT APPLICATION	26/05/16	OK	OK

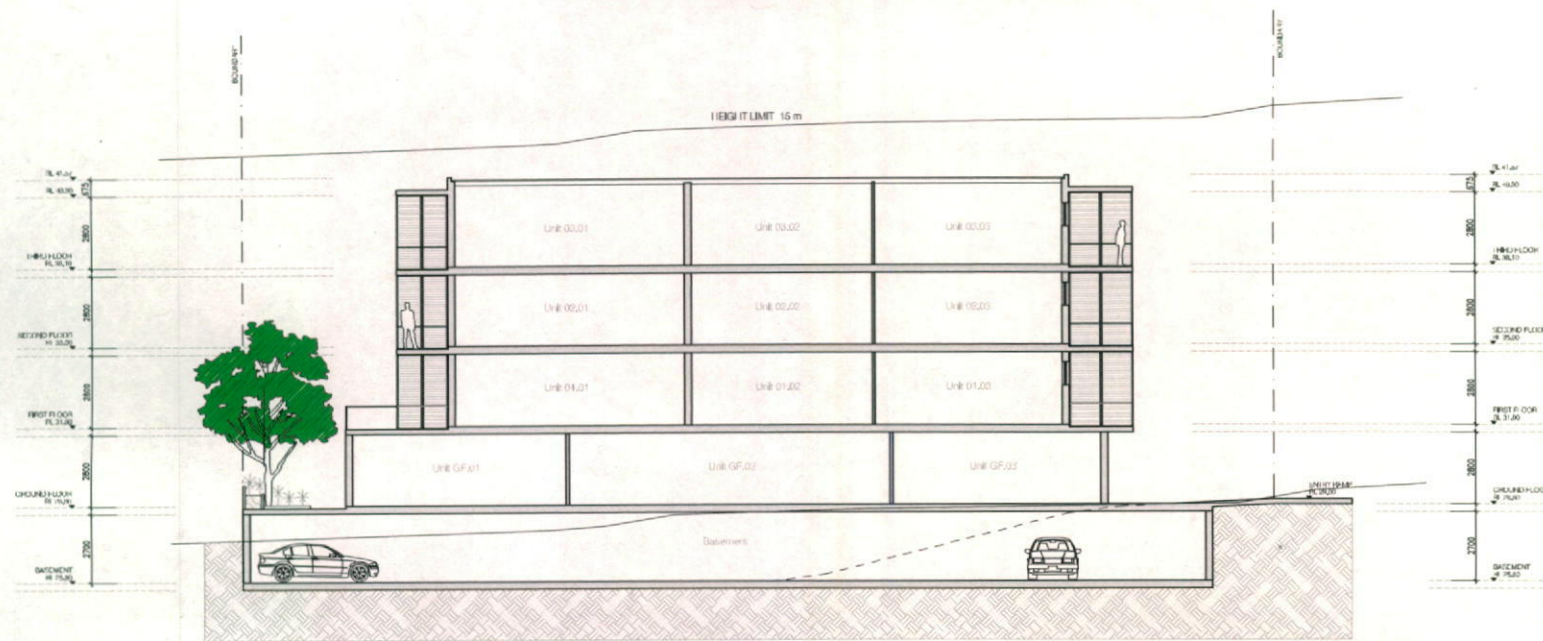
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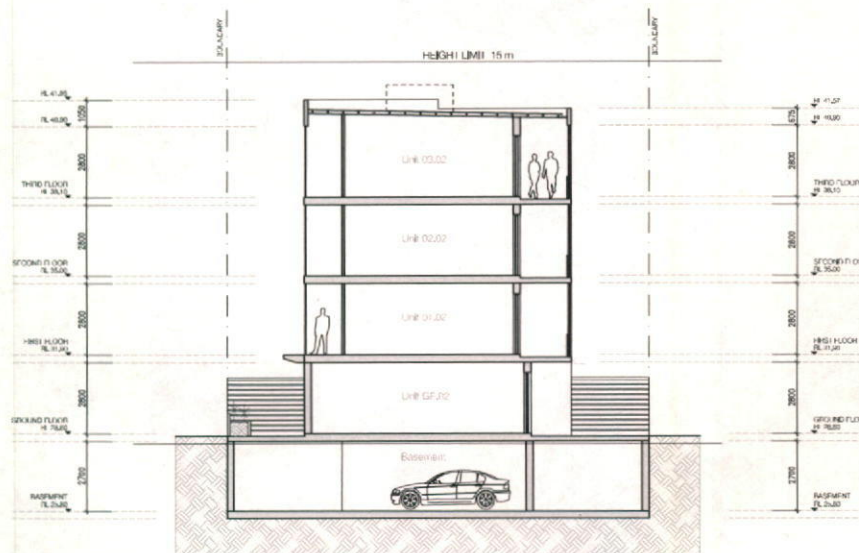
PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING
 ADDRESS
1 GARNER STREET, ST. MARYS
 CLIENT
GABCON HOLDINGS
 DESIGNER
CHARLIE BAINI
 DRAWN
JOSE HEREDIA

DRAWING TITLE		
EAST - WEST ELEVATIONS		
PROJECT NO.	DRAWING NO.	REVISION
16047	11	A
DATE	DRAWN	AUTHORIZED
26/05/16	JH	CB

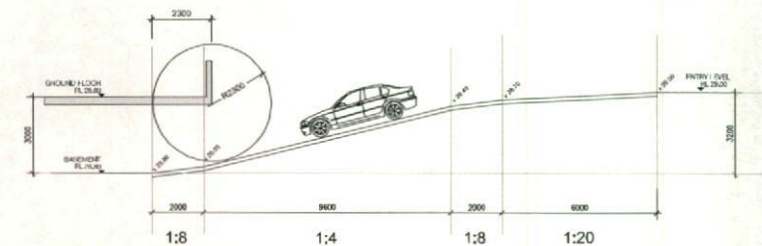




SECTION A - A



SECTION B - B



SCHEMATIC DRIVEWAY SECTION
Entry to basement



SEAINO DESIGN
ADN: 51 068 732 503
CR 2, level 4, 2nd/3
CR Northern Road
Hawthorn Hills, NSW 2155

Phone: 012 9639 1674
Email: info@seaino.com.au
www.seaino.com.au
Sydney, Australia

Author: Peter 1806/10/27/31/31
Date: 07-04-16

I hereby declare that the design and construction of this building comply with the requirements of the Building Code of Australia (BCA) and the relevant standards. I am a registered architect and the design is my own work. All discrepancies to be brought to the attention of the author.

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIMINARY	08/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

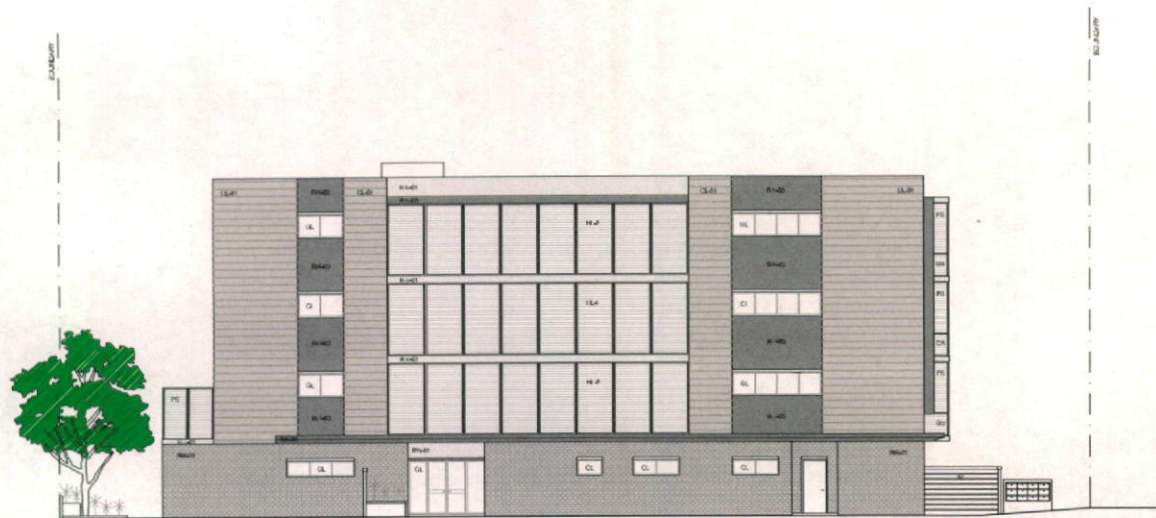
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PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING
ADDRESS
1 GARNER STREET, ST. MARYS
CLIENT
GABCON HOLDINGS
REVISOR
CHARLIE BAINI
DRAWN
JOSE HEREDIA

DRAWING TITLE		
SECTIONS		
PROJECT NO.	DRAWING NO.	REVISION
16047	12	A
DATE	DRAWN	AUTHORISED
26/05/16	JH	CB





SOUTH ELEVATION



NORTH ELEVATION

MATERIALS LEGEND

-  BW-01 FACE BRICK / PGH - DRY PRESSED BLACK BEAUTY
-  CL-01 SCYON/STRYA CLADDING - 325 mm
-  RW-01 RENDERED EXTERNAL/PAINT FINISH DULUX-B12 VIVID WHITE
-  RW-02 RENDERED EXTERNAL/PAINT FINISH DULUX-GR15 MENISCUS
-  RW-03 RENDERED EXTERNAL/PAINT FINISH DULUX-GR17 SIGNATURE
-  GL GLASSING
-  GB GLASS BALUSTRADE
-  PS PRIVACY SCREEN
-  HL-F HORIZONTAL LOUVRES - FIXED
-  HL-F HORIZONTAL LOUVRES - SLIDING
-  AF ALUMINIUM FENCE
-  GP GREEN PERGOOLA
-  SW STONE WALLS / PLANTERS



BAINI DESIGN		Phone: 012 9639 1674
ADN 51 GDB 732 933		info@baini-design.com.au
C/O 2, Level 4, 25-23		www.baini-design.com.au
Old Northern Road		Sydney, Australia
Bardham Hills, NSW 2153		

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIMINARY	09/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

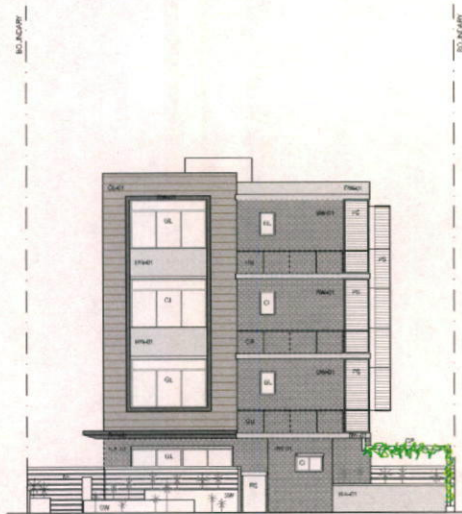
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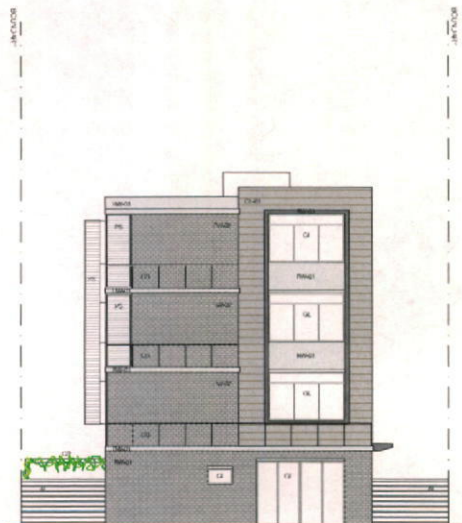
PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING
ADDRESS
1 GARNER STREET, ST. MARYS
CLIENT
GABCON HOLDINGS
REVISED
CHARLIE BAINI
DRAWN
JOSE HEREDIA

EXTERNAL COLOURS & FINISHES		
PROJECT NO.	DRAWING NO.	REVISION
16047	13	A
DATE	DRAWN	AUTHORISED
26/05/16	JH	CB





EAST ELEVATION



WEST ELEVATION

MATERIALS LEGEND

-  BW-01 FACE BRICK / PGH - DRY PRESSED BLACK BEAUTY
-  CL-01 SCYON STRYA CLADDING - 325 mm
-  RW-01 RENDERED EXTERNAL PAINT FINISH DULUX-B12 VIVID WHITE
-  RW-02 RENDERED EXTERNAL PAINT FINISH DULUX-GR15 MENISCUS
-  RW-03 RENDERED EXTERNAL PAINT FINISH DULUX-GR17 SIGNATURE
-  GL GLASSING
-  GB GLASS BALUSTRADE
-  PS PRIVACY SCREEN
-  HL-F HORIZONTAL LOUVRES - FIXED
-  HL-F HORIZONTAL LOUVRES - SLIDING
-  AF ALUMINIUM FENCE
-  GP GREEN PERGOLA
-  SW STONE WALLS / PLANTERS


 Energy Rating
 6.27 stars
 23.84 kWh/m²/yr
 21.19 kWh/m²/yr
 07-04-16

RAINT DESIGN ABN 51 081 732 503 01/2, Level 4, 2nd/3 01 Northern Road Rossmore Hills, NSW 2155 Phone: 01 2 950 1874 info@rainedesign.com.au www.rainedesign.com.au Sydney, Australia This drawing is copyright and the property of Raint Design and shall remain the property of Raint Design. No part of this drawing shall be reproduced or used in any form without the written consent of Raint Design. All discrepancies to be brought to the attention of the author.	REV	DESCRIPTION	DATE	ISSUED	CHECKED							
	A	PRELIM	05/11/15	OK	CB							
	B	DEVELOPMENT APPLICATION	26/05/16	OK	CB							
			SCALE 1:100 @ A1	PROJECT RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING ADDRESS 1 GARNER STREET, ST. MARYS CLIENT GABCON HOLDINGS REVISOR CHARLIE BAINI DRAWN JOSE HEREDIA		DRAWING TITLE EXTERNAL COLOURS & FINISHES <table><tr><td>PROJECT NO. 16047</td><td>DRAWING NO. 14</td><td>REVISION A</td></tr><tr><td>DATE 26/05/16</td><td>DRAWN JH</td><td>AUTHORIZED CB</td></tr></table> 	PROJECT NO. 16047	DRAWING NO. 14	REVISION A	DATE 26/05/16	DRAWN JH	AUTHORIZED CB
PROJECT NO. 16047	DRAWING NO. 14	REVISION A										
DATE 26/05/16	DRAWN JH	AUTHORIZED CB										



SCHEDULE OF MATERIALS AND FINISHES

REFERENCE	ELEMENT	ELEVATION CODE	MATERIAL	FINISH / SPECIFICATIONS
01	EXTERNAL WALL	RW-01	RENDER AND PAINT	DULUX B12 VIVID WHITE OR SIMILAR
02	EXTERNAL WALL	RW-02	RENDER AND PAINT	DULUX GR15 MENISCUS OR SIMILAR
03	EXTERNAL WALL	RW-03	RENDER AND PAINT	DULUX GR17 SIGNATURE OR SIMILAR
04	EXTERNAL WALL	BW-01	DRY PRESSED BRICK	FACE BRICK / PGH - DRY PRESSED - BLACK BEAUTY
05	PRIVACY SCREENS (WINDOWS)	PS	ALUMINIUM SCREENS	SCYON / STRYA CLADDING 325 MM OR SIMILAR
06	EXTERNAL WALL	CL-01	EXTERNAL CLADDING	40 MM FROSTED GLASS OR SIMILAR
07	GLAZED BALUSTRADE	GB	FRAMELESS FROSTED GLASS BALUSTRADE	ALUMINIUM COATED
08	PRIVACY SCREENS / HORIZONTAL LOUVRES	HL-F / HL-S / PS	FIXED & SLIDING SCREENS - HORIZONTAL LOUVRES	FLAT MOUNTAIN STONES
08	STONE WALLS / PLANTERS	SW	FLAT MOUNTAIN STONES	DULUX DURATEC X15 "ZEUS SILVER GREY" OR SIMILAR
10	WINDOWS AND DOORS - RESIDENTIAL	GL	GLASS SET IN POWDER COATED ALUMINIUM FRAME	ALUMINIUM COATED
11	ALUMINIUM FENCE	AF	ALUMINIUM FENCING	ALUMINIUM COATED
12	GREEN PERGOLA - DRIVEWAY BASEMENT ENTRY	GP	ALUMINIUM PERGOLA	ALUMINIUM COATED

BAIN DESIGN
 4/11, 51 GOR 750 933
 C/O 2, Level 4, 2/403
 100 Northern Road,
 Brookhaven Hills, NSW 2153

Phone: 61 2 9539 1874

info@baindesign.com.au
 www.baindesign.com.au

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIMINARY	06/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

SCALE
 NTS @ A3



PROJECT:

RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING

ADDRESS:

1 GARNER STREET, ST. MARYS

CUSTOMER:

GARCON HOLDINGS

DESIGNED BY:

CHARLIE BAIN

DRAWN BY:

JOSE HEREDIA

UNSWERED FILE:

MATERIALS & FINISHES SCHEDULE

PROJECT NO:

16047

DRAWING NO:

15

REVISION:

A

DATE:

26/05/16

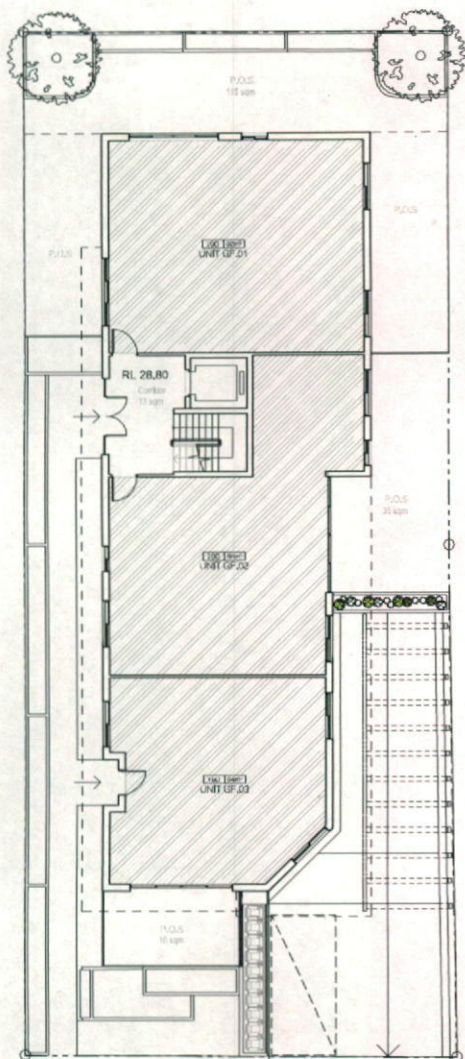
DRAWN:

JH

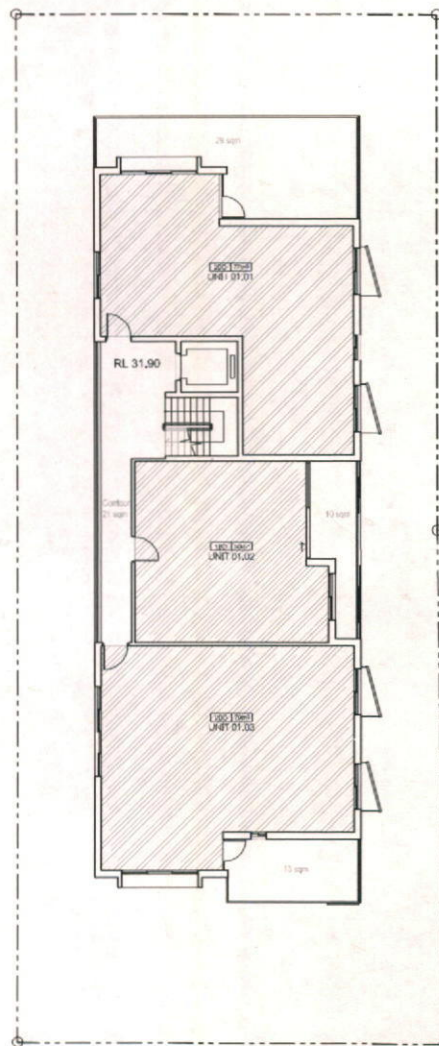
AUTHORISED:

CB

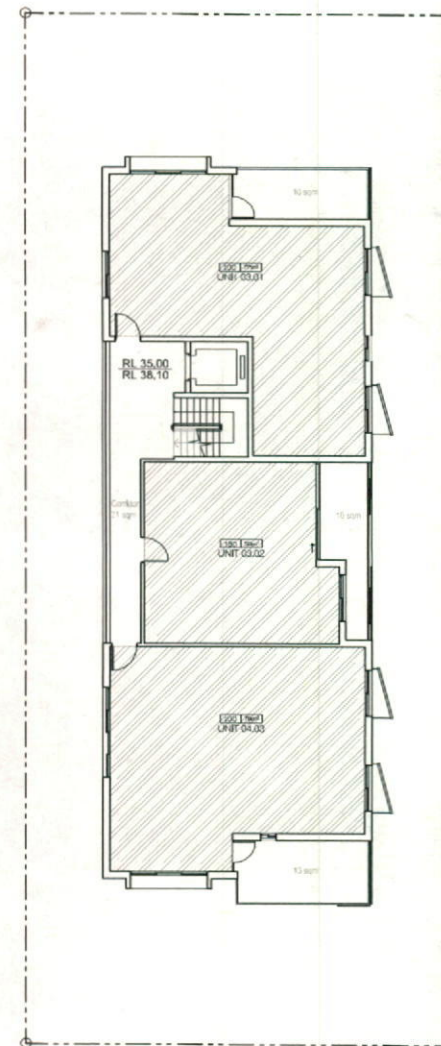




Ground floor



First floor



Second & third floor



GARNER STREET

SAINT DESIGN
 40/41, 51-55/57-59/61
 08 2, Level 4, 2nd/3
 100 Northern Road
 Mosman NSW 2153

Phone: 01 2 9639 1874

Info: info@saintdesign.com.au
 www.saintdesign.com.au

SAINT DESIGN

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIMINARY	09/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

SCALE
 1:100 @ A1



PROJECT
 RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING

ADDRESS
 1 GARNER STREET, ST. MARYS

CLIENT
 GABCON HOLDINGS

REVIEWED
 CHARLIE BAINI

DRAWN
 JOSE HEREDIA

DRAWING TITLE
 FLOOR CALCULATIONS PLANS

PROJECT NO.
 16047

DATE
 26/05/16

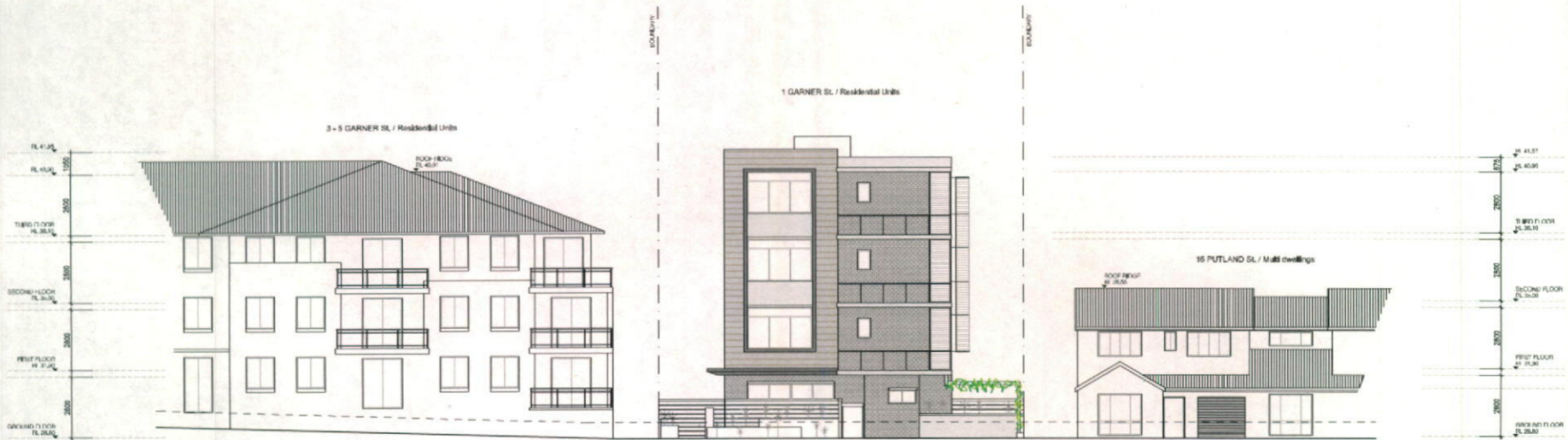
DRAWING NO.
 16

DRAWN
 JH

REVISION
 A

AUTHORISED
 CB





Energy Rating

15110317

6.27 stars

23.54 kWh/m²/yr

21.19 kWh/m²/yr

Relevant design to construction: ☐ Match with ☒ Reuse without

Assessor Name/Number: Anthony Pearl DENR502739311

Assessor Signature: [Signature] Date: 07-04-16

BAIN DESIGN
Address: 51 Oak St, 2103
Unit 2, Level 4, 2103
Oak Northern Road
Sydney NSW, NSW 2153

Phone: 012 0639 1874

Email: info@baindesign.com.au
www.baindesign.com.au

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRELIM	09/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

SCALE
1:100 @ A1



PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE
HOUSING

ADDRESS
1 GARNER STREET, ST. MARYS

CLIENT
GABCON HOLDINGS

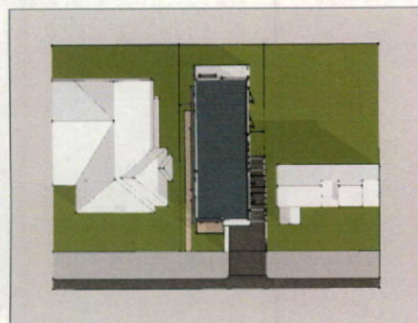
REVISOR
CHARLIE BAIN

DRAWN
JOSE HEREDIA

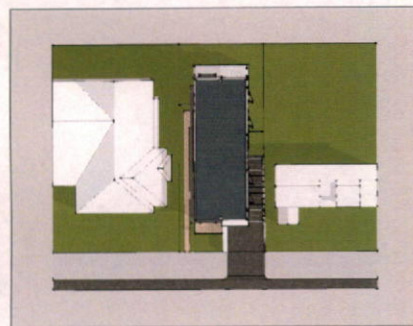
DRAWING TITLE
STREETSCAPE ELEVATION
(Garner street)

PROJECT NO.	DRAWING NO.	REVISION
16047	18	A
DATE	DRAWN	AUTHORISED
26/05/16	JH	CB

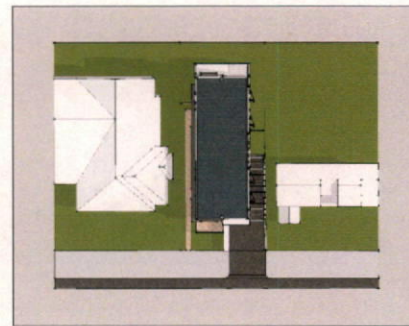




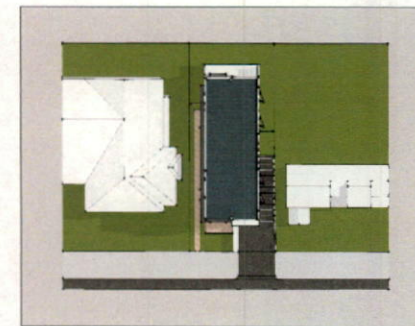
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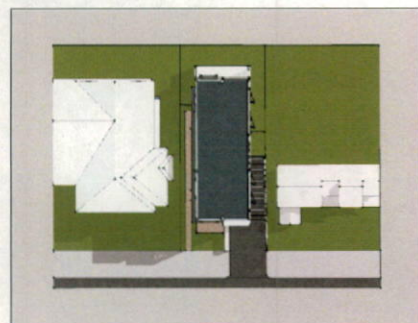
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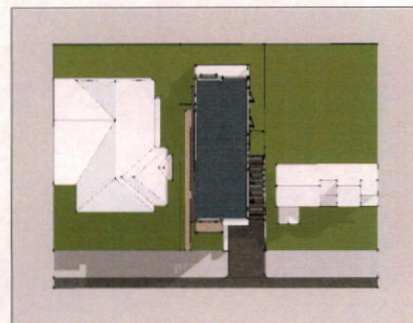
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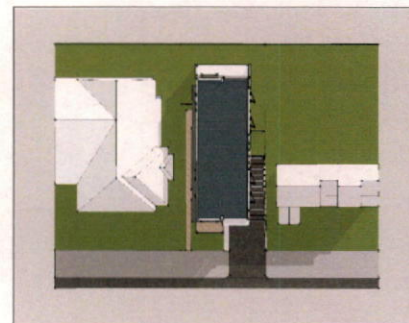
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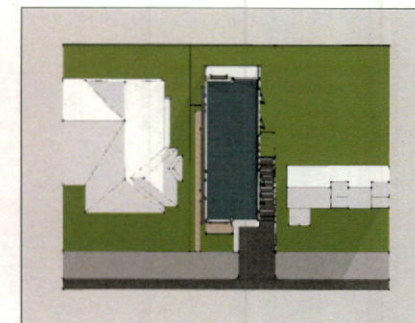
1 PM



2 PM



3 PM



4 PM

JUNE 21st

BCAP Certificate Number 15110317

Energy Rating

Single dwelling rating 6.27 stars

Multi-unit development rating 23.84 stars

Passive solar design rating 21.19 stars

Relevant building to construction ☐ Related with ☒ Related without

Assessor Name/Position Anthony Peet (1804/152) 31/11

Assessor Signature  Date 07-04-18

BAINI DESIGN
 ABN 51 061 732 193
 08/2, Level 4, 29-33
 Old Northern Road
 Boultonville, NSW 2153

Phone +61 2 9639 1874
 info@baini.com.au
 www.baini.com.au
 Sydney, Australia

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRE-DA	09/11/15	OK	CB
A	DEVELOPMENT APPLICATION	26/05/16	OK	CB

SCALE
 1:500 @ A1



PROJECT
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING

ADDRESS
1 GARNER STREET, ST. MARYS

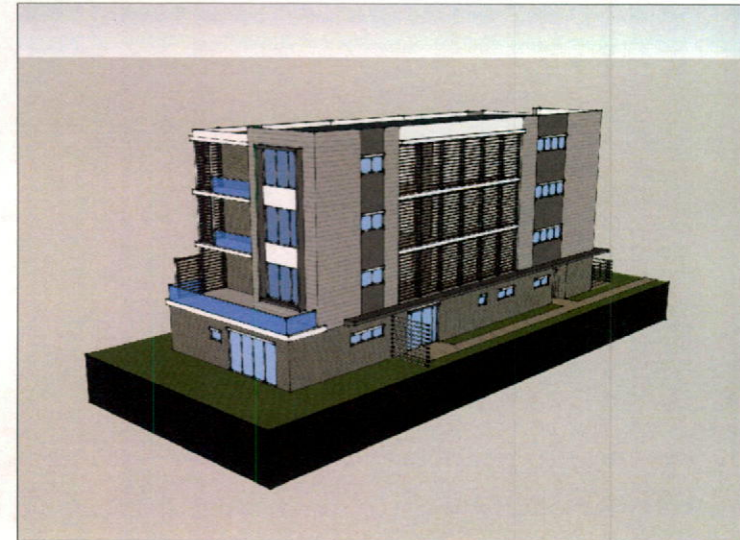
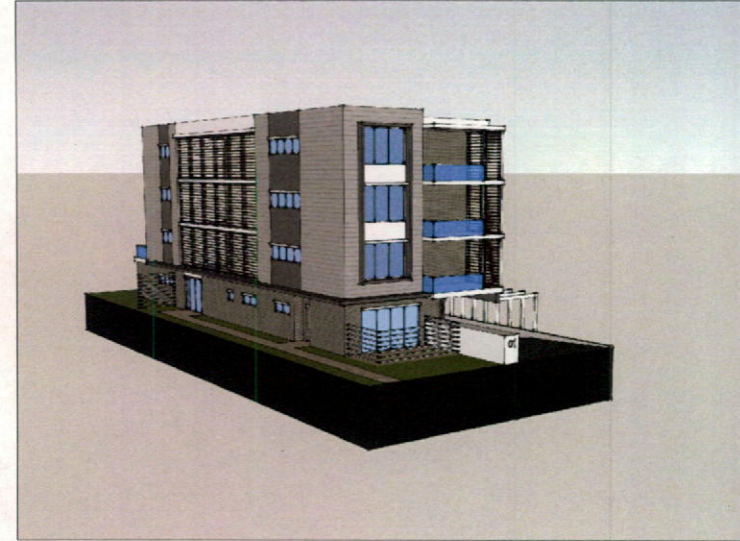
CLIENT
 GABCON HOLDINGS

REVISOR
 CHARLIE BAINI

DRAWN
 JOSE HEREDIA

DRAWING TITLE		
SHADOWS		
PROJECT NO.	DRAWING NO.	REVISION
16047	19	A
DATE	DRAWN	AUTHORIZED
26/05/16	JH	CB





Energy Rating

15110317

Single dwelling rating: 6.27 stars

Multi-unit development (average rating of all units): 23.84 stars

7-point scale (worst to best): 1.0 to 7.0 stars

Reasonable energy efficiency: ☐ Not with ☒ With

Assessor Name/Number: Anthony Pearl (BA04102/31551)

Assessor Signature: [Signature] Date: 07-04-18

BAINT DESIGN
 ABN: 51 068 732 993
 10/2, Level 4, 25/13
 Old Northern Road
 Baulkham Hills, NSW 2153

Phone: 01 2 9639 1874
 Email: info@baintdesign.com.au
 www.baintdesign.com.au
 Sydney, Australia

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REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRE-DA	09/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

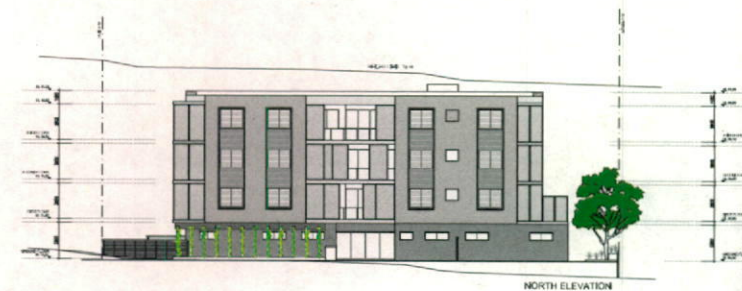
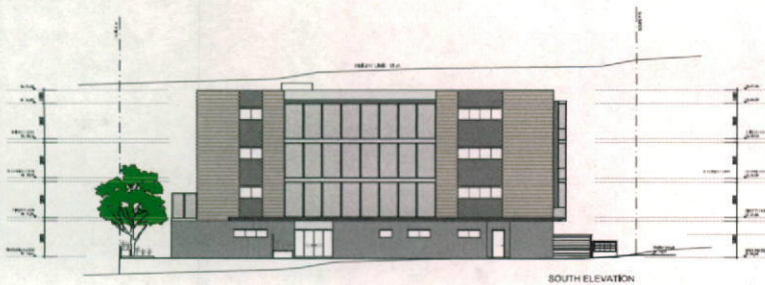
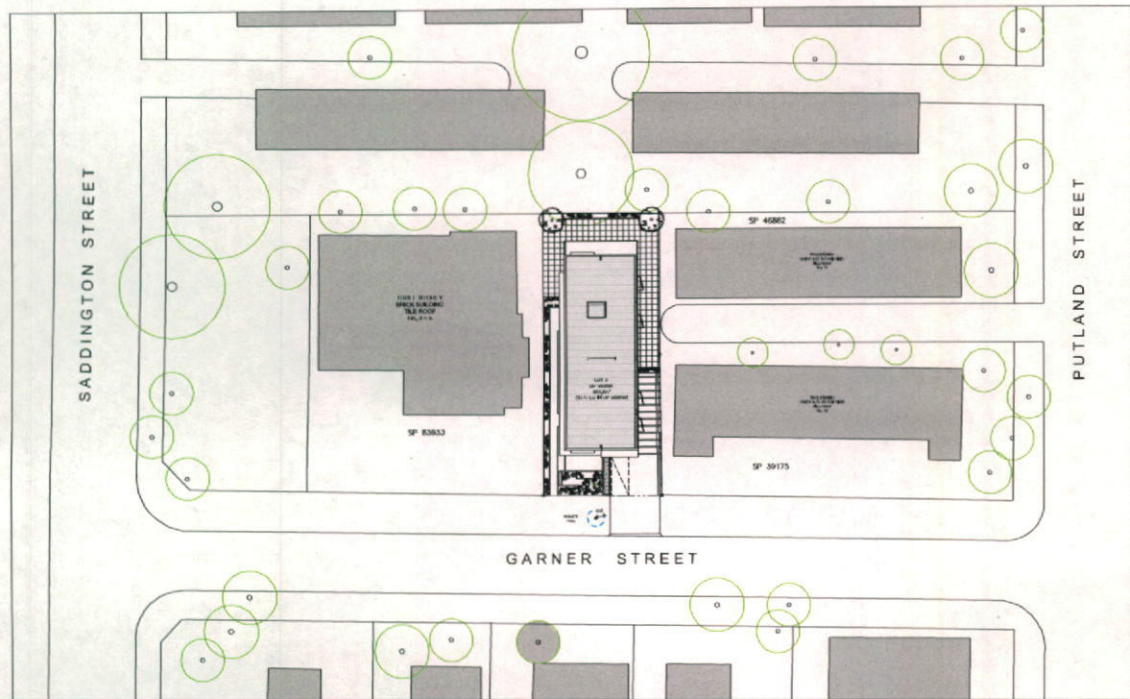
SCALE
 NTS @ A3



PROJECT:
RESIDENTIAL FLAT BUILDING/UNDER AFFORDABLE HOUSING
 ADDRESS:
1 GARNER STREET, ST. MARYS
 CLIENT:
 GABCON HOLDINGS
 REVISED:
 CHARLIE BAINI
 DRAWN:
 JOSE HEREDIA

DRAWING TITLE		
3D VIEWS		
PROJECT NO.	DRAWING NO.	REVISION
16047	20	A
DATE	DRAWN	AUTHORISED
26/05/16	JH	CB





BSA Certificate Number: 15110317
Energy Rating
 5.27 stars
 Building 23.54 stars
 Cooling 21.19 stars
 Reduced draught infiltration: ☐ Rated with ☒ Rated without
 Assessment Number: Anthony Peart 1604/2016/31511
 Assessment Date: 07-04-16

BAIN DESIGN
 ABN: 51 069 732 503
 10/2, Level 4, 254/3
 Old Northern Road
 St Leonards NSW 1550

Phone: 012 9638 1874
 Email: info@baindesign.com.au
 Website: www.baindesign.com.au

REV	DESCRIPTION	DATE	ISSUED	CHECKED
A	PRE-DA	09/11/15	OK	CB
B	DEVELOPMENT APPLICATION	26/05/16	OK	CB

SCALE
NTS @ A4



PROJECT:
RESIDENTIAL FLAT BUILDING - UNDER AFFORDABLE HOUSING
 ADDRESS:
1 GARNER STREET, ST. MARYS
 CLIENT:
 GABCON HOLDINGS
 REF: 1604
 CHARLIE BAIN
 DRAWN:
 JOSE HEREDIA

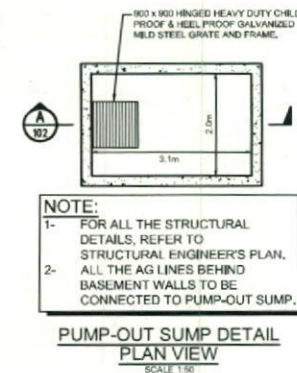
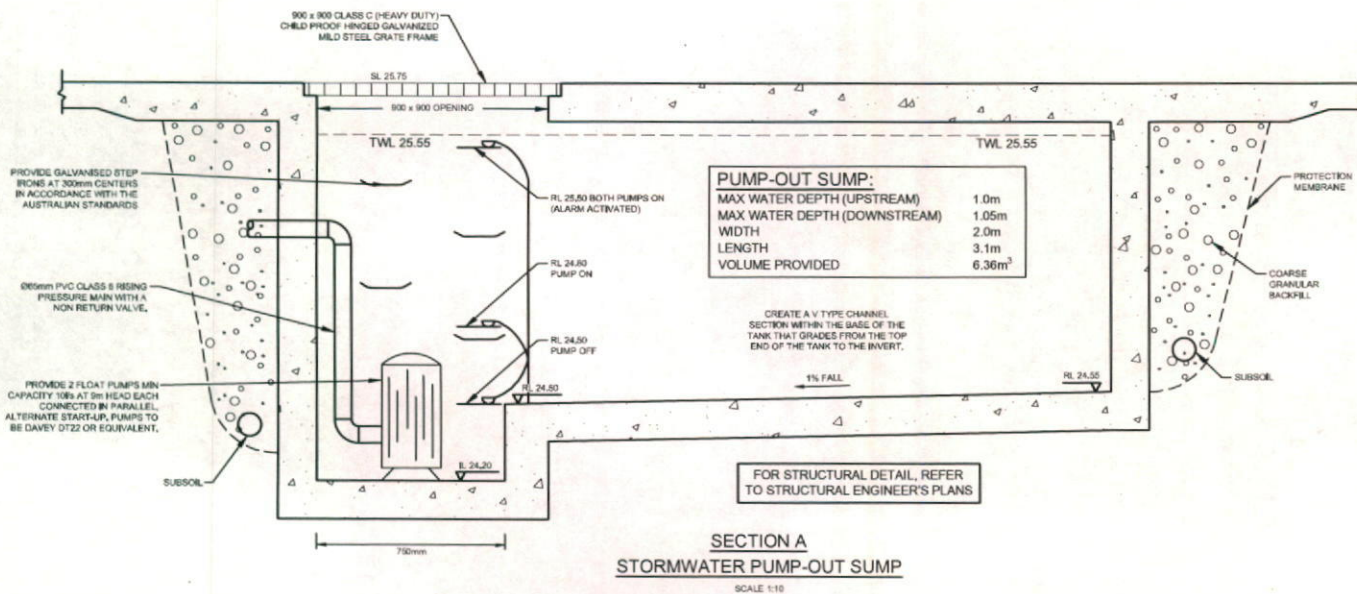
DRAWING TITLE:
NOTIFICATION PLAN

PROJECT NO.:
 16047
 DATE:
 26/05/16

DRAWING NO.:
 21
 DRAWN:
 JH

REVISION:
 A
 AUTHORIZED:
 CB





BASEMENT PUMP OUT FAILURE WARNING SIGN
SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION WHERE VEHICLES ENTER THE BASEMENT
COLOURS:
WARNING - RED
BORDER AND OTHER LETTERING - BLACK

STANDARD PUMP OUT DESIGN NOTES

- The pump out system shall be designed to be operated in the following manner:
- 1- The pumps shall be programmed to work alternately to allow both pumps to have an equal operation load and pump life.
 - 2- A 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 on/off switch for the pumps at the minimum water level. The same float shall be set to turn one of the pumps on upon the water level in the tank rising to approximately 300mm above the minimum water level. The pump shall operate until the tank is drained to the minimum water level.
 - 3- A second float shall be provided at a high level, which is approximately the roof level of the below ground tank. This float shall start the other pump that is not operating and activate the alarm.
 - 4- An alarm system shall be provided with a flashing strobe light and 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.
 - 5- A confined space danger sign shall be provided at all access points to the pump out storage tank in accordance with the Upper Paramatta River Catchment Trust OSD handbook.

PUMP STORAGE VOLUME CALCULATION

- $i_{avg, 60min} = 54.9 \text{ mm/hour}$
- PUMP STORAGE CATCHMENT AREA: $A = 72.7 \text{ m}^2 = 0.00727 \text{ ha}$
- $Q = C \times i \times A / 360$ WHERE $C = 1.0$ (REFER TO AS3500 3.5.4.6 (a))
 $= 1.0 \times 54.9 \times 0.00727 / 360$
 $= 0.001108 \text{ m}^3/\text{s}$
 $= 1.108 \text{ L/s}$
- THEREFORE, THE PUMP HOLDING TANK VOLUME IS:
 $V = 1.108 \times 1.5 \times 3600$
 $= 5.99 \text{ m}^3$

PUMP CALCULATIONS

Project Address:

2 Rawson Avenue, Penrith

$HL = (3.35 \times 10^6 \times Q^5 / (d^5 \times 2.63 \times C))^{1/5}$

$HL(\text{m}/100\text{m}), Q(\text{L/s}), d(\text{mm})$

$h_f = k \times v^2 / 2g$

$k(\text{cum}), v(\text{m/s}), g=9.8(\text{m})$

H(total head)=Hf+h1+Elevation Head(static head)

Elevation Head(m)= 4.5

Pipe Length(m)= 15

d(mm)= 80

v(m/s)= 0.00

Bend Losses, Kb= 3.06

Valve Losses, Kv= 2.13

Entry/Exit Losses, Ke= 5.00

Cum Losses, K= 10.19

Start Flow= 0

Increment= 1

Hazen - Williams C= 145

Hazen-Williams Constant

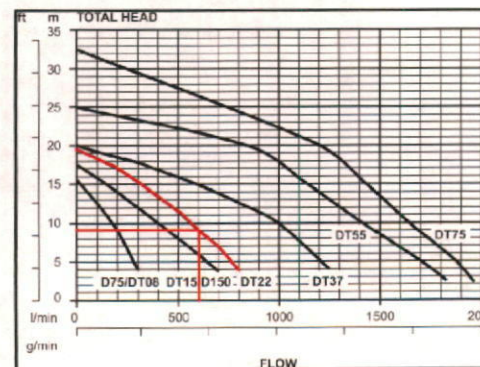
125-140 Commercial steel pipe

135-140 Bitumen Lined Cast iron pipe

140-145 Copper Tube

145-150 PVC

Q(L/s)		0	1	2	3	4	5	6	7	8	9	10
HL(m/100m)		0.00	0.06	0.23	0.50	0.85	1.28	1.79	2.38	3.05	3.80	4.61
Hf(m)	HL x pipe Length/100	0.00	0.01	0.04	0.07	0.13	0.19	0.27	0.36	0.46	0.57	0.69
v(m/s)	Q(L/s) / area of pipe crossing section	0.00	0.20	0.40	0.60	0.80	0.99	1.19	1.39	1.59	1.79	1.99
h1(m)	k(cum) x v(m/s)^2/2xg	0.00	0.02	0.08	0.19	0.33	0.51	0.74	1.01	1.32	1.67	2.06
H(m)	Hf+h1+Elevation Head	4.50	4.53	4.62	4.76	4.96	5.21	5.51	5.87	6.27	6.74	7.25



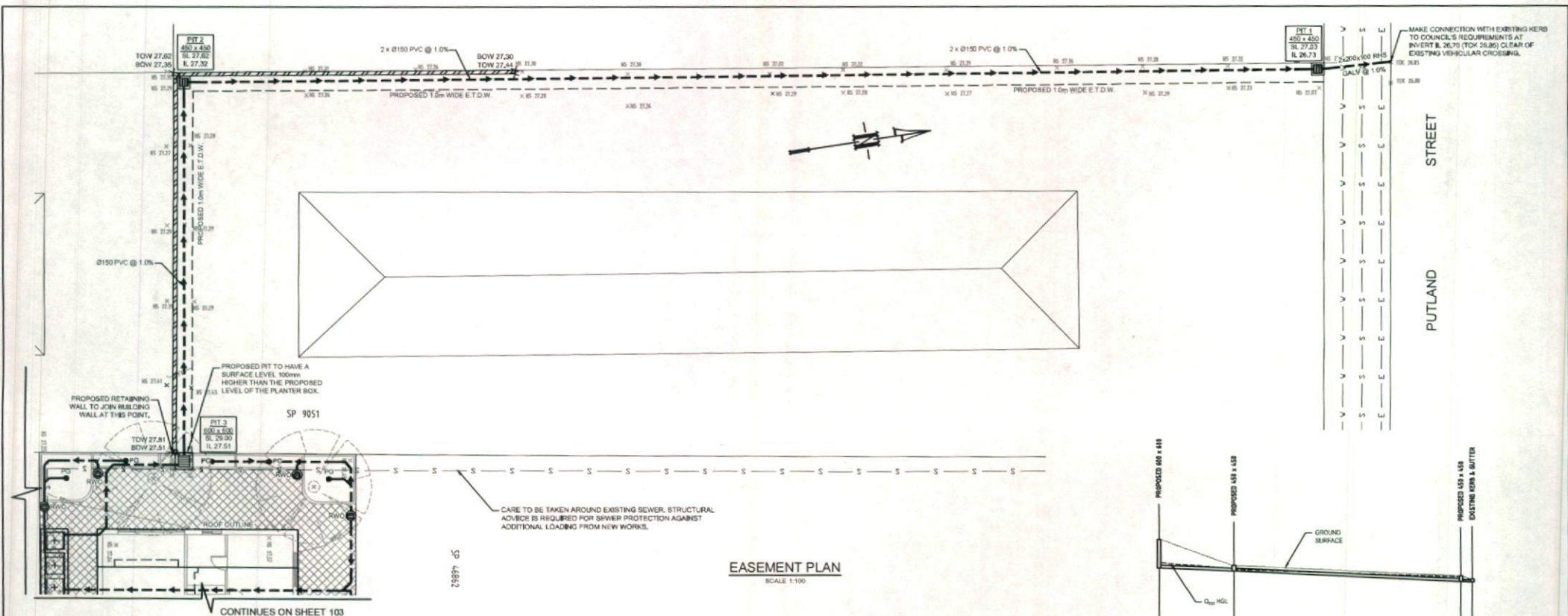
UNDERGROUND PUMP - OUT SUMP STAGED STORAGE CALCULATIONS

DEPTH (mm)	AREA (m²)	CUMULATIVE VOLUME (m³)
0	6.2	0
100	6.2	0.465
200	6.2	1.085
300	6.2	1.705
400	6.2	2.325
500	6.2	2.945
600	6.2	3.565
700	6.2	4.185
800	6.2	4.805
900	6.2	5.425
1000	6.2	6.045
1100	6.2	6.665

SCALE 1:50 @ A1

NOT FOR CONSTRUCTION

										Architect			Scale			UMBRELLA CIVIL			Sydney + Brisbane			Project			Drawing Title																				
										Baini Design			0 200 400 600mm			CONSULTING ENGINEERS			www.umbrellacivil.com.au			1 GARNER STREET, SAINT MARYS			STORMWATER CONCEPT PLAN																				
										Email: www.bainidesign.com.au			SCALE 1:10 @ A1			Suite 1, 143-145 Paramatta Road			www.umbrellacivil.com.au			PROPOSED RESIDENTIAL FLAT BUILDING			BASEMENT LEVEL																				
										PHONE: 0410 516 041			Council			Concord, NSW 2137			PO Box 3579, Paramatta NSW 2124			STORMWATER CONCEPT PLAN			SHEET 2 OF 2																				
													Penrith City Council			Tel: +61 2 8407 5051			DEVELOPMENT APPLICATION																										
																ENGINEERS PROJECT MANAGERS DEVELOPMENT CONSULTANTS																													



GENERAL NOTES

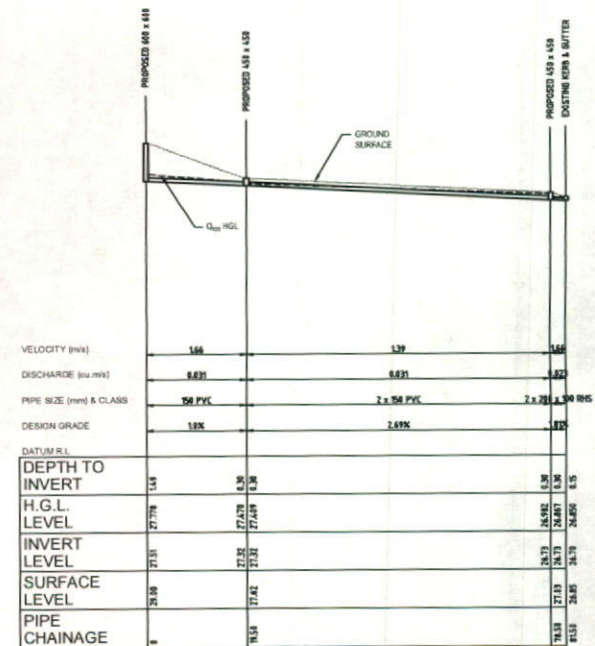
- ALL THE CLEANING EYES (OR INSPECTION EYES) FOR THE UNDERGROUND PIPES HAVE TO BE TAKEN UP TO THE FINISHED GROUND LEVEL FOR EASY IDENTIFICATION AND MAINTENANCE PURPOSES.
- ALL LEVELS SHALL RELATE TO THE ESTABLISHED BENCH MARK.
- THE BUILDER SHALL ENSURE THAT THE STORMWATER ENGINEERS DRAWINGS CORRESPOND TO THE ARCHITECTURAL, STRUCTURAL AND LANDSCAPING DRAWINGS. IF THERE ARE DISCREPANCIES BETWEEN THE DRAWINGS, THE BUILDER SHALL REPORT THE DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORKS.
- ALL MULCHING TO BE USED WITHIN THE AREA DESIGNATED AS ON-SITE DETENTION STORAGE SHALL BE OF A NON-FLOATABLE MATERIAL SUCH AS DECORATIVE RIVER GRAVEL. PINE BARK MULCHING SHALL NOT BE USED WITHIN THE DETENTION STORAGE AREA.
- ALL RETAINING WALLS SHALL BE CONSTRUCTED COMPLETELY WITHIN THE PROPERTY BOUNDARY LIMITS TO DETAILS PREPARED BY THE STRUCTURAL ENGINEER. WALLS FORMING THE ON-SITE DETENTION SYSTEM SHALL BE OF MASONRY/BRICK CONSTRUCTION AND WATER TIGHT.
- ALL SUB-SOIL DRAINAGE SHALL BE A MINIMUM OF 65MM DIA AND SHALL BE PROVIDED WITH A FILTER SOCK. THE SUBSOIL DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS TO BE PROVIDED BY THE LANDSCAPE ARCHITECT.
- PRIOR TO COMMENCING ANY WORKS, THE BUILDER SHALL ENSURE THAT THE INVERT LEVELS OF WHERE THE SITE STORMWATER SYSTEM CONNECTS INTO THE COUNCIL'S KERBSIDE DRAINAGE SYSTEM MATCHED THE DESIGN LEVELS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
- ALL LINES ARE TO BE @200 PVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERAGE & SEALED.
- EXISTING SERVICES LOCATIONS SHOWN INDICATIVE ONLY.
- IT IS THE CONTRACTOR'S 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 450 DEEP MAY BE BRICK, PRECAST OR CONCRETE.
- 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 DPS 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.
- COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
- ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3600.3.
- REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING.

LEGEND

- PROPOSED STORMWATER
- EXISTING SEWER MAIN (FROM RECORDS)
- EXISTING OPTIC FIBER MAIN (FROM RECORDS)
- EXISTING POWER (FROM RECORDS)
- EXISTING GAS (FROM RECORDS)
- EXISTING TELSTRA (FROM RECORDS)
- GUTTER DOWNPIPE
- DOWNPIPE WITH VERTICAL BEND
- DOWNPIPE NUMBER AND SIZE
- PLANTER GRATE
- RAINWATER OUTLET
- SURFACE FLOW ARROWS
- DESIGN SURFACE LEVEL
- EXISTING SURFACE LEVEL
- MASONRY RETAINING WALL TO STRUCTURAL ENGINEER'S DETAILS
- PROPOSED ARBUD / BIO-RETENTION AREA / POND
- TILED AREA
- TREES TO BE RETAINED
- TREES TO BE REMOVED
- 885 RISER WITH NON-RETURN VALVE

EASEMENT PLAN

SCALE 1:100



STORMWATER LONGITUDINAL SECTION

SCALE 1:500 (H) 1:100 (V)

SCALE 1:500 @ A1

NOT FOR CONSTRUCTION

Baini Design				
Email: www.baini@baini.com.au				
PHONE: 0410 516 041				
Architect				
22042016				
SSC				
MNR				
MNR				
Date				
Drawn				
Design				
Checked				
Issue				
Description				
A				
ISSUE FOR DEVELOPMENT APPLICATION				

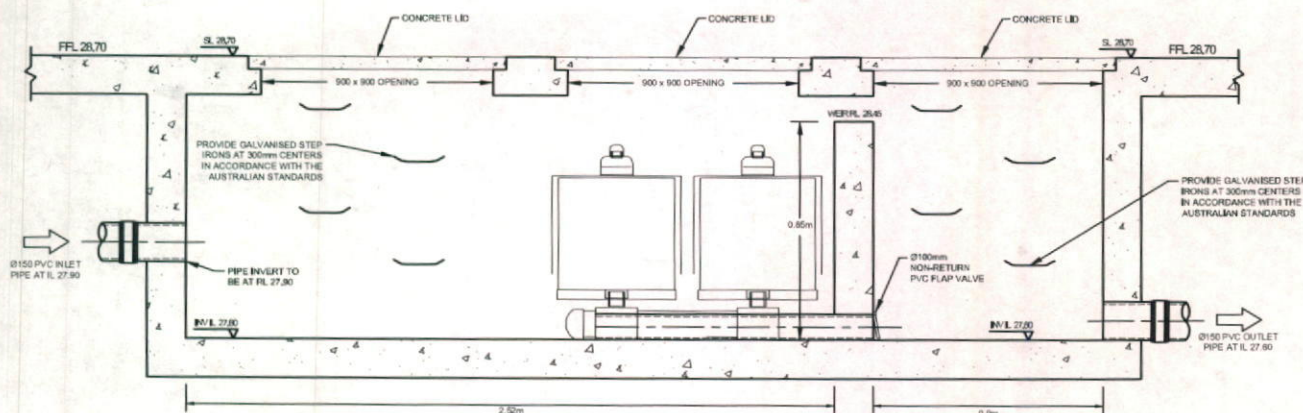
Scale	
0 2 4 6 m	
SCALE 1:100 @ A1	
Penrith City Council	

UMBRELLA CIVIL	
CONSULTING ENGINEERS	
ENGINEERS PROJECT MANAGERS DEVELOPMENT CONSULTANTS	

Sydney + Brisbane	
www.umbrellacivil.com.au	
Suite 1, 143-145 Paramatta Road	
Concord, NSW 2137	
PO Box 3579, Paramatta NSW 2124	
Tel: +61 2 8407 5051	

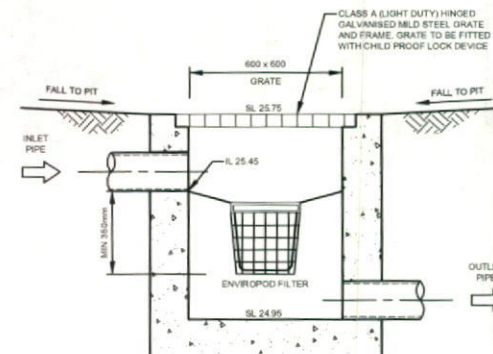
Project	
1 GARNER STREET, SAINT MARYS	
PROPOSED RESIDENTIAL FLAT BUILDING	
STORMWATER CONCEPT PLAN	
DEVELOPMENT APPLICATION	

Drawing title	
STORMWATER CONCEPT PLAN	
GROUND LEVEL	
SHEET 2 OF 2	
Scale	
As Shown	
Project No.	
UMB160085.SW.DA	
Drawn By	
104	
Issue	
A	



SUSPENDED WSUD TANK DETAIL

SCALE 1:10



PIT B
DROP PIPE ENVIROPOD
CONFIGURATION SECTION

SCALE 1:10

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	1
WATER QUALITY FLOW RATE (L/S)	-
PEAK FLOW RATE (L/S)	-
RETURN PERIOD OF PEAK FLOW (yrs)	-
# OF CARTRIDGES REQUIRED (9-22)	2
CARTRIDGE HEIGHT (310, 400 or 600mm)	600
MEDIA TYPE (PERLITE, PERLITE/ZEOLITE OR ZPG)	ZPG
PRECAST VAULT WEIGHT	3827 kg
PRECAST LID WEIGHT	547 kg
PIPE DATA	1L MATERIAL DIAMETER
INLET PIPE #1	27.90 PVC 150
INLET PIPE #2	28.20 PVC 150
INLET PIPE #3	28.20 PVC 150
OUTLET PIPE	27.80 PVC 150

PIPE ORIENTATION	90°
UPSTREAM FLOW	180°
DOWNSTREAM FLOW	0°
270°	
LADDER	YES/NO
ANTI-FLOTATION BALLAST	N/A N/A

STORMFILTER TABLE

N.T.S.

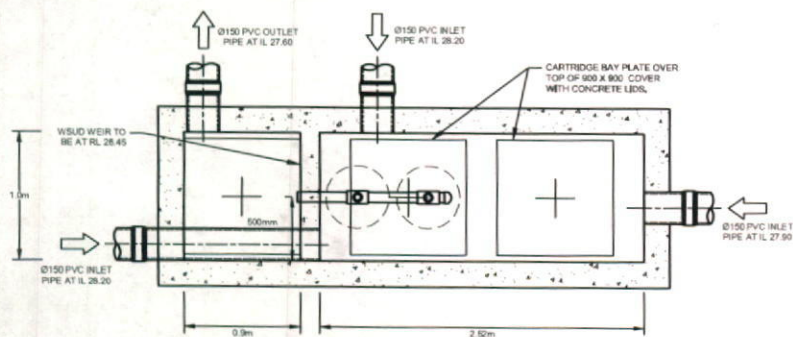
GENERAL NOTES

1. 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.
2. 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.
3. 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. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH AS3600.
4. FOR SHALLOW LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT STORMWATER360 FOR DESIGN OPTIONS.
5. ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
6. STRUCTURE AND ACCESS COVERS PROVIDED TO MEET AUSTRALASIAN T44 LOAD RATING WITH 0.2m FILL MAXIMUM.
7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
8. ANY BACKFILL DEPTH, SUB-BASE AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
9. STORMFILTER BY STORMWATER360: SYDNEY (AU) PHONE: (02) 9555 8833, BRISBANE (AU) PHONE: (07) 3272 1872.

STORMFILTER DESIGN TABLE

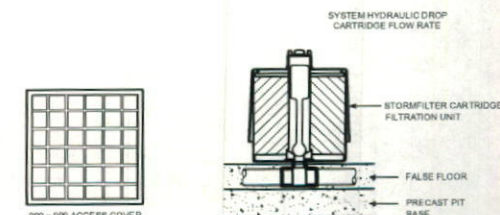
- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 80L/S.
- THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S).
- ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 AUSTRALIA UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	600	400	310
SYSTEM HYDRAULIC DROP (H = REQ'D. MIN.)	930	700	600
TREATMENT BY MEDIA SURFACE AREA L/m ²	1.4	0.7	1.4
CARTRIDGE FLOW RATE (L/s)	1.42	0.71	0.58



SUSPENDED WSUD TANK DETAIL
PLAN VIEW

SCALE 1:20



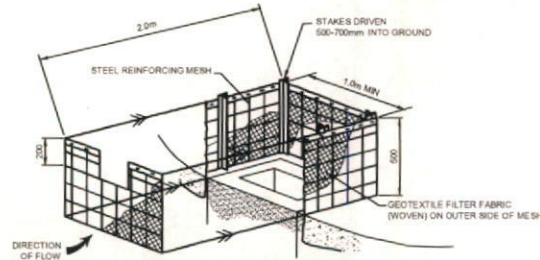
0 400 800 1200 mm
SCALE 1:20 @ A1

NOT FOR CONSTRUCTION

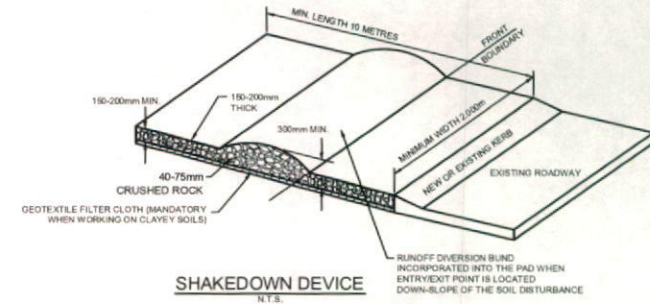
Issue Description A ISSUE FOR DEVELOPMENT APPLICATION 22/04/2016 SSC MBR MBR Date Drawn Design Checked					Author Baini Design Email: www.bainidesign.com.au PHONE: 0410 516 041	Scale 0 200 400 600mm SCALE 1:10 @ A1 Penrith City Council	Umbrella Civil CONSULTING ENGINEERS ENGINEERS PROJECT MANAGERS DEVELOPMENT CONSULTANTS	Sydney + Brisbane www.umbrellacivil.com.au Suite 1, 143-145 Parramatta Road Concord, NSW 2137 PO Box 3579, Parramatta NSW 2124 Tel: +61 2 8607 5051	Project 1 GARNER STREET, SAINT MARYS PROPOSED RESIDENTIAL FLAT BUILDING STORMWATER CONCEPT PLAN DEVELOPMENT APPLICATION	Drawing Title WATER SENSITIVE URBAN DESIGN DETAILS Scale A1 Project No. UMB160085.SW.DA Page 105 Issue A
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SEDIMENT & EROSION NOTES

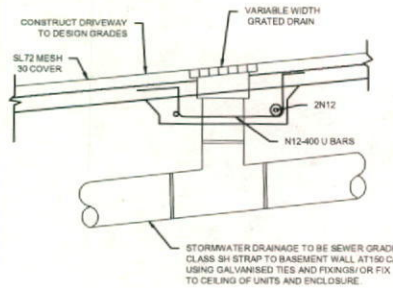
1. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO NOMINATE THE LOCATIONS AND TYPES OF SEDIMENT AND EROSION CONTROL MEASURES TO BE ADOPTED. THESE MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CLEARING OR EARTHWORKS AND MAINTAINED UNTIL THE WORKS ARE COMPLETED AND NO LONGER POSE AN EROSION HAZARD, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
2. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO IDENTIFY AND MARK TREES WHICH ARE TO BE PRESERVED. NOTWITHSTANDING THE ABOVE, THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO MINIMISE DISTURBANCE TO EXISTING VEGETATION AND GROUND COVER OUTSIDE THE MINIMUM AREAS REQUIRED TO COMPLETE THE WORKS AND SHALL BE RESPONSIBLE FOR RECTIFICATION, AT ITS OWN COST, OF ANY DISTURBANCE BEYOND THOSE AREAS.
3. PROVIDE GULLY GRATE INLET SEDIMENT TRAPS AT ALL GULLY PITS.
4. PROVIDE SILT FENCING ALONG PROPERTY LINE AS DIRECTED BY SUPERINTENDENT.
5. ADDITIONAL CONTROL DEVICES TO BE PLACED WHERE DIRECTED BY THE PRINCIPLE.
6. ALTERNATIVE DESIGNS TO BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
7. WASH DOWN/RUMBLE AREA TO BE CONSTRUCTED WITH PROVISIONS RESTRICTING ALL SILT AND TRAFFICKED DEBRIS FROM ENTERING THE STORMWATER SYSTEM.
8. NO WORK OR STOCKPILING OF MATERIALS TO BE PLACED OUTSIDE OF SITE WORK BOUNDARY.
9. APPROPRIATE EROSION AND SEDIMENT CONTROLS TO BE USED TO PROTECT STOCKPILES AND MAINTAINED THROUGHOUT CONSTRUCTION.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE DUE CARE OF NATURAL VEGETATION. NO CLEARING IS TO BE UNDERTAKEN WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT.
11. TO AVOID DISTURBANCE TO EXISTING TREES, EARTHWORKS WILL BE MODIFIED AS DIRECTED ON-SITE BY THE SUPERINTENDENT.
12. THE LOCATION OF EROSION AND SEDIMENTATION CONTROLS WILL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
13. ACCESS TRACKS THROUGH THE SITE WILL BE LIMITED TO THOSE DETERMINED BY THE SUPERINTENDENT AND THE CONTRACTOR PRIOR TO ANY WORK COMMENCING.
14. ALL SETTING OUT IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO WORKS COMMENCING ON SITE. THE SUPERINTENDENT'S SURVEYOR SHALL PEG ALL ALLOTMENT BOUNDARIES, PROVIDE COORDINATE INFORMATION TO THESE PEGS AND PLACE BENCH MARKS. THE CONTRACTOR SHALL SET OUT THE WORKS FROM AND MAINTAIN THESE PEGS.
15. PLANS ARE MINIMUM REQUIREMENTS AND ARE TO BE USED AS A GUIDE ONLY. EXACT MEASURES USED SHALL BE DETERMINED ON SITE IN CONJUNCTION WITH PROGRAM OF CONTRACTOR'S WORKS etc.



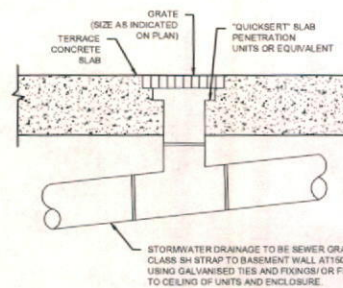
FIELD INLET SEDIMENT TRAP
N.T.S.



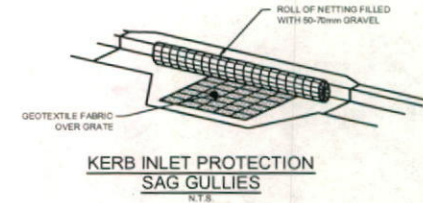
SHAKEDOWN DEVICE
N.T.S.



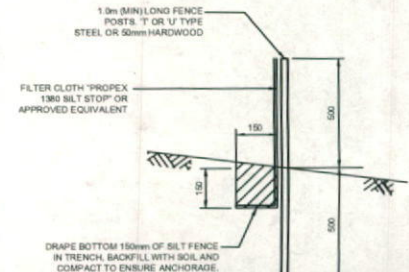
GRATED DRAIN DETAIL
N.T.S.



RAINWATER OUTLET DETAIL
N.T.S.



**KERB INLET PROTECTION
SAG GULLIES**
N.T.S.

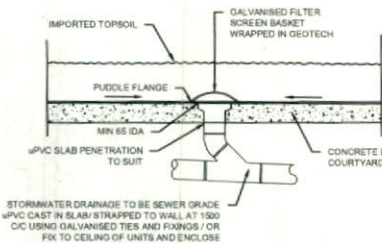


SILT FENCE DETAIL
N.T.S.

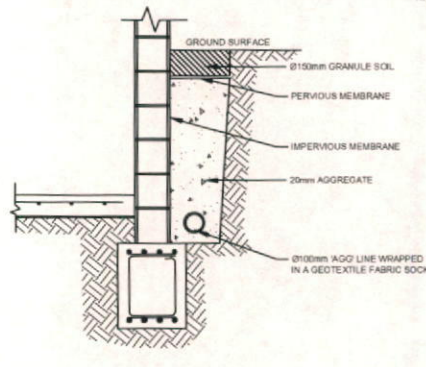
SILT FENCE NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS.
2. POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.
4. FOR EXTRA STRENGTH TO SILT FENCE, WOVEN WIRE (14mm GAUGE, 150mm MESH SPACING) TO BE FASTENED SECURELY BETWEEN FILTER CLOTH AND POSTS BY WIRE TIES OR STAPLES.
5. INSPECTIONS SHALL BE PROVIDED ON A REGULAR BASIS, ESPECIALLY AFTER RAINFALL AND EXCESSIVE SILT DEPOSITS REMOVED WHEN 'BULGES' DEVELOP IN SILT FENCE.
6. SEDIMENT FENCES SHALL BE CONSTRUCTED WITH SEDIMENT TRAPS AND EMERGENCY SPILLWAYS AT SPACINGS NO GREATER THAN 40m ON FLAT TERRAIN DECREASING TO 20m SPACINGS ON STEEP TERRAIN.

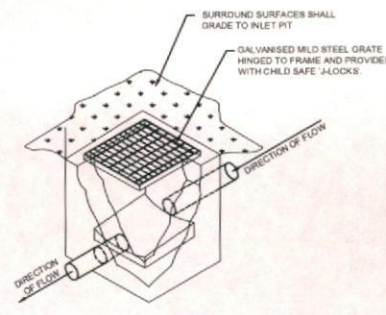
NOT FOR CONSTRUCTION



PLANTER GRATE DETAIL
N.T.S.



TYPICAL SUBSOIL DRAIN
N.T.S.



**TYPICAL GRATED
INLET PIT DETAIL**
N.T.S.

Issue	Description	Date	Drawn	Design	Checked
1	ISSUE FOR DEVELOPMENT APPLICATION	22/04/2016	SSC	MSR	MSR

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Client:
Penrith City Council

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Project:
**1 GARNER STREET, SAINT MARYS
PROPOSED RESIDENTIAL FLAT BUILDING
STORMWATER CONCEPT PLAN
DEVELOPMENT APPLICATION**

Drawing Title:
**MISCELLANEOUS
DETAILS SHEET**

Scale: N.T.S. Project No: UMB160085.SW.DA Drawing No: 106 Issue: A