ATTACHMENT 3

APPLICATION & PLANS
DEVELOPMENT APPLICATION FORM

COUNCIL: DEVELOPMENT ASSESSMENT COMMISSION

APPLICANT: DEVONPORT APARTMENTS PTY LTD
Postal Address: C/- MASTERPLAN SA PTY LTD
33 CARRINGTON STREET, ADELAIDE, SA 5000

OWNER: DEVONPORT APARTMENTS PTY LTD
Postal Address: 214 MELBOURNE STREET, NORTH ADELAIDE SA 5006

BUILDER: TBA
Postal Address:
Licence No:

CONTACT PERSON FOR FURTHER INFORMATION:
Name: SIMON TONKIN-MASTERPLAN SA PTY LTD
Telephone: 8193 5600
Facsimile: 8221 6001
Mobile: 0413 832 600

EXISTING USE: RESIDENTIAL

FOR OFFICE USE
Development No:
Previous Development No:
Assessment No:
☐ Complying
☐ Non-complying
☐ Notification Cat 2
☐ Notification Cat 3
☐ Referrals/Concurrence
☐ DA Commission
Application forwarded to DA
Commission/Council on:
Decision:
Type:
Date:

Planning:

Building:

Land Division:

Additional:

Dev Approval:

Decision Fees Receipt No Date

DESCRIPTION OF PROPOSED DEVELOPMENT: FIVE STOREY RESIDENTIAL FLAT BUILDING

LOCATION OF PROPOSED DEVELOPMENT: 189 DEVONPORT TERRACE, PROSPECT SA 5082
House No: 189 Lot No: 28 Street: DEVONPORT TERRACE
Section No (full/part): __________ Hundred: __________ Volume: 5405 Fello: 93
Section No (full/part): __________ Hundred: __________ Volume: ________ Fello: ________

BUILDING RULES CLASSIFICATION SOUGHT:
If Class 5, 6, 7, 8 or 9 classification is sought, state the proposed number of employees:
Female: __________ Male: __________
If Class 9a classification is sought, state the number of persons for whom accommodation is required:
If Class 9b classification is sought, state the proposed number of occupants of the various spaces at the premises:

DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATIONS 2008 APPLY?

HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 1993 LEVY BEEN PAID?

DEVELOPMENT COST (Do not include any fill-out costs): $3.15 MILLION

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 2008.

SIGNATURE: ____________________________ Dated: 23 NOVEMBER 2015
FOR AND ON BEHALF OF DAVID TONELLATO
DEVELOPMENT REGULATIONS 2008
Form of Declaration
(Schedule 5, Clause 2A)

To: Development Assessment Commission

From: David Tonellato c/- Masterplan SA Pty Ltd

Date of Application: 23 November 2015

Location of Proposed Development:

House Number: 189
Street: Devonport Terrace
Section No (full/part): 5405

Lot Number: 28
Town/Suburb: Prospect
Hundred: Yatala
Folio: 93

Nature of Proposed Development:

Five Storey Residential Flat Building and associated works.

I, David Tonellato being a person acting on behalf of the applicant for the development described above, declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of Section 86 of the Electricity Act 1996. I make this declaration under Clause 2A(1) of Schedule 5 of the Development Regulations 2008.

23 November 2015

Date

Signed

Note

This declaration is only relevant to those development applications seeking authorisation for a form of development that involves the construction of a building (there is a definition of 'building' contained in Section 4(1) of the Development Act 1993), other than where the development is limited to:

• an internal alteration of a building; or
• an alteration to the walls of a building but not so as to alter the shape of the building.
Note 2

The requirements of Section 86 of the Electricity Act 1996 do not apply in relation to:

• a fence that is less than 2.0 m in height; or
• a service line installed specifically to supply electricity to the building or structure by the operator of the transmission or distribution network from which the electricity is being supplied.

Note 3

Section 86 of the Electricity Act 1996 refers to the erection of buildings in proximity to powerlines. The regulations under this Act prescribe minimum safe clearance distances that must be complied with.

Note 4

The majority of applications will not have any powerline issues, as normal residential setbacks often cause the building to comply with the prescribed powerline clearance distances. Buildings/renovations located far away from powerlines, for example towards the back of properties, will usually comply.

Particular care needs to be taken where high voltage powerlines exist; where the development:

• is on a major road;
• commercial/industrial in nature; or
• built to the property boundary.

Note 5

Information brochures ‘Powerline Clearance Guide’ and ‘Building Safely Near Powerlines’ have been prepared by the Technical Regulator to assist applicants and other interested persons. Copies of these brochures are available from Council and the Office of the Technical Regulator. The brochures and other relevant information can also be found at www.technicalregulator.sa.gov.au

Note 6

In cases where applicants have obtained a written approval from the Technical Regulator to build the development specified above in its current form within the prescribed clearance distances, the applicant is able to sign the form.
Certificate of Title - Volume 5405 Folio 93

Parent Title(s)  CT 1416/158

Dealing(s)  CONVERTED TITLE

Creating Title

Title Issued  18/03/1997

Edition  2

Edition Issued  24/03/1997

Estate Type

FEE SIMPLE

Registered Proprietor

CHING PUI CHEUNG
HONG GUAN
OF 189 DEVONPORT TERRACE PROSPECT SA 5082
AS JOINT TENANTS

Description of Land

ALLOTMENT 28 FILED PLAN 110507
IN THE AREA NAMED PROSPECT
HUNDRED OF YATALA

Easements

NIL

Schedule of Dealings

Dealing Number  Description
8219110   MORTGAGE TO AUSTRALIA & NEW ZEALAND BANKING GROUP LTD.

Notations

Dealings Affecting Title

NIL

Priority Notices
NIL

Notations on Plan
NIL

Registrar-General's Notes
NIL

Administrative Interests
NIL

* Denotes the dealing has been re-lodged.
DISTANCES ARE IN FEET AND INCHES FOR METRIC CONVERSION
1 FOOT = 0.3048 METRES
1 INCH = 0.0254 METRES

NOTE: SUBJECT TO ALL LAWFULLY EXISTING PLANS OF DIVISION
28 September 2015

Woolcock Constructions
6/938 South Road
EDWARDSTOWN SA 5039

Re: 189 Devonport Terrace Prospect
Proposed Apartments

I have perused the preliminary plans for the above apartments Ref Project #1405, and advise that the development generally is in accord with Building Code of Australia requirements and noting:-

- Egress is satisfactory
- No objections to provision of stores in carpark

and points to consider are:-

- Ventilation to carpark
- Protection of openings within 3.0 metres of boundary

Yours faithfully

[Signature]

Dave Vandborg
Building Surveyor
For Professional Building Services Australia
ATTACHMENT 3A

PLANNING REPORT
Masterplan
PLANNING REPORT

CONSTRUCTION OF A FIVE STOREY RESIDENTIAL FLAT BUILDING AND ASSOCIATED CAR PARKING AND LANDSCAPING

AT: 189 DEVONPORT TERRACE, PROSPECT

FOR: DAVID TONELLA TO

1.0 INTRODUCTION

This report has been prepared in relation to the proposed development of a five storey residential flat building with associated car parking and landscaping at 189 Devonport Terrace, Prospect. The report provides a description of the proposed development, the site and the nature of its locality, the background to the built form evolution, an assessment of the relevant provisions of the City of Prospect Development Plan and other relevant information.

Relevant documentation that is submitted with this documentation include the following:

- Plans and elevations prepared by Woolcock Group;
- Development Application Form;
- Electricity Declaration Form;
- A current Certificate of Title;
- A cheque in payment of the lodgement fee;
- Traffic and Parking Report from Frank Siow & Associates;
- Correspondence from the Office for Design and Architecture SA (ODASA).

2.0 BACKGROUND

This development application is submitted following an extensive process, design review and evolution in conjunction with the Development Assessment Commission’s (DAC) pre-lodgement service. This involved initial preliminary meetings with DAC assessment staff, a Pre-lodgement Panel meeting and a Design Review Panel meeting by ODASA.
This design evolution has resulted in significant changes to the proposed scheme in response to discussions undertaken throughout the pre-lodgement service. The resultant scheme herein proposed represents a form of development intended to meet the objectives of the Development Plan while acknowledging the contextual residential setting and character.

It is important to state that the proposed inclusion of a fifth floor roof terrace for the occupants of the building, triggers that DAC be the relevant assessing authority in addition to any statutory referral to ODASA in accordance with the Development Act 1993 and Development Regulations 2008.

3.0 SITE

The subject land, as currently existing, contains a single storey detached dwelling and associated outbuildings. It has a frontage to Devonport Terrace of 15.2 metres and an overall depth of 46.6 metres, therefore equating to an overall site area of approximately 710.6 square metres. The site is considered to be relatively flat and contains no regulated vegetation.

The subject land is formally identified as Allotment 28 of Filed Plan 110507 in the area named Prospect, Hundred of Yatala as contained within Certificate of Title Volume 5405 Folio 93. The Certificate of Title is attached.

4.0 LOCALITY

Devonport Terrace at this location currently presents as one consisting of a range of residential developments albeit the predominant built form is of single and two storey dwellings. Two dominant features of the surrounding locality include the rail corridor immediately to the west of Devonport Terrace and the well trafficked Pym Street which is a non-arterial east-west connecting road within this area. It is noted that Pym Street is not a road under the care and control of the Department of Planning, Transport and Infrastructure (DPTI).

The properties immediately adjoining the site to the north consist of two allotments of approximately 300 square metres which currently contain two single storey dwellings. The size of these properties would foreseeably restrict the potential for redevelopment options consistent with the policy direction.

Churchill Road to the east of the site and within the surrounding locality is a highly trafficked arterial transport route which experiences 25,600 annual average daily traffic movements (sourced from DPTI 14 September 2015).

The surrounding locality is one that is in a state of transformation including a large number of higher density residential projects including a recently constructed three storey residential flat building located at 198-200 Churchill Road and five storey residential flat building under construction at 188 Churchill Road known as the Winston on Churchill.
Outside of the immediate locality a four storey residential flat building has also been approved at 157 Devonport Terrace. It is clear that the surrounding precinct is one of an emerging character responsive to the recent policy changes and intention of the Urban Corridor Zone. There has been significant investment and residential approvals throughout the locality and this will likely continue as further properties are currently on the market including three contiguous allotments 190-194 Churchill Road comprising 2,100 square metres of land immediately adjoining the rear boundary of the subject site.

5.0 PROPOSED DEVELOPMENT

The proposed development has been designed with a high level of design philosophy and is one that has evolved through discussions with Council, DPTI and ODA SA. The built form and dwellings have been designed in response to the specifics of the site and existing locality and including the context of the emerging character of the locality which continues to respond to the Council’s policy intent.

The proposed development consists of the construction of a five storey residential flat building containing a total of 15 two bedrooms dwellings. The dwellings range in size from 72 square metres to 100 square metres. The dwellings would be serviced by a level of at-grade undercroft car parking which provides a total of 18 car parking spaces (one car parking space for each dwelling and three visitor car parking spaces). The car parking level is proposed to be serviced by a centrally located access driveway while providing areas for servicing, storage, refuse storage and entry to the building.

The applicant is proposing to allocate three of the dwellings representing 20 percent of the total dwellings proposed for affordable housing purposes. The applicant has undertaken detailed discussions with Renewal SA regarding this allocation.

The dwellings have been designed with a high level of efficiency, useability and functionality. Each dwelling is provided with two bedrooms, amenities, kitchen and open plan living area and an area of private open space in the form of balcony. Private open space for each dwelling equates to an area of at least 11 square metres which is accessible directly from internal living areas. A lift, stairs and walkway along the northern side of the building provides access to all floors of the building. Ceiling heights for all of the dwellings is proposed at 2.65 metres.

The fifth floor of the building is proposed as a large and open area of communal roof top terrace floorspace to be made available for all residents. This highly useable and functional area comprises of approximately 220 square metres.

To the rear eastern end of the fifth floor roof terrace is an additional roofed area accommodating the buildings services including all air conditioning units, solar photovoltaic panels and rainwater tanks. This roofed area would be enclosed but naturally ventilated. These services for the most part would be obscured by the fifth floor balustrade.
The building is proposed to be constructed to a maximum height of 16.87 metres above the proposed ground level. The proposed setbacks to the northern side boundary varies from boundary development to 2.0 metres while the setback to the southern boundary is setback 2.0 metres.

The built form is proposed to be setback 2.0 metres from the rear boundary at its closest point albeit the predominant setback is 3.0 metres. The predominant setback from the street frontage is proposed to be 3.0 metres.

Landscaping is proposed throughout the site to provide improved amenity as well as assisting to break up the built form. The main areas of landscaping have been allocated adjacent the Devenport Terrace frontage and atop of the fifth floor roof terrace and would be clearly visible from the street.

The fifth floor terrace level also provides additional enclosed and secure storage enclosures for each of the apartments consisting of 4 cubic metre chain mesh enclosures. It is envisaged this space be used for general and any household items.

The proposal is more fully illustrated on the plans prepared by Woolcock Group:

- Drawing A101 Revision C – Ground Floor;
- Drawing A102 Revision C – Floor Plan;
- Drawing A103 Revision C – Floor Plan;
- Drawing A104 Revision C – Elevations;
- Drawing A105 Revision C – Elevations;
- Drawing A106 Revision C – Sections;
- Drawing A107 Revision C – Sections;
- Drawing A108 Revision C – 3D Images;
- Drawing A109 Revision C – 3D Rendered; and
- Drawing A110 – Roof Plan.
6.0 RELEVANT PROVISIONS OF THE DEVELOPMENT PLAN

The relevant Development Plan for assessment purposes is the City of Prospect Development Plan consolidated version 31 October 2013. The following provisions of the Development Plan are considered most relevant to the proposed development:

**Metropolitan Adelaide Provisions**

**Form of Development:** Objectives 1 and 2.

**Residential Development:** Objectives 5, 6, 7 and 8 and Principles 3, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 16.

**Transportation (Movement of People and Goods):** Objective 10, 11, 12, 13 and 14.

**Appearance of Land and Buildings:** Objective 27.

**Council Wide Provisions**

**Form of Development:** Objectives 1, 2 and 4 and Principles 1, 2, 3, 4, 6, 7, 8, 9, 10.


**Urban Corridor Zone**

**Objectives:** 1, 2, 3, 4, 5, 6, 7 and 8.

**Principles:** 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18 and 22.

**Boulevard Policy Area**

**Objectives:** 1, 2, 3 and 4.

**Principles:** 1, 4, 5, 6 and 7.
7.0 PLANNING ASSESSMENT

Rather than assessing the proposal against each identified provision listed in Section 6.0 of this report, the planning issues most relevant to the proposed land use have been identified in order to determine the proposal's compliance or non-compliance, as the case may be, with those provisions. The relevant planning issues to be addressed are:

- Land use suitability;
- Site Contamination;
- Site density;
- Design and Appearance;
- Private Open Space;
- Interface and Amenity to Existing Development;
- Traffic, Access and Parking;
- Landscaping;
- Stormwater;
- Waste management; and
- Building Performance and Environmental Considerations.

Land Use Suitability

The Urban Corridor Zone Desired Character statement envisages a high quality mixed use urban environment that contributes to the economic vitality of the City of Prospect through increasing the density of housing, as well as the number and the diversity of businesses and other services offered to residents and the wider community.

The above is reiterated by the following Objectives of the Urban Corridor Zone:

Objective 1: A mixed use zone accommodating a range of compatible non-residential and medium and high density residential land uses orientated towards a high frequency public transport corridor.

Objective 2: Integrated, mixed use, medium and high rise buildings with ground floor uses that create active and vibrant streets with residential and commercial development above.

Objective 3: A mix of land uses that enable people to work, shop and access a range of services close to home.
Zone Principle 1 above outlines the types of development, or a combination thereof, which are envisaged within the Zone. The proposed residential flat building is one of the types of development listed and accordingly, the proposal is considered to be an appropriate type of development which is supported from a land use perspective.

The Boulevard Policy Area further outlines several key areas and focal points for mixed use development such as land adjacent Cane Reserve and the large land holding at 250 Churchill Road. Outside of this focal area, and as specified by the Development Plan, the balance of this Policy Area should predominantly have a residential focus. The proposed land use is consistent with commentary of the Boulevard Policy Area while not impacting upon the continued development of these key areas.

Site Contamination

The site has been historically used for residential purposes and is located within an area of the Council historically associated with residential development. This residential use of the subject land is unlikely to have resulted in any level of site contamination.

With regard to this proposal it is not considered necessary that any additional investigations into site contamination be undertaken, nor that additional remedial measures be required. Discussions with Council and a review of their records have indicated that this assumption is acceptable.

That being said, as with any construction project, should any site contamination be identified during the construction phase appropriate measures would be undertaken consistent with the EPA guidelines and legislation.

Site Density

The Boulevard Policy Area anticipates medium and high density housing. This would primarily be in the form of apartment and terrace style dwellings along with mixed-use buildings to accommodate a diversity of dwelling types within the policy area. As stated within Zone Principle 5 the minimum residential site density for residential development within the Boulevard Policy Area is 100 dwellings per hectare net.

The subject site has a usable area of 710 square metres and proposes dwellings with an average of 47 square metres across the site. The proposed dwelling density therefore is calculated to be well in excess of 100 dwellings per hectare at 212 dwellings per hectare, thereby comfortably satisfying the desired minimum density for new development. The dwelling density is therefore supported.
Design and Appearance

As discussed within Section 2.0 above, the proposed building design is the result of a high level of design philosophy and evolution. The provisions of the Urban Corridor Zone seek to achieve a high standard of architectural design through built form articulation to all elevations of the building itself. Accordingly, the proposal integrates a range of building materials upon facades to creating a high quality building appearance.

The proposed built form is strongly articulated and uses a range of materials and thoughtful layout as a means of reducing bulk and scale. The proposed elevations incorporate vertical and horizontal articulated features that utilise physical recession, colour and material contrasts to provide a modern residential design with an appropriate level of visual interest.

The building's pedestrian and vehicle access is via the Devenport Terrace frontage. The pedestrian access is provided in the south western corner of the site. This access is pedestrian in scale and visually permeable. Vehicle access is via a two way panel lift door which although being constructed of solid Perspex material remains visually permeable and tinted which permits surveillance to the ground floor level from the street.

The western street elevation provides a substantially glazed podium which sits proud of the predominant elevation. This podium accommodates the building internal stairwell and presents as an inviting and functional, as well as assisting to break up this street elevation while creating a high level of visual permeability into the building as well as adding to the sense of address of the building.

Internally, the built form provides a highly useable and functional floorspace typically expected for residential flat buildings of this nature. Each dwelling is provided with two bedrooms, amenities, kitchen and open plan living area and an area of private open space in the form of balcony.

The dwellings are proposed to be accessed via pedestrian walkways along the southern elevation of the building. In order to provide additional cover for occupants the access walkways have been provided with weather protection screens around all dwelling doorways as a means of improving access to the dwellings while adding to the sense of address to each dwelling.

The building's street frontage is provided with excellent connectivity and sight lines from the street while the car park access gate is visually permeable allowing passive surveillance to and from the development. The design and layout of the proposal is expected to improve the level of passive surveillance within the locality and onsite safety.
Within the Urban Corridor Zone policy contemplates buildings of four storeys and up to 15 metres in height as appropriate in the zone. The proposed building is marginally above this desired guideline at five storeys with an overall height of 16.87 metres. It is noted that large sections of the built form are below 15 metres in height and due to the skillion roof pitch covering the terrace on the fifth floor, a relatively small portion of this roof forms extends beyond 15 metres in height.

Furthermore, the length of the roof above 15 metres in height does not extend the entire length of the building but rather sections of 17.14 and 16.1 metres adjacent the southern boundary. We are of the opinion that this built form is acceptable in the context of the building envelope provisions given the length and scale of the built form.

The proposed building would be five storeys and achieve a maximum height of 16.87 metres above natural ground level at its highest point. It will incorporate vertical and horizontal articulated features that utilise physical recession, colour and material contrasts to provide a modern design with an appropriate level of visual interest.

With regard to the built form setbacks, the proposed development has been setback as per the table below. As per Principle 18 there are no minimum side boundary setback requirements up to two storeys in height for allotments with a frontage width of less than 20 metres as is the case with the subject site.

<table>
<thead>
<tr>
<th>Development Plan (Desired Setbacks as per Principle 16 and 18)</th>
<th>Proposed Setback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Setback 3.0 metres</td>
<td>Main façade of building proposed at 3.0 metres</td>
</tr>
<tr>
<td>Rear Setback 3.0 metres</td>
<td>Balconies setback 1.8 metres from rear boundary</td>
</tr>
<tr>
<td>Side (Northern) 2.0 metres</td>
<td>2.0 metres</td>
</tr>
<tr>
<td>Side (Southern) 2.0 metres</td>
<td>2.0 metre</td>
</tr>
</tbody>
</table>

On the northern elevation, the balconies for each of the dwellings extends marginally within the desired side setback distance. In this case, the internal amenity benefit afforded to the occupants of this residential flat building are greatly improved through this larger and more useable balcony area as proposed. In addition, the two dwellings located immediately to the north of the site comprise of smaller allotments of separate ownership and are unlikely to present as a viable redevelopment site and therefore potential conflicts between any future development appear to be limited.
With regard to the eastern rear elevation the balconies for two dwellings only extend within the desired setback distance. These two balconies wrap around the built form and provide greater articulation and improved presentation to the north eastern corner of the building.

It is also noted that in some instances the roof form or the individual dwelling door way screens extend marginally within the desired side setback distances however these intrusions are relatively minor and not considered to be unreasonable.

It is accepted that the proposed setbacks are generally consistent with the provisions with some minor intrusions and overall are considered to be an appropriate design response.

From a Building Rules perspective and in light of some commentary resulting from the Design Review Panel with particular regard to fire safety egress, the applicant through their Building Surveyor undertook a preliminary assessment of the proposed development. To this end, PBS Australia confirmed that the proposal is generally in accordance with the Building Code of Australia noting specifically that egress from the building is satisfactory. This correspondence is attached and should alleviate this concern.

**Private Open Space**

Council Wide Principle 152 provides guidance with regard to the amount and quality of private open space provisions for a residential flat buildings of the proposed nature. This principle states that 11 square metres of private open space is desired for each two bedroom dwelling. The proposed development achieves this for all dwellings.

Furthermore and much to the benefit of occupants of the proposed building, the roof terrace provides an area of additional communal private open space of approximately 220 squares metres for the benefit of the occupants. The provision of private open space areas is consistent with the Development Plan.

**Interface and Amenity to Existing Development**

The subject land and all properties that adjoin the site are located within the Urban Corridor Zone and the site is not located on a zone boundary. Accordingly, and as per the Development Plan, the interface building envelope height and overshadowing provisions of Zone Principle 14 and 15 do not need to be applied in this case.

In any event, Shadow Diagrams prepared by Sustainability House have been submitted in order to demonstrate the extent of overshadowing created by the proposal.

The proposed development is located within a precinct in which built form and dwelling density are evolving consistent with policy guidelines and this trend is expected to continue. While this occurs there will be tensions between the existing residential forms, which are predominantly single storey detached dwellings, and the three to four storey residential flat buildings.
Accordingly, the proposed building has been designed to limit impact upon the amenity of existing surrounding residential development as follows:

- the proposed buildings have been sited and setback appropriately and relative to the provisions of the Development Plan and within desired building envelopes as to limit the impact upon the level of amenity currently experienced by existing residents;
- a total of 18 off-street car parks will be provided for residents and visitors;
- all waste will be disposed of in an environmentally sound manner as per the proposed mixture of private contractor and Council arrangements; and
- the nature of the residential flat building proposal will not typically give rise to the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants.

For all these reasons, the proposal is considered to have limited impact upon the surrounding lower density residential uses.

**Traffic, Access and Parking**

The residential flat building is accessed via a centrally located dual way common driveway from Devonport Terrace which extends through the site to the rear eastern boundary. This driveway provides access to all parking spaces. The car parking level is flat and at grade.

The proposal is provided with 18 car parking spaces demonstrating a shortfall of 1 visitor car parking space to be consistent with the Development Plan's Table Pr/5. This table desires that car parking be provided for at a rate of 1 space per dwelling plus 0.25 visitor car parking spaces equating to an additional requirement of 4 visitor spaces. This shortfall in visitor car parking is not considered detrimental to the proposal given the accessibility of unrestricted on street car parking on Devonport Terrace.

Consistent with the Development Plan access from Devonport Terrace has been limited to a single central dual way access driveway and this entry point has been designed to provide safe and convenient access to and from the site while ensuring limited impacts upon the free flow of traffic on Devenport Terrace. For these reasons, access and parking arrangements are entirely consistent with the provisions of the Development Plan.

A Traffic Impact Statement prepared by Frank Siow and Associates and in summary outlines that from a traffic and parking assessment perspective the proposed development is acceptable. This statement is attached.
Landscaping

Landscaping has been provided within the 3.0 metre street setback and within the roof top terrace. These key areas of landscaping are proposed to consist of feature planting at the ground floor level of Betula Pendula, Box Wood, Dianella Porracea and Dianella Prunina.

Landscaping is also proposed to occur, where possible, around the curtilage and within the fifth floor roof terrace. Some of this upper floor landscaping will be visible from the surrounding locality due to its siting around the edge of the terrace. The proposed landscaping is consistent with the policy guidance of the Development Plan and is appropriate given this type of built form.

Stormwater

Stormwater is proposed to be collected and managed onsite to ensure that outflow be managed such that post development flow doesn’t exceed the predevelopment flow during a 5 year average recurrence interval (ARI) rainfall event. Rainwater detention tanks are proposed to be located on the roof of the building and would have a capacity of 10,000 litres.

The extent of stormwater management proposed to be implemented within the site. Such measures are consistent with the relevant provisions of the Development Plan.

Waste Management

This proposal includes the provision for a common refuse area to the north of the ground floor entrance driveway. In this case, it is proposed to manage refuse through private arrangement.

For comparative and analysis purposes waste generation from the site has been calculated having regard to the waste generation rates expressed in Appendix 2 of the Adelaide City Council Design Guide for Residential Recycling, which are based on metropolitan bin audits, assumed best practice levels of participation and separation of recycling by residents and diversion rates achieved by City apartment buildings.

Accordingly the following waste generation rates have been adopted:

- General waste: 30 litres per bedroom per week.
- Co-mingled recycling: 25 litres per bedroom per week.
- Green organics: 10 litres per bedroom per week.

The development comprises of 30 bedrooms (15 two bedroom dwellings) and accordingly the overall waste volumes generated are identified below:
<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Rate (L/week)</th>
<th>Bedrooms</th>
<th>Total Volume (L/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Waste</td>
<td>30 litres</td>
<td>30</td>
<td>900</td>
</tr>
<tr>
<td>Co-mingled recycling</td>
<td>25 litres</td>
<td>30</td>
<td>750</td>
</tr>
<tr>
<td>Green Organics</td>
<td>10 litre</td>
<td>30</td>
<td>300</td>
</tr>
</tbody>
</table>

Therefore within this proposed waste management option it is assumed that a private contract will be entered into for the collection of general and recyclables waste streams on a weekly basis while organic waste will be collected by Councils existing fortnightly system.

<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Bin Volume (L)</th>
<th>Collection Frequency</th>
<th>Waste Volume (L)</th>
<th>Number of Bins (Total Volume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Waste</td>
<td>660</td>
<td>Weekly (Private)</td>
<td>900</td>
<td>2 (1,320 L)*</td>
</tr>
<tr>
<td>Co-mingled recycling</td>
<td>660</td>
<td>Weekly (Private)</td>
<td>750</td>
<td>2 (1,320 L)</td>
</tr>
<tr>
<td>Green Organics</td>
<td>240</td>
<td>Weekly (Private)</td>
<td>300</td>
<td>1 (660 L)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>1,950</strong></td>
<td><strong>5 (3,300 L)</strong></td>
</tr>
</tbody>
</table>

The street frontage allows sufficient area for waste collection vehicles to temporarily stop on Devonport Terrace while collection staff enter the property and individually remove waste bins prior to returning the empty bins.

The communal bin area has been dimensioned appropriately to contain the identified bins above and this enclosure will be maintained by the residents with the bins maintained as part of the waste collection service contract.
9.0 BUILDING PERFORMANCE AND ENVIRONMENTAL CONSIDERATIONS

Sustainability House has undertaken an Environmental Sustainability Design (ESD) Report with regard to this proposed development. This report undertakes a detailed assessment of the buildings performance and acknowledges that the development as proposed goes well above minimal building standards to the benefit of the scheme.

This statement, as submitted, concludes by stating that this development has been designed with consideration of passive design principles, and includes many features to improve the energy efficiency profile and thermal comfort of the building. Beyond energy efficiency, the project also includes other ESD features in areas such as water efficiency, indoor environment quality and sustainable materials.

Reports and plans form Sustainability House will be submitted in due course.

10.0 CONCLUSIONS

On balance, we have concluded that the proposal is an orderly and economic form of development and, above all, one which demonstrates a considerable degree of planning merit.

For all those reasons specified herein, we are of the express view that the proposal warrants Development Plan Consent.

Simon Tonkin  MPIA
26 November 2015
ATTACHMENT 3B

ACOUSTICS REPORT

Resonate Acoustics
<table>
<thead>
<tr>
<th>Report revision</th>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30 October 2015</td>
<td>Initial Issue</td>
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Glossary

A-weighting  A spectrum adaptation that is applied to measured noise levels to represent human hearing. A-weighted levels are used as human hearing does not respond equally at all frequencies.

Characteristic  Associated with a noise source, means a tonal, impulsive, low frequency or modulating characteristic of the noise that is determined in accordance with the Guidelines for the use of the Environment Protection (Noise) Policy (Noise EPP) to be fundamental to the nature and impact of the noise.

Continuous noise level  A-weighted noise level of a continuous steady sound that, for the period over which the measurement is taken using fast time weighting, has the same mean square sound pressure as the noise level which varies over time when measured in relation to a noise source and noise-affecting premises in accordance with the Noise EPP.

Day  Between 7 am and 10 pm as defined in the Noise EPP.

dB  Decibel—a unit of measurement used to express sound level. It is based on a logarithmic scale which means a sound that is 3 dB higher has twice as much energy. We typically perceive a 10 dB increase in sound as a doubling of that sound level.

dB(A)  Units of the A-weighted sound level.

Facade sound reduction  means the reduction in external to internal sound level provided by the building envelope.

Floor area  means, in relation to a room, the area of the room measured within the finished surfaces of the walls, and includes the area occupied by any cupboard or other built-in furniture, fixture or fitting.

Frequency (Hz)  The number of times a vibrating object oscillates (moves back and forth) in one second. Fast movements produce high frequency sound (high pitch/tone), but slow movements mean the frequency (pitch/tone) is low. 1 Hz is equal to 1 cycle per second.

Indicative noise level  Indicative noise level determined under clause 5 of the Noise EPP.

L_{eq}  Noise level exceeded for 90% of the measurement time. The L_{eq} level is commonly referred to as the background noise level.

L_{eq}  Equivalent Noise Level—Energy averaged noise level over the measurement time.

L_{max}  The maximum instantaneous noise level.

Night  Between 10.00 p.m. on one day and 7.00 a.m. on the following day as defined in the Noise EPP.

Noise source  Premises or a place at which an activity is undertaken, or a machine or device is operated, resulting in the emission of noise.
$R_w$ Weighted Sound Reduction Index—means a measure of the sound attenuation performance of a building element, measured in controlled conditions in a laboratory.

$R_w+C_v$ means a weighted sound reduction index with spectrum adaptation placing greater emphasis on low frequency performance.

Separation distance means the shortest distance (to the nearest metre), from an existing or future designated sound source to the nearest exposed point of the building envelope bounding a habitable room.

Sound Exposure Category (SEC) means the degree to which a habitable room within a building is likely to be affected by external sound received by the building envelope.
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1 Introduction

Resonate Acoustics have been engaged by Woolcock Group to assess the road and rail noise impact upon a proposed residential development located at 189 Devonport Terrace, Prospect, SA.

The proposed development consists of 15 residential apartments and is located 50m west of Churchill Road, which is a designated Type A road within the Prospect Council Noise and Air Emissions Overlay and has posted speed limit of 60 km/h.

This report outlines the road noise assessment undertaken in accordance with relevant local and/or state government planning criteria and prescribes noise mitigation measures where required. This report does not address compliance with the National Construction Code acoustic requirements.
2 Proposed development

The proposed development is located at 189 Devonport Terrace, Prospect, South Australia. The development consists of 15 residential apartments spread over three floors with the ground floor for a mixture between residential car parking/storage. The site is located west of Churchill Road and immediately east of a freight and passenger rail line and is surrounded by residential buildings. The closest exposed façade of the proposed development is approximately 50 m from Churchill Road, 35m from the rail corridor, and 20m from Pym Street. and these have been noted as the primary sources of noise incident on the development. The site area is outlined Figure 1 in below.

Figure 1 Proposed development area

Detailed drawings of the proposed development have been provided to us by Woolcock Group with the following drawings issued:

3 Acoustic Requirements

3.1 Prospect Council Development Plan

The proposed development is located within the Prospect Council Area and development must have regard to the Prospect Development Plan.

The proposed development is located in the Urban Corridor Zone (Transit Living Policy Area), which has the following Objectives:

1. A medium density residential area supported by local shops, offices and community land uses.
2. A highly varied built streetscape allowing multiple built form design responses that support innovative housing and mixed use development.
3. Development that contributes to the desired character of the policy area

Furthermore, the desired character for this Policy Area states:

This policy area will primarily serve a residential function, with local shops, offices and community land uses provided as part of mixed-use development to support the daily living and working needs of residents. Residential development will take place at medium to high densities, requiring the replacement of existing detached dwellings with apartment and terrace style dwellings and mixed use buildings, desirably two to three storeys in height.

Based on the above statements of the Desired Character a Residential land use is primarily promoted in this zone.

There are no Principles of Development Control (PDC) in these zones or policy areas relating to noise.

3.2 Prospect Council – Air and Noise Overlay

The site is also located in a 'Designated Area' and adjacent to a 'Designated Road: Type B road' in the Noise and Air Emissions overlay in the Prospect Council Development Plan. Relevant Objectives and Principles of Development Control for sites affected by the overlay are:

**OBJECTIVES**

Objective 1: Protect community health and amenity from adverse impacts of noise and air emissions.

**PRINCIPLES OF DEVELOPMENT CONTROL**

1. Noise and air quality sensitive development located adjacent to high noise and/or air pollution sources should:

   (a) shield sensitive uses and areas through one or more of the following measures:

   (i) placing buildings containing less sensitive uses between the emission source and sensitive land uses and areas

   (ii) within individual buildings, place rooms more sensitive to air quality and noise impacts (e.g. bedrooms) further away from the emission source
(iii) erecting noise attenuation barriers provided the requirements for safety, urban design and access can be met.

(b) use building design elements such as varying building heights, widths, articulation, setbacks and shapes to increase wind turbulence and the dispersion of air pollutants provided wind impacts on pedestrian amenity are acceptable.

(c) locate ground level private open space, communal open space and outdoor play areas within educational establishments (including childcare centres) away from the emission source.

When integrated into a Council Development Plan (DP), a Noise and Air Emission Overlay formerly activates Minister’s Specification SA 78B Construction Requirements for the Control of External (SA 78B). SA 78B will demonstrate compliance with the PDCs relating to the Noise and Air Emissions overlay. The requirements of SA 78B are outlined in Section 4.

3.3 Environmental noise policy

Environmental noise emissions from the proposed development should comply with the Environment Protection (Noise) Policy 2007 (Noise EPP) and this is the most relevant guideline to address the requirements of the Development Plan.

The noise goals in the Noise EPP are based on the zoning of the development and the closest noise affected premises in the relevant development plan. The land uses primarily promoted by the zones are used to determine the environmental noise criteria with the indicative noise factors shown in Table 1.

<table>
<thead>
<tr>
<th>Land use category</th>
<th>Indicative noise factor dBA</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Day (7 am to 10 pm)</td>
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<tr>
<td>Rural living</td>
<td>47</td>
</tr>
<tr>
<td>Residential</td>
<td>52</td>
</tr>
<tr>
<td>Rural industry</td>
<td>57</td>
</tr>
<tr>
<td>Light industry</td>
<td>57</td>
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<td>Commercial</td>
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<td>General industry</td>
<td>65</td>
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<tr>
<td>Special industry</td>
<td>70</td>
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</table>

As noted in Section 3.1, the development and the most affected noise sensitive premises are located in the Urban Corridor Zone for which residential land use are principally promoted.
In accordance with Part 5 of the Noise EPP, the relevant criteria for this development will be the relevant indicative noise factors less 5 dB(A). The application of Part 5 results in the following environmental noise criteria:

- 47 dB(A) during the day, 7 am to 10 pm
- 40 dB(A) at night, 10 pm to 7 am.

Penalties can also be applied to a noise source for a variety of characteristics, such as impulsive, low frequency, modulating or tonal characters. For a characteristic penalty to be applied to a noise source is must be fundamental to the impact of the noise and dominate the overall noise impact. Application of the characteristic penalty is discussed in the noise emission assessment.
4 Minister’s Specification SA 78B

To determine the noise impacts of Churchill Road, the assessment methodology outlined in SA 78B has been adopted. SA 78B has been developed to address noise ingress from road, rail and mixed land use into residential developments. The internal noise criteria provided in SA 78B has been approved by the EPA and it is consistent with future policy regarding noise intrusion into dwellings.

4.1 Sound exposure categories

SA 78B is comprised of Performance Requirements and Deemed-to-Satisfy Provisions that are designed to achieve an appropriate level of health amenity for building occupants affected by transport noise and noise from mixed use zones.

To this end, SA 78B prescribes five different Sound Exposure Categories (SECs), which relate to distance from the designated sound source. Each SEC requires specific facade treatments to achieve a particular outdoor-to-indoor sound attenuation as described in Table 2.

Table 2 Sound attenuation required for SECs from SA 78B

<table>
<thead>
<tr>
<th>Sound Exposure Category</th>
<th>Outdoor-to-indoor sound attenuation, dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>3</td>
<td>32</td>
</tr>
<tr>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>5</td>
<td>40</td>
</tr>
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</table>

Note, building facades falling within SEC 5 are deemed to be outside the scope of the Deemed-to-Satisfy Provisions.
5 Noise Intrusion Assessment

5.1 Noise modelling process

We have undertaken computational noise modelling using SoundPLAN version 7.3 software to predict the noise impact from Prospect Road upon the proposed development.

The inputs included in the three-dimensional SoundPlan noise models were:

- ground absorption coefficient of 0.1 which represents hard ground
- building footprints and heights obtained from Woolcock Group drawings.
- SA 78B sound source for a Type A road with a posted speed limit of 60 km/h outlined in Table 3.
- SA 78B sound source for a Train Rail source, outlined in Table 4

<table>
<thead>
<tr>
<th>Period</th>
<th>Sound pressure level (dBA) at 10 m at octave band centre frequency (Hz)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>63</td>
</tr>
<tr>
<td>Day, 7 am to 10 pm</td>
<td>59</td>
</tr>
<tr>
<td>Night, 10 pm to 7 am</td>
<td>54</td>
</tr>
</tbody>
</table>

Table 4 SA 78B designated sound source levels suitable for rail noise assessments (train)

<table>
<thead>
<tr>
<th>Period</th>
<th>Sound pressure level (dBA) at 10 m at octave band centre frequency (Hz)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>63</td>
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<tr>
<td>Day, 7 am to 10 pm</td>
<td>46</td>
</tr>
<tr>
<td>Night, 10 pm to 7 am</td>
<td>41</td>
</tr>
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</table>

The noise model predictions were calibrated as follows:

- $L_{Aeq}$ predictions adjusted to match the SA 78B designated sound source levels for Type A road and train noise assessments at 10m

5.2 Predicted Sound Exposure Categories

The results of our noise impact assessment have been used to determine the relevant SECs for the development which are shown in the following Figure 2 and Figure 3.
Sound Exposure Categories

SEC 1 Walls and Glazing
SEC 2 Walls and Glazing
SEC 3 Walls and Glazing
SEC 4 Walls and Glazing
SEC 5 Walls and Glazing
Coloured areas corresponds to roof SEC

Figure 2  Level 1 SECs
Figure 3  Level 2 and Level 3 SEGs
5.3 Construction requirements for SEC 1 – SEC 2

External walls

We understand that the external walls for the proposed development are to be constructed of a mixture of precast concrete and Hebel power panel system with internal stud work. Our minimum proposed wall construction configuration is outlined in Figure 4:

Wall 1 (green line):
- 185mm precast concrete

Wall 2 (red line):
- 75mm Hebel Powerpanel
- 92 mm steel stud with 50mm top hat
- R2.0 bulk insulation
- 2 x 16 mm Fyrcheck internal lining.

Wall 3 (blue line):
- 75mm Hebel Powerpanel
- 92 mm steel stud with bumm top hat
- R2.0 bulk insulation
- 1 x 16 mm Fyrcheck internal lining.

Figure 4 Proposed External Wall Construction Types for typical floor plan

We understand that wall types 1 and 2 achieve the minimum $R_w + C_P \geq 50$ airborne noise requirement for SEC 2 to SEC 4 walls. Wall type 3 (75mm Powerpanel with 1 layer of 16mm Fyrcheck on a 92mm steel stud with R2.0 insulation) will not meet the $R_w + C_P \geq 50$ airborne noise requirement for SEC 2 (and higher) walls. Therefore the external walls to Bedroom 2 in units 104, 105, 204, 205, 304 and 305 are to be constructed as Wall Type 2 (i.e. 75mm Hebel power panel, 92mm steel stud, R2.0 bulk insulation and 2 x 16 mm Fyrcheck internal lining), to meet the acoustic requirements.
External windows and doors

The required constructions for the external windows and doors are outlined in Table 5.

Table 5  External window and door constructions for SEC 1 – 2

<table>
<thead>
<tr>
<th>Location</th>
<th>External windows and doors construction</th>
<th>Acoustic criteria</th>
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<td><strong>Sound Exposure Category 2</strong></td>
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<td></td>
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<tr>
<td>Living and dining</td>
<td>• 6 mm glass windows with sliding or double hung type opening</td>
<td>$R_w + C_R \geq 28$</td>
</tr>
<tr>
<td></td>
<td>• 5/6 mm glass side hung door</td>
<td>($\geq 20%$ of floor area)</td>
</tr>
<tr>
<td>Bedrooms</td>
<td>• 6 mm glass windows with sliding or double hung type opening</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>($\leq 20%$ of floor area)</td>
</tr>
<tr>
<td><strong>Sound Exposure Category 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living and dining</td>
<td>• 3 mm glass windows with awning type opening</td>
<td>$R_w + C_R \geq 25$</td>
</tr>
<tr>
<td></td>
<td>• 5/6 mm glass side hung door</td>
<td>($\geq 20%$ of floor area)</td>
</tr>
<tr>
<td>Bedrooms</td>
<td>• 3 mm glass windows with awning type opening</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>($\leq 20%$ of floor area)</td>
</tr>
</tbody>
</table>

Note that window glazing can either be clear float glass or laminated glass.

All openable windows and doors that are not proprietary acoustically rated systems are to have the following seals (or equivalent):
- Sliding doors are to have:
  - Schlegel Q-Lon T-Slot seals on the lock and mullion
  - Schlegel Fin-Seal on the rails
- Windows awning style with rubber compression seals around the perimeter such as Schlegel Q-Lon T-Slot seals, or sliding with seals as indicated for the sliding doors
- Hinged doors are to have:
  - high quality rubber contact seals for the head and the jambs acoustically equivalent to Kilargo IS1212/1515 or Raven RP120/150
  - Drop down seal at the bottom acoustically equivalent to Kilargo IS8090 or Raven RP38.

Level 3 ceiling

The ceiling to the level 3 apartments is proposed to be 200mm thick concrete slab, and therefore will satisfy the acoustic separation requirements for the ceiling structure.

5.4 Ventilation

Apartments falling within SEC 1 to 3 can be conditioned using wall split systems that do not include outside air circulation. Fresh air ventilation can be provided with operable windows.

In all cases, the air conditioning or mechanical ventilation system should not reduce the acoustic performance of the external facade in order to achieve compliance with SA 78B.
6 Environmental Noise

Based on information provided to us by the Woolcock Group, an environmental noise assessment was undertaken from the mechanical plant from the balcony condenser units to the surrounding residential receivers. We understand that the rooftop plant room consists of mostly rainwater tanks, with no mechanical plant.

Air conditioning condensers for each unit are to be installed on their respective unit's balcony. We have assessed the noise levels from the development due to the mechanical services. At this stage the noise levels from the mechanical plant is unknown (as this has yet to be selected). The selected condenser units should have a sound power level (SWL) less than 65 dBA (ref 10^-12 W) for the noise from mechanical plant from the development to meet the night time EPP residential criterion of 45 dB(A) at the nearest residential receiver for fixed domestic plant.
7 Conclusion

An external noise intrusion assessment has been undertaken for the proposed residential development at 189 Devonport Tce, Prospect SA. The assessment has taken into account the relevant noise requirements of the Prospect Council Noise and Air Emissions Overlay, Minister’s Specification SA 78B, and the Environment Protection (Noise) Policy 2007 (EPP).

This assessment has demonstrated the following criteria outlined in Minister’s Specification SA 78B can be achieved with conventional constructions, as well as overall sound power level recommendation for outdoor air conditioning condenser units to meet the night-time EPP criterion.

On this basis the proposed development at 189 Devonport Tce will be able to operate within the noise requirements of the Prospect Council Noise, Minister’s Specification SA 78B and SA EPA EPP.
ATTACHMENT 3C

OVERSHADOWING DIAGRAMS

Sustainability House
Overshadowing Diagrams

Site Plan View:
Winter Solstice, Summer Solstice, Spring & Autumn Equinox

Reference: SH69333
Date: 24 February 2016

Assessment of:
189 Devonport Tce
Drawing: WC-1504-A102 – 12/1/16
189 Devonport Tce, Prospect, SA, 5082

Report commissioned by:
Woolcock Construction

On behalf of:
David Tonellato

Prepared by:
Sebastian Carr
Summary

We have evaluated overshadowing on the following days at the proposed site 189 Devonport Tce, Prospect.

**Winter Solstice – June 21st**
- 10am
- 12pm
- 3pm

**Summer Solstice – December 21st**
- 9am
- 12pm
- 4pm

**Autumn Equinox – Mar 21st**
- 9am
- 12pm
- 4pm

**Spring Equinox – Sep 21st**
- 9am
- 12pm
- 4pm

Attached are scale drawings (1:250) for the above dates and times showing the extent of shadows cast on the neighbouring buildings and open spaces.

Note that the final shading images have been prepared using the information supplied by the client at the time of preparing this report. No additional information regarding the site conditions, slope or adjacent buildings, other than what was included in the architectural drawings, has been used.
Disclaimer
Although great care has been taken to prepare this report ("the Report"), Hanuman Pty Ltd A.C.N. 091 349 021 trading as Sustainability House does not make any representations or give any warranties or assurances as to the accuracy or completeness of the information contained in the Report or that the Report is free from errors or omission.

The Report has been prepared by Sustainability House based on the information supplied.

All conditions and warranties (express or implied) whether arising by statute or otherwise are expressly negatived and excluded to the extent permitted by law.

Sustainability House and its employees and agents shall not be liable for any loss, damage, cost or expense whether direct, indirect or consequential, incurred by, or arising by reason of, any person using or relying on the Report and whether caused by reason of any error, negligent act, omission or misrepresentation in the Report or otherwise.

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WINTER SOLSTICE
(21 June)
10:00AM
WINTER SOLSTICE
(21 June)
12:00PM
WINTER SOLSTICE
(21 June)
3:00PM
SUMMER SOLSTICE
(21 December)
9:00AM
SUMMER SOLSTICE
(21 December)
12:00PM
SUMMER SOLSTICE
(21 December)
4:00PM
AUTUMN EQUINOX
(21 March)
9:00AM
AUTUMN EQUINOX
(21 March)
12:00PM
AUTUMN EQUINOX
(21 March)
4:00PM
SPRING EQUINOX
(21 September)

9:00AM
SPRING EQUINOX
(21 September)

4:00PM
ATTACHMENT 3D

ESD REPORT

Sustainability House
Environmentally Sustainable Design Report

189 Devonport Terrace, Prospect

Reference: SH69333
Date: 1 December 2015

Assessment of:
Proposed Residential Development
189 Devonport Tce,
Prospect SA 5082

Report commissioned by:
Woolcock Construction

On behalf of:
David Tonellato

Contact:
Sebastian Carr
esd@sustainabilityhouse.com.au
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Executive Summary

Sustainability House was engaged by Woolcock Construction to provide an Environmentally Sustainability Design (ESD) Report for the Class 2 residential development at 189 Devonport Terrace, Prospect. The building comprises 15 two bedroom apartments.

The project has been designed with consideration of passive design principles, and includes features that go beyond minimum compliance to improve the energy efficiency profile and thermal comfort of the building. Beyond energy efficiency, the project also includes other best practice ESD features in areas such as water efficiency, sustainable materials & transport.

Key sustainable design strategies considered in the development include:

- North orientated living spaces to maximise amenity and thermal comfort
- High performance building fabric with good levels of insulation
- Window openings designed to optimise cross-flow ventilation
- Energy efficient HVAC systems
- Energy efficient LED lighting
- Rooftop solar PV
- Low maintenance building materials
- Recycled aggregate concrete to footings and raft slab
- Encouraging the use of bicycles
- Water efficient tapware & appliances
- Diversion of roof run off to rainwater harvesting tank for toilet flushing
- Provision of convenient waste recycling facilities serviced by private collection contractor
Project Overview

Sustainability House was engaged by Woolcock Construction to provide an Environmentally Sustainability Design (ESD) Report for the Class 2 residential development at 189 Devonport Terrace, Prospect.

This document has been based on the following architectural Town Planning drawing set:

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<td>A104</td>
<td>Elevations (South &amp; West)</td>
<td>11/08/2015</td>
<td>B</td>
</tr>
<tr>
<td>1405</td>
<td>A105</td>
<td>Elevations (North &amp; East)</td>
<td>11/08/2015</td>
<td>B</td>
</tr>
<tr>
<td>1405</td>
<td>A106</td>
<td>Sections (3 &amp; 4)</td>
<td>11/08/2015</td>
<td>B</td>
</tr>
<tr>
<td>1405</td>
<td>A107</td>
<td>Sections (1 &amp; 2)</td>
<td>11/08/2015</td>
<td>B</td>
</tr>
</tbody>
</table>

The proposed building is located in Prospect, SA (NCC Climate Zone 5). It consists of three storeys of apartments above a ground level car park. The subject site is bordered on the West by Devonport Terrace, and on the remaining 3 boundaries by single dwelling structures. As such the impact of shading on residential dwellings by the development is minimal.

The building contains of 15 dwellings. The breakdown of apartments is as follows:

<table>
<thead>
<tr>
<th>Residential</th>
<th>Qty</th>
<th>Bedrooms</th>
<th>WC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bed apartments</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2 bed apartments</td>
<td>15</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>3 bed apartments</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL Residential</td>
<td>30</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Key sustainable design strategies considered in the development include:

- North orientated living spaces to maximise amenity and thermal comfort
- High performance building fabric with good levels of insulation
- Window openings designed to optimise cross-flow ventilation
- Energy efficient HVAC systems
- Energy efficient LED lighting
- Rooftop solar PV
- Low maintenance building materials
- Recycled aggregate concrete to footings and raft slab
- Encouraging the use of bicycles
- Water efficient tapware & appliances
- Diversion of roof run off to rainwater harvesting tank for toilet flushing
- Provision of convenient waste recycling facilities serviced by private collection contractor
1. **Introduction**

The development is within the jurisdiction of the City of Prospect. There is no specific ESD planning requirement for the development over and above the standard Section J energy efficiency requirements. The minimum regulatory requirement for energy efficiency compliance for a Class 2 building is for the building to achieve an average of 6 stars, and no individual apartment to achieve less than 5 stars under the NatHERS star rating scale. However the project aims to exceed minimum standards for sustainable design, and has included several best practice ESD features.

2. **Passive Design**

**Building Envelope**

The site allows for ideal orientation of the building on an East-West axis with the main facades facing North-South. This is optimal to reduce unwanted solar gains from the East & West. As such the building has been designed to harness the site’s potential:

**Glazing, Natural Light & Natural Ventilation**

Glazing has been designed with the following features:

- north facing aspect to allow for control of optimal solar gains in winter and summer
- limited East & West facing glazing
- balanced southerly glazed area to mitigate heat loss whilst providing good natural light
- ventilation openings on north and south facades for cross flow ventilation

The design specifically responds to the site and climate by facing the indoor and outdoor living spaces in all apartments to the north, which optimizes the residents’ ability to control passive solar gains and will substantially improve thermal comfort, energy efficiency and resident amenity.

Providing ventilation openings on opposing facades to the living spaces will encourage the use of cross flow ventilation, which in turn will reduce the need for mechanical cooling. Security screen doors will allow for purging without security concerns.

**Shading**

Shading to the North façade will fully shade the northern glazing in the Summer, whilst allowing direct sunlight for passive heating in Winter. Shading images are provided at Appendix A.

**Thermal Mass**

The use of heavyweight concrete floors provides good thermal mass to improve occupant comfort through modulating extreme temperature fluctuations.

**Roof Design**

The roof design has been optimized to act as a large ventilated roof canopy, which will reduce heat loads on the apartment roofs in summer. Furthermore the roof is oriented for the installation of rooftop solar PV to reduce the use of grid electricity and greenhouse gas emissions.
3. Energy Efficiency

Preliminary NatHERS assessments have been undertaken on a sample of representative apartments to analyse the energy efficiency of the design and identify where improvements may be achieved. This sample consisted of 2 worst case apartments (101 and 303) as well as an average apartment (203). The sample apartments chosen where assessed with the following specification:

- Aluminium framed clear glazing
- R4.0 ceiling insulation
- R2.0 external wall insulation
- R2.5 insulation to floors above the carpark
- Party walls fitted with double stud walls and 2 x R2.0 insulation
- Weather strip to external doors
- Sealed exhaust fans
- Any downlights are to be capped & sealed to facilitate installation of insulation

The minimum regulatory requirement for energy efficiency compliance for a Class 2 building is for the building to achieve an average of 6 stars, and no individual apartment to achieve less than 5 stars under the NatHERS star rating scale.

Using the above specification the following results were achieved:

<table>
<thead>
<tr>
<th>Apartment</th>
<th>Heating</th>
<th>Cooling</th>
<th>TOTAL</th>
<th>Stars</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>52.5</td>
<td>47.6</td>
<td>100.1</td>
<td>5.8</td>
</tr>
<tr>
<td>203</td>
<td>25.1</td>
<td>38.6</td>
<td>63.7</td>
<td>7.2</td>
</tr>
<tr>
<td>303</td>
<td>29</td>
<td>35.9</td>
<td>64.9</td>
<td>7.2</td>
</tr>
<tr>
<td>Average</td>
<td>35.5</td>
<td>40.7</td>
<td>76.2</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Despite including 2 “worst case” apartments, the results above demonstrate a high level of performance. This indicates that the development should achieve average energy efficiency NatHERS ratings far in excess of the minimum standard. Preliminary NatHERS certificates for the above sample are included in Appendix B.

HVAC
- Air conditioning systems to be high efficiency reverse cycle inverter type units
- Operable windows to allow for natural ventilation as an alternative to mechanical cooling (mixed mode).

Lighting
- High efficiency LED internal lighting
- LED external lighting (excluding emergency lighting) controlled from daylight sensors and time clock.

Domestic Hot Water
- Provision of instantaneous gas hot water service to each apartment (minimum 4 stars).

On-site Power Generation
- Rooftop solar PV will be installed on the North facing roof. The roof was specifically designed with good orientation to the benefit to solar PV.
4. Additional ESD Features

In addition to good passive design and energy efficiency performance, the development has considered the following additional ESD features.

Water Conservation
The design consists of the following water saving features:

- efficient fixtures and fittings
- rooftop rainwater tank plumbed to toilets

The following specifications are applied to fixtures and fittings on the project. Note that these are in line with best practice of achieving a rating within 1 star of available maximum WELS rating.

- 3 star WELS showers (>6 but <=7.5 l/min)
- 4 star WELS toilets and
- 5 star WELS for taps

Sustainable Materials
Sustainable building materials specified for the project include:

- Concrete footings and raft slabs using recycled aggregate
- Low maintenance wall cladding through a combination of precast concrete, Hebel & steel sheet
- Low maintenance lightweight steel sheet roof cladding

The project is also currently considering options for modularisation of various parts of the construction which will help reduce building waste generation, lower intensity transportation to site and faster build time.

Sustainable Transport
The site is well situated in terms of public transport links, being within easy reach of 2 separate services:

Dudley Park train station - 3 minute walk (300m)
Churchill Rd Bus Stop 11 – 2 min walk (200m)

Bicycle storage is also provided through the provision of storage cages for each apartment, promoting the use of sustainable transport options for short distance trips.

Waste Management
A central bin store has been provided and will contain facilities for convenient separation of waste and recycling. The bin store is within easy reach for each tenancy, being located in the ground floor car park, and will be serviced weekly by private waste collection contractors. A waste management plan will be developed by the waste contractor, who will review the bin configurations and adjust as necessary based on demand.

Conclusion
The project has been designed with consideration of passive design principles, and includes many features to improve the energy efficiency profile and thermal comfort of the building. Beyond energy efficiency, the project also includes other ESD features in areas such as water efficiency, indoor environment quality and sustainable materials.
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Appendix A – Shading Images

Summer Solstice: 12pm

Winter Solstice: 12pm
3 December 2015

Mr Eric Lampard
Business Development
Woolcock Construction
PO Box 414
EDWARDSTOWN SA 5039

Dear Mr Lampard,

**189 DEVONPORT TERRACE, PROSPECT PROPOSED RESIDENTIAL DEVELOPMENT**

As requested, we have reviewed the proposal to construct 15 2-bedroom apartments on the subject site. The site is located on the eastern side of Devonport Terrace, south of the intersection of Pym Street, Prospect. Opposite the site is a railway line and corridor. The subject site is located with the Urban Corridor Zone of the City of Prospect.

Devonport Terrace is a local residential street with a carriageway width of approximately 8.0m. There are traffic control devices in the street, including road humps and a driveway entry at Boucher Place. Parking is permitted on both sides of Devonport Terrace. The street is also sign-posted as a local bicycle route.

There are bus stops a short distance to the south of the subject site in Churchill Road. The Dudley Park train station is also a short distance to the south of Boucher Place. The subject site is therefore located in close proximity to bus and train services.

The proposal comprises of 15 apartments over three levels above an at-grade car park. The at-grade car park would have 18 parking spaces. The proposed car park is shown in Plan A101 Revision D.

**1.0 PARKING ASSESSMENT**

The relevant parking requirements for residential apartments in the Urban Corridor Zone are as follows:

*Table Pr/5 Off-street vehicle parking requirements*

- **Resident:** 1 per studio (no separate bedroom), 1 or 2 bedroom dwelling
- **Visitor:** 0.25 per dwelling
5 A lesser car parking rate than prescribed may be applied where justified based on local circumstances, for example where:
(c) sites are located within 200 metres walking distance of a convenient and frequent service fixed public transport stop;
(g) generous on-street parking and/or public parking areas are available and in convenient proximity, other than where such parking may become limited or removed by future loss of access, restrictions, road modifications or widening.

Table Pr/6 Off-street bicycle parking requirements
Residential component of multi-storey building/residential flat building
- Employee/resident (bicycle parking spaces): 1 for every 4 dwellings
- Visitor (bicycle parking spaces): 1 for every 10 dwellings

Based on the Development Plan, the parking required would be:
- 15 spaces for residents and 4 spaces for visitors (rounded up)
- 4 bicycle parking spaces for residents (rounded up) and 2 spaces for visitors (rounded up)

At locations where public transport is readily available, it is not uncommon to reduce the parking requirement. In addition, the provision of bicycle facilities would also encourage the use of non-car modes of transport for the subject development.

There are bus services located in Churchill Road and train services at Dudley Park station in close proximity to the subject site. Assuming a "discount" for the proximity to public transport, we would estimate that the parking required for the proposed development would be 15 to 16 spaces. The parking provision of 18 on-site spaces would satisfy this requirement.

On-street parking opportunity would also be readily available in Devonport Terrace for visitors to the development.

The proposal would provide bicycle parking for residents inside the car park and bicycle parking for visitors near the front entrance of the building. From our experience, residents would also bring their bicycles up to their apartments for parking or use the dedicated storage spaces in the car park. We are satisfied that adequate provision would be made for bicycle parking on the subject site.

Having regard to the location of the subject site in an Urban Corridor Zone, its proximity to bus and train services and the encouragement of cycling through provision of bicycle parking facilities, we are of the opinion that the parking provision for the development would be satisfactory.

2.0 PARKING LAYOUT

The proposed parking layout has been designed to the requirements of AS/NZS 2890.1-2004:
- Right angled parking space dimensions would have a width of at least 2.4m (clear of column) and 5.4m long.
A disabled space with clear zone would be provided in accordance with AS/NZS 2890.6-2009.

Parallel space dimensions would be 2.1m wide minimum (plus an additional 0.3m clearance to the wall) and 6.6m long minimum. Some spaces would be in excess of 7.0m in length.

Aisleway width would be in excess of 6.2m.

Column positions would be approximately 1.0m from the start of the space.

At the end of the car park, a widened aisleway, clear of the parking spaces, has been provided to enable convenient 3-point turns to occur in the event the car park is fully occupied, as required by the parking standard.

A two-way access would be provided at the road frontage to allow concurrent entry and exit movements to occur.

Satisfactory pedestrian sight line would be provided at the exit of the driveway. We are advised that the letterbox would be of a low height (1.2m or lower) which would allow pedestrians to be sighted by the exiting driver.

![Turning path diagram showing the ability for a vehicle to turn around within the aisleway](image)

Based on the above assessment, we are of the opinion that convenient and safe access would be provided for users of the development.
3.0 TRAFFIC IMPACT

The proposed residential development would be a low traffic generator. Based on the recent DPTI guidelines, *Trip generation rates for assessment of development proposals*, and the NSW standard, *Guide to traffic generating developments*, the peak hour trip rate for medium density flats would be approximately 0.5 vehicle trips per hour.

The proposed development of 15 apartments would only generate 7 to 8 vehicle trips in the peak hour and this would have minimal impact on Devonport Terrace and the adjacent roads.

4.0 SUMMARY

The proposed development is a small scale residential development of 15 apartments. Adequate vehicle and bicycle parking would be provided for the development in accordance with the requirements of the Development Plan. The proposed car park has also been designed to comply with the relevant parking standard. The traffic impact of the development on the adjacent road network would be minimal, given the low traffic generating nature of the residential development.

On the basis of the above assessment, we are of the opinion that the proposed development can be supported on traffic and parking grounds.

Yours sincerely,

Frank Siow

FRANK SIOW
MIEAust MAITPM MIPWEA
ATTACHMENT 3F

PLANS

Woolcock Construction
### Window Schedule

<table>
<thead>
<tr>
<th>No.</th>
<th>Level</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1</td>
<td>Ground Floor Entry</td>
<td>2315</td>
</tr>
<tr>
<td>02</td>
<td>1</td>
<td>Level 1 101 Bed 1</td>
<td>16mm, grey tint</td>
</tr>
</tbody>
</table>

### Door Schedule

<table>
<thead>
<tr>
<th>No.</th>
<th>Level</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1</td>
<td>Level 1 101 Bed 1</td>
<td>16mm, grey tint</td>
</tr>
<tr>
<td>02</td>
<td>1</td>
<td>Level 1 101 Entry</td>
<td>2315</td>
</tr>
</tbody>
</table>

---

### Renovation

- Edwardstown, 5039
- karenv@woolcockgroup.com.au
- T: 08 8193 9600
## Project finishes & fixtures schedule

**Linked Apartments**  
189 Devonport Terrace, Prospect

---

### Fixtures & Finishes Schedule

<table>
<thead>
<tr>
<th>Code</th>
<th>Location/ Building elements</th>
<th>Product/ supplier/ description/ details</th>
<th>Image (where required)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paint</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North, South, East elevations: Exotec-balcony and roof terrace balustrade</td>
<td>Dulux ‘Camel Hide’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>North, South, East elevations: Exotec-balcony balustrade</td>
<td>Dulux ‘Raw Cotton Quarter’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>West elevation: feature East elevation: precast and Exotec</td>
<td>Dulux ‘Hog Bristle Half’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>South and North elevation: boundary precast</td>
<td>Dulux ‘Hog Bristle Quarter’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>South and North elevation: precast panel grooves</td>
<td>Dulux ‘Bread Crumb Half’</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>External cladding</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All elevations</td>
<td>Exotec, 10mm shadow gap</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All elevations</td>
<td>Precast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hebel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof terrace level: stair</td>
<td>Corrugated Colorbond ‘Monument’, 0.42BMT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Balustrade
- Glass, grey tint and obscured.

### Roof and ceiling linings

<table>
<thead>
<tr>
<th>Area</th>
<th>Material Type</th>
<th>Color Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof terrace: roof sheeting</td>
<td>Corrugated Colorbond ‘Monument’, 0.42BMT</td>
<td></td>
</tr>
<tr>
<td>Ground floor: Awning roof sheeting</td>
<td>Corrugated Colorbond ‘Surfmist’, 0.42BMT</td>
<td></td>
</tr>
<tr>
<td>Carpark and roof terrace: ceiling lining</td>
<td>Perforated corrugated Colorbond ‘Surfmist’, 0.42BMT</td>
<td></td>
</tr>
<tr>
<td>Apartment thorough fares: ceiling lining</td>
<td>Hardiflex, 9mm</td>
<td></td>
</tr>
</tbody>
</table>

### Tiles

<table>
<thead>
<tr>
<th>Area</th>
<th>Material</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>West elevation: precast- entrance and apartment Exotec- roof terrace balustrade North elevation: precast- entrance and apartment Exotec- roof terrace balustrade</td>
<td>Adelaide Stone, sandstone</td>
<td></td>
</tr>
<tr>
<td>Level 1, 2 and roof terrace: apartment and roof terrace common areas, apartment balconies</td>
<td>Product: Alto Colour: Beige Size: 600x600</td>
<td></td>
</tr>
</tbody>
</table>
### Metalwork

<table>
<thead>
<tr>
<th>Description</th>
<th>Material Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stair handrail</td>
<td>Galvanised steel</td>
</tr>
<tr>
<td>Apartment balcony balustrade</td>
<td>Steel plate, painted ‘Monument’</td>
</tr>
<tr>
<td>Roof terrace: front stair well</td>
<td>Corrugated Colorbond ‘Monument’ wall sheeting</td>
</tr>
<tr>
<td>Ground level: bin storage</td>
<td>Tubular fencing, ‘Monument’</td>
</tr>
<tr>
<td>Ground level: access gate to bin storage area</td>
<td>Tubular gate</td>
</tr>
<tr>
<td>Ground level: apartment carpark storage</td>
<td>Corrugated Colorbond ‘Monument’</td>
</tr>
<tr>
<td>Roof terrace: apartment storage compartment</td>
<td>Chain link fence and gate, 1800 high</td>
</tr>
</tbody>
</table>

### Concrete

<table>
<thead>
<tr>
<th>Description</th>
<th>Material Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stairs- all</td>
<td>Concrete stairs</td>
</tr>
<tr>
<td>Floors</td>
<td>Deltacore 150 thick panel 70mm topping</td>
</tr>
<tr>
<td>Aluminium</td>
<td>Powder coat frame, 'Monument’ glass door</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Ground level: foyer entry door and sidelight windows Level 1 and 2: all apartment windows and sliding doors</td>
<td></td>
</tr>
</tbody>
</table>

| Pavement                      |  |  |
|--------------------------------|  |  |
| Carpark                       | Bitumen |  |

<table>
<thead>
<tr>
<th>Brickwork</th>
<th>PGH Bricks &amp; Pavers 'Olde Red'</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>West elevation: ground level &amp; roof terrace balustrade feature South elevation: ground level &amp; level 1 feature North elevation: ground level &amp; level 1 feature East elevation: ground level top of precast feature</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doors</th>
<th>Best Doors Sectioned, grey acrylic tilt-up door, automated</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpark access door</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Internal Paint                 |  |  |
|--------------------------------|  |  |
| All internal walls             | Dulux ‘White on White’ |  |
| All ceilings                   | Dulux ‘Ceiling White’  |  |
## Project finishes & fixtures schedule

### Linked Apartments
189 Devonport Terrace, Prospect

<table>
<thead>
<tr>
<th>Tiles</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bathroom floor</strong></td>
<td>Colour: Bone</td>
</tr>
<tr>
<td></td>
<td>Product: Haven</td>
</tr>
<tr>
<td></td>
<td>Dimensions: 450x450</td>
</tr>
<tr>
<td><strong>Bathroom walls</strong></td>
<td>Colour: Bone, gloss</td>
</tr>
<tr>
<td></td>
<td>Product: Havena</td>
</tr>
<tr>
<td></td>
<td>Dimensions: 450x300</td>
</tr>
<tr>
<td><strong>Bathroom splashback</strong></td>
<td>Colour: Nutmeg</td>
</tr>
<tr>
<td></td>
<td>Product: Botanica</td>
</tr>
<tr>
<td></td>
<td>Dimensions: 600x200</td>
</tr>
<tr>
<td><strong>Laundry floor</strong></td>
<td>Colour: Bone</td>
</tr>
<tr>
<td></td>
<td>Product: Haven</td>
</tr>
<tr>
<td></td>
<td>Dimensions: 450x450</td>
</tr>
<tr>
<td><strong>Laundry walls</strong></td>
<td>Colour: Bone, gloss</td>
</tr>
<tr>
<td></td>
<td>Product: Havena</td>
</tr>
<tr>
<td></td>
<td>Dimensions: 450x300</td>
</tr>
<tr>
<td><strong>Glass</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Kitchen splashback</strong></td>
<td>Glass, coloured</td>
</tr>
<tr>
<td></td>
<td>Colour: TBA</td>
</tr>
<tr>
<td><strong>Carpet</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Bedrooms</strong></td>
<td>Quest ‘Hudson’, dyed</td>
</tr>
<tr>
<td></td>
<td>nylon, 8mm underlay</td>
</tr>
</tbody>
</table>
**Fixtures & Finishes Schedule**

**Linked Apartments**

**189 Devonport Terrace, Prospect**

<table>
<thead>
<tr>
<th>Doors</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bedrooms &amp; bathroom</strong></td>
<td>2340mm hollow core MDF primed Painted finish</td>
</tr>
<tr>
<td><strong>Laundry</strong></td>
<td>2340mm hollow core, bi-fold MDF primed Painted finish</td>
</tr>
<tr>
<td><strong>Entrance</strong></td>
<td>2340mm solid core, translucent viewing panel MDF primed Painted finish</td>
</tr>
<tr>
<td><strong>Bedroom robes</strong></td>
<td>Regency Screens, vinyl</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Timber</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kitchen/living flooring</strong></td>
<td>Product: Grand Provencial Oak, 8mm timber laminate flooring with acoustic underlay Colour: Autumn Limed</td>
</tr>
<tr>
<td><strong>Skirting</strong></td>
<td>67x12 timber, painted finish</td>
</tr>
</tbody>
</table>
### Project finishes & fixtures schedule

Linked Apartments  
189 Devonport Terrace, Prospect

<table>
<thead>
<tr>
<th></th>
<th><strong>Doors</strong></th>
<th><strong>Hardware</strong></th>
<th><strong>Linings</strong></th>
<th><strong>Electrical</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2340mm hollow core MDF primed Painted finish</strong></td>
<td>Door hardware Gainsborough ‘Lianna’ lever, satin chrome</td>
<td>Fyrchek, 16mm, painted finish</td>
<td><strong>Internal walls: all apartments</strong> Gyprock, 13mm</td>
<td>Lighting 40W LED downlight</td>
</tr>
<tr>
<td><strong>Hardware</strong></td>
<td><strong>Linings</strong></td>
<td><strong>Ceiling</strong></td>
<td><strong>Electrical</strong></td>
<td><strong>GPO’s</strong> Product: Clipsal 2000 series Lounge/ living: 4 Kitchen: 3 Bedrooms: 2 Bathroom: 1</td>
</tr>
<tr>
<td><strong>Door hardware</strong></td>
<td><strong>Linings</strong></td>
<td><strong>Cornice: all apartments</strong> 55mm Coved cornice</td>
<td><strong>MATV/FOX</strong> Product: Clipsal 2000 series Lounge/ living: 1 Bedrooms: 1</td>
<td><strong>DATA</strong> Product: Clipsal 2000 series Lounge/ living: 1</td>
</tr>
<tr>
<td><strong>Linings</strong></td>
<td><strong>Electrical</strong></td>
<td><strong>Ceiling</strong> Painted plasterboard Living, kitchen, bedrooms: 2650mm Wet areas: 2400mm</td>
<td><strong>GPO’s</strong> Lounge/ living: 4 Kitchen: 3 Bedrooms: 2 Bathroom: 1</td>
<td><strong>MATV/FOX</strong> Lounge/ living: 1 Bedrooms: 1</td>
</tr>
</tbody>
</table>
# Fixtures & Finishes Schedule

## Joinery

| Kitchen | Product: Laminex cupboards with ABS edging  
| Colour: Polar White  
| Details: standard satin chrome handles |

| Vanity | Product: Laminex cupboards with ABS edging  
| Colour: Polar White  
| Details: standard satin chrome handles, 800mm wide |

| Vanity tapware | Caroma ‘Elegance II’ basin set |

| WC | Caroma ‘Cosmic’ toilet suite |

| Shower set | Caroma ‘Elegance II’ |

<p>| Laundry trough | Caroma ‘Eureka’ 35L |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Laundry tapware</td>
<td>Caroma ‘Elegance II’</td>
<td><img src="image" alt="Laundry Tapware" /></td>
</tr>
<tr>
<td>Washing machine tapware</td>
<td>Caroma ‘Elegance II’</td>
<td><img src="image" alt="Washing Machine Tapware" /></td>
</tr>
<tr>
<td>Sink</td>
<td>Caroma ‘Monaco’, double</td>
<td><img src="image" alt="Sink" /></td>
</tr>
<tr>
<td>Sink mixer</td>
<td>Caroma ‘Cirrus’</td>
<td><img src="image" alt="Sink Mixer" /></td>
</tr>
<tr>
<td><strong>Bathroom accessories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towel ring</td>
<td>Caroma ‘Elegance’</td>
<td><img src="image" alt="Towel Ring" /></td>
</tr>
<tr>
<td>Toilet roll holder</td>
<td>Caroma ‘Elegance’</td>
<td><img src="image" alt="Toilet Roll Holder" /></td>
</tr>
<tr>
<td>Soap dish</td>
<td>Standard tile soap dish, colour to suit wall tiles</td>
<td><img src="image" alt="Soap Dish" /></td>
</tr>
<tr>
<td>Towel rail</td>
<td>Caroma ‘Elegance’, single rail</td>
<td><img src="image" alt="Towel Rail" /></td>
</tr>
<tr>
<td><strong>Glass/mirror</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>Material/Details</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Bathroom: shower screen</td>
<td>Regency, frameless shower screen</td>
<td></td>
</tr>
<tr>
<td>Bathroom</td>
<td>Mirror, 900x600</td>
<td></td>
</tr>
<tr>
<td>Kitchen: splashback</td>
<td>Glass, coloured</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Colour: TBA</td>
<td></td>
</tr>
<tr>
<td>Hardware</td>
<td>Gainsborough 'Lianna' lever, satin chrome</td>
<td></td>
</tr>
<tr>
<td>Kitchen Appliances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EV6004WH Oven</td>
<td>Product: 60cm, stainless steel, fan forced electric</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplier: Euro</td>
<td></td>
</tr>
<tr>
<td>EPZ4GSXV Cooktop</td>
<td>Product: 60cm, stainless steel, gas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplier: Euro</td>
<td></td>
</tr>
<tr>
<td>ES602SS Rangehood</td>
<td>Product: 60cm, stainless steel, slide out</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplier: Euro</td>
<td></td>
</tr>
<tr>
<td>EDV600SS Dishwasher</td>
<td>Product: 60cm, stainless steel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplier: Euro</td>
<td></td>
</tr>
<tr>
<td>Balcony-external</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Woolcock Construction February, 2016 Fixtures & Finishes Schedule 10
<table>
<thead>
<tr>
<th>Code</th>
<th>Location/ Building elements</th>
<th>Product/ supplier/ description/ details</th>
<th>Image (where required)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balustrade</td>
<td>Product: Exotec, painted finish Glass, grey tint Aluminium frames and slats, ‘Monument’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balustrade-handrail</td>
<td>Stainless steel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project finishes & fixtures schedule
Linked Apartments
189 Devonport Terrace, Prospect

Woolcock Construction
February, 2016
Fixtures & Finishes Schedule 11
# Project finishes & fixtures schedule

**Linked Apartments**  
189 Devonport Terrace, Prospect

## Upgrade package

<table>
<thead>
<tr>
<th>Tiles</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathroom floor</td>
<td>Colour:</td>
</tr>
<tr>
<td>Bathroom walls</td>
<td>Colour:</td>
</tr>
<tr>
<td>Bathroom splashback</td>
<td>Colour:</td>
</tr>
<tr>
<td>Laundry floor</td>
<td>Colour:</td>
</tr>
<tr>
<td>Laundry walls</td>
<td>Colour:</td>
</tr>
</tbody>
</table>

## Splashback

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
</table>

## Electrical

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
</table>

## Joinery

<table>
<thead>
<tr>
<th>Kitchen</th>
<th>Product: Lamiex cupboards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Colour:</td>
</tr>
<tr>
<td></td>
<td>Details: push/pull to doors</td>
</tr>
<tr>
<td></td>
<td>Hidden recessed finger pull to drawers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bathroom: vanity</th>
<th>Product:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Colour:</td>
</tr>
</tbody>
</table>

## Bathroom accessories

| Towel ring |  |
| Toilet roll holder |  |
| Shower shelf | Glass  |
| Towel rail |  |

## Glass/mirror

| Bedroom robes |  |

## Kitchen appliances

| Oven |  |
| Cooktop |  |
| Range hood |  |
| Dishwasher |  |