

New Zealand Government

Medium-density Medium-ucinzity Housing Case Study

The Altair, Wellington



URBAN DESIGN PROTOCOL



Acknowledgements

Craig Stewart, Stratum Management Ltd Gerald Blunt, former Wellington City Council Urban Design Advisor Regional Orthophotography Copyright: GWRC / NZAM 2010 Copies of Internal Layout Plans: Wellington City Council

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Published in January 2012 by the Ministry for the Environment Manatū Mō Te Taiao PO Box 10362, Wellington 6143, New Zealand

ISBN: 978-0-478-37270-0

Publication number: ME 1082

Other publications in this series include: Medium-density Housing Case Study: Chester Courts, Christchurch Medium-density Housing Case Study: Stonefields, Auckland Medium-density Housing: Case Study Assessment Methodology

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Introduction

Medium-density housing is a major growth area in New Zealand urban development. As housing density intensifies it is important that design quality improves.

This case study is one of three medium-density housing case studies developed by the Ministry for the Environment to support the New Zealand Urban Design Protocol. It presents a successful design solution and provides an insight into how the developer and council undertook the design and consent process, and how the occupants perceive the development. Together the three case studies provide a range of examples of building typologies from different urban centres.

For these case studies medium-density means:

"Comprehensive developments including four or more dwellings with an average density of less than 350 m^2 per unit. It can include stand-alone dwellings, semi-detached (or duplex) dwellings, terraced housing or apartments within a building of four storeys or less. These can be located on either single or aggregated sites, or as part of larger masterplanned developments".

The assessment methodology used to develop this series of case studies provides a robust urban design rating system for medium-density housing developments that could be used for different building typologies. The methodology can be modified and adapted to provide a tool to assess proposed and existing medium-density housing and can found on the Ministry for the Environment's website at: www.mfe.govt.nz/publications/urban#protocol.

The other case studies in the medium-density case studies series are:

- Chester Courts, Christchurch
- Stonefields, Auckland.

The Altair, Wellington

Fast facts

Fast facts	
Name	The Altair
Location	Newtown, Wellington
Fulladdress	108 – 126 Rintoul Street, Newtown, Wellington
Year completed	2006
Project type	Townhouses (2, 3 and 4 storeys)
Location type	Urban infill
Project developer	Stratum Management Ltd
Architect	Architecture+

Key statistics

Key statistics						
Number and types of units	71 units in total					
	• 58 units built (subject of this survey)					
	11 units to be constructed					
	2 units in existing house (semi-detached dwellings)					
Site size	Approximately 1 hectare in total (100m x 100m)					
Site density	71 households per hectare (gross density – includes all open spaces)					
	Average unit size – 142 m ² (excludes courtyards)					
Parking (provision / type)	11 units with lockup garages – 2 car spaces/unit (built)					
	58 units with lockup garages – 1 car space/ unit (47 built)					
	2 units with 1 single car space/unit (existing house)					
	13 visitor parking spaces in total (9 built)					

Site visit details

Site Visit Details	
Researcher	Renata Ferreira, Boffa Miskell Limited (Wellington)
Date and time of site visit	Tuesday 15 February 2011 (morning)
Weather conditions	Fine

Description

Location

The Altair is close to Newtown Town Centre, Wellington. It is located in the northern part of the old Athletic Park precinct. It is bounded by Rintoul Street to the east, Brixham Way to the north, and residential zoned land to the west and south. Rintoul Street is a important connecting road and a major bus route with one of the most frequent services in Wellington.



Figure 1: Location map

Source: Boffa Miskell, Wellington City Plan - Open Space Zoning

Sourced from Land Information New Zealand data. Crown Copyright Reserved



- * Primary schools
- 0 University of Otago
- \bigcirc
- Community centre / library Newtown Town Centre Main Street
- The Altair

Site layout

When completed, the Altair will comprise 71 units laid out in nine separate blocks, as well as an existing house with two units. This case study only includes the units implemented to date (excluding the existing house). There are currently eight blocks built (total of 58 units) that run parallel to Rintoul Street. Fifty-one units have vehicle access from a central accessway and internal lanes, with the remaining seven units individually accessed directly off Rintoul Street.

The site is made up of seven separate certificates of title held in a single ownership. Each unit has an individual unit title ownership and the remainder of the site (open spaces) is owned in common by all the unit owners. A body corporate maintains and manages the common areas.



Figure 2: Aerial photograph

Source: Regional Orthophotography Copyright: GWRC / NZAM 2010.

The Altair Case Study boundary is shown by the white line.

Evaluation

Urban design criteria

The Altair was assessed against 20 urban design criteria structured around four broad topic areas. In the following tables, a score is assigned to each criterion with a short commentary that explains the relevant background information and aspects of the development.

The total score for the development is 83 out of 100, indicating that the development successfully addresses a range of urban design principles.

Site context and layout

Figure 3: Site plan

Copyright: Boffa Miskell.

The Altair.

Figures 4 – 5: Photographs



Rintoul Street – The Altair to the right.



Townhouses facing communal open space.

	Score					
Assessment criteria	1	2	3	4	5	Total
Neighbourhood context					J	5
Site Ccontext				J		4
Landscape coverage				J		4
Outdoor living space				J		4
Car parking and access			J			3
Service areas and utilities		J				2
Sub-total						22 / 30

Table 4: Housing indicators: site context and layout

The Altair is a five minute walk to Newtown Town Centre, a 10 minute walk to Macalister Park and the Town Belt, and a 15 minute bus ride to Wellington city centre and Island Bay.

The neighbourhood context has a mixture of uses, residential densities, and built form character. Altair has a distinct contemporary built form character that fits well with the varied context. The density is consistent with the anticipated higher density character of the area in the future.

The Altair generated a significant amount of earthworks; up to 5 m of cut and 3 m of fill. Some units have the retaining elements incorporated within the built form, which helped reduce the requirement for more earthworks. Landscape treatment has also reduced the visual impact of retaining elements.

Separation between Altair buildings varies from 8 m to 24 m wide. Main living areas and courtyards face east or west and are located where the distance between buildings is greater than 12 m. This enables good sun access to these spaces.

There are two communal open spaces that receive sunlight throughout the year. One is 20 m by 12m and provides opportunities for passive recreation and circulation. The other is 26 m by 12 m and has a larger grassed area where children can play (no playground is provided).

The open spaces are composed of paving materials, broken up by grassed areas and planted areas with level changes. A considerable number of trees have been planted that, once mature, will enhance the local amenity.

The majority of the units have 20 m² to 24 m² courtyards facing east or west, in addition to small balconies (1.2 m x 3 m) above ground level. A few units have larger courtyards of up to 36 m^2 . Landscape treatment in the courtyards is a simple composition of gravel, concrete pavers and lawn.

Many of the courtyards have been treated as front yards, facing the communal open spaces, pedestrian accessways or Rintoul Street. These do not provide an adequate level of privacy. Some residents have personalised these spaces with pot plants.

There is no provision of communal or private wheelie bin storage, and clothes lines are not screened from public view.

Building form and appearance

Figures 6 – 8: Photographs



Each unit block has a distinct architectural solution.

Table 5: Housing indicators: building form and appearance

	Score					
Assessment criteria	1	2	3	4	5	Total
Horizontal modulation					J	5
Continuous building line					J	5
Building roofline					J	5
Façade articulation					J	5
Material use and quality					1	5
Sub-total						25 / 25

The length of each unit block varies from 26 m to 36 m, with six to eight units per block. Each block has a distinct character, architectural solutions, and façade treatment.

The contemporary architectural style, and varied design elements, colours and materials create a harmonious composition for the overall development. Front and rear facades have been carefully designed in terms of varied use of materials and volumes. In some instances, it is difficult to distinguish between fronts and backs of buildings, and this is reflected in residents' comments that visitors have difficulty in finding the appropriate door to enter.

The variation in heights from two to four storeys adds an extra richness to the streetscape. Taller blocks have been placed at the rear of the site and are well framed by the uphill batter and higher levels of adjoining properties to the west.

The privacy and visual aspect of the private open space of the existing house are compromised by the substantial change in levels (up to 3 m high) and narrow side setback.

Street scene

Figures 9 – 11: Photographs





Fronts of units (left) facing backs of units (right).

Low fences/wall, balconies and transparent windows facing the open spaces.

Table 6: Housing indicators: street scene

	Score					
Assessment criteria	1	2	3	4	5	Total
Street edge: continuity and exposure					J	5
Building entrances			J			3
Façade openings				J		4
Street boundary treatment					J	5
Sub -total						17 / 20

Street setbacks of the two blocks that front onto Rintoul Street vary from 5 m to 7 m. The block to the north has front yards and low fencing fronting onto Rintoul Street and vehicle access via a rear lane. The block to the south has main pedestrian entries (no fencing), driveways and garages accessed from the street, which is a car dominant approach. While the impact of the garages and driveways to the street is typical of a suburban environment, this has been reduced by a vegetated strip between units, tree planting and architectural solutions (materials and volumes). However, the Altair is open to Rintoul Street with no fencing which is not typical of the Newtown area.

The internal blocks front onto the communal open spaces or lanes. The heights and spaces between buildings contribute to the definition of the open spaces.

Some fronts of units (main entry doors and garages) face the back of other units (garage only). The visual aspect and amenity values of the units fronting the back of other units are compromised.

There is a good proportion of transparent glazing and balconies fronting onto the open spaces.

Fences are 1.1 m to 1.3 m high with a combination of solid and see-through materials (masonry, metal and vinyl). Low fencing and level changes create a good definition between communal and private spaces whilst providing opportunities for passive surveillance.

Internal configurations





Table 7: Housing indicators: internal configurations

	Score					
Assessment Criteria	1	2	3	4	5	Total
Internal / external relationships			J			3
Visual privacy				J		4
Aspect / natural ventilation				J		4
Layout efficiency / adaptability				J		4
Storage space				J		4
Sub-total						19 / 25

There are several unit types and configurations within the Altair. The assessment relates only to the internal layout plans of units 1 to 29 provided by Wellington City Council.

The majority of units have three bedrooms except units 52 to 59, which have three bedrooms plus study.

Most of the units are three storeys. The ground floor contains a single garage, bathroom, laundry, small bedroom and a courtyard off the bedroom. The first floor has an open plan layout with the main living and dining areas, kitchen and a small balcony. An extra bathroom, two bedrooms and small storage in the hallway are located on the second floor.

The main entry door fronts onto the courtyard and is located adjacent to the bedroom and laundry in the majority of units.

The bedroom and bathroom on the ground floor provide future flexibility to use as home offices or accommodation for a less able resident. However, the bedroom, and in some instances the laundry, front onto the courtyard. The small balcony on the first floor provides some opportunities for private outdoor entertainment directly off the main living area.

Units are approximately 10 m deep, enabling natural light and cross-ventilation to internal spaces. Habitable rooms are naturally lit and ventilated.

Rooms are well proportioned. Floor to ceiling heights are 2.4 m, limiting future conversion of uses.

Units have openings in the front and rear façades and are oriented towards the lanes or communal spaces. Corner units have small strip windows on the side façade. Side screens have not been provided in the balconies.

There is good provision of built in storage but a lack of storage spaces for larger items.

Evaluation of urban design essential design qualities

Context

The higher residential density of the Altair is appropriate to its context and the close proximity to shops, community facilities and public transport.

The site is located in a long city block. The development does not provide a new east-west connection from Rintoul Street to Adelaide Road due to steep topography and residential properties to the west.

Character

The development has a distinct contemporary character in an area that has a mix of activities, densities and built form. It provides a good precedent for future medium-density developments that are anticipated in the area.

Connections

The internal pedestrian and vehicle connections are adequate. Tree planting, lighting, shrubs and paving materials enhance the quality of the internal accessways and create a low speed and safe environment. The pedestrian links within the site enable north-south pedestrian connections to future developments.

Choice

The Altair offers an alternative higher density living option with quality housing design in Newtown to cater for the needs of a range of household types. Communal open spaces, courtyards and balconies offer good choice for leisure and social interaction.

Creativity

The variation in building heights, architectural solutions and landscape treatment creates an interesting urban environment. The maintenance of buildings and communal open spaces is managed by a body corporate, therefore individual creativity or alterations need prior approval. Private courtyards provide opportunities for resident's personalisation of the space.

Custodianship

The site is five minute walk to Newtown town centre and has a bus stop adjacent to it. This helps to minimise car dependency. This medium-density residential development is a good example of efficient use of land close to a centre and public open spaces. In most units, living areas and private and communal open spaces receive good solar access.

Collaboration

Prime Property Group was the applicant for the original land-use consent in 2006. The team of consultants included Architecture+ (conceptual site planning), RAB design (layout of units 1 to 14), and Boffa Miskell (landscape concept design).

Stratum Management Ltd bought the site in 2006 with the granted land-use consent and was the applicant for the building consent. Stratum Management commissioned Architecture+ to develop the design and construction documentation.

Post-occupancy evaluation

Resident survey

The survey was responded to by 30 per cent of the dwellings. The majority of the respondents have lived in Altair for less than two years. Sixty-seven per cent are between 25 and 45 years old, 27 per cent are in the 16 to 24 age group, and 4 per cent over 65. There are a small number of families with young children living in Altair. The majority are unrelated persons with three to four persons per household.

There is a mix of tenure, with half of respondents owning the unit and the other half in private rental agreements.

The respondents are quite satisfied with their living environment, especially in regard to the close proximity to community amenities. Other positive aspects are: low maintenance, a safe environment, modern design, variation in the façade treatment, architectural distinction between blocks, good internal layout, dryness, natural sunlight, ventilation and insulation of the units, and protection from traffic noise and noise between units.

People are mostly dissatisfied with the provision of service areas and spaces for bicycles and motorcycles. A good proportion of respondents suggested the provision of communal rubbish disposal areas. The lack of privacy, especially in the private open spaces, also came through as a key aspect to be improved. Some respondents indicated difficulties of external people (taxis, visitors or postman) finding the main entry doors.

There is a mix of opinion about the provision of car parking, difficulties with access and manoeuvre, storage areas, and communal open spaces.

Some of the respondents are satisfied with the quantity of car space provided (44 per cent) and others dissatisfied (37 per cent). The research cannot conclude if there is a relationship between tenancies, parking provision and number of occupancies, and the requirement for more car parking. This seems to be a personal choice.

Residents are happy with the communal open spaces provided but just over half of the respondents believe it could be improved. A few respondents suggested a wider staircase within the units would facilitate furniture removal.

The majority of respondents rated 'average' to 'very poor' the ability to personalise their homes and the usability of their private open spaces. Respondents also suggested that double glazed windows, heat pumps and longer-lasting materials would benefit the design. A few respondents dislike the restrictive body corporate rules.

Council comments

Jo Wallace (former Wellington City Council Town Planner) and Gerald Blunt (former Wellington City Council Urban Design Advisor) were the Council officers who assessed the land-use consent application for Altair. The comments provided below are based on the planning decision report (2006), the urban design assessment report (2005), and an interview with Gerald Blunt (2011).

The pre-application meetings provided good opportunities to refine the various aspects of the design before the lodgement of the final design documentation for land-use resource consent.

Initial discussion with Council about aspects of the site and proposed schematic concept plan would have benefited the process. A contextual analysis of the site could have been carried out to inform the context of the site.

Overall, the Council was pleased with the proposal. The character of the development provides a good precedent for the anticipated character and scale of the area in the future.

The development complied with primary controls on density and bulk but did not comply with height controls. The officer's report did not consider the proposed heights to have a negative effect on neighbouring properties.

The development complied with all vehicle manoeuvring and parking requirements. Council had a divergence of opinion about the provision of direct vehicle access to units off Rintoul Street but a decision was made to accept the proposed design.

Council acknowledged that the proposed earthworks would alter the existing landform but considered the proposal satisfactory.

It was considered that the design of the units offered good sun access and a good interface between the buildings and the communal spaces, and created opportunities for informal surveillance.

In general, there was support for the smaller private open spaces, dependant on the quality of the final design of these spaces. Concerns were raised about the lack of appropriate and well screened service areas (wheelie bins, clothes lines etc) but the Council made the decision to grant consent without conditions on these aspects of design.

It was considered that privacy between units and common spaces was adequately addressed.

Developer comments

Craig Stewart, Director of Stratum Management, was contacted to discuss the implementation of the Altair and provided the information below.

Stratum Management and Architecture+ worked together to achieve the best possible design outcome for the project. Some compromises were made to comply with Council's requirements and to ensure the development's feasibility. Nevertheless, the company is very pleased with the overall outcome.

The development was consented before requirements for development contributions. The developer raised concerns as to the financial viability of the same type of development in the future due to Council levies and rates increases during the construction period.

The targeted market was 60 per cent investors, of which half will sell to owner occupiers over a transitional period of three years.

His company has learnt the added value of good design. He stated that experienced urban designers are required in assessing resource consent applications.

The integrated approach to landscape design, architecture and site planning was the key to achieving a good design outcome for the whole site.

The two communal open spaces added value to the development and helped attract investors and owner occupiers.

To achieve good quality medium-density developments in New Zealand there needs to be better engagement between developers and councils as public notification of resource consents have discouraged developers in the past from investing in medium-density townhouse developments. Developers delivering quality design need to be acknowledged and future developments incentivised.

Conclusion

Overall assessment

Well designed medium-density housing close to community amenities offers an alternative living option for a range of household types and tenures. In the case of Altair, it attracted a mix of professionals, students, couples, singles and families with children.

There are some good design aspects in the Altair that have been identified in the site visit, and in the feedback received from the Council, developer and residents. The provision of private courtyards and balconies to each unit and the two communal open spaces provide a variety of recreational activities for the residents. The contemporary style, the distinct architectural solution of each block, and the combination of materials, colours and textures add interest to the streetscape. The interface between public and private spaces creates opportunities for informal surveillance and social interaction.

The spaces between blocks enable good visual aspect and sun access to the units. Natural sunlight, cross-ventilation and dryness of the units were positive aspects highlighted by the majority of the residents' responses. The considerable number of trees planted will enhance the character and amenity of the development, once matured.

The provision of communal rubbish storage and well screened clothesline areas would have benefited the development.

Courtyards required a more careful design to ensure better privacy and usability of the spaces. The courtyards off the bedroom and the small size of the balconies off the living area compromise the usability of the private outdoor areas. Side screens in the balconies could have improved privacy between units.

The location of windows and the distance between buildings provide an adequate level of privacy to internal spaces, considering these are attached dwellings in a medium-density environment.

In conclusion, the Altair is a well designed development that provides a good precedent for medium-density housing close to a major urban centre.

Lessons learnt

Some of the lessons learnt from the Altair development are:

- Multiple titles held in a single ownership facilitated the comprehensive design and implementation of Altair.
- The regular shape and size of the site (100 m by 100 m) facilitated the site planning of the unit blocks and the spaces between buildings. The wide street frontage helped to create a good street edge to Rintoul Street.
- Attention to building orientation, height and spaces between buildings to ensure sun access, ventilation and good visual amenity are key aspects to be considered and were designed well at the Altair.

- Easy access to public or semi-public open spaces and the provision of adequately sized private open space off the main living area for all units (whether a balcony or a courtyard) are key to successful medium-density developments. According to the developer, the units fronting the communal open spaces are the most desirable and the easiest to sell.
- To be able to attract a range of household types, internal layouts need to provide well sized rooms that are insulated, well ventilated, naturally well lit, and that enable flexible arrangements overtime. Quality materials, façade treatment and landscaping are also important.
- Pre-application meetings enabled the Council to provide valuable feedback to the applicant

Aspects that could have been improved are:

- If a contextual and site analysis was undertaken in the initial design phase, this may have better informed the opportunities, constraints and context of the site.
- The design could have taken more consideration of the location and privacy of private open spaces, and the provision of communal rubbish storage areas, screened clothesline, bicycle spaces, and side screens in the balconies.
- Careful planning of the fronts and backs of the buildings, and the treatment of the façades to clearly identify main pedestrian entries could have improved way finding and amenity values of some units.
- Built form solutions that respond to the natural topography could have been investigated further to reduce earthworks requirements.
- The high number of units on rental agreement may create a higher turnover of residents, which could be potentially less committed to the development. The body corporate will have to play a key role in maintaining the Altair in good condition.

Links to resources

- Wellington City Council: http://www.wellington.govt.nz
- Wellington City Council District Plan: http://www.wellington.govt.nz/plans/district/districtplan.html
- Wellington City Council District Plan Residential Design Guide: http://www.wellington.govt.nz/plans/district/volume2/pdfs/v2resdesguide.pdf
- Urban Design Protocol: http://www.mfe.govt.nz/publications/urban/design-protocol-mar05/index.html