



DRAFT

Warriewood Valley

Urban Land Release

Planning Framework

**Preliminary Document
for discussion and
Stakeholder consultation purposes only**

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Appendices (Not Attached)

- Draft Land Use Policy Sets
- Draft Land Use Models
- Ingleside/Warriewood Vegetation Conservation Study
- Ingleside/Warriewood Fauna Conservation Study
- Ingleside/Warriewood Land Capability Study
- Ingleside/Warriewood Contaminated Land Study
- Ingleside/Warriewood Visual Impact Study
- Ingleside/Warriewood Aboriginal Archaeological Study
- Ingleside/Warriewood Heritage Study
- Ingleside/Warriewood Water Cycle Management Study and Integrated Water Management Strategy
- Ingleside/Warriewood Bushfire Hazard Study
- Ingleside/Warriewood Combined Demographic Study
 - Demographic Analysis and Modelling
 - Traffic and Transport
 - Retail and Service Facilities
 - Community Facilities
 - Open Space and Recreation
- Integrated Water Management Strategy Warriewood Valley
- Warriewood Valley Urban Land Release Traffic and Transportation Study

EXECUTIVE SUMMARY

Following the decision by the State Government to progress the urban development program within Warriewood Valley, Pittwater Council has embarked on the process to implement a planning strategy which will see urban development in those sections of the Valley assessed as suitable for development.

Development of the area must achieve the objectives of environmental and economic sustainability and provide an amenable neighbourhood for its occupants. In addition, the development must be compatible with surrounding land uses and be supported by the appropriate levels of community infrastructure and facilities.

In order to ensure appropriate and co-ordinated development of the Valley a Planning Framework is required.

The principal objectives of the Planning Framework are:

- ***To provide for development of the Warriewood Valley as a whole which is environmentally and economically sustainable in the short, medium and long term ,with minimum financial impact on Council.***
- ***To ensure that the future residents and occupiers of the Valley are provided with an appropriate level of community facilities and services and an amenable and safe neighbourhood.***
- ***To ensure that development in the Valley is compatible with and does not detract from the amenity of surrounding landuses particularly residential properties.***

The Planning Framework provides a suite of Action Plans which specify the tasks to be carried out during the detailed planning of the development and post development phases of the land release by Council, developers and State Government authorities. These action plans ensure that the Planning Framework objectives will be achieved.

The Planning Framework allocates the landuse for each sector to be developed. This allocation is made on the basis of the environmental characteristics of the land and its ability to sustain development.

The Planning Framework prescribes development densities and population projections for each of the sectors of land to be developed and forecasts the construction of approximately 1500 dwellings and 5 hectares of industrial/commercial land over a ten year period. This is additional to the existing residential and industrial/ commercial areas of the Valley.

The Planning Framework provides a strategy for the provision of approximately \$70 million of community facilities and infrastructure. This strategy places an emphasis on direct provision by developers, where that is possible, and provides a basis for a suite of Section 94 Contributions Plans. These plans form the statutory procedure by which Council can levy development to provide facilities and infrastructure where direct provision is impractical.

The Community Facilities and Infrastructure strategy is based on the principal that at no time should the community (through its Council) be required to fund, or borrow monies to fund works to support the development beyond its current liabilities in regard to initial development in Warriewood Valley.

The framework prescribes that development shall be on a sector by sector basis and that each sector shall develop a detailed design concurrent with the rezoning process. In this way, Council can be assured that fragmented land ownership does not impact adversely on the eventual outcome and that the development community is given the opportunity to directly provide community facilities and services in a planned and co-ordinated way.

The framework provides a forward path for the implementation of the detailed planning process, the rezoning of land and its development.

BACKGROUND

In late 1991, the then Minister for Planning made a decision to include land at Ingleside and Warriewood within the State Governments Urban Development Program. With the advent of Pittwater Council, the Minister advised that Council was to be the authority responsible for the feasibility investigation and planning for an urban land release within the area.

In order to achieve a co-ordinated approach to the investigation and planning of the release by Council and relevant State Government authorities, Council formed a Land Release Advisory Committee to discuss issues related to the investigation, planning and eventual implementation of any land release process.

This committee comprised representatives of Council, State Government departments and authorities including the Department of Urban Affairs and Planning, Sydney Water, National Parks and Wildlife Service, Soil Conservation Service, Sydney Electricity, Roads & Traffic Authority, Telecom, Landcom, Environment Protection Authority and Department of Community Services.

To facilitate public participation in the process, Council formed a Resident's Consultative Committee which provided the forum for representatives of landowner and residents groups to participate in the investigation and planning process.

A draft Planning Strategy for the Ingleside Warriewood Urban Land Release was the outcome of the investigation and broadscale planning process.

The draft Planning Strategy drew together the outcomes of a range of environmental and demographic studies to provide a possible scenario for future development in the land release area including population projections and land use allocation.

Pittwater Council accepted the Draft Planning Strategy for the purpose of public consultation and referral to the State Government in May 1995.

The outcomes of the draft Planning Strategy and public consultation which followed from its exhibition indicated the environmental and infrastructure difficulties associated with the urban land release, particularly in the more environmentally diverse areas of the escarpment, Bayview Heights and Ingleside areas.

Consultation with State Government Authorities as an outcome of the draft Planning Strategy highlighted the infrastructure difficulties associated with the land release area and the potential regional environmental impacts, particularly wastewater disposal and air quality.

The draft Planning Strategy and consultation outcomes were referred to the Department of Urban Affairs and Planning for consideration.

In May 1997, the Minister for Urban Affairs and Planning, Hon Craig Knowles, announced a restricted release of land for urban development within the Warriewood Valley.

The land identified for urban release by the Minister provides for approximately 110 hectares of land within Warriewood Valley with a preliminary projection of 1510 new dwellings, five hectares of industrial/commercial land and associated community facilities and infrastructure.

The Minister specifically deferred consideration of land within 400 metres of the Warriewood Sewage Treatment Plant. The land release area does not extend west of Warriewood Valley into the escarpment or beyond to the Ingleside or Bayview Heights area.

Following the Minister's announcement in May 1997, Pittwater Council commenced the process of detailed investigation and planning to facilitate the orderly and environmentally sustainable release of land for urban development within the nominated area.

PURPOSE OF A PLANNING FRAMEWORK FOR WARRIEWOOD VALLEY

A Planning Framework is required to identify land within the release area which is suitable for urban development or other land uses, indicate what forms of development should occur, and ensure that the eventual development takes into account the environmental attributes of the land.

The Planning Framework is drawn from the outcomes of a range of environmental, demographic and infrastructure studies which identify the capability of the land to sustain different forms of land use and assess the likely requirements of future development.

The Planning Framework also provides for the integration of the 1986 Warriewood Valley Stage One development into the planning process for the wider release area.

The Planning Framework will allow community facility and infrastructure service providers, including Council and State Government authorities, to ascertain what impact development of the area will have at a local, regional and state level and therefore require the appropriate facilities.

The detailed planning for development on a “sector by sector” basis and the infrastructure requirements as a result of development are assessed so that a co-ordinated process of implementation can be achieved.

The Planning Framework identifies particular issues which are relevant to individual sectors of the release area and determines the focus for further detailed planning to facilitate development in those areas in accordance with its stated objectives.

LAND TO WHICH THE PLANNING FRAMEWORK APPLIES.

The area that is to be released generally comprises the floor of Warriewood Valley between the Warriewood Wetlands and Mona Vale Road with an isolated area of land in West Mona Vale between existing residential development and the foot of the escarpment.

The areas designated for land release within Warriewood Valley as announced by the Minister for Urban Affairs and Planning are as shown on the following map.

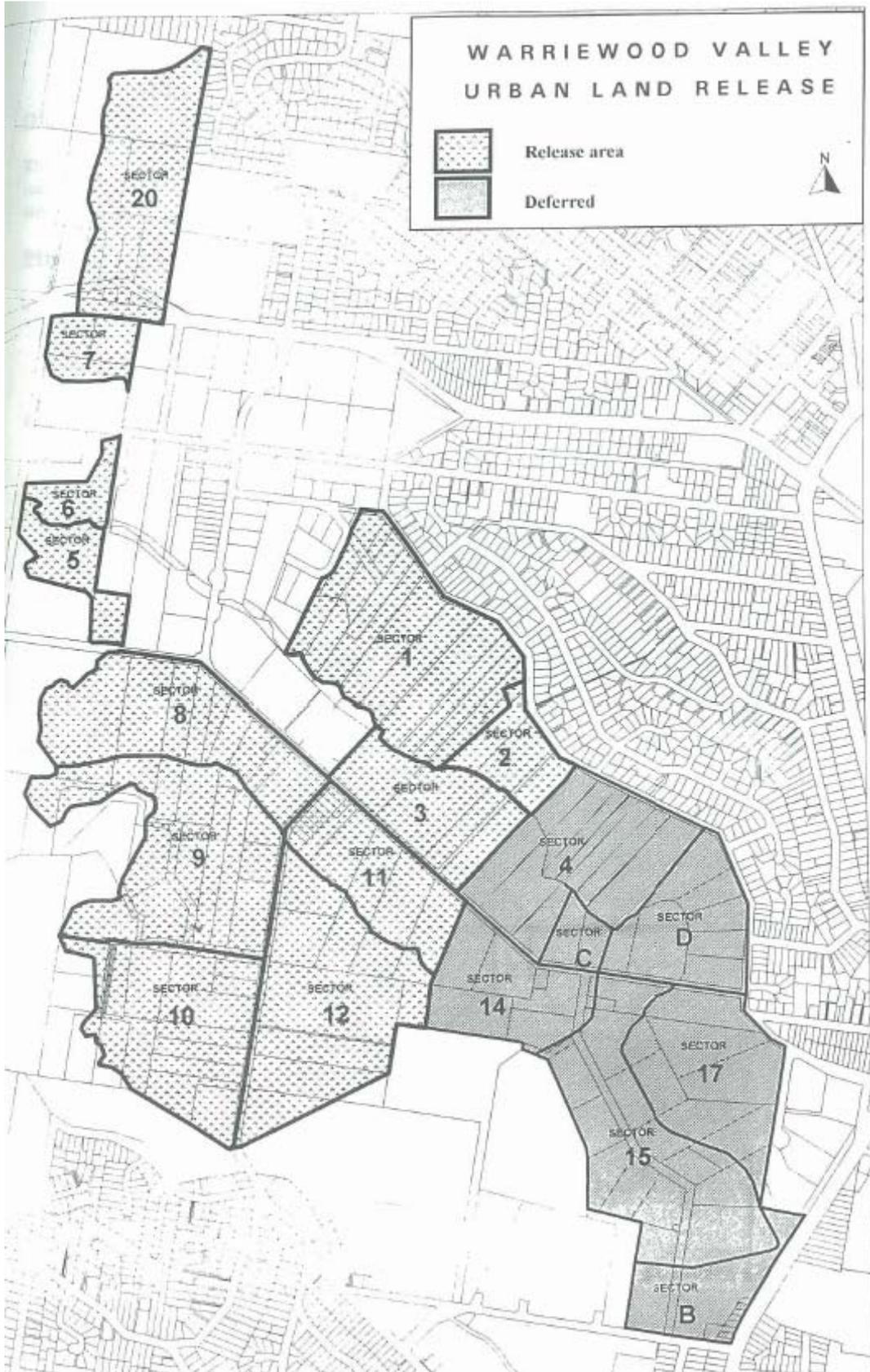
In addition, the Planning Framework will also apply to the 1986 Warriewood Valley Stage One release to ensure integration between the two development forms.

The majority of the area has been cleared and developed for agricultural purposes with remnant areas of vegetation and regrowth along its watercourses and areas subject to flooding, particularly those adjacent to the Warriewood Wetlands.

The area of urban development to occur as an outcome of the Minister for Urban Affairs and Planning's directive will generally be restricted to sectors 1,2,3,5,6,7,8,9,10,11,12 and 20 as shown on the Map. However, the Planning Framework will by necessity need to take into account surrounding development and land uses to ensure final development achieves the highest level of compatibility in terms of its objectives.

In particular, the Planning Framework will need to take into account the following:-

- Warriewood Valley Stage 1 (1986) Residential and Industrial/Commercial release at the northern end of the Valley which is particularly interrelated to the release area in terms of drainage issues and transport and traffic networks.
- The Warriewood Wetlands which comprises a major publicly owned environmental asset adjoining the land release.
- Watercourses which pass through the land release area and subsequent receiving waters of Narrabeen Lagoon, Pittwater and the Ocean.
- Existing open space and recreational areas in the Boondah/Jacksons Road area as well as creek line corridors between the land release area and the Warriewood Wetlands.
- Existing retail commercial centres, particularly Warriewood Square and the Mona Vale Centre.
- Road and transport links with Mona Vale Road and Pittwater Road and the existing local road network.
- Existing residential development surrounding and adjoining the land release area.



REGIONAL CONTEXT OF THE LAND RELEASE.

The Warriewood Valley Urban Land Release is the most significant single urban planning initiative within the Warringah Peninsula area since the Forestville/Belrose land releases of the 1970's.

The Warringah Peninsula currently has a population in excess of 200,000 persons and is serviced by three major arterial roads. The public transport network is limited, comprising of bus services to the North Shore regional centres, Sydney CBD together with a ferry service from Manly to the Sydney CBD.

The release area as well as significant areas of the Peninsula including Pittwater and the northern section of Warringah Shire are serviced by Warriewood Sewerage Treatment Plant which currently has a cliff face outfall and has been a source of beach contamination in the past.

The effect of the sewerage treatment plant together with the effect of stormwater generated within the study area on downstream receiving waters (Narrabeen Lakes, Pittwater and ocean) have been of significant concern in the process leading to the release of land for development. These need to be borne in mind in the management of the release process.

Notwithstanding Pittwater Council's clear objective to provide for environmentally sustainable development, issues associated with regional transport planning and treatment and disposal of wastewater remain the clear responsibility of the relevant State Government authorities. This specifically includes issues associated with the ocean outfall from the Warriewood STP and the undetermined land uses within a 400metre buffer area surrounding the STP

OBJECTIVES OF PLANNING FRAMEWORK

The principal objective together with a suite of specific objectives relating to environment issues, community facilities and infrastructure, heritage, urban design and financial sustainability, form the fundamental basis for planning and implementation of development.

PRINCIPAL OBJECTIVES:-

- *TO PROVIDE FOR DEVELOPMENT OF WARRIEWOOD VALLEY AS A WHOLE WHICH IS ENVIRONMENTALLY AND ECONOMICALLY SUSTAINABLE IN THE SHORT, MEDIUM AND LONG TERM, WITH MINIMAL FINANCIAL IMPACT ON COUNCIL.*
- *TO ENSURE THAT FUTURE RESIDENTS AND OCCUPIERS OF THE VALLEY ARE PROVIDED WITH AN APPROPRIATE LEVEL OF COMMUNITY FACILITIES AND SERVICES AND AN AMENABLE AND SAFE NEIGHBOURHOOD.*
- *TO ENSURE THAT DEVELOPMENT IN THE VALLEY IS COMPATIBLE WITH AND DOES NOT DETRACT FROM THE AMENITY OF SURROUNDING LAND USES PARTICULARLY RESIDENTIAL PROPERTIES.*

ENVIRONMENTAL OBJECTIVES

- *TO ENSURE THAT SIGNIFICANT VEGETATION WITHIN AND ADJOINING THE RELEASE AREA IS CONSERVED AND PROTECTED DURING THE DEVELOPMENT PROCESS AND IN THE LONG TERM.*
- *TO ENSURE THE MAINTENANCE AND PROTECTION OF KNOWN OR EXPECTED NATIVE FAUNA POPULATIONS WITHIN OR ADJOINING THE RELEASE AREA IN THE DEVELOPMENT PHASE AND IN THE LONG TERM AND TO PROVIDE PROTECTION AND ENHANCEMENT OF FAUNA CORRIDOR LINKS BETWEEN HABITAT PARKS INCLUDING PROTECTION OF HABITAT ADJACENT TO DRAINAGE LINES AND RETENTION OF AREAS OF PARTICULAR HABITAT.*
- *TO ENSURE URBAN DEVELOPMENT AND ASSOCIATED WORKS ARE SENSITIVE TO THE LIMITATIONS AND CAPABILITIES OF THE SITE IN TERMS OF SLOPE, SOIL, STRUCTURE, GEOTECHNICAL STABILITY AND FLOODING AND THAT A STABLE LAND SURFACE IS MAINTAINED WITHIN THE RELEASE AREA AND ADJOINING AREAS DURING THE DEVELOPMENT STAGE AND INTO THE FUTURE.*
- *TO ENSURE THAT WATER MANAGEMENT PROCEDURES ARE UTILISED DURING THE DEVELOPMENT PROCESS AND INTO THE FUTURE SO AS NOT TO INCREASE AND WHERE POSSIBLE REDUCE THE IMPACT OF THE DEVELOPMENT ON THE SURROUNDING COMMUNITY AND THE NATURAL AND URBAN ENVIRONMENT.*
- *TO PROVIDE FOR THE PROTECTION AND ENHANCEMENT OF VISUAL ELEMENTS WITHIN THE LANDSCAPE THAT CHARACTERISE THE NATURE OF THE AREA AND CONTRIBUTE TO THE VISUAL AMENITY OF THE IMMEDIATE VICINITY OF THE LOCAL AREA AND REGION AS A WHOLE.*

- *TO ENSURE THAT FOLLOWING DEVELOPMENT THE RISKS TO INDIVIDUALS OR THE GENERAL PUBLIC AS A RESULT OF PREVIOUS LAND USES WHICH MIGHT HAVE CAUSED CONTAMINATION BY AGRICULTURE AND INDUSTRIAL CHEMICALS OR OTHER TOXIC WASTE PRODUCTS IS MINIMISED.*
- *TO ENSURE THAT DEVELOPMENT IS AS SAFE AS POSSIBLE FROM BUSHFIRE HAZARD AND FLOOD HAZARD.*
- *TO ENSURE THE DEVELOPMENT IS ENVIRONMENTALLY SUSTAINABLE.*

COMMUNITY FACILITIES AND INFRASTRUCTURE OBJECTIVES

- *TO ENSURE THAT THE EXISTING COMMUNITY AND THE COMMUNITY TO BE ACCOMMODATED WITHIN THE RELEASE IS PROVIDED WITH SUITABLE TRANSPORT AND TRAFFIC FACILITIES, RETAIL AND SERVICE FACILITIES, COMMUNITY FACILITIES AND RECREATION AND OPEN SPACE FACILITIES.*

HERITAGE OBJECTIVES

- *TO ENSURE THAT THE ENVIRONMENTAL AND BUILT HERITAGE OF THE AREA IS IDENTIFIED AND PROTECTED DURING THE DEVELOPMENT PROCESS AND INTO THE FUTURE.*
- *TO ENSURE THAT ANY ITEMS OF ABORIGINAL HERITAGE ARE IDENTIFIED WITHIN THE PLANNING AND INVESTIGATION PROCESSES LEADING TO DEVELOPMENT AND WHERE IDENTIFIED ARE PROTECTED AS WARRANTED.*

URBAN DESIGN OBJECTIVES

- *TO ENSURE THAT FUTURE DEVELOPMENT ACHIEVES AN OVERALL STANDARD OF URBAN DESIGN AND AMENITY WHICH IS COMMESURATE WITH SURROUNDING DEVELOPMENT AND PROVIDES A VIBRANT, PLEASANT AND ATTRACTIVE NEIGHBOURHOOD.*
- *TO PROVIDE A SENSE OF COMMUNITY AND IDENTITY TO THE FUTURE POPULATION OF THE DEVELOPMENT.*

FINANCIAL OBJECTIVES

- *TO ENSURE THAT IN THE INTERESTS OF STAKEHOLDERS, INCLUDING PITTWATER COUNCIL AND RELEVANT GOVERNMENT AGENCIES, THE PROJECT IS ECONOMICALLY AS WELL AS ENVIRONMENTALLY SUSTAINABLE.*

ACTION PLANS TO ACHIEVE PLANNING FRAMEWORK OBJECTIVES

In order to ensure that each of the Planning Framework objectives is taken into account in the planning and implementation of development within the land release area, a suite of “Action Plans” has been developed.

The “Action Plans” are derived from various studies carried out as part of the investigation and planning process and actions required to meet the objectives of the Planning Framework.

The “Action Plans” ensure that the outcomes of the studies and Planning Framework objectives will be referred to in detail as part of the planning of any individual sector of land for development and set out the tasks which must be undertaken by Council, State Government Authorities and Developer/Landowners.

The studies carried out by Council to date which form the basis of the Action Plans are as follows:-

- Ingleside/Warriewood Vegetation Conservation Study
- Ingleside/Warriewood Fauna Conservation Study
- Ingleside/Warriewood Land Capability Study
- Ingleside/Warriewood Contaminated Land Study
- Ingleside/Warriewood Visual Impact Study
- Ingleside/Warriewood Aboriginal Archaeological Study
- Ingleside/Warriewood Heritage Study
- Ingleside/Warriewood Water Cycle Management Study
- Ingleside/Warriewood Bushfire Hazard Study
- Ingleside/Warriewood Combined Demographic Study
 - Demographic Analysis and Modelling
 - Traffic and Transport
 - Retail and Service Facilities
 - Community Facilities
 - Open Space and Recreation
- Warriewood Valley Integrated Water Management Strategy
- Warriewood Valley Traffic and Transportation Study

Note: The inclusion of the outcomes of these studies does not infer that Council has at this time accepted the recommended action or outcomes of any study. However, those outcomes have been included so that an overall assessment of the land release and its implications can be made.

The following Action Plans have been prepared to achieve the Planning Framework objectives.

The source documents upon which the respective Action Plans are derived from are also listed to provide a clear link between the investigation process for the land release and eventual implementation and development:-

ENVIRONMENTAL OBJECTIVES

<u>Action Plan</u>	<u>Source Documents</u>
Vegetation Conservation	Ingleside/Warriewood Vegetation Conservation Study
Fauna Conservation	Ingleside/Warriewood Fauna Conservation Study
Land Capability	Ingleside/Warriewood Land Capability Study
Stormwater Management	Ingleside/Warriewood Water Cycle Management Study and the Integrated Water Management Strategy – Warriewood Valley
Visual Impact	Ingleside/Warriewood Visual Impact Study
Contaminated Land	Ingleside/Warriewood Contaminated Land Study
Bushfire Hazard	Ingleside/Warriewood Bushfire Hazard Study

COMMUNITY FACILITIES AND INFRASTRUCTURE OBJECTIVES

<u>Action Plan</u>	<u>Source Documents</u>
Demographic Monitoring	Ingleside/Warriewood Combined Demographic Study
Traffic and Transport	Ingleside/Warriewood Combined Demographic Study and the Warriewood Valley Traffic and Transport Study
Retail and Services	Ingleside/Warriewood Combined Demographic Study
Community Facilities	Ingleside/Warriewood Combined Demographic Study.
Open Space and Recreation	Ingleside/Warriewood Combined Demographic Study.

HERITAGE OBJECTIVES

<u>Action Plan</u>	<u>Source Documents</u>
Heritage	Ingleside/Warriewood Heritage Study
Aboriginal Heritage	Ingleside/Warriewood Aboriginal Archaeological Study.

URBAN DESIGN OBJECTIVES

<u>Action Plan</u>	<u>Source Documents</u>
Urban Design	<ul style="list-style-type: none"> • Elements of all Ingleside/Warriewood investigative studies • Relevant Council policies • Council’s urban design statement for Sector 1. • Council’s Environmental Values Statement.

FINANCIAL OBJECTIVES

<u>Action Plan</u>	<u>Source Documents</u>
Financial Implications	Planning Framework

VEGETATION CONSERVATION

The study brief for the Ingleside/Warriewood Vegetation Conservation Study on which this Action Plan is based identified as its fundamental goals the following;

1. *To investigate, define and provide, planning guidelines and management strategies to ensure that significant vegetation as warranted, within and adjoining the study area is conserved and protected, during the development phases of the land release, and in the long term.*
2. *In determining the significance of vegetation, regard should be had to its botanical, ecological and cultural significance, and consideration shall be given to the criteria in SEPP No. 19 - Bushland in Urban Areas and Urban Bushland Management Guidelines published by the Department of Planning, 1991.*

In accordance with the study brief, the report provides an assessment of the vegetation communities contained within the study area.

The study report provides a classification of land within the release study area as to its vegetation significance in the form of a map which can be utilised in developing the planning for the land release and the prescription of management strategies to be used to preserve, and where appropriate enhance, the vegetation communities of particular areas. This map identifies four classes of land in respect of this study as follows:-

- Class 1 Areas suitable for residential or associated development without further study, subject to the application of appropriate planning guidelines and management strategies.*
- Class 3 Areas which are considered suitable for residential, or associated development, subject to a satisfactory study of their vegetation characteristics at development application stage in accordance with the requirements of the Environmental Planning & Assessment Act 1979, or other pertinent legislation, and application of appropriate planning guidelines and management strategies.*
- Class 4 Areas which have significant vegetation characteristics, and are required to be conserved unless a detailed study carried out at development application stage, in accordance with the requirements of the Environmental Planning & Assessment Act 1979, or other pertinent legislation indicates that limited development, with a high level of ameliorative measures designed to retain or improve those significant vegetation elements, can be applied to ensure their continued viability.*
- Class 5 Areas that are considered essential for retention to conserve their significant vegetation characteristics and should be conserved through the application of appropriate planning guidelines and management strategies.*

The study report provides a series of planning guidelines and management strategies. The planning guidelines to be applied during the various stages of development include the preparation of local environmental plans, development control plans and down to the design of individual development sites. The management strategies outline tasks which will be carried out throughout the planning and development process to ensure preservation of the various vegetation types significant to the area.

The application of the study outputs have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals.

The action plan designates the required action, its timing in the release process, and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase Allocating land uses for sectors designated for release.	<ol style="list-style-type: none"> 1. Give preference to relatively more intensive forms of land use on land designated Classes.1 & 3. by the study 2. Give preference to low density strategically located forms of land use on land designated Class 4 by the study. 3. Give preference to conservation and related land uses on land designated Class 5 by the Study. 	Council
Preparation of detailed planning for individual sectors.	<ol style="list-style-type: none"> 1. Further investigate and assess the appropriateness of land for certain land uses based on the study outputs. 2. Detailed area assessment to verify study classification. (as necessary). 	Developer/ Landowner
Preparation of LEP/DCP's.	<ol style="list-style-type: none"> 1. Zone land as appropriate. Carry out further studies/investigation as necessary. 2. Prescribe planning controls and management strategies to be applied during preparation and assessment of development applications, approval and construction stages. 	Council/Developer Council
Implementation Phase	<ol style="list-style-type: none"> 1. Provide planning guidelines and management strategies to developers/landowners. 2. Apply planning guidelines and management strategies in the investigation and planning for future development. 3. Evaluate proposal including the information submitted by developer taking into consideration planning guidelines and management strategies 	Council Developer/ Landowner Council

Timing	Action	Responsibility
Implementation Phase (cont..)	<ol style="list-style-type: none"> 4. Apply conditions of approval/reasons for refusal on basis of the planning guidelines and management strategies. 5. Comply with conditions of approval. 6. Ensure that development proceeds in accordance with conditions of approval. 	<p>Council</p> <p>Developer/ Landowner</p> <p>Council/Developer</p>
Ongoing	<ol style="list-style-type: none"> 1. Review planning guidelines and management strategies as land release proceeds and apply to applications for future development. 2. Monitor Performances 	<p>Council</p> <p>Council</p>

FAUNA CONSERVATION

The study brief for the Ingleside/Warriewood Fauna Conservation Study on which this Action Plan is based identified as its fundamental goals the following:

1. *To investigate, define and provide planning guidelines and management strategies for the maintenance and protection of known, or expected, native fauna populations, within and adjoining the study area, during the development phases of the urban land release, and in the long term.*
2. *To investigate, define and provide planning guidelines and management strategies for the protection of rare and endangered fauna species of local, regional, or global significance, known or expected to occur within and adjoining the study area, during the development phases of the urban land release, and in the long term*
3. *To investigate, define and provide planning guidelines and management strategies for the retention, and where necessary, restoration of fauna habitats in parcels of a size and configuration that will enable known or expected native fauna populations to survive within and adjoining the study area in the long term*
4. *To provide for the protection and enhancement of wildlife corridor links between habitat types, protection of habitat adjacent to drainage lines, and retention of other areas of particular habitat value, within and adjoining the study area.*

In accordance with the study brief, the report provides an assessment of the range of fauna and its habitats likely to be found within the release area.

The report provides a classification of land within the release study area as to its fauna significance and known and expected habitats in the form of a map which can be utilised in developing the planning for the land release and the prescription of management strategies to be used to protect and preserve the fauna populations of particular areas. This map identifies three classes of land in respect of this study as follows:-

- Class (a) Areas suitable for residential or associated development without further study, subject to the application of specified planning guidelines and management strategies.*
- Class (d) Areas which are significant in terms of fauna habitat but can accept low density, strategically located residential development subject to a detailed fauna study which indicates that such development, with a high level of ameliorative measures designed to retain or improve that habitat, can be applied to ensure the continued viability of fauna populations and should be preserved.*
- Class (e) Areas that are considered essential for retention for the conservation of significant fauna populations and should be conserved through the application of appropriate planning guidelines and management strategies.*

The report provides a series of planning guidelines and management strategies. The planning guidelines to be applied during the various planning stages of development include the preparation of local environmental plans, development control plans and down to the design of individual development sites. The management strategies outline tasks which will be carried out throughout the planning and development process to ensure preservation of the various fauna populations within the area.

The application of the study outputs have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals.

The action plan designates the required action, its timing in the release process, and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase Allocating land uses for sectors designated for release.	1. Give preference to relatively more intensive forms of land use on land designated Class (a) by the study 2. Give preference to low density strategically located forms of land use on land designated Class (d) by the study. 3. Give preference to conservation and related land uses on land designated Class (e) by the Study.	Council Council Council
Preparation of detailed planning for individual sectors.	1. Further investigate and assess the appropriateness of land for certain land uses based on detailed examination based on these study outputs. 2. Detailed area assessment to verify study classification as necessary.	Council /Developer Council/Developer
Preparation of LEP/DCP	1. Further refine study outputs and zone land as appropriate based on above study output. Carry out further studies/investigations as necessary. 2. Prescribe planning controls and management strategies to be applied during assessment of development applications, approval and construction stages.	Council/ Developer
Implementation Phase	1. Provide planning guidelines and management strategies to developers/landowners.	Council
	2. Apply planning guidelines and management strategies in the investigation and planning of future development.	Developer/ Landowner

Timing	Action	Responsibility
Implementation Phase	<ol style="list-style-type: none"> <li data-bbox="587 297 1114 432">3. Evaluate proposal including the information submitted by developer as required by the various Council prescriptions. <li data-bbox="587 465 1114 566">4. Apply conditions of approval/reasons for refusal on basis of the planning guidelines and management strategies. <li data-bbox="587 600 1114 633">5. Comply with conditions of approval. <li data-bbox="587 701 1114 768">6. Enforce that development proceeds in accordance with conditions of approval. 	<p data-bbox="1137 297 1241 331">Council</p> <p data-bbox="1137 465 1241 499">Council</p> <p data-bbox="1137 600 1281 667">Developer/ Landowner</p> <p data-bbox="1137 701 1369 734">Council/Developer</p>
Ongoing	<ol style="list-style-type: none"> <li data-bbox="587 808 1114 931">1. Review planning guidelines and management strategies as land release proceeds and apply to applications for future development. <li data-bbox="587 976 898 999">2. Monitor performance. 	Council

LAND CAPABILITY

The study brief for the Ingleside/Warriewood Urban Land Capability Study on which this Action Plan is based identified as its fundamental goals the following.

1. *The purpose of the Urban Land Capability Study is to identify the limitations to urban development and associated works created by slope, soil structure, geotechnical instability, flooding and other related constraints within the Study Area.*
2. *To define and provide a range of suitable planning guidelines and management strategies for the maintenance of a stable land surface with and adjoining the study area during the development stage and into the future.*

In accordance with the study brief, the study report provides a map which classifies land as regards to its capability for urban development into five categories as follows:

Class A Areas with little or no physical limitations to urban development.

Class B Areas with minor to moderate physical limitations to urban development. These limitations may influence design and impose certain management requirements on development to ensure a stable land service is maintained during and after development.

Class C Areas with moderate physical limitation to urban development. These limitations can be overcome by careful design and by adopting site management techniques to ensure the maintenance of a stable land surface.

Class D Areas with severe physical limitation to urban development which will be difficult to overcome requiring detailed site investigation and engineering design.

Class E Areas where no form of urban development is recommended because of very severe physical limitations which are very difficult to overcome.

The study report also provided an explanation relating to the designation of the classifications of land within the study area together with specifications for a range of planning guidelines and management strategies to be applied to future development.

The application of the study outputs have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals.

The action plan designates the required action, its timing in the release process, and the appropriate authority or both responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase Allocated land uses for sectors designated for release.	1. Give preference to relatively more intensive forms of land use on land designated Classes, A, B & C by the study.	Council
	2. Give preference to low density strategically located forms of land use on land designated Class D by the study.	Council
	3. Give preference to conservation and low intensity land use on land designated Class E by the Study.	Council
Preparation of detailed planning for individual sector.	1. Further investigate and assess the appropriateness of land for certain land uses based on detailed examination of the study outputs. 2. Detailed area assessment to verify study classification. This may include soil testing and capability evaluation together with ensuring the compatibility between planning and construction of water/soil management facilities.	Council/Developer Developer
Preparation of LEP/DCP	1. Zone land as appropriate. Carry out further investigation/study as necessary. 2. Prescribe planning controls and management strategies to be applied during preparation and assessment of development applications, approval and construction stages.	Council Council
Implementation Phase	1. Design/locate and construct water/soil management structures prior to commencement of any site works.	Developer/ Landowner
	2. Provide planning guidelines and management strategies to developers/landowners.	Council

Timing	Action	Responsibility
Implementation Phase	3. Apply planning guidelines and management strategies in the investigation and planning of future development.	Developer/ Landowner
	4. Evaluate proposal including the information submitted by developer as required by the various Council prescriptions.	Council
	5. Apply conditions of approval/reasons for refusal on basis of the planning guidelines and management strategies.	Council
	6. Comply with conditions of approval.	Developer
	7. Ensure that development proceeds in accordance with conditions of approval.	Council/Developer
Ongoing	1. Review planning guidelines and management strategies as land release proceeds and apply to applications for future development.	Council
	2. Monitoring of structures.	Council

STORMWATER MANAGEMENT

The study brief for the Ingleside/Warriewood Water Cycle Management Study identified as its fundamental goals the following:

- *Water management procedures are to be developed and implemented within a total water resource management framework.*
- *Water management procedures are to be developed and implemented which do not increase and where possible reduce impact on the surrounding community and the natural and urban environment.*
- *Water management procedures are to be developed and implemented taking into account the cumulative quantitative and qualitative impacts on receiving water from other present and proposed development in the catchment area.*
- *Options for the control and mitigation of impacts from the development, need to consider:*
 - *Capital expenditure*
 - *Staging of development*
 - *Long term maintenance of facilities*
 - *Need for licence compliance monitoring.*
- *The study needs to consider both the developing (construction) and long-term occupation phases of the area.*

The three major parameters associated with water management for the land release are flood management, effluent management and drainage systems design and management.

The study report examined the optimum means to integrate the provision of water, waste water and stormwater services while mitigating adverse environment impacts. The examination of water cycle management has involved a review of the interplay between demand and supply of water related services leading to the maximisation of opportunities for water reuse and minimisation of potable water usage.

The study report concluded that urban development in the release area will require the provision of substantial infrastructure and allocation of significant areas of land for facilities to minimise impacts on downstream areas including receiving waters.

The report found that the existing water supply system could cater for high density development in the Warriewood Valley area. New storage's, trunk pipelines and pumping stations would be required to service other areas.

With regard to sewerage, the Warriewood STP currently has excess capacity to service an additional 22,000 persons in the release area. Sydney Water has indicated that the Warriewood STP can be augmented at appropriate times to service any levels of development above 22,000 persons in the release area.

Reuse of treated effluent for irrigation of domestic and open space areas is not recommended due to the inappropriate characteristics of the sub-soils in the area. Reuse of treated effluent only for toilet flushing would not significantly reduce potable water supply infrastructure costs but would require considerable expenditure to incorporate a dual water supply system. A dual water supply system was therefore not considered economically feasible.

Runoff flow and quality from the developed area would be controlled in a series of channels, detention systems and water quality control ponds and devices as prescribed in the Integrated Water Management Strategy – Warriewood Valley Study.

Drainage facilities can be incorporated within an integrated multiple use open space allocation and detention basins and water pollution control ponds could be combined where possible to reduce the land take associated with these drainage facilities.

The proposed runoff control facilities would reduce pollutant loads to rural conditions resulting in minimal additional impacts on receiving waters. In fact, urban development with sewerage reticulation may lead to improvements in dry and wet weather pollutant concentrations in Mullett and Narrabeen Creeks.

The application of the study outputs together with the detailed outputs of the Integrated Water Management Strategy – Warriewood Valley, as discussed in brief above, has been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals. The action plan designates the required action, its timing in the release process and the appropriate body or authority responsible for specific tasks.

Timing	Action	Responsibility
<p>Planning Phase</p> <p>Allocate land uses for sectors designated for release</p>	<p>1. Give preference to land uses compatible with strategic outcomes of Study (requirements for maintaining creek line corridors, water quality and quantity control purposes) combined with outputs from Open Space Component of Demographic Study and Vegetation Conservation and Fauna Conservation Studies</p>	<p>Council</p>
<p>Preparation of Detailed Planning</p>	<p>1. Establish an Integrated Water Management strategy for Warriewood Valley and associated Section 94 Contribution Plans for Stormwater Management which address the following:</p> <ul style="list-style-type: none"> • Establish, with reference to Overall Planning Strategy, studies of hydrology, hydraulics, ecology, biology, natural wetland and conservation characteristics of creek line corridors. 	<p>Council.</p>

Timing	Action	Responsibility
	<ul style="list-style-type: none"> • Evaluate performance Criteria for existing proposed Stormwater Management structures and devices. • Establish Concept Designs for natural channel restorations (where practicable), flood conveyances, artificial (on-line and off-line) wetland, gross pollutant traps and multiple use stormwater management facilities; include costing estimates. 	
Preparation of LEP/DCP	1. Rezone land appropriately to ensure Stormwater management issues are addressed	Council
Implementation Phase	<ol style="list-style-type: none"> 1. Ensure analysis, design, construction and management strategies for Stormwater Management facilities (short and long term) applied during preparation and assessment of development applications, approvals and construction. 2. Provide management strategies to developers/landowners 3. Apply management strategies and development controls in the investigation and planning for future development 4. Evaluation of proposal (Development Application) including information submitted by applicant as required by various Council prescriptions 5. Apply conditions of approval/reasons for refusal on basis of specific management strategies 6. Ensure that development proceeds in accordance with conditions of approval 	<p>Council/ Developer/ Landowner</p> <p>Council</p> <p>Developer/lan downer</p> <p>Council</p> <p>Council</p> <p>Council</p>
Ongoing	<ol style="list-style-type: none"> 1. Regular performance of Stormwater Management facilities at regular intervals and after major rainfall events 2. Review management strategies, having regard to regular monitoring and performance reviews 	<p>Council</p> <p>Council</p>

VISUAL IMPACT

The study brief for the Ingleside/Warriewood Visual Impact Study identified as its fundamental goals the following;

1. *To investigate, define and provide planning guidelines and management strategies for the protection and enhancement of visual elements within the landscape that characterise the nature of the study area and contribute the visual amenity of the immediate vicinity, the local area and the region as a whole.*
2. *To identify areas that are suitable for urban development subject to the appropriate planning guidelines and management strategies being applied to achieve the aims as identified in goal No. 1.*

In accordance with the study brief, the report provides an assessment of the visual elements and characteristics of the study area together with an assessment of the visual sensitivity and visual quality.

The report provides a classification of land within the release study area as to its visual quality and sensitivity in the form of a map which can be utilised in developing the planning for the land release and the prescription of management strategies to be used to preserve (and where appropriate enhance) the visual characteristics of particular areas. This map identifies five classes of land in respect of this study as follows:-

Class I Areas suitable for residential or associated development without further study, subject to the application of appropriate planning guidelines and management strategies.

Class II Areas which are considered suitable for residential or associated development subject to the completion, at development application stage of an assessment of their visual characteristics and values and the application of appropriate planning guidelines and management strategies.

Class III Areas which are considered suitable for residential or associated development, subject to completion at development application stage, of a visual impact study and landscape assessment and subsequent application of appropriate planning guidelines and management strategies to achieve retention or enhancement of the visual characteristics of those areas.

Class IV Areas that are significant in terms of their visual character and landscape qualities but can accept low density strategically located residential development, with a high degree of ameliorative measures designed to retain or enhance those characteristics, can be applied.

Class V Areas that are considered essential for retention to conserve or enhance the visual characteristics and landscape values of the area unless a further specific study indicates that retention and conservation is not warranted.

The report provides a series of planning guidelines and management strategies. The planning guidelines to be applied during the various planning stages of development include the preparation of local environmental plans, development control plans and down to the design of individual development sites. The management strategies outline tasks which will be carried out throughout the planning and development process to ensure preservation of the various visual elements which contribute to the area.

The application of the study outputs have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals.

The action plan designates the required action, its timing in the release process, and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase Allocate land uses for sectors designated for release.	1. Give preference to relatively more intensive forms of land use on land designated Classes I, II and III by the study 2. Give preference to low density strategically located forms of land use on land designated Class IV by the study. 3. Give preference to conservation and low intensity land use on land designated Class V by the Study.	Council Council Council
Preparation of detailed area planning strategies	1. Further investigate and assess the appropriateness of land for certain land uses based on the study outputs. 2. Detailed area assessment to verify study classification (as necessary)	Developer/ Landowners Developer/ Landowners
Preparation of LEP/DCP	1. Zone land as appropriate based on above strategies. (Carry out further study/investigation as necessary) 2. Prescribe planning controls and management strategies to be applied during preparation and assessment of development applications, approval and construction stages.	Council Council
Implementation Phase	1. Provide planning guidelines and management strategies to developers/landowners.	Council

Timing	Action	Responsibility
	<p>2. Apply planning guidelines and management strategies in the investigation and planning for future development.</p> <p>3. Evaluate proposal including the information submitted by developer as required by the various Council prescriptions taking into consideration planning & management strategies.</p> <p>4. Apply conditions of approval/reasons for refusal on basis of the planning guidelines and management strategies.</p> <p>5. Comply with conditions of approval.</p> <p>6. Ensure that development proceeds in accordance with conditions of approval</p>	<p>Developer/ Landowner</p> <p>Council</p> <p>Council</p> <p>Developer/ Landowner</p> <p>Council/Developer</p>
Ongoing	Review planning guidelines and management strategies as land release proceeds and apply to applications for future development.	Council

CONTAMINATED LAND

The study brief for the Ingleside/Warriewood Contaminated Land Study identified as its fundamental goals the following.

1. *To determine if any sections of the Study area are, or are likely to have been contaminated by agriculture or industrial chemical use or toxic waste disposal.*
2. *To determine if the level of contamination is likely to be an impediment to the development of the land for residential, or other use, in that it causes a risk to public health and safety.*
3. *To determine if further investigations are required, the appropriate stages or timing for any such investigation and appropriate specifications for the investigation procedures.*
4. *To define and provide appropriate planning guidelines and management strategies to be incorporated in the planning, design and construction, and occupation stages of any development within the area, to ensure the maintenance of health and safety to construction workers, and others associated with the development process, future residents and members of the public.*

In accordance with the study brief, the report provides an assessment of the areas within the study area which are, or are likely to be, contaminated as a result of past land use practices.

The report provides a classification of land within the release study area as to its likelihood of contamination in the form of a map which can be utilised in developing the planning for the land release and the prescription of management strategies to be used to identify contaminated lands and remedial processes as necessary. This map identifies four classes of land in respect of this study as follows:-

- Class 1 Areas that are highly unlikely to be contaminated and are suitable for residential or associated development without study, subject to the application of appropriate planning guidelines and management strategies.*
- Class 2 Areas which are considered suitable for residential or associated development, subject to the completion, at Development Application stage, of an assessment of possible land contamination and the application of appropriate planning guidelines and management strategies.*
- Class 3 Areas which are considered suitable for residential or associated development, subject to completion at Development Application stage of a study and assessment to determine possible sources of contamination, and application of planning guidelines and management strategies to ensure that any areas of contamination are identified and appropriately treated prior to development.*
- Class 4 Areas that are likely to be contaminated and are not suitable for residential development unless a specific study is carried out which indicates that development can proceed subject to the application of appropriate ameliorative measures, testing and certification as to suitability.*

The report provides a series of planning guidelines and management strategies. The planning guidelines to be applied during the various planning stages of development include the preparation of local environmental plans, development control plans and down to the design of individual development sites. The management strategies outline tasks which will be carried out throughout the planning and development process to ensure the identification and remedial action to any contaminated land within the area.

The application of the study outputs have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals.

The action plan designates the required action, its timing in the release process, and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase Preparation of LEP, DCP.	Identify contaminated land and carrying out of remedial actions as necessary.	Council/ Developer/ Landowner
Implementation Phase	1. Prepare and provide DCP/Council Policy to developers	Council
	2. Comply with requirements of study outputs in preparing DA i.e. site testing, reference to EPA, recommended actions.	Developer
	3. Evaluate proposal including information submitted by developer as required by DCP/Policy including EPA evaluation of testing and subsequent recommendations.	Council
	4. Apply conditions of approval/reasons for refusal.	Council
	5. Comply with conditions of approval	Developer
Ongoing	1. Monitor sites during development	Developer
	2. Monitor contamination levels.	Council

BUSHFIRE HAZARD

The study brief for the Ingleside/Warriewood Bushfire Hazard Study on which the Action Plan is based identifies its fundamental goal as:-

Ensure that future development within the release area has an appropriate degree of safety for people and property from bushfire hazard commensurate with community expectations.

The study is to provide guidelines to be used in the detailed planning of the development which relate to protection from bushfire hazards of various forms of development in the release area, and planning guidelines and management strategies to be carried out through the Implementation phase of the project and into the future.

The planning guidelines and management strategies will need to prescribe the appropriate protection measures and standards, including, but not limited to, hazard reduction methods and zones, fuel free zones, perimeter road requirements, service requirements and building standards necessary for a range of development types that will occur in the release area.

The application of the study output have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals.

Timing	Action	Responsibility
Planning Phase Preparation of broad-scale release area planning strategy.	1. Determine the location of the bushfire hazard/development interface for the land release and areas of medium and high bushfire hazard that would remain within the land release area following development.	Council
	2. Exclude land steeper than 20° (36%) in bushfire prone areas from development.	Council
	3. Ensure land releases are staged so as to be progressive from existing developed areas; avoid isolated developments.	Council
	4. Review bushfire fighting resources within the land release and develop a long-term resource enhancement plan to ensure that adequate firefighting resources are provided for each stage of the release.	Council.

Preparation of detailed area planning	1. Carry out a detailed assessment of each release sector to determine requirements for: <ul style="list-style-type: none"> • perimeter roads/fire trails • internal access roads • fire protection zones • minimum lot depths • water supply • ‘safety focus’ area 	Council
	2. Provide for initial development to occur on the hazard perimeter of each development area bordering a bushfire prone land.	Council/ Developer
	3. Ensure that each release sector can be provided with a temporary fire protection zone where it borders neighbouring sectors with a medium to high bushfire hazard until those neighbouring sectors are developed.	Council/ Developer
	4. Ensure that developments which reduce bushfire hazard are planned for the hazard side of residential and other developments likely to be affected by bushfires.	Council
	5. Ensure that developments which are unsuitable for bushfire prone areas are not planned for zones within 500m of the boundary of Ku-ring-gai Chase or Garigal National Parks, or the escarpment bushland perimeter.	Council.
	6. Divide residential land use areas bordering bushfire prone areas into suitable ‘cells’ (ideally equivalent to release stages) and determine a suitable location for a ‘safety focus’ for each ‘cell’.	Council
	7. Ensure that hazard reduction strategies for fire protection zones within, or adjoining, flora and fauna conservation areas (including National Parks) are compatible with the management requirements of those areas.	Council

Preparation of LEP/DCP	<ol style="list-style-type: none"> 1. Zone land as appropriate based on the above strategies. Carry out further studies/investigations as necessary. 2. Ensure that all developments, including single dwelling houses, in planning zones abutting bushfire prone areas are 'permissible with consent'. 3. Prepare a policy document prescribing the planning controls, management strategies and building codes to be applied during preparation and assessment of development applications, approval of developments and construction stages. 	<p>Council</p> <p>Council</p> <p>Council.</p>
Implementation Phase	<ol style="list-style-type: none"> 1. Provide planning guidelines and management strategies to developers/landowners. 2. Apply planning controls, guidelines and management strategies in the investigation and planning for future development. 3. Evaluate proposals, including the information submitted by the developer, against the planning controls, guidelines and management strategies. 4. Apply conditions of approval/ reasons for refusal on the basis of the planning controls, guidelines and management strategies. 5. Comply with conditions of approval. 6. Ensure that development proceeds in accordance with conditions of approval. 	<p>Council/ Developer</p> <p>Developer/ Landowner</p> <p>Council</p> <p>Council</p> <p>Developer</p> <p>Council/ Developer</p>

	7. Initiate a bushfire safety education program to ensure that new residents moving into the area are aware of bushfire protection measures for themselves and their property, evacuation procedures, and the location and function of the 'safety focus' area.	Council
Ongoing	<p>1. Review planning controls, guidelines and management strategies as land release proceeds, amend as required and apply to applications for future development.</p> <p>2. Maintain fire protection zones on public land during the bushfire danger period.</p> <p>3. Inspect fire protection zones on private property prior to and during the bushfire danger period. Issue section 13 (Bush Fires Act) notices as appropriate.</p> <p>4. Regularly review firefighting and other emergency services resources within the land release and upgrade as required.</p> <p>5. Continue the bushfire safety education program to ensure that new residents moving into the area are aware of bushfire protection measures for themselves and their property, evacuation procedures and the location and function of the 'safety focus' area.</p> <p>6. Review bushfire management and mitigation strategies following any major wildfires and revise as required.</p>	<p>Council</p> <p>Council</p> <p>Council.</p> <p>Council</p> <p>Council</p> <p>Council</p>

DEMOGRAPHIC ANALYSIS AND MODEL

The study brief for the demographic analysis and model component of the Ingleside/Warriewood Combined Demographic Study identified as its fundamental goal the following:-

To establish the demographic characteristics of the anticipated population within the urban land release area of Ingleside/Warriewood, with particular regard to its requirements through the development period and into the future as regards transport and traffic facilities, retail and service facilities, community facilities and recreation in open space facilities.

The demographic analysis provides the basis upon which considered projections can be prepared for the purpose of developing strategies to satisfy the identified needs of the future community.

The demographic analysis and model will provide a profile of the anticipated release area population for the release area and at critical points during the development phase.

The demographic analysis was constructed by investigating and examining relevant information on both the existing Ingleside/Warriewood community together with the broader community of Pittwater. In addition, regard was had to the implications of historic growth in comparable urban release areas. In this regard, the urban release areas of Cherrybrook, Glen Haven and Menai were examined as they are considered to have provided housing for a similar "market" to that expected within the Ingleside/Warriewood release area.

The demographic model developed as part of the study to provide projections of population size and associated characteristics for the Warriewood Release Area is a dynamic planning tool. That is, the model incorporates a number of key variables which impact on population characteristics which can be updated as detailed information comes to hand as the planning and implementation occurs through the release process.

The application of the study outputs has been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals. The action plan designates the required action, its timing in the release process and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase	To achieve Minister's target, apply occupancy rates to the land - uses and densities identified to calculate the estimated population.	Council:
Detailed Planning	Ensure that the levels of open space and community facilities are sufficient to meet the demand of the expected population and its demographic profile.	Council:
- Phasing	Ensure that the planning framework is responsible and sensitive to demographic changes in terms of infrastructure and service provision.	Council:
Infrastructure and community facilities.	Apply the demographic model to ascertain what level of amenities and services are required by the expected population and its profile.	Council
	Ensure that the incoming population is serviced by an appropriate level of infrastructure both physical and social.	Council
Implementation Phase	Monitor the demographic characteristics of the actual incoming population	Council
Ongoing	Review the demographic profile based on the actual characteristics of the incoming population.	Council
	Review the infrastructure and community facilities strategy and associated Section 94 Plans to reflect demographic change.	Council
	Review planning guidelines and management strategies as land release proceeds to reflect any changes in population demographics	Council

TRAFFIC AND TRANSPORT

The study brief for the traffic and transport component of the Ingleside/Warriewood Combined Demographic Study identified as its fundamental goals the following:-

1. *To investigate, define and provide planning guidelines and management strategies for the provision of a safe, efficient and controlled public and private transport system for the Ingleside/Warriewood Urban Land Release Area which will integrate with existing transport network.*
2. *To investigate, define and provide planning guidelines and management strategies relating to the development of a functional internal and external road hierarchy and related public transport network for the Ingleside/Warriewood Urban Land Release Area.*
3. *To investigate, define and provide planning guidelines and management strategies to ensure the provision of adequate transport facilities for anticipated urban development throughout the release process.*

In accordance with the study brief, the study report provides a detailed analysis of the existing situation with regard to land use, the road system, traffic flows, intersection operation, traffic management, traffic accidents, parking, public transport and other traffic issues together with assessing the future development scenarios. The report then examines the traffic implications of the proposed development scenarios and recommends a number of road improvement and traffic management strategies.

The application of the study outputs together with the detailed outputs of the Warriewood Valley Urban Land Release Traffic and Transport Study have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals. The action plan designates the required action, its timing in the release process and the appropriate authority or body responsibility for specific tasks.

Timing	Action	Responsibility
Planning Phase		
Preparation of framework.	<ol style="list-style-type: none"> 1. After preparation of a planning framework, request RTA to evaluate regional impacts of Population/Traffic Increases. 2. Request State Government/RTA to include required improvement works for Regional Road Network (Mona Vale Rd/Pittwater Rd/ Wakehurst Parkway/Powderworks Road) in RTA Capital Works Program (to include Intersection Improvements). 3. Further evaluate timing of recommended interim improvements based on Broad Scale Release Planning Strategy (Density/Yield). 4. Based on above assessment/evaluation of impacts review broad scale planning strategy (Density/Yield) on basis of recommended options for consideration. 5. Consider dwelling densities adjacent to frequent bus routes. 6. Ensure development allows optimum use of bus services. 7. Assessment of Public Transport Infrastructure. Make contact with existing operators and promote early provision of services. 8. Establish a traffic and transport strategy and associated Section 94 Contributions Plans which address the following:- <ul style="list-style-type: none"> • Establish, with reference to Overall Planning Strategy, Road/Bicycle & Pedestrian Hierarchies, including the evaluation of traffic management schemes, at the local (precinct) level. • Provide Traffic/Transport facilities as required. 	<p>Council/RTA</p> <p>RTA</p> <p>Council</p>
Preparation of LEP/DCP	Rezone land appropriately.	Council
Preparation of DCP	Prescribe management strategies to be applied during preparation and assessment of development applications, approvals and construction.	Council

Implementation Phase	i) Provide management strategies to developers/landowners	Council
	ii) Apply management strategies & development controls in the investigation and planning for future development	Developer/ landowner
	iii) Evaluation of proposal (Development Application) including information submitted applicant as required by various Council prescriptions	Council
	iv) Apply conditions of approval/reasons for refusal on basis of specific management strategies	Council

RETAIL AND SERVICES

The study brief for the retail and services facilities component of the Ingleside/Warriewood Combined Demographic Study identified as its fundamental goal the following:-

Identify the range and appropriate level of provision of retail and service facilities that will need to be provided to support the project new population within the release area and to provide planning guidelines and management strategies to achieve that provision.

In the context of the Study, retail facilities are those which are generally provided in shops, giving residents the opportunity to purchase food and other convenience items, in addition to the complete range of goods consumed by a typical household. Service facilities are these personal and professional services provided by business enterprises normally associated with retail facilities and includes general household support services, some recreation and entertainment facilities and private medical and other health services.

The Study examines the existing and anticipated supply of retail and service facilities which will be immediately accessible to the future residents of the release area and outlines the scale of future retail facilities which will be required by the release area population under the various development scenarios. In particular, the analysis given in the study report recognises that retailing is a particularly dynamic industry and is therefore subject to rapid change.

The application of the study outputs has been incorporated into the following action plan which prescribes the task to be carried out to achieve the study goals. The action plan designates the required action, its timing in the release process and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase	Ensure that the provision of land for retail and service facilities meets the demand of the expected population and its demographic profile.	Council
	Facilitate the provision of retail and service facilities is provided in a timely and co-ordinated manner once the threshold for these services are reached.	Council
Implementation Phase	Monitor the demographic characteristics of the actual incoming population.	Council
Ongoing	Review existing retail areas to ensure it is responsive to and meets the demand of the population.	Council
	Review planning guidelines and management strategy as land release proceeds so as to reflect any changes in population demographics.	Council

COMMUNITY FACILITIES

The study brief for the community facilities component of the Ingleside/Warriewood Combined Demographic Study identified as its fundamental goal the following:-

Identify the range and appropriate level of provision of community facilities that will need to be provided to support the projected population within the release area and to provide planning guidelines and management strategy to achieve that provision.

The study report provides a profile of the incoming residents which is based on the demographic model prepared for the study. This included a projected community profile by target groups which are identified within the various demographic cross sections within the expected population.

The study report also identified the existing community services and facilities provided within the Pittwater area so as to identify need and any spare capacity. A number of normative standards, baselines and thresholds were then put forward based on the existing Pittwater services together with an analysis of services and facilities identified within the comparable release areas of Menai and Cherrybrook. The study concludes with an assessment of the likely demand and a strategy for the provision of community facilities within the release area.

The application of the study outputs has been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals. The action plan designates the required action, its timing in the release process and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase		
Preparation of Section 94 Contribution Plan	1. Prepare community facilities strategy and associated Section 94 Contribution Plan.	Council
Implementation Phase		
	1. Identify potential sites.	Council
	2. Design, locate and construct community facilities.	Developer/ Landowners
Needs Based Planning		
	3. Prepare a need based plan for the whole of Pittwater to identify the needs for the future population of Warriewood.	Council
	4. Establish a Community Planning Release Area Committee involving Council, Government Departments and Community.	Council
	5. Develop a strategy for Community Services and facilities.	Council
Ongoing		
	1. Maintenance of Community Facilities.	Council
	2. Recurrent costs for staffing and programs	Council

OPEN SPACE AND RECREATION

The study brief for the open space and recreation component of the Combined Ingleside/Warriewood Demographic Study identified as its fundamental goal the following:-

Identify the appropriate level of provision of open space and recreational facilities for the proposed release area and to provide planning guidelines and management strategies to achieve that provision.

The main issues considered in the study report were the future needs of the population for open space and outdoor recreation facilities and the likely timing of demand by type of open space and facility.

This included an analysis of the existing provision of open space and facilities and any spare capacity currently located within the Pittwater area to cater for the expanding population during the early stages of development. The study also examined planning guidelines which identify the suitability of areas with certain characteristics for outdoor active and passive open space and further environmentally sensitive open space. Having regard to the constrained financial resources of Council the study then gave an indication of the potential for provision of recreational facilities by the private sector and identified the potential cost of providing facilities and any likely sources of funding.

The application of the study output have been incorporated into the following action plan which prescribes the task to achieve the study goals. The action plan designates the required action, its timing in the release process and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase	1. Link to Pittwater Open Space and Recreation Plan.	Council
	2. Prepare Open Space Strategy and associated Section 94 Plan.	Council
Implementation Phase	1. Develop Open Space Master Plan. Detailed design.	Council
	2. Facilities Provision.	Developer/ Landowners
Ongoing	1. Maintenance of facilities.	Council

HERITAGE

The study brief for the Ingleside/Warriewood Heritage Study on which this Action Plan is based identified as its fundamental goal the following:

The purpose of the Heritage Study is to investigate, define and provide planning guidelines and management strategies, to ensure that the environmental heritage of the study area is protected. This heritage study focuses on the European built development and cultural landscape within the area.

In accordance with the study brief, the report provides an analysis of the areas history and then identifies a number of items which are of significance in terms of European built settlement and cultural landscapes and features.

The surveys of the study area (which were aided by historical maps and research) have identified eight items within the area which are of heritage significance. The principal recommendation arising from this inventory is to provide heritage protection to these items through appropriate planning guidelines and management strategies.

The planning guidelines to be applied during the various planning stages of development include the preparation of local environmental plans and development control plans. The management strategies outline tasks which will be carried out throughout the planning and development process to ensure preservation of the various items of heritage which contribute to the area.

The application of the study outputs have been incorporated into the following action plan which prescribes the tasks to be carried out to achieve the study goals.

The action plan designates the required action, its timing in the release process, and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase Allocate land uses for sectors designated for release	1. Identify items requiring specific preservation.	Council
	2. Prepare a Register of Sites (Register & Map).	Council
	3. Prepare management guidelines for development specifying management procedures to be applied at development application, approval, and construction stages.	Council

Timing	Action	Responsibility
Preparation of LEP/DCP.	1. Zone land as appropriate to achieve 1 and 2 above.	Council
	2. Prescribe controls.	Council
Implementation Phase	1. Provide management strategies to developers.	Council
	2. Apply management guidelines in the investigation and planning of future development.	Developer
	3. Evaluate proposal including information submitted by developer as required by the management guidelines.	Council
	4. Apply conditions of approval (reasons for refusal) on basis of management guidelines.	Council
	5. Comply with conditions of approval.	Developer/ Landowner
Ongoing	Plan of management for identified heritage item.	Council/ Developer

ABORIGINAL HERITAGE

The study brief for the Ingleside/Warriewood Aboriginal Archaeological Study on which this Action Plan is based identified as its fundamental goal the following:

To investigate, define and provide planning guidelines and management strategies, for the investigation, identification and protection, where warranted, of known, or expected Aboriginal heritage resources within the study area, during the planning and development phases of urban land release and in the long term.

In accordance with the study brief, the report provides a detailed assessment of known aboriginal archaeological resources within the study area and an evaluation of the likelihood of the existence of further items together with recommended planning guidelines and management strategies..

The principle recommendations of the report are as follows:

- That Pittwater Council include a Conservation Policy on aboriginal heritage in relevant statutory planning instruments.
- That Pittwater Council include in statutory planning instruments, the assessment requirements for identification of aboriginal sites as identified in the study report.
- That Pittwater Council implement the recommendations for management of sites already recorded within the release area as specified for each site.
- That Pittwater Council produce a management plan for the special reserve incorporating sites identified in the report.
- That Pittwater Council implement the management procedures as set out in the report.
- That Pittwater Council ensure that all information relating to the location of sites remains confidential.

To support these recommendations, the study provides the following:

- Identification of known aboriginal sites and resources.
- A map showing the likelihood of the occurrence of currently unknown aboriginal resources.
- Recommendations for the management of sites already recorded within the release area.
- Recommended procedures for the identification of currently unknown resources during the development phase and appropriate management of those resources.

The application of the study outputs has been incorporated into the following Action Plan which prescribes the tasks to be carried out to achieve the study goal.

The Action Plan shown on the following page designates the required action, its timing in the release process, and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase Allocate land uses for sectors designated for release	1. Identify items requiring specific preservation.	Council
	2. Consult with NPWS and appropriate Aboriginal groups.	Council
	3. Prepare a Register of Sites (Register & Map).	Council
	4. Prepare management guidelines for development specifying management procedures to be applied at development application, approval, and construction stages.	Council
Preparation of LEP/DCP	1. Zone land as appropriate to achieve 1 and 2 above. 2. Prescribe controls.	Developer/ Landowners
Implementation Phase	1. Provide management strategies to developers.	Council
	2. Apply management guidelines in the investigation and planning of future development.	Developer
	3. Evaluate proposal including information submitted by developer as required by the management guidelines.	Council
	4. Apply conditions of approval (reasons for refusal) on basis of management guidelines.	Council
	5. Comply with conditions of approval.	Developer
Ongoing	Plan of management for identified aboriginal heritage item.	Council

URBAN DESIGN

An important component of the development in the Warriewood Valley will be to ensure that the final built form adds to the environment of the area and the wider community.

It is imperative that the community's desire for a higher standard of development incorporates architectural innovations, a diversity of housing styles and forms, acknowledgment of topographical and natural features with a need for a sense of community and belonging to the estate which is integrated into the wider community. In particular, the following issues are an important component for the urban design for the future development of Warriewood Valley:

- Ensure an integrated approach to each sector that achieves model development through best practice design and community acceptance.
- Ensure that the bulk, scale and form and external finishes of development are compatible with the surrounding development and the colours and textures existing in the local area.
- Encourage community focal points within the estate.
- Encourage the separation of buildings and/or grouping of buildings to provide opportunities for screen planting and landscaping between the buildings.
- Encourage architectural initiatives in design through modulation, building indents, varied window design, setbacks, landscaping and external finishes.
- To encourage energy efficiency through appropriate design and use of materials.
- To encourage development, when viewed from the street, to achieve an overall sense of unity without limiting initiatives in design or exterior finishes.
- Encourage by appropriate design adequate levels of sunlight and privacy, efficient layout of rooms, provision of private open space, security and detachment from neighbours.
- Encourage design which blends with the natural surrounding environment rather than dominating it.
- Ensure that any building, where the site adjoins a creek line, open space or road is not visually dominant.
- To encourage the minimisation of site disturbance and use of soil conservation practices to conserve existing site features and vegetation.
- Retain where possible existing natural vegetation and thereby reduce the impact of stormwater and nutrients that encourage dieback, weed infestation runoff and siltation.
- Promote the use of native trees and shrubs which occur in that locality. Such to be integrated with any "exotic" plantings to enhance the overall amenity of the area and its visual context.
- Limit hard paved areas thereby providing the maximum landscaping area possible.
- Encourage environmentally sensitive water management and site management techniques.
- Encourage appropriate buffer areas between incompatible land uses.
- Provide for innovation in the engineering design for infrastructure which complements the design of the development and is consistent with Council's environmental values.

The following Action Plan indicates how those urban design objectives can be achieved for Council and what needs to be undertaken to achieve these goals.

The Action Plan designates the required action, its timing in the release process and the appropriate codes responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase	<ol style="list-style-type: none"> 1. Highlight the need to focus the design process to urban design issues. 2. Highlight the need to integrate the built features to housing compatible with the natural environment. 3. Identify streetscape and built design principles in the planning of the development. 	<p>Council</p> <p>Council</p> <p>Developer</p>
Implementation Phase	<ol style="list-style-type: none"> 1. Carry forward the design themes to the construction of the development. 	Developer

FINANCIAL

The release of land in Warriewood Valley for urban development has major financial ramifications for all stakeholders involved in the development process.

This includes land owners/developers, relevant Government infrastructure providers as well as Pittwater Council. In broad terms, the success or otherwise of the land release will be to some extent measured by the financial implications which arise from the release area.

In particular, Council's major concerns with the financial implications of the release will be highlighted through the development of Section 94 Contributions Plans under the Environmental Planning and Assessment Act, 1979. These contribution plans will identify the level of community facilities and public infrastructure required to service the incoming population associated with the land release and identify how the funding of these facilities will occur.

Council has to ensure that the development of land in Warriewood Valley does not put any significant cost impact on the existing Pittwater Community. In this regard, a major goal of the planning process for the release area is to ensure that the release area remains cost neutral for the Pittwater Council and wider community.

The following Action Plan indicates how this financial objective can be achieved for Council and what parts needs to be undertaken to achieve this goal.

The Action Plan designates the required action, its timing in the release process and the appropriate authority or body responsible for specific tasks.

Timing	Action	Responsibility
Planning Phase	1. Develop Section 94 Contribution Plans to identify public infrastructure and community facilities and how funded.	Council
	2. Quality assurance of plans.	Council
Implementation Phase	1. Implement Section 94 Contributions Plans.	Council/ Developer
	2. Continually review and refine Section 94 Contributions Plans as implemented.	Council

LAND USE SELECTION

The form and scale of development that is to occur within the release area will depend on the capability of the land to support development (as indicated by the environmental and demographic studies), the ability to provide infrastructure and the characteristics of the particular land use types that might occur.

To facilitate the selection of land uses for individual areas of land within the release area, Council has prepared a draft Land Use Policy Sets document and a draft Development Models document. These documents provide an accountable methodology for land use selection and planning.

DRAFT LAND USE POLICY SETS

The Land Use Policy Sets document lists possible land uses which may occur within the land release and discusses each of those land uses in terms of suitability in relation to the environmental attributes of the area. The document also outlines relationships between land uses in terms of compatibility to assist in determining the appropriateness of adjoining land uses.

When applied together with the outputs of the environmental studies, this document provides a basis for determining a range of appropriate land uses for a particular land unit, and provides an indication of the compatibility of land uses for adjoining land units.

DRAFT DEVELOPMENT MODELS

The draft Development Models document contains descriptive representations of various types of land uses that may form part of the Warriewood Urban Land Release. The Development Models have been provided for a range of forms and densities of residential use, community facility use, retail/service uses, light industrial uses, open space and recreational uses as generally outlined in the land use policy set.

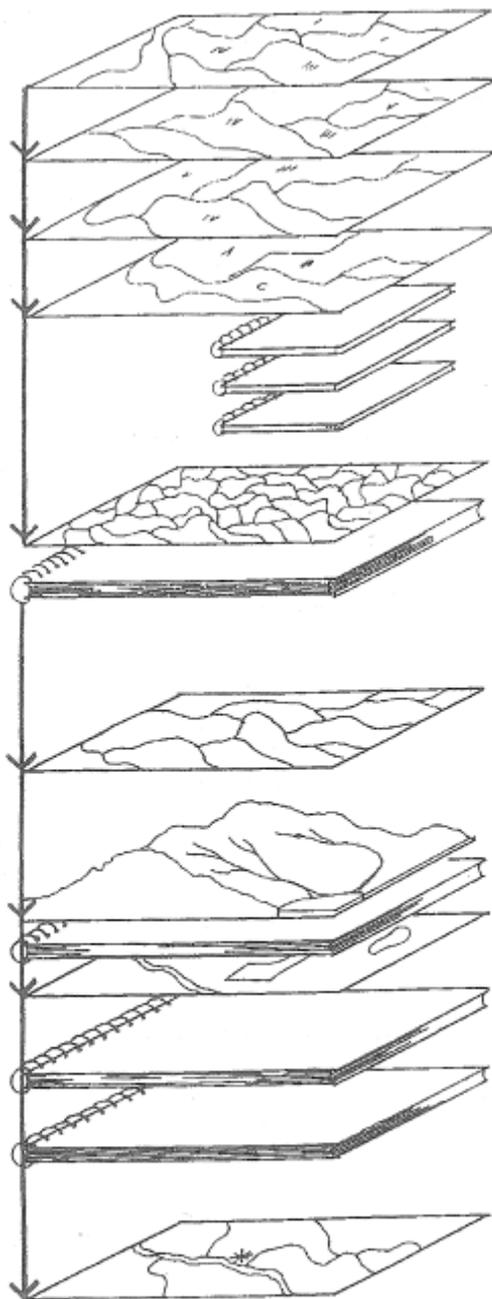
Each model provides an explanation of the particular land use together with locational guidelines and other relevant information. The Development Models also provide an outline of locational criteria in relation to the environmental studies. Suitable land classes in terms of vegetation conservation, fauna conservation, land capability and visual impact, among others, have been identified from most land uses.

The models will be used to assist the detailed planning for the release area, determination of dwelling density, and the formulation of future Local Environmental Plans and Development Controls.

PLANNING METHODOLOGY

The following briefly describes the methodology which has been used to develop the Draft Planning Framework for the release area.

The methodology is an integrated process that draws together the information and strategic outcomes from the array of detailed environmental and demographic studies undertaken for the release area. The planning methodology is illustrated in the following diagram:



- Visual Impact Study
- Vegetation Conservation Study
- Fauna Conservation Study
- Urban Land Capability Study
- Contaminated Land Study
- Heritage Study
- Aboriginal Heritage Study
- Composite Capability Map
- Land Use Policy Sets
- Development Capability Map
- Water Cycle Management Study
- Existing Land Use Constraints/ Opportunities Map
- Demographic & Facilities/ Service Needs Studies
- Land Use Models
- Planning Strategy Map

Planning Methodology Diagram Warriewood Urban Land Release Area

The environmental studies have identified and located the constraints and opportunities for urban development imposed by the existing physical and cultural environment of the release area. These studies have also provided planning guidelines and management strategies that aim to reduce the impact of urban development on the environment of the release area.

In particular, four key environmental studies (Urban Land Capability, Vegetation Conservation, Fauna Conservation and Visual Impact) have each classified and mapped land areas according to their suitability for urban land uses. These four studies mapped land on a classification based approach with Class A (or 1) lands being the most suitable for urban purposes while Class E (or 5) lands comprised high environmental constraints and hence was of minimal urban development potential.

These four studies provide the basis for determining the development capability of land in the release area. The remaining environmental studies (Aboriginal Heritage, Heritage & Contaminated Land), prescribe actions and controls to be undertaken to facilitate development rather than a broadscale limitations on development types.

When the classification maps of each of the four environmental studies (Urban Land Capability, Vegetation Conservation, Fauna Conservation and Visual Impact) are overlaid, a composite capability map is produced. This map consists of a large number of areas each of which have a particular combination of classes from each of the four studies which classify development capability.

The draft Land Use Policy Set document provides a basis for allocating land uses to areas with a particular combination of capability classes from the environmental studies. This document describes the possible range of land uses for the release area and provides policies that may exclude certain land uses from areas with capability classes considered unsuitable for those uses. The policies enable preferred land uses to be allocated to areas where these uses are sustainable, and suitable, based on sound principles of ecological planning.

The individual areas on the composite map which have a similar range of preferred land uses will also have a similar potential for development. Hence, a Development Capability Map may be produced by grouping these individual areas where they have similar ability to support development or conservation land uses.

A Development Capability Map for the release area which comprises six classes of land has been produced:-

- Class 1 - High development capability
- Class 2 - Medium high development capability
- Class 3 - Medium development capability
- Class 4 - Restricted development capability
- Class 5 - Low development capability (conservation value)
- Class 6 - Minimal development capability (high conservation value).

**TABLE SHOWING DEVELOPMENT CAPABILITY CLASSES
IN RELATION TO STUDY CLASSIFICATIONS**

Note: Order of Study Classification: (Land Capability, Visual Impact, Vegetation Conservation, Fauna Conservation), e.g. A23d is a discrete area having the following Environmental Study Classifications:

Land Capability: A
 Visual Impact: 2
 Vegetation Conservation: 3
 Fauna Conservation: d

Class 1

A11a B11a
 A21a B*11a
 A31a B21a
 A41a B*21a

Class 2

A13a B23a C11a D11a
 A23a B31a C21a D21a
 A24a B41a C31a
 A33a B51a
 A51a

Class 3

A23d B*15a C24a D31a E11a
 A34a B21e C51a D51a E*11a
 A44a B24a E21a
 A53a B34a E*21a
 A54a B44a E31a
 B53a

Class 4

A13e B*15d C51e E*15a
 A14d B23d C53a E51a
 A15d B23e C54a
 A15e B24d
 A23e B33d
 A24d B33e
 A24e B34d
 A33d B51d
 A34d B51e
 A33e B54a
 A25d
 A24e
 A34e
 A44d
 A51e
 A53e
 A54d

Class 5

A25e B*15e C23e D23e
 A44e B24e C24e D24d
 A54e B25d C33d
 A55d B25e C33e
 B34e
 B44d
 B44e
 B53e
 B54d

Class 6

A55e B54e C25e D24e E23e
 B55d C34e D34e E24d
 B55e C53e D33e E24e
 C54d D53e E*25d
 C54e D54d E*25e
 C55e D54e E33d
 D55d E34e
 D55e E51c
 E53e
 E54d
 E54e
 E55d
 E55e
 E*15d

A key component of the natural and built environment is the management of storm and waste water. Accordingly, the strategic outcomes of the Water Cycle Management Study and Integrated Water Management Strategy are integral to those of the natural environmental studies (Vegetation Conservation, Fauna Conservation and Land Capability). Many key recommendations of the water management strategies overlap with those of the environmental studies and together provide a framework for the total catchment management of the release area. Of particular importance in this regard, is the need to preserve creek line corridors, floodways, and wetlands.

Other factors, apart from development capability, will influence the suitability of land to be used for various urban and associated land uses. Of particular importance is the constraints/opportunities imposed by existing land uses within or adjacent to the study area, such as roads and State Government facilities. In addition, land in public ownership or land which Council has an interest in (for drainage or other purposes) may also influence the allocation and suitability of land uses.

A land use allocation map has been prepared by dividing the land release study area into sectors. The boundaries of the sectors relate to natural features (such as creeks, ridgelines, escarpments etc), cadastral boundaries and development capability.

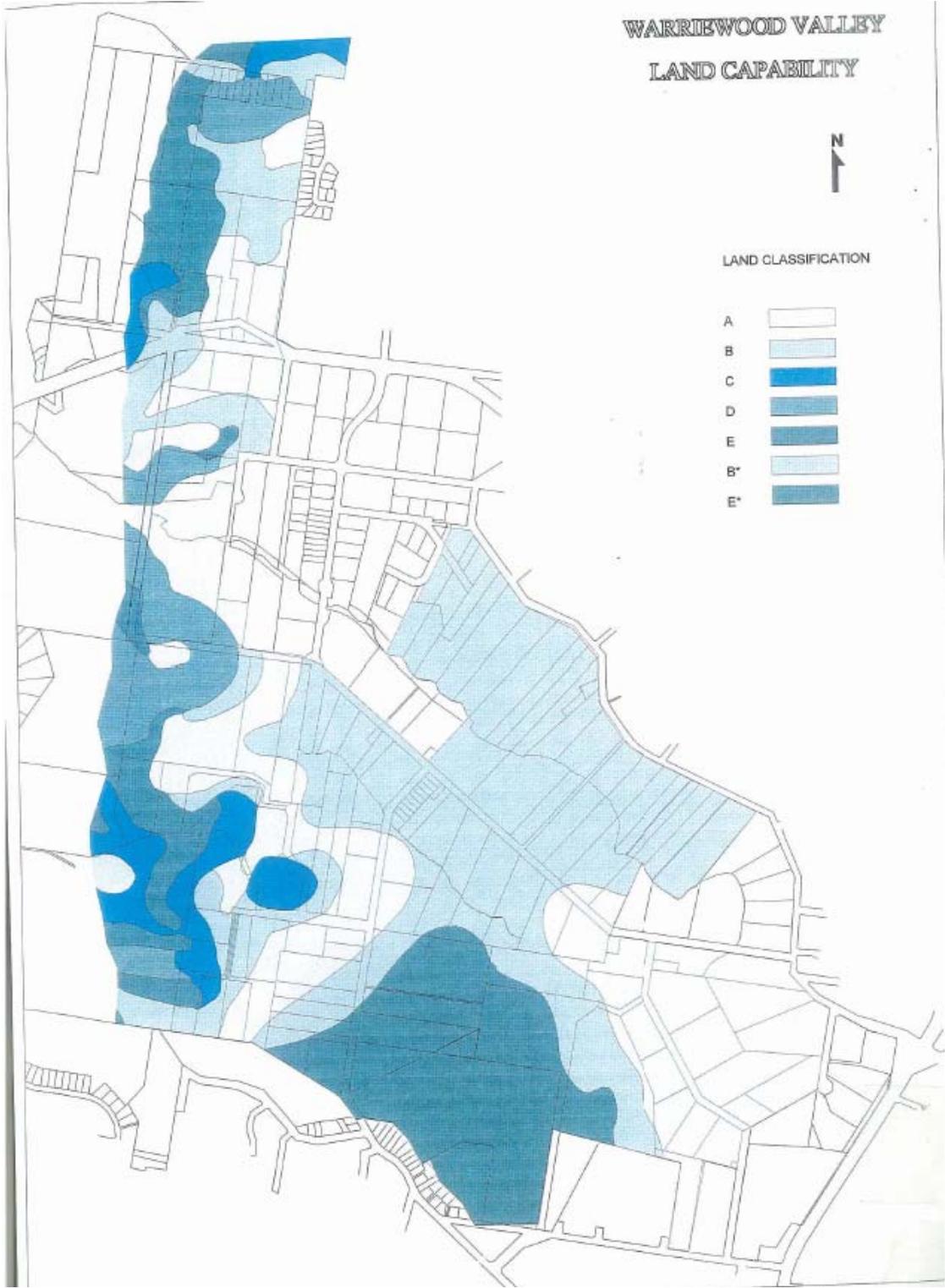
A proposed range of suitable land uses for each sector including Principal Land Use, Secondary Land Use and Ancillary Land Uses based on the Development Capability Map, Draft Policy Sets and draft Development Models document can then be nominated. The principal land use for each sector has been mapped on the land use allocation map.

WARRIWOOD VALLEY
LAND CAPABILITY



LAND CLASSIFICATION

A	
B	
C	
D	
E	
B'	
E'	

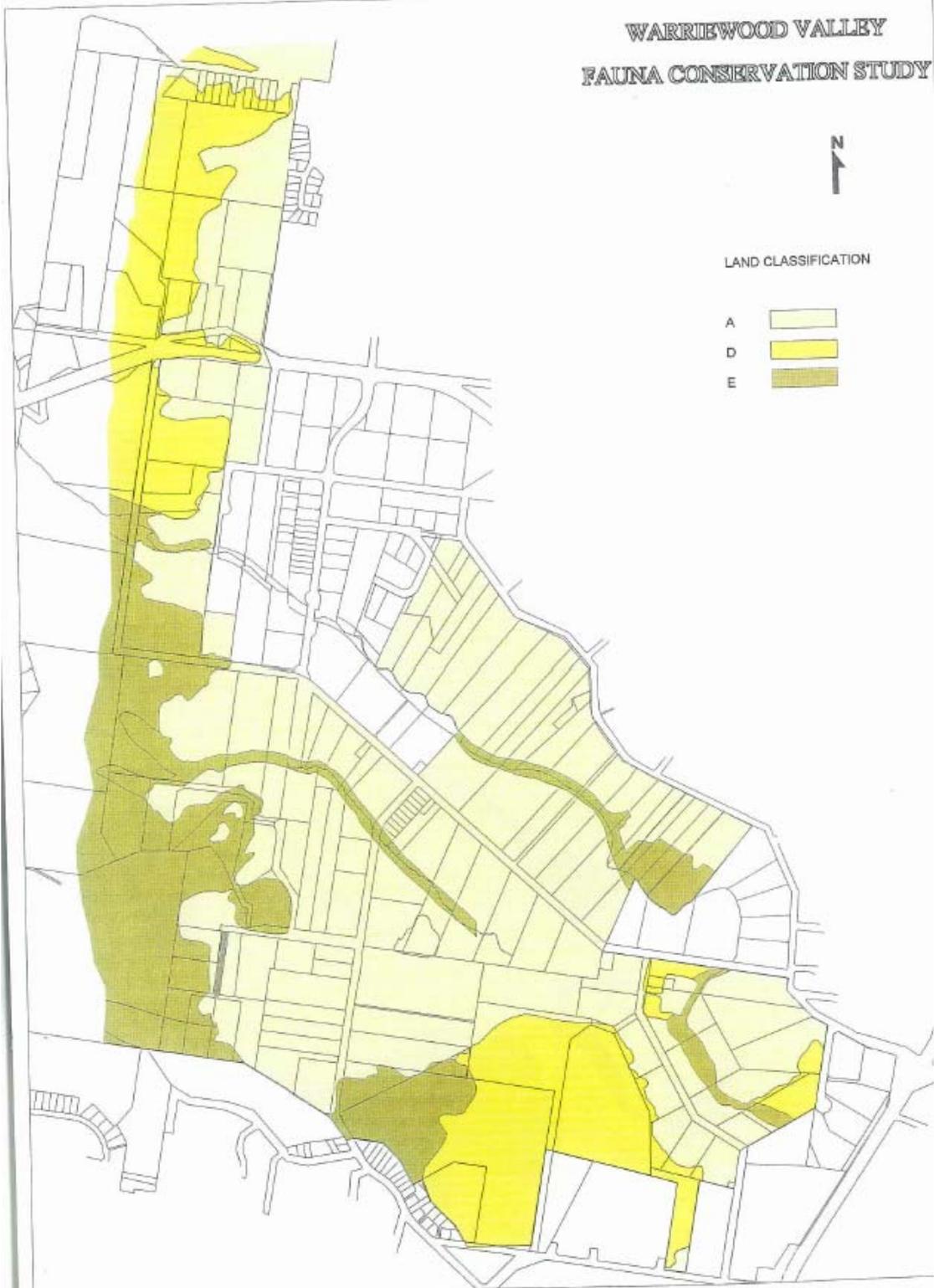


WARRIEWOOD VALLEY
FAUNA CONSERVATION STUDY



LAND CLASSIFICATION

- A 
- D 
- E 

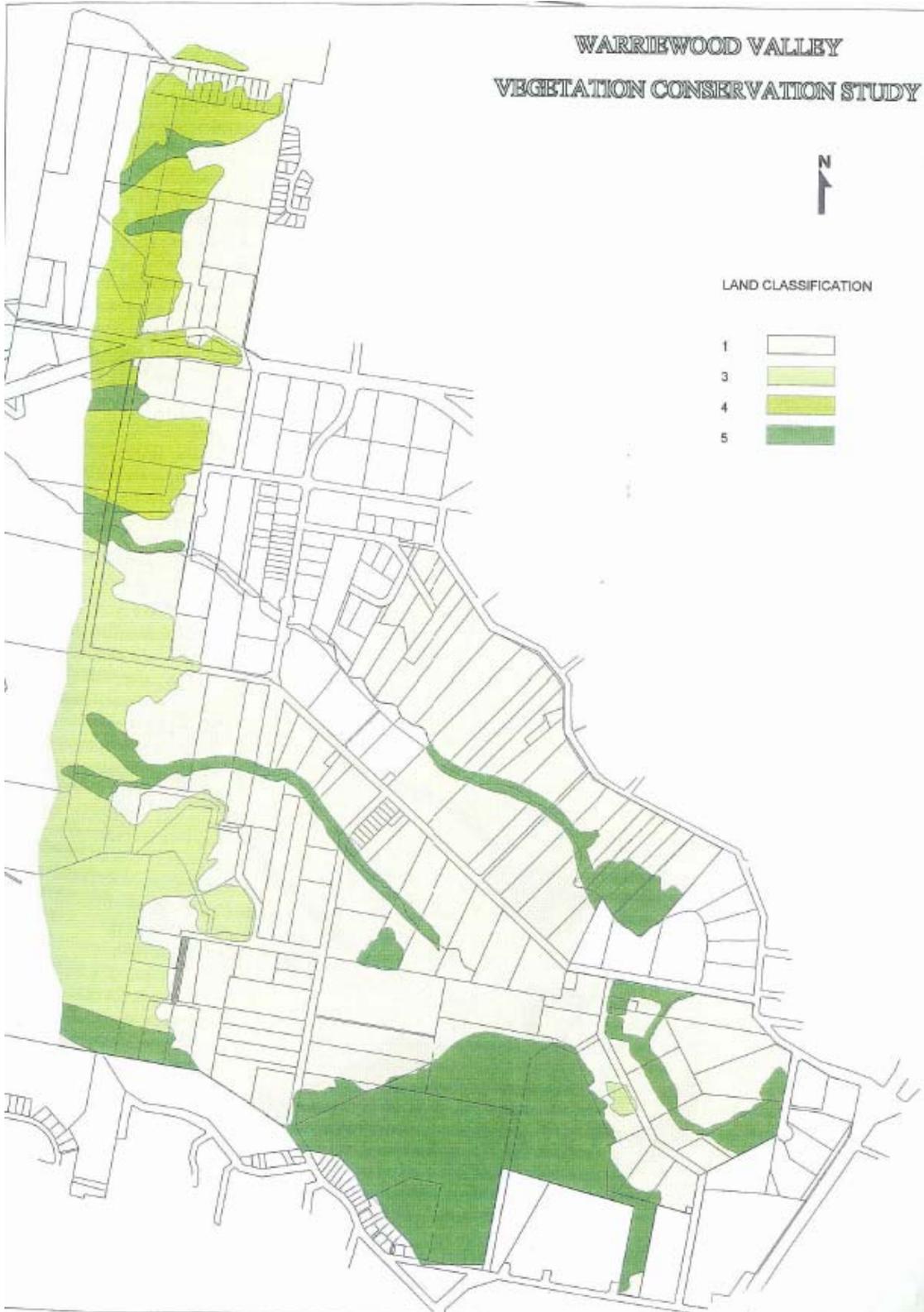


WARRIEWOOD VALLEY
VEGETATION CONSERVATION STUDY



LAND CLASSIFICATION

- 1 
- 3 
- 4 
- 5 

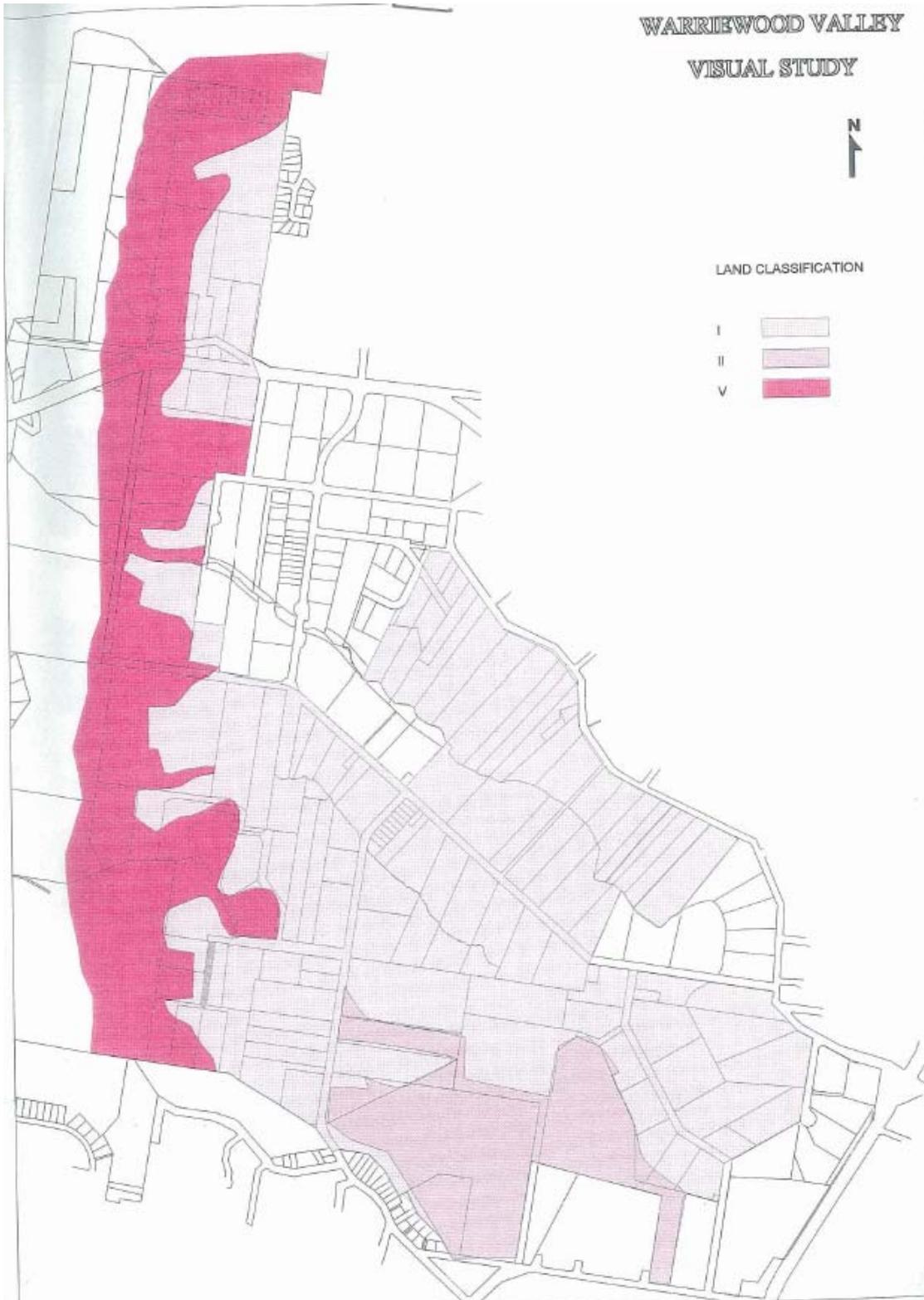


WARRIEWOOD VALLEY
VISUAL STUDY



LAND CLASSIFICATION

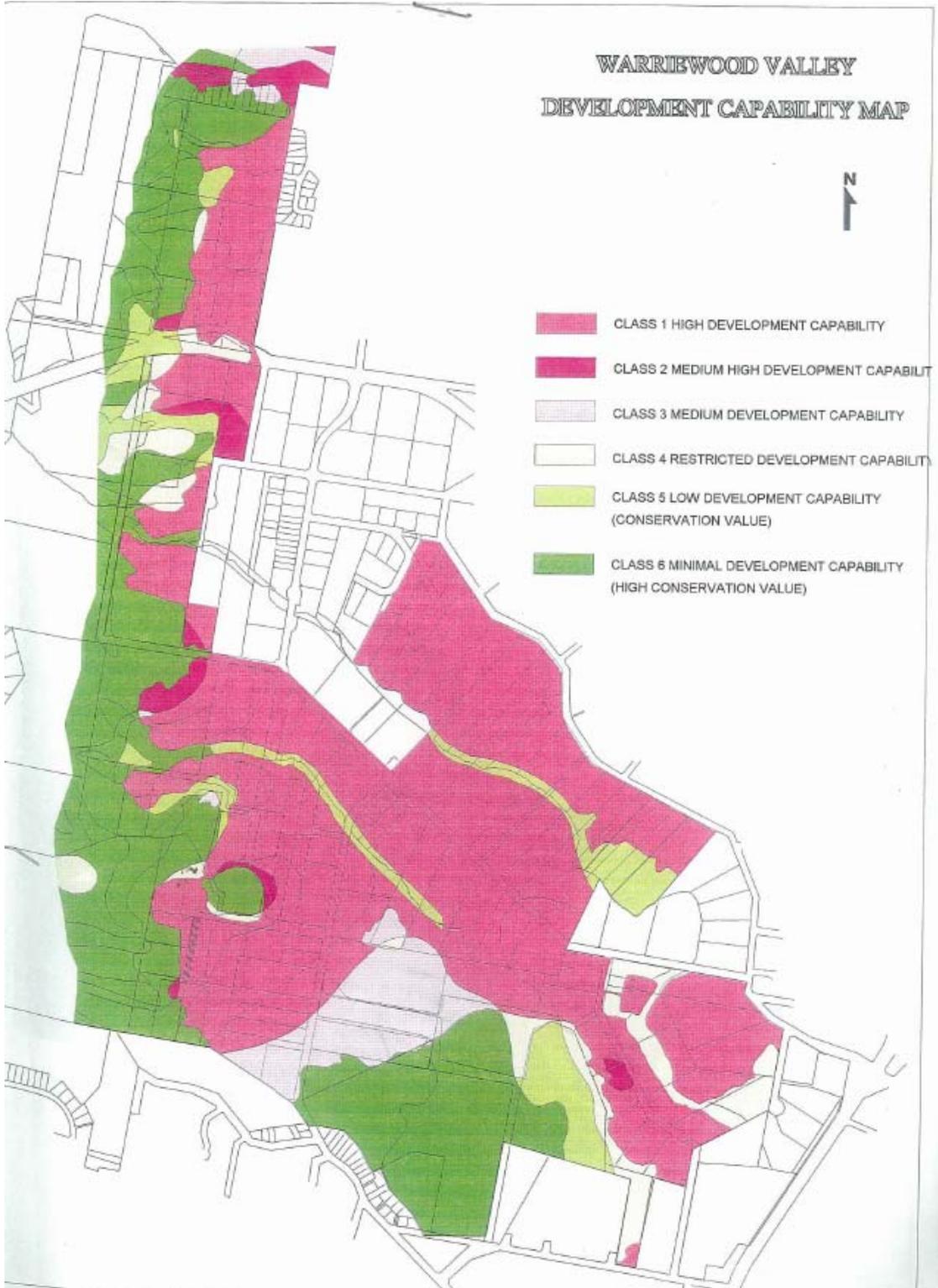
- I 
- II 
- V 



WARRIEWOOD VALLEY
DEVELOPMENT CAPABILITY MAP



-  CLASS 1 HIGH DEVELOPMENT CAPABILITY
-  CLASS 2 MEDIUM HIGH DEVELOPMENT CAPABILITY
-  CLASS 3 MEDIUM DEVELOPMENT CAPABILITY
-  CLASS 4 RESTRICTED DEVELOPMENT CAPABILITY
-  CLASS 5 LOW DEVELOPMENT CAPABILITY
(CONSERVATION VALUE)
-  CLASS 6 MINIMAL DEVELOPMENT CAPABILITY
(HIGH CONSERVATION VALUE)

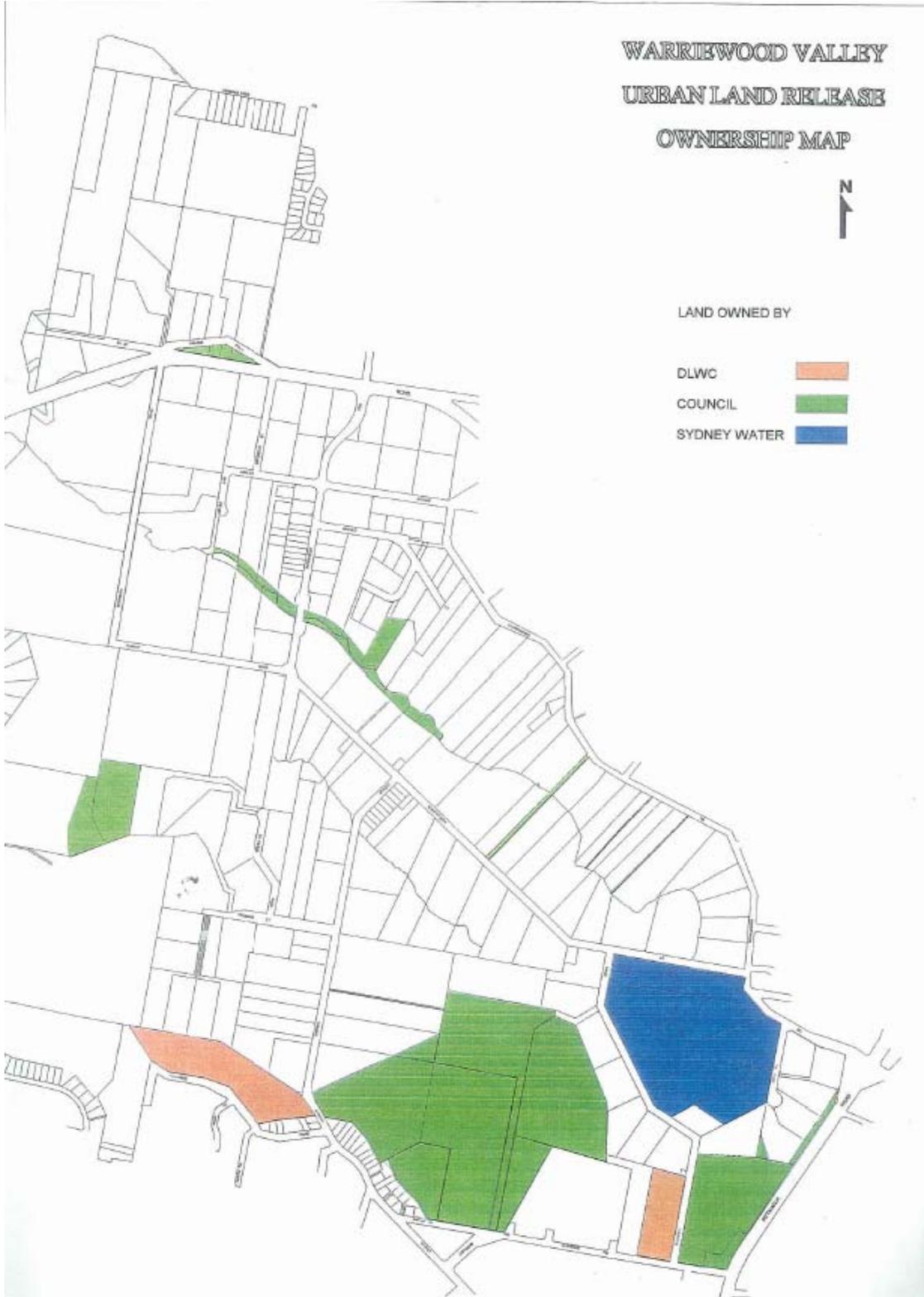


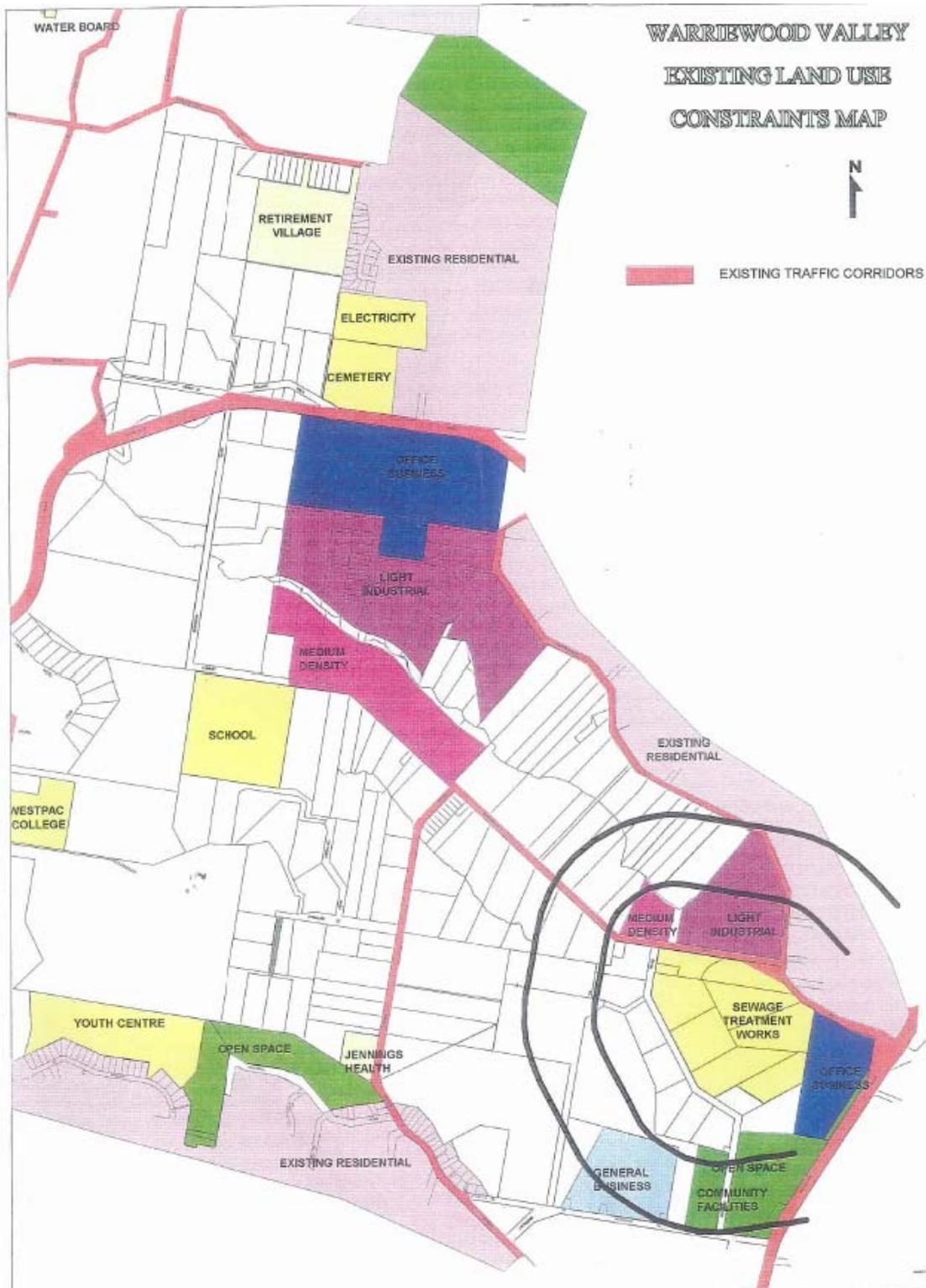
WARRIEWOOD VALLEY
URBAN LAND RELEASE
OWNERSHIP MAP

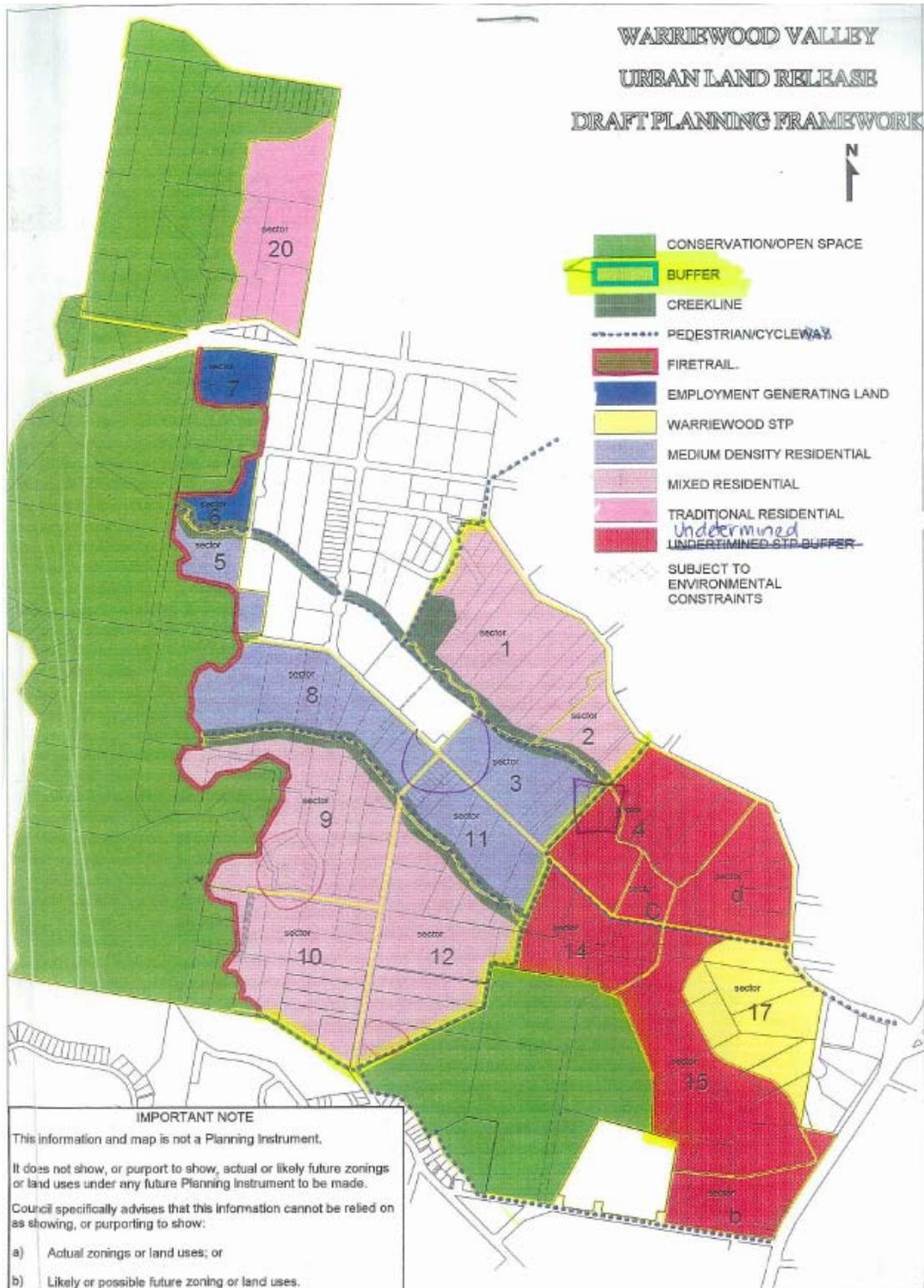


LAND OWNED BY

- DLWC 
- COUNCIL 
- SYDNEY WATER 







Please note: Additional handwritten markings do not form part of this map

DEVELOPMENT DENSITY AND POPULATION PROJECTIONS

Based on the allocation of differing land uses for each sector, population projections have been prepared.

The following tables apply the land use selection process outlined in the draft Policy Sets and draft Development Models documents to the development capability assessment of land in the Valley.

The development capability of each sector provides a range of options for land use. These options are considered in light of adjoining land uses and the objective to provide an appropriate mix of development with a focus on residential land use.

The process determines a principal and any secondary land uses for each sector, and where the land use is designated for residential use, allocates a dwelling density and population projection taken from the draft Development Models document for that part of the sector suitable for that use.

Where secondary uses have been nominated, the area allocated for this use is not taken into account in determining population projections.

WARRIEWOOD URBAN LAND RELEASE
Development Density and Population Projection

SECTOR			LAND CAPABILITY & LAND USE POSSIBILITIES		LAND SUITABILITY			DETERMINATION OF LAND USE AND DENSITY IDENTIFICATION						
Develop Sector Number	Develop Capability Classes	Area (Ha)	Possible Land Uses	Preferred Land Uses		Adjoining Land Uses	Compatibility	Buffer	Land Use	Dwells Per Ha	Area (Ha) Approx	Total Dwells	Occ Rate	Pop
				Primary	Secondary									
1	1 5	16.8	Residential Commercial Industrial Recreation Conservation Comm. Service	Resid.	-	Industrial Residential Conserv	Low High Low	Yes Nil Yes	Principal Mixed Res Secondary Conserv	15 -	12.7 4.1	195 -	2.8 -	546 -
2	1 5	4.8	Residential Commercial Industrial Recreation Conservation Comm Service	Resid.	-	Industrial Residential Conserv	Low High Low	Yes Nil Yes	Principal Mixed Res Secondary Conserv	15 -	3.7 1.1	51 -	2.8 -	143 -
3	1 5	8.2	Residential Commercial Industrial Recreation Conservation Comm Service	Resid.	-	Residential Undetermined Conserv	High - Low	Nil - Yes	Principal Med Density Secondary Conserv	25 -	6.6 1.6	165 -	2.8 -	462 -
5	1 2 6	3.7	Residential Commercial Industrial Recreation Conservation Comm Service	Resid.	Conserv.	Residential Conserv Industrial	High Low Low	Nil Yes Yes	Principal Med Density Secondary Conserv	25 -	3.0 0.7	75 -	2.8 -	210 -

WARRIEWOOD URBAN LAND RELEASE
Density of Development and Population Projection

SECTOR			LAND CAPABILITY & LAND USE POSSIBILITIES		LAND SUITABILITY			DETERMINATION OF LAND USE AND DENSITY IDENTIFICATION						
Develop Sector Number	Develop Capability Classes	Area (Ha)	Possible Land Uses	Preferred Land Uses		Adjoining Land Uses	Compatibility	Buffer	Land Use	Dwells Per Ha	Area (Ha) Approx	Total Dwells	Occ Rate	Pop
				Primary	Secondary									
6	1 4 6	2.3	Residential Commercial Industrial Recreation Conservation Com Service	Indust.	Conserv.	Industrial Conservation	High Low	Nil Yes	Principal	-	2.3	-	-	-
									Industrial					
7	1 2 4	3.0	Residential Commercial Industrial Recreation Conservation Comm Service	Indust.	Conserv.	Commercial Conservation	High Low	Nil Yes	Principal	-	3.0	-	-	-
									Commercial					
8.	1 2 3 5 6	13.1	Residential Commercial Industrial Recreation Conservation Comm Service	Resid.	Conserv.	Residential Conservation	High Low	Nil Yes	Principal	25	10.5	263	2.8	736
									Med Density					
9	1 2 5 6	17.1	Residential Commercial Industrial Recreation Conservation Comm Service	Resid.	-	Residential Conserv.	High Low	Nil Yes	Principal	15	13.7	205	2.8	577
									Mixed Res					

WARRIEWOOD URBAN LAND RELEASE
Density of Development and Population Projection

SECTOR			LAND CAPABILITY & LAND USE POSSIBILITIES		LAND SUITABILITY			DETERMINATION OF LAND USE AND DENSITY IDENTIFICATION						
Develop Sector Number	Develop Capability Classes	Area (Ha)	Possible Land Uses	Preferred Land Uses		Adjoining Land Uses	Compatibility	Buffer	Land Use	Dwells Per Ha	Area (Ha) Approx	Total Dwells	Occ Rate	Pop
				Primary	Secondary									
10	1 2 3	13.9	Residential	Resid.	-	Residential	High	Nil	Principal	15	11.1	167	2.8	468
			Commercial Industrial Recreation Conservation Comm Service		Conserv	Low	Yes	Mixed Res						
11	1 5	8.2	Residential	Resid.	-	Residential	Low	Nil	Principal	25	6.6	165	2.8	462
			Commercial Industrial Recreation Conservation Comm Service		Undetermined	-	-	Med Density						
12	1 3 4 5 6	17.4	Residential	Resid	-	Residential	High	Nil	Principal	15	8.7	131	2.8	367
			Commercial Industrial Recreation Conservation Comm Service		Undetermined Conserv.	- Low	- Yes	Mixed Res						
20	1 4 5	12.3	Residential	Residential		Conservation	Low	Yes	Principal	8	11.1	89	2.8	249
			Commercial Industrial Recreation Conservation Comm Service		Residential	High	nil	Traditional Residential Secondary Restricted Res						

RESIDENTIAL DEVELOPMENT DENSITY

The population projections provide information on the expected number of dwellings in each sector. These projections are based on the environmental capability of land to support development as defined in the Development Capability Assessment process and the draft Land Use Models document.

Final dwelling density will be determined through the detailed planning process which will take into account specific characteristics of the land and the urban design objectives of the Planning Framework. However in order to progress the planning process an overall projection is required.

GROSS AND NET DENSITY

In order to better understand the outcome of development in terms of dwelling numbers and densities, the following table has been prepared showing the gross density for each sector and providing forecasts of net density.

Gross density is the number of dwellings per hectare including all land uses within the sector i.e. roads, footpaths, public open space, water management facilities etc.

This can also be expressed as the overall area (m²) per dwelling.

Net density is the dwelling density excluding roads, footpaths, public open space, water management facilities etc.

This can also be expressed as an area (m²) per dwelling. This area corresponds to an average “lot size” for the sector.

Sector	Total area ha	No of dwellings	Gross density m ² /dwelling	Net Density m ² /dwelling	Principal Land Uses
1	16.8	195	861	625 *	Mixed residential
2	4.8	48	1000	750	Mixed residential
3	8.2	165	497	250	Medium density
5	3.7	75	493	250	Medium density
6	2.3	-	-	-	Industrial commercial
7	3	-	-	-	Industrial commercial
8	13.1	263	498	250	Medium density
9	17.1	206	830	625	Mixed residential
10	13.9	167	832	625	Mixed residential
11	8.2	165	496	250	Medium density
12	17.4	131	1328	625 **	Mixed

					residential
20	12.3	92	1336	950	Traditional residential

- * **Note:** Sector 1 includes a significant area designated for use as a Water Management Structure.
- ** **Note:** A significant portion of Sector 12 is flood prone and consequently although it has a principal land use of mixed residential a reduced gross density is anticipated. Resultant lot sizes for areas of this sector which will be developed for mixed residential land use are expected to be consistent with other mixed residential sectors.

This table provides an estimate only as final design will influence the amount of area set aside for roads, footpaths, open space and the like. Further lot sizes will vary within each sector in accordance with the requirements for a range of dwelling sizes and types and variations in environmental constraints.

RANGE OF LOT SIZES

While a sector designated for mixed residential development has a net density lot size of 625 sq metres this does not infer that all lots will be near that lot size.

To the contrary, the principal of the mixed residential land use as outlined in the land use models document is to facilitate a range of lot sizes to cater for a mix of residential development styles.

For example, a mixed residential sector targeted to yield 200 lots at a net density of 625 sq metres per lot could develop 3 lot types as part of an integrated design.

- Large lots adjoining an environmentally sensitive area which incorporates areas of vegetation protection area i.e. lots adjacent to a creekline corridor. Area 1000=1200 metres
- Standard residential developments lots 550m² - 650m²
- Garden lots 300m² - 400m²

Rather than 200x 625m² lots an equivalent development density could consist of 35 large lots, 120 standard residential lots and 45 garden lots. Obviously there is a variety of mixes which can be used.

The detailed design for each sector will need to take into account its particular characteristics and produce an appropriate development proposal.

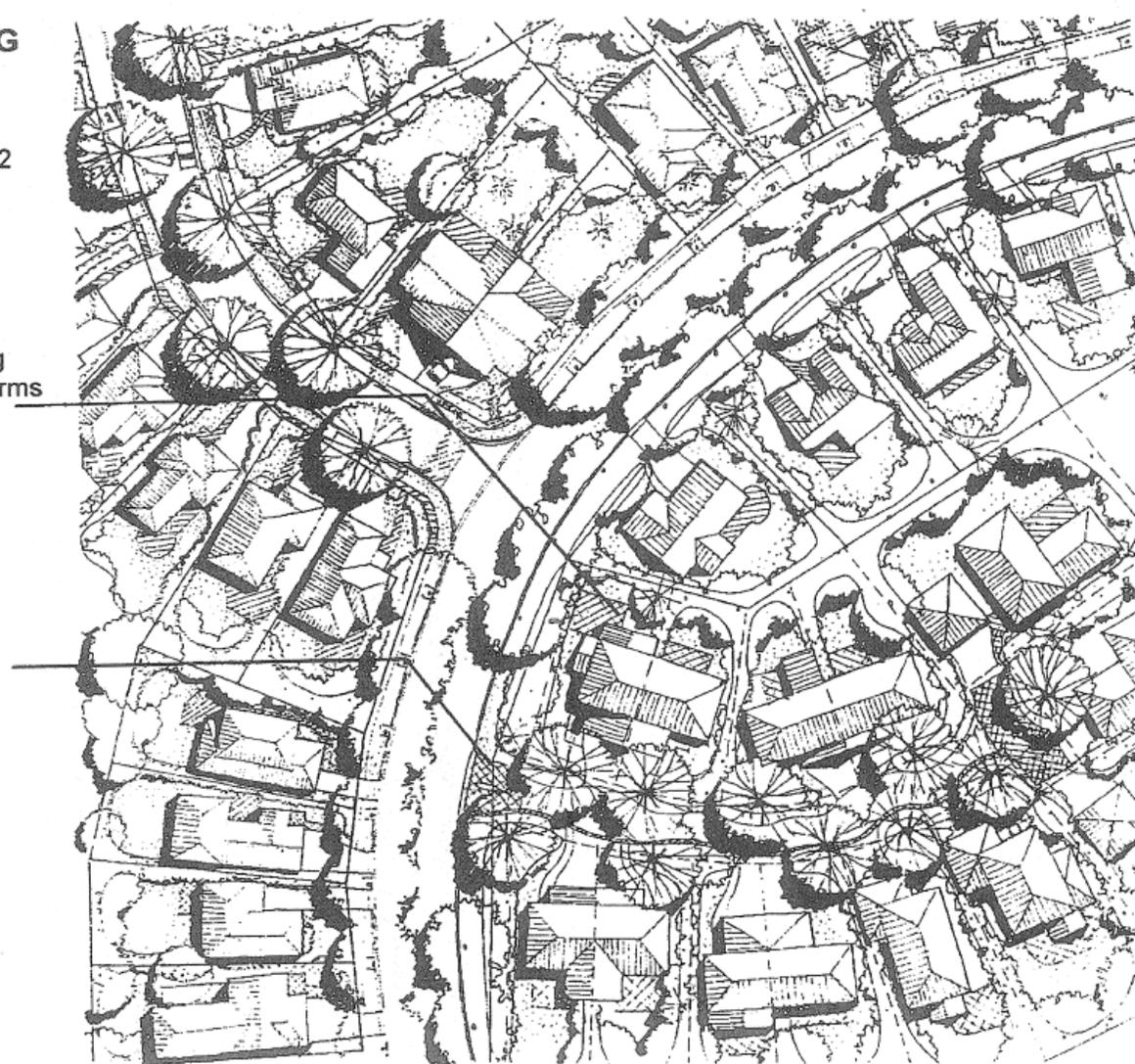
A series of representations of development alternatives and scenarios is as shown in the following diagrams.

**INTERGRATED HOUSING
'CLUSTER'**

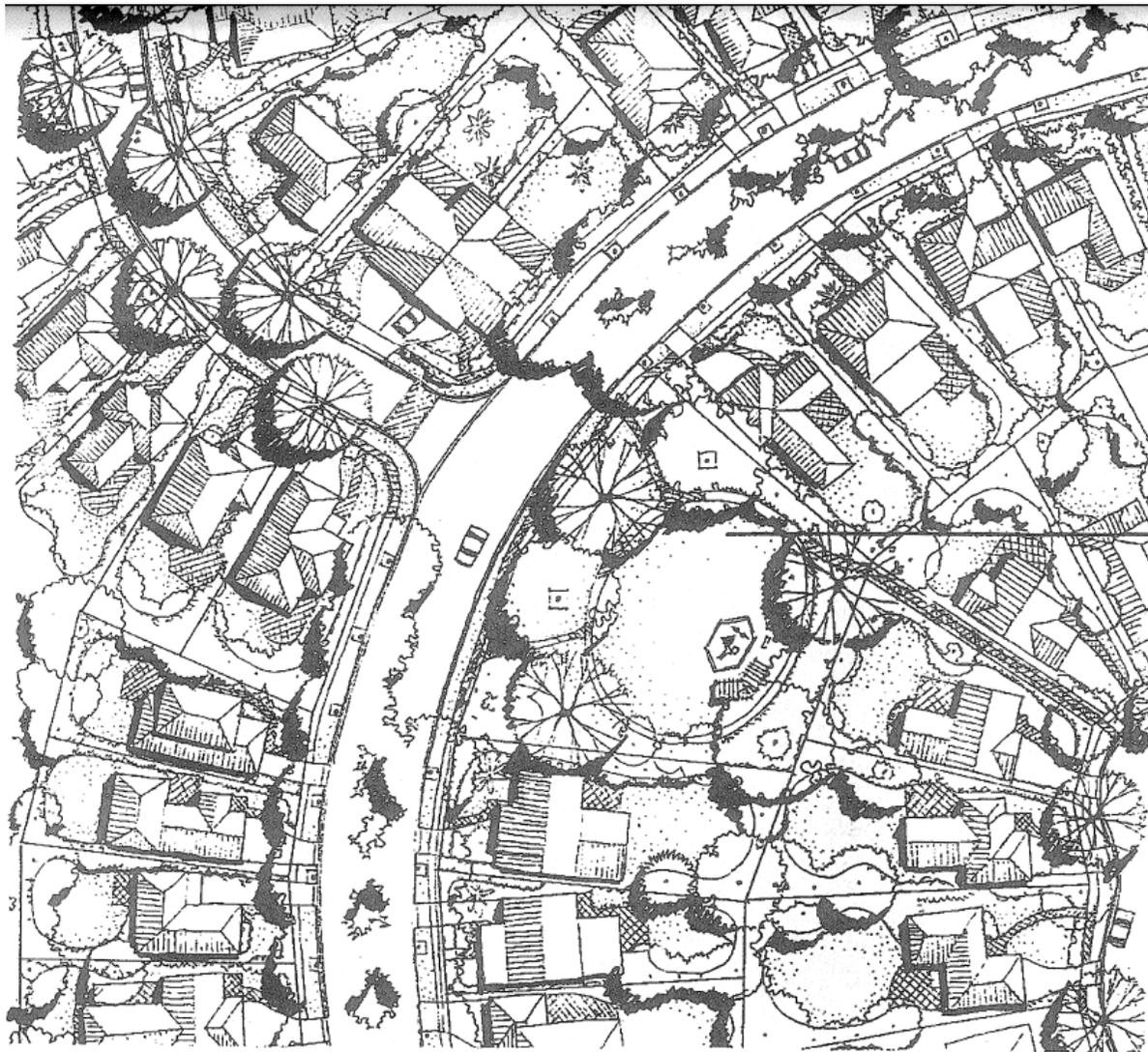
Site density: 25 dwellings/ Ha
Range of lot sizes: 300 - 500m²

Small housing 'cluster' utilising
semi-detached/ zero lot line forms

Paved 'shareway'



DRAWING A



RESIDENTIAL

Average lot size: 500m²
Site density: 20 dwellings/ Ha

Streetscape treatment to reflect
road hierarchy

Small parks in key locations along
pedestrian network

DRAWING B

**INTERGRATED HOUSING
'CLUSTER'**

(with restricted use buffer to
creekline corridor)

Site densities:
15-25 dwellings/ Ha

Communal open space as buffer
between residential and creekline
corridor

WETLAND
(water pollution control pond)

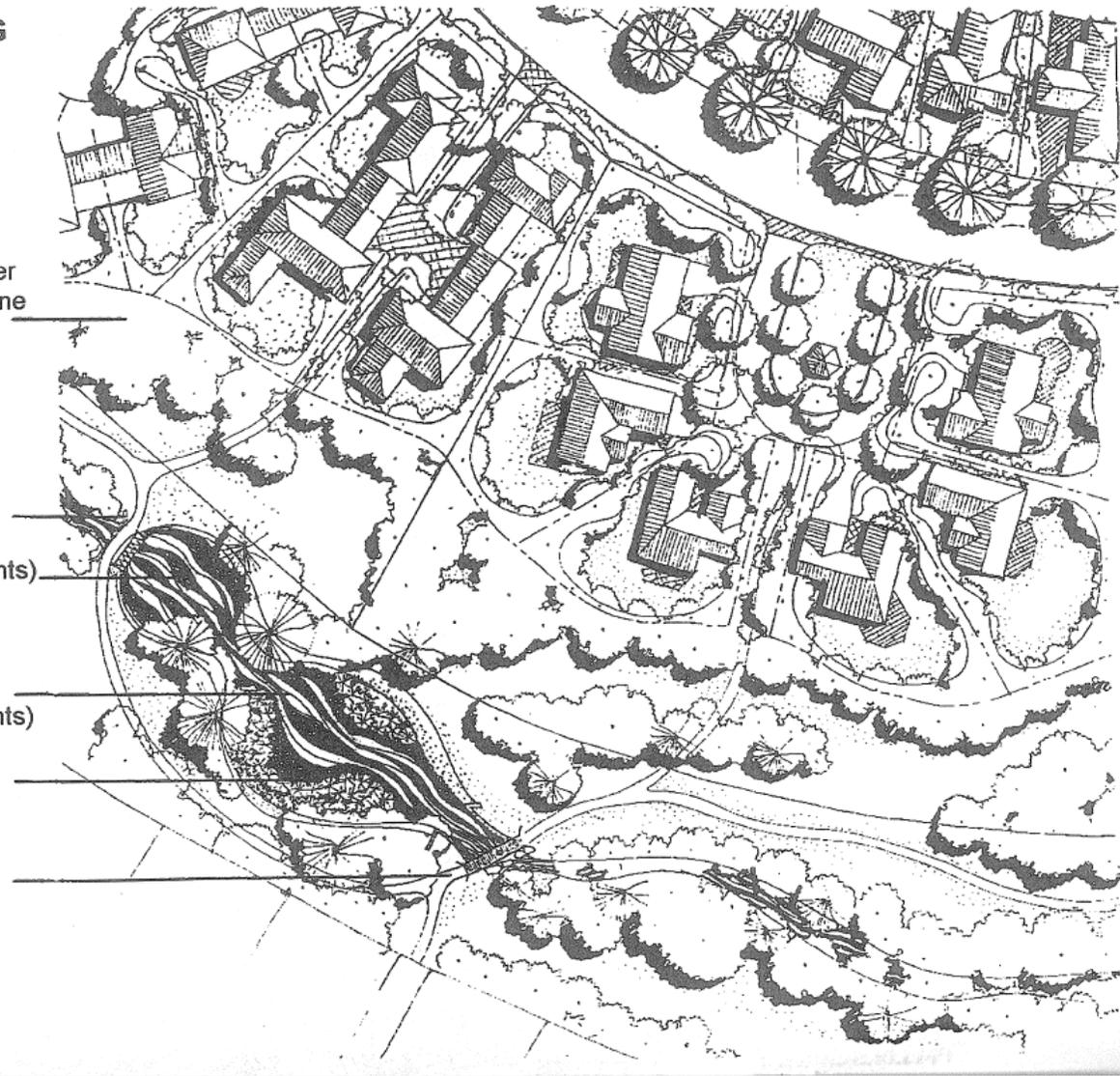
'Trash rack'
(gross pollutant trap)

Forebay (traps heavier sediments)

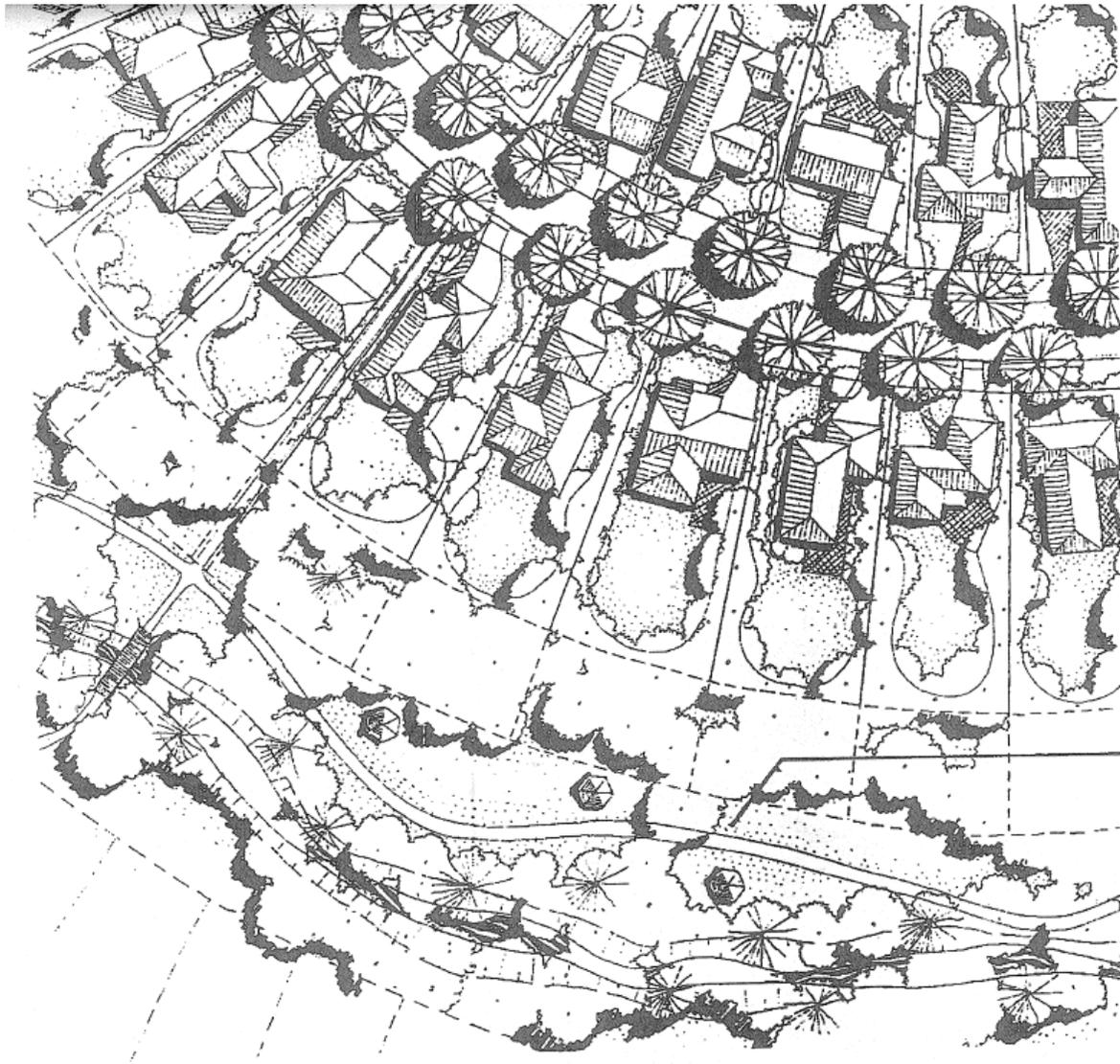
Waterbody
(settling fine sediments and
biological processing of nutrients)

Emergent and submergent
macrophyte zone

Outlet / weir
(dual use as footbridge)



DRAWING C



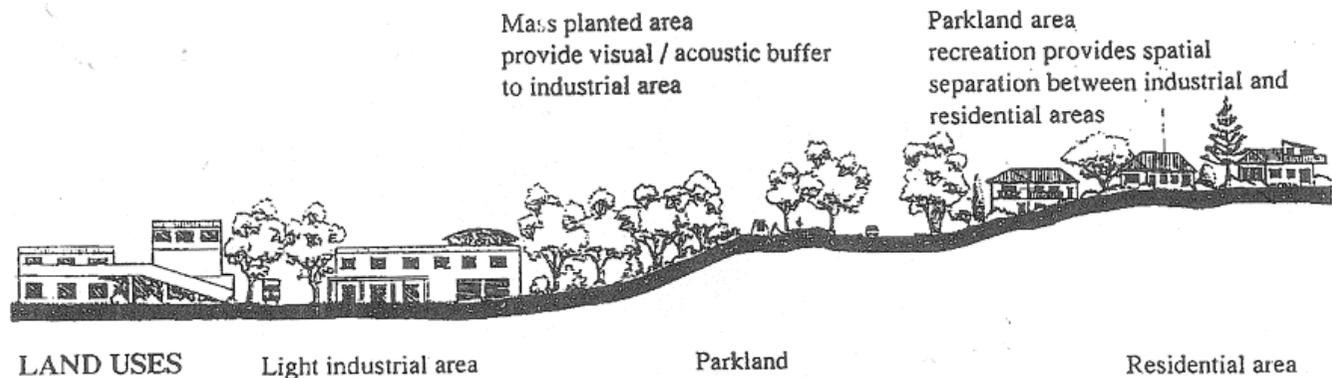
RESIDENTIAL
(with restricted use buffer to
creekline corridor)

Average lot size 1,100m²
Restricted area of Lot: 360m²
Site density: 9 dwellings/ Ha

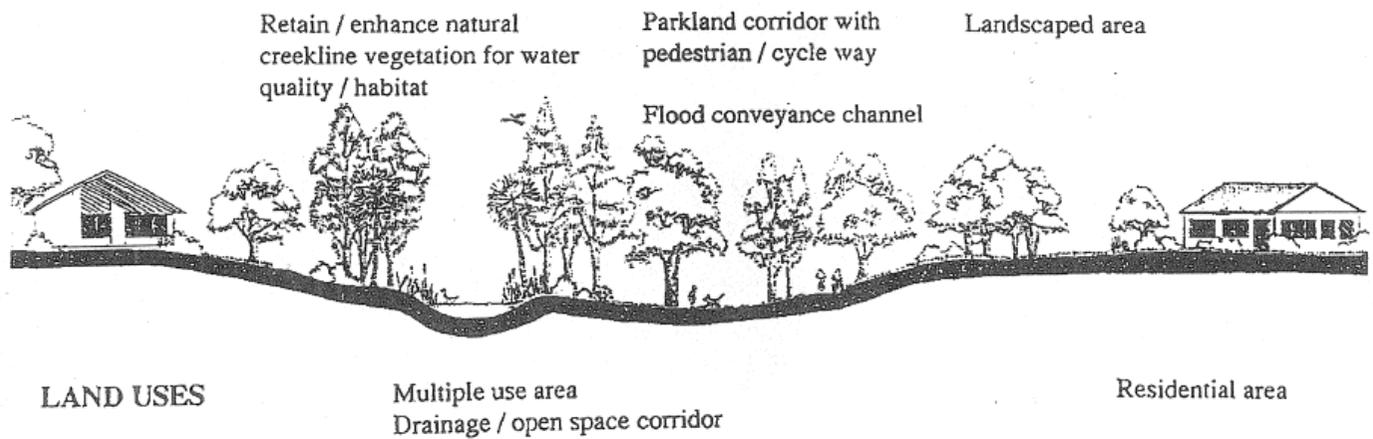
Freehold housing subdivision
with restricted use in buffer
area adjoining creekline
corridor

**CREEKLINE CORRIDOR
RESERVE WITH NATURAL
WATERCOURSE**
Existing water course & natural
creekline vegetation retained for
habitat & passive recreation

DRAWING D



A A' BUFFER TREATMENT:
Between light industrial areas and residential areas



B B' BUFFER TREATMENT:
Between creekline corridor and residential areas

COMMUNITY FACILITIES AND INFRASTRUCTURE

The land release area within Warriewood Valley combined with the industrial/commercial and residential land in Stage 1 released for development in 1986 comprise an identifiable area which will create its own specific needs in terms of community facilities and infrastructure. These needs flow from the objectives of the Planning Framework and are identified in the Action Plans.

While some individual sectors within the land release will be independently developed, the implementation of an overall “system” of community facilities and infrastructure will bind the developed sectors together. A co-ordinated approach to provision of these facilities and infrastructure is required to ensure a safe and amenable development outcome for future residents and occupiers.

In addition, the final development must be compatible with surrounding development and land uses linking the new areas with established facilities and negating any adverse effect on surrounding communities, land uses and environmental assets.

PROVISION OF COMMUNITY FACILITIES AND INFRASTRUCTURE

Each of the categories of community facilities and infrastructure will need to be provided through the development process.

Council has two principle methods to achieve provision of infrastructure and facilities through the development process as follows:-

- Direct provision by developers
- The utilisation of Section 94 Contribution Plans to collect funds which are in turn expanded to provide facilities and infrastructure.

In order to achieve provision of facilities and infrastructure as early in the development process as possible, it is appropriate that Council as much as possible rely on direct provision of facilities and infrastructure by developers. This can be through conditions of Development Consent or through utilisation of a Material Public Benefit, rather than relying on traditional Section 94 Contribution Plans principles which sees Council collecting money from developers and provide facilities at a later date.

In particular, this traditional approach of relying on monetary contributions for Section 94 Contribution Plans causes delays in the provision of facilities and infrastructure. In addition, over the period of development it may see considerable pressure placed on the general community (through it's Council) to fund construction in the interim periods between development commencing and overall development being achieved.

Within each sector, facilities and infrastructure which directly relate to that development (i.e. local roads, footpaths, stormwater management facilities etc.) will be directly provided by the development process.

Only where the infrastructure and facilities are common to the overall development, is there a need to provide an alternative method of provision beyond direct provision by the developer. That is, these infrastructure and facilities do not relate specifically to a particular development but are part of a “shared” system servicing the overall land release.

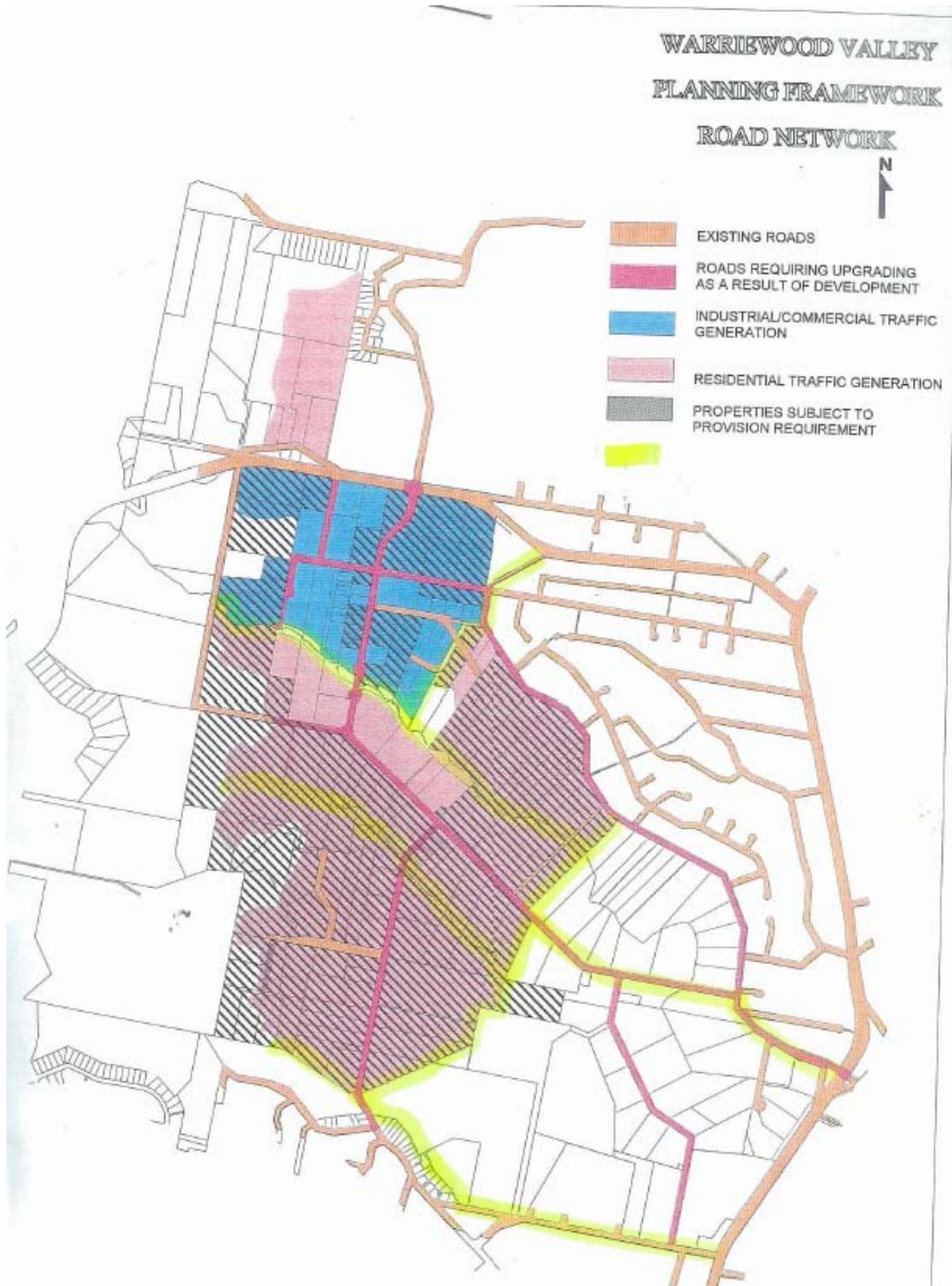
In the following sections a strategy is outlined for the provision of each category of community facilities and infrastructure together with indicative conditions of Development Consent which would be applied to development.

Section 94 Contribution Plans for each category will need to be prepared on the basis of these strategies prior to development occurring.

A co-ordinated approach is required for the following categories of community facilities and infrastructure.

- Stormwater management facilities
- A traffic and transport network
 - road system
 - pedestrian cycleway network
 - traffic management and transport facilities
- Open space access links and buffer areas between incompatible land uses.
- Bushfire protection trail.
- Community facilities.
- Open Space and recreation areas

It should be noted that part of Sector 1 is currently zoned for light industrial use under the 1986 Warriewood Valley Stage One Release. It's inclusion in the land release as residential land follows from Council decision based on the premise that there should be no financial disadvantage to Council in terms of its existing and future Section 94 liabilities.

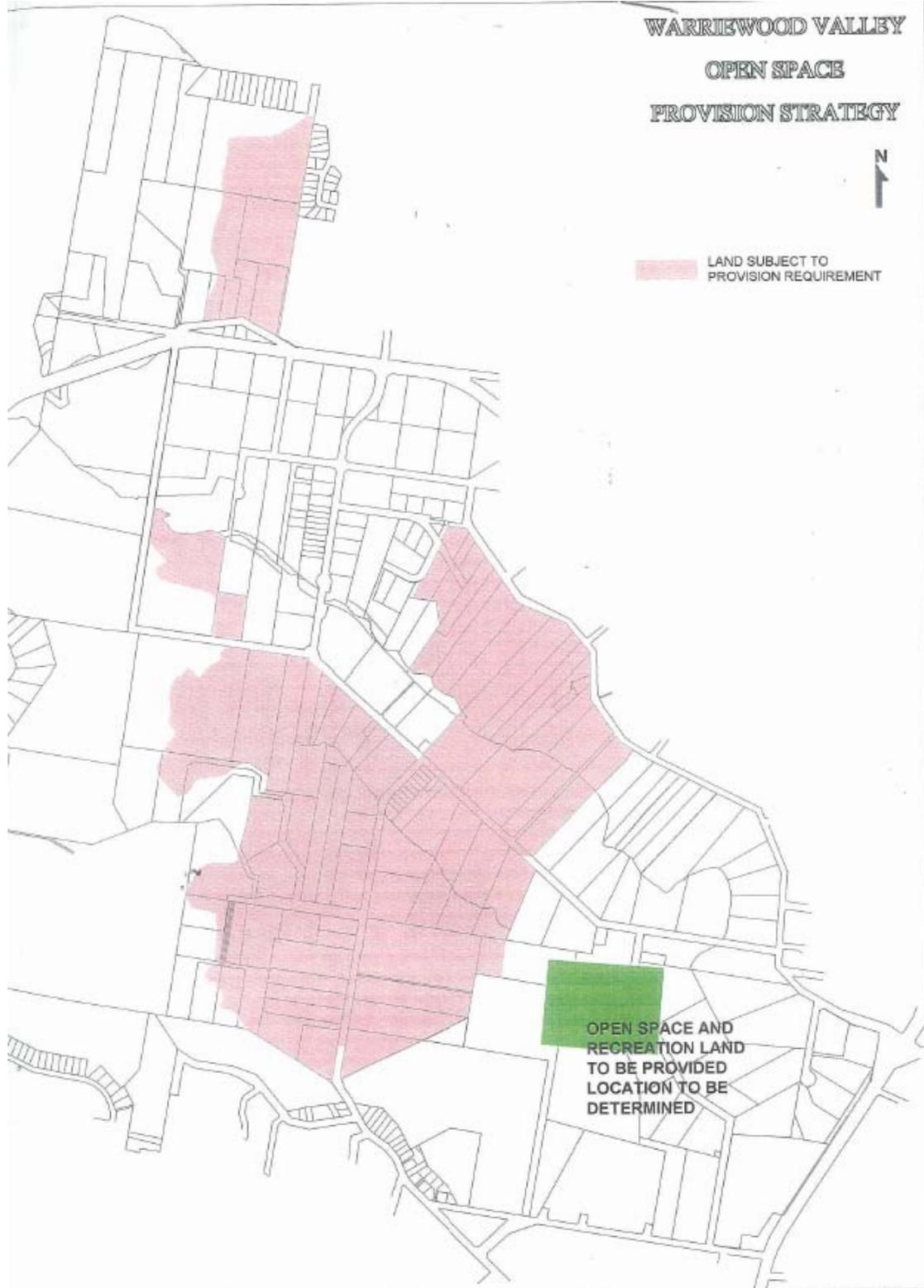


Please note: Additional handwritten markings do not form part of this map

**WARRIEWOOD VALLEY
OPEN SPACE
PROVISION STRATEGY**



 LAND SUBJECT TO PROVISION REQUIREMENT

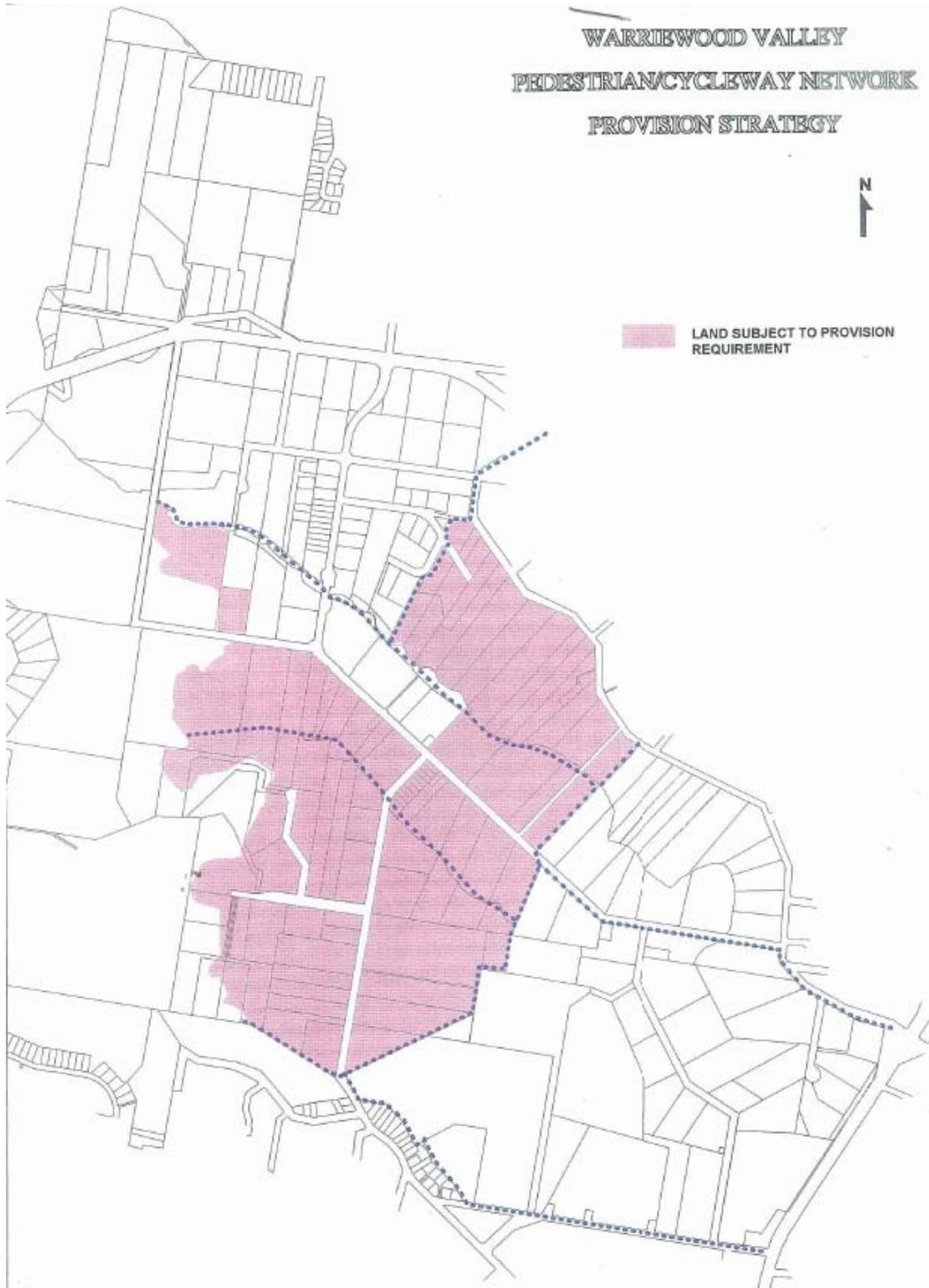


**OPEN SPACE AND
RECREATION LAND
TO BE PROVIDED
LOCATION TO BE
DETERMINED**

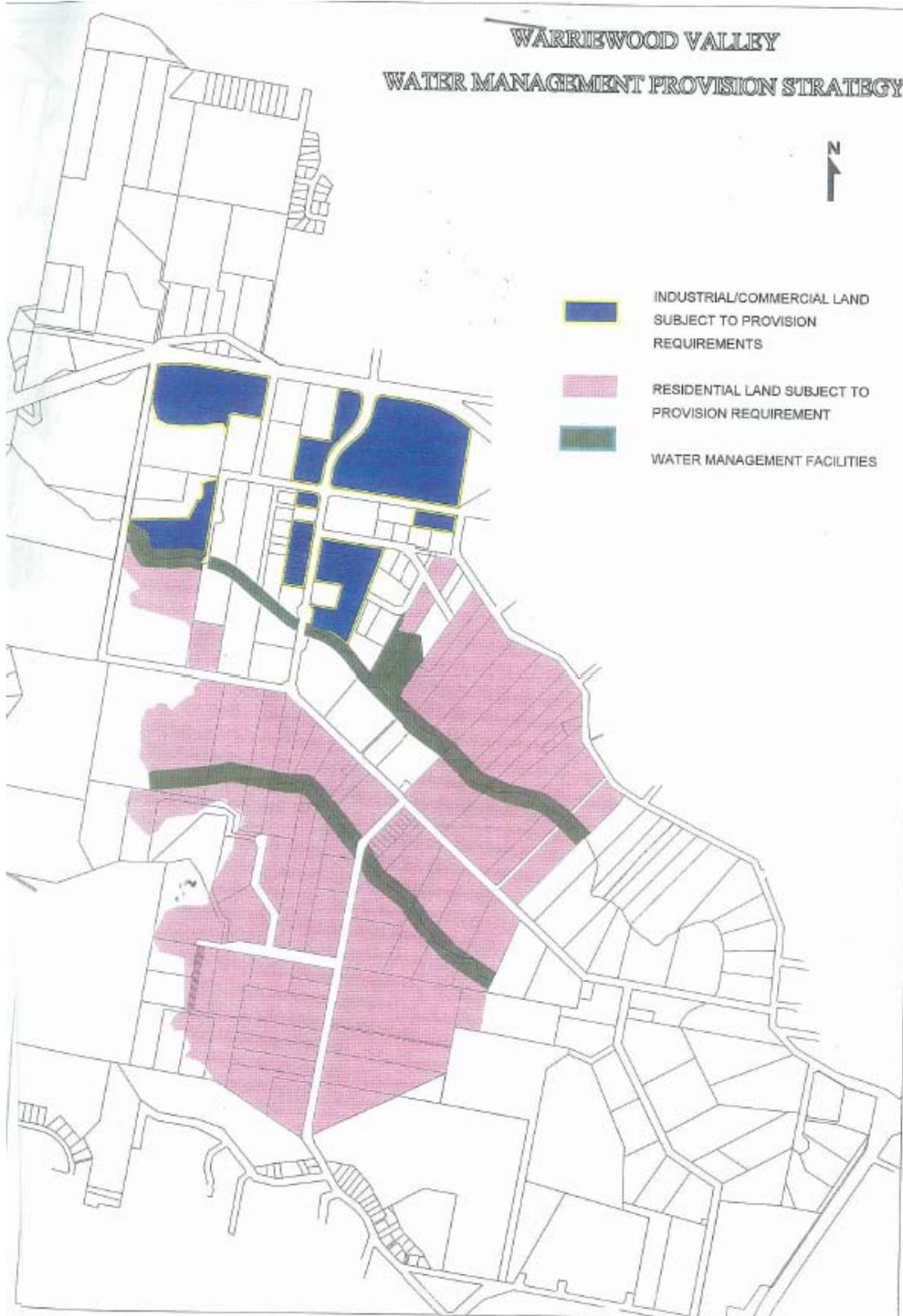
WARRIEWOOD VALLEY
PEDESTRIAN/CYCLEWAY NETWORK
PROVISION STRATEGY



 LAND SUBJECT TO PROVISION REQUIREMENT



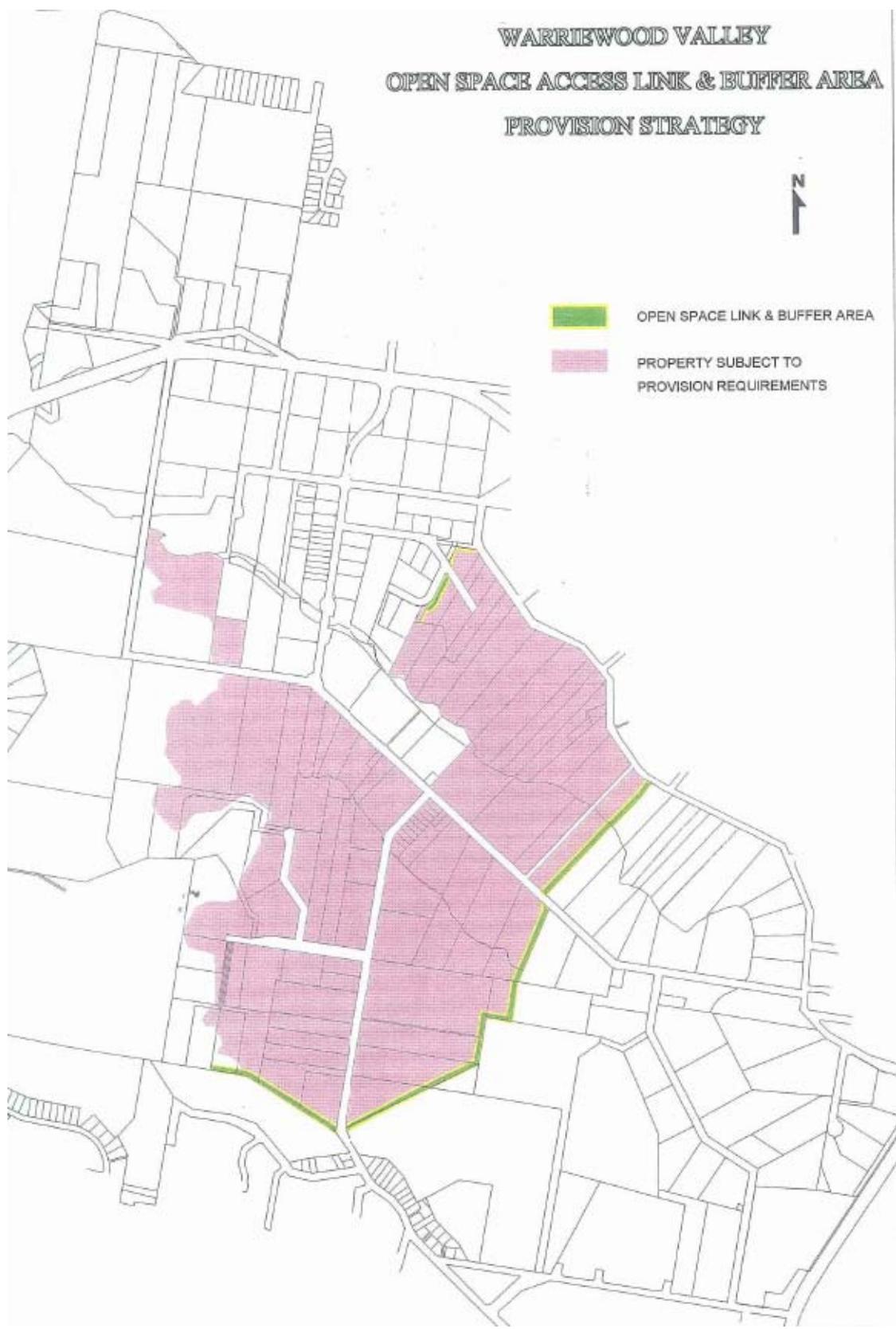
WARRIEWOOD VALLEY WATER MANAGEMENT PROVISION STRATEGY



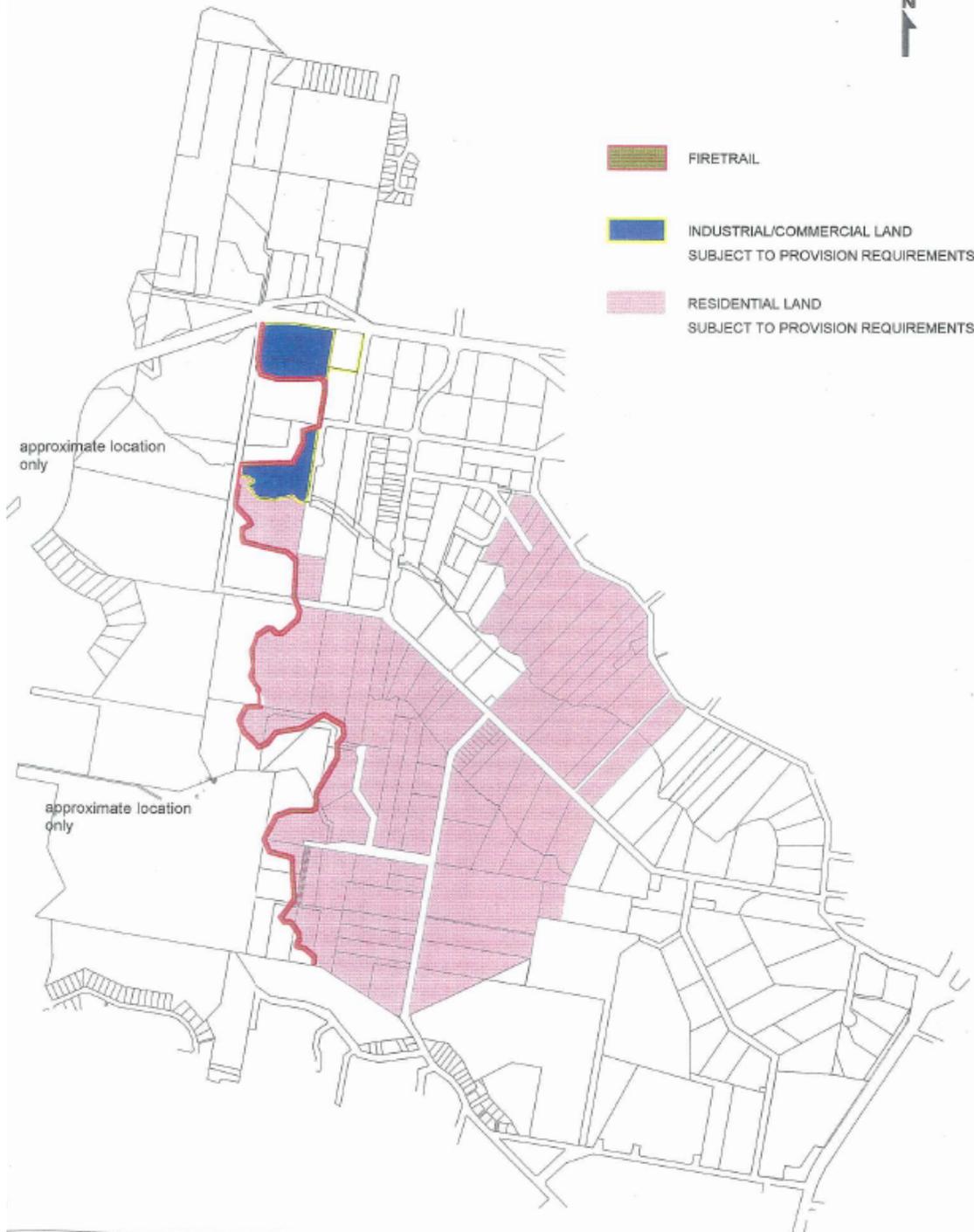
WARRIEWOOD VALLEY
OPEN SPACE ACCESS LINK & BUFFER AREA
PROVISION STRATEGY



-  OPEN SPACE LINK & BUFFER AREA
-  PROPERTY SUBJECT TO PROVISION REQUIREMENTS



WARRIWOOD VALLEY
FIRETRAIL PROVISION STRATEGY



STORMWATER MANAGEMENT FACILITIES - PROVISION STRATEGY

Objective

To provide an overall stormwater management system which serves those areas within Warriewood Valley designated for urban development and ensures that stormwater does not adversely impact on private property, public land, or receiving waters.

Land to which the Strategy applies

The strategy applies to all of the land designated for urban development in Warriewood Valley by the Minister for Urban Affairs and Planning's announcement of May 1997, together with the residential and commercial/industrial areas of Stage One of the Warriewood Valley released in 1986 in the northern sections of the Valley.

The Strategy applies to all of the land shown on the map in that the provision of the drainage and stormwater management facilities, while being located along or adjacent to major watercourses through the Valley, provide a shared level of amenity for all these undeveloped areas designated for urban development.

On this basis provision of community water management facilities by developers (either direct or indirect) should be proportional to the number of dwellings to be developed in the residential areas regardless of location or sector. Contribution from remaining land undeveloped in the Stage 1 Industrial Commercial areas and proposed new Industrial/Commercial areas at the northern end of the Valley should be on a per m² basis.

Sector 20 is an isolated sector to the north of Mona Vale Road and drains towards Pittwater. As it is a single sector draining to independent receiving waters the implementation of stormwater management facilities and structures are isolated from those associated with the remaining development area and therefore should be treated independently and as part of the development process for that sector.

Combined use of land required for Stormwater Management Facilities

The Environmental and Demographic studies for the land release have identified a requirement for preservation of open space strips along natural watercourses flowing through the Valley including Narrabeen Creek, Mullet Creek and Fern Creek. These open space strips will need to include Stormwater Management structures designed in an environmentally sensitive way to achieve the combined objectives of both the Stormwater Management Strategy and the need to provide open space.

In this regard 50% of the land provided by residential development for the Stormwater Management Facilities can be credited towards open space contributions that would otherwise be required.

Integration with existing Stormwater Management Strategies

An existing Section 94 Contribution Plan currently provides the mechanism to provide the drainage infrastructure along and adjacent to Narrabeen Creek at the northern end of the Valley, necessary to support the residential and industrial commercial development in that area. Due to the slow take up rates for development, the collection of contributions and purchased land and construction is incomplete.

This Plan can be used as the “launching pad” for the implementation of an overall Stormwater Management Facilities System for the Valley.

Developer Contribution

The Contribution to the provisions of Stormwater Drainage facilities should relate to the relative benefit the facilities provide for development.

Each new dwelling in the Valley will benefit from the stormwater drainage system and as such should provide an equal proportion of the total contribution.

The Planning Framework proposes 1418 new dwellings in the Valley and an area of 5.266ha of new Industrial/Commercial land.

An area of 1.6ha of land within Sector 1 previously designated for industrial/commercial development has already contributed to the existing section 94 Contributions Plan for Stormwater. This land is predicted to support 13 dwellings reducing the number of dwellings responsible for provision of these facilities to 1403.

The undeveloped Industrial/Commercial areas (14.58 ha) in the northern section of the Valley will also need to contribute to the provision of water management facilities from which overall benefit is derived.

(Note: Sector 20 not included as this area is independent and will be required to directly provide self-contained stormwater management facilities).

Existing Assets and Liabilities

<u>Assets</u>	<u>Liabilities</u>
1.718ha of channel	\$55,000 (as at October 97)
.7544 ha of detention basin.	(Note: This equates to the value of 500m ² of land)

Facility Requirement

Land acquisition: 9.482 ha of Channel/ 0.765 ha of detention basin/500m² (liability value.)
10.297 ha @ \$100 per m² x 1.05 (Note: 5% management cost for land acquisition).
Cost of land = \$10,811,850

Construction: 11.2 ha of Channel
1.519 ha of detention basin
12.719 ha @\$75 per m² x 1.1 (Note: 10% design and management cost for work)
Cost of works = \$10,493,175

Contribution Base

1403 dwellings
14.58 ha of undeveloped Industrial/Commercial land in Stage 1
5.266 of Industrial/Commercial land in Sector 6 and 7

1418 dwellings + 19.846 ha of Industrial/Commercial land.
(Note: Each 728 m² of Industrial/Commercial land has an equivalent value of investment to a residential lot.)

Total no of equivalent dwelling = 1403 + 273 = 1,678

Contribution Rate

<u>Land acquisition:</u> land.	61.36m ² per dwelling / per 728m ² of Industrial /Commercial land. 61.36m ² per dwelling/ 0.084m ² per m ² of Industrial/Commercial land. \$6443 per dwelling/\$8.85 per m ² of Industrial/Commercial land.
<u>Construction:</u> land.	75.79 m ² per dwelling/ per 728m ² of Industrial/Commercial land. 75.79 m ² per dwelling/0.1041 m ² per m ² of Industrial/Commercial land. \$6,253 per dwelling / \$8.54 per m ² of Industrial/Commercial land.

Note: These quantities and cost estimates are preliminary only and will require accurate estimates to assess the rate of direct provision and financial contribution for inclusion in a Section 94 Contribution Plan in particular the precise evaluation of assets and liabilities will need to be assessed at the date the new Plan comes into force.

As development progresses ongoing review will be required.

Opportunities for Provision of Facilities

Those sectors which have direct frontage to the water courses passing through the Valley allow an opportunity for developers to directly provide facilities.

Remaining areas which are not adjacent to watercourses (including the undeveloped properties in the industrial/commercial area) can be levied through a Section 94 Plan Contribution or offered an opportunity to construct facilities on land already acquired by Council to the value of the contribution that would otherwise be payable.

Conditions to be applied to future development

In order to facilitate the provision of Community Stormwater management facilities in Warriewood Valley the following conditions (indicative only) can be applied to development.

It should be noted that properties adjacent to or partly within the release areas need to be also be included as being subject to the strategy. This is to ensure that future amendments to the land use planning or fringe development that might occur within the Valley can also be levied to provide facilities from which that development will obtain benefit.

1. That the developer directly provide through dedication ()m² of land and construction of () m² of drainage channel and/or stormwater detention facility. The developer is to design and construct the facilities in accordance with the objectives and criteria outlined in the Integrated Water Management Strategy – Warriewood Valley. The structures are to be designed to achieve a “multi-use” function of the facility and in this regard a 50% offset for land dedicated will be granted in terms of open space requirements otherwise applicable to the land.
2. That should the development not be able to directly dedicate ** sq.metres of land and construct *** sq.metres of drainage facility as outlined in Condition 1 above, then the developer shall contribute \$*** per dwelling/per m² unit area of Industrial/Commercial area. In accordance Council’s Section 94 Contributions Plan No. *** Warriewood Valley Stormwater Management Facilities.

TRAFFIC AND TRANSPORT - PROVISION STRATEGY

Objective

To provide an overall traffic and transport management system which serves those areas within the whole of Warriewood Valley designated for urban development.

Land to which the Strategy applies

The strategy would apply to all of the land designated for urban development in Warriewood Valley by the Minister for Urban Affairs and Planning's announcement of May 1997, together with the Commercial/Industrial and residential areas of Stage 1 of Warriewood Valley released in 1986 in the northern sections of the Valley.

The Strategy applies to all of the land shown on the map in that the provision of the traffic and transport facilities will provide a shared level of amenity for all those undeveloped areas designated for urban development.

On this basis provision of traffic and transport facilities by developers (either direct or indirect) should be proportional for the number of dwellings to be developed in the residential areas regardless of location or sector. Contribution from remaining land undeveloped in the Stage 1 Industrial/Commercial and residential areas at the northern end of the Valley together with the adjoining sectors designated for Industrial/Commercial development should be on a per m² basis and relate to the traffic generation capacity.

Sector 20 is an isolated sector to the north of Mona Vale Road. The implementation of its traffic and transport management facilities to service this sector is not associated with the remaining development area and therefore should be treated independently and as part of the development process for that section.

Integration with existing Stormwater Management Strategies.

An existing Section 94 Contribution Plan currently provides the mechanism to provide the traffic and transport infrastructure necessary to support the industrial/commercial development at the northern end of the Valley. This plan is incomplete in that there remains a significant area of undeveloped land causing uncollected contributions and incomplete works.

This plan can be used as the "launching pad" for the implementation of an overall traffic and transport system for the Valley. Through the existing Plan, Council has already acquired areas for roadway and constructed sections of roadworks.

Developer Contribution

The Contribution to the provisions of traffic and transport facilities should relate to the relative benefit the facilities provide for development.

Each new dwelling in the Valley will benefit from the traffic and transport system and as such should provide an equal proportion of the total contribution.

The Planning Framework proposes 1418 new dwellings in the Valley and an area of 5.266ha of new Industrial/Commercial land.

An area of 1.6ha of land within Sector 1 previously designated for industrial and commercial development has already contributed to the existing Section 94 Contributions Plans for Roads.

This land is predicted to support 13 dwellings reducing the number of new dwellings responsible for provision of these facilities to 1403.

The undeveloped Industrial/Commercial areas in the northern section of the Valley will also need to contribute to the provision of traffic and transport facilities which overall benefit is derived.

(Note: Sector 20 not included as this area is independent and will be required to directly provide self-contained stormwater management facilities.

Existing Assets and Liabilities

Assets

half width road construction
(Warriewood Valley Stage 1)
of 2 lane road
(Ponderosa Parade extension)

Liabilities

\$2,496,000 (as at October 97)
(Note: This equates to the value of 12,480m² of land)

Facility Requirement

Land to be acquired.

	10000 m ²	McPherson Street widening and intersection etc.
	<u>12480 m²</u>	(Liability from existing Section 94 Plans)
Total	22480 m ²	

Cost 10,000 m² @ \$200 per m² x 1.05
(note: 5% management cost associated with the land acquisition)
1284m² @ \$200 (note already purchased)

Total Cost: \$4,596,000

Construction Cost

Construction: An average estimate of ½ road width construction for all road types has been made to facilitate and early estimate of costs.

The cost is expressed in terms of cost per metre of ½ road width construction to facilitate proportioning of contribution rates.

Clearly the Section 94 Plan will need to review these estimates and provide a detailed schedule of works. Nevertheless the simplified approach provides a basis for preliminary cost estimates

½ width construction = 9,760m @ \$850 per m x 1.1 (Note 10% design and management costs for construction) construction cost \$9,125,600.

Traffic and Transport Works

Item	Cost
Implementation of left in/left out only for Daydream Street at its intersection with Mona Vale Road.	80K
Provision of a protected acceleration lane along Mona Vale Road for vehicles turning left from Daydream Street onto Mona Vale Road.	0.15M
Upgrade to a full two lane roundabout or traffic lights at intersection of Samuel Street, Ponderosa Parade and Mona Vale Road.	0.5M
Installation of a roundabout or traffic lights with delay phase at intersection of Mona Vale Road and Foley Street	0.5M
Upgrade of Jubilee Avenue	0.15M
Possible upgrade of roundabout (of two-lane) at intersection of Jubilee Avenue and Ponderosa Parade.	0.2M
Intersection treatments (such as mini-roundabout) and surface texture treatments at problem locations along Warriewood Road	0.3M
Intersection treatments and surface texture treatments at problem locations along Powderworks Road.	0.25M
Installation of a roundabout at intersection of Macpherson Street and Warriewood Road and realignment of Lakeview Parade	0.35M
Provision of traffic control measures along Macpherson Street and Boondah Road at the entry and exit access points to and from the residential land release area developments.	0.2M
Traffic calming measures along Samuel Street	50K
Traffic calming measures along Vineyard	50K
Bus turning facility at Forest Road	0.1M
Pedestrian amenity such as nibs at location, where there is a conflict with vehicular traffic.	0.1M
Provision of bus shelters for passengers along bus zones in the study area especially Warriewood Road, Macpherson Street, and Jacksons Road.	0.15M
Provision of indented bus bays along Macpherson Street at about each 400m intervals.	0.3M
Bridges/culverts at Ponderosa Parade, Boondah Road and Macpherson Street (3).	0.5M

Total Costs

Land acquisition	\$4,596,600
½ width road construction	\$9,125,600
Additional Traffic and transport works	\$3,930,000
Total Cost	\$17,651,600

Contribution Base

1403 new dwellings	(10 vehicles per day per dwelling)
3.937ha 4(b) land	(4.2 vehicles per day per 100m ²)
15.19 ha proposed Industrial/Commercial land and existing 3(e) land	(5.3 vehicles per day per 100m ²)
Equivalent nos of dwelling =	1403 + 165 + 805 = 2373

Contribution Rate

Land Acquisition:

Area 22480m ² - Acquisition cost	\$4,596,000
Residential – 9.473 m ² per dwelling or	\$1,937 per dwelling
4(b) Industrial Commercial: 0.039 m ² per m ² /\$8.09 per m ²	
3(e) Industrial Commercial and new Industrial commercial: 0.050m ² per m ² /\$10.24 per m ²	

Half Road Construction

Construction length 9760 m	Construction Cost \$9,125,600
Residential – 4.113 m per dwelling	\$3,845 per dwelling
4b – 0.0172 m per m ²	\$16.05 per m ²
3(e) – 0.0217 m per m ²	\$20.32 per m ²

Additional Traffic and Transport Works

Cost of works \$3,930,000
Residential: \$1,656 per dwelling
4(b) \$6.92 per m ²
3(e) \$8.76 per m ²

Note: These quantities and cost estimates are preliminary only and will require accurate estimates to assess the role of direct provision and for inclusion in a Section 94 Contribution Plan.

As development progresses ongoing review will be required.

Opportunities for Provision of Facilities

All sectors which have direct frontage to road reserves where there is opportunity to directly provide facilities particularly ½ width road construction.

In addition to ½ road width constructions there are significant opportunities for direct provision of traffic and transport facilities through construction of intersections, traffic control structures and bridges.

Conditions to be applied to future development

In order to facilitate the provision of traffic and transport infrastructure in Warriewood Valley the following conditions (indicative only) can be applied to development.

It should be noted that properties adjacent to or partly within the release areas need to be also be included as being subject to the strategy. This is to ensure that future amendments to the land use planning or fringe development that might occur within the Valley can also be levied to provide facilities from which that development will obtain benefit.

1. That (the developer) directly provide through dedication () m² of land and construction linear metres of ½ road width construction. The developer is to design and construct the facilities.
2. That should the development not be able to directly dedicate ** m² of land and construct *** m² of ½ road width as outlined in Condition 1 above, then the developer shall contribute \$*** per dwelling/per m² unit area of Industrial/Commercial area. In accordance Council's Section 94 Contributions Plan No ***.

OPEN SPACE ACCESS LINKS AND BUFFER AREAS BETWEEN INCOMPATIBLE LAND USES - PROVISION STRATEGY

Objective

To provide links between open space areas and provide suitable spatial separation between conflicting land uses (i.e. Industrial/Commercial and residential) to serve those areas within Warriewood Valley designated for urban development to ensure amenity in terms of access to public land, urban design, visual impact and noise.

Land to which the Strategy applies

The strategy would apply to all of the land designated for residential development in Warriewood Valley by the Minister for Urban Affairs and Planning's announcement of May 1997.

The Strategy applies to all of the land shown on the map in that the provision of open space access links and buffer areas provide a shared level of amenity for all the undeveloped areas designated for residential development.

On this basis provision of facilities by developers (either direct or indirect) should be proportional to the number of dwellings to be developed in the residential areas regardless of location or sector.

Sector 20 which is an isolated sector to the north of Mona Vale remote from the remaining development area and therefore should be treated independently and any open access space limits or buffer areas as part of the development process for that section.

Combined use of land required for Stormwater Management Facilities

As the open space links and buffer areas provide a combined open space function 50% of the land provided by developers for this purpose can be credited towards open space contributions than would otherwise be required.

Facility Requirement

Open Space access links and buffer areas 2.580ha

Land Valuation \$200 per m² x 1.05 (Note 5% management cost for land acquisition)

Embellishment cost \$25 per m² x 1.1 (Note 10% design and management cost for construction)

Cost - \$237.50 per m²

Total Cost - \$6,127,500

Contribution Base

1418 new dwellings

Contribution Rate

Direct Provision

18.19m² of constructed and suitably embellished open space access link or buffer areas per dwelling

Financial Contribution

- \$4,321 per dwelling

Note: These quantities and cost estimates are preliminary only and will require accurate estimates for inclusion in contribution policies and Section 94 Plans. As development progresses ongoing review will be required.

Developer Contribution

The Contribution to the provisions of open space and access links and buffer areas should relate to the relative benefit the facilities provide for development.

Each new dwelling in the Valley will benefit from the system of open space links and buffer areas and as such should provide an equal proportion of the total contribution.

The Planning Framework proposes 1418 new dwellings in the Valley.

(Note: Sector 20 not included as this area is independent and will be required to directly provide self-contained open space access links and buffer areas.

Opportunities for Provision of Facilities

Those sectors which include an area designated necessary for open space links or buffer areas provide an opportunity for developers to directly provide this facility.

Remaining areas which cannot directly provide facility can be levied through a Section 94 Plan Contribution or offered an opportunity to construct facilities on land already acquired by Council to the value of the contribution that would otherwise be payable.

Conditions to be applied to future development

In order to facilitate the provision of open space access links and buffer area in Warriewood Valley the following conditions (indicative only) can be applied to development.

It should be noted that properties adjacent to or partly within the release areas need to be also be included as being subject to the strategy. This is to ensure that future amendments to the land use planning or fringe development that might occur within the Valley can also be levied to provide facilities from which that development will obtain benefit.

1. That (the developer) directly provide through dedication and construction () sq.m of open space access link and buffer area. The developer is to design and construct the facilities to achieve the objectives set out in the Planning Framework. The structures are to be designed to achieve a “multi-use” function of the facility and in this regard a 50% offset for land dedicated will be granted in terms of open space requirements otherwise applicable to the land.
2. That should the development not be able to directly dedicate ** sq.metres of land and construct *** sq.metres of facility as outlined in Condition 1 above, then the developer shall contribute \$*** per dwelling. In accordance Council’s Section 94 Contributions Plan No. *** Warriewood Valley Open Space links and buffer areas.

BUSHFIRE PROTECTION TRAIL - PROVISION STRATEGY

Objective:

To provide a bushfire protection trail which serves those areas within Warriewood Valley designated for urban development to ensure that development is adequately protected by providing a bushfire trail and perimeter access where development abuts areas of high bushfire hazard.

Land to which the Strategy applies

The strategy would apply to all of the land designated for urban development in Warriewood Valley by the Minister for Urban Affairs and Planning's announcement of May 1997.

The Strategy applies to all of the land shown on the map in that the provision of the bushfire protection facilities, provide a shared level of amenity for all these undeveloped areas designated for residential and Industrial/Commercial urban development.

On this basis provision of the facilities by developers (either direct or indirect) should be proportional to the number of dwellings to be developed in the residential areas regardless of location or sector. Contribution from the new industrial commercial areas at the northern end of the Valley should be on a per m² basis.

Sector 20 which is an isolated sector to the north of Mona Vale Road. The implementation of bushfire protection measures is isolated from those associated with the remaining development area and therefore should be treated independently and as part of the development process for that sector.

Developer Contribution

The Contribution to the provisions of bushfire protection facilities should relate to the relative benefit the facilities provide for development.

Each new dwelling in the Valley will benefit from the bushfire perimeter trail and as such should provide an equal proportion of the total contribution.

The Planning Framework proposes 1418 new dwellings in the Valley.

(Note: Sector 20 not included as this area is independent and will be required to directly provide self-contained stormwater management facilities.

The proposed Industrial/Commercial areas i.e. Sectors 7 & 8 in the northern section of the Valley will also need to contribute also at an equivalent rate to the residential areas. The value of development of 728m² of Industrial Commercial development equals to the value of development of a residential property.

On this basis each 728m² of Industrial/Commercial area should provide an equivalent contribution to a new dwelling. There is 5.226ha of new Industrial/Commercial specified for development in Sectors 7 & 8 area (i.e. the equivalent of 5.226ha new dwellings).

Facility Requirement

Area	3.000 ha (3,000 metres of land, 10 metres wide)
Length	3,000 metres

Value of land 30,000x \$200 per m² x 1.05 (Note: 5% Management Cost for land acquisition)
Cost of construction 3000x \$200 per metre x 1.1 (Note: 10% Design and Management cost for construction).

Cost

Land - \$5,300,000

Works - \$660,000

Total Cost - \$6,960,000

Contribution Base

1418 + 72 = 1490 equivalent dwellings

Contribution Rate

Land: 20.13 m² per dwelling/0.277m² per m² of Industrial/Commercial land.
\$4227 per dwelling/\$5.81 per m² of Industrial/Commercial land.

Construction: 2.074 m² per dwelling/0.0028 m² per m² of Industrial/Commercial land
\$456.28 per dwelling / \$0.63 per m² of Industrial/Commercial land

Opportunities for Provision of Facilities

Those sectors which are adjacent to the high bushfire area provide an opportunity for developers to directly provide facilities.

Remaining areas which cannot directly provide facility can be levied through a Section 94 Contribution Plan Contribution or offered an opportunity to construct facilities on land already acquired by Council to the value of the contribution that would otherwise be payable.

Conditions to be applied to future development

In order to facilitate the provision of a bushfire protection trail in Warriewood Valley the following conditions (indicative only) can be applied to development.

It should be noted that properties adjacent to or partly within the release areas need to be also be included as being subject to the strategy. This is to ensure that future amendments to the land use planning or fringe development that might occur within the Valley can also be levied to provide facilities from which that development will obtain benefit.

1. That (the developer) directly provide through dedication and construction of bushfire trail.
2. That should the development not be able to directly dedicate and construct *** metres of bushfire trail as outlined in Condition 1 above, then the developer shall contribute \$*** per dwelling/***per m² unit area of Industrial/Commercial area. In accordance Council's Section 94 Contributions Plan No. *** Warriewood Valley Bushfire Protection trail.

PUBLIC RECREATION AND OPEN SPACE - PROVISION STRATEGY

Objective

To provide a public recreation and open space system which serves those areas within Warriewood Valley designated for urban development.

Land to which the Strategy applies

The strategy would apply to all of the land designated for urban development in Warriewood Valley by the Minister for Urban Affairs and Planning's announcement of May 1997.

The Strategy applies to all of the land in that the provision of public recreation and open space facilities, provide a shared level of amenity for all these undeveloped areas designated for residential urban development.

On this basis provision of facilities by developers (either direct or indirect) should be proportional to the number of dwellings to be developed in the residential areas regardless of location or sector.

Developer Contribution

The Contribution to the provision of public recreation and open space facilities should relate to the relative benefit the facilities provide for development.

Each new dwelling in the Valley will benefit from the public open space and recreation system and as such should provide an equal proportion of the total contribution.

The Planning Framework proposes 1510 new dwellings in the Valley.

Land provided by multiple use facilities

Buffer areas open space links and drainage facility areas and the fire protection trail provide a multiple use function.

Where residential development has provided for these facilities it is appropriate to credit that contribution with a 50% factor in regard to open space requirements.

All proposed residential development has contributed to these facilities other than Sector 20. In the case of Sector 20 offsets can be offered depending on the level of provision of these facilities at detailed planning and development application stage.

This principle may also be applicable to other sectors should land be proposed to used in a way that will provide realistic multi use open space functions (i.e water management structures).

Facility Requirement

Requirement: 92 m² per dwelling for open space and recreation needs.

Number of dwellings: 1510

Total requirement: 13.892 ha

Land component 13.892ha @ \$200 per m² x 1.05 (Note: includes a 5% management cost for land acquisition).

Embellishment 13.892 ha @ \$50 per m² x 1.1 = (Note: includes a 10% design and management cost for construction)

Cost \$265 per m²

Land	\$29,173,200
Embellishment	\$ 7,640,600
Total Cost	\$36,813,800

Contribution Base

1510 new dwelling

Contribution Rate

Direct contribution: 92 m² of embellished open space per dwelling

Financial contribution: \$24,380 per dwelling.

Discounted Contribution Rate

In the case of Sectors 1,2,3,5, - 8,9, 10,11 and 12 a 50% multi use contribution is being provided as follows:-

Multi-Use facility	50% land contribution
Drainage facilities	30.4m ²
Buffer area and open space links	9.1m ²
Fire trail	10.1 m ²
Total	49.6 m ²

This represents 54% of the required open space contribution. This reduces the contribution rate for these areas to 46% of total requirement.

Direct Provision
(Discounted 54%) = 42.32m² of embellished open space
Sectors 1,2,3,5-8,9,10,11 & 12

Financial Contribution (discounted 54%) = \$11,215 per dwelling
Sectors 1,2,3,5-8,9,10,11 & 12

Opportunities for Provision of Facilities

Those sectors which have land suitable for public open space and recreation facilities provide an opportunity for developers to directly provide facilities. There is relatively limited opportunity in the early stages of development to directly provide recreation and open space as an open space plan specifying areas to be targeted for development will need to be produced.

Areas which cannot directly provide facility, can be levied through a Section 94 Plan Contribution or offered an opportunity to construct facilities on land already acquired by Council to the value of the contribution that would otherwise be payable.

Conditions to be applied to future development

In order to facilitate the provision of public open space and recreation facilities in Warriewood Valley the following conditions (indicative only) can be applied to development.

It should be noted that properties adjacent to or partly within the release areas need to be also be included as being subject to the strategy. This is to ensure that future amendments to the land use planning or fringe development that might occur within the Valley can also be levied to provide facilities from which that development will obtain benefit.

1. That (the developer) directly provide through dedication and construction () sq.m of public open space and recreation facilities. The developer is to design and construct the facilities. In accordance with the objectives of the Planning Framework

PEDESTRIAN AND CYCLEWAY NETWORK - PROVISION STRATEGY

Objective

To provide an overall pedestrian and cycleway network which serves those areas within Warriewood Valley designated for urban development.

Land to which the Strategy applies

The strategy would apply to all of the land designated for residential development in Warriewood Valley by the Minister for Urban Affairs and Planning's announcement of May 1997.

The Strategy applies to all residential land in that the provision of a pedestrian cycleway network provide a shared level of amenity for all these undeveloped areas designated for residential development.

On this basis provision of facilities by developers (either direct or indirect) should be proportional to the number of dwellings to be developed in the residential areas regardless of location or sector.

Sector 20 which is an isolated sector to the north of Mona Vale Road. As it is a remote area the provision of this facility to service its future residents should be treated independently and as part of the detailed planning and development process for that sector.

Developer Contribution

The Contribution to the provisions of pedestrian and cycleway network should relate to the relative benefit the facilities provide for development.

Each new dwelling in the Valley will benefit from the network and as such should provide an equal proportion of the total contribution.

Facility Requirement

Construction	7,280 metres of pedestrian cycleway
Cost:	7,280 @\$100 per metre x 1.1 (Note: 10% Design and Management Cost for construction)
Total Cost:	\$800,800

Contribution Base

1418 dwellings

(Note: Sector 20 not included)

Contribution Rate

5.13 metres per dwelling
\$565 per dwelling

Opportunities for Provision of Facilities

Those sectors which provide an opportunity for developers to directly provide facilities will be encouraged to do so. In this regard the majority of sectors have an opportunity for direct provision.

Where facilities cannot be directly provide costs can levied through a Section 94 Contribution Plan.

Conditions to be applied to future development

In order to facilitate the provision of a pedestrian cycleway network in Warriewood Valley the following conditions (indicative only) can be applied to development.

It should be noted that properties adjacent to or partly within the release areas need to be also be included as being subject to the strategy. This is to ensure that future amendments to the land use planning or fringe development that might occur within the Valley can also be levied to provide facilities from which that development will obtain benefit.

1. That (the developer) directly provide through and construction () m of pedestrian cycleway network. The developer is to design and construct the facilities.
2. That should the development not be able to directly provide metres of pedestrian cycleway network facility as outlined in Condition 1 above, then the developer shall contribute \$*** per dwelling. In accordance Council's Section 94 Contributions Plan No. *** Warriewood Valley Pedestrian Cycleway Network.

COMMUNITY SERVICES - PROVISION STRATEGY

Objective

To provide an appropriate level of Community Service facilities which serves those areas within Warriewood Valley designated for urban development including:-

Land to which the Strategy applies

The strategy would apply to all of the land designated for urban development in Warriewood Valley by the Minister for Urban Affairs and Planning's announcement of May 1997.

The Strategy applies to all residential land in that the provision of Community Service facilities, provide a shared level of amenity for all these undeveloped areas designated for residential development.

On this basis provision of facilities by developers (either direct or indirect) should be proportional to the number of dwellings to be developed in the residential areas regardless of location or sector.

Developer Contribution

The Contribution to the provisions of Community Service facilities should relate to the relative benefit the facilities provide for development.

Each new dwelling in the Valley will benefit from the Community Service facilities and as such should provide an equal proportion of the total contribution.

The Planning Framework proposes 1510 new dwellings in the Valley.

Facility Requirement

It is anticipated that a mix of the following community services would be required.

- Childcare
- Youth facilities
- Facilities for older people
- Facilities for people with disabilities
- Community Centre
- Library facilities
- Health services

Residents of Pittwater have access to a range of community facilities. Currently residents have access to approximately 6,432 square meters of community facility space (provided by Council) or 0.125 square metres per person.

Anticipated additional population of the Warriewood release is 4,200 people occupying 1510 new dwellings so the incoming population would need approximately 525 square metres of community facility space.

Land required would be approximately 3 x 525 square metres = 1575 square metres of land.

Land 1575m² @\$200 per m² x 1.05 (Note: 5% management cost for land acquisition)
Facility construction 525m² @ 1500 m² x 1.1 (Note: 10% design and management cost for construction).

Total Cost

Land component	\$330,750
Construction component	<u>\$866,250</u>
Total	<u>\$1,197,000</u>

Contribution Base

1510 dwellings

Contribution Rate

\$793 per dwelling

Note: These quantities and cost estimates are preliminary only and will require accurate estimates for inclusion in contribution policies and Section 94 Plans. As development progresses the ongoing review will be required.

Opportunities for Provision of Facilities

Those sectors which provide an opportunity for developers to directly provide facilities may be encouraged to do so. However in the early stages of development of the Valley and until there are more detailed plans for facilities in terms of location and design opportunities for direct provision will be limited.

Where facilities cannot be directly provide development can be levied through a Section 94 Contribution Plan.

Conditions to be applied to future development

In order to facilitate the provision of Community Service facilities in Warriewood Valley the following conditions (indicative only) can be applied to development.

It should be noted that properties adjacent to or partly within the release areas need to be also be included as being subject to the strategy. This is to ensure that future amendments to the land use planning or fringe development that might occur within the Valley can also be levied to provide facilities from which that development will obtain benefit.

1. That (the developer) directly provide through dedication and construction (description of facility).The developer is to design and construct the facilities.
2. That should the development not be able to directly provide community facilities and levies as outlined in Condition 1 above, then the developer shall contribute \$*** per dwelling in accordance Council's Section 94 Contributions Plan No. *** Warriewood Valley Community Service facility.

SUMMARY OF CONTRIBUTIONS TO COMMUNITY FACILITIES AND INFRASTRUCTURE

ITEM	DIRECT PROVISION		FINANCIAL CONTRIBUTION		CONTRIBUTION BASE		TOTAL VALUE
	PER DWELLING	PER M ² INDUSTRIAL/ COMMERCIAL	PER DWELLING	PER M ² INDUSTRIAL/ COMMERCIAL	DWELLINGS	M ² INDUSTRIAL/ COMMERCIAL	
Buffer areas and open space links	18.19 m ² embellishment land	-	\$4321	-	1418	-	\$6.127 million
Fire Trail	20.13 m ² land 2.074 construction	0.0277m ² land 0.0028 m construction	\$4,683	\$6:44 (Sector 728 only)	1418	52,660	\$5.300 million
Stormwater Management Facilities	61.36 m ² land 75.79m ² construction	0.084 m ² land 0.1041 m ² construction	\$6443 land \$6253 construction	\$8.85 land \$8.59 construction	1403	198,460	\$21.305 million
Open Space (includes 50% discount affect)	42.5 m ² embellished land	-	\$11,215	-	1510	-	\$16.934 million
Cycle Path	5.14m	-	\$565		1418		\$0.801 million
Traffic and Transport	Range of opportunities for direct provision.	Range of opportunities for direct provision	\$8,978	Variable	1403	198,460m ²	\$17.651 million
Community Facilities	Limited opportunities for direct provision.	-	\$793	-	1510	-	\$1.197 million
Total			\$43,251	Variable			\$69.315 million

IMPLEMENTING THE DETAILED PLANNING PROCESS

The need for a sector by sector rezoning approach

The traditional approach to land release has been a widespread rezoning of land regardless of ownership, followed by adhoc development often causing discontinuity in the provision of community facilities and services. This process has placed significant financial imposts on Council's to provide facilities and services in advance of receipt of contributions from developers.

Further, this process does not allow the detailed design process to occur at the same time as the rezoning process resulting in planning decisions based on course levels of information causing inappropriate design and development.

Pittwater Council approach to the Warriewood Valley land release is to facilitate a "sector by sector" development, whereby landowners in a co-operative way participate in the detailed design process to achieve the objectives set out in the planning framework.

This co-operative planning process whereby detailed planning accompany the rezoning process for individual sector ensures that at the time of the final rezoning Council and developers are assured of the eventual development style for the land.

This also advantages the developers in that the detailed planning process can occur concurrently with the rezoning process decreasing the development process time frame.

Further the process allows an opportunity for the direct provision of community facilities and services as against the traditional Section 94 financial Contribution process and above all ensures co-ordinated development within each Sector regardless of land tenure.

Before each sector can be considered for rezoning, Council would need to be satisfied that the following key issues have been addressed:-

- **The landowners are prepared to operate in a co-operative manner to facilitate an overall development of the sector.(or at least the majority of the sector).**
- **That the appropriate infrastructure and services are available (i.e. water, electricity, gas, telephone, sewerage).**
- **That development of the individual sector can be sustained without Council being required to financially contribute to community facilities and infrastructure i.e . road networks etc.**
- **That development of the sector will be in accordance with the aims and objectives and overall planning framework for the Valley.**

FORWARD PATH

Final Planning Framework

Following the review of the draft Planning Framework by the community and relevant Government Authorities, a reviewed Planning Framework will be prepared to Council which outlines and identifies the issues raised in submissions from these various groups.

The information provided by the Government Authorities in terms of commitment and resourcing needs for infrastructure provision is of critical importance in the land release planning process particularly relating to the release of individual sectors for development. This information will be taken into account in the preparation of the reviewed document.

Development of Sectors

As each of the sectors is targeted for the commencement of the release of land, it will be necessary to prepare more detailed planning for that area. This will be achieved through application of the Action Plans to prepare a detailed planning design which specifically identifies the land uses suitable for that area. This detailed planning will be carried out by the developer/landowners so as to coincide with the preparation of Environmental Planning Instruments and Development Control Plans by and in association with Council.

Section 94 Plans

An integral component of the planning and management process, is the preparation of a Section 94 Contributions Plans to ensure the timely and cost effective provision of community facilities, services and works through appropriate Section 94 contribution plans.

The preparation of an effective Section 94 Contribution Plans is an important part of the release area planning process. An ill founded Section 94 Strategy could see development occur without the appropriate facilities and services in place, or provision of those services delayed unnecessarily. Sound Section 94 Contribution Plans are essential to the effective financial planning for the release process.

The Section 94 Contribution Plans associated strategies will encourage the maximum amount of direct provision of facilities and services by developers and hence minimise financial contributions which inherently increase Council's cost exposure.

A significant issue in determining the Section 94 Plans is ascertaining the level of detail necessary to cost individual plans.

Plans which rely on broadscale projections and cost estimates (generic plans) can easily be determined. However, lack of certainty in costing (particularly for high cost infrastructure) could lead to the plans suffering considerable financial inaccuracies in the long term. Conversely, the detailed designs and costings for Section 94 contribution plans may be time consuming and may also be subject to significant changes as technology or planning changes are made during the course of the release process.

A solution is to commence the release process using "generic plans" with a focus on the preparation of detailed design for plans where it is necessary. The generic plans can then be reviewed early in the life of the release on the basis of more detailed investigation, cost assessment and increased knowledge of take-up rates and demographic trends.

This process would allow the initial releases to commence without the critical factor involving the preparation of detailed Section 94 contribution plans for the land release as a whole.

The Section 94 Contribution Plans for the Warriewood Urban Land Release should provide for an orderly and managed implementation of a cost effective way of providing community facilities and services through developer contributions sought through the provision of Section 94 of the Environmental Planning and Assessment Act, without imposing any significant financial burden on the community (through Council).

The strategy should incorporate, wherever possible, management options and techniques to reduce direct borrowing costs incurred by Council, while providing developers and eventual users of those facilities the most cost effective method of provision.

Phasing Strategy

In order to provide for the orderly release of land and ensure that appropriate services and facilities are available to occupants of future dwellings and that Council and State Government authorities responsible for providing services and facilities can do so in a cost effective manner, it will be necessary to prepare a Phasing Strategy for the land release.

The Phasing Strategy will need to provide a flexible framework which allows the land market to respond to demand and hence land be released and developed without financial risk to Council and the other service providers of infrastructure within the land release process. As such, the Phasing Strategy will need to provide a flexible timetable for the release of land to ensure that land is released in an orderly and cost effective manner.

This part of the planning process for the land release is driven largely by market demand and associated takeup rates. As such, the strategy will need to be dynamic in its formulation to respond to such market demand as well as give Council and the government authorities adequate time to ensure that the required infrastructure is in place early in the development period.

The phasing strategy will apply the sector by sector approach to release of land for development.

Facilitating Release of Land

To facilitate the release of land, a number of statutory plans and processes are required to be carried out by Council. These include preparation of Local Environmental Plans, Development Control Plans and Section 94 plans in accordance with the Environmental Planning and Assessment Act. Further in accordance with the Action Plans to achieve the Planning Framework objectives, Council will prepare a suite of Council detailed policies to control and relate to development as appropriate.

Local Environmental Plans

Local Environmental Plans will be prepared for each sector land units as appropriate to facilitate release of land in accordance with the objectives of the planning framework.

Development Control Plans

To facilitate the co-ordination of development within individual sector, Development Control Plans may be necessary to give a further level of control of development. The Development Control Plans should be developed in conjunction or subsequent to the preparation of the draft Local Environmental Plans for a particular sectors and should be put in place concurrent with the gazettal of the relevant individual Local Environmental Plans. It is envisaged that the Development Control Plan will be a reflection of the detailed Development Plans prepared by landowners to support the Development Application for the land and its rezoning.

Council Policies

Council policies will need to be developed to supplement the controls for development encapsulated in Local Environmental Plans and Development Control Plans. It is envisaged that existing Council policies would control initial phases of development with special

policies being developed as necessary and as outlined by the Action Plans for the environmental and demographic studies. Council policies relating to processing and management of the release process will also develop as the release progresses.

CONCLUSION

The draft Planning Framework prepared for the Warriewood Urban Land Release Project, as described in this document and the associated maps and tables, allocates appropriate land uses to the various sectors of the Land Release area. This allocation of land uses is based on the Environmental and Demographic studies carried out to facilitate responsible planning of the project.

As well as providing a broad scale allocation of land use, the draft Planning Strategy provides a "forward path" to carry the outputs of the range of investigative studies carried out to support the project into the future detailed planning and implementation phases of the project in a way that will ensure both environmental and economic sustainability.

The draft Planning Strategy indicates that the area has the capability to provide for 1510 dwellings through development of 110ha. In addition hectares are designated for Industrial Commercial Development.

Approximately 40ha of the Land adjoining the Release area surrounding the Warriewood Sewage Treatment Plant have not had any land use allocation made at this time, as information relating to the effect of the Sewage Treatment Plant on adjoining land uses has not yet become available.

The draft Planning Strategy is the fundamental planning document for the Land Release Project and has utilised contemporary planning practices to provide a basis for a sound decision making throughout the Land Release Process.

Through the Action Plans for each of the studies, the draft planning Framework ensures that the original goals and objectives of these studies will be carried forward into the detailed planning and future management of development and conservation initiatives, and that where necessary further detailed investigation will proceed future planning and release of land.

The draft Planning Framework for the Warriewood Urban Land Release Project provides a clear path for the environmentally and economically sustainable use of land in the Ingleside/Warriewood area, and sets a challenge to those involved in the project to ensure those goals are achieved.