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Table 2 Precinct Yield

Precinct	Area (ha)	Lot Yield	Population	Notes
Residential Release Area Precincts				
A	25.5	255 to 306	765 to 918	-
B	16	160 to 192	480 to 576	-
C	7.5	75 to 90	225 to 270	-
D	27	270 to 324	810 to 972	+ small rural residential component
E	12	120 to 144	360 to 432	-
F	28	280 to 336	840 to 1008	+ small rural residential component
G	4	40 to 48	120 to 144	-
H	2.5	25 to 30	75 to 90	-
I	3.5	35 to 42	105 to 126	-
J	27	270 to 324	810 to 972	-
K	24	240 to 288	720 to 864	+small rural residential component
L	2.5	20	60	Min. lot size of 1,000m ²
M	57	345	1035	Min. lot size of 1,000m ²
N	n/a	100	300	Pacific Dunes Golf Estate (inc. small lot housing)

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Total	236.5	2,235 to 2,589 (2,200 to 2,600)	6,705 to 7,767 (6,700 to 7,800)	-
Rural Residential Precincts				
O*	18	23	69	8,000m ² (*refer to Council resolution 23 April 2013 re: lot size for Lot 106 DP 1082077)
P*	8	8 (*to 50)	24 (*to 150)	1 hectare (*refer to Council resolution 25 Feb 2014 Planning Proposal for 1,000m ² min. lot size and Gateway Determination 21/07/14)
Q	19	19	57	1 hectare min. lot size
R	54	54	162	1 hectare min. lot size
S	172	172	510	1 hectare min. lot size
T	7	18	21	4,000m ² min. lot size
Total	278	294	843	-
Industrial and Commercial				
U Industrial	5.5	-	-	IN2 Light Industrial Zone. 5.5 ha existing zoned at Abundance Road
V Commercial	9.4	-	-	B2 Local Centre Zone 1.7 ha existing zoned 3.7 ha additional

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The following assumptions are made for precinct lot yields:

- All estimates are approximate only and subject to a range of planning, infrastructure, environmental and detailed assessment and design matters.
- Yield in Residential Release Areas is based on 10 to 12 dwellings per hectare.
- Household size is assumed at 3.0 people per dwelling as at 2011.
- Lot yield and population estimates exclude pre-existing development.
- Key habitat corridors are excluded from estimates (Precincts A, B, D and E).
- Flood prone land is excluded from estimates.
- Yield in L (North Waropara Road), M (Boundary Road) and N (Pacific Dunes Golf Course Estate) are based on yields from available concept plans.

2.7 Land uses

Facilitating development and additional housing in accordance with the Strategy requires the preparation and assessment of planning proposals seeking amendment to the *Port Stephens Local Environmental Plan 2013* (including but not limited to a change to land use zones and minimum lot sizes). This Section provides guidance on land use zones, objectives and lot sizes that apply to land identified by the *Strategy Map*.

In all instances where biodiversity is impacted by development, this will need to be identified and comprehensively assessed in accordance with relevant legislative processes and Council policies. Offsetting may be required in accordance with NSW Office of Environment and Heritage requirements.

2.7.1 Residential

The residential areas identified on the *Strategy Map* are the main proposed urban release areas to accommodate future urban growth. Key determinants to the identification of this land use include:

- Location along the main transport routes of Medowie Road and Ferodale Road providing good access to the town centre and community infrastructure (shops, the Community Centre, sports fields and schools).
- Expansion of existing urban areas.
- Better access to sewer and water infrastructure.
- Reduced land fragmentation (i.e. that is relatively low number of landowners)
- Flood-free land.

The most applicable land use zone in residential areas under the *Port Stephens Local Environmental Plan 2013* is the R2 Low Density Residential Zone. The objectives of this zone are:

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

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- *To protect and enhance the existing residential amenity and character of the area.*
- *To ensure that development is carried out in a way that is compatible with the flood risk of the area.*

Dwelling density is estimated to be between 10 to 12 dwellings per hectare, approximately consistent with existing urban development in Medowie such as Kindlebark Estate. The general applicable minimum lot size in the R2 Low Density Residential zone is 500m² under the *Port Stephens Local Environmental Plan 2013*. Actual lot sizes are typically greater than this minimum and reflect market demand.

Within the Grahamstown Dam Drinking Water Catchment an additional factor that may impact lot yield is the provision of infrastructure to improve or maintain water quality.

2.7.2 Rural residential

Rural residential development in Medowie is extensive and part of its character and attraction. Key determinants to the identification of this land use include:

- Land that contributes to the semi-rural setting of Medowie.
- Land within, adjoining, or transitioning to existing rural residential areas.
- Land that is subject to a relatively high level of fragmentation.
- Land that has significant vegetation coverage.
- Land within a sub-catchment that drains directly to Grahamstown Dam.

The most applicable land use zone in rural residential areas under the *Port Stephens Local Environmental Plan 2013* is the R5 Large Lot Residential Zone. The objectives of this zone are:

- *To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.*
- *To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.*
- *To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*

The minimum lot size in rural residential areas is generally ranged from 4,000m² to 10,000m² based on lot size analysis, transition from rural residential to residential areas, environmental considerations (for example accommodating a dwelling and other structures without excessive clearing for safety and bushfire purposes) and water management considerations.

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(Note: The draft *Port Stephens Rural Residential Strategy* has also been separately prepared and exhibited from late August to early October 2015. It has not been considered for adoption by Council. It may address some additional matters that require consideration in preparing planning proposals within the rural and rural residential areas of Medowie; however the *Medowie Strategy* takes precedence).

2.7.3 Commercial and industrial

The Strategy aims to concentrate future commercial development in the existing town centre. The objective is to: consolidate the town centre as the 'heart' for the social and economic life of the community; establish streets and blocks to provide the framework for a properly integrated urban development; create high quality streets and places that encourage walking and social interaction; preserve and enhance the leafy character of the town while creating a compact and active core; and guide future design standards and objectives. This will be achieved through the implementation of the accompanying *Medowie Town Centre Master Plan* (which also provides opportunity for medium density housing for example town houses and small lot housing, seniors living to take advantage of proximity to services and community facilities).

Key determinants to the identification of commercial land use include:

- Proximity to, and continuity with, the existing B2 Local Centre zone.
- Supply and demand for floorspace.
- Proximity to community facilities.
- Flexibility in delivering additional dwellings to support the town centre.

The most applicable land use zone for commercial areas in Medowie under the *Port Stephens Local Environmental Plan 2013* is the B2 Local Centre Zone. The objectives of this zone are:

- *To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.*
- *To encourage employment opportunities in accessible locations.*
- *To maximise public transport patronage and encourage walking and cycling.*

Separate to the town centre, a small number of locations are also identified for site-specific commercial uses. These include unique and/or historical land uses such as the Pioneer Ridge Boutique Winery (at the corner of Kindlebark Drive and Medowie Road); Medowie Macadamias (between Medowie Road and Richardson Road); Medowie Indoor Sports Centre (on the eastern part of Ferodale Road); and local service stations (between Medowie Road and Richardson Road and on Ferodale Road). Land uses at these locations will be limited to achieve the aim of concentrating commercial development within the existing town centre, whilst enabling and facilitating their ongoing operation.

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To meet the immediate day-to-day needs of residents 'neighbourhood shops' are permitted with development consent in a range of zones including R2 Low Density Residential and R5 Large Lot Residential.

The Strategy does not intend to identify any additional land for light industrial development in the short to medium term. There is a sufficient amount of vacant zoned land already available at Abundance Road to meet forecast demand (refer to the *Port Stephens Commercial and Industrial Lands Study*, SGS Economics and Planning, July 2010).

The applicable land use zone for light industrial areas under the *Port Stephens Local Environmental Plan 2013* is the IN2 Light Industrial Zone. The objectives of this zone are:

- *To provide a wide range of light industrial, warehouse and related land uses.*
- *To encourage employment opportunities and to support the viability of centres.*
- *To minimise any adverse effect of industry on other land uses.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.*
- *To support and protect industrial land for industrial uses.*

The presence of a cluster of rural industries along Richardson Road are acknowledged, and additional investigation into this land use will be undertaken as part of the implementation of the Strategy.

2.7.4 Habitat corridors

The Strategy identifies three key koala habitat corridors (refer to Figure 8 *Key Koala Habitat and Corridors*). High value conservation land in Medowie also often coincides with flood prone land or land required for drainage, effectively forming a main habitat corridor in the centre of Medowie in a north-south direction.

The most appropriate zones in key habitat corridors on flood-free land under the *Port Stephens Local Environmental Plan 2013* are the E2 Environmental Conservation Zone and the E3 Environmental Management Zone. It may also, however, be demonstrated through a planning proposal that the R5 Large Lot Residential Zone is appropriate as a more practical conservation and development option, incorporating a large minimum lot size and other measures to facilitate the meaningful long-term retention of vegetation.

The objectives of the E2 Environmental Conservation Zone are:

- *To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.*
- *To prevent development that could destroy, damage or otherwise have an adverse effect on those values.*

The objectives of the E3 Environmental Management Zone are:

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- *To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.*
- *To provide for a limited range of development that does not have an adverse effect on those values.*

A relevant objective of the R5 Large Lot Residential Zone is:

- *To provide residential housing in a rural setting while preserving, and minimising, impacts on environmentally sensitive locations and scenic quality.*

The identification of key habitat corridors does not preclude full consideration of the impacts of future development on the biodiversity values of an area. This will be determined through consideration at the planning proposal, development control plan and development application stages.

2.7.5 Public open space

Medowie is located in proximity to regional public open space facilities at Raymond Terrace, including the YMCA gym, Lakeside Leisure Centre, King Park and Boomerang Park. Additional large-scale areas of public open space are not identified within as Medowie is currently serviced by a network of sufficient existing centrally located open spaces. The focus within Medowie is on improving and upgrading the quality of existing facilities at Ferodale Park, Yulong Oval, Boyd Oval and Kindlebark Oval and the other existing smaller open space areas located throughout Medowie.

The most appropriate zone in these areas under the *Port Stephens Local Environmental Plan 2013* is the RE1 Public Recreation Zone. The objectives of this zone are:

- *To enable land to be used for public open space or recreational purposes.*
- *To provide a range of recreational settings and activities and compatible land uses.*
- *To protect and enhance the natural environment for recreational purposes.*

Provision of small-scale public open space areas in urban release areas may be required on a case-by-case basis.

The preparation and implementation of the *Ferodale Park Sports Complex Master Plan* (adopted by Council on 23 June 2015) is a key item for the provision of recreational open space and community facilities in Medowie.

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3.0 INFRASTRUCTURE

This Section of the Strategy sets out the key infrastructure elements of the Strategy under the following categories:

- Community and Recreational Facilities;
- Water Management; and
- Traffic and Transport.

It identifies the key infrastructure requirements to underpin future growth of Medowie. The detailed design and implementation of this infrastructure will be through Council's Infrastructure Plan and annual forward works plans. In addition, the funding of the infrastructure identified will be outlined, in part, through Section 94 developer contributions plans. The identification of works in these plans, and a planning precinct approach to development, will enable orderly design and delivery of this infrastructure for the Medowie area. Further background information on these infrastructure items is available in Section 6.0 *Supporting Information*.

3.1 Community and recreational facilities

As urban development and associated population growth occurs there is a need for Council to provide certain community and recreational facilities to adopted standards and at a range of different geographic service levels (local, district and regional).

Within Medowie the focus will be on ongoing improvements and upgrades to existing facilities (for example Ferodale Park, Yulong Oval, Boyd Oval, Kindlebark Oval and the Community Centre) rather than acquiring additional land. Providing access to facilities by walking and cycling is also a focus, with shared paths connecting urban release areas to facilities a key component of the Strategy (refer to Figure 7 *Future transport network infrastructure*). The provision of community and recreational facilities within Medowie requires consideration of its proximity to Raymond Terrace, where a range of higher level facilities are provided (for example the YMCA Gym, Lakeside Leisure Centre, Raymond Terrace Library, Boomerang Park and King Park).

Table 3 *Community and Recreational Facilities* provides an overview of community and recreation facility requirements for Medowie over the life of the Strategy, based on an estimated population of 9,400 people in 2014 and an estimated future population of 16,100 to 17,200 in 2036.

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Table 3 Community and Recreational Facilities

Item	Benchmark	Currently Provided	Required to Meet Benchmark	Required to Meet Benchmark for Future Population
Multipurpose Community Space	1 for 5,000 people	1 Medowie Community Hall	>1	Required: 3 Provision: Existing Hall + additional space/s to be investigated.
Libraries (branch libraries & library lounges considered on complementary basis)	1 branch library for 20,000 people	Raymond Terrace Library	<1	Required: <1 Provision: Raymond Terrace Library
	1 library lounge for 10,000 people	Mobile Library	1	Required: 1 Provision: 1 Location within Medowie to be investigated.
Parks & Reserves	Local = 0.4 ha for 1,000 people	Combined 30 ha of parks & reserves	3.8 ha	Required: 6.4 to 6.9 ha Provision: Improve existing parks & reserves Town square (inc. options for the location of additional public toilets) Town Lake (subject to drainage strategy)

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	District = 3 ha for 5,000 people	Combined 30 ha of parks & reserves	5.6 ha	Required: 9.7 to 10.3 ha Provided: Improve existing parks & reserves
	Regional = 5 ha for 20,000 people	22 ha at Boomerang Park	2.4 ha	Required: 4 to 4.3 ha Provision: Boomerang Park at Raymond Terrace
Sports Fields	Local = 0.4 ha for 1,000 people	3.6 ha at Kindlebark Oval	3.8 ha	Required: 6.4 to 6.9 ha Provision: 3.6 ha (existing) at Kindlebark Oval
	District = 0.6 ha for 1,000 people	10.1 ha at Boyd & Yulong Ovals	5.6 ha	Required: 9.7 to 10.3 ha Provision: 10.1 ha (existing) at Boyd & Yulong Ovals
	Regional = 1.4 ha for 1,000 people	9.9 ha at Ferodale Park + Lakeside & King Park	13.2 ha	Required: 22.5 to 24 ha Provision: Implement Ferodale Park Sports Complex Master Plan (inc. enlargement of existing sporting oval & second oval) + Lakeside & King Park

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Sports/Leisure Centre	1 for 17,500 people	Lakeside Pool & Raymond Terrace Gym	<1	Required: <1 Provision: Lakeside Pool & YMCA Gym at Raymond Terrace
Netball Courts	1 for 3,000 people	4 at Ferodale Park	3	Required: 5 to 6 Provision: 4 existing + 2 additional courts at Ferodale Park Sports Complex
Skate Parks	1 for 4,000 people aged 5 to 24	1 at Boyd Oval	0.5	Required: 1 Provision: Improve existing park at Boyd Oval
Tennis Courts	1 for 1,800 people	5 at Boyd Oval	5	Required: 9 Provision: Expand existing facility at Boyd Oval

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Figure 5 Ferodale Park Sports Complex



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The following dot-points expand on the proposed provision of community and recreational facilities under the Strategy:

- **Multipurpose community space:** Based on current the estimated population of 9,400 at the year 2014, Medowie is now on the threshold of requiring an additional (second) community space. Based on projected future population growth under the Strategy, Medowie will require a total of 3 multipurpose community spaces to meet the current infrastructure benchmark. Potential options for consideration include: expanding the existing Community Centre; improving access to other existing facilities; improved booking systems; consideration of the role of other privately-owned or public community spaces; and the potential use of new facilities on Council-owned land (for example as part of the Ferodale Park Sports Complex). The provision of multi-purpose community spaces may comprise a combination of these options.
- **Libraries:** The main branch library provided for existing and future residents of Medowie will continue to be located at Raymond Terrace. However, there is a requirement for a library lounge at Medowie under current standards. Potential options for investigation are: inclusion with the existing Community Centre; potential for new facilities on Council-owned land (for example as part of the Ferodale Park Sports Complex); or on other Council-owned land in proximity to the town centre.
- **Exhibition space:** Exhibition spaces are to be provided at Raymond Terrace.
- **Parks and reserves:** There is sufficient land area provision of parks and reserves provided at a local, district and regional level for the existing and future population of Medowie. The focus will be on ongoing improvements and upgrades to existing parks and reserves, rather than acquiring additional land. There may be a requirement for urban release areas to provide additional small-scale local parks on a case-by-case basis.
- **Sports/leisure centre:** Sports/leisure centre facilities are to continue to be provided at the Regional level, including Lakeside Leisure Centre (including pool) and Raymond Terrace YMCA Gym. Development under the Ferodale Park Sports Complex Master Plan will serve as a complementary focal point for sports and leisure activities in Medowie.
- **Sports fields and associated facilities:** There is sufficient provision of sports fields and associated facilities for the existing population of Medowie. There is, however increasing demand being placed on existing facilities within Medowie. There is adequate provision of regional sports fields and associated facilities at Raymond Terrace including the Lakeside Sports Complex and King Park. The focus will be on ongoing improvements to the existing local and district facilities within Medowie, rather than acquiring additional land. The implementation of the adopted *Ferodale Park Sports Complex Master Plan* (including an additional oval, 2 additional netball courts and a bowling green) is an important component of providing adequate sports fields and associated facilities (refer to Figure 5 *Ferodale Sports Complex Master Plan*). Adding to the existing skate park and tennis facilities at Boyd Oval can be investigated to accommodate additional demand for these sports.

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3.2 Water management

This section sets down water management principles and summarises the progress of the *Medowie Flood Study* and commitment to undertake a Drainage Strategy in partnership with the Hunter Water Corporation.

Importantly, it is a principle to work collaboratively with Hunter Water Corporation to identify a catchment-wide solution to drainage and water quality. Water management is of very high importance in Medowie because large areas are located within the Grahamstown Dam Drinking Water Catchment (refer to Figure 6 *Drinking Water Catchment*). Grahamstown Dam is a major source of drinking water for the Region and supplies around 50% of its needs on an ongoing basis. Furthermore, significant areas within Medowie are flood prone and are subject to stormwater detention requirements. Additional urban development identified by the Strategy has the potential to impact water quality, flooding and stormwater issues and requires careful consideration. In the medium term, these matters need to be addressed in the impending Drainage Strategy.

General descriptions of the Grahamstown Dam Drinking Water Catchment, the Campvale Swamp and Moffats Swamp catchments are provided in Section 6.0 *Supporting Information*.

3.2.1 Water Management Principles

Principle 1 - Water quality is improved or maintained in the Grahamstown Dam Drinking Water Catchment.

Water management is of very high importance in Medowie because large areas are located within the Grahamstown Dam Drinking Water Catchment. Grahamstown Dam is a major source of drinking water for the Region and supplies around 50% of its needs on an ongoing basis. Future development within the Grahamstown Dam Drinking Water Catchment needs to demonstrate neutral or beneficial effect on water quality and should be connected to the reticulated sewer and water system. A small area of land along the western edge of Medowie also drains directly into Grahamstown Dam. Controls on development in areas draining directly to the Dam are of critical importance for the protection of water quality.

Principle 2 – Council and Hunter Water Corporation will work collaboratively to identify a catchment-wide solution to stormwater drainage and water quality.

A land use strategy which increases impervious areas through additional urban development in the Grahamstown Dam Drinking Water Catchment has the potential to exacerbate existing water quality issues. Increased development within the catchment that contributes stormwater to the Campvale Drain Inundation Area, where most of the land identified for urban release is located, could increase flow rates of main overland flow paths, and also more importantly, increase the total volume of runoff from the catchment. Moreover, an uncoordinated approach to the provision of drainage infrastructure may also impact on the ability and viability of future urban development in Medowie. A drainage strategy for Medowie will be

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undertaken to cater for these future flows as well as address existing drainage issues, including assessment of potential stormwater management infrastructure (such as a centrally located water quality control structure/town lake). A key driver is to facilitate the delivery of residential urban release areas, whilst improving or maintaining water quality. Hunter Water Corporation is a major stakeholder in this area because of the need to maintain drinking water quality.

Principle 3 - Filling of flood prone land is avoided.

The Campvale Drain Inundation Area is a land-locked catchment with limited capacity to convey water away from the area. Given the existing problems with long-term inundation (in the order of weeks) for frequent rainfall events, future filling of flood prone land for urban development could have a cumulative impact on flood levels and should be avoided. Development applications can be considered on a merits basis under the provisions of Section 79C *Evaluation of the Environmental Planning and Assessment Act 1979* (NSW).

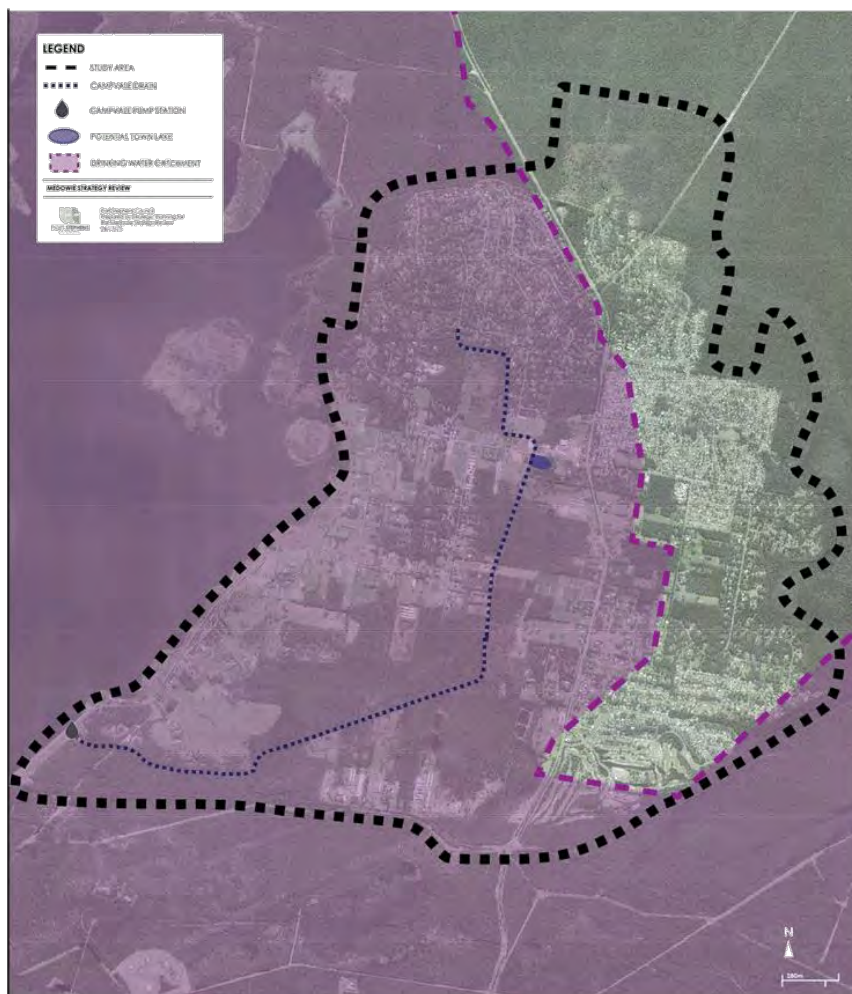
Principle 4 - Stormwater detention is provided on a sub-catchment basis.

The current management approach for Medowie is to include 'offline' detention basins. If the preference from the future drainage strategy is for these basins to be constructed on a sub-catchment basis (rather than on a development-by-development basis) suitable locations will need to be identified. These could be located on drainage outlets from sub-catchments but not located on the main overland flow paths. Costing can then be factored into development up-front.

Principle 5 - Development will not be placed within floodways and high hazard flow paths.

Floodways and overland flow paths are areas where flow is of a high velocity or high depth (or a combination of both) and poses a risk to safety or damage to structures. Increasing development density in these locations is not supported due to risk of impacts from flooding. Structures should not be placed in a floodway, and fencing (if necessary) should be limited and not impede flows. The preference is for no development to be located in a floodway.

Figure 6 Drinking Water Catchment



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Work on addressing flooding in Medowie is already commenced through the *Medowie Flood Study* (prepared by consultants WMA Water in conjunction with Port Stephens Council and the NSW Office of Environment and Heritage). The process has involved the establishment of the Medowie Floodplain Management Committee and the input of community members is appreciated.

The following is an update on its progress through the relevant stages set by the NSW State Government's *Flood Policy*:

- Stage 1 - Data Collection (completed)
- Stage 2 Flood Study - Determine the nature and extent of the flood problem (completed)
- Stage 3 Flood Risk Management Study - Evaluate management options (completed)
- Stage 4 Flood Risk Management Plan - Adopt risk management measures (current stage and exhibited 2 September to 30 September 2015)
- Stage 5 Plan Implementation: Construction or implementation of risk management measures (next stage)

The outcomes of the *Medowie Flood Study* will help to inform the completion of a strategy to identify catchment-wide solutions for drainage issues. The drainage strategy will be prepared by Council in collaboration with the Hunter Water Corporation and address:

- Legal discharge points for future developments;
- Identifying the location of required easements;
- Identifying the location and size of detention basins on a subcatchment basis;
- Identification of natural flow paths;
- Current drainage infrastructure capacity versus future infrastructure needs;
- Water quality;
- Water quality and control structures (such as a centrally located town lake);
- The management of Campvale Drain; and
- Costings.

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Additional urban areas will lead to an increase in vehicle, pedestrian and cycle traffic and impact on the existing transport network. This section describes the existing transport network and outlines future transport principles and infrastructure requirements (and illustrated in Figure 7 *Future Transport Network Infrastructure*).

3.3.1 Future traffic and transport principles

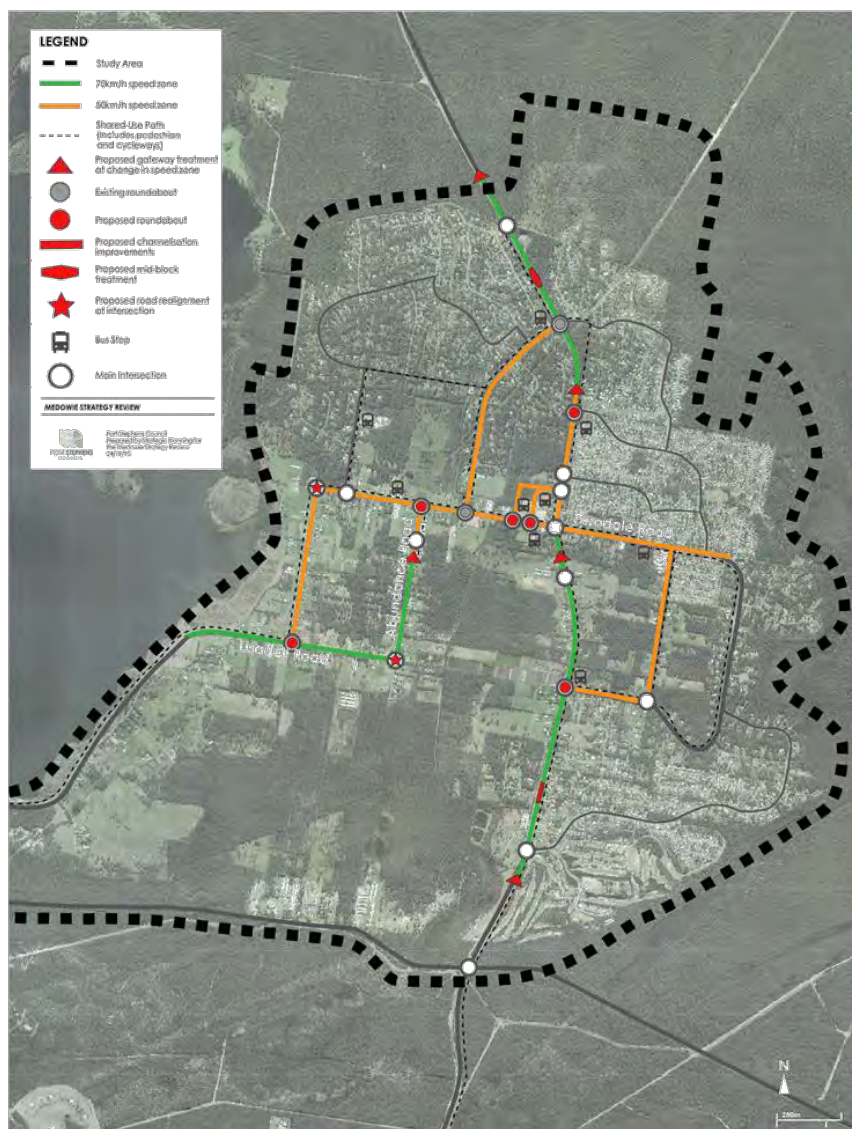
A proposed road hierarchy is identified aims to reflect the function and role of the street system within Medowie to better meet its future planning horizon, and is based on the completed *Medowie Traffic and Transport Study* (URAP TTW, December 2012). The road strategy provides a street system with consideration of current and future land uses, the level of vehicular use and responding to the character of the area. It is a simple, efficient and practical planning tool that meets the demand of its users. Other elements that have been considered include:

- There is a strong tendency for vehicular trips to take place to and from the western and southern side of Medowie (ie Medowie town centre and industrial areas, Raymond Terrace, Newcastle etc). Therefore the shortest routes towards the centre and west will mostly be utilised and there will be a need to eliminate short cuts or through neighbourhoods (eg less use of Fairlands Road)
- There will be a need for better connectivity and accessibility to reduce congestion and improve amenity once all development has been completed
- There is a need to upgrade a number of intersection treatments, particularly for safety of pedestrians and cyclists
- There is a requirement to establish a road network that will accommodate future bus routes within general guidelines of 400m radius to the nearest bus stop
- Consideration of possible future land release areas and how these developments might integrate with Medowie and connection to urban release areas
- Consideration of utilisation of existing infrastructure and existing intersections and property access points to suit proposed intersections

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Figure 7 Future Transport Network Infrastructure



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3.3.2 Road network – future

The future road network comprises the following roads:

- **Pacific Highway, Richardson Road and Medowie Road:** will maintain their current functions as major, minor and sub-arterial roads, providing main links surrounding areas.
- **Medowie Road:** is classified as a sub-arterial road which provides the main access to Medowie town. Medowie Road is a north-south route that provides a major link to Williamstown and Newcastle to the south.
- **Part of Ferodale Road (between James Street and Abundance Road):** This road provides a major connection to Medowie town centre and is also used as part of a route connecting Medowie to Raymond Terrace. Therefore, Abundance, Lisadell and Grahamstown Roads all function as major collector roads that form part of a main access route to Raymond Terrace.
- **Collector Roads:** The following roads within Medowie provide major access to neighbourhoods while connecting these areas, and therefore function as collector roads: Ferodale Road (between Abundance and Fairlands Road); Fairlands Road; Waropara Road; Kula and Ryan Roads; Kirrang Drive; Federation Drive; Kindlebark Drive; Silver Wattle Drive; South Street; Sylvan Avenue; Boyd Boulevard; Brocklesby Road; James Road; and Peppertree Road (north of Ferodale Road).

3.3.3 Pedestrian and cycle routes - future

The relevant guidelines (such as the RTA's *Bicycle Guide*) identify five key principles that should be considered for the development of an efficient and usable bicycle pedestrian network: coherence; directness; safety; attractiveness; and comfort.

Key elements of the pedestrian and cycle routes for Medowie are:

- Provision of off-road shared paths within footways along major routes leading to the town centre and joining with major attractors such as schools;
- Signposting of rural residential areas of Medowie with a 50km/h speed limit supplemented with 'share the road' signs and pavement markings. This measure recognises the likely very long-term construction of sealed footways on these roads and the need for on road cycling within these areas linking with off-road shared paths to destinations throughout Medowie;
- Construction of links joining the town centre with Wilga Road, between Cherry Tree Close and Medowie Road and completion of the path between Sylvan Avenue and Ford Avenue; and
- The route plan is supported by new infrastructure and upgrading of existing infrastructure and intersections to assist road crossings.

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It is envisaged that Medowie will be a township with a focus on encouraging higher public transport use among its community.

Provision of bus bays, including shelter and seating, will play an important role to promote the use of bus services, with a particular focus on providing bus bays at locations with a higher land use density or levels of activity (such as schools, sporting and community facilities and the town centre). A primary bus zone is to be located on Peppertree Road, and will complement the existing bus bay at the Community Centre and the bus shelter on Ferodale Road in the town centre.

3.3.5 Traffic and transport infrastructure upgrades

Projected growth will generate additional vehicle, pedestrian and bicycle movements that will necessitate network improvements, including new and/or augmented infrastructure to maintain appropriate levels of service, safety and efficiency for the existing and future population. The proposed works will benefit both the existing and future population, and are listed in Table 4 *Future Road Network Infrastructure* and Table 5 *Future Pedestrian and Cycle Network Infrastructure*. Total works costs will be apportioned, with approximately 60% of the cost being borne by Council and 40% being apportioned to developer contributions levied on new residential development lots or dwellings. This has been proposed for inclusion in a recently exhibited draft amendment to the *Port Stephens Section 94 Development Contributions Plan 2007* for local infrastructure contributions and subject to finalisation.

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Table 4 Future Road Network Infrastructure

Location	Works
Medowie Rd (North of Boundary Rd)	Gateway treatment at entrance to Medowie and change in speed zone from 100km/h to 70km/h
Medowie Rd (between Boundary Rd and Kirrang Dr)	Horizontal displacement mid-block treatment
Medowie Rd (North of Kindlebark Dr)	Gateway treatment and change in speed zone from 90km/h to 50km/h
Medowie Rd (South of Ferodale Rd)	Gateway treatment at change in speed zone from 70km/h to 50km/h
Medowie Rd (South of South St)	Gateway treatment at entry to Medowie and change in speed zone from 80km/h to 70km/h
Lisadell and Abundance Rd (Fairlands Road to Industrial Rd)	Maintain 70km/h speed zone to promote this route as the western entry into Medowie. Investigate widening of road pavement to provide a minimum carriageway width of 11m (2 x 3.5m wide traffic, 2 x 2m wide road shoulders. Current width varies but has a general minimum of 7m (2 x 3.0m wide traffic lanes 2 x 0.5m wide road shoulders)
Lisadell Rd (at Fairlands Rd)	Roundabout intersection. Short-term priority to widen road shoulder for left turn into Fairlands Rd
Lisadell Road (at Abundance Rd)	Investigate possible road realignment – introduce horizontal curve to create a T intersection with priority given to the through movement
Abundance Dr (South of Industrial Rd)	Gateway treatment at change in speed zone from 70km/h to 50km/h

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Abundance Dr (at Ferodale Rd)	Roundabout intersection. Signpost Abundance Rd as the route to Raymond Terrace
Ferodale Rd (at Kirrang Dr)	Existing roundabout – upgrade to current geometric standards
Ferodale Rd (at Peppertree Rd)	Roundabout intersection to replace existing T intersection
Ferodale Rd (at main access to commercial land)	Roundabout intersection to replace several access driveways
Peppertree Rd (Ferodale Rd to Medowie Rd)	Extension (at the same width of Peppertree Rd) including kerb and gutter and bus zone to the north, then east to connect through to Medowie Rd between properties at 785 and 787 Medowie Road along with upgrading of intersection
Medowie Rd (at Brocklesby Rd)	Roundabout intersection (to suit possible future development on west side of Medowie Road)
Medowie Rd (at Blueberry Rd)	Improve channelization of existing intersection – shoulder widening and left turn lane
Medowie Rd (at Kindlebark Dr)	Roundabout intersection

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Table 5 Future Pedestrian and Cycle Network Infrastructure

Location	Works
Various roads (on-road routes within residential areas)	Implement 50km/h area speed zoning with share the road signs supplemented with pavement markings (50 numerals and bicycle logos) at regular intervals throughout area
Off Medowie Rd (Medowie Rd to Cherry Tree Cl)	Off-road shared path within cadastral corridor
Medowie Rd (Silver Wattle Dr to Ferodale Rd)	Off-road shared path on east side
Various Rd (on-road routes within residential areas)	Implement 50km/h area speed zoning with share the road signs supplemented with pavement markings (50 numerals and bicycle logos) at regular intervals
Off Ford Av (Ford Av to Sylvan Av)	Complete off-road shared path within cadastral corridor
Medowie Rd	At Silver Wattle Dr – Install pedestrian refuge island
Silver Wattle Dr (at Medowie Rd)	Install pedestrian refuge island
Medowie Rd (at Ferodale Rd)	Upgrade pedestrian refuge island to current standards
Kirrang Dr (at Ferodale Rd)	Install pedestrian refuge island
Brocklesby Rd (at Ferodale Rd)	Install pedestrian refuge island to replace existing median with no pedestrian refuge

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Various intersections	Examples: Ferodale Road at Waropara Rd Ferodale Road at Bottlebrush Av Ferodale Road at Kirrang Dr Install kerb returns Ease grades on shared path at approach to kerb ramps Install kerb ramps or modify to standards Install shared path and give way signage and logos
Medowie Road (Boundary Rd to Kirrang Dr)	Off-road shared path on west side to future residential area. Investigate possible alternate route – Boundary Rd to Federation Dr via Settlers Cl/Overland Av/Explorers Cl
Medowie Road (Federation Cl to Kindlebark Dr)	Off-road shared path on east side
Medowie Rd (at Kirrang Dr/Federation Dr)	Upgrade pedestrian refuge island to current standards
Medowie Rd (south of Kindlebark Dr at existing bus stops)	Upgrade pedestrian refuge island to current standards
Medowie Rd (South of Ferodale Rd at small commercial centre)	Install pedestrian refuge island
Medowie Rd (at Blueberry Rd)	Install pedestrian refuge island
Ferodale Rd (west of Medowie Rd)	Upgrade pedestrian refuge to current standards

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Off Wilga Rd (Wilga Rd to town centre)	Off-road shared path with bridge over creek
Kirrang Dr (Ferodale Rd to Medowie Rd)	Off-road shared path west side
Brocklesby Rd (Medowie Rd to Ferodale Rd)	Off-road shared path north and west side
Medowie Rd (Ferodale Rd to South St)	Off-road shared path east side
Ferodale Rd	Off-road shared path south side – Kirrang Drive to Coachwood Dr: Medowie Rd to Coachwood Dr & Kirrang Drive to Medowie Rd
Medowie Road (Ferodale Rd to approximately 500m South)	Off-road shared path west side
Waropara Rd (Ferodale Rd to Medowie Christian School)	Off-road shared path east side

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4.0 KEY ENVIRONMENTAL FEATURES

4.1 Future corridor options

The Strategy has already identified that the most significant ecological issue for future urban planning in Medowie is planning for the conservation of the koala, and that other threatened species occur in the area, but most would not require additional protection if an umbrella species (such as the koala) is adequately protected.

The large majority of endangered ecological communities and preferred koala habitat in Medowie are situated within and along the border of flood prone land. This allows for a central local fauna corridor to be retained and reinforced through future growth.

There may be opportunity for future urban development in Medowie to be offset by protecting and restoring land within the proposed central corridor region and proposed adjacent fauna corridors to improve connectivity. In all instances where biodiversity is impacted by development, this will need to be identified and comprehensively assessed in accordance with relevant legislative processes and Council policies (including but not limited to the *Port Stephens Comprehensive Koala Plan of Management*). Offsetting may also be required in accordance with NSW Office of Environment and Heritage requirements.

The key habitat corridors are shown in Figure 8 *Key koala habitat and corridors* on both flood-prone and flood-free land and include:

Corridor 1 (North-South Corridor): The north-south corridor follows the boundary of flood prone land and drainage lines and incorporates a majority of connective patches of preferred koala habitat. It is the 'primary' habitat corridor in Medowie. Current koala sighting data suggests that koalas currently use the central corridor. The proposed corridor is situated, in part, among some housing lots to the north where tree removal is prohibited without the consent of Council under Section 88b of the *Conveyancing Act 1919*. This helps to facilitate the possibility of long-term management of koala habitat.

Corridor 2 (East-West Corridor): There are indicative connective patches of preferred koala habitat on the western side of Medowie, between Abundance Road and Fairlands Road connecting the proposed central corridor towards the western boundary of Medowie. Hunter Water Corporation has recently undertaken tree planting in proximity to Grahamstown Dam. Strengthening connectivity from the central corridor to the western areas of Medowie has the potential to ensure long-term koala movement towards areas away from identified future urban release.

Corridor 3 (East-West Corridor): This proposed east-west corridor is located on the largest parcel of preferred koala habitat land in the east of Medowie. Minimal koala sightings in the Medowie State Forest, further to the east, is most likely due to minimal observation. This area contains undisturbed preferred koala habitat, and its protection within the proposed corridor is vital in a local-regional corridor link.

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A concentration of koala sightings indicates that this area acts as an east-west corridor, deriving from the central local corridor extending east to the regional corridor, outside of Medowie. Sightings and recorded koala-vehicle collisions on Medowie Road suggests koalas readily use the vegetation within the proposed corridor.

Draft for 24 Nov 2015

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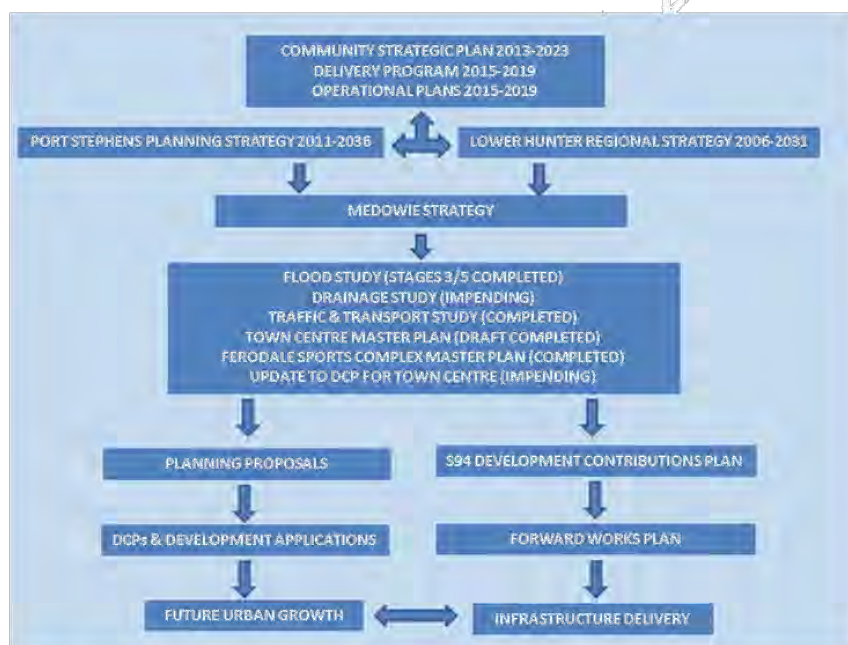
5.0 IMPLEMENTATION

5.1 Strategic delivery plans

The delivery of urban development and infrastructure identified in the Strategy is subject to a wide range of factors (including market demand) and involves a range of stakeholders in the private and public sectors. Depending on the resolution of planning issues and market forces, delivery of urban growth envisioned by the Strategy is a long-term proposition over approximately 20 to 25 years.

Figure 9 *Process* provides an outline of the process and planning framework for urban development and infrastructure works to occur to deliver the Strategy. It shows that the Strategy is part of a suite of strategies and plans that facilitate the delivery of development.

Figure 9 Process



As outlined above, the Strategy forms an integral part of the overall delivery of growth for Medowie. However, critical to its success will be the effective interaction of the objectives of the strategy with subsequent detailed technical plans, the local planning framework and Council's infrastructure delivery program.

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5.2 Implementation plan

The key step in the development of a strategy is its implementation. Actions, their purpose, assigned responsibilities, and timeframes for the implementation are identified in Table 6 *Implementation Plan*. Its implementation will be driven by the Port Stephens Council Economic Development Unit, in consultation with an Implementation Panel comprising Councillors, Council staff, community members and other stakeholders, and will be established to act in an advisory role.

Actions have been identified as short, medium, and long-term (up to 3 years) and ongoing. The timeframes serve as an indicator to the resources and priorities from a Council perspective. Further detailed and more precise timing for each action will be determined in consultation with the Implementation Panel, once established under this Strategy.

Table 6 Implementation Plan

Action	Purpose	Responsibility	Timing
Establish Implementation Panel	To facilitate delivery of infrastructure and development envisioned by the Strategy.	Council Industry Community	Short-term and ongoing
Finalise Flood Study (Floodplain Risk Management Study; Floodplain Risk Management Plan; Implementation of the Plan).	Determine the nature & extent of the flood problem Evaluate management options Adopt risk management measures Construction or implementation of risk management measures.	Council NSW Office of Environment and Heritage	Short-term and ongoing
Undertake Drainage Strategy	Identify drainage solutions to support urban development including detention requirements & easements.	Council Hunter Water Corporation Industry	Short to medium-term
Update Traffic and Transport Strategy	Ensure the Traffic and Transport Study reflects the revised Medowie Strategy.	Council	Short-term
Update Medowie Local Area Contributions Plan	To include appropriate contributions to implement works identified in the various infrastructure strategies.	Council	Short-term (traffic and transport) Medium-term (drainage)

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Update Infrastructure Plan and Forward Works Plan	To facilitate delivery of traffic and transport, drainage and community infrastructure works.	Council	Ongoing
Implement Ferodale Park Sports Complex Master Plan	To enable greater public use and enjoyment of the site through the provision of new infrastructure and facilities, expand opportunities for sporting use as well as organised events and gatherings.	Council	Ongoing
Implement Town Centre Master Plan (inc. Development Control Plan)	To coordinate the future development of the town centre.	Industry Council	Ongoing
Investigate long-term land use planning issues for rural industries along Richardson Road.	To set future direction for land use in this particular location.	Council	Long-term

5.3 Planning Proposals

Generally - and in accordance with the NSW Department of Planning and Environment's *A guide to preparing planning proposals* - the level of information provided at lodgement of a planning proposal (rezoning request) should be sufficient enough, and be proportionate to, the complexity of the proposed amendment. The planning proposal should contain enough information to enable assessment of the merit of the proposal, and demonstrate that relevant environmental, social, economic, and other site specific matters have been identified, and if necessary, that any issues can be addressed with additional information and/or through consultation with State agencies and the community.

To facilitate the efficient assessment and rezoning of land in Medowie the following information is generally required:

- A planning proposal (prepared in accordance with the format of the NSW Department of Planning and Environment's *A guide to preparing planning proposals*)
- Planning proposals are to be based on the entire planning precinct where the land is located as shown in Figure 4 *Planning Precincts* for the coordination and preparation of planning proposals to facilitate the delivery of development. A primary purpose of this approach is to ensure the coordinated delivery of urban release areas among multiple landowners particularly for infrastructure (roads, intersection treatments, drainage infrastructure etc).
- A flora and fauna report (including: site survey; determination of the likelihood of any critical habitat or threatened species, populations or ecological communities,

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or their habitats; assessment against the *Port Stephens Comprehensive Koala Plan of Management*; indication of potential offsetting requirements in accordance with NSW policy and guidelines; related consideration of any bushfire protection requirements/asset protection zones).

- Preliminary or concept level reports on: traffic and transport; flooding and drainage; bushfire; reticulated sewer and water servicing.
- For planning proposals within the Grahamstown Dam Drinking Water Catchment: for land that drains *directly* to Grahamstown Dam – water quality modelling that demonstrates neutral or beneficial effect on water quality (provided at lodgement); for land that drains *indirectly* to Grahamstown Dam – provided post-Gateway Determination (no water quality modelling at lodgement).
- For planning proposals seeking a commercial zoning - a preliminary economic assessment addressing supply and demand (provided at lodgement).
- For planning proposals seeking a site-specific additional permitted commercial use – an economic assessment (potentially provided post-Gateway Determination).

Preliminary or concept level reports need to indicate that relevant issues can be satisfactorily resolved if a planning proposal proceeds.

Note 1: This information is provided for preliminary guidance only. A formal pre-lodgement meeting is required. Please contact Council's Development Services Group for further information.

Note 2: A development control plan may also be required. Clause 6.3 *Development control plan* of the *Port Stephens Local Environmental Plan 2013* requires the preparation of a development control plan for urban release areas prior to development consent being granted. The objective is to ensure that development occurs in a logical and cost-effective manner, in accordance with a staging plan, and only after a development control plan that includes specific controls has been prepared.

Note 3: A preliminary concept plan addressing the matters in Clause 6.3 *Development control plan* of the *Port Stephens Local Environmental Plan 2013* (to inform a potential planning precinct development control plan and provided as a separate attachment to the Planning Proposal – refer to *Environmental Planning and Assessment Act 1979* (NSW) (the Act) Section 117 Direction 6.3 *Site Specific Provisions*).

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6.0 SUPPORTING INFORMATION

6.1 Location and population description

Medowie is located in the geographical centre of Port Stephens LGA and is approximately:

- 15km from Raymond Terrace – A Major Regional Centre;
- 30km from Newcastle – A Regional City;
- 35km from Nelson Bay – A Specialised Centre for Tourism; and
- 5km from RAAF Base Williamtown and Newcastle Airport – A major Defence facility, regional airport and employment centre.

Medowie Road is the primary transport route and provides connections on to: Newcastle; Raymond Terrace; Nelson Bay; RAAF Base Williamtown and Newcastle Airport; and the Pacific Highway.

Nearby Raymond Terrace is a Major Regional Centre and provides a range of regional level facilities, and government and commercial services for Medowie residents. The focus for commercial activity within Medowie is the existing town centre in the vicinity of Ferodale Road and Peppertree Road.

Medowie is surrounded by land uses and factors that effectively limit its physical outward expansion including:

- To the North - State Forests and State Conservation Areas;
- To the East - Department of Defence land (associated with the Salt Ash Air Weapons Range), forest, wetlands and flood prone land;
- To the South - Groundwater catchment areas for the Tomago Sandbeds, floodprone land and RAAF Base Williamtown and Newcastle Airport; and
- To the West - Grahamstown Dam.

These broad-scale limitations on the outward growth of Medowie act to define the extent of the Strategy as shown on the *Strategy Map*.

There are also factors within Medowie that limit its internal expansion, including flood prone land and vegetated areas with significant legal and policy protections. Large areas are also located within the Grahamstown Dam Drinking Water Catchment, requiring additional careful consideration to improve or maintain water quality. Other factors such as land fragmentation and provision of and access to servicing infrastructure (such as reticulated sewer and water) can also limit the development potential of the area.

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The estimated population of Medowie at 2011 was 8,583 people; The population in 2014 was estimated to have increased to 9,400. The estimated population of Medowie, if full growth is achieved as envisioned by this Strategy in 20 to 25 years, is estimated at 16,100 to 17,200 people plus additional population growth from rural residential areas.

Medowie has experienced a high amount of urban growth in previous years, coinciding with the approval and development of large subdivisions (such as Kindlebark Estate). For a period of time it was the fastest growing planning district in the Port Stephens Local Government Area (48% between 1996 and 2006). Since the adoption of the *Medowie Strategy* in 2009 some significant development proposals have also progressed including: 'Boundary Road' (rezoned and a development application lodged for 345 allotments); 'Kingston' (rezoning placed on public exhibition and a potential yield of 320 allotments); and Pacific Dunes Golf Course Estate (expansion of the existing estate and variation to minimum lot size provisions to create approximately 100 additional lots). A high level of urban growth is expected to continue as more urban release areas are delivered.

Medowie has some unique demographics compared to the wider Port Stephens Local Government Area that are likely to influence future growth. For example Medowie:

- Has a higher percentage of children (0-14);
- A lower percentage of seniors (55+);
- A higher percentage of detached dwellings;
- A higher average household size;
- Only 5% of households don't comprise a family group, and about half of the families have 4 or more members (48% compared with 28% LGA);
- Full-time employment and householder incomes are higher in Medowie than the rest of the LGA.
- The main employment industries are manufacturing and public administration/defence; and
- 4 in 5 households have 2 or more cars and a broadband internet connection.

Based on current demographics, the assumption is that Medowie will continue to predominantly be a place for families living in detached dwellings. The Strategy seeks to continue to accommodate these characteristics, whilst also providing opportunity for flexibility in land use planning provisions to meet any change in demographic trends.

The following table provides a demographic summary for Medowie as at 2011:

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Table 7 Demographics Summary

Item	Medowie (2011)	Port Stephens LGA (2011)
Population	8,583 (Estimated at 9,400 in 2014)	64,270
Children (0-14)	25.33%	19.80%
Youth (15-24)	12.42%	11.67%
Adult (25-54)	42.75%	36.03%
Seniors (55+)	19.5%	32.5%
Single Detached Dwellings	98%	82%
Household Size	3.0	2.7

6.2 Policy & legislative context

Land use planning in Medowie is influenced by a wide range of planning policies and instruments that the set context for, and inform, the Strategy. This section provides a brief summary of the key instruments and policies and how they influence development and further growth in Medowie (other instrument and policies may also apply).

6.2.1 Lower Hunter Regional Strategy 2006-2031

The *Lower Hunter Regional Strategy* was released in 2006, and aims to guide the growth of the Region for the the following 25 years by identifying future development areas, principal land use types, settlement patterns and conservation outcomes. It identifies a total new dwelling capacity projection of 12,500 for the Port Stephens Local Government Area, comprised of 5,300 dwellings in infill areas and 7,200 dwellings in new release areas, with the location to be determined by local plans.

Medowie is also identified as a proposed urban area with boundaries to be defined by local planning: a key reason for preparing the *Medowie Strategy*.

A key component of the *Lower Hunter Regional Strategy* is that most new development within the Region will be located in close proximity to major centres and employment lands, maximising access to services and employment opportunities. There is a clear need to coordinate the release of land in alignment with infrastructure provisions and funding to achieve an orderly and efficient pattern of land release. Furthermore, new release areas should be based on 'Neighbourhood

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Planning Principles' to ensure that new suburbs have access to jobs, centres and transport choice within their communities. Medowie's location and the need to coordinate the release of land provide a basis for having a local land use strategy.

The *Lower Hunter Regional Strategy* is under review by NSW Planning and Environment.

6.2.2 Port Stephens Planning Strategy 2011-2036

The *Port Stephens Planning Strategy* is a comprehensive land use planning strategy for the Port Stephens Local Government Area. It responds to the *Lower Hunter Regional Strategy* and *Lower Hunter Regional Conservation Plan* by providing local level detail, identifying future growth areas, and incorporating the results of more recent studies (such as the *Port Stephens Commercial and Industrial Land Study* and the *Port Stephens Rural Lands Study*).

The *Port Stephens Planning Strategy* identifies Medowie as a Priority 1 Urban Release Area, to be developed over a 20 to 25 year period with a yield of 2,700 dwellings (comprised of infill and new release development) at an average density of 15+ dwellings per hectare.

The updated yield predictions in the *Medowie Strategy* identify approximately 2,200 to 2,600 dwellings in new release residential areas (only) at a reduced average density of 10 to 12 dwellings per hectare. Additional dwelling yield will also be gained from development in rural residential areas as envisaged by the Strategy.

The *Medowie Strategy* is a companion document to the *Port Stephens Planning Strategy*.

6.2.3 Ministerial directions

Under Section 117 of the *Environmental Planning and Assessment Act 1979* (NSW) the Minister for Planning has issued a range of Directions that influence land use planning. The principal Directions that influence land use planning in Medowie, and taken into broad consideration for the Strategy, are: *Direction 2.1 Environment protection zones*; *Direction 3.4 Integrating land use and transport*; *Direction 3.5 Development near licensed aerodromes*; *Direction 4.3 Flood prone land*; and *Direction 5.1 Implementation of regional strategies*. Planning proposals seeking to implement the Strategy must be consistent with, or provide adequate justification for departure from, these and the range of other applicable Directions.

Ministerial Direction 2.1 Environment protection zones

The objective of this Direction is to protect and conserve environmentally sensitive areas.

Key koala habitat and corridors are identified by the Strategy that need to be maintained as urban development takes place (refer to the *Strategy Map* and Section 4.0 *Key Environmental Features*). The large majority of koala habitat and endangered ecological communities are also situated within and along the border of

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flood prone land. This will assist in maintaining conservation outcomes and presents opportunities for habitat improvement.

There are aspects of the Medowie Strategy that rely on further investigation and consultation with the NSW Office of Environment and Heritage to demonstrate achievement of the objective of this Direction, because some areas of vegetation are identified for potential urban development. Planning proposals in these areas need to demonstrate maintenance of habitat corridors shown on the *Strategy Map*. Any loss of biodiversity needs further assessment and may need to be offset in accordance with NSW Office of Environment and Heritage policy and guidelines, and preferably within the Medowie area.

Ministerial Direction 3.4 Integrating land use and transport

The objective of this Direction is to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives:

- a. Improving access to housing, jobs, and services by walking, cycling and public transport, and*
- b. Increasing the choice of available transport and reducing dependence on cars, and*
- c. Reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and*
- d. Supporting the efficient and viable operation of public transport services, and*
- e. Providing for the efficient movement of freight.*

The Strategy seeks to meet the objectives of this Direction by identifying areas for urban development that are a logical expansion of existing urban areas, that also provide access to main transport routes (vehicle, walking and cycling), the commercial centre and community and recreational facilities. A shared path network (for both pedestrians and cyclists) is reinforced and planned to facilitate walking and cycling, as shown on the *Strategy Map*. Importantly, the Strategy also reinforces the existing town centre as the focus for commercial and community activity and the primary destination for public transport, walking and cycling.

Ministerial Direction 3.5 Development near licensed aerodromes

The objectives of this Direction are:

- a. To ensure the effective and safe operation of aerodromes, and*
- b. To ensure that their operation is not compromised by development that constitutes an obstruction, hazard or potential hazard to aircraft flying in the vicinity, and*
- c. To ensure development for residential purposes or human occupation, if situated on land within the Australian Noise Exposure Forecast (ANEF) contours of between 20 and 25, incorporates appropriate mitigation measures so that the development is not adversely affected by aircraft noise.*

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The Direction applies when a relevant planning authority prepares a planning proposal that will create, alter or remove a zone or a provision relating to land in the vicinity of a licensed aerodrome.

The Direction is relevant because Medowie is in the general vicinity of Williamtown Royal Australian Air Force Base, Newcastle Airport, and the Salt Ash Air Weapons Range.

The main issue to consider for the purpose of the Strategy is aircraft noise.

For land use planning purposes Council applies an *Aircraft Noise Planning Area* (refer to Figure 13 *Aircraft Noise Planning Area*) which defines the area within which aircraft noise should always be considered in planning and development decisions. The majority of Medowie is not within the *Aircraft Noise Planning Area* however the area can still be subject to aircraft noise.

The Strategy seeks to satisfy this Direction by not identifying land for residential urban growth within ANEF noise contours or within the *Aircraft Noise Planning Area*. The exception is a minor area in the south-west of Medowie identified as rural residential and within the 20 to 25 ANEF 'conditionally acceptable' noise contours on the 2025 ANEF map. The amount of additional potential development that is facilitated by the Strategy in this particular area is minor (approximately 10 lots). It is already zoned R5 Large Lot Residential with an applicable minimum lot size range of 1 to 2 hectares. The Strategy only identifies a potential change to create a consistent minimum lot size of 1 hectare in this location.

Ministerial Direction 4.3 Flood prone land

The objectives of this Direction are:

- a. *To ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 and*
- b. *To ensure that the provisions of a local environmental plan on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land.*

Substantial areas of Medowie are prone to flooding. The Strategy seeks to meet the objectives of this Direction by avoiding the identification of flood prone land for future urban development. Planning proposals are also required to demonstrate adequate consideration of the flood environment in Medowie and ensure the adequate provision of drainage infrastructure to avoid any additional impacts. The *Medowie Flood Study* is almost complete, and a drainage strategy to identify drainage solutions will be undertaken to facilitate the delivery of urban release areas.

Ministerial Direction 5.1 Implementation of regional strategies

The objective of this Direction is to give legal effect to the vision, land use strategy, policies, outcomes and actions contained in regional strategies.

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Medowie is identified in the *Lower Hunter Regional Strategy* as a proposed urban area with boundaries to be defined by local planning.

The *Lower Hunter Regional Strategy* identifies a dwelling capacity projection of 12,500 dwellings for the Port Stephens LGA. The *Port Stephens Planning Strategy* broadly identifies Medowie as accommodating approximately 2,700 dwellings of that total dwelling capacity projection in infill and new release areas.

The Strategy implements this Direction through its broad consideration of land use planning issues, and identifying potential urban release areas to deliver additional land for housing under the *Lower Hunter Regional Strategy*.

6.2.4 Port Stephens Local Environmental Plan 2013

The *Port Stephens Local Environmental Plan 2013* is a legal instrument that zones land, imposes standards to control development, and implements State and local policy outcomes for land use planning. It comprises a written legal instrument and a series of maps (extracts from the *Port Stephens Local Environmental Plan 2013* including Figure 10 *Zoning Map* and Figure 11 *Lot Size Map* for Medowie is shown below (note: refer to the website www.legislation.nsw.gov.au for the current version of the *Port Stephens Local Environmental Plan 2013* and zoning and lot size maps).

In order to consider amendments to the *Port Stephens Local Environmental Plan 2013* to facilitate delivery of urban release areas identified in the Strategy, a planning proposal addressing the range of planning instruments, policies and site development issues is required for consideration and assessment.

Figure 10 Zoning Map (Port Stephens Local Environmental Plan 2013)

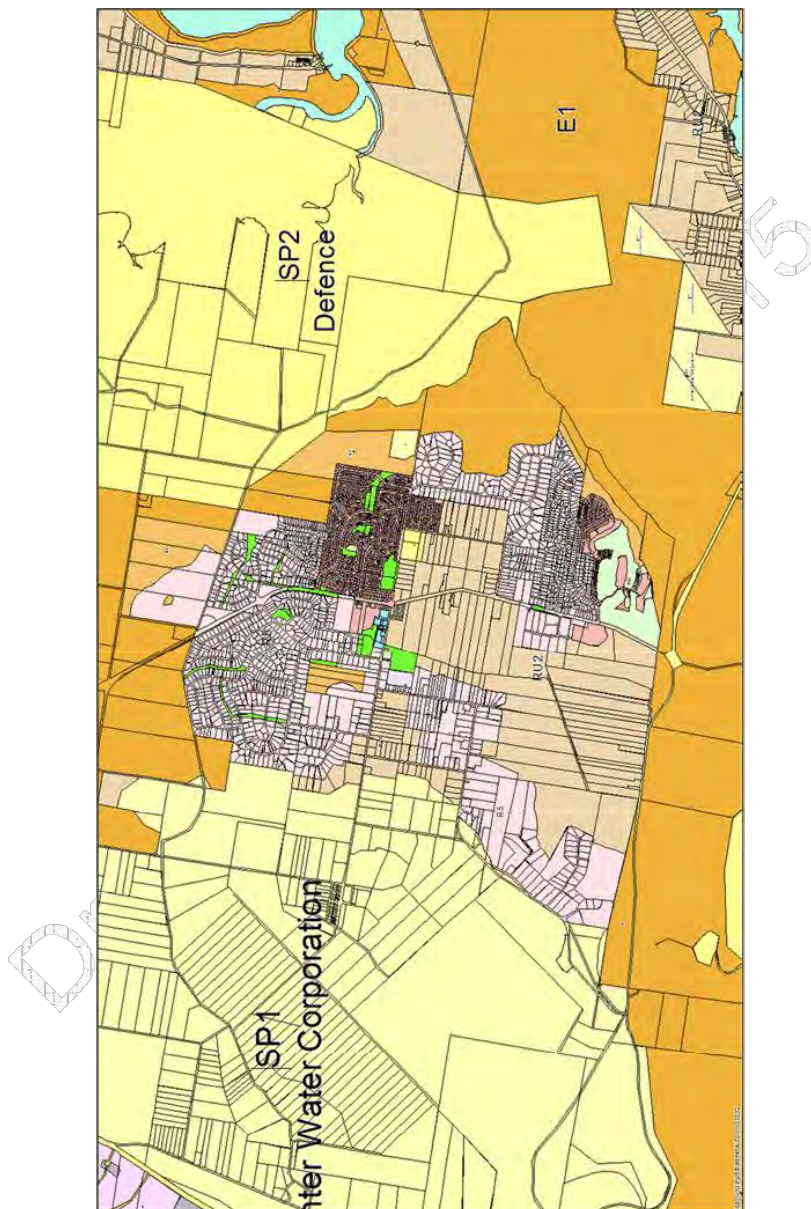
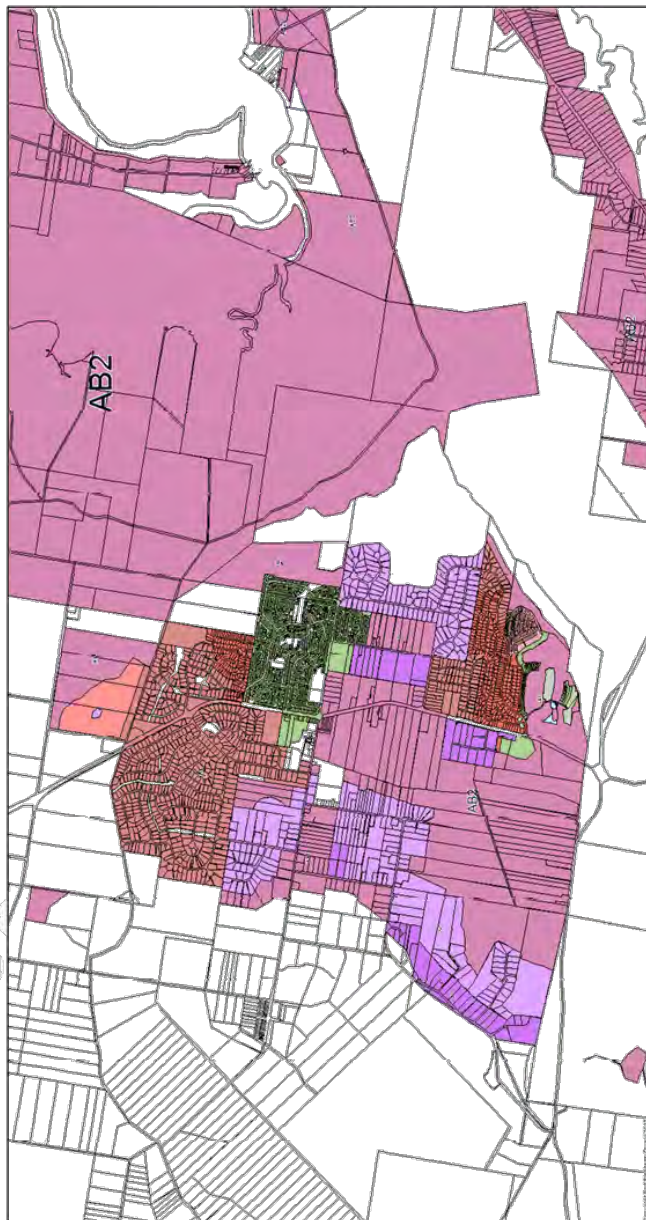


Figure 11 Lot Size Map (Port Stephens Local Environmental Plan 2013)



ITEM 3 - ATTACHMENT 1 DRAFT REVISED MEDOWIE PLANNING STRATEGY.**6.2.5 Port Stephens Development Control Plan 2014**

The *Port Stephens Development Control Plan 2014* contains development design principles and controls at a more detailed level than the *Port Stephens Local Environmental Plan 2013*. The *Port Stephens Development Control Plan 2014* is comprehensive and applies most types of development.

In addition to controls applying to development in general, the *Port Stephens Development Control Plan 2014* has controls for specific development types and locations. Urban release areas identified in the Strategy will require the preparation of site-specific development control plans that address a range of detailed planning matters set out in *Clause 6.3 Development control plan* of the *Port Stephens Local Environmental Plan 2014* including:

- A staging plan for the timely and efficient release of urban land, making provision for necessary infrastructure and sequencing;
- An overall transport movement hierarchy showing the major transport routes and connections to achieve a simple and safe movement system for private vehicles, public transport, pedestrians and cyclists;
- An overall landscaping strategy for the protection and enhancement of riparian areas and remnant vegetation, including visually prominent locations, and detailed landscaping requirements for both the public and private domain;
- A network of passive and active recreation areas;
- Stormwater and water quality management controls;
- Amelioration of natural and environmental hazards, including bushfire, flooding and site contamination and, in relation to natural hazards, the safe occupation of, and the evacuation from, any land so affected;
- Detailed urban design controls for significant development sites;
- Measures to encourage higher density living around transport, open space and service nodes;
- Measures to accommodate and control appropriate neighbourhood commercial and retail uses; and
- Suitably located public facilities and services, including provision for appropriate traffic management facilities and parking.

The *Port Stephens Development Control Plan 2014* is structured to provide for location-specific development controls. In Medowie, this mechanism will be used to implement a number of initiatives outlined in the Strategy, including provisions relating to the Medowie Town Centre Master Plan.

6.2.6 Port Stephens Section 94 and 94A Development Contributions Plans 2007

Section 94 developer contributions plans provide for the levying of contributions, as a condition of development consent, towards the public capital costs for facilities required as a result of new development. These plans also detail Council's policy for the assessment, collection, spending and administration of contributions.

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The yearly allocation of funds to specific projects takes place during the budget process, which is undertaken as part of the Council's *Operational Plan*, although the overall allocation of funds to projects is shown in the *Port Stephens Section 94 Development Contributions Plan 2007*.

In addition to the general provisions of the *Port Stephens Section 94 Development Contributions Plan 2007*, at the time of writing the draft *Medowie Local Area Contributions Plan – Traffic and Transport* (based on the *Medowie Strategy* as adopted in 2009) had been placed on public exhibition.

6.2.7 Port Stephens Comprehensive Koala Plan of Management

The *Port Stephens Comprehensive Koala Plan of Management* (CKPOM) has been prepared in accordance with *State Environmental Planning Policy No. 44 - Koala Habitat Protection* (SEPP 44). The principal aim of the CKPOM is identical to that of SEPP 44, being "...to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas, to ensure permanent free-living populations over their present range and to reverse the current trend of population decline." The CKPOM is approved by both Council and the Director-General of Urban Affairs and Planning (now NSW Planning and Environment). It supersedes the requirements of SEPP 44 for the investigation of potential and core koala habitat, and the requirement for the preparation of individual koala plans of management. Compliance with the CKPOM will effectively constitute compliance with SEPP 44 for relevant matters in the Port Stephens LGA. The indicative location of preferred koala habitat is shown in Figure 12 *Preferred Koala Habitat*.

The large majority of koala habitat is situated within and along the border of flood prone land. Key habitat corridors are also identified in the Strategy. However, some areas identified for urban development may be inconsistent with the CKPOM, because of proposed development of, or development in proximity to, preferred koala habitat and buffers. This would need to be further assessed and considered during the planning proposal stage. Any biodiversity impacts require assessment, and where applicable, biodiversity offsetting in accordance with policy and legislation applicable at the time.

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Figure 12 Preferred Koala Habitat



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The performance criteria for rezoning requests in the CKPOM are that Planning Proposals should:

- a) *Not result in development within areas of Preferred Koala Habitat or defined Habitat Buffers;*
- b) *Allow only for low impact development within areas of Supplementary Koala Habitat and Habitat Linking Areas;*
- c) *Minimise the removal of any individuals of preferred koala feed trees, wherever they occur on the site; and*
- d) *Not result in development which would sever koala movement across the site. This should include consideration of the need for maximising tree retention on the site generally and for minimising the likelihood of impediments to safe/unrestricted koala movement.*

Planning proposals seeking amendment to the *Port Stephens Local Environmental Plan 2013* to facilitate delivery of urban release areas identified by the Strategy will need to address the provisions of the CKPOM.

In addition to the CKPOM, the koala is protected by State and Commonwealth legislation under the *Threatened Species Conservation Act 1995* (NSW) and the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). Additional consideration and assessment of the provisions of this legislation may be required for planning proposals and development applications in Medowie.

6.2.8 Port Stephens Aircraft Noise Policy 2010

The *Port Stephens Aircraft Noise Policy 2010* aims to provide a framework for planning decisions relating to aircraft noise. It sets out principles that are to guide planning proposals, development assessment, provision of aircraft noise information, and efforts to initiate ameliorative programs.

The method used in Australia for measuring aircraft noise exposure is known as the Australian Noise Exposure Forecast (ANEF) system. ANEF maps are a noise exposure forecast for a particular time in the future or based on particular circumstances (such as ultimate capacity). ANEF maps are referenced in the parts of *Australia Standard 2021-2015 Acoustics – Aircraft noise intrusion – Building siting and construction* that are applied to land use planning.

As mentioned previously, two Australian Noise Exposure Forecast (ANEF) maps have been published in recent years:

- *RAAF Base Williamtown & Salt Ash Weapons Range 2025 ANEF* (Figure 15) – this forecast was made on 10 August 2011, and is based on predicted conditions in 2025. It reflects the operation of Joint Strike Fighter combat aircraft after 2018 and the continued operation of the Hawk aircraft.
- *RAAF Base Williamtown & Salt Ash Weapons Range 2012 ANEF* – this forecast was made in 2003, and is based on predicted conditions in 2012. It reflects the operation of existing Hawk and Hornet aircraft and is expected to continue to at least 2018.

Figure 13 Aircraft Noise Planning Area



Figure 14 Figure 14 RAAF Base Williamtown and Salt Ash Air Weapons Range 2025 ANEF



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It is an established convention that there will only be one current ANEF map for a given airport at any one time, this being the latest map endorsed by the relevant authority. However it is prudent to consider the (former) 2012 ANEF map for such a period that it continues to be relevant.

It follows that, for land use planning purposes Council applies an *Aircraft Noise Planning Area* (Figure 13) which defines the area within which aircraft noise should always be considered in planning and development decisions. The *Aircraft Noise Planning Area* is a composite of the 2025 ANEF and the 2012 ANEF.

Notwithstanding that the majority of Medowie is not located within ANEF contours, planning proposals need to consider the relevant provisions of *Direction 3.5 Development near licensed aerodromes; Port Stephens Local Environmental Plan 2013; Australia Standard 2021-2015 Acoustics – Aircraft noise intrusion – Building siting and construction* and the provisions of the *Port Stephens Aircraft Noise Policy 2010*.

6.3 Water catchments

6.3.1 Grahamstown Dam Drinking Water Catchment

Maintaining healthy drinking water catchments is fundamental to the provision of safe, high quality drinking water for the region. The quality of the water stored in our region's dams and sandbeds affects the level of subsequent treatment required and therefore the cost of the water delivered to the community. In addition to the provision of safe drinking water, effective catchment management also achieves multiple benefits such as improved habitat and lifestyle benefits through improved amenity.

Grahamstown Dam, operated by Hunter Water, is a major source of drinking water for the Lower Hunter region, supplying around 50% of its needs on an ongoing basis.

A large proportion of Medowie is located within the Grahamstown Dam catchment area, which coincides with the Campvale Sub-catchment shown in Figure 16 *Catchment Map*. Campvale Drain collects rainwater runoff in Medowie, and Hunter Water Corporation's Campvale Pumping Station pumps water from the drain into Grahamstown Dam. There is no alternative discharge for these flows. Campvale Drain has a catchment area of approximately 19.5km² and represents approximately one quarter of the Grahamstown Dam catchment. It contributes around 7% of the water flowing into the Dam.

A small area of land along the western edge of Medowie drains directly into Grahamstown Dam. Controls on development in areas draining directly to the Dam are of critical importance for the protection of water quality. Risks from land use in this area are two-fold; those associated with stormwater run-off, and those associated with increased and uncontrolled land use intensity. Not only is the risk of pathogens and nutrients increased in this area from direct drainage into the Dam, but

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more intense development also results in greater risks from indirect and uncontrolled activities associated with adjacent development, such as informal recreation, pollution, swimming, dog walking etc. As land use intensity increases in proximity to the Dam, so does the risk to water quality in the drinking water source. Increased development on land draining directly to the Dam is highly constrained and requires very careful consideration for these reasons.

Water is extracted from Grahamstown Dam approximately 2.5 kilometres from the Campvale Drain outlet, at the George Schroeder Pump Station in Finnan Park (located along Grahamstown Road). It is then delivered to Grahamstown Water Treatment Plant for treatment to the standard required by the *Australian Drinking Water Guidelines* before distribution to Hunter Water Corporation's system.

The Campvale Drain catchment is highly urbanised with additional growth planned. In addition to the Medowie urban centre, it also includes a diverse range of land zonings including residential, rural residential, rural small holdings, commercial, industrial, environmentally protected, and forestry land. Stormwater runoff from urban areas, agricultural areas, non-sewered properties and the reticulated wastewater system all have the potential to introduce water quality hazards and contribute to declining water quality in the Drinking Water Catchment.

If not managed appropriately, increasing development within the catchment could cause a deterioration of water quality within Grahamstown Dam. Hunter Water Corporation uses a risk-based approach to identify and manage potential threats to water quality in accordance with the *Australian Drinking Water Guidelines*. This includes maintaining robust multiple barriers, with protection of water sources being of paramount importance.

As with other areas within the drinking water catchments, the Campvale Drain catchment is subject to the *Hunter Water Regulation 2015* (NSW). As such, any proposal that has the potential to impact on Hunter Water's water reserves is subject to review under Section 51 of the *Hunter Water Act 1991* (NSW) which requires Council to notify Hunter Water Corporation of development applications that may impact the drinking water source.

Any development application within the Drinking Water Catchment is also subject to the provisions of *Clause 7.8 Drinking Water Catchments* of the *Port Stephens Local Environment Plan 2013*. The objective of this Clause is to protect drinking water catchments by minimising the adverse impacts of development on the quality and quantity of water entering drinking water storage areas.

Managing the Region's drinking water catchments requires effective collaboration between a range of stakeholders including Hunter Water, local government, regulators, the agricultural, commercial and industrial sectors, landowners and the community.