

- report

Rotorua Eastern Basin Structure Plan



Prepared for

Rotorua District Council

By

Beca



April 2008

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1 Introduction

The Rotorua Eastern Basin Structure Plan is the culmination of nearly three years investigation and consultation with stakeholders and residents of the Eastern Basin area.

The Structure Plan area extends from Puarenga Stream in the south, to Mourea in the north and is bound to the west by the lake and the rim of the Rotorua caldera to the east. Within this, the council identified five distinct areas (see Figure 1):

- Area A: the rural and rural-residential land north and east of the airport;
- Area B covers the existing urban area south of the airport and extends along the north side of Tarawera Road;
- Area C is the rural area between Lynmore and Wharenui Road;
- Area D is the rural area located between Gee Road and the existing Eastgate Business Park; and
- Area E represents the rural area east of Te Ngae Road between Wharenui and Gee Roads.

Key milestones have been:

1. The preparation of an Options, Opportunities and Constraints report that outlined the basic parameters for development in the Structure Plan area and suggested three options for future growth. The main guiding elements were:
 - The projected growth for the area over a 50 year planning horizon
 - Physical constraints to development in areas of natural hazard – flooding or slope stability
 - The ability to service the development areas.
2. The preparation of the three options for public consultation and submission
3. The preparation of a Draft Concept Plan document for public submission.

Submissions have now been received and analysed and further investigation into the opportunities and constraints of the area taking into account data that has become available during 2007. These analyses are provided in an Addendum Opportunities and Constraints Report (November 2007).

As a result of the submissions received Option 2, Balanced Growth, was adopted for further development as the Rotorua Eastern Basin Structure Plan. This report presents the proposed Structure Plan taking into account the submissions received and further information provided.

The Report first states the Key Principles of development as presented in the Draft Concept Plan Report (Section 2) and then defines the parameters for development (Section 3) before describing the Structure Plan in detail in Section 4. Section 5 provides an assessment of the proposed Structure Plan against the key principles.

It should also be noted at the outset that the Structure Plan is one of a number of tools used in planning for the development of an area. It provides a framework for development guiding and coordinating future growth to ensure that key values are maintained and services can be planned to match growth. Other planning tools include the District Plan,

which, when the Structure Plan is agreed on, will be reviewed and changed to provide for the framework established.

Proposed changes to the land use zoning in the District Plan including development guidelines and key objectives and policies are provided in Section 6 to be used as input to the Rotorua District Plan Review currently being undertaken.

This report should be read in conjunction with the following background documents:

- Rotorua Eastern Basin Options, Opportunities and Constraints, Beca, 2006
- Rotorua Eastern Draft Concept Plan – Community Discussion Document, Beca, 2006
- Rotorua’s Environmental Statement and Community Outcomes, RDC
- Rotorua Growth Model, Harrison and Grierson Consultants, November 2005
- Rotorua Open Space Strategy – Discussion Document, RDC, 2005
- Rotorua Urban Transport Strategy, RDC
- Rotorua Basin Water Supply Strategy, RDC, August 2006
- Rotorua Draft Water Supply Strategy – Executive Summary, RDC, 2006
- Development Contributions Policy, RDC
- Rotorua Entranceways Strategy, Titchener, Monzingo, Aitken Ltd, March 2005

The outcomes of this structure planning process will be integrated with outcomes from the Western Basin Structure Plan to ensure consistency and sustainability prior to being included in the District Plan review.

2 Structure Plan Principles

The underlying philosophy for the Rotorua Eastern Structure Plan is that people should generally be able to work and enjoy their leisure time close to where they live. This “live/work/play” philosophy has many advantages in terms of creating a vibrant community as well as encouraging energy efficiency (fewer vehicle trips) and providing walking and cycling opportunities that encourage a healthy lifestyle.

Some submitters have identified that many people will still wish to travel to their preferred work place or leisure activity and the Structure Plan does not constrain those lifestyle choices, rather it enhances the choices that are provided locally. The proximity of the Eastern Basin to world recognised leisure activity centres like Lake Rotorua or the Whakarewarewa Forest (for mountain-biking) provides a strong foundation for developing more such facilities or enhancing access to these areas within the Structure Plan.

From this philosophy and from the Rotorua Community Outcomes Report 11 key principles for the development of the Structure Plan were established.

Key Structure Plan Principles

1. Ensuring lake water quality and freshwater sustainability
2. Providing for a sustainable economy and land use change
3. Ensuring a safe and caring community
4. Strengthening live/work/play opportunities within a range of living environments
5. Providing for the separation of incompatible activities
6. Providing for development of Maori land and protection of traditional values
7. Protection of high quality rural soils and landscape features such as the rhyolitic domes, stream gullies and the caldera rim
8. Provision of services and transportation networks
9. Landscape development and protecting view corridors across the Structure Plan area to (and from) the Lake
10. Improving community resilience to natural hazards
11. Protection and enhancement of the lake edge and wetlands

3 Parameters for Development

The main underlying parameters for development are determined from the analysis of opportunities and constraints for the area. The parameters for development within the Structure Plan include:

- Ensuring that the projected population can be accommodated
- Providing for land use development by ensuring a range of lifestyle opportunities, providing employment opportunities, ensuring sufficient reserves areas, and providing for a compact urban form around an established, and successful, neighbourhood hub
- Ensuring that the proposed development can be adequately serviced
- Ensuring a safe, effective and efficient roading network
- Protecting and enhancing, where possible, the natural environment

3.1 Population Projections

In summary the Rotorua Growth Model (November 2005) projects population growth in the Structure Plan area as shown in the following Table.

Table 3.1: Rotorua Eastern Basin Population and Household Growth to 2051 (Rotorua Growth Model, 2005)

	2001	2005 (est)	2021	2051
Population				
Eastern Suburbs PU	7,227	7,552	8,154	8,203
Rotokawa PU	819	852	3,314	3,623
Total Eastern Basin	8,046	8,304	11,468	11,826
Households				
Eastern Suburbs PU	2,436	2,545	3,054	3,155
Rotokawa PU	271	287	1,242	1,394
Total Eastern Basin	2,707	2,793	4,296	4,549

The Growth Model also indicates that household occupancy will trend down from 3 people per occupied dwelling in 2001 to 2.67 in 2021 and 2.6 in 2051 (Rotorua Growth Model, November 2005) resulting in a relatively higher increase in household numbers in the latter period of the model compared to population.

The total number of new households projected in the Eastern Basin to 2021 is 1,503 and a further 253 are projected to 2051. These are expected to be provided for through a combination of Greenfield development generally beyond, or opposite the Rotorua Airport and through infill development and expansion of the existing suburbs of Lynmore and

Owhata. It is anticipated that the majority of growth to 2021 will be accommodated within or close to existing urban areas.

The rate of increase is assumed to be a constant 100 household units per year to 2021.

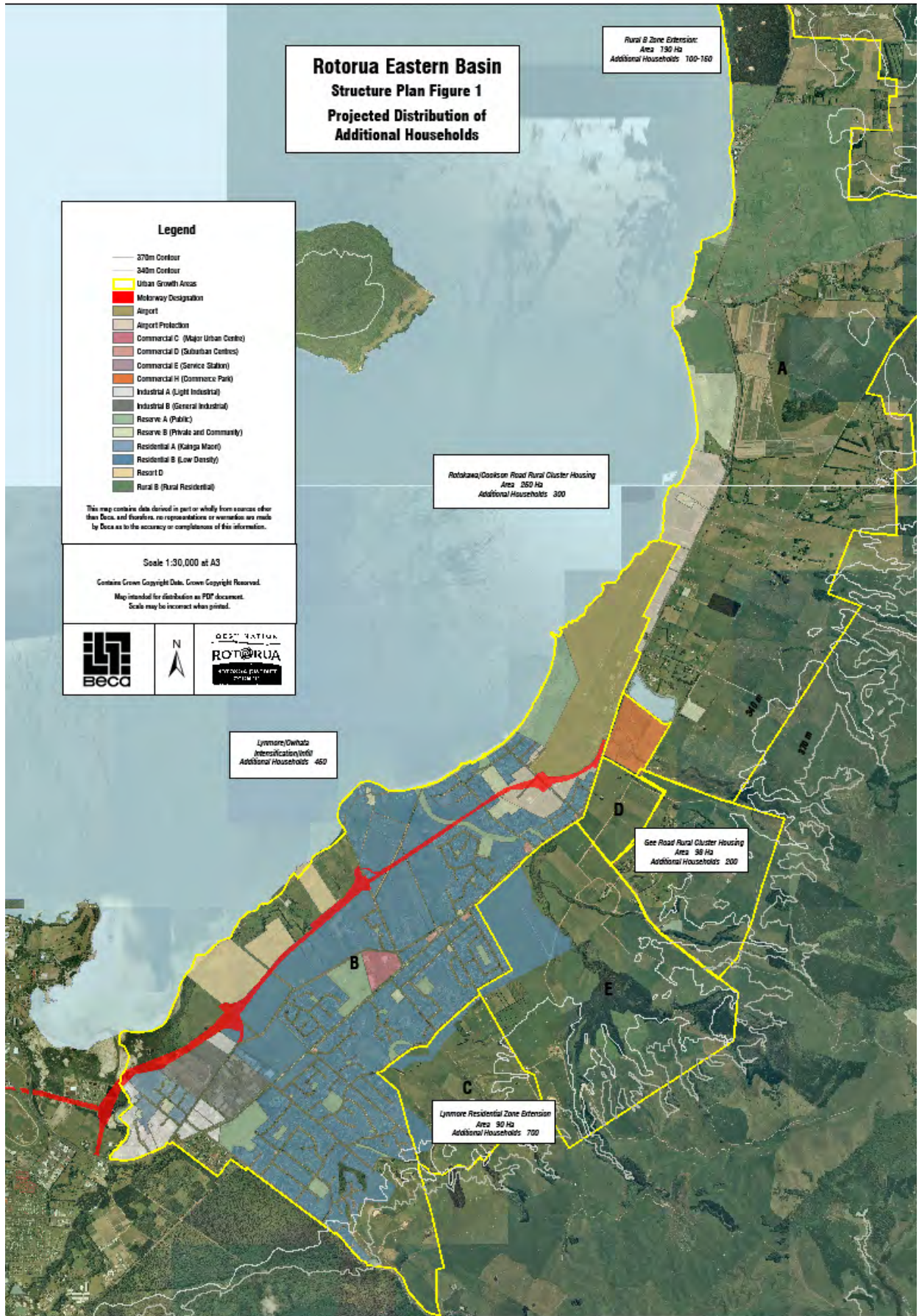
Total population within the area is expected to increase by 3,422 from 2001 to 2021 and a further 358 people in the subsequent 30 year period.

The Structure Plan provides for the projected growth to 2051 to be accommodated in the following areas:

	<u>2021</u>	<u>2051</u>
Lynmore/Owhata (infill and intensification)	400	50
Lynmore (urban expansion)	700	
Gee Road (rural cluster)	200	
Rotokawa/Cookson (rural cluster)	150	150
Brunswick/Te Puea (rural-residential)	50	50 - 100
TOTAL	1500	250 - 300

This growth is summarised on Figure 1: Projected Distribution of Additional Households

It should be noted however, that the projected growth is predicated on a continuation of the historic trends in development in Rotorua and the future growth should be monitored and reviewed on a regular basis to take into account changes in demographic and economic circumstances.



3.2.2 Reserves

The provision of active and passive reserves is fundamental to the development of the “live/work/play” philosophy of the Structure Plan. These are distinct from other reserves that may also be needed to preserve the integrity of the lake front or gully systems, or provide for stormwater management or are necessary for cultural or heritage reasons.

New urban areas should be developed with passive or local reserves of at least 4,000 m² area within 400m walking distance of all housing in the vicinity. These reserves should not be located across main roads from their primary catchment and should be flat and integrated into the pedestrian and cycle networks.

Rural lifestyle and rural cluster areas have significant areas of private open space and do not need the same amount of public open space although private common areas may be provided in individual developments.

The Rotorua Open Space Strategy identifies a need for another major sports field complex to meet anticipated demand. New active open space has not been identified on the Structure Plan and will require further investigation. However, the area chosen will need to be generally flat and 10 to 20 ha in area to provide not only for the projected 11,500 population in 2021, and for future growth beyond that, but for use by residents from other parts of Rotorua.

3.2.3 Employment Opportunities

Providing employment opportunities is an integral part of the Structure Plan philosophy. However, this must be considered within a context of compatibility with surrounding, sensitive, land uses.

There are at present a number of employment centres in the Structure Plan area including the existing neighbourhood hub at Te Ngae, various small shops and service stations, schools, home-based occupations and services as well as the main service/ industrial areas at Ngapuna, along Te Ngae Road, at Eastgate and at the Airport.

The long established businesses at Ngapuna and along Te Ngae and Vaughan Roads, in some cases, impose on adjacent residential areas in terms of traffic generation, noise and air discharges. The Structure Plan identifies this area as the Ngapuna Development Area which provides opportunities to work with these businesses and their neighbours to mitigate these effects over time.

Three options are available for the future (long-term) development of the Ngapuna area.

1. Retaining the same mixed use environment with stricter controls on the potential adverse effects of development such as noise and air discharges
2. Over time providing for the removal of the existing industries from this area to be replaced with residential and reserve development
3. Over time providing for the relocation of the existing residential activities from this area to alternative land that is appropriate to the local hapu. This option is being explored independently of this structure planning exercise.

No options are identified as preferred at this stage as the availability of suitable acceptable land is not assured. It is anticipated that further changes to the District Plan may be promoted when this process is completed. In the interim the status quo is proposed although new activities will need to be fully assessed to determine the potential effects on the mixed use environment.

New employment areas are proposed to be developed to the south of the Eastgate Business Park and, potentially, around the Airport. These areas are to be provided with significant buffer areas between service/industrial activities and adjacent residential activities.

The Airport Plan Change (No. 32) introduced controls on new activities that may be undertaken within the 60 dBA airport noise contour which means that this area, the Inner Control Area, may also be more suitable for service or industrial activities, unless noise mitigation is undertaken. An area to the south of the airport to Robinson Avenue is identified as a possible new business area.

The recent Airport designation also provided for tourism and conference facilities within the airport limits and these provide further opportunities for resort and accommodation development in the vicinity.

In total the two employment areas identified in the Structure Plan – south of Eastgate and around the Ngapuna Development Area – will provide approximately 130,000m² of development area (GFA) or approximately 32.5m²/additional person for 4,000 people, which is estimated to be about half the demand generated by the additional population to 2021. This is in addition to the existing business zoned land in the area and assumes that approximately one third of the 38.7ha will be roads and reserves (utility or recreational) and the balance will be developed to about 50% coverage ie one third of 39 ha or 130,000m² GFA.

Further opportunities are provided through home occupations and services which may account for as much as 10m²/per additional person (based on experience in similar peri-urban areas in the Bay of Plenty), and in the area south of the airport and “refreshing” the Te Ngae shopping centre.

In total the Structure Plan provides a base for employment opportunities for the expected additional population.

3.2.4 Compact Urban Form Around Neighbourhood Hubs

The established Te Ngae neighbourhood hub provides an important focus for the local communities. Ideally these areas are easy to access and are within a 5 – 10 minute walk (400 – 800m) of a significant portion of their residential catchment. The hub forms part of a hierarchy of commercial and service centres and provides a range of services depending on where it lies in that hierarchy. Te Ngae provides for a wider catchment as it is central to the Owhata and Lynmore suburbs and collects passing residents from rural and rural-residential properties to the north.

It is important for the social and economic development of these communities that the local hub is a vibrant, successful place. Infill throughout the Lynmore and Owhata suburbs is already provided for in the District Plan and is expected to continue to provide for

development to a density of 1 dwelling per 450m². This however is subject to the review of the District Plan and future rules on lot sizes in the Residential B zone.

3.3 Provision of Services

It is anticipated that all new development in the Structure Plan area will be connected to Council services, where these are available or planned, including rural cluster housing and rural lifestyle developments. This is an important element of the Rotorua Lakes Protection and Restoration Action programme and is supported by the construction of the new Rotorua Eastern Trunk wastewater sewer main to Mourea and Okawa Bay.

The provision of domestic water supply is supported to a height of approximately 340m but development may be provided for above this level in the future either by providing for private individual or communal supplies (e.g., Brunswick) or by an upgraded public supply. It should however, be noted that as development extends higher around the edge of the basin landscape and visual matters become equally, if not more, important. The limit identified for more intense development around the Eastern Basin from a landscape perspective (i.e., as seen from Lake Rotorua), is approximately the 370m contour.

Stormwater management is a critical element of any future development and the stormwater system must be able to accommodate future climate change events that may be more frequent and more intense and provide for the enhancement of the natural environment along the main gully systems. Overall a low impact stormwater system is proposed that will retain and treat stormwater runoff throughout the area in order to limit the effects on water quality at Lake Rotorua.

Key features of the low-impact stormwater management system are:

- The enhancement of wetland areas around the lake that act as filters for phosphate and nitrogen and other contaminants that may be present in the runoff. It is proposed that land between the Rotorua Eastern Arterial designation and the lakefront that is currently undeveloped should be set aside for visual and water management purposes as well as for the avoidance of inundation which is projected to the 282m contour.
- The retention of stormwater where possible throughout the catchment to pre-development levels i.e. each development retaining runoff in feature stormwater retention ponds higher in the catchment providing for integrated treatment and reducing the effects at the lake edge.
- The provision of broad management areas along the main permanent and ephemeral stream systems to accommodate short, intense rainfall events. At other times these areas provide visual relief between areas of development and opportunities for passive recreation and walkways.

3.4 Transportation Network

3.4.1 Rooding

The roading network through the Structure Plan area comprises Te Ngae Road/State highway 30 (Regional arterial road) bisecting the bulk of the residential areas of Lynmore

and Owkata supported by a series of local roads heading either to the east into the surrounding hills or to the west, to the lake.

At the southern end of the area is Tarawera Road which also has the function of an arterial road at a District level and to the north is State highway 33 heading towards Whakatane.

There are few roads parallel to the State highway connecting communities at a “local” level that act as “collector” roads in a roading hierarchy that functions progressively from local to collector to arterial routes.

In addition the designation for the Rotorua Eastern Arterial (REA) has been confirmed in the District Plan and Investigation and Reporting studies are to be undertaken. These will determine a timeframe for construction, which may still be some 10 years in the future.

The construction of the REA is an integral part of the Structure Plan as it will enable a much more integrated development for the established suburbs of Lynmore and Owkata. Te Ngae Road is proposed to be redeveloped as a boulevard collector/arterial with particular care taken to allow pedestrian and cycle use along and across the road. Figure 3 identifies possible cross-sections for the future development of Te Ngae Boulevard.

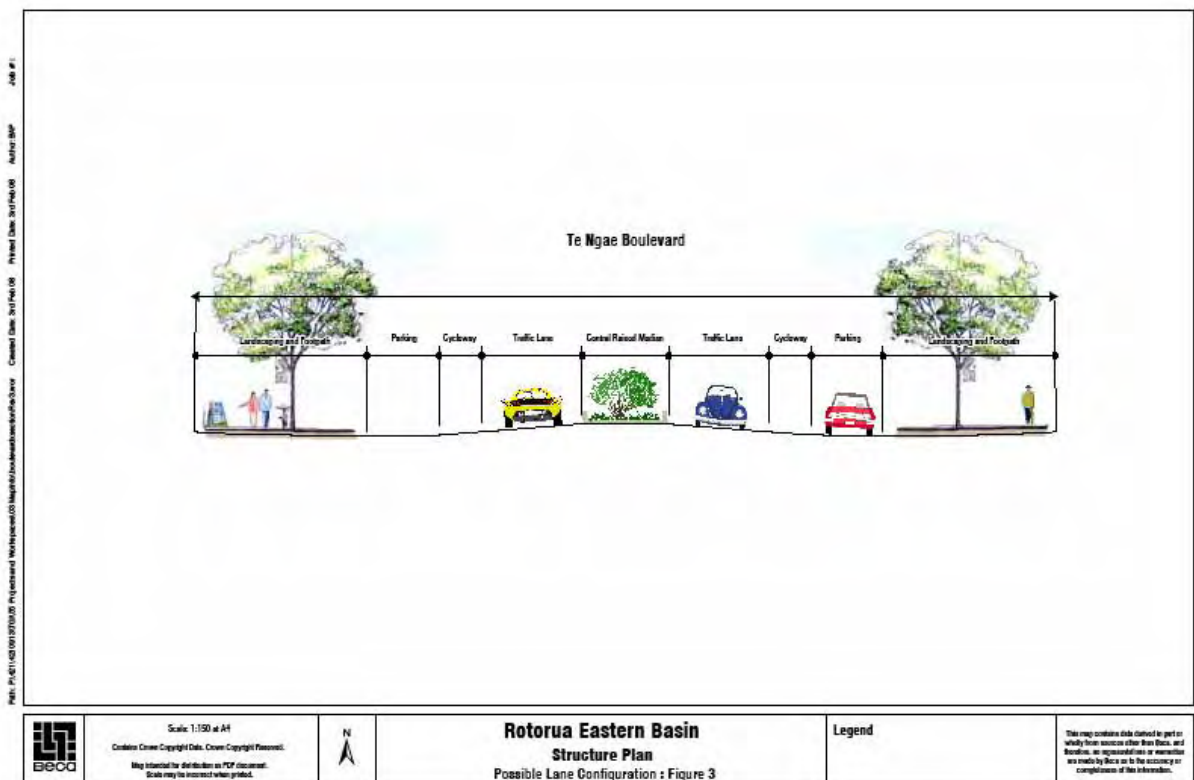


Figure 3: Te Ngae Road Cross-section

The boulevard option for Te Ngae Road is envisaged as being a landscaped environment with one traffic lane plus parking and a cycle lane in each direction. Central medians would be provided with regular turning provisions at the intersections. Walking/cycling paths would be provided along each side. Landscaping would be mature trees along the central median area and the berms where space permits.

The REA itself must also allow pedestrians and cyclists to cross easily, either under or over, to provide access from inland areas to the lake front and open space between the road and the water.

Further north opportunity is available to link Rotokawa Road and Cookson Road along an existing paper road to enable development of an integrated community in these areas.

Traffic modelling of the proposed changes to the network taking into account the proposed land uses, the REA and the new links in the network will need to be undertaken before any decisions on access to the State highway, such as the closure of Rotokawa Road, are made.

3.4.2 Pedestrian and Cycle Network

The key to the success of the “neighbourhood hub” form of urban development is easy accessibility to the centre from the immediately surrounding area, particularly for pedestrians and cyclists.

Rotorua has developed as a strong cycling community, and hosted the 2006 World Mountain Biking Championships held on Mount Ngongotaha. Cycling is supported by the many off-road cycle routes that have been developed over many years in the Whakarewarewa Forest. These routes adjoin the study area and may be developed to provide a link further to the north around the lake front and the caldera rim.

Linkages across the caldera rim to the Okataina walkway network are also envisaged along the gully systems providing a Lake-to-Lake network. Along the Lake Rotorua frontage is also proposed a recreational and commuter cycle route into the Rotorua CBD.

The Te Ngae Boulevard is proposed to incorporate cycle paths and the new REA will also include provision for cyclists both along and across it.

3.5 The Natural Environment

The Opportunities and Constraints analysis for the Eastern Basin area identifies a number of areas where there are likely to be difficulties in developing land for housing and where there are opportunities to enhance the natural ecological and landscape environment.

In summary the Rotorua Catchment Landscape Assessment and the Eastern Basin Landscape assessment identify a visual limit at about the 370m contour as the highest level for built development although there must be care taken in all cases on exposed ridgelines and other areas visible from the lake on the degree of exposed earthworks. There should also be a priority placed on structural planting along the permanent and ephemeral stream valleys and in the upper hill slopes in the catchment.

The Structure Plan also proposes to maintain view shafts from the upper slopes to Lake Rotorua and to important cultural features, in particular Ngongotaha, Mokoia Island, Hurunga Marae and Owhata Marae.

Limits are proposed on development of steeper slopes over 20 degrees, as these are likely to be constrained geotechnically and also they are likely to be more prominent visually.

Retirement and revegetation of the gully areas and higher slopes will also provide opportunities for stormwater management and ecological enhancement enabling reductions in nitrogen and phosphate loadings reaching the lake.

Closer to the lake front there are existing wetland areas such as Lake Rotokawa and the wetland at the end of the Airport that illustrate how this area can be managed ecologically to also improve the lake's water quality.

A setback is proposed for development between the REA and the lake front to provide for hazard mitigation below 282MD, and allow for the enhancement of this area as a natural wetland for stormwater management, biodiversity and open space, creating a buffer between the suburban areas and the lake. The REA is a natural boundary to the buffer area, although there will need to be strong and easy linkages across the road to the lake. Compact urban development inland will support the neighbourhood form and the Te Ngae commercial hub.

4 Rotorua Eastern Basin Structure Plan

4.1 Overview

The Rotorua Eastern Basin Structure Plan is developed from Option 2 in the Community Discussion document (November 2006).

This option provided for development focussed on established neighbourhood centres or hubs and in areas already fragmented in the rural area providing for the sustainable management of the land resource. The established suburbs of Lynmore and Owhata are to be developed within the existing Residential Zone subject to development constraints/rules along the Lake Front that include landscape provisions and set-back from the lakefront and other water features. An extension to the suburb of Lynmore is provided for residential use within the constraints of the site. In general new development on the eastern slopes will result in green "fingers" leading down to the lake front along the existing gully systems. The Eastgate Business Park is to be extended to the south with a substantial buffer area between the future employment and surrounding residential land.

A range of lifestyle opportunities are provided, from infill and new residential development to large rural lifestyle lots. The areas chosen for the new rural cluster housing areas, are in some cases already fragmented. This reduces the potential to break up productive farmland, and provides the basis for serviced development to adjacent land as well. However, existing lifestyle blocks on Fairbank Road and Hawthornden Drive are retained to keep current lifestyle options and avoid negative visual effects of increasing residential density on prominent lower slopes.

The total number of lots provided equates to the projected growth for the eastern area to 2051 supported by areas of business/employment around the Airport and retail expansion at the Te Ngae and Ngapuna hubs. Recreational opportunities are provided informally through an extensive network of walkways and also formal sportsfields.

4.2 Structure Plan Development Parameters

Development	Parameters
Population Provision (Households)	1750 new households to 2051
	Infill/Intensification 450
	Lynmore/Owhata extension 700
	Gee Road rural cluster 200
	Rotokawa/Cookson rural cluster 300
	Brunswick/Te Puea rural lifestyle 100 - 150
Land Use Development	
Urban Infill	Operative District Plan provisions 1/450m ²
Urban expansion	Operative District Plan provisions 1/450m ²
Rural cluster housing	Range 1,000 m ² – 5,000 m ² , Average 3,000 m ²
Rural lifestyle	Operative District Plan Rural B provisions 1/8,000m ²

Reserves	<p>Passive reserves minimum size 4,000m² catchment distance 400m</p> <p>Active reserves level of service 1.7ha/1,000 pop size 10 to 20ha topography flat</p> <p>Other reserves as required including a setback from the lake front and stormwater/protection reserves along stream gullies</p>
Employment	<p>Eastgate Extension 30.0ha</p> <p>Airport South 7.2ha</p> <p>Home Occupations and services 1.5ha (equivalent)</p> <p>TOTAL 38.7ha</p>
Services	<p>Wastewater All new urban, rural cluster and rural lifestyle development to be connected</p> <p>Water Urban supply to be provided to approximately the 340m contour, private or extended public supply at higher levels</p> <p>Stormwater Low impact stormwater design, retain stormwater within the catchment, provide for treatment before discharge to Lake Rotorua</p>
Transportation	<p>Construction of REA</p> <p>Undertake traffic modelling based on new land uses and roading patterns</p> <p>Development of Te Ngae Road boulevard</p> <p>Provide link between Rotokawa and Cookson Roads</p> <p>Provide integrated pedestrian and cycle links along gullies east-west from hills to the lake front and north-south along the lake front, Te Ngae Boulevard and around the caldera linking to the Whakarewarewa Forest mountain biking network.</p> <p>Integration with public transport – park and ride at Te Ngae Hub</p>
Natural Environment	<p>No urban or cluster development above 370m contour</p> <p>Limit area of exposed earthworks</p> <p>Limit building development to slopes less than 20 degrees</p> <p>Prioritise revegetation and structural planting along stream gullies and on steep slopes</p> <p>Enhance or re-establish wetlands along the lake front</p> <p>Setback future development to east of REA</p> <p>282m contour natural hazard restriction</p> <p>Maintain view shafts from eastern slopes to Ngongotaha, Mokoia Island, Hurunga Marae and Owhata Marae.</p>

4.3 Structure Plan Details

The Structure Plan is presented as two separate sets of maps. The first identifies infrastructure and transportation development proposals and the second provides for land use and landscape elements in the Structure Plan.

The Plan provides for a sustainable, safe and caring community fulfilling the goals identified in the Principles for the development of the Structure Plan.

4.3.1 Rotorua Eastern Basin Infrastructure and Transportation Plan

Key elements in the Infrastructure and Transportation Plan (Figure 4) are the designations for the REA, the Airport and the Airport Obstacle Limitations and take-off/landing protection area. These designations and the rules in the District Plan related to the Airport Noise Boundaries will determine development in areas affected by these activities.

The REA is effectively the western boundary of urban development in the Structure Plan although there is some existing development around Hannah's Bay.

The Plan provides for a comprehensive network of pedestrian and cycle ways along the main gullies, along the lake front to the CBD, along Te Ngae Road and linking to the Okataina walkways. Figure 3 shows a potential cross-section for the Te Ngae Boulevard.

The Rotorua Eastern Trunk sewer is shown with connections extending to the east along SH33, Cookson Road and Gee Road.

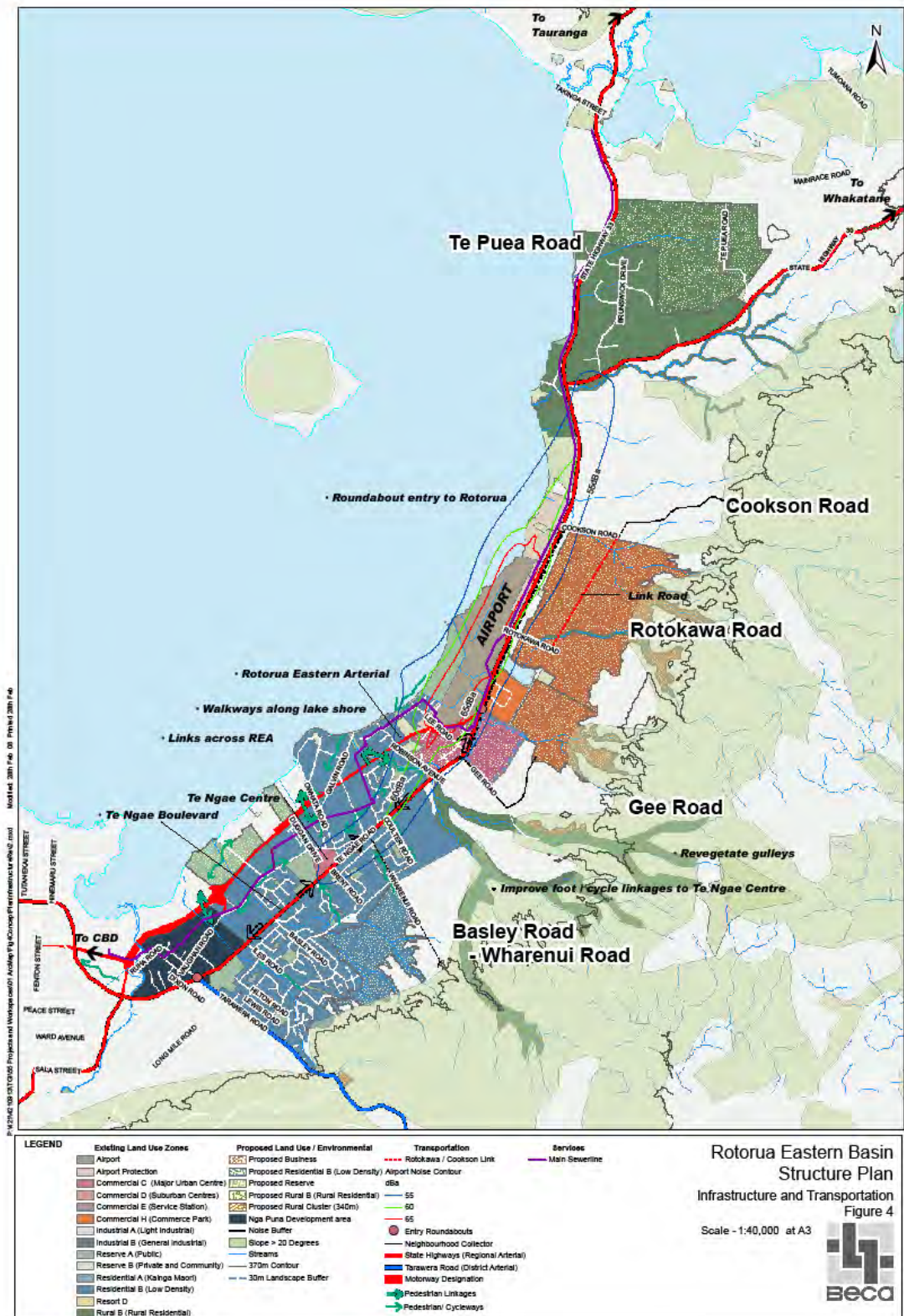
Stormwater management is provided for along the lake front and the gully systems.

4.3.2 Rotorua Eastern Basin Land Use and Landscape Development Plan

Key elements in the Land Use and Landscape Development Plan (Figure 5) are the underlying Landscape Character Areas, key cultural elements including Mokoia Island and the main marae in the study area.

Land use development includes the provision of residential development as well as rural cluster and lifestyle areas, employment areas and the identification of the established neighbourhood hubs in Lynmore and Owhata.

The Plan also shows the areas to be set aside for ecological and landscape enhancement along the lake front, the gully systems and around the eastern hills.



5 Assessment of the Structure Plan Against the Key Principles

Principle	Structure Plan Provisions
1. Ensuring lake water quality and freshwater sustainability	<ul style="list-style-type: none"> ▪ Mandatory connection of urban and rural lifestyle development to the wastewater sewer main ▪ Retirement and revegetation of gully areas ▪ Retention of stormwater within the catchment ▪ Enhancing wetland areas along lake front ▪ Minimising exposed areas of earthworks ▪ Revegetation of Eastern Hills ▪ Encouraging improved biodiversity through ecological enhancement ▪ Low impact stormwater design taking into account revised standards for climate change – increased frequency and intensity of storms.
2. Providing for a sustainable economy and land use change	<ul style="list-style-type: none"> ▪ Matching land use and development to projected population growth ▪ Ensuring incompatible land uses are separated or buffered ▪ Providing for employment opportunities within the Structure Plan area ▪ Establishing a business hub around the Airport.
3. Ensuring a safe and caring community	<ul style="list-style-type: none"> ▪ Providing for communities focussed on established neighbourhood hubs ▪ Providing opportunities for integrated development based on the “live/work/play” philosophy ▪ Providing for strong pedestrian and cycle linkages through the area ▪ Providing for neighbourhood development east of the REA with pedestrian friendly treatment of the Te Ngae boulevard ▪ Providing development guidelines for rural cluster development.
4. Strengthening live/work/play opportunities within a range of living environments	<ul style="list-style-type: none"> ▪ Providing a range of housing opportunities from typical suburban development to rural cluster and lifestyle housing ▪ Providing for local reserves in new areas of development ▪ Providing for a large active reserve area in accordance with Rotorua’s open space strategy for this area ▪ Providing for easy linkages across the Eastern Arterial to Lake Rotorua at Hannah’s Bay in particular ▪ Providing for active cycle and pedestrian linkages to the CBD and the Okataina walkway system ▪ Providing new business development opportunities in close proximity to transport nodes and housing. ▪ Providing for supporting employment centres.

5. Providing for the separation of incompatible activities	<ul style="list-style-type: none"> ▪ Construction of the REA provides for the integration of Lynmore and Owata into neighbourhoods that are not split by the State highway ▪ Buffer areas around the expansion of the Eastgate Business park to the south ▪ Buffer areas along State highway 30 and within the Air Noise Control Boundaries ▪ Provision of employment areas within the Airport Protection Zone and Inner Control boundary.
6. Providing for development of Maori land and protection of traditional values	<ul style="list-style-type: none"> ▪ Providing for the development of the Pikirangi marae within the Rotokawa rural cluster area.
7. Protection of high quality rural soils and landscape features such as the rhyolitic domes, stream gullies and the caldera rim	<ul style="list-style-type: none"> ▪ Development of rural areas that are already fragmented retaining large areas for open space and landscape development ▪ Retirement and revegetation of gully systems ▪ Maintaining view shafts from the eastern slopes towards landscape and cultural features including Mokoia Island, Owata marae and Hurunga marae ▪ Establishment of structural landscape planting along the Eastern Hills.
8. Provision of services and transportation networks	<ul style="list-style-type: none"> ▪ Construct REA ▪ Redevelop Te Ngae Road as a boulevard arterial or collector road ▪ Provide for link road between Cookson and Rotokawa Roads ▪ Investigate the closure of Rotokawa Road as a safety measure for the State highway ▪ Provision of public water supply to 340m level in accordance with the Rotorua Basin water supply strategy ▪ Ensure connection to the Rotorua Eastern Trunk Sewer ▪ Low impact stormwater collection and treatment by utilising the natural overland flowpaths and drainage channels
9. Landscape development and protecting view corridors across the Structure Plan area to (and from) the Lake	<ul style="list-style-type: none"> ▪ Provide for view corridors across the Structure Plan area to key features including Ngongotaha and Mokoia Island, along road alignments approximately running at right angles to Te Ngae Road ▪ Ensuring visual and physical linkages across the REA to the lake front ▪ Retirement of the area between the REA and the lake front for enhancement as a wetland or open space area ▪ Retirement and revegetation of the gully systems and Eastern Hill areas ▪ Establishment of urban design guidelines for rural cluster development.

<p>10. Improving community resilience to natural hazards</p>	<ul style="list-style-type: none"> ▪ Parameters for improving community resilience to natural hazards, include: <ul style="list-style-type: none"> ○ Riparian river and stream margins should be fenced and protected; ○ Riparian planting encouraged; ○ Land owner awareness education encouraged; ○ Wetlands established and enhanced and protected; ○ Protect Te Ngae forest and Te Ngae Kahikatea Forest; ○ Remove pest plants from Ngapuna geothermal wetlands; and ○ Consider locally sourced indigenous plant species attractive to native birds for retirement planting and private planting ○ Retiring, where practical, areas between the REA and the lake front for mitigation of flooding hazards.
<p>11. Protection and enhancement of the lake edge and wetlands</p>	<ul style="list-style-type: none"> ▪ Ecology and landscape enhancement of waterways, overland flow paths and wetlands ▪ Retirement of the area between the REA and the lake front for enhancement as a wetland or open space area ▪ Identified access linkages to and along the lake front.

6 Proposed Changes to the District Plan

6.1 District Planning Maps

The proposed changes to the District Planning Maps are shown on Figure 6 overlaid on an orthophoto base and in Figure 7 showing the underlying cadastral boundaries. The changes incorporate existing land use zonings such as the Rural B extension to the Brunswick/Te Paea Road area and the Residential B extension east of Basley Road, to ensure that the integrity of the existing landscape and development is maintained. These zonings and associated objectives, policies and rules may however be revisited as part of the review of the District Plan. The structure plan also provides for new lifestyle opportunities such as Rural cluster development. The development of these areas should be managed to ensure that it does not result in an oversupply and Figure 6 shows the potential for staging development from closer to Rotokawa Road as an early stage to extend towards Cookson Road later in development. The Ngapuna Development Area is identified but no changes are proposed to the District plan objectives, policies and rules at this stage.

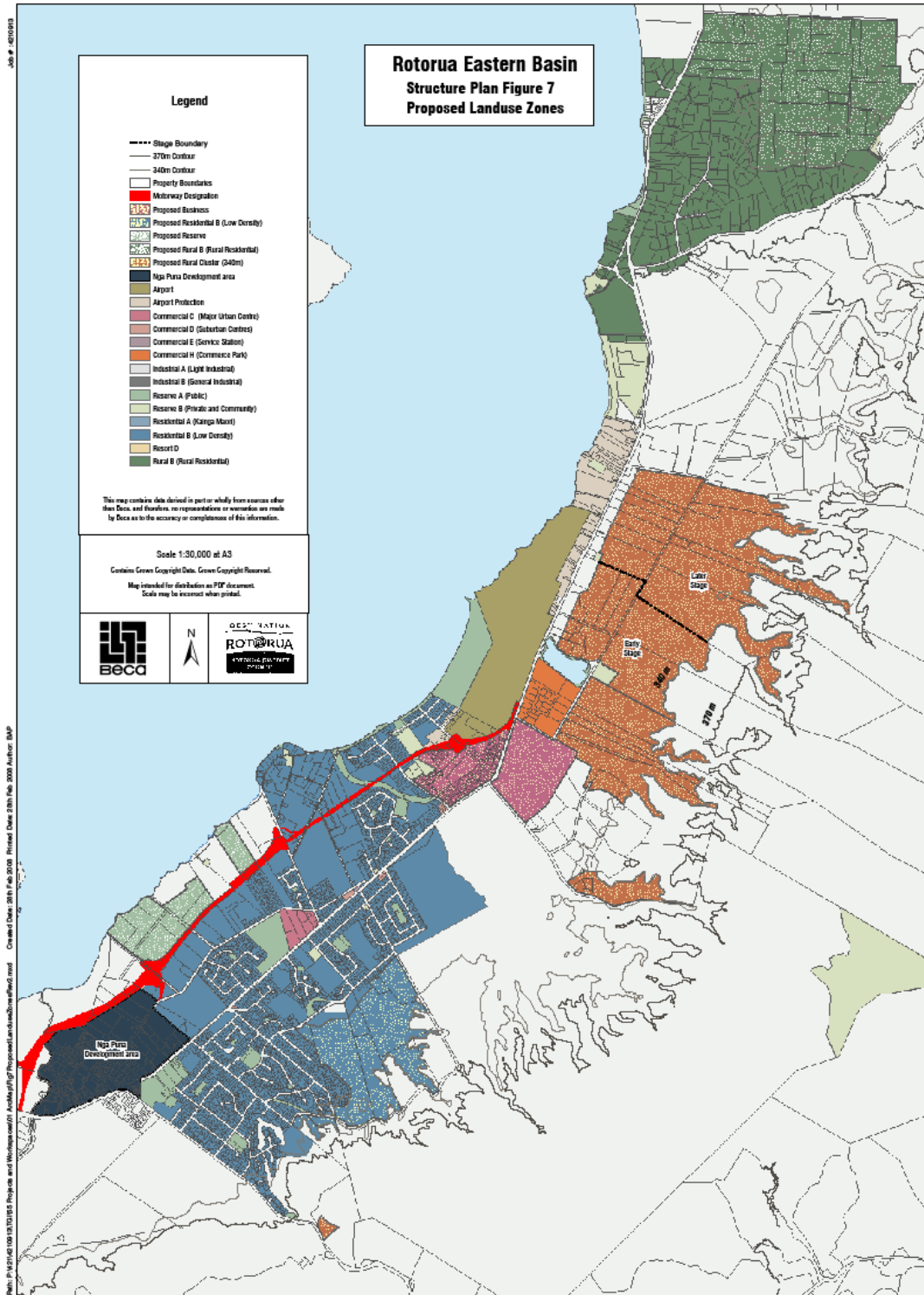
New areas of reserve zoned land are identified along the lake front and the gully systems to provide for landscape and ecological enhancement, walkways and cycleways, natural corridors linking the inland areas to the lake, improving lake water quality as well as providing for integrated stormwater management throughout the catchment. A new active reserve area of at least 10ha is not identified but is noted as a requirement to serve the increasing population in the future.

New Business zones are identified to the south of the Eastgate Business Park and to the south of the Airport bounded by Robinson Road, Te Ngae Road and the REA. New objectives, policies and rules are proposed for these Business Zones to enhance the local environment and minimise effects of reverse sensitivity as well as traffic, noise and discharge effects on the surrounding environment. The area to the south of the Airport takes in what is currently zoned as Airport Protection and provides the same degree of management with regards to Airport Noise as the current zoning.

Airport noise and noise from the State highway is also a consideration, along with mitigation of visual and traffic effects in providing a 100m wide Rural A buffer along the eastern side of the State highway from Lake Rotokawa to Cookson Road separating the proposed Rural cluster zone from the highway.

Figure 8 provides a detailed (1:10,000) illustration of the proposed Business areas to the south and east of the airport and the Rural cluster zoning at the end of Gee Road, as well as proposed reserve zoning along the lake front.

The basis for rules and objectives for the proposed Rural Cluster and Business Zones are provided in the following sections. The extension to the Rural B Zone at Brunswick and the Residential B Zone east of Basley Road as well as other infill development are provided for in accordance with the existing objectives, policies and rules of the operative Rotorua District Plan, or as they may be provided for following the forthcoming review to the District Plan.



6.2 Rural Cluster Zone

6.2.1 Rules

It is proposed that applications for subdivision in the Rural Cluster Zone are assessed as controlled activities in terms of a range of criteria including the following.

- (a) The average intensity of development shall be 1 dwelling per 3,000m² (3.3 dwellings per hectare) with minimum lot sizes of 1,000 m² and maximum lot sizes of 5,000m².
- (b) A landscape assessment shall be submitted with each application. The landscape assessment shall:
 - (i) Identify and describe the landscape characteristics of the site and any features of special landscape significance to the surrounding environment
 - (ii) Recommend any conditions necessary to mitigate adverse effects or provide positive effects on the landscape including:
 - Controls on the siting, bulk and location of buildings
 - Location and design of roading and associated services and earthworks
 - Planting of vegetation and/or landscaping on public and private lands
 - Protection of features of landscape significance or heritage
 - Location and design of fencing.
- (c) Servicing effects including provision of water and wastewater services and the treatment and disposal of stormwater. Connection to the Eastern Rotorua Sewerage Scheme. For development above the 340m contour a private water supply must be provided appropriate to the proposed use and designed to meet New Zealand Fire Service standards.
- (d) Compliance with the Rotorua Eastern Basin Structure Plan.
- (e) Building platforms shall be located on slopes of 20° or less.
- (f) Buildings shall not be located in areas subject to flood hazard and shall not be located in identified overland flow paths or ecological corridors.
- (g) Access and traffic effects
- (h) Geotechnical stability

6.2.2 Objectives

Objectives shall be formulated in relation to (but not limited to) the following:

1. Maintaining an open and natural landscape between the 340m and 370m contour line with limited intrusion of built form when viewed from Lake Rotorua and the adjacent lake front.
2. Maintaining visual, physical and ecological corridors between the caldera rim and the lake front. Visual corridors should ensure open views towards Mount Ngongotaha, Mokoia Island, Owkata marae and Hurunga marae.
3. Enhancing lake water quality by ensuring new development is provided with reticulated wastewater services.

4. Ensuring that stormwater is managed within the catchment to limit peak runoff to be no greater than pre-development peak flows.
5. Ensuring that stormwater is treated before it is discharged to Lake Rotorua by way of natural wetland enhancement.
6. Ensuring that proposed development provides for the safe, effective and efficient operation of the road network.
7. Ensuring that the area is provided with a safe and effective network of pedestrian and cycleways to supplement the roading network.
8. Ensuring that the proposed development may be built safely with limited earthworks or disturbance to the natural landform.

6.3 Business Zone

6.3.1 Rules

The proposed Business Zone is a light industrial/service zone providing for easy access to the Rotorua International Airport and a centre of employment for the eastern suburbs. It is proposed that applications for subdivision or development in the zone are assessed as controlled activities in terms of a range of criteria including (but not necessarily limited to) the following.

- (a) Residential activities shall be non-complying activities.
- (b) A minimum distance of 50m shall be maintained between any business activity and the nearest permitted residential activity.
- (c) A landscape assessment shall be submitted with each application. The landscape assessment shall:
 - (i) Identify and describe the landscape characteristics of the site and any features of special landscape significance to the surrounding environment
 - (ii) Recommend any conditions necessary to mitigate adverse effects or provide positive effects on the landscape including:
 - Controls on the siting, bulk and location of buildings
 - Controls on the colour and reflectivity of buildings
 - Location and design of roading and associated services and earthworks
 - Planting of vegetation and/or landscaping on public and private lands including the streetscape and maintaining a visual buffer to adjacent residential areas (including rural cluster development)
 - Protection of features of landscape significance or heritage
 - Connectivity to the area from the Te Ngae hub and surrounding residential areas (including rural cluster development).
- (d) Buildings shall be no higher than 12m and shall comply with the Airport height limits.
- (e) Traffic generation, access management and parking. No new access shall be provided for from Te Ngae Road and where alternative access is provided to the

internal roading network existing accesses to Te Ngae Road shall be closed off and reinstated as berm and footpath..

- (f) Provision of water and wastewater services and the collection, treatment and disposal of stormwater.
- (g) Site coverage with impermeable surfaces shall not exceed 70%
- (h) All developments shall provide for the private or communal recycling of waste materials including, but not limited to, paper, glass, plastic and metals.
- (i) Development shall be in accordance with the Airport Noise controls appropriate to the noise control boundary that they fall within.

6.3.2 Objectives

Objectives shall be formulated in relation to (but not limited to) the following:

1. Maintaining an open, landscaped streetscape.
2. Maintaining physical linkages to the Te Ngae hub and the surrounding residential areas.
3. Limiting the dominance of the built form by requiring a limit on height, a minimum distance to residential (including rural cluster) development and an enhanced streetscape.
4. Enhancing lake water quality by ensuring new development is provided with reticulated wastewater services.
5. Ensuring that stormwater is managed within the catchment by limiting the amount of impermeable surface.
6. Ensuring that stormwater is treated before it is discharged from the site.
7. Ensuring that proposed development provides for the safe, effective and efficient operation of the road network by reducing, over time, the number of accesses to Te Ngae Road.
8. Ensuring that the area is provided with a safe and effective network of pedestrian and cycleways to supplement the roading network.
9. Ensuring that the proposed development may be built safely with limited earthworks or disturbance to the natural landform.
10. Ensuring that there are opportunities for recycling waste materials.
11. Providing for the safe, efficient and effective operation of the Rotorua International Airport.

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