5 Numurkah

05 Numurkah

5.1 Study Area

This section considers the Numurkah Study Area as shown in Figure 5.1 below.

It covers an area of approximately 32ha and is generally bounded by Pine Street to the north, Kinnairds Road to the east, Wattle Drive to the south and existing residential development to the west.

5.2 Site Analysis

The Site Analysis Plan is included as Attachment 5.2. An aerial photo of the Study Area is also included with this attachment. This section summarises the key features, opportunities and constraints, traffic issues, and infrastructure issues of the Study Area.

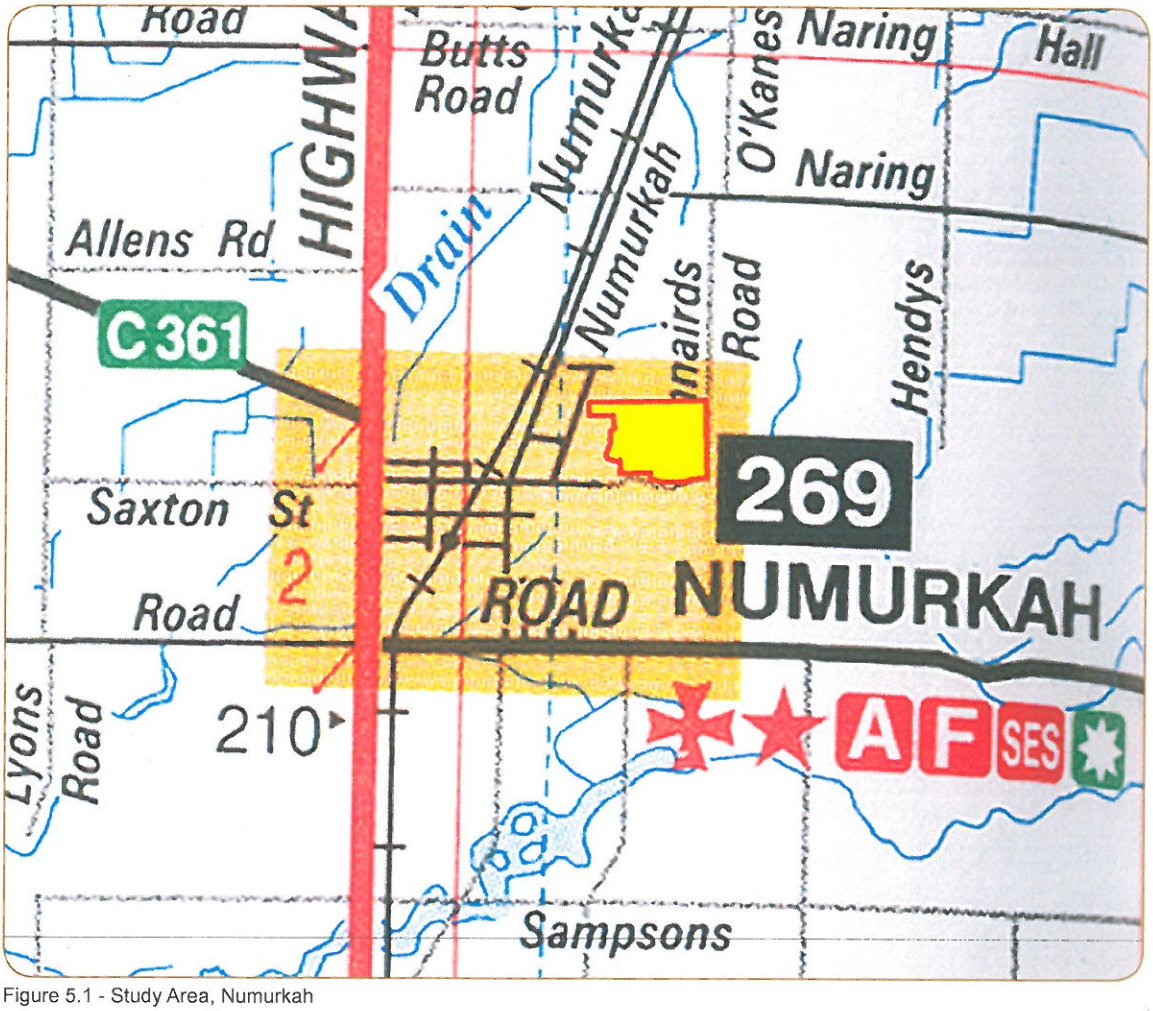


Figure 5.1 - Study Area, Numurkah

5.2.1 Key features & opportunities & constraints

Key features and the opportunities and constraints of the Study Area include:

- The study area comprises four main separately owned titles with a combined approximate area of 33ha.
- Kinnairds Road and Pine Street form the areas major road network. Wattle Drive also provides an important road function.
- Potential road connections exist in four key locations:
  1. Southern connection from Pine Street.
  2. Northern connection from Wattle Drive between the two lots already existing in this location.
  3. Eastern extension of Maple Drive at both its southern and northern ends.
- A connection from Kinnairds Road is not possible due to the irrigation channel.
- Open space in the area is limited. A small local reserve exists to the direct west of the Study Area off Maple Drive, whilst more significant open space exists to the south adjacent to the lake and through to Kinnairds Wetland. A new local reserve is also proposed at the end of Birch Court to connect through to Maple Drive.
- Potential open space links exist to both the west and south:
  1. Eastern extension of the Maple Drive reserve.
  2. Provision of reserve between Birch Court and Maple Drive (as proposed).
  3. Connection to lake.
  4. Southern connection to Wattle Drive potentially through to Kinnairds Wetland.
- The site is approximately 2.5kms north-east of the Numurkah Town Centre.
- Three schools exist in the area, being Street Josephs School and the Numurkah Primary School approximately 1km south-west of the site and Numurkah Secondary College adjoining the site to the north-west.

- There are mature existing trees in the eastern half of the site which have the potential to be incorporated into a suitable public open space.
- An irrigation channel exists within the Study Area running parallel to Kinnairds Road.
- A café/ milk bar on Wattle Drive provides local retail services.

These features, opportunities and constraints significantly influence the layout of the Development Plan. How they influence the DP is discussed further below in Section 5.4.1.

5.2.2 Infrastructure issues

Electricity

Powercor Australia Ltd is the network service provider for the study area.

The existing overhead infrastructure in the vicinity of the study area can be utilised to supply the proposed development.

In the event that the existing high voltage lines need reconductoring or extending as a consequence of a detailed assessment of the loading demands within the study area, Powercor's current policies dictate this work generally be completed at Powercor's cost, but Developers should confirm specific requirements and conditions by formal application to Powercor.

The usual strategy of High Voltage underground cable extensions to substations sited as appropriate throughout the development with Low Voltage domestic underground cable reticulation to the lots would apply.

In relation to development costs, current policy conforms to the statutory requirement for Powercor to allow construction to be carried out comprising a mix of non-competitive works (ie works to be done by the Network service provider) and competitive works (ie works to be done by accredited contractors). Powercor will provide a fee offer and procedural conditions upon formal application.

Telecommunications

Telstra is the network service provider and they advise that they have a statutory responsibility to provide a network service to the respective property boundaries of the sites within the study area. The usual developer shared trenching conditions would apply within the proposed development (i.e. developer to fund shared trenching).

Telstra has existing assets in the vicinity of the study area. The need or otherwise to upgrade their network assets would be investigated in detail at the time of application for a Planning Permit.

Sewerage

Goulburn Valley Region Water Authority (GV Water) is the responsible sewerage authority. GV Water has existing assets in the vicinity of the study area.

GV Water advises that the study area can be fully serviced. The servicing can be achieved in part by extensions to their existing gravity sewerage reticulation mains and in part via the construction of new sewage pumping stations, rising mains and gravity reticulation mains.

The cost of new works would have to be borne by either the Developer(s) or GV Water in accordance with the statutory guidelines of the Essential Services Commission, Victoria (ESC). Generally, non-shared reticulation assets within a Developer's landholding that are 225mm or less in diameter are to be fully funded by the Developer. Larger trunk mains or shared distribution assets are to be fully funded by GV Water or otherwise by agreement between GV Water and the Developer(s) with ESC consent. There are formulae that apply to the funding of shared distribution assets whereby in the event that the said asset is not reasonably expected to be funded within GV Water's financial forward planning, then the Developer is required to contribute to the cost of the works. GV Water have indicated that they are very interested in negotiating with the respective landowners within the study area in an

effort to maximise the overall benefit to the respective landowners and minimise the overall costs as a consequence of constructing new infrastructure.

GV Water requires Developers to enter into a "Deed of Agreement For Developer Constructed Works." Detailed conditions relating to the required "Developer constructed works" are subject to an appraisal of an investigation report to be submitted to GV Water by the Developer's accredited consultant.

Potable Water

Goulburn Valley Region Water Authority (GV Water) is the responsible water authority. GV Water has existing assets in the vicinity of the study area.

GV Water advises that the study area can be fully serviced. The servicing can be achieved by the construction of water reticulation main extensions throughout the study area and connecting to the existing nearby assets.

The cost of new works would have to be borne by either the Developer(s) or GV Water in accordance with the statutory guidelines of the Essential Services Commission, Victoria (ESC). Generally, non-shared reticulation water mains within a Developer's landholding that are 150mm or less in diameter are to be fully funded by the Developer. Larger trunk mains or shared distribution assets are to be fully funded by GV Water or otherwise by agreement between GV Water and the Developer(s) with ESC consent. There are formulae that apply to the funding of shared distribution assets whereby in the event that the said asset is not reasonably expected to be funded within GV Water's financial forward planning, then the Developer is required to contribute to the cost of the works.

GV Water requires Developers to enter into a "Deed of Agreement For Developer Constructed Works." Detailed conditions relating to the required "Developer constructed works" are subject to an appraisal of an investigation report to be submitted by the Developer's accredited consultant.

Drainage

Moira Shire Council is the responsible drainage authority for the study area and the receiving water of the stormwater runoff from the study area is the Broken Creek. The stormwater will discharge to the Broken Creek via a series of existing and proposed retarding basins, wetlands, pumping stations, rising mains, underground piped and open stormwater outfall drains.

Moira Shire is desirous of the stormwater drainage works within the study area being designed to accord with the current best practice principles contained in "Urban Stormwater Best Practice Environmental Guidelines, CSRIO 1999".

As such, the post construction performance objective of the drainage system is to achieve 80% retention of the typical urban load of suspended solids, 45% retention of the typical urban load of total phosphorus, 45% retention of the typical urban load of total nitrogen and 70% retention of the typical urban load of litter. Furthermore, flows from the study area need to be retarded such that they do not exceed the pre-development discharge that would result from a storm having an average recurrence interval of once every 1.5 years. Moira Shire will also require retardation to cater for the 1 in 100 year event.

Development will also have to accord with the construction phase performance objectives of limiting and preventing sediment, litter and other pollutants from entering the receiving waters.

Consequently, Development within the study area will have to accord with the "Best Practice Guidelines" and Developers will have to consider the adoption of "Water Sensitive Urban Design (WSUD)" principles.

Costs for drainage works including water quality improvement and retardation will be borne by the Developers.

Based on general drainage computations, 8 - 10% of the land area will be required to retard and treat stormwater on site, if it is to be appropriately integrated with open space areas.

5.3 Planning Context

5.3.1 Zoning

The zoning of the Study Area is illustrated in Figure 5.2 below.

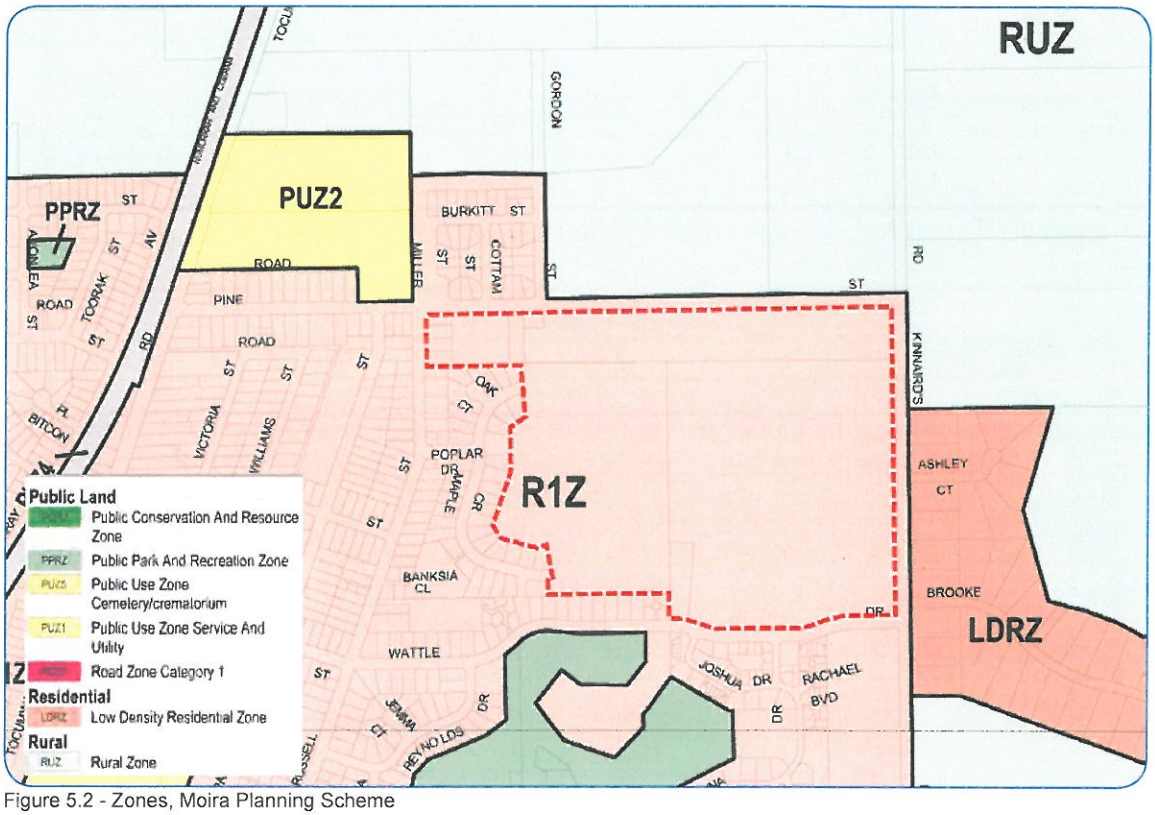


Figure 5.2 - Zones, Moira Planning Scheme

The Study Area is included within the Residential 1 Zone (R1Z). The purposes of the R1Z are:

- To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- To provide for residential development at a range of densities with a variety of dwellings to meet the housing needs of all households.
- To encourage residential development that respects the neighbourhood character.
- In appropriate locations, to allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs.

A planning permit is required to subdivide land. The subdivision must be in accordance with Clause 56 of the Moira Planning Scheme.

5.3.2 Overlays

The Development Plan Overlay 1 (DPO1) applies to land zoned R1Z within the Study Area.

The DPO1 is named "Land North of Murray Valley Highway, Cobram, Land West of Weir Road, Nathalia, Land Adjoining Goulburn Valley Highway and Trengrove Street, Numurkah, Land South of Pine Street, Numurkah and Land North of Elliots Road, Bundalong".

The DPO1 specifies that a Development Plan for this area must describe:

- The means of servicing to lots including the provision of reticulated water and sewerage to all residential lots;
- Layout of connector roads and the impact on the surrounding road system;
- The design and make up of residential lot density in a manner that reflects demand of the area;
- The need for open space and any other community infrastructure as considered necessary by the responsible authority; and
- The impact of the development on any sites of flora or fauna significance, archaeological significance or significant views that may affect the land.

A permit may be granted before a Development Plan has been prepared to the satisfaction of the responsible authority for the purposes of subdivision.

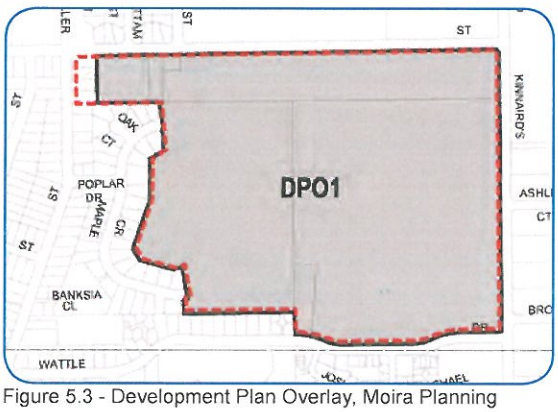


Figure 5.3 - Development Plan Overlay, Moira Planning Scheme

5.4 Development Plan

The Development Plan is included as Attachment 5.5. It provides the development, road and open space networks for the Study Area and has been developed cognisant of the issues outlined at Section 5.2. This section identifies the key influences on the development of the plan and then discusses its key features.

5.4.1 Key influences

The following issues have significantly influenced the development of the Development Plan:

- The need to provide appropriate interfaces to existing development and infrastructure.
- The need to provide a connected and permeable movement network
- The need to provide appropriate water quality treatment, shared between landowners
- The need to provide integrated and useable public open space
- The need to provide a diversity of lot and dwelling opportunities.

Appropriate development interfaces

Section 5.2 outlines the site's interfaces, including each of these impacts upon the adjacent land uses proposed in the Development Plan, as outlined below.

The main access to the site occurs along Pine Street to the north and Wattle Drive to the south. Due to the location of the town centre to the south, Wattle Drive is likely to be the most used access point, with traffic volumes along it potentially increasing.

Being connected to existing residential development, the site is almost considered 'infill development'. The proposed lot layout and road network connects to the existing Maple Drive network to the west and links

it to a north - south/east - west orientated network which provides for an appropriately orientated lot layout. The lot layout will thus be able to comply with standards outlined in clause 56 and will provide for solar efficient design for dwellings, better utilisation of existing and future services and view lines from Pine Street to the proposed open space network.

Existing nearby open spaces include the lake, Broken Creek and Kinnairds Wetlands, all south of the site. The proposed public open space network provides for green links through the site, north-south from Pine Street and east-west from Russell Street. The link strategically adjoins existing development and provides for public open space within walking distance of all future development.

The location of the irrigation channel limits access to Kinnairds Road. As there is the possibility of this channel being removed in the future, an appropriate design response is required to:

1. Address GMW's required building setbacks, and
2. Allow for the lots to be further subdivided in the future should the channel be decommissioned and the opportunity for lots to front Kinnairds Road to be provided.

The existing café/milk bar services a limited area, and has changed ownership relatively frequently in recent times. However, with future development of the study area providing demand, it may be appropriate for the small local business site to be provided with a second road frontage to facilitate subdivision and development should that be desired.

A connected and permeable movement network

Numurkah's population increased by over 24% between 1981 and 2001. In accordance with State Planning Policy, a minimum 10 years of residential land supply should be maintained in Numurkah.

In terms of Nurmurkah's longer term growth, areas north of Pine Street and west of Wallace Street are likely to be considered. It is appropriate to consider the basic development implication of any development north of Pine Street as the structure of the DP for the Study Area should be designed cognisant of this long term potential.

Pine Street provides an alternative access to the town centre to Wattle Drive. It is also potentially a more direct route with more appropriate reservation widths. To this end connections to Pine Street from the Study area should be encouraged to disperse its traffic movements.

Connections through Maple Drive should be provided, though be local in nature to ensure the amenity of existing residents in this area is retained.

Whilst the Development Plan cannot provide new east-west connections through existing developments, it can provide a network that disperses the traffic and thus reduces the impact of future development on the existing road network. Important in this is capitalising on the limited opportunities identified in the Site Analysis stage, and ensuring new development within the Study Area adopts a connected, permeable network. Opportunities have been identified for east-west through connections for pedestrians with green through links providing access to Russell Street.

Water Quality Treatment

Drainage issues exist across the study area and require a minimum of 8 - 10% of the study area to manage these issues, and probably more if deep retarding basins are to be avoided or at least softened. This includes both the 'water' component plus surrounding land. The 'water' component is not useable open space, and thus cannot be included in the open space contribution. Depending on the surrounding land's usability as result of detailed design, it may be included in the open space contribution.

As a general principle the design outcomes achieved by older retarding basins (i.e. a hole in the ground where it is necessary to fence the entire area and consequently there is no integration with surrounds) are to be avoided.

Water quality controls are now such that deep water bodies will not deliver adequate quality of discharge to other waterbodies. Where practical, open space has been combined with the drainage retardation and water quality control measures, to ensure that an integrated approach to water retardation and quality treatment is undertaken, and that the area surrounding these functions is usable open space.

Virtually all drainage and open space areas have street frontage on all sides. This is to ensure that passive surveillance is always present, and will also generate amenity benefits for land that is proximate to the open space.

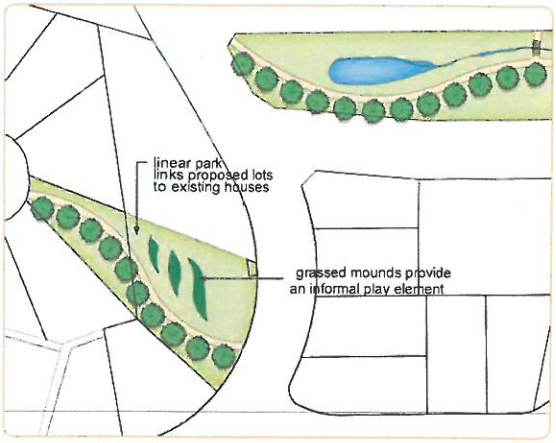
Useable and accessible open spaces

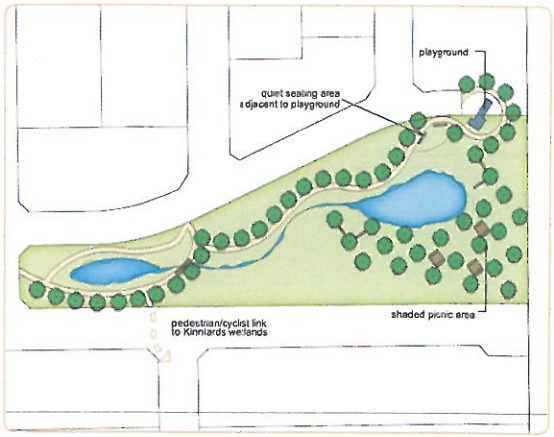
Section 5.2 identified a number of open spaces adjacent to the study area, and opportunities for them to be developed to create useable, accessible spaces.

The provision of open space in Numurkah, and indeed all towns studied during this project, is generally ad hoc and does not meet the requirements of the community. The smaller spaces identified in Section 4.2 are generally small 'left over' pockets of land that the subdivision developer has reluctantly provided to meet their obligations of the Subdivision Act 1988.

The Subdivision Act 1988 requires developments to provide a maximum of 5% of the developable land for open space. This may be provided in land or the cash equivalent. Many metropolitan Councils, particularly those in growth areas, require a higher minimum percentage of open space for new developments. Clause 52.01 of the Moira Planning Scheme provides for this, though requires a planning scheme amendment to be enforced. This in turn requires an open space strategy to be produced and justification for a higher contribution provided.

In addition, many of these Councils do not accept encumbered open space as part of the 5% contribution. Encumbered open space is that space used for another purpose (e.g. required for drainage





purposes, is subject to inundation) and thus may not be useable at all times. Clauses 12 and 56 of the Moira Planning Scheme provide specific objectives for open space and the provision of encumbered land generally does not meet these.

With an approximate area of 33ha, the Study Area should provide approximately 1.65ha of open space.

The primary open space opportunity is to provide linkages to the lake, Broken Creek and the Kinnairds Wetlands to the south. This link may incorporate the site's required drainage functions plus the existing vegetation in the eastern portion of the site.

A key opportunity exists to integrate the two spaces within the Maple Drive subdivision with this link, thus providing an integrated space for both new and existing residents.

As noted previously it is also appropriate for a link through to Pine Street to be developed to accommodate any future residential development north of the Study Area.

An advantage of a Development Plan is that this space can be equitably distributed across the area. Equity in this sense refers to the need to take account of land ownership patterns and ensure that one landholder does not provide all the open space with no compensation from others. This requires consideration by a development contributions plan.

Diversity of development options

With an approximate developable area of 28ha, the Study Area has the ability to provide approximately 280 lots, depending on the ultimate density of development.

As is the trend across Australia, though particularly in regional areas, our population is ageing. The number of dwellings required to accommodate this ageing population is in excess of the population growth. This is primarily attributed to the strong growth in single people households and the general decline in household size. These factors support the argument to generally reduce lot sizes, or increase development densities. In addition, this strategy in theory should capitalise on existing infrastructure and limit the growth of our urban footprints. State Planning Policy strongly encourages a better utilisation of our infrastructure and is a strong advocate for increased development densities across the State.

What an increased development density means is particular to a town, suburb or region. As per most traditional subdivision developments, the existing average lot size in Numurkah is likely to be 800 to 1200sqm. Newer developments are likely to be less than this, and the newer unit developments are likely to have an average lot size of around 400 to 500sqm.

The Development Plan does not provide a lot layout though will specify areas of development density – 'standard', 'low' and 'medium' - and average lot sizes. The lot layout detail is to be provided at the subdivision application level. A key purpose of the Development Plan is, however, to provide a flexible movement and open space network that will provide for a range of lot layouts and general development densities. A grid based network is most efficient in this regard, and also encourages a lot layout which promotes a high level of solar efficiency.

The location of medium density development should be dictated by the location of open space and good access to potential public transport routes. Medium density lots should achieve an average size of 500sqm. Being located adjacent to public parkland provides these lots with added amenity and space that the lot is otherwise not able to provide. Importantly, these lots should 'front onto' the space to provide the added benefit of passive surveillance.

'Standard' density lots should achieve an average lot size of 800sqm, though their design and end density will depend upon particular site constraints.

5.4.2 Development Plan features

This section provides detail of the key elements of the Development Plan.

Development Analysis

NUMURKAH DEVELOPMENT ANALYSIS			
			% G. D. Area
Site Area	**32.7**	**Ha**	
Encumbered Open Space	**1.1**	**Ha**	
Irrigation Channel	1.1	Ha	
Gross Developable Area	**31.6**	**Ha**	
Public Open Space	3.5	Ha	11.1%
Local Parks & Linear Links	0.4	Ha	1.3%
Open Space for Drainage & Water Treatment	3.1	Ha	9.8%
Net Developable Area	**28.1**	**Ha**	
Neighbourhood Convenience Centre	0.5	ha	
Roads	**6.1**	**Ha**	**19.3%**
Net Residential Area (undeveloped)	**21.5**	**Ha**	**68.0%**
Higher Density Area	1.1	Ha	
Standard Density Area	20.4	Ha	
Potential Development Yields			
			% Total Yield
Higher Density Area (average lot size 500 sqm)	22	lots	8%
Standard Density Area (average lot size 800 sqm)	255	lots	92%
Estimated Total Yield	**277**	**lots**	**100%**
Note: Residential Areas includes already approved/developed areas within the DP boundary			

Open Space

The Development Analysis identifies approximately 3.5ha of land for open space in two key spaces:

1. East-west reserve with through green links to Kinnairds Road and Russell Street
2. North south reserve linking with Pine Street.

Both reserves provide for more than the 5% open space requirements at present. However as previously discussed the reserve will also perform a drainage and water quality treatment function reducing the total area of public open space. The exact percentage of these requirements are currently unknown but due to the ample provision of space are likely to allow for the 5% unencumbered public open space requirements, with the other linear links provided.

The general objectives for the drainage measures required are outlined further below but specific detail and areas will need to be determined at the subdivision application stage. This will need to consider what land is encumbered and unencumbered and thus what can be attributed towards the open space contribution.

In addition to providing the Study Area's drainage functions, the reserves also provide increased amenity in the public open space with the drainage reserves having the ability to act as aesthetic lakes and wetlands. This will ensure the reserves are clean, used, safe and pleasant and not merely 'holes in the ground'.

The central east -west reserve and local pocket park links residents to the main road along Russell Street and provides an appropriate outlook and interface with the adjacent proposed medium density area.

Home-based business

The Business areas located within the study area are extremely local in nature and are designed to encourage home occupation business along Pine Street. Because of the limited nature of home-based business, rezoning will not be required. Lots larger than standard lots are recommended to allow for increased amenity in these areas and to accommodate the additional on-site buildings/storage areas required.

A home occupation must meet the following requirements (refer to clause 52.11 of the Moira Planning Scheme):

- The person conducting the home occupation must use the dwelling as their principal place of residence
- No more than one person who does not live in the dwelling may work in the occupation
- The gross floor area used in conducting the occupation including the storage of any materials or goods must not exceed 50 square metres or one-third of the gross floor area of the dwelling, whichever is the lesser
- The occupation must not impose a load on any utility greater than normally required for domestic use
- The occupation must not adversely affect the amenity of the neighbourhood in any way including:
    - The appearance of any building, works or materials used
    - The parking of motor vehicles
    - The transporting of materials or goods to or from the dwelling
    - The hours of operation
    - Electrical interference
    - The storage of chemicals, gasses or other hazardous materials
    - Emissions from the site
- No motor vehicle may be serviced or repaired for gain
- Only one commercial vehicle (a commercial goods vehicle, commercial passenger vehicle or tow truck within the meaning of the Transport Act 1983), not exceeding 2 tonnes capacity and with or without a trailer registered to a resident of the dwelling may be present at any time. The vehicle must not be fuelled or repaired on the site
- No goods other than goods manufactured or serviced in the home occupation may be offered for sale
- Materials used or goods manufactured, serviced or repaired in the home occupation must be stored within a building
- No goods manufactured, serviced or repaired may be displayed so that they are visible from outside the site.

Movement network

Due to development to the west of the site, and the irrigation channel to the east, external access is primarily provided in an east-west direction along Pine Street and Wattle Drive. Two new connections are proposed to Pine Street and one to Wattle Drive ensuring external access is sufficiently provided.

There is the opportunity to provide more east–west connections to the site across the irrigation channel should it be under-grounded or decommissioned. This would help create a more permeable road network. Provision has been made for this in the plan.

The internal road network is primarily east-west and north-south. The local road network generally follows the grid structure of the proposed key roads.

The Development Plan area provides around 280 dwellings at the most likely development density of 10 dwellings per hectare. Additional traffic generation is likely to be in accordance with figure 5.4.

Wattle Drive has been designed as a connector street and therefore can accommodate the additional traffic.

Internal streets should be "Access Street" in accordance with Clause 56 of the Moira Planning Scheme, which means 7.2 metre carriageways in reservations at least 16 metres width.

At Wattle Street near Sheyna Drive the open space link will need to cross Wattle Drive. To preserve pedestrian safety and amenity we proposed an arrangement as shown in figure 5.5.

The Development Plan provides a well connected movement that can be used for public transport should that be provided.

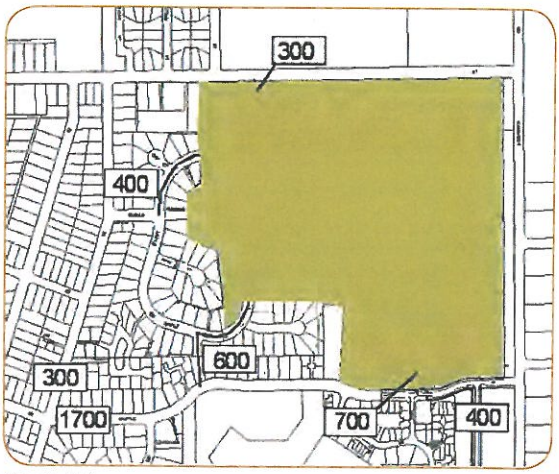


Figure 5.4

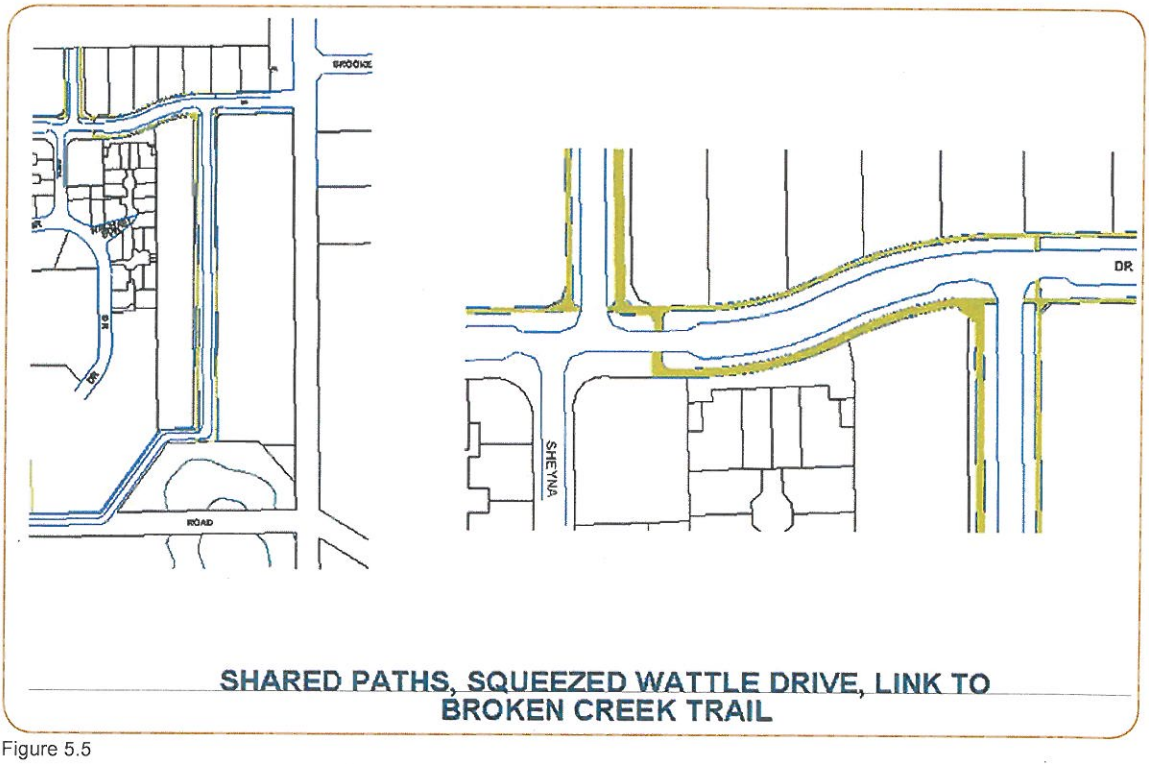


Figure 5.5

Residential development

Over 28ha of residential land will be provided by this Study Area. Previous discussion refers to the need to provide a diversity of development options. This is achieved in this Study Area by identifying areas of 'standard', 'medium' and 'low' densities. The vast majority is 'standard' and it is anticipated these areas will achieve a lot size of between 700sqm and 1000sqm, and an average of 800sqm. The road network provides the flexibility, however, for alternative averages to be achieved if so desired.

Pockets of medium density development are identified throughout the Study Area. These are all located adjacent to open space to provide either added lot amenity or critical mass. It is anticipated these areas will achieve an average lot size of 500sqm, though flexibility in the road network provides for alternative averages to be achieved if so desired.

Vegetation

Areas of the scattered vegetation identified in the site analysis plan need further flora and fauna and arboricultural assessments before their potential for retention can be determined. At present the mature trees in the eastern section of the site may be unhealthy and thus their viability and chances of survival are unknown and as such not specifically included in the development plan.

An arboricultural assessment of these trees should be included with any subdivision planning permit application, and if identified as viable, should be retained within open space. A planning permit may be required for their removal.

Pedestrian/Bicycle Network Plan

5.5 Development Contributions

It is important that the cost of providing open space and key infrastructure items is equitably distributed. Ideally these matters would be considered as part of a Development Contributions Plan (DCP), though a DP can provide the same level of guidance without the statutory requirements of the DCP.

5.5.1 Open Space

Approximately 3.5ha of public open space is to be provided across the Study Area. Of this, 0.4ha is to be provided as local parks, and thus is considered unencumbered, and 3.1ha is to be provided for drainage and water quality treatment purposes, and thus is considered encumbered.

The public open space is distributed as follows:

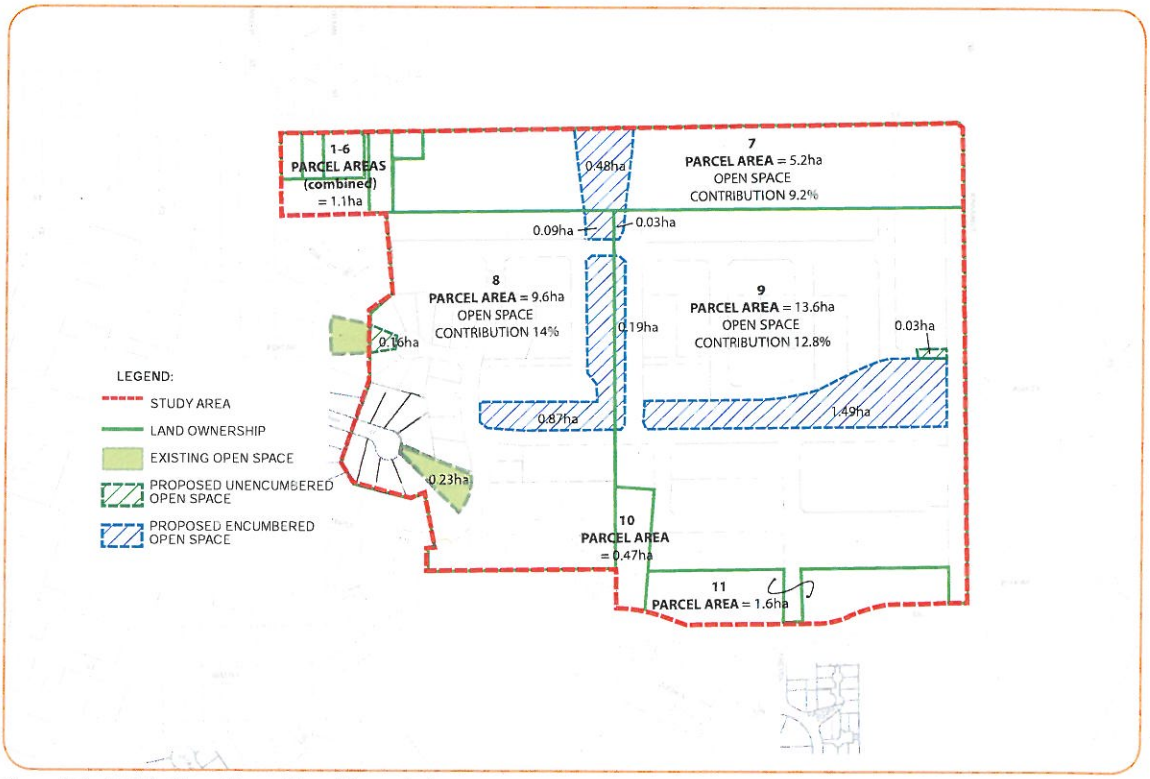


Figure 5.6 - Public Open Space Plan, Nurmurkah

Land Parcel No.	Parcel Area (ha)	Unencumbered POS	Encumbered POS	Total land to be provided (ha)
1 to 6	1.1	0.00	0.00	0.00
7	5.2	0.00	0.48	0.48
8	9.6	0.39	0.87	1.26
9	13.6	0.03	1.71	1.74
10	0.47	0.00	0.00	0.00
11	1.6	0.00	0.00	0.00
	31.57	**0.42**	**3.06**	**3.48**

Table 5.1 - POS Distribution

The table 5.1 provides a more detailed breakdown of open space in the Study Area:

Clearly some land parcels provide in excess of their statutory requirements, whilst others provide little or nil. A system of development contributions needs to be sought to equalise contributions ensuring all developers contribute to the public open space used by the development.

The location of unencumbered open space has been determined via a thorough design process and meets the requirements of the Moira Planning Scheme (including ResCode). It should generally be provided in accordance with the size and location shown in the DP.

The encumbered open space relates to land primarily required for drainage and water quality treatment purposes. As this is its primary use, and will be developed as such, it is not considered to be useable open space and thus does not count towards a lots public open space contribution. The figures provided in table 5.1 for the encumbered public open space are indicative only. They may increase or decrease depending upon the specific drainage strategy proposed. Clearly if the land area required for drainage and water quality treatment purposes decreases then the developable area of the site increases.

All landholdings should provide 5% public open space, either via a land or cash in lieu contribution. This table outlines the public open space requirements for each landholding (subject to drainage requirements).

The cash in lieu contributions should be used to develop the open space in the DP area. Alternative uses for the contribution should be in accordance with the requirements of the Subdivision Act 1988 and Moira Planning Scheme, though may be put towards the development/improvement of other spaces within Numurkah that are likely to be used by the new residents of the Study Area.

Land Parcel No.	Parcel Area (ha)	Unencumbered POS (ha)	% of POS to be provided	POS requirement
1 to 6	1.1	0.00	0.0%	5% cash in lieu
7	5.2	0.00	0.0%	5% cash in lieu
8	9.6	0.39	4.1%	0.39ha (4.1%) in land, 0.9% cash in lieu
9	13.6	0.03	0.2%	0.03ha (0.2%) in land, 4.8% cash in lieu
10	0.47	0.00	0.0%	5% cash in lieu
11	1.6	0.00	0.0%	5% cash in lieu
	31.57	**0.42**	**1.3%**	

Table 5.2 - POS Contributions

5.5.2 Utility Infrastructure

Funding of Water and Sewerage "Shared Distribution Assets" is to accord with the statutory guidelines of the Essential Services Commission, Victoria.

Developer contributions for the shared drainage assets including shared underground drainage pipes , land compensation, retardation basins, pumps, rising mains, wetlands and outfall infrastructure is yet to be determined.