WINDTECH

BASIX REPORT

5 RYNAN AVENUE, EDMONDSON PARK

WC133-02F01(REV0)- BASIX REPORT

7 MAY 2015

Prepared for:

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DOCUMENT CONTROL

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27/04/2015	Updated for latest design	-	0	TH	TR	TH
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CONTENTS

1 INTRODUCTION

This study investigates the estimated thermal comfort, water and energy usage of the proposed development located at 5 Rynan Avenue, Edmondson Park. The assessment is carried out using online BASIX and BERS Pro Thermal Performance assessment tools. This assessment is based on the architectural drawings prepared by project architects Joshua Farkash & Associates, received May, 2015.

2 ANALYSIS

A BASIX assessment is split into three sections; Water, Thermal Comfort and Energy. Each section measures the efficiency of the development in these areas. For the Water and Energy sections, the development is given a score based on the efficiency. BASIX sets a minimum score in these areas that the development must satisfy. The Thermal Performance section of the BASIX assessment requires a BERS Pro simulation to be undertaken. BASIX sets requirements on the maximum heating and cooling loads for each residential apartment of the development. The results of this are rated in BASIX as either a pass or fail.

2.1 WATER USAGE

The water usage of the development is measured based on the area of gardens/lawn and the number and efficiency of permanent fixtures within the development (such as showerheads, taps and toilets). The development is given a rating, with BASIX requiring a minimum rating of 40% to pass this section.

Bonus points are available in this section by using a rainwater tank. Water from a rainwater tank can be used for the outdoor landscape, private garden/lawn, laundry and toilets.

2.2 THERMAL COMFORT

The thermal comfort of the development is measured using the BERS Pro Thermal Performance assessment tool. This gives an expected level of energy consumption (expressed in Mega Joules used per square metre per annum) for the heating and cooling loads.

The thermal comfort of the development can be improved by using higher performance building materials (such as performance glazing) and/or insulation materials. BASIX sets a maximum heating and cooling load that the development is to achieve. This is given as a weighted average heating and cooling load for the entire development, ***and*** for each individual unit to achieve. Bonus points can be obtained for the cooling load through natural ventilation throughout the development.

2.3 ENERGY USAGE

The energy section of the BASIX assessment measures the energy efficiency of the development based on the efficiency of the fixed appliances to be used. This includes the hot water system, air-conditioning system, exhaust fans, lighting and the cook top/oven. If a pool is to be included in the proposal then the efficiency measure of the pool heater and the pool pump is also required. The development is given a rating, with BASIX requiring a minimum rating of 30% to pass this section.

3 RESULTS OF THE BASIX ASSESSMENT

3.1 WATER

The target score in BASIX to achieve water usage compliance is **40%**. For the proposed development a score of **42%** is achieved through the following;

- All showerheads within each residential dwelling of the proposed development should have a water efficiency rating of at least 3.0 Stars (>6.0 but <=7.5L/min).
- All toilets, kitchen and bathroom taps within each residential dwelling of the proposed development should have a water efficiency rating of at least 3.0 Stars.
- All clothes washers and dishwashers are to be installed within each residential dwelling of the proposed development should have a water efficiency rating of at least 3.0 Stars.
- The inclusion of rainwater tank with a minimum tank capacity of at least 1,000L. The rainwater is to be collected from at least 2,000m^2 of the roof area and is to be used for all public landscaping.

3.2 Thermal Comfort

The BERS Pro assessments take into account the following fundamental aspects of energy efficient design:

- The orientation and size of the walls.
- The location, proportion and type of windows and doors, and any internal or external coverings to them.
- The materials and colours of the exterior of the building.
- Internal floor, wall and ceiling materials.
- Cross ventilation.
- Provision of any insulation in walls, roof or ceiling.
- Overshadowing to walls and windows from eaves, other parts of the development and neighbours.
- The topography and climate of the area around the proposed development.

In BASIX, the required weighted averaged maximum heating and cooling loads of the **entire** proposed development are **74.0 MJ/m²/year for heating** and **70.0 MJ/m²/year for cooling** and **for each individual unit** a maximum heating and cooling load of **88.0 MJ/m²/year for heating** and **91.0 MJ/m²/year for cooling**. The required heating and cooling loads for the individual residential dwellings within Buildings A,B and C are indicated in Tables 2a to 2c and. Note that the overall weighted average heating and cooling loads are significantly harder to achieve than the individual dwelling requirements are also indicated in Table 2.

3.2.1 *Initial Results*

The following construction materials were initially selected for the assessment. Note that the materials described are not prescriptive. The construction materials used on the subject development should be selected to have similar performance characteristics as the ones detailed below so as not to effect the overall thermal performance rating of each apartment. The U-value and Solar Heat Gain Coefficient (SHGC) for the glazing is also indicated.

- The external walls of the building are Concrete and Brick Veneer. No external wall insulation has been initially proposed.
- The internal walls within the development are Plasterboard on Studs and Concrete Block. No internal wall insulation has been initially proposed.
- The initial glazing systems will have the following properties: U = 6.57, SHGC = 0.74. This typically represents a standard single-glazed clear glazing system set within standard aluminium frames.

- The floor coverings will be tiles for the kitchen, bathrooms, ensuite and laundry areas, and carpet within the bedrooms and the living areas. The floors will be concrete slabs. No initial insulation is proposed for the floors.
- The ceilings will be plasterboard suspended from concrete with no initial insulation proposed.
- The roof will be metal with no initial insulation proposed.
- Draught seals are to be installed to the windows and doors.
- The decision on the lighting arrangement is yet to be determined.

The adjustment for loss of ceiling insulation due to penetrations can be found within BCA Volume 1, Section J, and Table J1.3b as indicated below:

Table J1.3b ADJUSTMENT OF MINIMUM R-VALUE FOR LOSS OF CEILING INSULATION

Percentage of ceiling area uninsulated	Minimum R-Value of ceiling insulation required to satisfy J1.3(a)										
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
	Adjusted minimum R-Value of ceiling insulation required to compensate for loss of ceiling insulation area										
0.5% to less than 1.0%	1.0	1.6	2.2	2.8	3.4	4.0	4.7	5.4	6.2	6.9	
1.0% to less than 1.5%	1.1	1.7	2.3	2.9	3.6	4.4	5.2	6.1	7.0		
1.5% to less than 2.0%	1.1	1.7	2.4	3.1	3.9	4.8	5.8	6.8			
2.0% to less than 2.5%	1.1	1.8	2.5	3.3	4.2	5.3	6.5				
2.5% to less than 3.0%	1.2	1.9	2.6	3.6	4.6	5.9	Not Permitted				
3.0% to less than 4.0%	1.2	2.0	3.0	4.2	5.7						
4.0% to less than 5.0%	1.3	2.2	3.4	5.0							
5.0% or more											

Note: Where the minimum R-Value of ceiling insulation required to satisfy J1.3(a) is between the values stated, interpolation may be used to determine the adjusted minimum R-Value

The climate zone selected for analysis was Climate Zone 28. The results of the analysis, indicated in Tables 2a to 2c, indicate that several of the residential dwellings within the proposed development will not satisfy the individual thermal requirements of BASIX. Hence treatment is required to some of the residential dwellings of the development.

3.2.2 *Results with Treatments*

Further analysis of the proposed development resulted in some recommended treatments to achieve the BASIX requirements for thermal performance. Note that the following dwellings numbers listed are in accordance with those indicated in the architectural drawings. The recommended treatments for the residential dwellings are listed in the following Tables 1a to 1c:

Table 1a Recommended Treatments – Building A

Unit Numbers	Recommended Treatment(s)
A17, A18, A19, A20, A27, A28, A29, A30, A37, A38, A39, A40	• R1.0 insulation is to be used in all external walls.
A07, A08, A08, A09	• R1.0 insulation is to be used in all external walls. • R0.5 insulation is to be used in all external floors.
A41, A42, A43, A44, A45, A46	• Foil (reflective one side, anti-glare other) is to be used in all external walls. • R2.5 insulation is to be used in all external ceilings.

Unit Numbers	Recommended Treatment(s)
A47, A48, A49, A50	• R1.0 insulation is to be used in all external walls. • R2.5 insulation is to be used in all external ceilings.
All remaining units	Foil (reflective one side, anti-glare other) is to be used in all external walls.

Table 1b Recommended Treatments – Building B

Unit Numbers	Recommended Treatment(s)
B14	• R2.5 insulation is to be used in all external ceilings. • Foil (reflective one side, anti-glare other) is to be used in all external walls.
B15, B16	• R2.5 insulation is to be used in all external ceilings. • R1.0 insulation is to be used in all external walls.
B03	• Foil (reflective one side, anti-glare other) is to be used in all external walls. • R0.5 insulation is to be used in all external floors.
B06	• Foil (reflective one side, anti-glare other) is to be used in all external walls. • R1.0 insulation is to be used in all external floors.
All remaining units	• Foil (reflective one side, anti-glare other) is to be used in all external walls.

Table 1c Recommended Treatments – Building C

Unit Numbers	Recommended Treatment(s)
C13, C14	• R2.5 insulation is to be used in all external ceilings. • Foil (reflective one side, anti-glare other) is to be used in all external walls.
C15, C16	• R2.5 insulation is to be used in all external ceilings. • R1.0 insulation is to be used in all external walls.
C03, C04	• Foil (reflective one side, anti-glare other) is to be used in all external walls. • R0.5 insulation is to be used in all external floors.
All remaining units	• Foil (reflective one side, anti-glare other) is to be used in all external walls.

The glazing types selected for the windows of the proposed development should at least satisfy the required performance data listed in this report. Higher performing glass types than those listed in this report are also acceptable. Reducing the amount of glazing in each unit is expected to significantly increase the thermal performance of each unit. That is, alternative glazing

systems or specifications may be used if their U value is lower, and the SHGC value is less than 10% higher or lower, than the U and SHGC values of the product specified above.

With these treatments in place the weighted average maximum heating and cooling loads are **58.9 MJ/m2/year for heating** and **34.8 MJ/m2/year for cooling**.

The BASIX requirements for the weighted averaged maximum heating and cooling loads of the entire proposed development are **74.0 MJ/m2/year for heating** and **70.0 MJ/m2/year for cooling**. Hence, with the recommended treatments listed above, the proposed development will satisfy the thermal performance requirements of BASIX.

Table 2a BERS Thermal Performance Results – Building A

Unit Number	BASIX Requirements (MJ/m2/year)		Final Results (MJ/m2/year) (with treatments)	
	Heating	Cooling	Heating	Cooling
A01	88.0	91.0	57.4	49.1
A02	88.0	91.0	59.7	17.9
A03	88.0	91.0	71.8	18.7
A04	88.0	91.0	79.7	16.3
A05	88.0	91.0	79.4	17.4
A06	88.0	91.0	53.7	46.0
A07	88.0	91.0	87.6	40.3
A08	88.0	91.0	84.9	35.3
A09	88.0	91.0	85.1	32.4
A10	88.0	91.0	84.5	44.1
A11	88.0	91.0	48.3	53.6
A12	88.0	91.0	45.8	19.5
A13	88.0	91.0	56.1	25.8
A14	88.0	91.0	59.5	19.2
A15	88.0	91.0	46.3	18.4
A16	88.0	91.0	46.4	42.9
A17	88.0	91.0	68.4	41.3
A18	88.0	91.0	78.4	41.7
A19	88.0	91.0	58.7	31.1
A20	88.0	91.0	61.4	38.6
A21	88.0	91.0	46.1	45.8
A22	88.0	91.0	36.0	20.2
A23	88.0	91.0	52.5	27.0
A24	88.0	91.0	60.3	18.6
A25	88.0	91.0	46.5	18.3
A26	88.0	91.0	39.7	39.6
A27	88.0	91.0	63.2	33.1
A28	88.0	91.0	62.6	40.3

Unit Number	BASIX Requirements (MJ/m2/year)		Final Results (MJ/m2/year) (with treatments)	
	Heating	Cooling	Heating	Cooling
A29	88.0	91.0	68.3	34.8
A30	88.0	91.0	60.9	37.7
A31	88.0	91.0	44.0	42.2
A32	88.0	91.0	37.2	20.4
A33	88.0	91.0	54.8	27.1
A34	88.0	91.0	60.1	18.6
A35	88.0	91.0	46.5	18.5
A36	88.0	91.0	45.0	45.4
A37	88.0	91.0	72.6	45.6
A38	88.0	91.0	62.8	43.2
A39	88.0	91.0	72.0	41.4
A40	88.0	91.0	66.6	42.0
A41	88.0	91.0	52.6	40.5
A42	88.0	91.0	36.5	20.8
A43	88.0	91.0	40.0	45.0
A44	88.0	91.0	47.4	21.2
A45	88.0	91.0	38.1	20.4
A46	88.0	91.0	50.8	37.5
A47	88.0	91.0	86.6	35.9
A48	88.0	91.0	66.2	48.5
A49	88.0	91.0	73.8	49.3
A50	88.0	91.0	79.7	34.5

Table 2b BERS Thermal Performance Results – Building B

Unit Number	BASIX Requirements (MJ/m2/year)		Final Results (MJ/m2/year) (with treatments)	
	Heating	Cooling	Heating	Cooling
B01	88.0	91.0	63.4	35.2
B02	88.0	91.0	81.1	26.4
B03	88.0	91.0	84.2	27.4
B04	88.0	91.0	29.5	32.4
B05	88.0	91.0	54.1	24.2
B06	88.0	91.0	78.5	38.5
B07	88.0	91.0	19.3	32.2
B08	88.0	91.0	28.8	31.9
B09	88.0	91.0	52.9	23.7
B10	88.0	91.0	54.1	41.9
B11	88.0	91.0	62.3	46.7
B12	88.0	91.0	26.8	39.0

Unit Number	BASIX Requirements (MJ/m2/year)		Final Results (MJ/m2/year) (with treatments)	
	Heating	Cooling	Heating	Cooling
B13	88.0	91.0	52.1	24.7
B14	88.0	91.0	52.2	27.5
B15	88.0	91.0	63.3	46.2
B16	88.0	91.0	75.0	54.6

Table 2c BERS Thermal Performance Results – Building C

Unit Number	BASIX Requirements (MJ/m2/year)		Final Results (MJ/m2/year) (with treatments)	
	Heating	Cooling	Heating	Cooling
C01	88.0	91.0	68.6	30.8
C02	88.0	91.0	55.3	29.5
C03	88.0	91.0	88.0	16.4
C04	88.0	91.0	75.0	48.4
C05	88.0	91.0	38.7	30.0
C06	88.0	91.0	29.0	38.1
C07	88.0	91.0	53.4	21.3
C08	88.0	91.0	48.6	22.3
C09	88.0	91.0	34.6	30.5
C10	88.0	91.0	24.1	40.5
C11	88.0	91.0	53.0	22.2
C12	88.0	91.0	48.5	22.2
C13	88.0	91.0	82.3	70.2
C14	88.0	91.0	84.6	82.4
C15	88.0	91.0	81.8	58.3
C16	88.0	91.0	75.7	73.0

3.3 ENERGY

The target score in BASIX to achieve energy usage compliance is 30%. A score of **34%** is achieved for the development through the following;

3.3.1 Central Systems

- The lift systems in the development are to be geared traction with VVAC motor.

3.3.2 Common Areas

The BASIX requirements for the ventilation and lighting systems within the various common areas are listed in Tables 3 and 4 as follows:

Table 3 Ventilation Systems

Common Area	Ventilation System Type	Efficiency Measure
Basement Car Park Areas	Ventilation (supply + exhaust)	Carbon monoxide monitor + VSD fan
Garbage/WC rooms	Ventilation exhaust only	-
Mech Plant Room	Ventilation supply only	-
Meter Room	Ventilation supply only	-
Residential Storage	No mechanical ventilation	-
Lobbies	No mechanical ventilation	-

Table 4 Lighting Systems

Common Area	Primary Lighting System	Efficiency Measure
Basement Car Park Areas	fluorescent	time clocks and motion sensors
Garbage/WC rooms	fluorescent	manual on / manual off
Mech Plant Room	fluorescent	manual on / manual off
Meter Room	fluorescent	manual on / manual off
Residential Storage	fluorescent	manual on / manual off
Lobbies	fluorescent	time clocks and motion sensors
Lifts	fluorescent	Connected to lift call button

3.3.3 Dwellings

- Individual gas instantaneous hot water systems with a star rating of at least 6.0 are to be installed within each residential apartment.
- The bathroom exhaust fans within all residential units are using individual fan, ducted to the façade/roof and are to be controlled by manual on/off switches.
- The kitchen exhaust fans of all residential units will use an individual fan, not ducted, and are to be controlled by manual on/off switches.
- The laundry exhaust fans within all residential units will use an individual fan, ducted to the façade/roof, and are to be controlled by manual on/off switches.

- Single-phase air-conditioning systems and ceiling fans are to be installed in the living room and ceiling fans in the bedroom of all residential dwellings. The air-conditioning system is to have a star rating of at least 3.0 for heating and cooling. The system is to be used for heating and cooling.
- The bedrooms, living room, kitchen, bathroom, laundry and hallways within each residential dwelling of the proposed development will be primarily lit by fluorescent or LED lamps (i.e. at least 80% of the light fittings in the room) with dedicated fittings.
- A gas cook top and electric oven will be installed in each kitchen in the development.
- All dishwasher units are to be installed in all residential dwellings of the proposed development and should have an energy efficiency rating of at least 3.0 stars.
- All clothes dryer units are to be installed in all residential dwellings of the proposed development and should have an energy efficiency rating of at least 2.0 stars.
- Indoor clothes drying line is to be installed in all residential dwellings of the proposed development.

Note that if any of the above systems are to be substituted by less efficient systems, an update to the BASIX certificate would also be required.

4 CONCLUSION

A BASIX assessment of the proposed development located at 5 Rynan Avenue, Edmondson Park has been carried out. The results of the assessment indicate that the development will satisfy the requirements of BASIX if all of the items outlined in this report are carried out.

The certified architectural drawings, ABSA certificate and BASIX certificate are attached in the following appendices of this report.

APPENDIX A - BASIX CERTIFICATE

BASIX® Certificate

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

Multi Dwelling

Certificate number: 562847M_03

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 18/09/2014 published by Planning & Infrastructure. This document is available at www.basix.nsw.gov.au

Director-General
Date of issue: Thursday, 07 May 2015
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW GOVERNMENT Planning & Infrastructure

Project summary	
Project name	5 Rynan Avenue, Edmondson Park, NSW_03
Street address	5 Rynan Avenue Edmondson Park 2174
Local Government Area	Liverpool City Council
Plan type and plan number	deposited 7747
Lot no.	1
Section no.	N/A
No. of residential flat buildings	3
No. of units in residential flat buildings	82
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Project score		
Water	✔ 42	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 34	Target 30

Certificate Prepared by
Name / Company Name: Windtech Consultants
ABN (if applicable): 72 050 574 037

Project address	
Project name	5 Rynan Avenue, Edmondson Park, NSW_03
Street address	5 Rynan Avenue Edmondson Park 2174
Local Government Area	Liverpool City Council
Plan type and plan number	deposited 7747
Lot no.	1
Section no.	N/A
Project type	
No. of residential flat buildings	3
No. of units in residential flat buildings	82
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	6600
Roof area (m²)	2594
Non-residential floor area (m²)	0
Residential car spaces	123
Non-residential car spaces	19

Common area landscape	
Common area lawn (m²)	1850
Common area garden (m²)	0
Area of indigenous or low water use species (m²)	0
Assessor details	
Assessor number	20887
Certificate number	1007664350
Climate zone	28

Project score		
Water	✔ 42	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 34	Target 30

Description of project

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

Residential flat buildings - Building A, 50 dwellings, 5 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A01	2	77.0	5.0	105	0
A05	2	74.0	0.0	35	0
A09	2	79.0	0.0	45	0
A13	2	73.0	0.0	0	0
A17	2	79.0	0.0	0	0
A21	2	79.0	0.0	0	0
A25	2	75.0	0.0	0	0
A29	2	79.0	0.0	0	0
A33	2	73.0	0.0	0	0
A37	2	79.0	0.0	0	0
A41	2	79.0	0.0	0	0
A45	2	75.0	0.0	0	0
A49	2	79.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A02	2	73.0	0.0	35	0
A06	2	76.0	0.0	70	0
A10	2	79.0	0.0	80	0
A14	2	75.0	0.0	0	0
A18	2	81.0	0.0	0	0
A22	2	73.0	0.0	0	0
A26	2	76.0	0.0	0	0
A30	2	79.0	0.0	0	0
A34	2	75.0	0.0	0	0
A38	2	81.0	0.0	0	0
A42	2	73.0	0.0	0	0
A46	2	76.0	0.0	0	0
A50	2	79.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A03	2	72.0	0.0	35	0
A07	2	79.0	0.0	65	0
A11	2	77.0	0.0	0	0
A15	2	75.0	0.0	0	0
A19	2	79.0	0.0	0	0
A23	2	73.0	0.0	0	0
A27	2	79.0	0.0	0	0
A31	2	79.0	0.0	0	0
A35	2	75.0	0.0	0	0
A39	2	79.0	0.0	0	0
A43	2	73.0	0.0	0	0
A47	2	79.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A04	2	74.0	0.0	35	0
A08	2	81.0	0.0	65	0
A12	2	73.0	0.0	0	0
A16	2	76.0	0.0	0	0
A20	2	79.0	0.0	0	0
A24	2	75.0	0.0	0	0
A28	2	81.0	0.0	0	0
A32	2	73.0	0.0	0	0
A36	2	76.0	0.0	0	0
A40	2	79.0	0.0	0	0
A44	2	75.0	0.0	0	0
A48	2	81.0	0.0	0	0

Residential flat buildings - Building B, 16 dwellings, 5 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B01	2	72.0	0.0	24	0
B05	2	68.0	0.0	0	0
B09	2	68.0	0.0	0	0
B13	2	68.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B02	2	68.0	0.0	20	0
B06	2	73.0	0.0	0	0
B10	2	73.0	0.0	0	0
B14	2	73.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B03	2	65.0	0.0	0	0
B07	2	65.0	0.0	0	0
B11	2	65.0	0.0	0	0
B15	2	72.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B04	2	72.0	0.0	0	0
B08	2	72.0	0.0	0	0
B12	2	72.0	0.0	0	0
B16	2	71.0	0.0	0	0

Residential flat buildings - Building C, 16 dwellings, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C01	3	77.0	0.0	24	0
C05	3	77.0	0.0	0	0
C09	3	77.0	0.0	0	0
C13	3	80.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C02	1	53.0	0.0	10	0
C06	1	53.0	0.0	0	0
C10	1	53.0	0.0	0	0
C14	1	53.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C03	2	66.0	0.0	24	0
C07	2	67.0	0.0	0	0
C11	2	67.0	0.0	0	0
C15	2	69.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C04	2	66.0	0.0	18	0
C08	2	74.0	0.0	0	0
C12	2	74.0	0.0	0	0
C16	2	76.0	0.0	0	0

Description of project

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

Common areas of unit building - Building A

Common area	Floor area (m²)
Lift car (No. 1)	-

Common area	Floor area (m²)
Ground floor lobby type (No. 1)	173

Common area	Floor area (m²)
Lobbies	584

Common areas of unit building - Building B

Common area	Floor area (m²)
Lift car (No. 2)	-

Common area	Floor area (m²)
Ground floor lobby type (No. 2)	58

Common area	Floor area (m²)
Lobbies	198

Common areas of unit building - Building C

Common area	Floor area (m²)
Lift car (No. 3)	-
Lobbies	214

Common area	Floor area (m²)
Residential Storage (BL)	66

Common area	Floor area (m²)
Ground floor lobby type (No. 3)	17

Common areas of the development (non-building specific)

Common area	Floor area (m²)
Car park area (B2)	1290
Meters	7
WC	3

Common area	Floor area (m²)
Car park area (B1A)	1788
Garbage rooms (BL)	105

Common area	Floor area (m²)
Car park area (B1BC)	1431
Mech Plant	14

Schedule of BASIX commitments

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

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

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

4. Commitments for multi-dwelling houses

5. Commitments for single dwelling houses

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

(i) Water

(ii) Energy

Schedule of BASIX commitments

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

1. Commitments for Residential flat buildings - Building A

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 6 but <= 7.5 L/min)	3 star	3 star	3 star	-	3 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/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✔	✔
(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.		✔	✔

(ii) 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: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✔ ✔	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✔ ✔ ✔	✔
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✔	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	gas instantaneous 6 star	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

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
A02, A03, A04, A05, A12, A13, A14, A15, A22, A23, A24, A25, A32, A33, A34, A35, A42, A43, A44, A45	ceiling fans + 1-phase airconditioning 3 Star (new rating)	ceiling fans	1-phase airconditioning 3 Star (new rating)	-	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	yes

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
A01, A06, A07, A08, A09, A10, A11, A16, A17, A18, A19, A20, A21, A26, A27, A28, A29, A30, A31, A36, A37, A38, A39, A40, A41, A46, A47, A48, A49, A50	ceiling fans + 1-phase airconditioning 3 Star (new rating)	ceiling fans	1-phase airconditioning 3 Star (new rating)	-	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	2	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3 star	-	2 star	yes	-

(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: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✔	✔	✔
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✔	✔	✔

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
A01	57.4	49.1
A02	59.7	17.9
A03	71.8	18.7
A04	79.7	16.3
A05	79.4	17.4
A06	53.7	46
A07	87.6	40.3
A08	84.9	35.3
A09	85.1	32.4
A10	84.5	44.1
A11	48.3	53.6
A12	45.8	19.5
A13	56.1	25.8
A14	59.5	19.2
A15	46.3	18.4
A16	46.4	42.9
A17	68.4	41.3
A18	78.4	41.7
A19	58.7	31.1
A20	61.4	38.6
A21	46.1	45.8
A22	36	20.2
A23	52.5	27
A24	60.3	18.6
A25	46.5	18.3
A26	39.7	39.6
A27	63.2	33.1

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
A28	62.6	40.3
A29	68.3	34.8
A30	60.9	37.7
A31	44	42.2
A32	37.2	20.4
A33	54.8	27.1
A34	60.1	18.6
A35	46.5	18.5
A36	45	45.4
A37	72.6	45.6
A38	62.8	43.2
A39	72	41.4
A40	66.6	42
A41	52.6	40.5
A42	36.5	20.8
A43	40	45
A44	47.4	21.2
A45	38.1	20.4
A46	50.8	37.5
A47	86.6	35.9
A48	66.2	48.5
A49	73.8	49.3
All other dwellings	79.7	34.5

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	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.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No. 1)	-	-	fluorescent	connected to lift call button	No
Ground floor lobby type (No. 1)	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No
Lobbies	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No

Central energy systems	Type	Specification
Lift (No. 1)	geared traction with V V A C motor	Number of levels (including basement): 6

2. Commitments for Residential flat buildings - Building B

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 6 but <= 7.5 L/min)	3 star	3 star	3 star	-	3 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/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✔	✔
(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.		✔	✔

(ii) 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: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✔ ✔	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✔ ✔ ✔	✔
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✔	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	gas instantaneous 6 star	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

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
B01, B06, B11, B16	ceiling fans + 1-phase airconditioning 3 Star (new rating)	ceiling fans	1-phase airconditioning 3 Star (new rating)	-	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	yes
B02, B03, B04, B05, B07, B08, B09, B10, B12, B13, B14, B15	ceiling fans + 1-phase airconditioning 3 Star (new rating)	ceiling fans	1-phase airconditioning 3 Star (new rating)	-	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3 star	-	2 star	yes	-

(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: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✔	✔	✔
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✔	✔	✔

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B01	63.4	35.2
B02	81.1	26.4
B03	84.2	27.4
B04	29.5	32.4
B05	54.1	24.2

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B06	78.5	38.5
B07	19.3	32.2
B08	28.8	31.9
B09	52.9	23.7
B10	54.1	41.9
B11	62.3	46.7
B12	26.8	39
B13	52.1	24.7
B14	52.2	27.5
B15	63.3	46.2
All other dwellings	75	54.6

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	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.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No. 2)	-	-	fluorescent	connected to lift call button	No
Ground floor lobby type (No. 2)	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No
Lobbies	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No

Central energy systems	Type	Specification
Lift (No. 2)	geared traction with V V A C motor	Number of levels (including basement): 7

3. Commitments for Residential flat buildings - Building C

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
C10, C11, C12, C13, C14, C15, C16	3 star (> 6 but <= 7.5 L/min)	3 star	3 star	3 star	-	3 star	3 star	-	-	-	-	-	-	-
C01, C02, C03, C04, C05, C06, C07, C08, C09	3 star (> 6 but <= 7.5 L/min)	3 star	3 star	3 star	-	3 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

(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.		✔	✔

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✔	✔
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✔	✔
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✔	✔	✔
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✔ ✔	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✔ ✔ ✔	✔
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✔	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	gas instantaneous 6 star	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

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	ceiling fans + 1-phase airconditioning 3 Star (new rating)	ceiling fans	1-phase airconditioning 3 Star (new rating)	-	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3 star	-	2 star	yes	-

(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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✔	✔
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✔	✔	✔
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✔	✔	✔

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
C01	68.6	30.8
C02	55.3	29.5
C03	88	16.4
C04	75	48.4
C05	38.7	30
C06	29	38.1
C07	53.4	21.3
C08	48.6	22.3
C09	34.6	30.5
C10	24.1	40.5
C11	53	22.2
C12	48.5	22.2
C13	82.3	70.2
C14	84.6	82.4
C15	81.8	58.3

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
All other dwellings	75.7	73

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	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.		✔	✔
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No. 3)	-	-	fluorescent	connected to lift call button	No
Residential Storage (BL)	no mechanical ventilation	-	fluorescent	manual on / manual off	No
Ground floor lobby type (No. 3)	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No
Lobbies	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No

Central energy systems	Type	Specification
Lift (No. 3)	geared traction with V V A C motor	Number of levels (including basement): 6

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

(b) Common areas and central systems/facilities

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

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

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	1000	To collect run-off from at least: - 2000 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 1850 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park area (B2)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	time clock and motion sensors	No
Car park area (B1A)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	time clock and motion sensors	No
Car park area (B1BC)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	time clock and motion sensors	No
Meters	ventilation supply only	none ie. continuous	fluorescent	manual on / manual off	No
Garbage rooms (BL)	ventilation exhaust only	-	fluorescent	manual on / manual off	No
Mech Plant	ventilation supply only	none ie. continuous	fluorescent	manual on / manual off	No
WC	ventilation exhaust only	none ie. continuous	fluorescent	manual on / manual off	No

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 3 peak kW

Notes

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

Legend

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

APPENDIX B - ABSA CERTIFICATE

Class 2 Building
PROJECT CERTIFICATION

Project Certification Number	1007664350
Certification Date	07/05/2015
Assessor Name	Trong Thien Huynh
Assessor Number	20887
Assessor Company	Windtech Consultants Pty Ltd
Assessor Signature	

Client Details	JOSHUA FARKASH & ASSOCIATES PTY LTD
Project Address	Lot 1 5 RYNAN AVENUE EDMONDSON PARK NSW 2174

Software	BERS Professional v4.2.110811/A (BERS Professional)	Climate Zone	28
Averaged Simulated Energy: HEATING			58.6 MJ/m2 pa
Averaged Simulated Energy: COOLING			34.8 MJ/m2 pa
Averaged Simulated Energy: TOTAL			93.3 MJ/m2 pa

Averaged **NatHERS** Star Rating **5.6**

Sole-Occupancy Unit (SOU) Thermal Performance Specifications

Unit Number	Certificate Number	Floor Area		Simulated Loads (area adjusted MJ/m2/y)		NatHERS	Rated with Downlights
		Conditioned	Unconditioned	Heating	Cooling	Star Rating	
A01	1007663519	77.4	5.7	57.4	49.1	5.0/10	No
A02	1007663527	73.0	0.0	59.7	17.9	6.0/10	No
A03	1007663535	72.9	0.0	71.8	18.7	5.5/10	No
A04	1007663543	74.9	0.0	79.7	16.3	5.5/10	No
A05	1007663550	74.4	0.0	79.4	17.4	5.5/10	No
A06	1007663568	76.5	0.0	53.7	46.0	5.0/10	No
A07	1007663576	79.4	0.0	87.6	40.3	4.0/10	No
A08	1007663584	81.9	0.0	84.9	35.3	4.5/10	No
A09	1007663592	79.3	0.0	85.1	32.4	4.5/10	No
A10	1007663600	79.9	0.0	84.5	44.1	4.0/10	No

Class 2 Building
PROJECT CERTIFICATION

Project Certification Number	1007664350
Certification Date	07/05/2015

Sole-Occupancy Unit (SOU) Thermal Performance Specifications

Unit Number	Certificate Number	Floor Area		Simulated Loads (area adjusted MJ/m2/y)		NatHERS	Rated with Downlights
		Conditioned	Unconditioned	Heating	Cooling	Star Rating	
A11	1007663618	77.4	0.0	48.3	53.6	5.0	No
A12	1007663626	73.9	0.0	45.8	19.5	7.0	No
A13	1007663634	73.8	0.0	56.1	25.8	6.0	No
A14	1007663642	75.0	0.0	59.5	19.2	6.0	No
A15	1007663659	75.3	0.0	46.3	18.4	7.0	No
A16	1007663667	76.5	0.0	46.4	42.9	5.5	No
A17	1007663675	79.4	0.0	68.4	41.3	5.0	No
A18	1007663683	81.9	0.0	78.4	41.7	4.5	No
A19	1007663691	79.3	0.0	58.7	31.1	5.5	No
A20	1007663709	79.5	0.0	61.4	38.6	5.0	No
A21	1007663717	79.0	0.0	46.1	45.8	5.0	No
A22	1007663725	73.9	0.0	36.0	20.2	7.5	No
A23	1007663733	73.8	0.0	52.5	27.0	6.0	No
A24	1007663741	75.0	0.0	60.3	18.6	6.0	No
A25	1007663758	75.3	0.0	46.5	18.3	7.0	No
A26	1007663766	76.5	0.0	39.7	39.6	6.0	No
A27	1007663774	79.4	0.0	63.2	33.1	5.5	No
A28	1007663782	81.9	0.0	62.6	40.3	5.0	No
A29	1007663790	79.3	0.0	68.3	34.8	5.0	No
A30	1007663808	79.5	0.0	60.9	37.7	5.5	No
A31	1007663816	79.0	0.0	44.0	42.2	6.0	No
A32	1007663824	73.9	0.0	37.2	20.4	7.0	No
A33	1007663832	73.8	0.0	54.8	27.1	6.0	No
A34	1007663840	75.0	0.0	60.1	18.6	6.0	No
A35	1007663857	75.3	0.0	46.5	18.5	7.0	No

Class 2 Building
PROJECT CERTIFICATION

Project Certification Number	1007664350
Certification Date	07/05/2015

Sole-Occupancy Unit (SOU) Thermal Performance Specifications

Unit Number	Certificate Number	Floor Area		Simulated Loads (area adjusted MJ/m2/y)		NatHERS	Rated with Downlights
		Conditioned	Unconditioned	Heating	Cooling	Star Rating	
A36	1007663865	76.5	0.0	45.0	45.4	5.5	No
A37	1007663873	79.4	0.0	72.6	45.6	4.5	No
A38	1007663881	81.9	0.0	62.8	43.2	5.0	No
A39	1007663899	79.3	0.0	72.0	41.4	4.5	No
A40	1007663907	79.5	0.0	66.6	42.0	5.0	No
A41	1007663915	79.0	0.0	52.6	40.5	5.5	No
A42	1007663923	73.9	0.0	36.5	20.8	7.0	No
A43	1007663931	73.8	0.0	40.0	45.0	6.0	No
A44	1007663949	75.0	0.0	47.4	21.2	6.5	No
A45	1007663956	75.3	0.0	38.1	20.4	7.0	No
A46	1007663964	76.5	0.0	50.8	37.5	5.5	No
A47	1007663972	79.4	0.0	86.6	35.9	4.5	No
A48	1007663980	81.9	0.0	66.2	48.5	4.5	No
A49	1007663998	79.3	0.0	73.8	49.3	4.5	No
A50	1007664004	79.5	0.0	79.7	34.5	4.5	No
B01	1007664012	71.7	0.0	63.4	35.2	5.5	No
B02	1007664020	68.1	0.0	81.1	26.4	5.0	No
B03	1007664038	64.9	0.0	84.2	27.4	6.0	No
B04	1007664046	71.7	0.0	29.5	32.4	7.0	No
B05	1007664053	68.1	0.0	54.1	24.2	6.0	No
B06	1007664061	73.1	0.0	78.5	38.5	4.5	No
B07	1007664079	64.9	0.0	19.3	32.2	7.5	No
B08	1007664087	71.7	0.0	28.8	31.9	7.0	No
B09	1007664095	68.1	0.0	52.9	23.7	6.5	No
B10	1007664103	73.1	0.0	54.1	41.9	5.5	No

Class 2 Building
PROJECT CERTIFICATION

Project Certification Number	1007664350
Certification Date	07/05/2015

Sole-Occupancy Unit (SOU) Thermal Performance Specifications

Unit Number	Certificate Number	Floor Area		Simulated Loads (area adjusted MJ/m2/y)		NatHERS	Rated with Downlights
		Conditioned	Unconditioned	Heating	Cooling	Star Rating	
B11	1007664111	64.9	0.0	62.3	46.7	5.0	No
B12	1007664129	71.7	0.0	26.8	39.0	7.0	No
B13	1007664137	68.1	0.0	52.1	24.7	6.5	No
B14	1007664145	73.1	0.0	52.2	27.5	6.0	No
B15	1007664152	72.3	0.0	63.3	46.2	4.0	No
B16	1007664160	71.2	4.6	75.0	54.6	4.0	No
C01	1007664178	77.4	0.0	68.6	30.8	5.0	No
C02	1007664186	52.6	0.0	55.3	29.5	6.0	No
C03	1007664194	66.2	0.0	88.0	16.4	5.0	No
C04	1007664202	77.9	0.0	75.0	48.4	4.5	No
C05	1007664210	77.4	0.0	38.7	30.0	6.5	No
C06	1007664228	52.6	0.0	29.0	38.1	6.5	No
C07	1007664236	66.9	0.0	53.4	21.3	6.5	No
C08	1007664244	77.9	0.0	48.6	22.3	6.5	No
C09	1007664251	77.4	0.0	34.6	30.5	7.0	No
C10	1007664269	52.6	0.0	24.1	40.5	6.5	No
C11	1007664277	66.9	0.0	53.0	22.2	6.5	No
C12	1007664285	77.9	0.0	48.5	22.2	6.5	No
C13	1007664293	79.7	0.0	82.3	70.2	3.5	No
C14	1007664301	53.0	0.0	84.6	82.4	3.5	No
C15	1007664319	68.9	0.0	81.8	58.3	4.0	No
C16	1007664327	77.9	0.0	75.7	73.0	3.5	No

APPENDIX C - CERTIFIED ARCHITECTURAL DRAWINGS

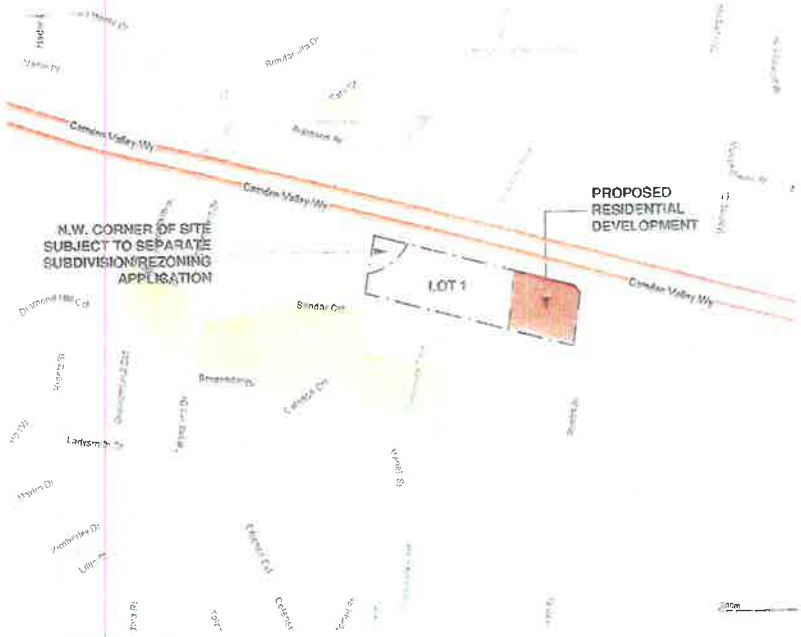
5 RYNAN AVENUE, EDMONDSON PARK

DRAWING LIST

Drg No.	Title	Revision
A-0000	COVER SHEET & LOCATION PLAN	G
A-1000	BASIX COMMITMENTS 1/2	G
A-1001	BASIX COMMITMENTS 2/2	G
A-1002	BUILDING A - GROSS FLOOR AREA	G
A-1003	BUILDING B & C -GROSS FLOOR AREA	G
A-1100	DEVELOPMENT STATISTICS	G
A-1101	SITE ANALYSIS	G
A-1102	SITE SURVEY / DEMOLITION PLAN	G
A-1103	SITE PLAN	G
A-2101	BASEMENT FLOOR PLAN - LEVEL B1	G
A-2101/A	BASEMENT FLOOR PLAN - LEVEL B2	G
A-2102	GROUND FLOOR PLAN	G
A-2103	LEVEL 1 FLOOR PLAN	G
A-2104	LEVEL 2 FLOOR PLAN	G
A-2105	LEVEL 3 FLOOR PLAN	G
A-2106	LEVEL 4 FLOOR PLAN	G
A-2107	ROOF PLAN	G
A-2108	BUILDING A - GROUND FLOOR	G
A-2109	BUILDING B & C - GROUND FLOOR	G
A-2110	BUILDING A - TYPICAL FLOOR	G
A-2111	BUILDING B & C TYPICAL FLOOR	G
A-2101	ELEVATIONS - BUILDING A /3	G
A-3102	ELEVATIONS - BUILDING A 2/3	G
A-3103	ELEVATIONS-BUILDING A 3/3	G
A-3104	ELEVATIONS - BUILDINGS B & C 1/2	G
A-3105	ELEVATIONS - BUILDINGS B & C 2/2	G
A-4101	SECTION A-A & B-B	G
A-4102	SECTION C-C & D-D	G
A-5100	SHADOW DIAGRAMS	G
A-5101	DAYLIGHT ANALYSIS	G
A-5102	BUILDING A-DAYLIGHT ACCESS-ELEVATIONS 1/3	
A-5103	BUILDING A - DAYLIGHT ACCESS-ELEVATIONS 2/3	G
A-5104	BUILDING A- DAYLIGHT ACCESS-ELEVATIONS 3/3	G
A-5105	BUILDING B -DAYLIGHT ACCESS - ELEVATIONS	G
A-5106	BUILDING C-DAYLIGHT ACCESS-ELEVATIONS	G
A-6102	ADAPTABLE HOUSING BUILDINGS A,B&C	G
A-7101	OPEN SPACE & DEEP SOIL CALCULATIONS	G
A-8101	CROSS VENTILATION	G
A-8102	CROSS VENTILATION	G
A-9101	STREETSCAPE ELEVATIONS	G
A-10101	3D PHOTOMONTAGES	G
A-11101	NOTIFICATION PLANS	G
A-11102	NOTIFICATION PLANS	G
A-12101	EXTERNAL COLOURS & FINISHES	G
SP01	SITE PLAN - SUBDIVISION	G

DEVELOPMENT APPLICATION (AMENDED)

PHOTOMONTAGE - VIEW OF THE PROPOSED DEVELOPMENT FROM RYNAN AVE.
N.T.S.



LOCATION PLAN
N.T.S.

ABSA 5.6/10

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

KMT CONSTRUCTIONS Pty Ltd

JOSHUA FARKASH & ASSOCIATES PTY LTD

PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

COVER SHEET & LOCATION PLAN

JF | KA | 13-22585

13/03/15

A-0000 G

DEVELOPMENT STATISTICS

1.0 BUILDABLE SITE AREA = 6,610.72m²

2.0 FLOOR SPACE

BUILDING A	3,757.0 m²
BUILDING B	1,369.2 m²
BUILDING C	1,388.4 m²
TOTAL FLOOR SPACE	6,532.6 m²

3.0 ALLOWABLE FLOOR SPACE RATIO 1:1

ALLOWABLE GFA =	6,610.72 m²
PROPOSED TOTAL GFA =	6,532.6 m² (Buildings A + B + C)
PROPOSED FSR	0.99:1

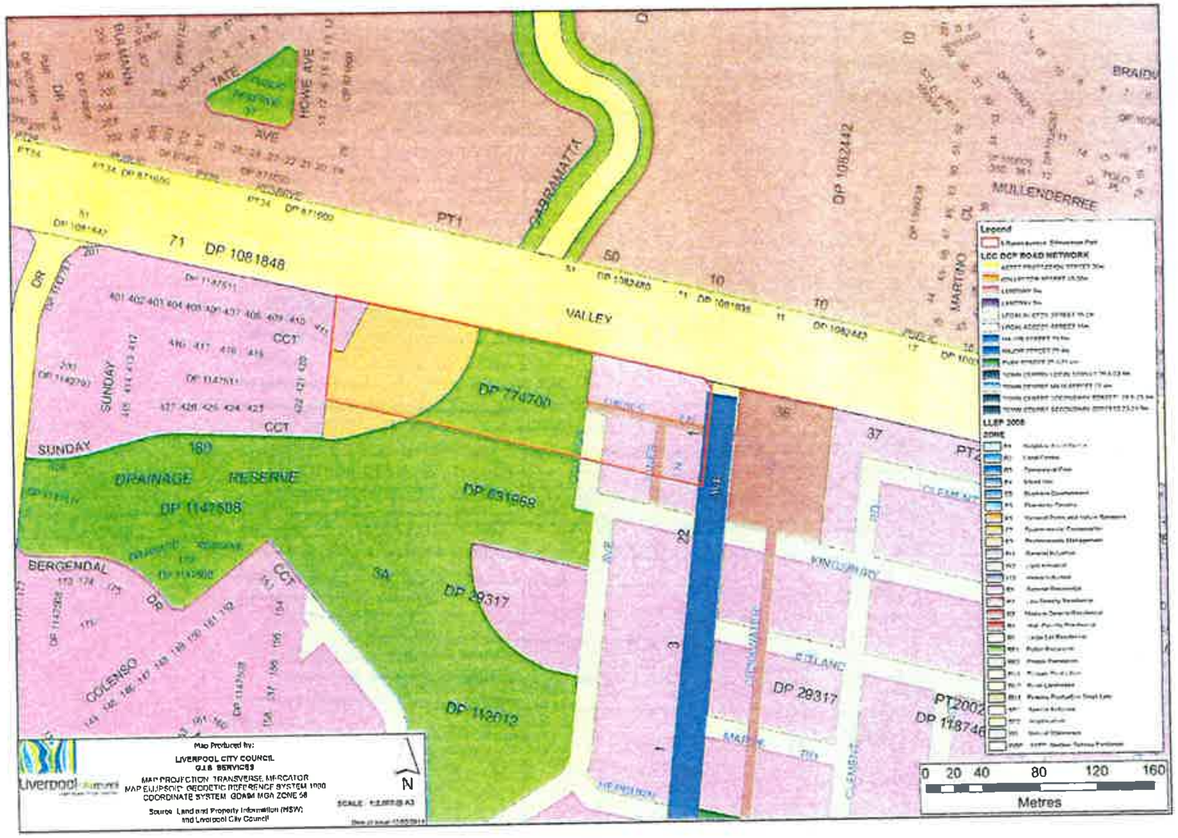
3.0 SITE CONFIGURATION

Open space required = 25% of Total site area = 1652.7 m² — Provided = 2,529.9 m² = TOTAL 38.2%

Deep Soil required (25% of open space) = 413.2 m² — Provided = 872.88 m² = 34.5% (of provided open space)

4.0 APARTMENT MIX	BUILDING A	BUILDING B & C
Studio apartments =	0	0
1 Bed apartments =	0	0
2 Bed apartments =	50 (of which 5 are adaptable le 10%)	32 (of which 4 are adaptable 12.5 %)
3 Bed apartments =	0	0
Total number of apartments =	50 (of which 5 are adaptable 10%)	32 (of which 4 are adaptable 12.5%)

5.0 PARKING	BUILDING A		BUILDING B & C	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED
RESIDENTIAL REQUIREMENT (INCLUDING ACCESSIBLE)				
-1 space per small dwelling (< 65sqm) or 1 bedroom	0	0	0	0
-1.5 spaces per medium dwelling (65 - 110sqm) or 2 bedrooms	75.0	75	48	48
-2 spaces per large dwelling (> 110sqm) or 3 or more bedrooms	0	0	0	0
(Accessible Parking 2% of total car spaces) TOTAL =	75.0	75 (of which 5 are accessible)	48	49 (of which 5 are accessible)
VISITOR REQUIREMENT (INCLUDING ACCESSIBLE)				
-1 visitor car space for every 4 dwellings or part thereof	12.5	11 (of which 2 are accessible)	8	9 (of which 1 is accessible)
TOTAL RESIDENTIAL & VISITOR PARKING (INC ACCESSIBLE)	87.5	86 (of which 7 are accessible)	56	58 (of which 6 are accessible)



LEP ZONING PLAN - NOT TO SCALE

Thermal Comfort Specification		
Building Element	**Material**	**Insulation**
External Wall	Brick Veneer, Concrete	Foil, R1.0*
Internal Wall	Plasterboard on Stud	None
Roof	Metal Roofing	None
Ceiling	Concrete above Plasterboard	None, R2.5*
Floor	Concrete Slab	None, R0.5*
Floor Coverings	Carpet to Living and Bedrooms Tiles to Bathrooms and Kitchens	N/A
Windows	Single Clear Glazing Set within an Aluminium Frame	N/A
	U-value = 6.57, SHGC = 0.74	

Draught seals to all external windows and doors, and the exhaust fans are to be sealed

Note: *Please refer to the BASIX Report for the individual insulation requirements of each residential dwelling

ABSA Class 2 Building Project Certification 56/10

TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK , NSW

MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT	KMT CONSTRUCTIONS Pty Ltd
ARCHITECT	JOSHUA FARKASH & ASSOCIATES PTY. LTD
PROJECT	PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK
DRAWING TITLE	DEVELOPMENT STATISTICS
CHECKED	JF
DRAWN	K.A.
PROJECT No.	13-23665
DATE PLOTTED	23/07/2014
DRAWING No. / Rev	A-1100 G

SCHEDULE OF BASIX COMMITMENTS

Schedule of BASIX commitments

[illegible]

1. Commitments for Residential flat buildings - Building A

(a) Dwellings

(i) Water	Show on DA plans
[illegible]	✓
[illegible]	✓
[illegible]	✓
[illegible]	✓

(ii) Energy	Show on DA plans
[illegible]	
[illegible]	✓

(iii) Energy	Show on DA plans
[illegible]	✓

(iii) Thermal Comfort	Show on DA plans
[illegible]	✓
[illegible]	✓

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans
[illegible]	✓
[illegible]	✓

(ii) Energy	Show on DA plans
[illegible]	✓

2. Commitments for Residential flat buildings - Building B

(a) Dwellings

(i) Water	Show on DA plans
[illegible]	
[illegible]	✓
[illegible]	✓
[illegible]	✓
[illegible]	✓

(ii) Energy	Show on DA plans
[illegible]	
[illegible]	✓

(ii) Energy	Show on DA plans
[illegible]	✓

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

(iii) Thermal Comfort	Show on DA plans
[illegible]	✓
[illegible]	✓

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans
[illegible]	✓
[illegible]	✓

(ii) Energy	Show on DA plans
[illegible]	✓

3. Commitments for Residential flat buildings - Building C

(a) Dwellings

(i) Water	Show on DA plans
[illegible]	
[illegible]	✓
[illegible]	✓

ABSA 5.6/10

5 RYNAN AVENUE
EDMONDSON PARK, NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD

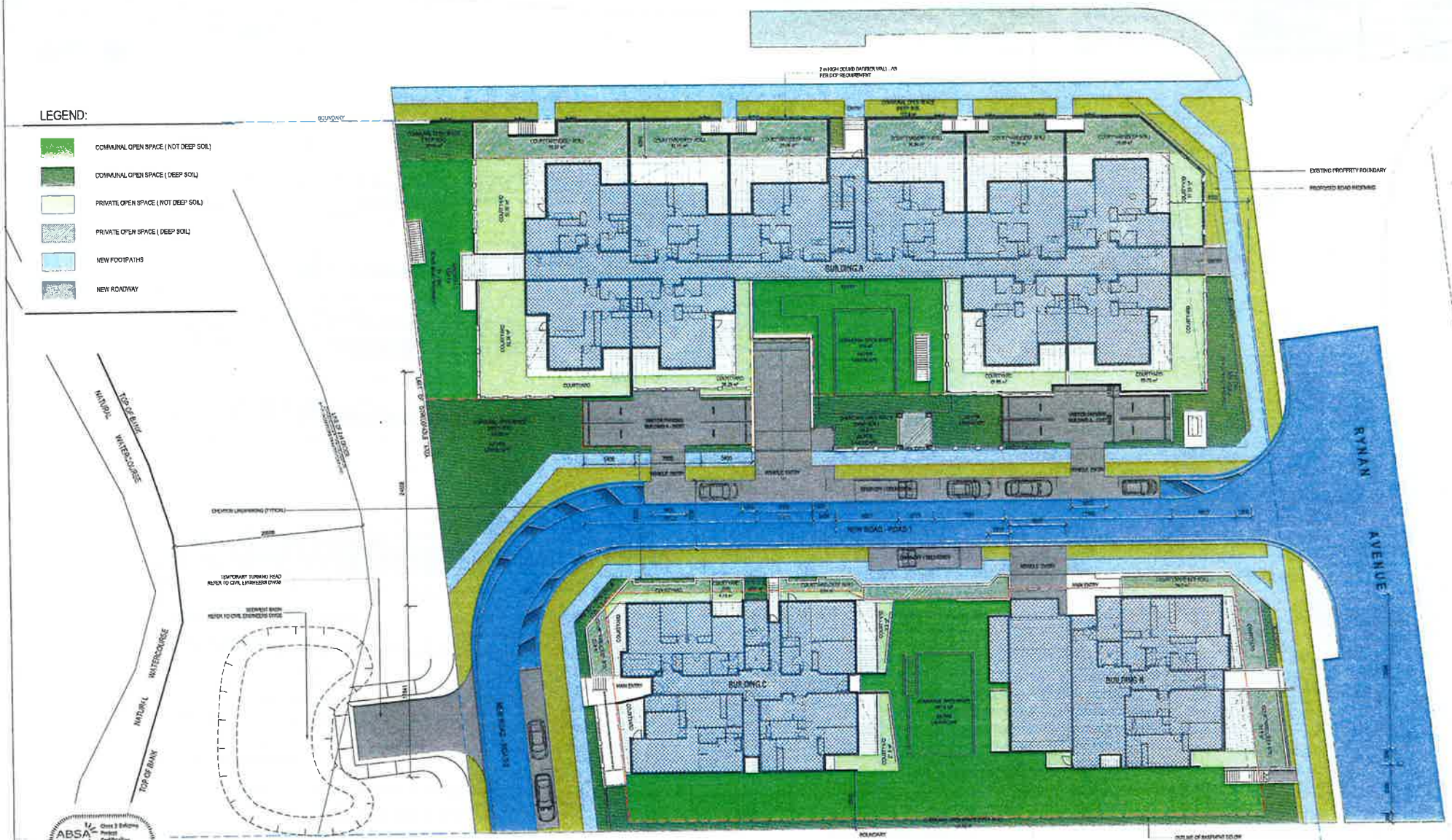
PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE: BASIX COMMITMENTS 1/2

JF | KA | 13-23665

A-1000 G

CAMDEN VALLEY WAY



1 SITE PLAN
1 : 200

TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE: SITE PLAN

CHKD: JF | DRAWN: ML | PROJECT No: 13-23655

DATE PLOTTED: 07/10/2014 | SCALE @ A1: 1 : 200 DOUBLE PER A3

DRAWING No. | Rev: A-1103 G

Date	Description	No.
6/6/2014	PRELIMINARY ISSUE	A
11/07/2014	PRELIMINARY ISSUE	B
18/07/2014	PRELIMINARY ISSUE	C
22/07/2014	PRELIMINARY ISSUE	D
29/07/2014	GENERAL REVISION FOR BOOSTER, SIGN & BRICK CORNER MINOR	E
08/08/2014	ISSUED FOR DA	F
15/09/2015	AMENDED DA	G

ABSA Class 2 Building Certificate 5.6/10

SCHEDULE OF BASIX COMMITMENTS

(iii) Thermal Comfort	Show on DA plans
(a) [illegible]	✓
(b) [illegible]	✓

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans
(b) [illegible] as specified in the table.	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓

(ii) Energy	Show on DA plans
(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.	✓

3. Commitments for Residential flat buildings - Building C

(a) Dwellings

(i) Water	Show on DA plans
(a) [illegible]	
(b) [illegible]	✓
(c) [illegible]	✓
(d) [illegible]	✓
(e) [illegible]	✓

(ii) Energy	Show on DA plans
(a) [illegible]	
(b) [illegible]	✓
(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.	

(iii) Energy	Show on DA plans
(i) [illegible]	✓

(iii) Thermal Comfort	Show on DA plans
(a) [illegible]	✓
(b) [illegible]	✓

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans
(a) [illegible]	
(b) [illegible]	✓
(c) [illegible]	✓
(d) [illegible]	
(e) [illegible]	
(f) [illegible]	

(ii) Energy	Show on DA plans
(c) [illegible]	✓

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

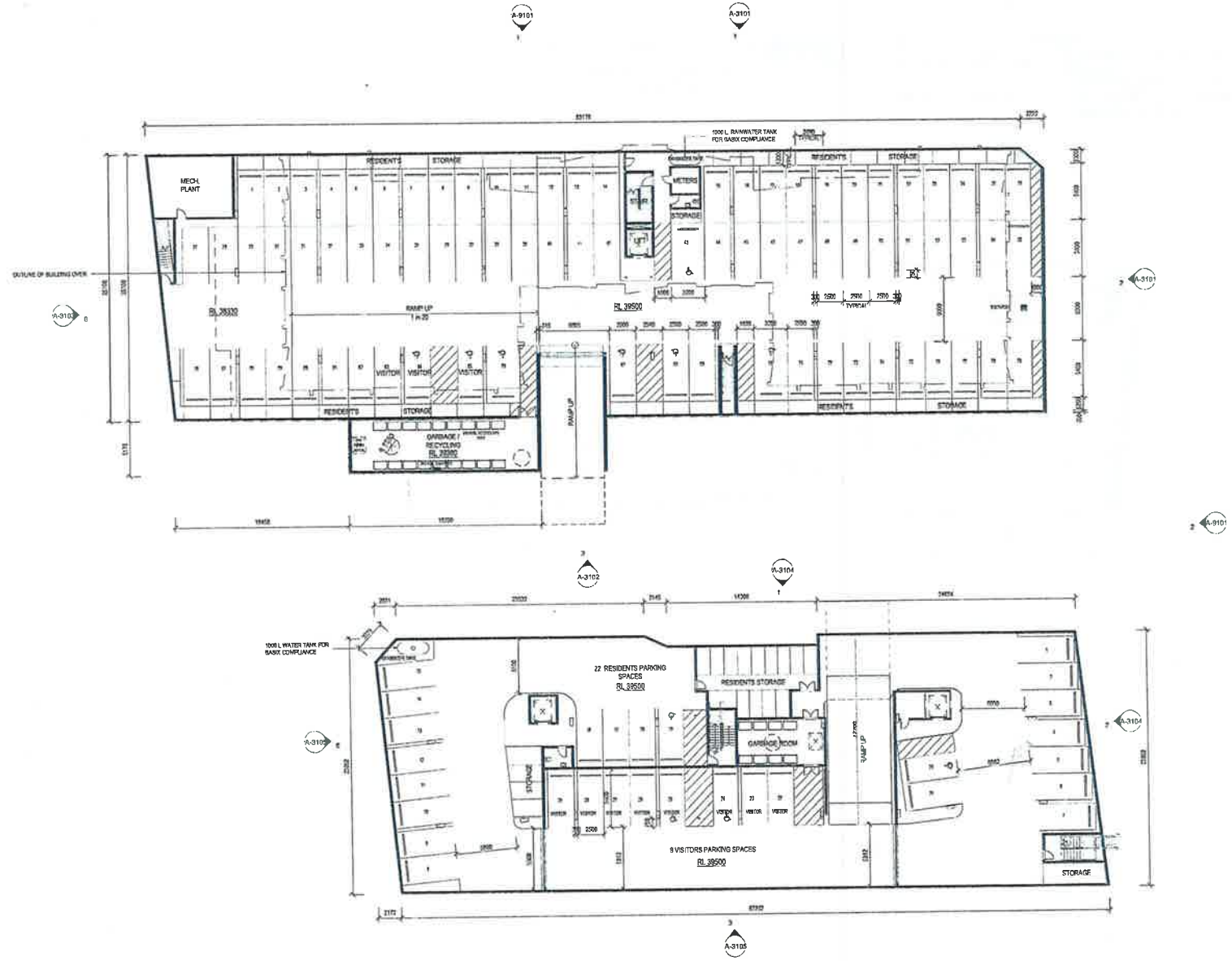
(b) Common areas and central systems/facilities

(i) Water	Show on DA plans
(b) [illegible]	✓
(c) [illegible]	✓

(ii) Energy	Show on DA plans
(c) [illegible]	✓

5 RYNAN AVENUE
EDMONDSON PARK, NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT	KMT CONSTRUCTIONS Pty Ltd
ARCHITECT	JOSHUA FARKASH & ASSOCIATES PTY LTD
PROJECT	PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK
DRAWING TITLE	BASIX COMMITMENTS 2/2
	JF / KA
	13-23685
	08/07/14
DRAWING No. / Rev	A-1001 G



1 BASEMENT PLAN
1 : 200

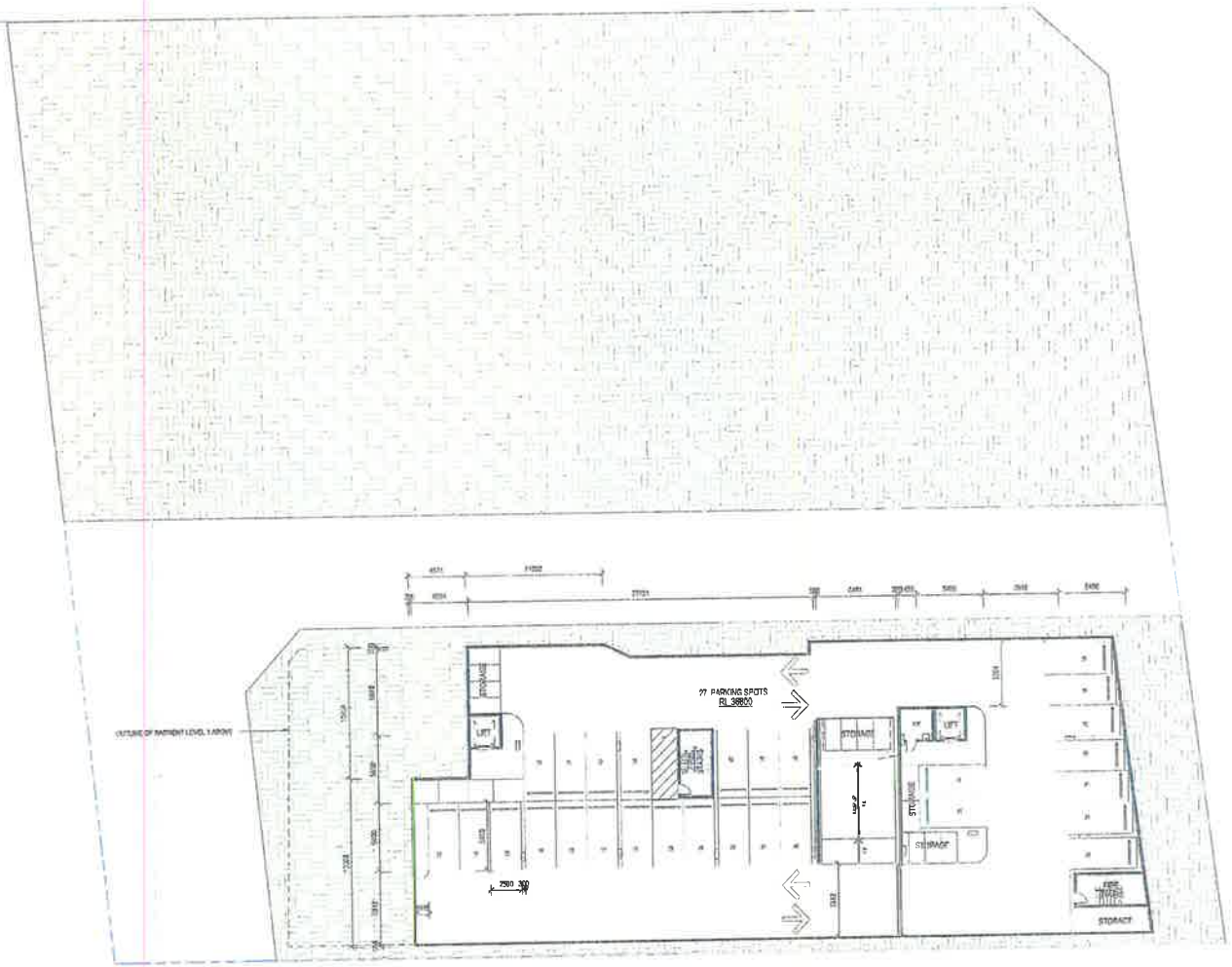
5 RYNAN AVENUE
EDMONDSON PARK , NSW

MULTI-UNIT RESIDENTIAL DEVELOPMENT

TRUE NORTH

CLIENT	KMT CONSTRUCTIONS Pty Ltd
ARCHITECT	JOSHUA FARKASH & ASSOCIATES PTY. LTD.
DRAWING	PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK
DRAWING TITLE	BASEMENT FLOOR PLAN - LEVEL B1
DRAWN	JF
CHECKED	K.A.
PROJECT No.	13-23665
DATE PLOTTED	07/10/2014
SCALE @ A1	1 : 200
DRAWING No. / Rev.	A-2101 G

Date	Description	No.
6/11/13	PRELIMINARY ISSUE	A
11/12/2013	PRELIMINARY ISSUE	B
19/02/2014	PRELIMINARY ISSUE	C
7/03/2014	PRELIMINARY ISSUE	D
26/07/2014	GENERAL REVISION PLAN PLOUGH, BASIX & BABIX COMPLIANCE	E
29/09/2014	ISSUED FOR DA	F
12/03/2015	AMENDED DA	G



1 BASEMENT 2
1 : 200

13/02/2014	PRELIMINARY ISSUE	A
19/06/2014	PRELIMINARY ISSUE	B
02/07/2014	PRELIMINARY ISSUE	C
20/07/2014	GENERAL REVISION FOR ACCESS, DCP & BASIX COMPLIANCE	D
09/09/2014	ISSUED FOR DA	F
12/09/2014	SUBMITTED DA	G

TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

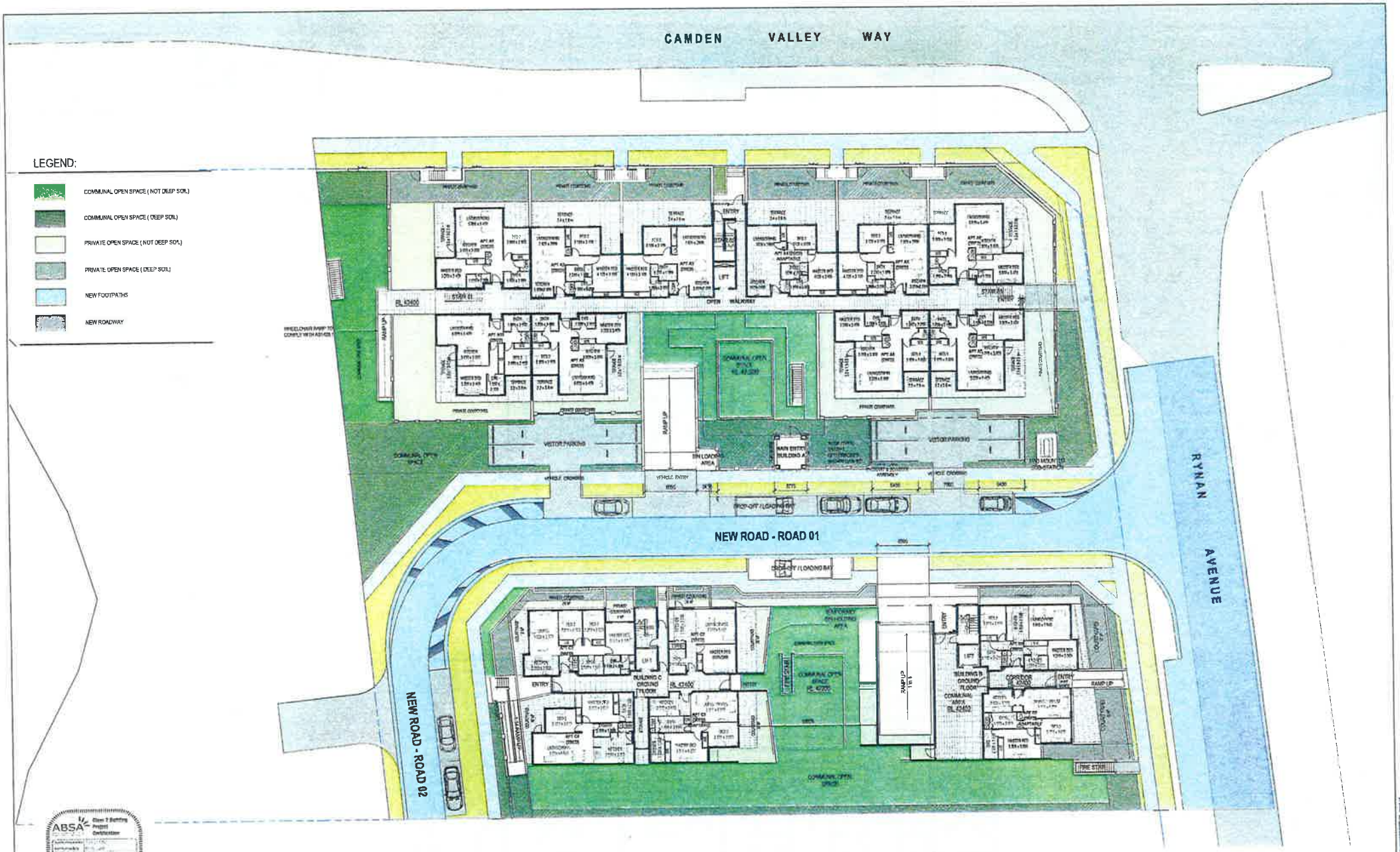
CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY LTD

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE: BASEMENT FLOOR PLAN - LEVEL B2

DRAWN	JF
CHKD	ML
DATE OF ISSUE	03/03/15
SCALE	1 : 200
PROJECT No.	13-2685
DRAWING No.	A-2101/AG



5 RYNAN AVENUE
EDMONDSON PARK , NSW

MULTI-UNIT RESIDENTIAL DEVELOPMENT

TRUE NORTH

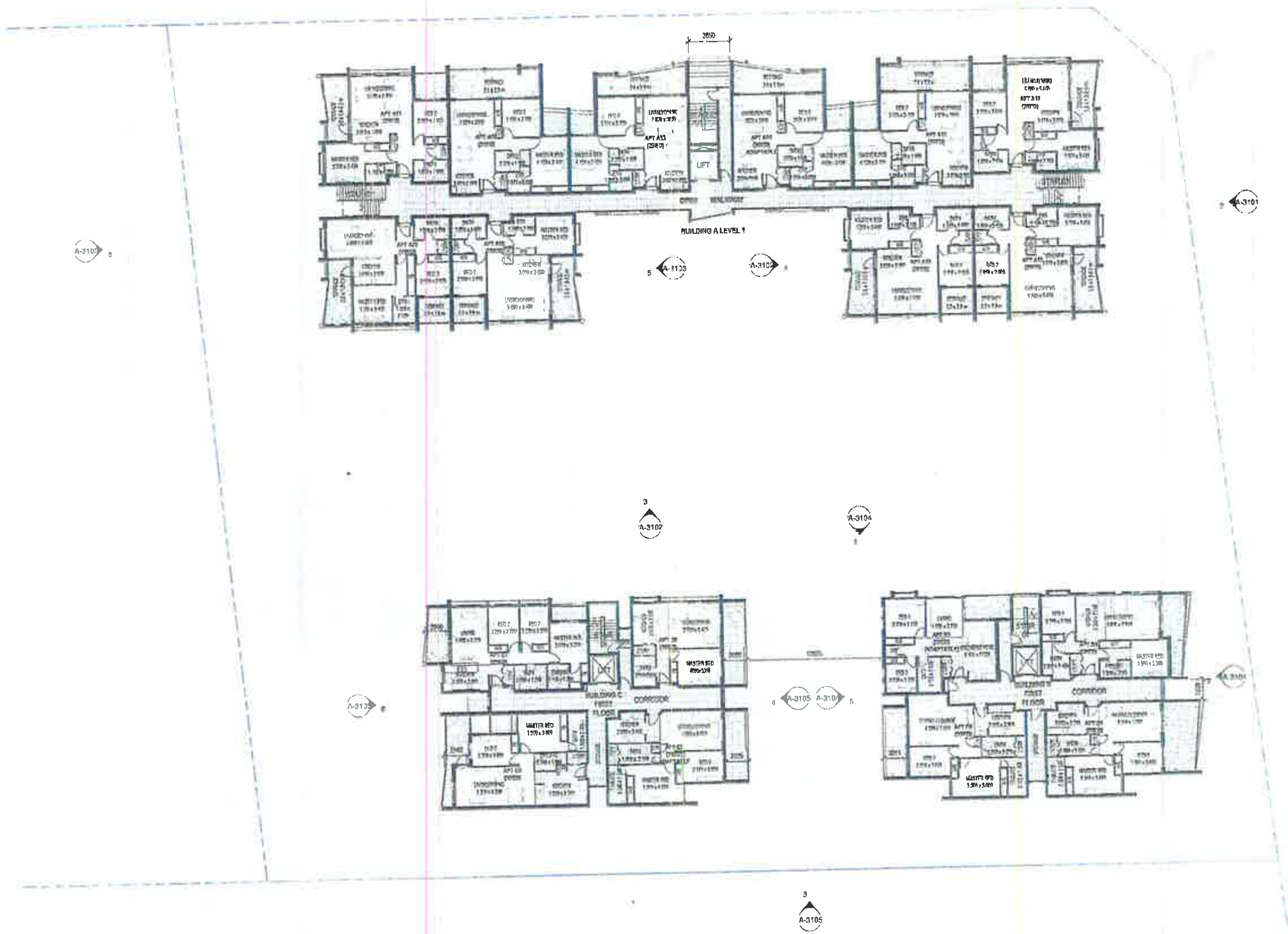
CLIENT
KMT CONSTRUCTIONS Pty Ltd

ARCHITECT
JOSHUA FARKASH & ASSOCIATES PTY. LTD

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE
GROUND FLOOR PLAN

CHKD JF | DRAWN KA | PROJECT No. 113-23695
DATE PLOTTED 07/10/2014 | SCALE @ A1 1 : 200
DRAWING No. / Rev. A-2102 G



5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

KMT CONSTRUCTIONS Pty Ltd

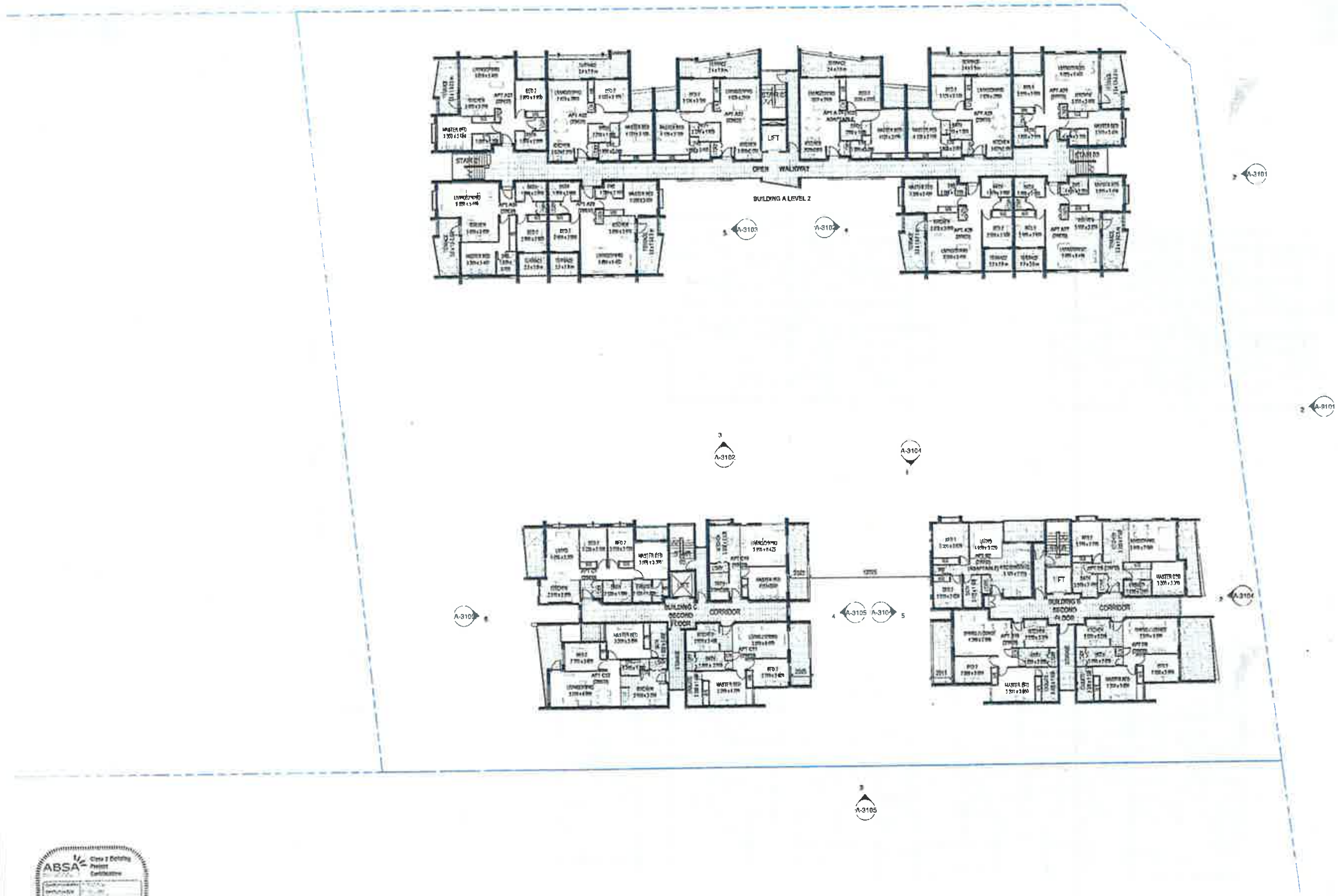
JOSHUA FARKASH & ASSOCIATES PTY LTD

PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

LEVEL 1 FLOOR PLAN

07/10/2014

A-2103 G



1 LEVEL 2
1 : 200

N
TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

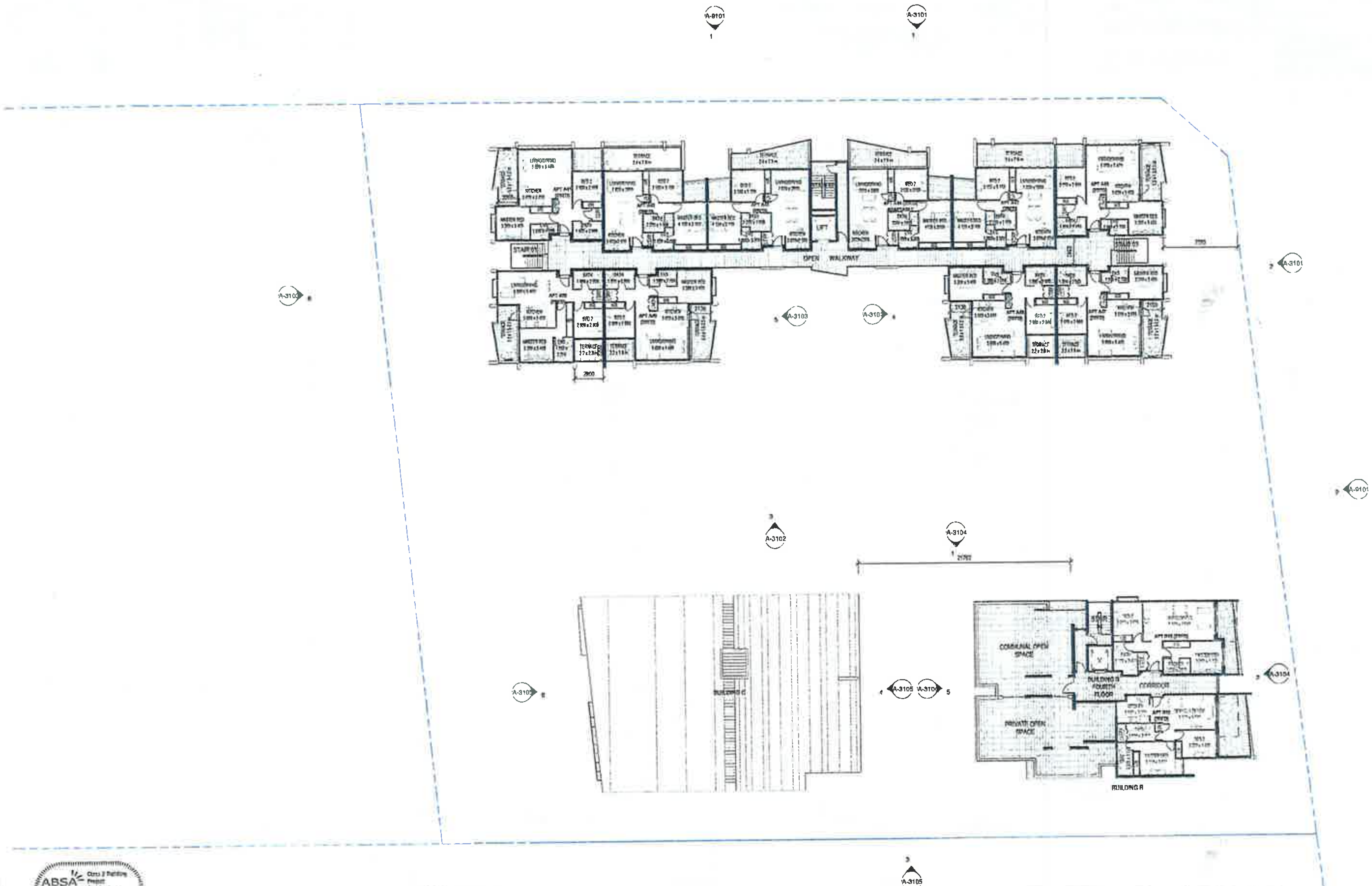
DRAWING TITLE: LEVEL 2 FLOOR PLAN

CHK'D	DRAWN	PROJECT No
JF	KA	13-23665
DATE PLOTTED	SCALE @ A1	
07/10/2014	1 : 200	

DRAWING No. / Rev.
A-2104 G

5 RYNAN AVENUE EDMONDSON PARK , NSW MULTI-UNIT RESIDENTIAL DEVELOPMENT	KMT CONSTRUCTIONS Pty Ltd JOSHUA FARKASH & ASSOCIATES PTY LTD	PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK LEVEL 3 FLOOR PLAN
		DATE 07/10/2014 A-2105 G

TRUE NORTH



1 LEVEL 4
1 : 200

ABSA Class 2 Building Project Certification
5.6/10

TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD

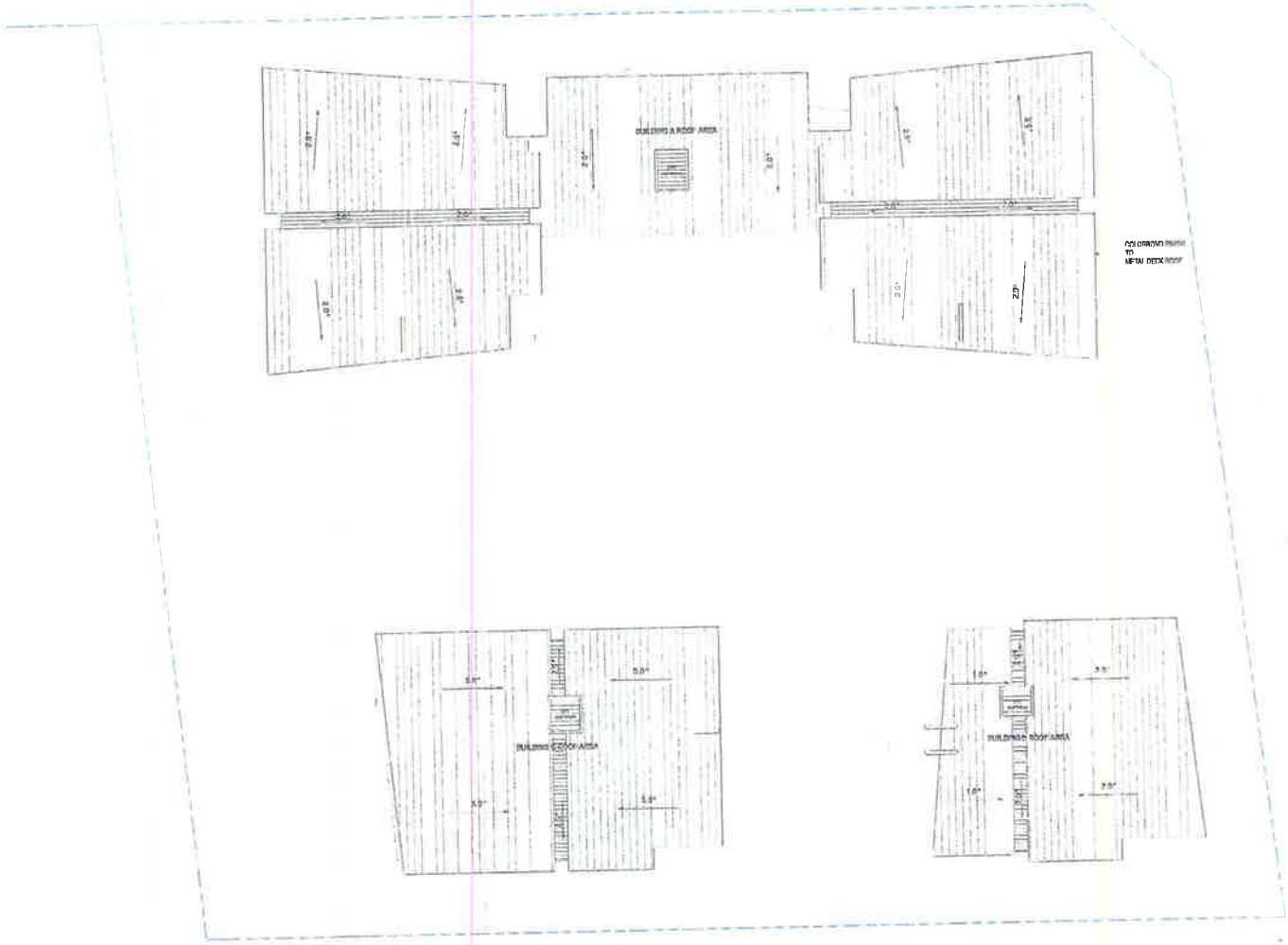
PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE: LEVEL 4 FLOOR PLAN

CHK'D	DRAWN	PROJECT No.
JF	K.A.	13-23865

DATE PLOTTED: 07/10/2014
SCALE @ A1: 1 : 200

A-2106 G



1 ROOF PLAN
1:200

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

TRUE NORTH

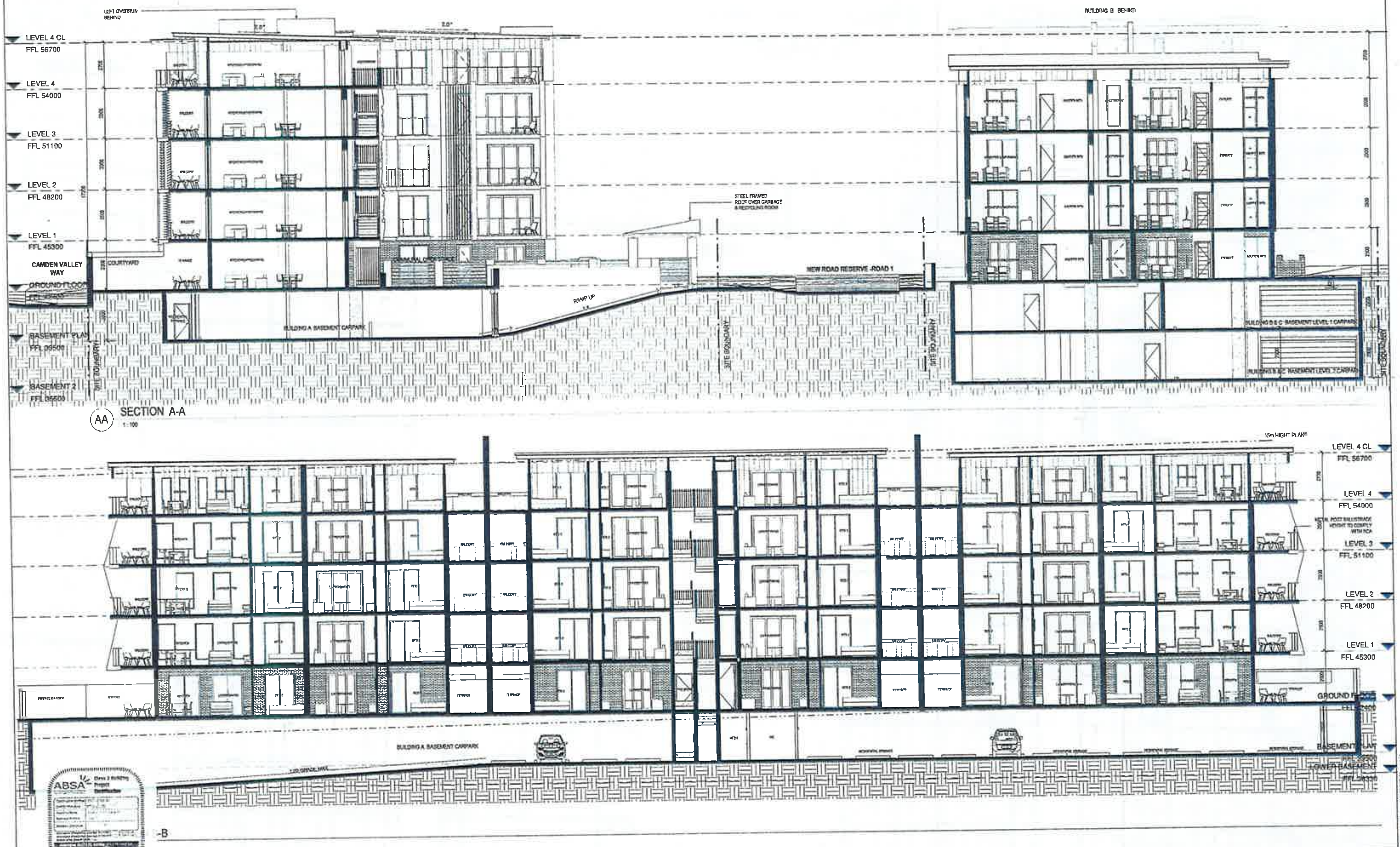
KMT CONSTRUCTIONS Pty Ltd

JOSHUA FARKASH & ASSOCIATES PTY LTD

PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

ROOF PLAN

A-2107 G



5 RYNAN AVENUE
EDMONDSON PARK , NSW

MULTI-UNIT RESIDENTIAL DEVELOPMENT

KMT CONSTRUCTIONS Pty Ltd

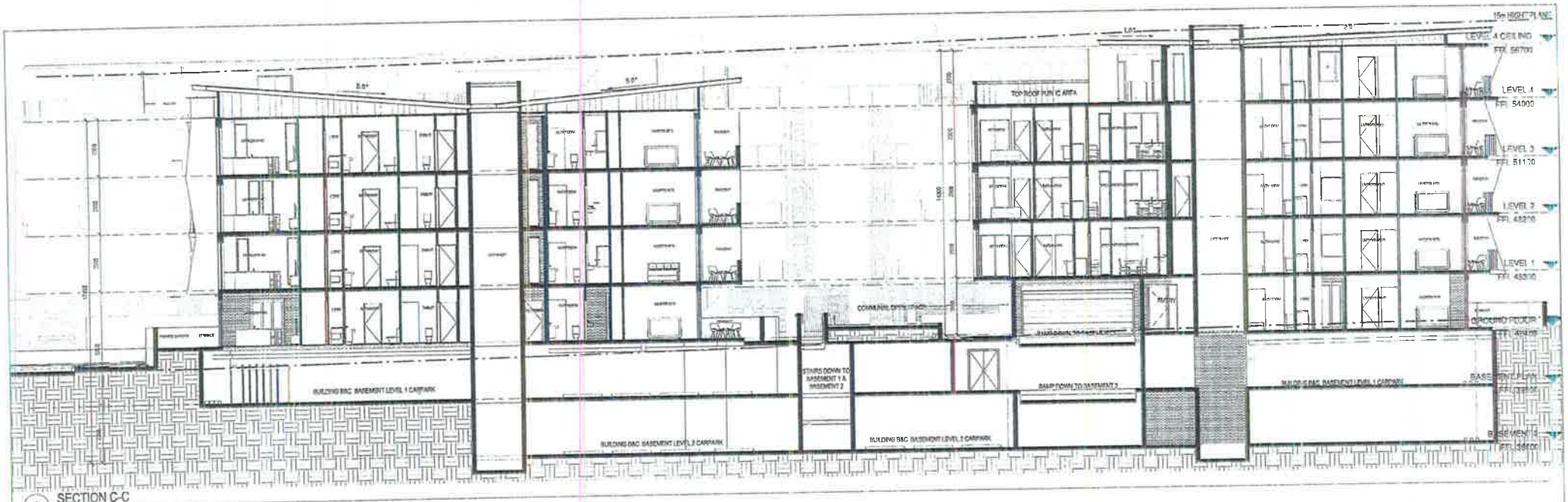
JOSHUA FARKASH & ASSOCIATES PTY. LTD

PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

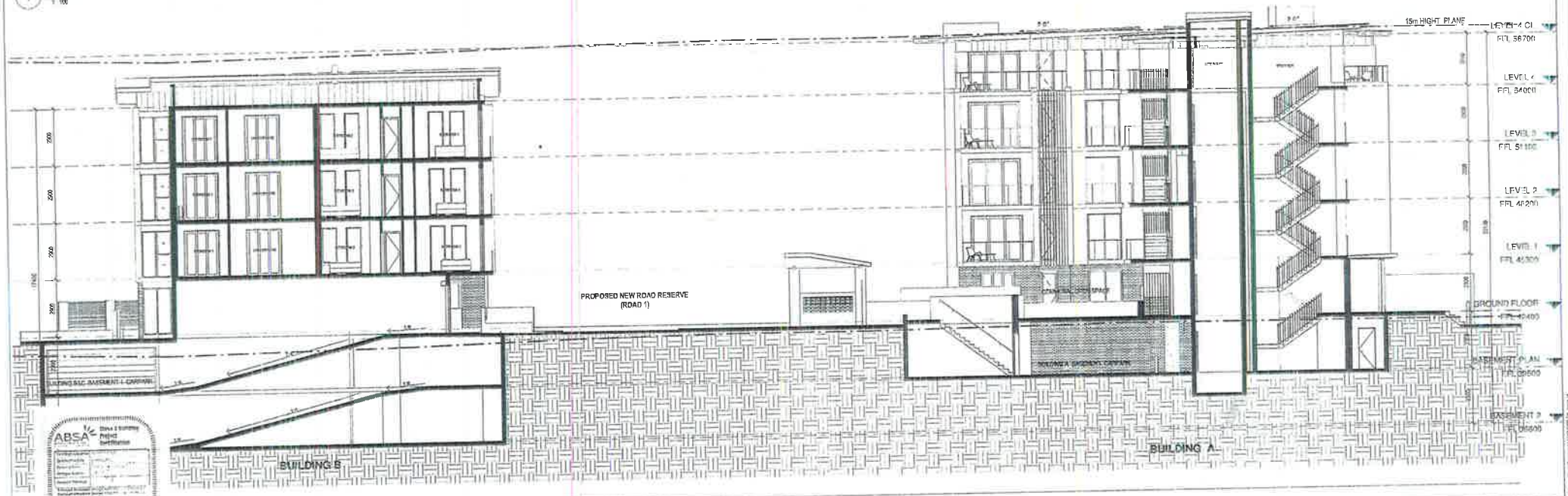
SECTION A-A & B-B

JF	KA	13-23865
07/10/2014	1 : 100	

A-4101 G

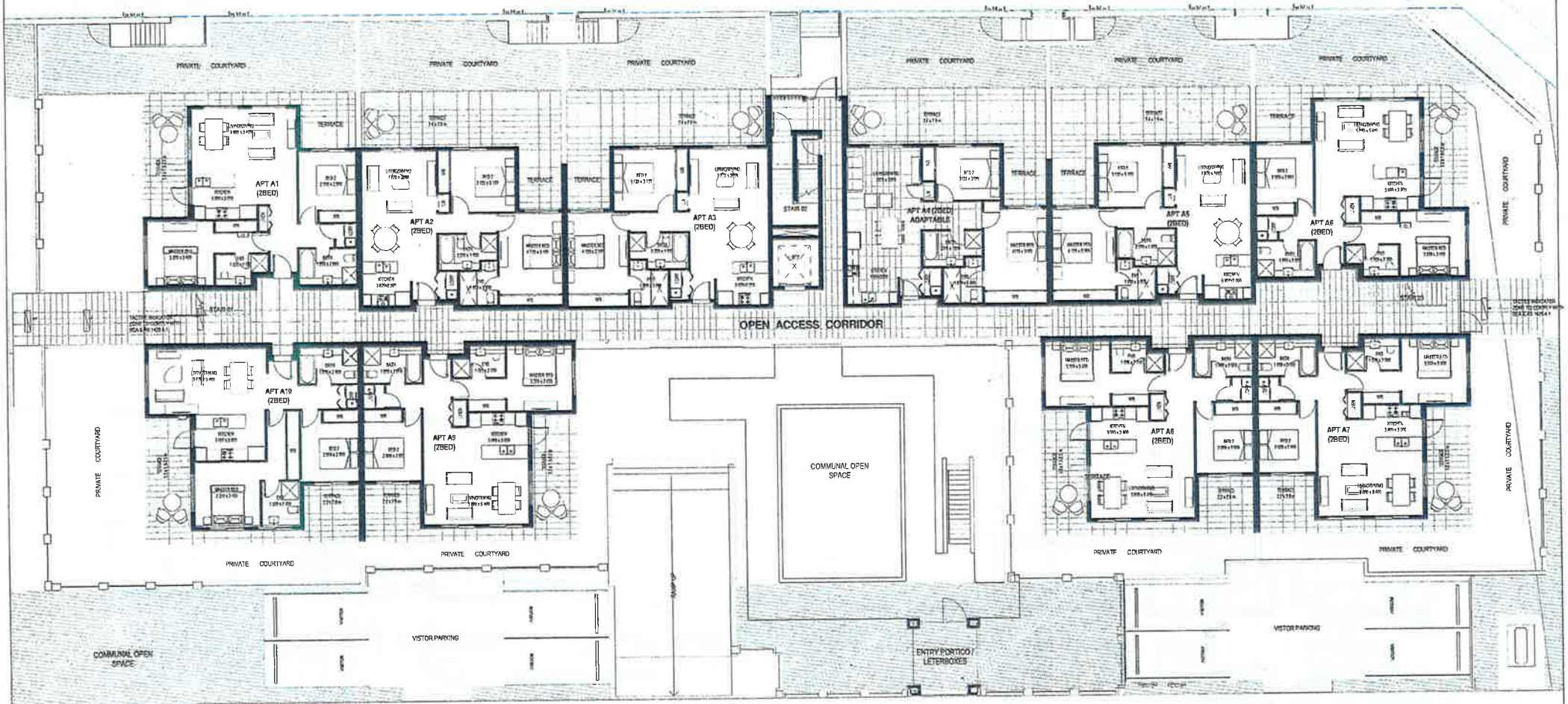


1 SECTION C-C
1 : 100



ABSA Stage 3 Building Practical Completion
56/10

5 RYNAN AVENUE EDMONDSON PARK , NSW MULTI-UNIT RESIDENTIAL DEVELOPMENT	CLIENT: KMT CONSTRUCTIONS Pty Ltd	PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE EDMONDSON PARK
	ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY LTD	DRAWING TITLE: SECTION C-C & D-D
		DRAWING NO: A-4102 G



GROUND FLOOR - BUILDING A

1 : 100

5.6/10

No	Date	Description	By
A	4/02/14	PRELIMINARY ISSUE	
B	1/05/2014	PRELIMINARY ISSUE	
C	16/05/2014	PRELIMINARY ISSUE	
D	02/07/2014	PRELIMINARY ISSUE	
E	29/07/2014	GENERAL REVISION FOR PLANNING, BCA & BASIX COMPLIANCE	
F	05/08/2014	ISSUED FOR DA	
G	12/09/2013	AMENDED DA	

TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT: KMT CONSTRUCTIONS Pty Ltd

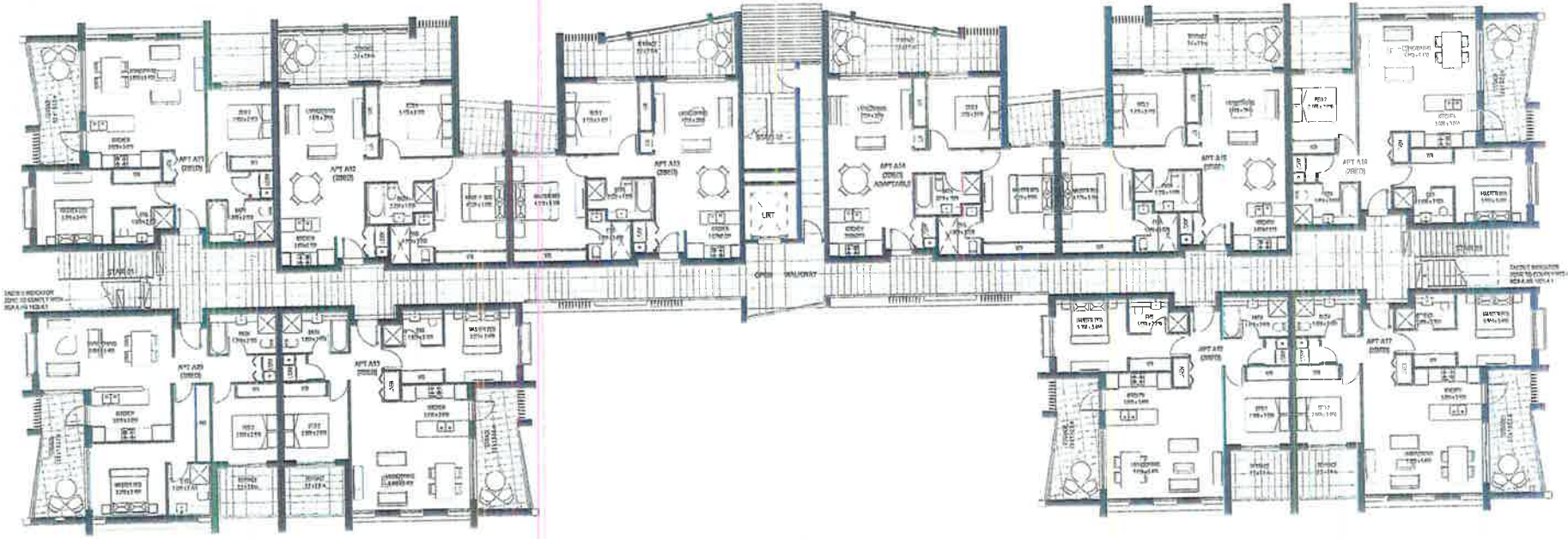
ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD.

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE: BUILDING A - GROUND FLOOR

DESIGN	DRAWN	PROJECT No
JF	KA	13-23685
DATE PLOTTED	SCALE @A1	
07/10/2014	1 : 100	
	SCALE FOR A3	

DRAWING No. / Rev.: A-2108 G



1 BUILDING A - TYPICAL FLOOR
1 : 100

5 RYNAN AVENUE
EDMONDSON PARK , NSW

MULTI-UNIT RESIDENTIAL DEVELOPMENT

TRUE NORTH

CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD

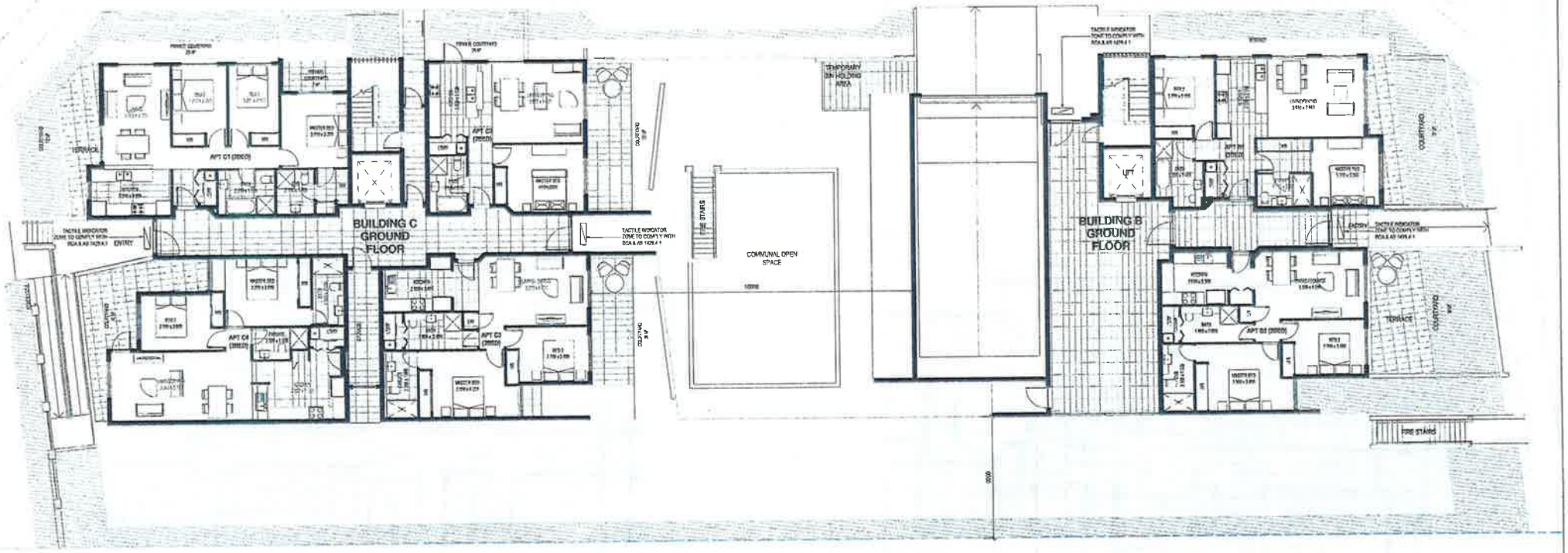
PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE: BUILDING A - TYPICAL FLOOR

DRAWN: JF | CHECKED: ML | PROJECT No: 13-0985

DATE PLOTTED: 07/10/2014 | SCALE: 1:100 @ A1

DRAWING No: A-2110 | REVISION: G



D FLOOR - BUILDING B & C

ABSA 5.6/10

No.	Date	Description	Rev.
	4/07/14	PRELIMINARY ISSUE	A
	11/07/2014	PRELIMINARY ISSUE	B
	16/07/2014	PRELIMINARY ISSUE	C
	23/07/2014	PRELIMINARY ISSUE	D
	28/07/2014	GENERAL REVISIONS FOR ADDITIONAL DDA & BASIX COMPLIANCE	E
	29/09/2014	REVISED FOR DA	F
	1/10/2014	AMENDED DA	G

TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK , NSW

MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT
KMT CONSTRUCTIONS Pty Ltd

ARCHITECT
JOSHUA FARKASH & ASSOCIATES PTY. LTD

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE
BUILDING B & C - GROUND FLOOR

CHKD	DRAWN	PROJECT No.
JF	ML	13-23685
DATE IN LETTER	SCALE @ A1	
07/10/2014	1:100	

DRAWING No. / Rev.
A-2109 G

1 BUILDINGS B & C - TYPICAL FLOOR
1 : 100

5 RYNAN AVENUE
EDMONDSON PARK , NSW

MULTI-UNIT RESIDENTIAL DEVELOPMENT

CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD.

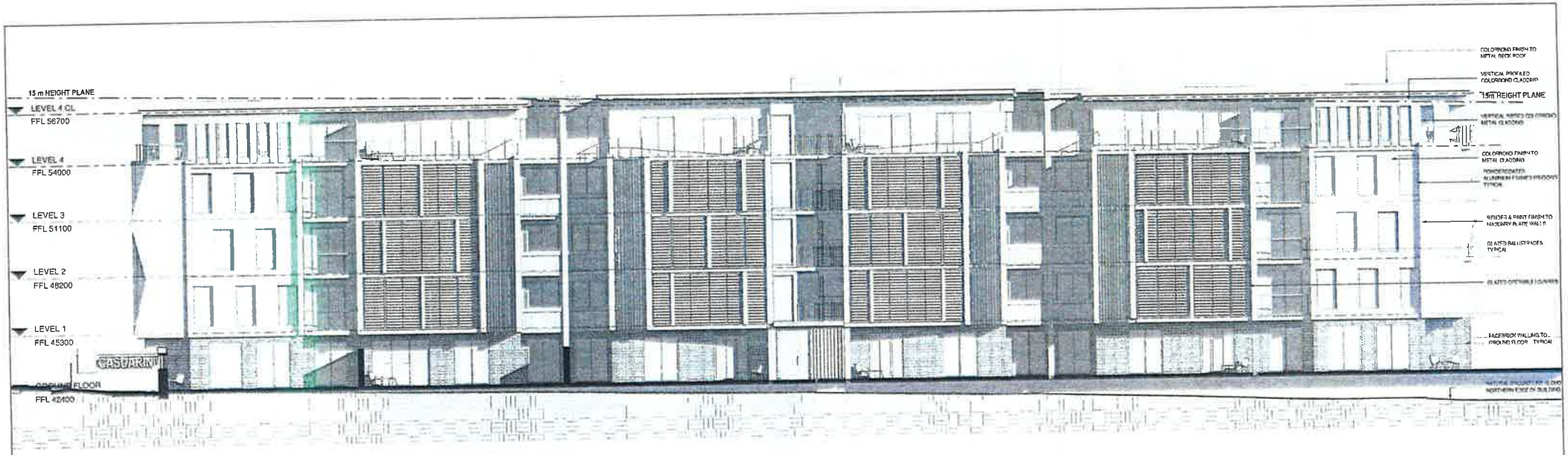
DRAWING: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE: BUILDING B & C TYPICAL FLOOR

DRAWING NO: A-2111

REVISION: C

TRUE NORTH



1 NORTH ELEVATION - BUILDING A
1:100

ELEVATION - BUILDING A

NOTES.
BUSHFIRE ATTACK LEVELS (BAL) BUILDING A IS TO BE CONSTRUCTED TO BAL 19 AS PER AS 3959 ON THE NORTHERN A EASTERN ELEVATION AND ON THE WESTERN & SOUTHERN ELEVATION TO BAL-29 REFER TO BUSHFIRE PROTECTION ASSESSMENT DATED ON 26/08/2014

ABSA 5 of 10

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

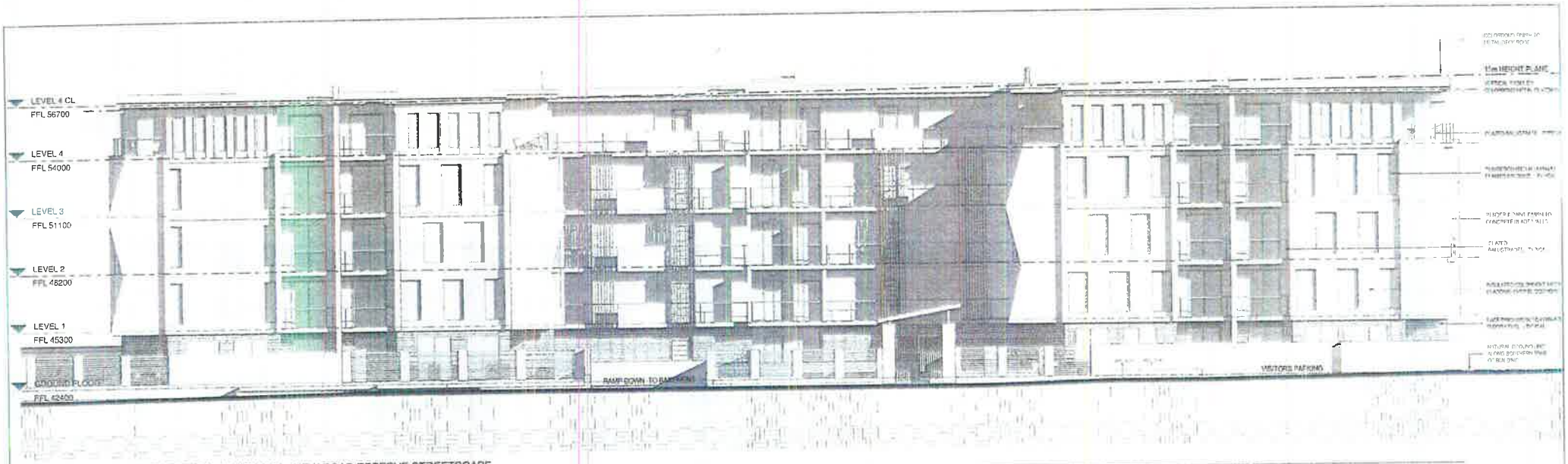
KMT CONSTRUCTIONS Pty Ltd

JOSHUA FARKASH & ASSOCIATES PTY. LTD.

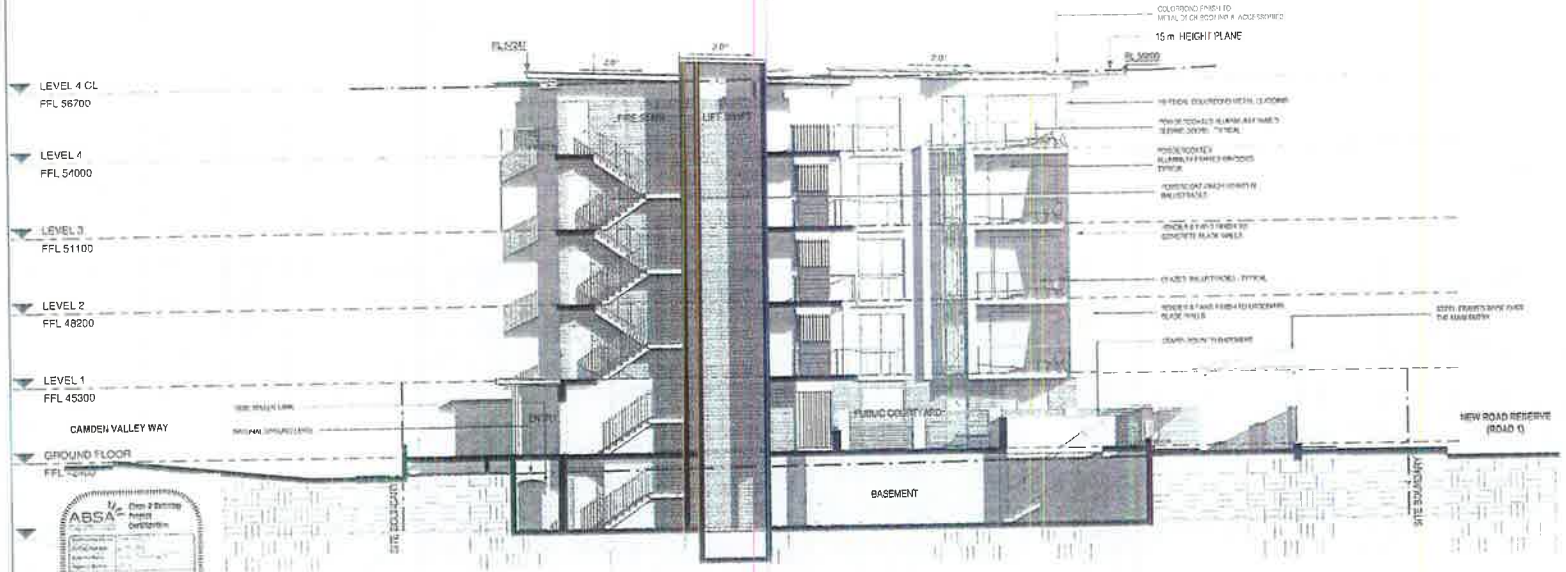
PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

ELEVATIONS - BUILDING A 1/3

DRAWN JF | CHKD ML | PROJECT NO. 13-23665
PLOT DATE 07/10/2014
DRAWING NO. A-3101 G



3 SOUTH ELEVATION - BUILDING A - NEW ROAD RESERVE STREETSCAPE
1:100



ATION - BUILDING A - COURTYARD VIEW

NOTES
BUSHFIRE ATTACK LEVELS (BAL) BUILDING A IS TO BE CONSTRUCTED TO BAL 19 AS PER AS 3959
ON THE NORTHERN & EASTERN ELEVATION AND ON THE WESTERN & SOUTHERN ELEVATION TO
BAL-29 REFER TO BUSHFIRE PROTECTION ASSESSMENT DATED ON 26/09/2014

ABSA Class 2 Building Permit Certification 5.6.15

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

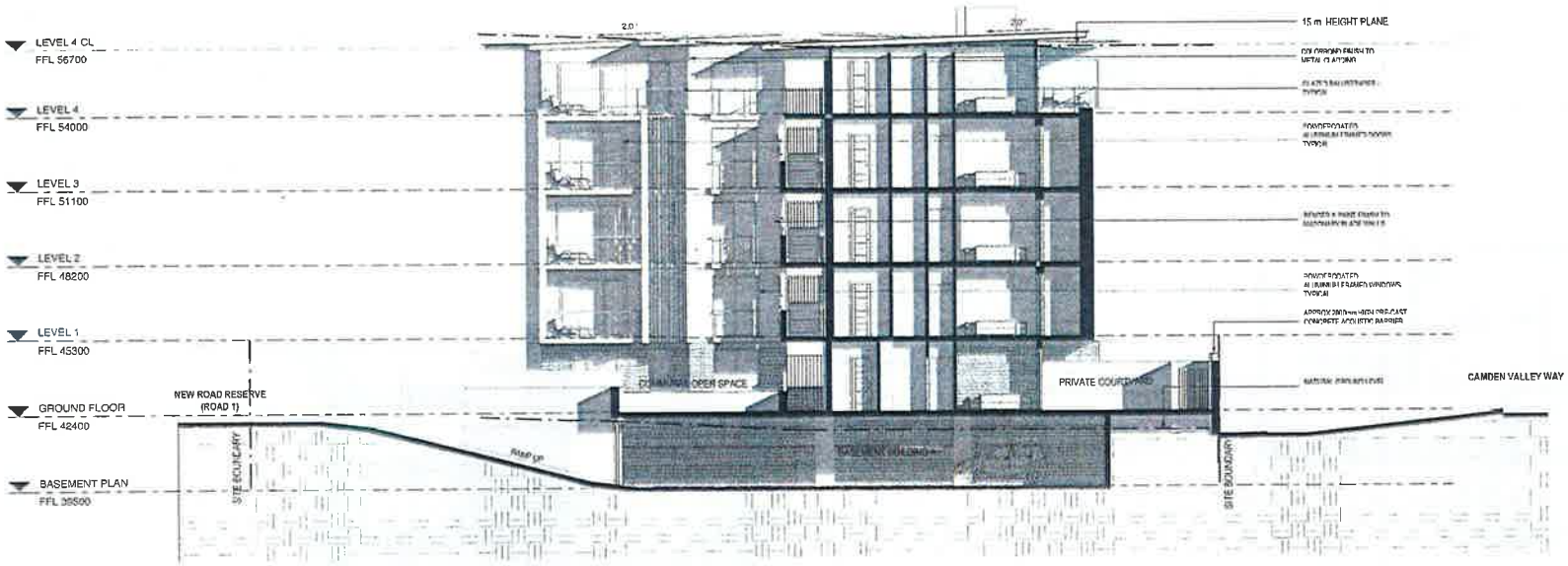
CLIENT: KMT CONSTRUCTIONS Pty Ltd

ARCHITECT: JOSHUA FARKASH & ASSOCIATES PTY. LTD

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

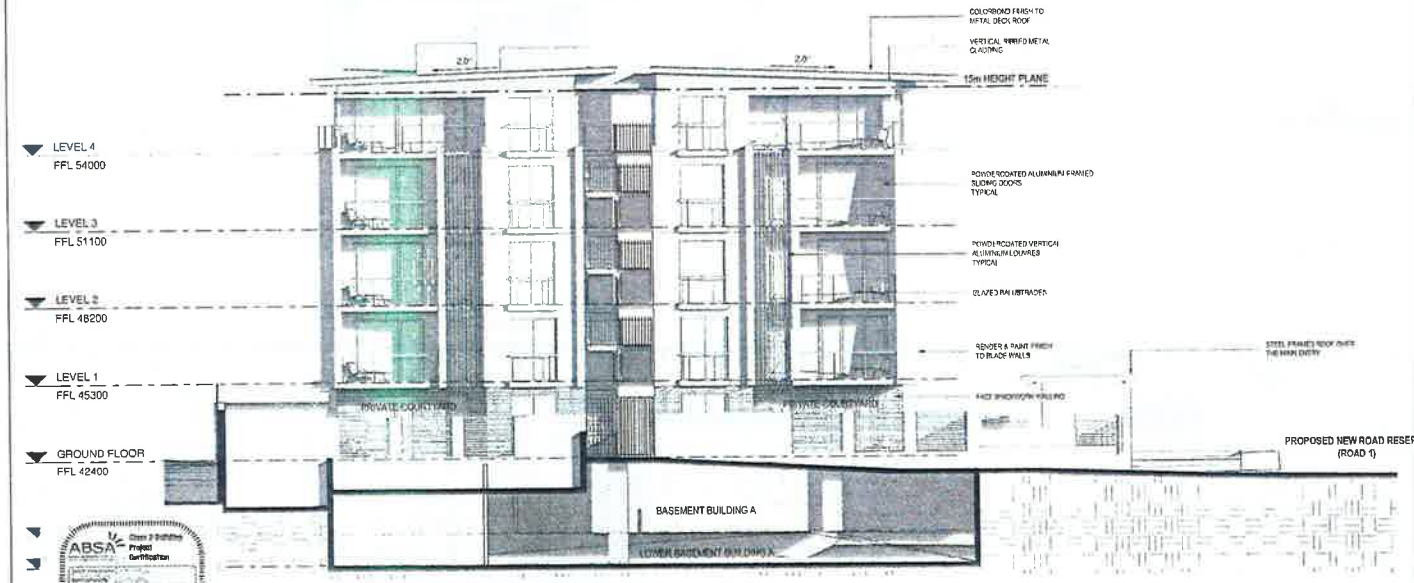
DRAWING TITLE: ELEVATIONS - BUILDING A 2/3

DRAWING NO: A-3102 G



5 EAST EVELATION - BUILDING A -COURTYARD VIEW

1 : 100



WEST ELEVATION - BUILDING A

1 : 100

ABSA Class 3 Definitive Project Certification

5.6/10

TRUE NORTH

5 RYNAN AVENUE
EDMONDSON PARK, NSW

RESIDENTIAL DEVELOPMENT - DEVELOPMENT APPLICATION

CLIENT
KMT CONSTRUCTIONS Pty Ltd

ARCHITECT
JOSHUA FARKASH & ASSOCIATES PTY LTD.
LEVEL 4
479 KENT STREET
SYDNEY NSW 2000
TEL (02) 9264 5466
FAX (02) 9264 5467
EMAIL: admin@farkash.com.au

DRAWING TITLE
PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

DRAWING TITLE
ELEVATIONS-BUILDING A 3/3

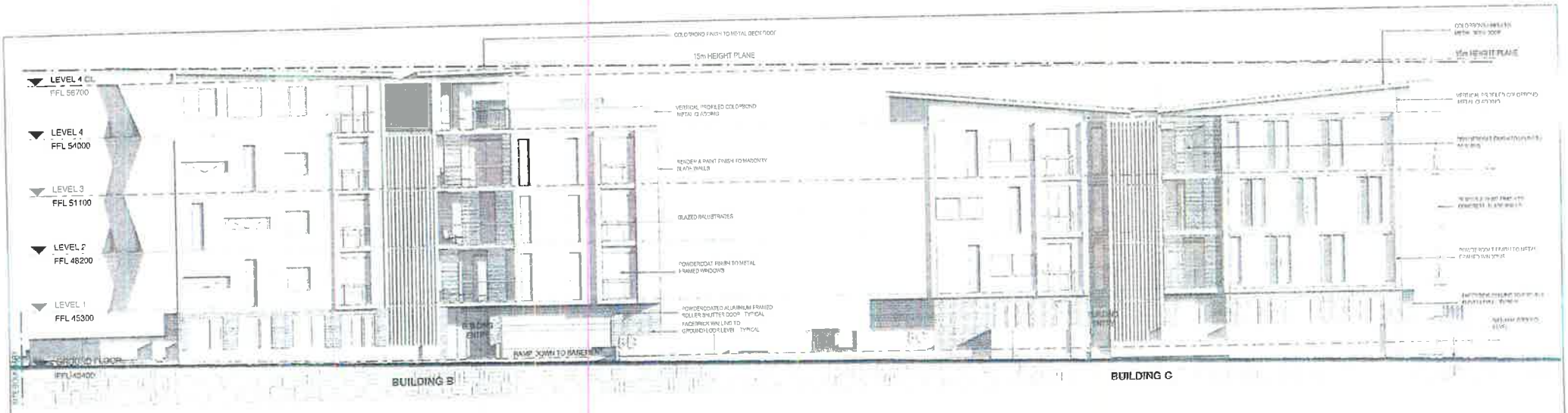
DRAWN | CHECKED | PROJECT
Author | Check | 13-2365

DATE PLOTTED
04/09/15

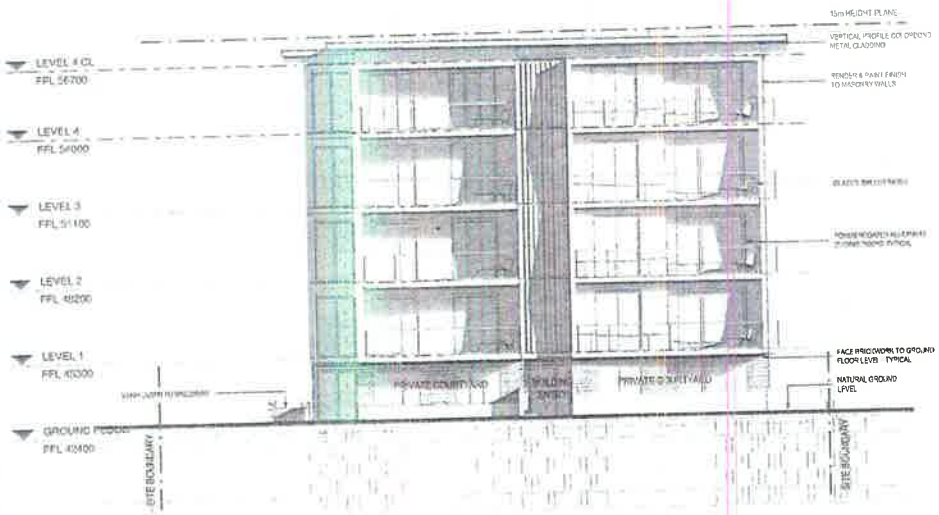
SCALE (A1)
1 : 100
DOUBLE FOR A3

DRAWING NO.
A-3103

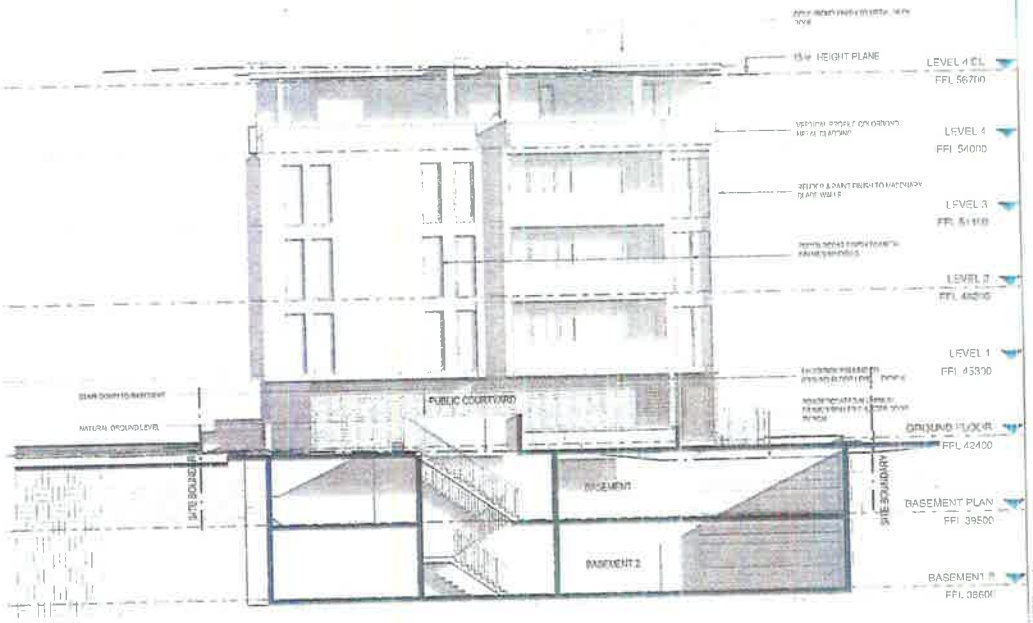
REVISION
G



1 NORTH ELEVATION - BUILDINGS B & C - NEW ROAD RESERVE STREETSCAPE



- BUILDING B



5 WEST ELEVATION - BUILDING B

ABSA

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

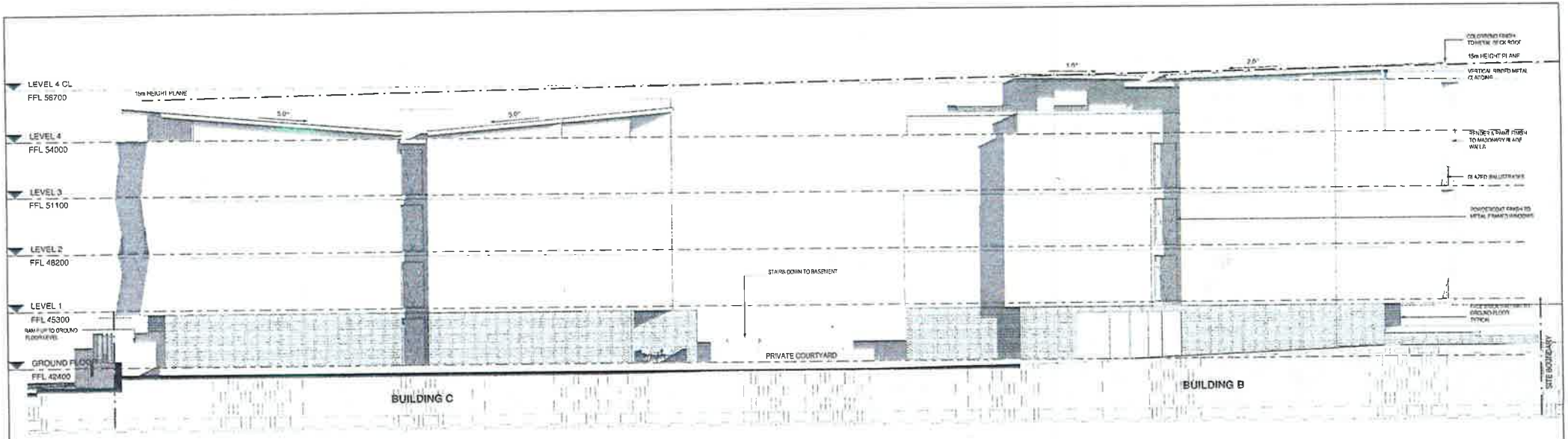
KMT CONSTRUCTIONS Pty Ltd

JOSHUA FARKASH & ASSOCIATES PTY. LTD.

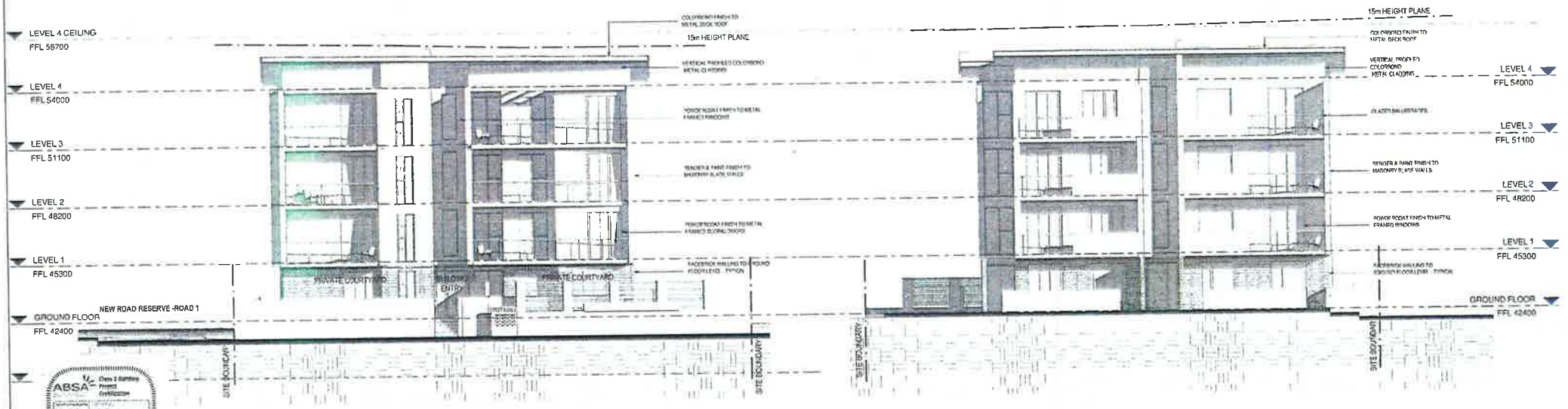
PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

ELEVATIONS - BUILDINGS B & C 1/2

A-3104



3 SOUTH ELEVATION - BUILDINGS B & C
1:100



VATION - BUILDING C

4 EAST ELEVATION BUILDING C
1:100

ABSA Class 2 Building Project Certification
5.6/10

5 RYNAN AVENUE
EDMONDSON PARK , NSW
MULTI-UNIT RESIDENTIAL DEVELOPMENT

KMT CONSTRUCTIONS Pty Ltd

JOSHUA FARKASH & ASSOCIATES PTY LTD.

PROPOSED RESIDENTIAL DEVELOPMENT AT 5 RYNAN AVENUE, EDMONDSON PARK

ELEVATIONS - BUILDINGS B & C 2/2

JF | KA | 13-23665

07/10/2014

A-3105 G