
**APPENDIX A NOTES FROM COMMUNITY
WORKSHOPS**

WORKSHOP – 25 AUGUST 2002

On 25 August 2002 a workshop was held to discuss the main issues that people had with regards to Transport, Parking and roads. The following issues were raised:

- Walking distances and amenity destination and origin.
- Use of the Tip-satellite parking, Erskine Falls Road.
- Needs of older people (car spaces).
- What is a level of traffic that is acceptable to the community?
- DMR Roundabout and gateway to Lorne.
- On street parking issues in narrow streets.
- Issues of large vehicles and parking.
- Audit available parking as well as demand for parking.
- Underground Mount Joy Parade and Foreshore parking.

During the workshop the following issues were discussed.

CAR TOLERANCE

1. There were two main themes:
 - a Through traffic management.
 - b Objective for traffic.
2. The main objectives with regards to peak periods include:
 - a Maintain the character of the town as an enjoyable place to walk.
 - b Be aware of the interference caused by through traffic.
3. It was noted that there are times when traffic levels are unusually high and they are on the following occasions:
 - a Pier to Pub – 1 to 2 days.
 - b New Years Eve – 2 to 3 days.
 - c Easter – 4 to 5 days.
4. A number of ideas were discussed and the following suggestions made:
 - a Protect for the non-peak.
 - b Tolerate the brief peaks.
 - c Look at various long term (5 years) and short-term solutions.
 - d Don't want more cars. If they come, where do they go?
 - e In Mountjoy Parade there could be further parking restrictions introduced, say ¼ to ½ hour between 9 am and 9 pm.
 - f At Deans Marsh Roundabout, increase width to two lanes.
5. With regards to through traffic management, a number of ideas were suggested:
 - a To have one way through traffic on special event days.
 - b Bypass Erskine Falls Road.
 - c Have prior notice to use alternative routes on the highway or Great Ocean Road on special events days.

PUBLIC TRANSPORT

The main issues and comments were:

1. Parking for buses.
 - a) Near the new Tourist Information Centre (NRE land).
 - b) Provide satellite parking outside town boundaries with shuttle buses to ferry visitors to and from town.

2. Public Transport
 - a) Within the Town and Local areas.

At present the local taxi service is not available at all times. A suggestion there could be a Demand Transport System – demand on request. May be a shuttle bus or Community Bus. At present there is one that is driven on a voluntary basis at a cost of 40 c/km and currently has one trip per month to Colac.
 - b) For through traffic
 - i) V-Line Buses
 - ii) Privately operated tourist buses
 - iii) Ferry Option (development of the Pier)

3. Facilities at bus stops should include:
 - a) All weather shelters;
 - b) Make sure that they are properly constructed; and
 - c) Include a phone service.

LOCAL PARKING AND TRAFFIC MANAGEMENT

Various issues were discussed and the some key themes were:

- 1 State Government should be tipping in to achieve the ‘big picture’ solutions being suggested.
- 2 Construct a tunnel beneath across Mountjoy Parade to access shops.
- 3 Future underground cabling, drainage in Streetscape Project should be taking into consideration.
- 4 Check out Northbridge shopping centre in Perth as an example - widen the footpath without changing the drainage – allows for more alfresco dining.
- 5 Geelong/Deans Marsh Road intersection needs major treatment. Could there be some form of overpass?
- 6 Underground parking would be most obvious and long term solutions to dealing with parking. Not visible and plenty of opportunities to expand in size – eg under foreshore or football ground.
- 7 Existing car parking on foreshore should be roofed over and landscaped on the top so it does not impinge on the view from Mountjoy Parade.
- 8 Cash in lieu from rate schemes or development contribution – money could be used to help contribute to the cost.
- 9 Parking discs/permits should be issued to residents – service support staff for the peak times to police effectively.
- 10 Investigate options for the bypassing some of the through traffic to reduce traffic on Mountjoy Parade.
- 11 Satellite car parking will only work if it is convenient and within walking distance of facilities – ‘general consensus’.

12. Any bypass could not be through the town or it would impact on the residential areas. Must be outside the town altogether.

SATELLITE CAR PARKING

There were a number of comments made with regards to this option, the main areas of concern were:

1. The success of such a scheme is dependent upon the infrastructure developed and the frequency and reliability of the shuttle bus service.
2. Public acceptance and choice.
3. How would the satellite parking regulated? Perhaps through a ticket booth system.
4. Will having satellite parking discourage people coming into town? What commercial impact would this have on businesses?
5. Effective parking enforcement also required.
6. Drop off zones for unloading purposes.
7. What type of satellite parking?
8. Some of the large sites that could be available are:
 - a. Old Tip Site
 - b. Abattoir site
 - c. Quarry site
9. Is staged parking an alternative? If so, what would be the expense and the complexity of setting this up?
10. Having a shuttle bus system takes time to adapt.
11. There will still be a problem of through traffic.
12. In regards to the new hospital:
 - a. No staff parking
 - b. Employee parking
 - c. Trial of shuttle service
13. At what times would these services run? There would be a need to regulate the service and people would not to get used to the idea.
14. Satellite Parking:
 - a. Is not the sole solution?
 - b. Could be combined with local shuttle around township.
 - c. Could be combined with other public transport operators.
 - d. Surf club.
15. What sort of State Government contributions towards the shuttle would be available, for example on Special Even Days?
16. Who would be using the satellite parking?
 - a. Day visitors
 - b. Out of town staff (over 30 at the hospital)
 - c. Conduct a survey to find out how many drive to work, car pools
17. With regards to Tourist accommodation:
 - a. Visitors parking on-street due to lack of parking on site
 - b. Long term parking for additional cars at peak periods required.
 - c. Overnight security issues to be considered.
18. Smith Street experiences bottle necks at peak parking times.
19. Limited space within the town boundaries is a major constraint.

PEDESTRIAN SPACE AND AMENITY

A number of issues were identified with regards to this topic and the main points raised were:

1. Seating
 - a There is a need for more public seating along Mountjoy Parade.
 - b The tables and chairs on the footpaths, which are associated with the cafes, causing problems with pedestrian movement along the street.
2. One-way traffic movement along Mountjoy Parade may enable the footpath to be widened.
3. Pedestrian Crossings are need at the Surf Club/Newsagent and at the Swimming Pool.
4. There is a need for pedestrian access along the sea side of Mount Joy Parade.
5. There is a need to identify designated walkways and signs to identify walkways.
6. Pedestrian access and exit paths from sites (eg Surf Club).
7. A shuttle bus to link all areas of the town.
8. Clearer signs are needed to identify parking.
9. There are no footpaths in Lorne outside Mount Joy Parade, and there are problems with the surface of existing footpaths.
10. The streetscape is crucial to pedestrians.
11. People will not walk unless it is attractive, well signed and well lit.
12. The Pier to Pub Day shuttle bus should stop at identified accommodation hubs.
13. A safety barrier is needed to protect the footpath of Erskine River Bridge.
14. May be there is a possibility of linking town walking tracks with those outside the town.

NEIGHBOURHOOD CHARACTER STUDY WORKSHOP – 6 OCTOBER 2002

PRECINCTS

Lorne was divided into 5 precincts and each group was asked four questions about what they liked, disliked, what made it different and their vision for the future.

Precinct 1

1. What features do you like the most about your neighbourhood?
 - a Uninterrupted views
 - b Proximity to the beach and sound of the ocean
 - c Peaceful quieter area of Lorne
 - d Natural vegetation
 - e Older style houses
 - i. Size of blocks
 - ii. Site coverage small
 - iii. Density – low
 - f Like the feeling of people around
 - g Like dirt roads

2. What features do you dislike about your neighbourhood?
 - a Footpath maintenance and gutters
 - b Only 1 exit from Summerhill's estate
 - c Overhead powerlines – ie new golf club development has infrastructure underground.

3. What makes your neighbourhood different from other parts of Lorne?
 - a Distance out of town a plus
 - b Proximity and ease of access to beach
 - c Precinct 1-2 separate areas, Stony Creek dividing line
 - d Quieter in peak holiday periods
 - e Low density
 - f Older than many areas. Contributes to character although not as old as the area between Lorne Pub and Pier. Historic character is different from other areas.

4. What is your vision or 'preferred character' for your neighbourhood/precinct?
 - a Maintain vegetation, replacement of like for like, common sense maintenance re fire hazards, planting guides with respect to views
 - b Water tanks for gardens
 - c Restrictions on high rise units
 - d No overhead powerlines
 - e Maintain 450 m² minimum block sizes
 - f Improve footpath and gutters
 - g Marine life restored on rocks
 - h Colours on new developments including roofs, preference for subdued colours
 - i Low site coverage

Precinct 2

1. What features do you like most about your neighbourhood?
 - a Views – over river and cypress
 - b Café next to swing bridge, the building compliments the swing bridge
 - c Natural trees and birdlife, both in public realm and private land
 - d Golf course with a natural track running through it
 - e Track extension of Staughton Avenue to dirt track
 - f Not overdeveloped
 - g Proximity to shops
 - h Not too many two storey houses or units
 - i Individual houses surrounded by reasonable amount of land/vegetation
 - j Houses not too large/obtrusive
 - k Not a lot of concrete driveways

 2. What features do you dislike about your neighbourhood?
 - a Units occupy 90% (or larger) area of site with lots of concrete
 - b High rise coverage of development
 - c Buildings stepping up the hill (they look like one large building)
 - d Concrete driveways
 - e Overdevelopment of Normanby Terrace with:
 - f Too many houses
 - g Some very ugly
 - h Loss of vegetation
 - i Large house that are squashed on blocks
 - j Houses not characteristic of the area ie boxy houses in amongst weatherboard houses
 - k Neglecting of public/crown land
 - l Planting of tall trees in new developments which block ocean views

 3. What makes your neighbourhood different from other parts of Lorne?
 - a Cemetery and golf course
 - b Lack of tall trees
 - c Views to the river/pier

 4. What is your vision or 'preferred character' for neighbourhood/precinct?
 - a Underground powerlines
 - b Better maintenance of public/crown land
 - c Be careful about overdeveloping the golf course
 - d Maintain low profile housing
 - e Sensitive pedestrian traffic management
 - f Retain open ground around buildings – maximum site coverages
 - g Limit areas of concrete
 - h Limit cutting blocks into 2 unit developments
 - i Prevent landscaping right up to the street
 - j Disperse unit developments rather than having them against one another
 - k Traffic management device at intersection of Deans Marsh Road/Great Ocean Road
 - l Buildings and development kept within the 'rules' and less exceptions
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Precinct 3

1. What features do you like most about your neighbourhood?
 - a. Trees and vegetation, the streetscapes
 - b. Houses in bush settings that blend with the bush
 - c. View of bush and the ocean
 - d. The hills
2. What features do you dislike about your neighbourhood?
 - a. Power poles and lines
 - b. Industrial estate, particularly on residential zoned land which is full of garbage
 - c. Removal of vegetation
 - d. Blocking of views
 - e. Paling fences
3. What makes your neighbourhood different from other parts of Lorne?
 - a. Road reserves are narrower and it lacks trees compared to other neighbourhoods except for Otway Street/Nature reserves
 - b. It has most of the Municipal reserves
 - c. Industrial estates
 - d. Water Board
 - e. The aspect is facing east with less slope (lower portion in particular)
4. What is your vision or 'preferred character' for neighbourhood/precinct?
 - a. Develop colour, material scale, size and density
 - b. Retain the natural vegetation with regards to the tree canopy
 - c. Street trees on road reserves – particularly on public land
 - d. Enforcement with regards to vegetation cover, a Planning Development Control
 - e. When industrial estate blocks are sold, enforcement to develop as proposed in a certain time frame and blend/screen houses with bush
 - f. Follow your own guidelines already in place
 - g. DNRE land should be put in state forest
 - h. Minimise fences, particularly paling fences
 - i. Allow and encourage wildlife movement through the neighbourhood
 - j. Preserve the ability to walk in the bush
 - k. The industrial estate needs visual improvement ie screening with vegetation, cleaning up rubbish

Precinct 4 (1)

1. What features do you like most about your neighbourhood?
 - a. The ambience – trees
 - b. Views are very important, filtered views are especially and unobstructed valued
 - c. Space
 - d. This is the oldest residential area, it is characterized by large allotments with single houses
 - e. Slopes and heights are compatible
 - f. It is in a natural setting with birds and wildlife (kangaroos too)
 - g. Air quality is a fresh smell

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- h. There are wide nature strips, there is remnant and undeveloped little nooks with mature vegetation (eg Queens Park is in Precinct 4 E, Vana Gully and the Caravan Park)
2. What features do you dislike about your neighbourhood?
- a Overhead high voltage power lines
 - b Traffic that goes too quickly along some of the streets (need speed controls)
 - c Burning off because green waste disposal is inadequate
 - d Uncontrolled high density development
 - e Some view lines have been interrupted by under tree growth, also dangerous in terms of fire risks
 - f Replication of building styles of the places where it is exposed
 - g Lorne is meant to be a place where the forest meets the sea, there has been a loss of vegetation
 - h External lighting focused up and into other houses
3. What makes your neighbourhood different from other parts of Lorne?
- a Building lots are bigger (oldest)
 - b They are north facing, very temperate and sheltered from the south wind
 - c There are a variety of buildings including some historic buildings
 - d Roadside, gullies and vegetation including well kept tree ridge lines
 - e It is peaceful except for the summer upheaval
 - f Very old blue gums and messmate
4. What is your vision or 'preferred character' for neighbourhood/precinct?
- a Retain and maintain vegetation especially in underdeveloped and remnant land and in the green rim of ridges
 - b Stop uncontrolled development of high density units replacing single houses.
 - c Insist on external lighting to be part of a planning submission
 - d Development should be compatible with Lorne's gazettal as a place of natural beauty and significance
 - e Site coverage, such as hard surfaces, should be controlled so that vegetation is not wiped out. No permission for house and driveways to cover the whole site.
 - f Replanting and maintenance of trees.
 - g Trim down the long grass on vacant blocks
 - h Views of neighbours should be respected, avoid unsympathetic back planting.

Precinct 4 (2)

1. What features do you like most about your neighbourhood?
- a Pier
 - b Trees
 - c Teddy's lookout, Queens Park, ocean, close to shops yet far enough away
 - d Slopes and steep slopes, view of the hills and view of the ocean
 - e Quietness, wildlife (natural), proximity to services
 - f Streetscape-less channel and kerb
 - g Less commercial level

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2. What features do you dislike about your neighbourhood?
 - a Telecom tower/mobile phone towers
 - b Noisy hotel and unruly behaviour
 - c Power lines
 - d Lack of infrastructure to certain areas especially to multi acre blocks
 - e Lack of street furniture
 - f Large expanse of driveways

3. What makes your neighbourhood different from other parts of Lorne?
 - a The quietness
 - b The extensive tree cover
 - c The trees that come down to the ocean
 - d The large blocks
 - e Fewer units
 - f The nice people

4. What is your vision or 'preferred character' for neighbourhood/precinct?
 - a Prefer housing to be screened
 - b Underground power
 - c Retention of Queen's Park, Varna Gully
 - d Houses not unit developments
 - e Maintain the tree cover but have flexibility for building and tree replacing, concessions for keeping trees to be encouraged
 - f Appropriate scale of houses so not to cover all the site with buildings
 - g Houses with low visual impact
 - h Building height restrictions to maintain views and privacy
 - i Balance of site characteristics with building
 - j Design generally subdued colours
 - k Encourage off street parking
 - l Don't want a limit on materials used, variety is important and a variety of design
 - m Colour of concrete to match the road and soften
 - n Weed control
 - o Preference for native vegetation
 - p No need for fencing

**APPENDIX B SPECIAL INVESTIGATION
AREA REPORTS**

SPECIAL INVESTIGATION AREA No 1

ADDRESS. Deans Marsh Road

EXISTING CONDITIONS

Area: Approximately 143 hectares

No. of lots: 15

Slope: Flat to very steep

Infrastructure available: Electricity, Phone

Current use and development: Parcels 1, 3, 4 and 8 to 12 have dwellings constructed on each parcel. Parcel 2 is vacant. Parcels 5, 6 and 7 contain tourism accommodation in the form of cabins. The northern portion of this area contains three parcels upon which two dwellings are constructed.

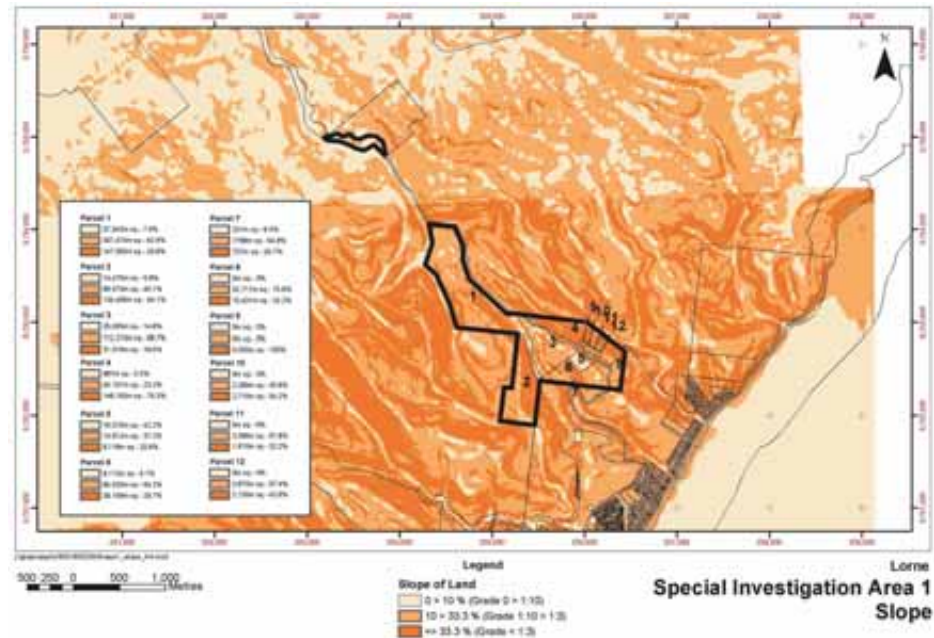
PLANNING CONTROLS

Zone: Environmental Rural Zone

Overlays: Significant Landscape Overlay Schedule 1
Wildfire Management Overlay



APPENDIX B SPECIAL INVESTIGATION AREA REPORTS



Relationship to Lorne and adjoining land uses:

This area is located approximately 1 kilometre north east of town and is effectively surrounded by Crown Land, mainly the Angahook-Lorne State Park. Adjoining properties to the south are used for Bed and Breakfast accommodation. This area is isolated from the existing urban fringe of the Lorne township, particularly the northern parcels.

Discussion:

The *Lorne Strategy Plan* 1991 recommended that further development in the Deans Marsh Road area be restricted to restructuring of existing tenements. It argued that small holdings and fragmented development be discouraged because it creates a fire risk away from the main fire fighting resources of the township. It considered that the land capability for residential development was relatively poor because of visual encroachment on the ridge lines, loss of vegetation cover and the consequent impact on soil stability and the impact on landscape and scenic qualities. The current level of development of Area 1 largely reflects that envisaged in the *Lorne Strategy Plan* 1991.

The Planning Panel and Advisory Committee (Panel) considering the new format Surf Coast Planning Scheme in October 1999 reviewed the future of parcel 3 in this Special Investigation Area, known as 1850 Deans Marsh Road. The land was exhibited in the proposed Planning Scheme as 'Potential Low Density Residential' on the Lorne Framework Plan. The Panel supported Council's recommendation to identify the land (parcel 3) as having some potential for low density residential or tourist accommodation subject to further investigation and to delete its nomination for low density residential development.

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All of the southern parcels in this area (1 to 14) have been identified as being within a site of biodiversity significance (Ecology Australia 2000). Apart from areas already developed for residential purposes, the land has extensive coverage of indigenous vegetation. It is appropriate that the Significant Landscape Overlay continue to apply to this area.

The area contains two ridges and very steep slopes in parts. Only 7% of the site is relatively flat and 53% of the land has a slope less than 1:3 (Figure 6.3). The locations where further development including access roads could be constructed without further vegetation loss and extensive excavation would be limited. The lack of an alternative access other than the Deans Marsh Road also limits potential for further development.

Fire risk in this location is considered to be high, and further development would heighten the potential fire risk due to increasing density of localised population and limited alternative access arrangements being available. It is appropriate that the Wildfire Management Overlay continue to apply to this area.

Reticulated hydraulic infrastructure (water, sewerage and drainage) is not available to the area. Barwon Water advises that it would be possible to service this area with water, however, at considerable cost. This area would require its own pump and tank system and pipeline to connect to the existing water reticulation system.

This area is 500 metres uphill of the sewerage treatment plant, therefore, sewage could drain directly to the facility. There would be significant environmental considerations related to construction of a pipeline because of existing dense vegetation along the route. As an alternative, this area may need to continue to be self sufficient with respect to water supply (potable and fire fighting), and on site sewerage and stormwater disposal.

Deans Marsh Road is an all-weather sealed main road, it is unlikely that the further development of the area would give rise to any significant traffic constraints in terms of access and egress.

Residential development or accommodation in this location would result in the formulation of an isolated enclave. It would promote scattered development outside of the town boundary in a ribbon along Deans Marsh Road. This is inconsistent with the Shire's policies for settlement in the municipality. Further development would require removal of significant vegetation and has the potential to impact on the surrounding State Park through introduction of weeds and domestic fauna.

The northernmost part of this area was not identified in the *Lorne Strategy Plan* 1991 as part of the Special Investigation Area. It comprises three allotments and has been developed with two dwellings. These lots are more isolated from the township and also from the balance of Area 1. Given its proximity to State Park, there is no compelling reason to consider this area for further residential development other than in accordance with the Environmental Rural Zone.

There have been no changes in circumstances since the adoption of the *Lorne Strategy Plan* 1991 that would justify a change to the current development controls for this area or promotion of further development for residential, rural residential or tourist accommodation beyond what is permitted in the Environmental Rural Zone

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

particularly in view of the fact that development outcomes are likely to result in significant vegetation removal and increased fire risk.

Recommendation:

That the current planning controls remain unchanged for this area. No further development should be encouraged in this location, particularly on the northern lot further remote from the Lorne township beyond that permitted under the Environmental Rural Zone.

SPECIAL INVESTIGATION AREA No 2

ADDRESS. Summer Hills Avenue west of Skyline Court

EXISTING CONDITIONS

Area: 19,596 square metres

No. of lots: 1

Slope: Moderate to steep

Infrastructure available: Electricity, Telephone, Water, Sewer

Current use and development: Vacant

PLANNING CONTROLS

Zone: Residential 1

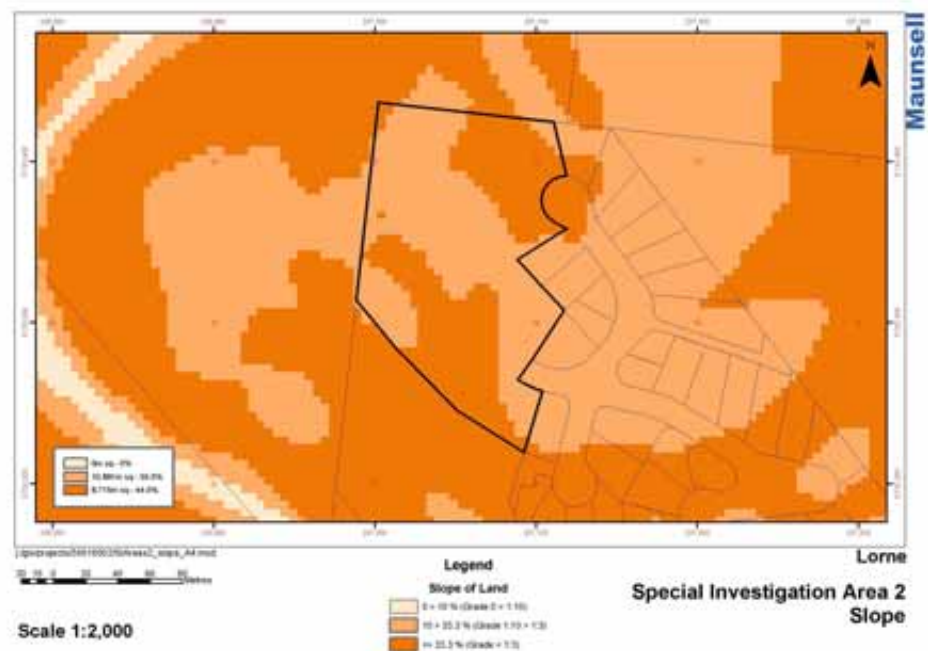
Overlays: Significant Landscape Overlay 1

Relationship to Lorne and adjoining land uses:

The land is located at the north west end of Summer Hills Avenue in North Lorne. The site has direct access to Summer Hills Avenue and Skyline Court on the periphery of the existing urban area of north Lorne. All roads in the immediate area are sealed with kerb and channel. Dwellings have progressively been constructed on Skyline Court and Summer Hills Avenue.



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Discussion:

This area was not identified in the *Lorne Strategy Plan* 1991 as a Special Investigation Area.

The area was not considered by the Panel for the new format planning scheme. Surf Coast Shire included this land within a Residential 1 Zone within the town boundary and nominated it as a Special Investigation Area on the Lorne Framework Plan in the adopted Lorne Strategy (Clause 21.11) in the Lorne Planning Scheme.

While the land to the east and south has been subdivided into 500 m² to 1,400 m² lots, a number of which in the immediate vicinity of the subject land on Summer Hills Avenue are vacant.

This area is located on the edge of existing urban development and adjoins the Angahook-Lorne State Park. It is partly covered with remnant vegetation and partly cleared. It has not been identified as forming part of the biodiversity significance (Ecology Australia 2000) site that extends north to include Reedy Creek. Further development of this area could be achieved within minimal vegetation loss on those areas already disturbed. It is appropriate that the Significant Landscape Overlay continue to apply to this area.

The predominant slope of the area is to the north, which effectively eliminates most ocean views, except for those down the Stony Creek valley. Analysis of slope indicates that areas appropriate for development are also those that have limited existing vegetation cover.

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Careful siting of development in this area will be needed to minimise fire risk. An alternative fire access link may need to be provided from Skyline Court to optimise accessibility.

This area has the ability to be serviced by extension of existing reticulation networks for all urban infrastructure.

Access to the land is restricted to Summer Hills Avenue, which is very steep and winding and provides only the one point of access/egress. Development of this area should consider the need to connect to Skyline Court.

This area has the potential for future residential development at low density. Development should be restricted to defined building envelopes within existing cleared areas. It is anticipated that this area could accommodate in the order of 4 to 6 single dwelling lots and the size of the lots should be defined to optimise vegetation retention and be located on land with lower slope and greater development stability.

Development of this area would provide a small extension to the existing residential area of north Lorne and it is capable of being serviced. Development must be responsive to the site conditions to minimise environmental impact including vegetation removal and visual impact. This area is within the existing boundary of the township as defined on the Lorne Foreshore Plan in the Lorne Strategy in the Surf Coast Planning Scheme. It is also consistent with policies for settlement within existing town boundaries expressed by Surf Coast Shire in the Planning Scheme.

Recommendation:

This area has potential for limited residential development for approximately 4 to 6 single dwelling lots. Lots and building envelopes should be defined to respond to site conditions and optimise vegetation retention and minimise visual impact. Building envelopes should be restricted to existing areas of cleared land. Reticulated services should be provided to each lot.

SPECIAL INVESTIGATION AREA No 3

ADDRESS. North West of Muir and Duncan Streets

EXISTING CONDITIONS

Area: 58,000 square metres

No. of lots: 2

Slope: Moderate to steep

Infrastructure available: Electricity, Telephone, Water, Sewer

Current use and development: Part residential otherwise vacant.

PLANNING CONTROLS

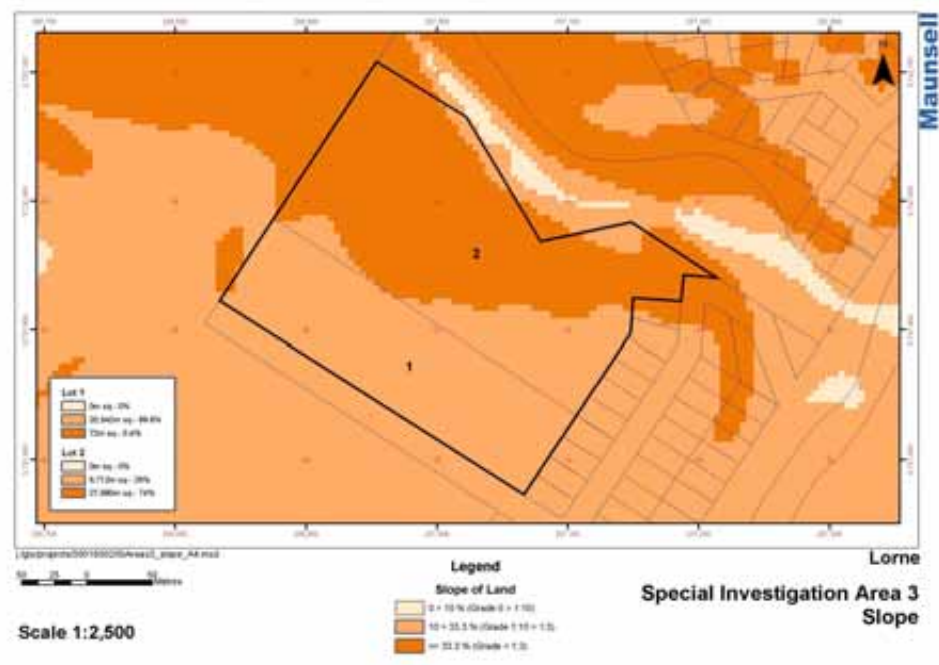
Zone: Environmental Rural Zone

Overlays: Significant Landscape Overlay Schedule 1

Wildfire Management Overlay



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Discussion:

The *Lorne Strategy Plan 1991* identified the land immediately to the south west of this site as a potential future residential area, but suitable only for low density development (1:2,500 m²). That land is in public ownership and the strategy recognised that it would need to be alienated. This area was also considered at the time of the *Lorne Strategy Plan 1991* and was not identified as being suitable for further development due to its vegetation cover and potential prominence when viewed from the Great Ocean Road and from distant viewing points such as Point Grey and the Pier. It was not included in a Special Investigation Area in the *Lorne Strategy Plan 1991*.

Parcel 1 in this area, was initially exhibited in the new format planning scheme in the Environmental Rural Zone with a designation on the proposed Lorne Framework Plan as 'Potential Future Residential – varying densities subject to further investigation'. The landowners supported this designation but requested that the zoning be Residential 1. At that time, Council did not support the rezoning of the land to Residential 1. It was noted that the parcel was only identified as future residential subject to further investigations, particularly with regard to slope, vegetation, drainage and visibility. This approach appears to have arisen in response to recommendations from the *Lorne Environs Review Study* undertaken in 1993 by USE Consultants for the Council. It was acknowledged in the Panel Report that this study was never adopted by Council.

The Panel supported Council applying the Environmental Rural Zone designating the land as future residential on the Framework Plan. The adopted Planning Scheme nominated this area as being within a Special Investigation Area.

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

There is no clear justification evident in the Panel Report for the inclusion of this area as Potential Future Residential, given the initial recommendations of the *Lorne Strategy Plan 1991*.

The site has a partially cleared area in the south east corner but otherwise is heavily timbered. It has a significant coverage of remnant indigenous vegetation. It is appropriate that the Significant Landscape Overlay continue to apply to this area.

Just over 48% of the site has a slope of 1:3 or greater and the remainder (52%) of the land has a slope less than 1:3.

The Environmental Rural Zone has a minimum subdivision area of 60 hectares which effectively prevents further subdivision of the land. Having regard to the slope of the site and the extent of vegetation cover, further residential development is likely to require extensive vegetation removal and excavation to provide for access roads services and house lots.

This area could be serviced by extension of the existing reticulation network from Duncan or Muir Streets.

Access to this area could be provided from Duncan street or alternatively from Muir Street.

Muir Street provides a linear edge to the urban development along the Great Ocean Road and reflects subdivision that has occurred in a distinct pattern that runs parallel to the coastline. Further development to the north would significantly open up this hillside and alter urban development rhythm of this area. It would also result in significant alteration to the natural landscaped setting, which is one of the valued assets of Lorne. Development on this area would also be quite visible when viewed from the Great Ocean Road, from the beach at North Lorne and also long distant views as identified above.

Further residential development or tourist accommodation in this location would result in heightened fire risk as effectively it would be putting residences into a heavily treed area. It is considered that significant remnant vegetation is likely to be compromised to achieve development that would adequately meet siting, buffer and access performance objectives of the Wildfire Management Overlay. This overlay remains appropriate for application to this area.

Development of this area offers no significant benefits to the township that would justify a change from the original considerations of the *Lorne Strategy Plan 1991*.

Recommendation:

That the existing zone and overlay provisions be retained on this land and no further intensive residential or tourist development be supported.

SPECIAL INVESTIGATION AREA No 4

ADDRESS. Former Quarry Site

EXISTING CONDITIONS

Area: 0.79 hectares

No. of lots: 1

Slope: Relatively flat to steep slopes

Infrastructure available: Electricity, Telephone, Water and sewer could be provided

Current use and development: Vacant

PLANNING CONTROLS

Zone: Public Conservation and Resource Zone

Overlays: Wildfire Management Overlay

Relationship to Lorne and adjoining land uses:

The former quarry site is located on the north side of the Erskine River, at the western edge of residential development along the Erskine River and Lascelles Avenue. Access to the site is by a narrow dirt track that follows the north bank of the river to the quarry. This access track is not a declared road.



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Discussion:

This land is Crown land owned and managed by the DSE.

The *Lorne Strategy Plan* 1991 recommended that when the quarry license expires, the land be incorporated into the Erskine River Valley Park. It recommended that the (then) Department of Conservation and Environment investigate the passive recreation potential of the site and formulate a strategy for its future use. Given the isolated location of this land, it was not considered suitable for commercial or residential development.

This area was not considered by the Panel in relation to the new format Planning Scheme. This area is currently not identified in the adopted Surf Coast Planning Scheme as a Special Investigation Area.

The site has been disused for a number of years and is in a state of disrepair. The quarry face has not been stabilised and there is some evidence of small rock falls. An investigation of the stabilisation required for this area needs to be undertaken by a qualified geotechnical engineer, and it is recommended that this be undertaken as part of the assessment of its recreational potential or any proposals for development for alternative activities. It is beyond the scope of this strategy review to undertake this assessment.

The areas above the quarry face have a significant vegetation cover that has not been disturbed and this should be retained in any future use or development of the site. Any development of this public land should aim to achieve the principles of net gain.

This site is isolated from the established residential areas of the town, and historically was developed as a 'one off' use. It has no land use relationship with

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

residential development to the east and has been a use that contrasted significantly with the surrounding forested land that forms the hinterland to the Erskine River Valley Park.

The site is currently unserviced, however, it would be possible to connect it to the existing urban services reticulation network from either Erskine Road or Lascelles Road.

Erskine Avenue is an unmade track providing access to the site. This track is not a declared road, rather is forms part of Crown land along the northern side of the Erskine River that is managed by the Lorne Foreshore Committee.

The site has been considered for use as a car park and community based facilities by Surf Coast Shire and is supported in principle by the Lorne Foreshore Committee. No details of any specific use or development have been provided to the project team for assessment by the Shire. As a concept, the development of this site for satellite car parking in terms of transport objectives is considered in Chapter 8 of this report.

In order to accommodate such development, access to the site would need to be opened up and formally declared, and significant works would need to be undertaken on the site to form an appropriate car park area. This has the potential to significantly change the river environs in this location and impact upon its amenity significant scenic and recreation values. Such development would no doubt require vegetation removal along the access road and within the site. It also has the potential to introduce opportunities for weed infestation and domestic fauna from surrounding residential development that could impact on the flora and fauna of the river and parkland environs.

Other potential issues likely to be associated with development of a car park could include:

- § Noise impacts on the river environs and for residential properties along Erskine Avenue
- § Visual impacts for the river environs
- § Management of stormwater runoff and erosion management
- § Impact on water quality in Erskine River
- § Fire risk associated with location of a remote parking area surrounded by heavily vegetated Crown land and with only one access point.

Surf Coast Shire will require an easement access or carriageway rights to achieve public access to the Quarry site. Council will seek DSE's consent to transfer it to Council as a road reserve or declare it a public road.

The potential impacts of any 'community based facilities' would need to be considered on its merits and within the context of the Public Conservation and Recreation Zoning of this public land.

Unless a development proposal can clearly demonstrate a sustainable development outcome in terms of environmental objectives, there is no overriding community benefit that warrants a change from the original recommendations of the *Lorne Strategy Plan* 1991. On this basis, the inclusion of this area into the Erskine River Valley Park remains a valid outcome to pursue and would have a positive environmental and community benefit. If this area is considered to provide a significant community benefit and transport solution for car parking, then any

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

development proposal for such a use must undergo a comprehensive environmental impact assessment and community consultation process and demonstrate that it will have sustainable development outcomes.

Recommendation:

Retain existing zoning and rehabilitate and incorporate into the Erskine River Valley Park for passive recreation as a preferred outcome. Alternatively, if this area is considered for use and development as a car park and community based facilities, then it must have a net community benefit and demonstrate that sustainable environmental outcomes can be achieved with minimal environmental impacts.

SPECIAL INVESTIGATION AREA No 5

ADDRESS. North west of Gardiner and Heath Streets

EXISTING CONDITIONS

Area: 9.55 hectares

No. of lots: 1

Slope: Flat to steep

Infrastructure available: Electricity, Telephone

Current use and development: Vacant

PLANNING CONTROLS

Zone: Environmental Rural Zone

Overlays: Significant Landscape Overlay

Wildfire Management Overlay

Relationship to Lorne and adjoining land uses:

This area is located at the north west side of Heath Street and west of Gardiner Avenue in Lorne. Access to the location is via Richardson Boulevard and Polwarth Road. Richardson Boulevard is a narrow and winding residential street. The land also has access from the north west corner.



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Discussion:

The *Lorne Strategy Plan* 1991 (Preferred Residential Development Strategy) identified the land as a potential future residential area, suitable for development at varying densities subject to further investigation. The strategy recommended varying a range of development densities to reflect the slope and vegetation characteristics of the land. The area between Heath Street and the Erskine River was identified as being particularly sensitive in terms of landscape impact, access and fire hazard.

The land was exhibited as in the proposed new format planning scheme as existing 'Forest Residential' on the Lorne Framework Plan. There have been two previous amendment requests to rezone land west of Toorak Terrace (adjoining property and same landowner) for more intense residential purposes, with the initial request including this portion of land. The landowners informed the Panel that they intended to apply for an amendment to the new format Planning Scheme to permit subdivision of the land in accordance with the recommendations of the Panel appointed to hear L9 (the first amendment request involving the subject land). The recommendation of the L9 Panel was that limited subdivision be permitted on the western frontage of Heath Street so as to finally terminate the existing pattern of residential development in this area (with allotments no smaller than 1000sqm). The plan attached to the recommendation showed a strip of land 40 metres deep by 150 metres wide along the west side of Heath Street.

In its submission to the Panel, the Council proposed to delete reference in the Lorne Strategy text to land west of Heath Street as having some potential for further residential development. The Panel notes that no strategic reason was given in Council's assessment for this recommendation, and therefore rejected Council's recommendation. The Panel instead recommended that Council amend the Lorne Framework Plan to show land west of Heath Street as 'Future Residential' to reflect the recommendations of the *Lorne Strategy Plan* 1991.

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

Council did not agree to amend the Lorne Framework Plan to show land west of Heath Street as 'Future Residential'. This was primarily because the appropriate investigations had not been undertaken to determine whether the land was suitable for further residential development. It was considered inappropriate to raise the expectations of the landowner in this regard. For this reason the land was designated as a 'Special Investigation Area' only.

The site is heavily timbered with a fire access road that is an extension of Heath Street. Development of this area would require removal of significant areas of remnant ingenious vegetation. It is appropriate that the Significant Landscape Overlay continue to apply to this area.

Just over 11% of the site is relatively flat, 34% of the site has a slope of 1:3 or greater and the remainder (55%) of the land has a slope less than 1:3, (refer Figure 6.10).

Development of this area is likely to pose a significant fire risk as accessibility to this area is very restricted. The potential measures for fire management would result in significant clearing of this area to safely accommodate development. The trade off to achieve this small increase in residential development is not warranted. It is appropriate that the Wildfire Management Overlay continue to apply to this area.

This area could be accessed by extension of Heath Street and it is capable of being serviced by extension of the existing reticulation network from the adjacent urban area.

This area is located on the fringe of Lorne and its development for residential or tourist accommodation purposes would extend the urban area at the expense of significant vegetation loss. Given the change in policy context since the *Lorne Strategy Plan* 1991 and greater emphasis now being placed on vegetation retention, management of fire risk, reducing impacts on waterways and ensuring that urban development does not encroach onto sensitive environmental areas, the potential residential development of this area is no longer supported. The need for residential development or tourist accommodation to be provided in this fringe location is not compelling, given the resultant environmental impact that potentially will occur.

Given the size of the land, the provisions of the Environmental Rural Zone effectively prevent further development of the land for residential purposes. This is considered appropriate. Increasing the intensity of development for tourist accommodation is not considered appropriate having regard to the potential environmental impacts that would result.

Recommendation:

That the current zoning be retained and that further intensive development for residential or tourist accommodation purposes is not supported.

SPECIAL INVESTIGATION AREA No 6

ADDRESS. Erskine Falls Road, west of Polwarth Road

EXISTING CONDITIONS

Area: 1.2 hectares

No. of lots: 1

Slope: Relatively flat to steep

Infrastructure available: Electricity, Telephone, Water, Sewerage

Current use and development: Vacant

PLANNING CONTROLS

Zone: Environmental Rural Zone

Overlays: Significant Landscape Overlay Schedule 1

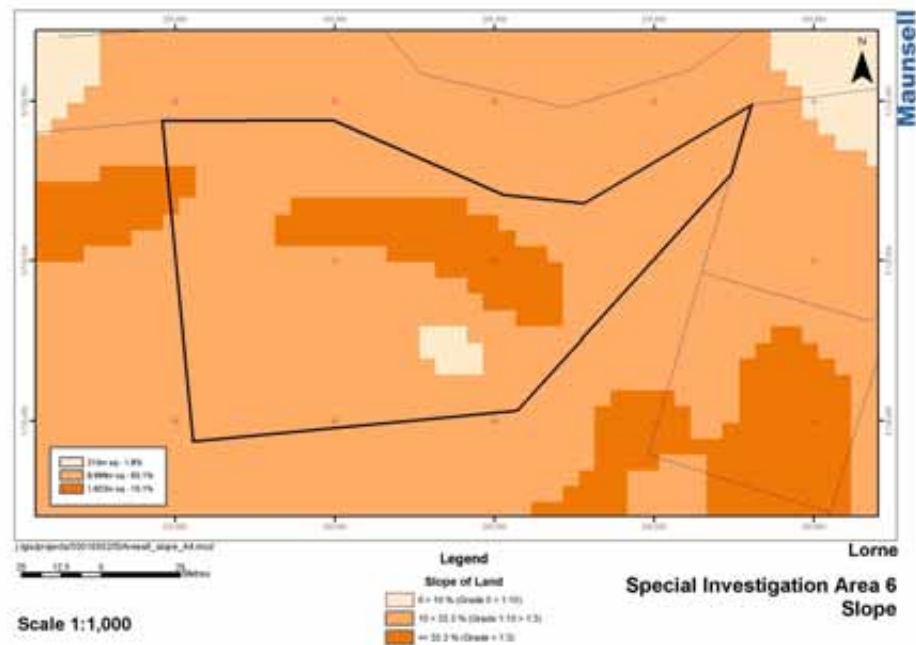
Wildfire Management Overlay

Relationship to Lorne and adjoining land uses:

The site is located at the south side of the Erskine Falls Road and west of Polwarth Road in Lorne. Erskine Falls Road is a sealed secondary road. The land to the south and west is in public ownership and within a Public Conservation and Resource Zone and the land on the opposite side of Erskine Falls Road, immediately to the north, is in an Industrial 3 Zone. To the east the land is zoned Residential 1 and extensively developed with dwellings.



APPENDIX B SPECIAL INVESTIGATION AREA REPORTS



Discussion:

The *Lorne Strategy Plan 1991* (Preferred Residential Development Strategy) recommended that further development of the land be restricted to restructuring existing tenements.

In the proposed new format planning scheme, this area was nominated as 'Potential Future Residential' on the Lorne Framework Plan and zoned Environmental Rural. Landowners opposed the application of the zone given its potential as an extension of the existing urban area. Council recommended that the zone be retained pending further investigation into the suitability of the land for more intense residential development. The Panel supported this position. In the adopted planning scheme, the land was included in the Environmental Rural Zone and identified as a Special Investigation Area.

The site is currently lightly timbered with most of the central part of the parcel cleared. It is appropriate that the Significant Landscape Overlay continue to apply to this area.

Approximately 2% of the site is relatively flat, 15% of the site has a slope of 1:3 or greater and the remainder (83%) of the land has a slope less than 1:3.

The site is fully serviced by existing reticulated networks.

Taking into account the partially cleared nature of this area, its high level of accessibility from Erskine Falls Road and ability to draw on reticulated water, it is likely that development of this site can achieve the siting standards of the Wildfire Management Overlay and not result in any significant increase in fire hazard. It is appropriate that the Wildfire Management Overlay continue to apply to this area.

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

The site has direct access off Erskine Falls Road. Traffic likely to be generated from any further development would have no significant impact upon the operation of the road.

Given the size of the land the provisions of the Environmental Rural Zone effectively prevent further subdivision and development of the land. Having regard to the location of the land, the availability of reticulated services, the relatively gentle slope of the site, the extensive cleared areas and the juxtaposition of a mix of existing uses, there is potential for further development. The relationship of this site to established residential areas and the extensive clearing that has occurred, changes the considerations for development of this site compared to the assessment in *Lorne Strategy Plan* 1991. The suitability of this land for development was not considered on its merits at the time that the new format planning scheme was prepared and introduced.

The site has potential for residential development.. The area is within the township boundary nominated in the Lorne Framework Plan in the Planning Scheme and the initial *Lorne Strategy Plan* 1991. The development of this site for residential or tourist accommodation purposes is also consistent with the strategic settlement policies of the Shire for towns in the municipality that aim to encourage development within boundaries.

Recommendation:

Rezone the area to Residential 1. Retain existing overlay provisions for this area. .

SPECIAL INVESTIGATION AREA No 7

ADDRESS. West of Fletcher Street

EXISTING CONDITIONS

Area: 8.06 hectares

No. of lots: 9 (see Table 6.2)

Slope: Moderate to steep

Infrastructure available: Electricity, Telephone

Current use and development: Residential

PLANNING CONTROLS

Zone: Environmental Rural Zone

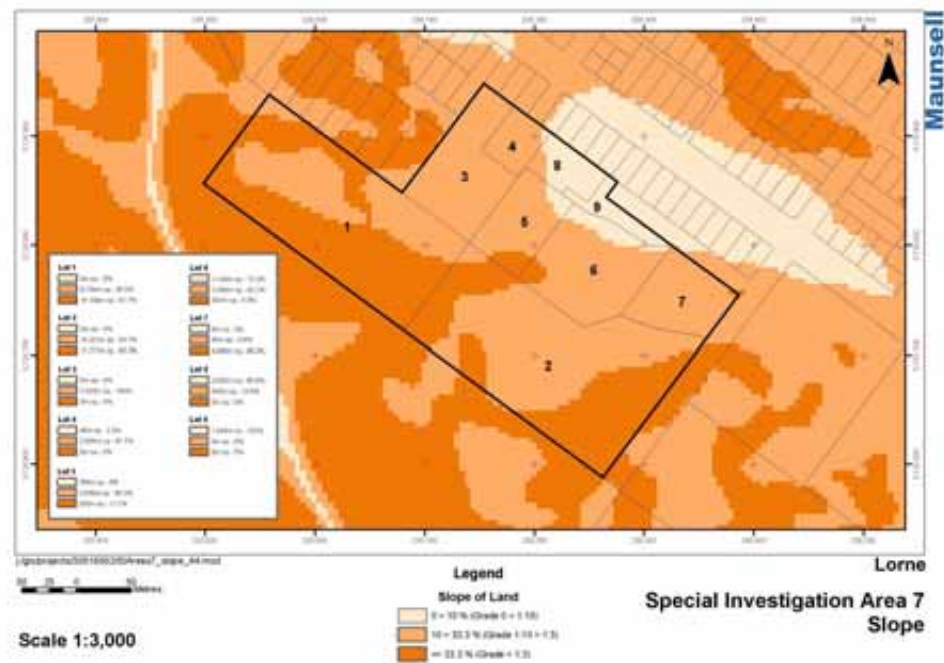
Overlays: Significant Landscape Overlay

Wildfire Management Overlay

Relationship to Lorne and adjoining land uses: The site is located at west side of George Street between Seymour and Albert Streets in South Lorne. Access is via Raymond Street, Albert Street or Fletcher Street. Other than those parcels with direct access to Fletcher and Raymond Streets and Albert Street, just east of George Street access to the site is difficult. With the exception of lots 1 each of the parcels contains a dwelling. Lot 9 is a road.



APPENDIX B SPECIAL INVESTIGATION AREA REPORTS



Discussion:

The *Lorne Strategy Plan 1991* (Preferred Residential Development Strategy) identified the land as a potential future residential area, suitable for development at very low density (1:8,000 m²) densities. The Strategy recommended detailed investigation prior to any rezoning of the land and that the rezoned land should be included in a special residential zone:

- § which was similar to the Residential A zone with a limited range of residential uses subject to a permit;
- § where subdivision should require a permit and be in accordance with an outline development plan with a specified minimum lot size; and
- § where plot ratios, setbacks, and a two story building height should be specified for each area.

Parcel no 2 was the subject of consideration by the Panel in relation to the new format Planning Scheme. This parcel was exhibited as 'Potential Future Residential' on the Lorne Framework Plan and zoned Environmental Rural. Landowners opposed the application of the Environmental Rural Zone and requested that the land be zoned Residential 1. Council did not support rezoning the land to Residential 1. It was noted that the site was only identified as future residential subject to further investigations, particularly with regard to slope, vegetation, drainage and visibility.

The Panel supported Council applying the Environmental Rural Zone as a holding zone pending the outcome of further investigations. The Panel also supported Council designating the land as 'Future Residential' on the Lorne Framework Plan. The land was zoned accordingly and identified as a Special Investigation Area on the Lorne Framework Plan.

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

The current level of development largely reflects that envisaged in the *Lorne Strategy Plan 1991*.

The site is heavily timbered with limited access. It has a significant coverage of remnant indigenous vegetation across the area. It is appropriate for the Significant Landscape Overlay to apply to this area.

The area contains two ridges and very steep slopes in parts. Just over 6% of the site is relatively flat, approximately 40% of the site has a slope of 1:3 or greater and the remainder (54%) of the land has a slope less than 1:3. There are limited locations where a dwelling and access road can be constructed and these are already largely occupied by dwelling.

This area poses potential difficulties in terms of provision of appropriate access to meet fire management objectives, and it is likely that such access would require significant vegetation removal. This trade off to achieve a small extension to the urban area is not considered warranted. It is appropriate that the Wildfire Management Overlay continue to apply to this area.

The area adjoins the urban area of Lorne. The more moderate slopes are located on north east or George Street side of the land which also provides the closest connection to existing infrastructure. Under these circumstances there is little or no potential for further development of the land without significant impact on the vegetation and landform. The extension of residential development in this area would be at the expense of loss of vegetation, and significant alteration to the natural edge formed by this area to the township. Although this area is within the town boundary nominated on the Lorne Framework Plan and would be consistent with general settlement policies of the Shire for townships, it is considered that the environmental impacts outweigh the benefits of further development in this area.

Development of this land is also likely to be visible from the St George River environs. The extension of urban development in this location would result in further encroachment into an area that currently has quite a natural appearance along the river valley.

Given the change in policy context that has occurred since the *Lorne Strategy Plan 1991*, there is no compelling reason to allow further residential or tourist development on this land given the potential environmental impacts and heightened fire risk that might result.

Recommendation:

Retain existing zoning and overlays. Further residential or tourist development is not supported in the area.

SPECIAL INVESTIGATION AREA No 8

ADDRESS. Allenvale

EXISTING CONDITIONS

Area: 59.49 hectares

No. of lots: 6

Slope: Relatively flat to moderate

Infrastructure available: Electricity, Telephone

Current use and development: Tourist establishment

PLANNING CONTROLS

Zone: Environmental Rural Zone

Overlays: Significant Landscape Overlay

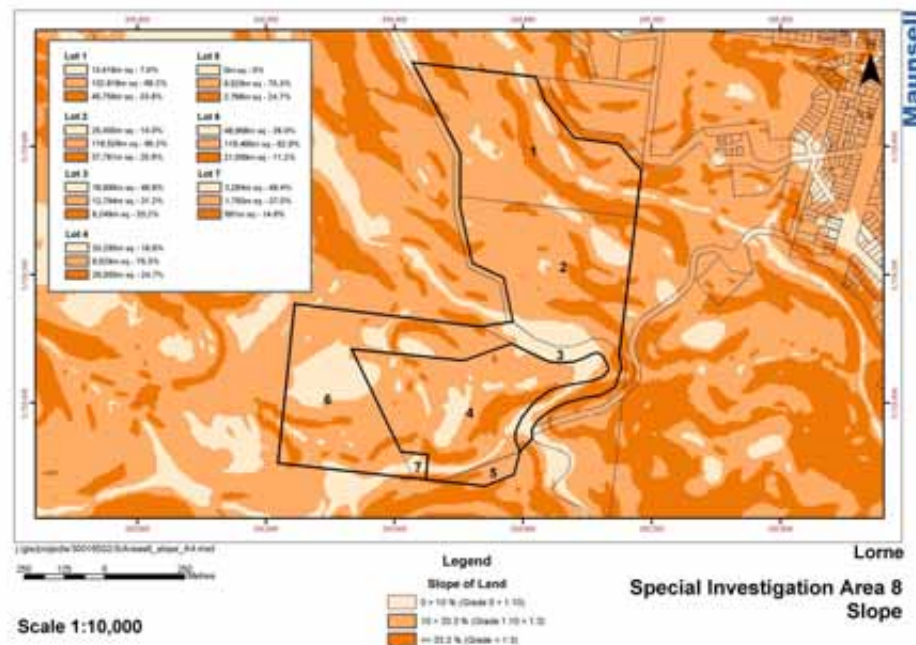
Wildfire Management Overlay

Relationship to Lorne and adjoining land uses:

The site is located in the Lorne hinterland approximately one kilometre south west of the township. The St. George River forms part of the boundary of the area. Access to the area is by the Allenvale Road that is a wide, unsealed road.



APPENDIX B SPECIAL INVESTIGATION AREA REPORTS



Discussion:

The *Lorne Strategy Plan 1991* (Preferred Residential Development Strategy) identified the land as where further development outside the township should be restricted through the restructuring of existing tenements. The strategy did not support further subdivision of land in the hinterland of the township for low density residential or rural residential purposes. The strategy discouraged the fragmentation of existing holdings because of the potentially high fire risk created by small pockets of populated areas surrounded by forest. In addition the strategy identified that the land capability of the outlying areas was considered poor for low density residential development. These conditions still prevail today.

The *Lorne Environs Review* prepared for the Shire by USE Consultants Pty Ltd in 1993 identified this area as having some potential for rural residential development, assisting to satisfy an apparent demand in the hinterland of Lorne. This report was not formally adopted by Council.

In the new format planning scheme, parcels 2,4, 6 and 7 were exhibited as existing 'Forest Residential' on the Lorne Framework Plan and zoned Environmental Rural. The landowners sought to amend the Framework Plan to identify the land as 'Potential Low Density Residential'. Council recommended that the Lorne Framework Plan be amended to designate these areas as subject to further investigation to determine their suitability for some form of low density residential or tourist accommodation. The designation would be indicative only without defining specific boundaries. The Panel supported the Council's position and also the proposal to retain the Environmental Rural Zone. The land was zoned accordingly and identified as a Special Investigation Area on the Lorne Framework Plan in the adopted planning scheme.

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

Parcel 1, known as 155 Erskine Falls Road was exhibited in the new format planning scheme as Environmental Rural Zone. In submission to the Panel, the land owner proposed to develop the land with a number of sensitively designed cottages for tourist accommodation and a camping area. The land owner sought support for this in the MSS. The Panel noted that the proposed use was subject to a permit pursuant in the proposed zone. The Panel believed that the proposed text in the exhibited MSS supported low density, well designed development that respects the environmental features and constraints of the site in the Lorne hinterland and did not believe any further text needed to be added. The Panel did however believe that the text needed to be strengthened to take proper account of fire risk, and to minimise problems caused by environmental weeds and domestic pets. It is important to note that the Panel did not comment specifically on the land owners proposal. The land was zoned Environmental Rural Zone and identified as a Special Investigation Area on the Lorne Framework Plan, no further changes were made to the MSS.

Part of the area is the former Lorne Golf Links and a substantial area of lots 4 and 6 are cleared. Lot 2 also contains a small cleared area. Otherwise the remaining areas are heavily timbered. All of the northern portions (parcels 1 – 3) and the vegetated parts of Parcel 6 are identified as being a site of biological significance (Ecology Australia 2000). The analysis of slope in the area indicates that it is generally gently undulating, with steepest parts of land being located in the northern portions. Land identified as having potential for development in Parcels 4 and 6 have slopes of less than 1:3.

A fire access track joins the Allenvale Road to Erskine Falls Road and traverses the eastern end of lot 2 and the western end of lot 1. This area is generally isolated from the Lorne township and fire hazard potential is considered to be fairly high for future development.

A rezoning request has been made by Tract Consultants Pty Ltd on behalf of the three landowners for Lots 2 to 6 to the Council. The proposal for this land is essentially for rural residential living on the northern portion, a tourist accommodation development and clustered rural residential living on the southern portion. The environmental studies undertaken for this proposal indicate that the minimal area of impact for rural residential development and tourist accommodation would be achieved on the southern portions of this land, on lots 4 and 6. It is acknowledged that this area does have some potential to provide for alternative tourist and low density rural residential living for Lorne, being proximate to the township, the nearby Qdos Art Gallery and the State Park.

Lorne Coast Pty Ltd has also prepared a discussion paper for future development of Lot 1 in this area, known as 155 Erskine Falls Road. The proposed development comprises a residential village, health centre and retreat. This development concept would involve extensive vegetation removal and has the potential to introduce an isolated residential enclave development into this area resulting in heightened fire risk. Such development also has the potential to increase spread of weeds and pest fauna into the surrounding the State Park.

DSE has indicated its concerns regarding development in this area on the basis of fire risk, removal of native vegetation, appropriate management of waste water and land capability issues.

APPENDIX B SPECIAL INVESTIGATION AREA REPORTS

Reticulated hydraulic infrastructure (water, sewerage and drainage) is not available to this area. Barwon Water advises that it would be possible to service this area with water, but at considerable cost. This area would require its own pump and tank system to connect to the existing water reticulation system.

Development in this area would require augmentation of the existing trunk sewer within the town boundary as well as construction of a new sewer pipe from the area via Otway and William Streets to the Mountjoy Parade sewer. There would be environmental considerations in constructing a new sewer pipeline to the built-up area of Lorne, however, it may be possible to utilise the access roads.

A tourist accommodation development and clustered rural residential living could be potentially considered on the cleared areas of Lots 4 and 6 of this area, given the clearing that has been undertaken and altered landform. Such development must respond to the site constraints in terms of maximising vegetation retention, management of fire risk and provision of upgraded access. Further rural residential development on the northern portion of this area, Lots 1 and 2, is not supported on the basis that it would result in unacceptable vegetation removal and further opens up an existing undeveloped area.

The general policy and planning control framework proposed by Tract is supported, particularly the introduction of a Development Plan Overlay to control the use and development outcomes for the land. This overlay should require the preparation of an environmental management plan to minimise land disturbance during construction. It is appropriate that both the Significant Landscape Overlay and Wildfire Management Overlay continue to apply to this area.

Recommendation:

Retain existing zoning and overlays but make provision for rural residential living lots and clustered tourist accommodation on the southern portion of this land, Lots 4 and 6 generally in accordance with the Tract rezoning proposal. This future development must be subject to adequate access arrangements, fire management and minimisation of vegetation removal. Introduce a Development Plan Overlay to facilitate the rural residential living and clustered tourist accommodation.

**APPENDIX C URBAN CHARACTER AND
VEGETATION ANALYSIS
BACKGROUND
INFORMATION**

RESIDENT PERCEPTION STUDY

A Study of Resident Perceptions of Neighbourhood Character in Lorne was commissioned by Surf Coast Shire Council in May 2002 and undertaken by Dr Ray Green from the Faculty of Architecture Building and Planning, University of Melbourne.

Basis for the Precincts

The study defined four neighbourhood precincts which have been based upon responses to.

- (i) Projective Mapping Questionnaire which was distributed to all owners of properties within Lorne and aimed at identifying shared neighbourhood precincts based on positive and negative attributes,
- (ii) Community Workshops during which a photo rating exercise was undertaken to determine compatibility of development with the perceived Lorne character
- (iii) Further site inspections and investigations.

The outcomes of the study identified four neighbourhood precincts, which are illustrated in the diagram opposite.

An important component of the resident perception study was a study of the factors, particularly built form elements, that residents rated as compatible or incompatible within each of the precincts.

Compatible Characteristics

Those characteristics that were rated as compatible were similar in all precincts and often related to vegetation retention and views.

In architectural terms residents believed that the traditional, older style beach houses were compatible with the qualities sought for Lorne.

Incompatible Characteristics

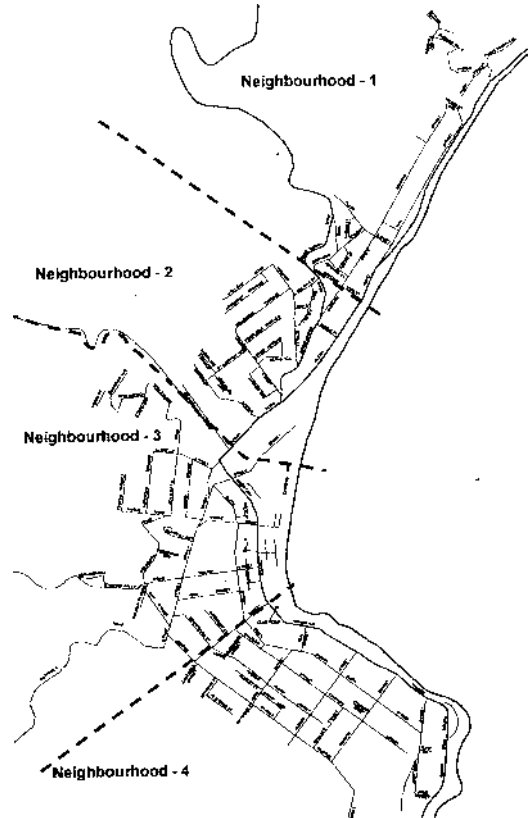
Characteristics that were rated as incompatible primarily related to the visibility scale and design compatibility of buildings. It is stated that incompatible building developments are not specific to any one neighbourhood and often the result of a lack of sufficient vegetative screening.

Other incompatible characteristics included bulkier newer houses that were large and contemporary in style.

Residents also expressed a dislike for higher densities and particularly when it was perceived as being at the cost of tree canopy and vegetation which reduced the visual impact of development.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Figure C1: Study Area Map with Neighbourhood Precincts



Vegetation Implications

In the conclusion to this study Dr Ray Green (page 15) mentioned that:

Vegetation in general was found to be highly supportive of neighbourhood character and existing established vegetation, nature reserves and views of such vegetation, need to be protected if the valued character of Lorne is to be preserved for the future. In general, development that is screened from the road by vegetation rated higher than did buildings with minimal or no screening. This finding suggests that through the careful use of landscaping, and the siting of new development in such a way to minimise disturbance to existing vegetation, even development that might by itself be perceived as being out of character may be made to appear to be more compatible with neighbourhood character than it otherwise might be.

The residents' perception study found that vegetation (both its retention and replacement or reestablishment) was the most important element that affected residents' perceptions of their neighbourhoods:

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

The scenes that were rated most highly in terms of neighbourhood character compatibility depict natural landscape features or views of natural features. What this finding suggests in terms of town planning is that natural features and views of natural features, specifically views of the beach, the river, the surrounding hills and vegetated areas, should be preserved where possible. Any development that results in disturbance to these features, or the blocking of views comprised of these features should be limited through appropriate planning mechanisms and controls. In this respect planning mechanisms should be implemented that will encourage view sharing and maintain the integrity of significant viewsheds. (Green, 2002, p 15)

Architectural Implications

The Perception study also mentioned inappropriate development was '*too large in scale, boxy in appearance, lacking sufficient surface and massing articulation*'.

The design attributes exhibited by contemporary housing that was *smaller in scale, an emphasis on peaked and convex roofs* (rather than flat roofs), with better articulation was more compatible.

Streetscape Implications

Overhead power lines and poles were rated as strongly out of character with Lorne. The removal of overhead power lines and streetscape planting that will enhance the visual appearance and amenity of streetscapes is desirable.

LORNE VEGETATION ASSESSMENT

Introduction

The purpose of the vegetation assessment is to assist in providing information to the analysis of neighbourhood character in Lorne. The information that forms the basis of this assessment has been collected from several sources and includes an analysis of several databases and aerial photographs, vegetation maps and descriptions from preliminary field investigations.

The Victorian Flora Information System (DSE) was interrogated and from this was derived a list of plant species recorded for an area of approximately 1000 hectares centred on the township (Table C3).

The *Environment Protection and Biodiversity Conservation Act* 1999 online database was also interrogated to detail the potential distribution of nationally threatened species and communities in the vicinity of the study site.

Detail of the location and components of Sites of Biological Significance were described from additional Surf Coast Shire and DSE databases.

Ecological Vegetation Class Significance

Seven Ecological Vegetation Classes occur within the residential development, they are:

- EVC 1 – Coastal Dune Mozaic – Depleted
- EVC 22 – Grassy Dry Forest – Depleted
- EVC 23 – Herb rich Foothill Forest – Depleted
- EVC 45 – Shrubby Foothill Forest – Least Concern (see Table C1)
- EVC 58 – Cleared – not applicable
- EVC 161 – Coastal Headland Scrub – Depleted
- EVC 201 – Shrubby wet forest – Least Concern

Descriptions of the character species for these Ecological Vegetation Classes can be found in the Draft Corangamite Native Vegetation Plan (Corangamite Catchment Management Authority 2001) and the conservation status of the Ecological Vegetation Class is described in Table C1.

Lorne Township occurs in the Otway Ranges Bioregion of Victoria. The conservation status of the Ecological Vegetation Classes within the bioregion is described above (Russell Costello, DSE pers comm. May 2003). The following table describes the status:

**APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION**

Table C1: Ecological Vegetation Class Bioregional Conservation Status – brief definitions

X	presumed extinct	probably no longer present in the bioregion (or, if present, below the resolution of available mapping)
E	endangered	< 10% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
V	vulnerable	10 - 30% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
D	depleted	> 30% and up to 50% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
R	rare	rare (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as endangered, vulnerable or depleted
LC	least concern	> 50% of pre-European extent exists and subject to little to no degradation over a majority of this area
Th?	probably threatened	probably endangered, vulnerable or depleted, but not enough of the bioregion has been mapped to confidently determine which status
LC?	probably least concern	probably least concern, but not enough of the bioregion has been mapped to confidently confirm
na	not applicable	the map unit is not a distinct native vegetation type and therefore conservation status is not applicable
* full definition in Victoria's Native Vegetation Management - Framework for Action		

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Threatened Taxa of Flora

The *Environment Protection and Biodiversity Conservation Act* database and the DSE Flora Information database highlight the potential presence of the following threatened taxa of plants in the vicinity of the Lorne Township.

Table C2: Threatened Taxa of Flora

Species Name	Common Name	Victoria	Australia FFG
<i>Acacia nano-dealbata</i>	Dwarf Silver Wattle	r	
<i>Arachnorchis flavovirens</i>	Summer Spider-orchid	r	
<i>Bossiaea cordigera</i>	Wiry Bossiaea	r	
<i>Echinodium hispidum</i>	Madeira Moss	r	
<i>Eucalyptus brookeriana</i>	Brooker's Gum	r	
<i>Eucalyptus globulus ssp. globulus</i>	Southern Blue-gum	r	
<i>Glycine latrobeana</i>	Clover Glycine	v	V/L
<i>Leiocarpa gatesii</i>	Wrinkled Buttons	v	V
<i>Olearia speciosa</i>	Netted Daisy-bush	k	
<i>Prasophyllum frenchii</i>	Maroon Leek-orchid	e	E/L
<i>Prasophyllum spicatum</i>	Dense Leek-orchid	v	V
<i>Pterostylis cucullata</i>	Leafy Greenhood	v	V
<i>Thuidium laeviusculum s.s.</i>	Forest Weft-moss	v	

LEGEND

E = endangered (uppercase - Australia, lowercase - Victoria)
 V = vulnerable (uppercase - Australia, lowercase - Victoria)
 R = rare (uppercase - Australia, lowercase - Victoria)
 K = poorly known (uppercase - Australia, lowercase - Victoria)
 L = listed FFG Act Vic

Sites of Biological Significance

Several Sites of Biological Significance have been recorded from the vicinity of Lorne.

Four Sites of Biological Significance are recorded for the Lorne area by Ecology Australia (2000).

Site 45C is located on public land to the west of Lorne and south of the Erskine River. The site is of Regional significance. The vegetation quality is generally high with some invasion of environmental weeds in and around Lorne. It has excellent quality fauna habitat.

Site 45D is located on private land north west of Lorne township and flanking Little Stoney Creek river valley and the George River. The site is of Regional significance and is of similar quality to Site 45C.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Site 45E is located on public and private land south of Lorne Township and encompasses Mount Saint George. The site is of Regional significance and is of lower conservation value than others in the vicinity. Weed invasion from the town poses a serious threat to this site.

Site 46 is located on private land north of the Lorne Township adjoining the Great Ocean Rd in the vicinity of Reedy Creek. The site is of National significance and has high quality vegetation with some invasion of environmental weeds in and around coastal developments. It contains potential habitat of several threatened species of fauna including Swift Parrot, Powerful Owl and Rufous Bristlebird.

Additional Sites of Significance are recorded by DSE (Rani Hunt, Project Officer, DSE, Colac pers comm. April 2003) and include:

- Erskine Falls Road: Remnant Native Vegetation, Important Biodiversity Links and high biodiversity, also rare or threatened species present (Wrinkled Buttons)
- Toorak Terrace: Rare or threatened Species present including Wrinkled Buttons, Southern Blue-Gum Eucalyptus globulus ssp globulus and Brookers Gum Eucalyptus brookeriana
- Erskine River: Threatened fish species, wildlife corridor, High Biodiversity
- St George River: Threatened fish species, wildlife corridor, High Biodiversity
- Lorne Golf Course: Wrinkled Buttons
- Allenvale Camping Reserve west of Lorne has records of Summer Spider-orchid and Wrinkled Buttons.

Other Biodiversity Values

A linear network linking the large areas of retained hinterland indigenous vegetation with the coastal fringe appears to have been retained in most of the wet/damp gullies, probably by default as a result of the physical difficulty in developing the steep gullies. These areas now afford high conservation value to the area.

The retained canopy of indigenous trees in the urban area provides a leafy landscape that is valuable habitat for arboreal species of fauna. Many of the trees are mature and have developed nesting hollows. Most are prolific flowerers and provide a valuable source of nectar and invertebrates.

Impact of Development on Biodiversity

The general biodiversity values of the urban areas of Lorne and vicinity have been influenced by the urban development of the site. Vegetation is the primary determinant of the conservation value of a site. The vegetation has been modified in a number of ways thus lowering the contribution the urban area makes to the biodiversity of the site.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

The vegetation structure has been modified by the removal of all native vegetation within the building footprint to provide for the safe construction of buildings and associated infrastructure. Other subordinate strata of the vegetation have also been variously further modified reducing the structural diversity of the site. In most of the developed areas isolated pockets of native vegetation remain but are usually structurally depauperate and lack natural regeneration. The absence of structural diversity compromises important ecological processes that are essential for the long-term survival of the indigenous vegetation.

Selective clearing, weed invasion and the general absence of natural regenerative processes such as fire also modify species diversity.

Environmental weeds are a considerable management issue within urban areas surrounded by extant native vegetation. Particularly aggressive garden escapes invade adjoining native vegetation frequently from dumps of garden refuse. Weeds out compete indigenous species of plants. A number of species of environmental weeds are recorded in the vicinity.

Domestic pets are predators of a large range of native fauna. The Red Fox inhabits the urban areas of most of mainland Australia. It too, is a well-adapted urban scavenger and predator of small native mammals and reptiles.

Significant Species

Several significant species of plants are found or potentially found in the vicinity of Lorne. Sites that contain these significant species should be reserved from development. Advice on the exact location of these plants should be sought from DSE as a component of the development plan evaluation. Those significant species that are horticulturally suitable should be considered in all amenity planting within the commercial and open space areas of the township

Particular attention should be paid to locating Wrinkled Buttons, *Leiocarpa gatesii*. This species is endemic to the Lorne-Anglesea area and is considered vulnerable. It is known to occur in the vicinity of Erskine Falls Road, Toorak Terrace, Allenvale Camping Reserve and the Golf Course. It would be prudent to insist on a thorough search for the species within 500 meters of at least these sites as part of the requirements for development approval.

The exact locations of Brookers Gum *Eucalyptus brookeriana* and Southern Blue-gum *E. globulus ssp globulus* should be described and sufficient surrounding area reserved from development. Where possible seed from these trees should be collected, stored and used for future local revegetation works.

Significant Vegetation Classes

The majority of the Ecological Vegetation Classes that occur within the vicinity of the township are considered depleted. Greater than 30% (and up to 50% of pre-European extent) of this Ecological Vegetation Class remains. In most instances in the developed area of Lorne, only the over-storey elements of these Ecological Vegetation Classes remain. There is little if any regeneration.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

The removal of vegetation is adequately managed as part of the planning scheme. The identification of offsets attributed to each Ecological Vegetation Class is part of the evaluation process already in place. Additional emphasis on the management of significant vegetation classes is not considered warranted from a biodiversity conservation view.

Sites of Biological Significance

Known sites of biological significance generally occur around the hinterland of the township area.

The main threats to these sites are:

- Invasion by weeds
- Clearing – gross and incremental
- Sediment deposition in drainage lines
- Vegetation Fragmentation.

The management of weeds in the vicinity of these Sites of Biological Significance is considered the highest priority. Active enforcement for weed control within at least 500 metres of the boundary of the Sites of Biological Significance and regular monitoring of weed invasion is necessary.

Other Biodiversity Values

The long-term retention of the biological values of the township is greatly influenced by the establishment and maintenance of a linear reserve network of retained and vibrant native vegetation. It is suggested that such a network be based on the already well-vegetated drainage lines. Management guidelines for such a network should be developed to minimise the impact of development in the vicinity.

References

Corangamite Catchment Management Authority (2001) *Draft Corangamite Native Vegetation Plan*. Corangamite Catchment Management Authority. Colac, Victoria

Ecology Australia (2000) *Rural Environmental Study: report on Environmental Resources. A report to the Surf Coast Shire*. Ecology Australia PL, Fairfield, Victoria.

List of Flora

Table C3: List of flora at Lorne and vicinity
Extract from Flora Information System, DSE January 2003,
2 minute block (lat/long) centred on Lorne

Family			Species Name	Common Name
<i>Amblystegiaceae</i>			<i>Acrocladium chlamydothecium</i>	Spear Moss
<i>Brachytheciaceae</i>			<i>Rhynchostegium tenuifolium</i>	Feather Moss
<i>Bryaceae</i>			<i>Bryum pachytheca</i>	Acorn-fruited Thread-moss

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION

Family			Species Name	Common Name
			<i>Bryum sullivanii</i>	Thread Moss
			<i>Rosulabryum billardierei</i>	Common Thread-moss
<i>Ditrichaceae</i>			<i>Ceratodon purpureus</i>	Redshank Moss
<i>Echinodiaceae</i>	r		<i>Echinodium hispidum</i>	Madeira Moss
<i>Fissidentaceae</i>			<i>Fissidens curvatus</i>	Portuguese Pocket-moss
			<i>Fissidens megalotis</i>	Curly Pocket-moss
<i>Funariaceae</i>			<i>Entosthodon apophysatus</i>	Cord Moss
			<i>Funaria hygrometrica</i>	Common Cord-moss
<i>Hookeriaceae</i>			<i>Achrophyllum dentatum</i>	Toothed Mitre-moss
<i>Hypnaceae</i>			<i>Hypnum cupressiforme</i>	Common Plait-moss
<i>Hypnodendraceae</i>			<i>Hypnodendron vitiense ssp. australe</i>	Umbrella Moss
<i>Hypopterygiaceae</i>			<i>Hypopterygium muelleri</i>	Umbrella Moss
<i>Orthotrichaceae</i>			<i>Amphidium cyathicarpum</i>	Yoke Moss
			<i>Zygodon intermedius</i>	Common Zygodon
			<i>Zygodon menziesii</i>	Zygodon
<i>Polytrichaceae</i>			<i>Polytrichum juniperinum</i>	Juniper Haircap
<i>Ptychomniaceae</i>			<i>Glyphothecium sciuroides</i>	Arc Moss
			<i>Ptychomnion aciculare</i>	Paper Moss
<i>Rhizogoniaceae</i>			<i>Rhizogonium distichum</i>	Thyme Moss
<i>Sematophyllaceae</i>			<i>Wijkia extenuata</i>	Spear Moss
<i>Thuidiaceae</i>	v		<i>Thuidium laeviusculum s.s.</i>	Forest Weft-moss
<i>Adiantaceae</i>			<i>Adiantum aethiopicum</i>	Common Maidenhair
<i>Blechnaceae</i>			<i>Blechnum chambersii</i>	Lance Water-fern
			<i>Blechnum nudum</i>	Fishbone Water-fern
			<i>Doodia australis</i>	Common Rasp-fern
<i>Dennstaedtiaceae</i>			<i>Pteridium esculentum</i>	Austral Bracken
<i>Dryopteridaceae</i>			<i>Polystichum proliferum</i>	Mother Shield-fern
<i>Lindsaeaceae</i>			<i>Lindsaea linearis</i>	Screw Fern
<i>Asparagaceae</i>		*	<i>Asparagus scandens</i>	Asparagus Fern
<i>Centrolepidaceae</i>			<i>Centrolepis strigosa ssp. strigosa</i>	Hairy Centrolepis
<i>Colchicaceae</i>			<i>Burchardia umbellata</i>	Milkmaids
<i>Cyperaceae</i>			<i>Carex inversa</i>	Knob Sedge

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION

Family			Species Name	Common Name
			<i>Carex spp.</i>	Sedge
		*	<i>Cyperus eragrostis</i>	Drain Flat-sedge
			<i>Ficinia nodosa</i>	Knobby Club-sedge
			<i>Gahnia radula</i>	Thatch Saw-sedge
			<i>Lepidosperma laterale</i>	Variable Sword-sedge
			<i>Lepidosperma laterale</i> var. <i>laterale</i>	Variable Sword-sedge
			<i>Lepidosperma laterale</i> var. <i>majus</i>	Variable Sword-sedge
			<i>Lepidosperma spp.</i>	Sword Sedge
			<i>Schoenus apogon</i>	Common Bog-sedge
			<i>Schoenus spp.</i>	Bog Sedge
<i>Iridaceae</i>		*	<i>Crocasmia X</i> <i>crocosmiiflora</i>	Montbretia
		*	<i>Romulea rosea</i>	Onion Grass
<i>Juncaceae</i>			<i>Juncus kraussii ssp.</i> <i>australiensis</i>	Sea Rush
			<i>Juncus spp.</i>	Rush
			<i>Luzula meridionalis</i> var. <i>flaccida</i>	Common Woodrush
			<i>Luzula spp.</i>	Woodrush
<i>Juncaginaceae</i>			<i>Triglochin striatum</i>	Streaked Arrowgrass
<i>Orchidaceae</i>	r		<i>Arachnorchis</i> <i>flavovirens</i>	Summer Spider-orchid
			<i>Pterostylis longifolia</i> s.l.	Tall Greenhood
			<i>Pterostylis spp.</i>	Greenhood
			<i>Thelymitra pauciflora</i> s.l.	Slender Sun-orchid
			<i>Dianella revoluta s.s.</i>	Black-anther Flax-lily
<i>Poaceae</i>		*	<i>Aira elegantissima</i>	Delicate Hair-grass
		*	<i>Anthoxanthum</i> <i>odoratum</i>	Sweet Vernal-grass
			<i>Austrodanthonia</i> <i>eriantha</i>	Hill Wallaby-grass
			<i>Austrodanthonia</i> <i>geniculata</i>	Kneed Wallaby-grass
			<i>Austrodanthonia</i> <i>induta</i>	Shiny Wallaby-grass
			<i>Austrodanthonia</i> <i>penicillata</i>	Slender Wallaby-grass
			<i>Austrodanthonia</i> <i>pilosa</i>	Velvet Wallaby-grass
			<i>Austrodanthonia</i> <i>racemosa</i> var. <i>racemosa</i>	Stiped Wallaby-grass

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION

Family			Species Name	Common Name
			<i>Austrodanthonia setacea</i>	Bristly Wallaby-grass
			<i>Austrostipa rudis</i>	Veined Spear-grass
			<i>Austrostipa spp.</i>	Spear Grass
		*	<i>Briza maxima</i>	Large Quaking-grass
		*	<i>Briza minor</i>	Lesser Quaking-grass
		*	<i>Bromus hordeaceus ssp. hordeaceus</i>	Soft Brome
		*	<i>Catapodium rigidum</i>	Fern Grass
			<i>Danthonia s.l. spp.</i>	Wallaby Grass
			<i>Deyeuxia quadriseta</i>	Reed Bent-grass
			<i>Dichelachne sciurea spp. agg.</i>	Short-hair Plume-grass
			<i>Dichelachne sieberiana</i>	Rough Plume-grass
			<i>Distichlis distichophylla</i>	Australian Salt-grass
		*	<i>Ehrharta erecta var. erecta</i>	Panic Veldt-grass
			<i>Elymus scaber var. scaber</i>	Common Wheat-grass
			<i>Joycea lepidopoda</i>	Scaly-foot Wallaby-grass
			<i>Joycea pallida</i>	Silvertop Wallaby-grass
			<i>Lachnagrostis aemula s.l.</i>	Leafy Blown-grass
			<i>Lachnagrostis filiformis</i>	Common Blown-grass
		*	<i>Lagurus ovatus</i>	Hare's-tail Grass
		*	<i>Lolium temulentum var. temulentum</i>	Darnel
			<i>Microlaena stipoides var. stipoides</i>	Weeping Grass
			<i>Notodanthonia semiannularis</i>	Wetland Wallaby-grass
			<i>Phragmites australis</i>	Common Reed
		*	<i>Poa annua</i>	Annual Meadow-grass
			<i>Poa labillardierei</i>	Common Tussock-grass
			<i>Poa morrisii</i>	Soft Tussock-grass
			<i>Poa poiformis</i>	Coast Tussock-grass
			<i>Poa rodwayi</i>	Velvet Tussock-grass
			<i>Poa sieberiana</i>	Grey Tussock-grass
			<i>Poa tenera</i>	Slender Tussock-grass
			<i>Tetrarrhena juncea</i>	Forest Wire-grass
			<i>Themeda triandra</i>	Kangaroo Grass
		*	<i>Vulpia bromoides</i>	Squirrel-tail Fescue

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION

Family			Species Name	Common Name
<i>Xanthorrhoeaceae</i>			<i>Lomandra filiformis</i>	Wattle Mat-rush
			<i>Lomandra longifolia</i>	Spiny-headed Mat-rush
			<i>Lomandra multiflora</i> <i>ssp. multiflora</i>	Many-flowered Mat-rush
<i>Apiaceae</i>			<i>Apium prostratum</i> <i>ssp. prostratum</i>	Sea Celery
			<i>Hydrocotyle hirta</i>	Hairy Pennywort
			<i>Hydrocotyle spp.</i>	Pennywort
<i>Araliaceae</i>		*	<i>Hedera helix</i>	English Ivy
<i>Asteraceae</i>			<i>Brachyscome</i> <i>graminea</i>	Grass Daisy
			<i>Brachyscome</i> <i>multifida</i>	Cut-leaf Daisy
		*	<i>Chrysanthemoides</i> <i>monilifera</i>	Boneseed
			<i>Chrysocephalum</i> <i>semipapposum</i>	Clustered Everlasting
		*	<i>Cirsium vulgare</i>	Spear Thistle
			<i>Cymbonotus</i> <i>preissianus</i>	Austral Bear's-ear
		*	<i>Delairea odorata</i>	Cape Ivy
		*	<i>Erigeron</i> <i>karvinskianus</i>	Seaside Daisy
			<i>Euchiton collinus s.l.</i>	Clustered/Creeping Cudweed
			<i>Euchiton involucratus</i> <i>s.l.</i>	Common Cudweed
			<i>Euchiton spp.</i>	Cudweed
			<i>Helichrysum</i> <i>scorpioides</i>	Button Everlasting
		*	<i>Hypochoeris radicata</i>	Cat's Ear
			<i>Lagenophora stipitata</i>	Common Bottle-daisy
	v		<i>Leiocarpa gatesii</i>	Wrinkled Buttons
V		*	<i>Leontodon</i> <i>taraxacoides ssp.</i> <i>taraxacoides</i>	Hairy Hawkbit
			<i>Olearia argophylla</i>	Musk Daisy-bush
			<i>Olearia erubescens</i>	Moth Daisy-bush
			<i>Olearia lirata</i>	Snowy Daisy-bush
			<i>Olearia ramulosa</i>	Twiggy Daisy-bush
	k		<i>Olearia speciosa</i>	Netted Daisy-bush
			<i>Ozothamnus</i> <i>ferrugineus</i>	Tree Everlasting
			<i>Senecio glomeratus</i>	Annual Fireweed
			<i>Senecio hispidulus</i>	Rough Fireweed
		*	<i>Senecio jacobaea</i>	Ragwort

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION

Family			Species Name	Common Name
			<i>Senecio linearifolius</i>	Fireweed Groundsel
			<i>Senecio minimus</i>	Shrubby Fireweed
			<i>Senecio odoratus</i> var. <i>odoratus</i>	Scented Groundsel
			<i>Senecio quadridentatus</i>	Cotton Fireweed
		*	<i>Sonchus oleraceus</i>	Common Sow-thistle
<i>Boraginaceae</i>			<i>Cynoglossum australe</i>	Australian Hound's-tongue
			<i>Myosotis exarrhena</i>	Sweet Forget-me-not
<i>Brassicaceae</i>		*	<i>Cakile maritima</i> ssp. <i>maritima</i>	Sea Rocket
<i>Brunoniaceae</i>			<i>Brunonia australis</i>	Blue Pincushion
<i>Campanulaceae</i>			<i>Wahlenbergia gracilentia</i> s.l.	Annual Bluebell
			<i>Wahlenbergia gracilis</i> s.l.	Sprawling Bluebell
<i>Caryophyllaceae</i>		*	<i>Cerastium glomeratum</i> s.l.	Common Mouse-ear Chickweed
		*	<i>Silene gallica</i>	French Catchfly
			<i>Stellaria flaccida</i>	Forest Starwort
			<i>Stellaria pungens</i>	Prickly Starwort
<i>Chenopodiaceae</i>		*	<i>Atriplex prostrata</i>	Hastate Orache
			<i>Sarcocornia quinqueflora</i>	Beaded Glasswort
<i>Clusiaceae</i>			<i>Hypericum gramineum</i>	Small St John's Wort
<i>Convolvulaceae</i>			<i>Dichondra repens</i>	Kidney-weed
<i>Crassulaceae</i>			<i>Crassula sieberiana</i>	Sieber Crassula
<i>Droseraceae</i>			<i>Drosera peltata</i> ssp. <i>auriculata</i>	Tall Sundew
<i>Epacridaceae</i>			<i>Acrotriche serrulata</i>	Honey-pots
			<i>Astroloma humifusum</i>	Cranberry Heath
			<i>Epacris impressa</i>	Common Heath
			<i>Leucopogon parviflorus</i>	Coast Beard-heath
			<i>Leucopogon virgatus</i>	Common Beard-heath
<i>Ericaceae</i>		*	<i>Erica lusitanica</i>	Spanish Heath
<i>Euphorbiaceae</i>			<i>Amperea xiphioclada</i> var. <i>xiphioclada</i>	Broom Spurge
			<i>Poranthera microphylla</i>	Small Poranthera
<i>Fabaceae</i>	r		<i>Bossiaea cordigera</i>	Wiry Bossiaea
			<i>Bossiaea prostrata</i>	Creeping Bossiaea
		*	<i>Cytisus scoparius</i>	English Broom
			<i>Daviesia ulicifolia</i>	Gorse Bitter-pea

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION

Family			Species Name	Common Name
			<i>Desmodium gunnii</i>	Southern Tick-trefoil
			<i>Glycine microphylla</i>	Small-leaf Glycine
			<i>Indigofera australis</i>	Austral Indigo
			<i>Kennedia prostrata</i>	Running Postman
		*	<i>Medicago arabica</i>	Spotted Medic
			<i>Pultenaea daphnoides</i>	Large-leaf Bush-pea
		*	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>	Narrow-leaf Clover
		*	<i>Trifolium repens</i> var. <i>repens</i>	White Clover
		*	<i>Trifolium</i> spp.	Clover
<i>Gentianaceae</i>		*	<i>Centaurium erythraea</i>	Common Centaury
		*	<i>Centaurium</i> spp.	Centaury
		*	<i>Centaurium tenuiflorum</i>	Slender Centaury
<i>Geraniaceae</i>			<i>Geranium potentilloides</i>	Cinquefoil Cranesbill
			<i>Geranium solanderi</i> s.l.	Austral Cranesbill
			<i>Pelargonium australe</i>	Austral Stork's-bill
<i>Goodeniaceae</i>			<i>Goodenia geniculata</i>	Bent Goodenia
			<i>Goodenia lanata</i>	Trailing Goodenia
			<i>Goodenia ovata</i>	Hop Goodenia
			<i>Selliera radicans</i>	Shiny Swamp-mat
<i>Haloragaceae</i>			<i>Gonocarpus tetragynus</i>	Common Raspwort
<i>Lamiaceae</i>		*	<i>Prunella vulgaris</i>	Self-heal
<i>Lauraceae</i>			<i>Cassytha melantha</i>	Coarse Dodder-laurel
			<i>Cassytha pubescens</i> s.s.	Downy Dodder-laurel
<i>Linaceae</i>		*	<i>Linum trigynum</i>	French Flax
<i>Loranthaceae</i>			<i>Amyema pendula</i>	Drooping Mistletoe
<i>Malvaceae</i>		*	<i>Modiola caroliniana</i>	Red-flower Mallow
<i>Mimosaceae</i>			<i>Acacia mearnsii</i>	Black Wattle
			<i>Acacia melanoxylon</i>	Blackwood
			<i>Acacia mucronata</i> ssp. <i>longifolia</i>	Narrow-leaf Wattle
	r		<i>Acacia nano-dealbata</i>	Dwarf Silver Wattle
			<i>Acacia stricta</i>	Hop Wattle
			<i>Acacia verticillata</i>	Prickly Moses
<i>Myoporaceae</i>		#	<i>Myoporum insulare</i>	Common Boobialla

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
BACKGROUND INFORMATION

Family			Species Name	Common Name
<i>Myrtaceae</i>			<i>Eucalyptus aff. Willisii</i> (South-western Victoria)	West Coast Peppermint
			<i>Eucalyptus aromaphloia</i>	Scentbark
	r		<i>Eucalyptus brookeriana</i>	Brooker's Gum
			<i>Eucalyptus cypellocarpa</i>	Mountain Grey-gum
		#	<i>Eucalyptus globulus</i>	Southern Blue-gum
	r	#	<i>Eucalyptus globulus</i> <i>ssp. globulus</i>	Southern Blue-gum
			<i>Eucalyptus obliqua</i>	Messmate Stringybark
			<i>Eucalyptus ovata</i> var. <i>ovata</i>	Swamp Gum
			<i>Eucalyptus viminalis</i>	Manna Gum
			<i>Eucalyptus viminalis</i> <i>ssp. cygnetensis</i>	Rough-barked Manna-gum
			<i>Leptospermum continentale</i>	Prickly Tea-tree
<i>Oleaceae</i>			<i>Notelaea ligustrina</i>	Privet Mock-olive
<i>Onagraceae</i>			<i>Epilobium billardierianum</i>	Variable Willow-herb
<i>Oxalidaceae</i>			<i>Oxalis corniculata</i> s.l.	Yellow Wood-sorrel
			<i>Oxalis perennans</i>	Grassland Wood-sorrel
<i>Passifloraceae</i>			<i>Passiflora</i> spp.	Passion Flower
<i>Pittosporaceae</i>			<i>Billardiera scandens</i>	Common Apple-berry
			<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria
		#	<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Plantaginaceae</i>		*	<i>Plantago coronopus</i>	Buck's-horn Plantain
		*	<i>Plantago lanceolata</i>	Ribwort
			<i>Plantago varia</i>	Variable Plantain
<i>Polygalaceae</i>			<i>Comesperma volubile</i>	Love Creeper
<i>Polygonaceae</i>		*	<i>Acetosella vulgaris</i>	Sheep Sorrel
			<i>Muehlenbeckia adpressa</i>	Climbing Lignum
			<i>Rumex brownii</i>	Slender Dock
<i>Primulaceae</i>		*	<i>Anagallis arvensis</i>	Pimpernel
			<i>Samolus repens</i>	Creeping Brookweed
<i>Proteaceae</i>			<i>Persoonia juniperina</i>	Prickly Geebung
<i>Ranunculaceae</i>			<i>Clematis aristata</i>	Mountain Clematis
			<i>Ranunculus sessiliflorus</i>	Annual Buttercup
			<i>Ranunculus</i> spp.	Buttercup

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Family			Species Name	Common Name
<i>Rhamnaceae</i>			<i>Pomaderris elachophylla</i>	Small-leaf Pomaderris
			<i>Pomaderris paniculosa</i> ssp. <i>paralia</i>	Coast Pomaderris
			<i>Spyridium parvifolium</i>	Dusty Miller
<i>Rosaceae</i>			<i>Acaena echinata</i>	Sheep's Burr
			<i>Acaena novae-zelandiae</i>	Bidgee-widgee
			<i>Acaena ovina</i>	Australian Sheep's Burr
		*	<i>Rubus fruticosus</i> spp. agg.	Blackberry
			<i>Rubus parvifolius</i>	Small-leaf Bramble
		*	<i>Rubus polyanthemus</i>	Blackberry
		*	<i>Rubus</i> sp. aff. <i>Armeniacus</i>	Blackberry
		*	<i>Rubus vestitus</i>	Blackberry
<i>Rubiaceae</i>			<i>Asperula conferta</i>	Common Woodruff
			<i>Coprosma hirtella</i>	Rough Coprosma
			<i>Coprosma quadrifida</i>	Prickly Currant-bush
<i>Santalaceae</i>			<i>Exocarpos cupressiformis</i>	Cherry Ballart
<i>Scrophulariaceae</i>			<i>Veronica calycina</i>	Hairy Speedwell
			<i>Veronica gracilis</i>	Slender Speedwell
			<i>Veronica</i> spp.	Speedwell
<i>Stylidiaceae</i>			<i>Stylidium graminifolium</i> s.l.	Grass Trigger-plant
<i>Thymelaeaceae</i>			<i>Pimelea axiflora</i>	Bootlace Bush
			<i>Pimelea humilis</i>	Common Rice-flower
<i>Violaceae</i>			<i>Viola hederacea</i> sensu Willis (1972)	Ivy-leaf Violet

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Figure C2: Ecological Vegetation Classes (2003)



Table C4: Species Distribution List

The following table lists the dominant species within Lorne and their distribution across the various structural vegetation types

Species Name	Common Name	Coastal Dune	Herb-rich Foothill Forest	Grassy Dry Forest	Shrubby Foothill Forest	Coastal Headland Scrub	Shrubby wet forest
<i>Acacia melanoxylon</i>	Blackwood		Infrequent occurrence				Present in lower tree layer
<i>Acacia mucronata.</i>	Narrow-leaf Wattle		Diverse shrub layer		Common		
<i>Acacia nano-dealbata</i>	Dwarf Silver Wattle						Present
<i>Acacia stricta</i>	Hop Wattle			Dense Shrub Layer			
<i>Acacia verniciflua</i>	Varnish Wattle						Present
<i>Acacia verticillata</i>	Prickly Moses		Diverse shrub layer		Common	Dominant	Present
<i>Acaena novae-zelandiae</i>	Bidgee-widgee		Frequent occurrence				Common
<i>Acrotriche affinis</i>	Ridged Ground-berry					Occasional	
<i>Acrotriche serrulata</i>	Honey Pots					Occasional	
<i>Astroloma humifusum</i>	Cranberry Heath					Occasional	
<i>Austrodanthonia spp.</i>	Wallaby Grass			Common in ground layer			
<i>Banksia marginata</i>	Silver Banksia					Dominant	
<i>Baumea juncea</i>	Bare Twig sedge					Occasional	
<i>Brunonia australis</i>	Blue Pincushion			Common in the ground layer			
<i>Burchardia umbellata</i>	Milkmaids			Common in the ground layer			
<i>Carex breviculmis</i>	Short-stem Sedge					Occasional	
<i>Clematis aristata</i>	Mountain Clematis						Present
<i>Coprosma quadrifida</i>	Prickly Currant-bush		Diverse shrub layer		Common		common
<i>Correa reflexa</i>	Common Correa					Occasional	

Species Name	Common Name	Coastal Dune	Herb-rich Foothill Forest	Grassy Dry Forest	Shrubby Foothill Forest	Coastal Headland Scrub	Shrubby wet forest
<i>Cyathea australis</i>	Rough Tree fern						Common
<i>Dianella brevicaulis/revoluta</i>	Black-anther Flax-lily	Frequent in ground layer					
<i>Dichelachne spp</i>	Plume-grasses			Common in ground layer			
<i>Dicksonia antarctica</i>	Soft Treefern						Rarely
<i>Epacris impressa</i>	Common Heath					Occasional	
<i>Eucalyptus aromaphloia</i>	Scentbark		Infrequent occurrence	Dominates overstorey	Occasional		
<i>Eucalyptus baxteri</i>	Brown Stringybark				Occasional		
<i>Eucalyptus brookeriana</i>	Brookers Gum				Occasional		
<i>Eucalyptus cypellocarpa</i>	Mountain Grey Gum		Co-dominant in overstorey	Dominates overstorey	Dominates Overstorey		Dominant
<i>Eucalyptus globulus</i>	Blue Gum		Infrequent occurrence	Dominates overstorey	Occasional		
<i>Eucalyptus obliqua</i>	Messmate	Occasionally	Dominates overstorey		Dominates Overstorey	Occasional	Dominant
<i>Eucalyptus ovata</i>	Swamp Gum	Occasionally	Infrequent occurrence		Occasional		
<i>Eucalyptus radiata</i>	Narrow-leaf Peppermint		Infrequent occurrence		Occasional		
<i>Eucalyptus regnans</i>	Mountain Ash				Occasional		
<i>Eucalyptus viminalis</i>	Manna Gum						Dominant
<i>Gahnia trifida</i>	Coast Saw-sedge					Occasional	
<i>Gallium sp</i>							Present
<i>Geranium potentilloides</i>	Cinquefoil Cranesbill						Present

Species Name	Common Name	Coastal Dune	Herb-rich Foothill Forest	Grassy Dry Forest	Shrubby Foothill Forest	Coastal Headland Scrub	Shrubby wet forest
<i>Geranium solanderi</i>	Austral Cranesbill		Frequent occurrence				
<i>Gonocarpus tetragynus</i>	Common Raspwort		Frequent occurrence			Occasional	
<i>Goodenia ovata</i>	Hop Goodenia		Diverse shrub layer	Dense Shrub Layer	Common		Present
<i>Hedycarya angustifolia</i>	Austral Mulberry						Common
<i>Hibbertia aspersa</i>	Rough Guinea-flower					Occasional	
<i>Hypericum gramineum</i>	Small St. John's Wort			Common in the ground layer			
<i>Isolepis nodosa</i>	Knobby Club-sedge	Dominant of ground layer					
<i>Joycea pallida</i>	Silvertop Wallaby-grass			Common in ground layer			
<i>Laginifera spp</i>				Common in the ground layer			
<i>Lepidosperma elatius</i>	Tall Sword-sedge						Occasional
<i>Lepidosperma gladiatum</i>	Coast Sword-sedge	Frequent in ground layer					
<i>Leptorhynchos gatesii</i>	Wrinkled Buttons		Frequent occurrence				
<i>Leptospermum continentale</i>	Prickly Tea-tree				Common	Dominant	
<i>Leptospermum scoparium</i>	Manuka					Dominant	
<i>Leucopogon parviflorus</i>	Coast Beard-heath	Character species				Occasional	
<i>Microlaena stipoides var stipoides</i>	Weeping Grass		Frequent occurrence				
<i>Notelea ligustrina</i>	Privet Mock-olive				Common		

Species Name	Common Name	Coastal Dune	Herb-rich Foothill Forest	Grassy Dry Forest	Shrubby Foothill Forest	Coastal Headland Scrub	Shrubby wet forest
<i>Olearia argophylla</i>	Musk Daisy-bush						Common
<i>Olearia axillaris</i>	Coast Daisy-bush	Frequent occurrence					
<i>Olearia lirata</i>	Snow Daisy-bush		Diverse shrub layer		Common		Common
<i>Opercularia varia</i>	Variable Stickweed			Common in the ground layer			
<i>Oxalis corniculata</i> spp. agg	Yellow Wood-sorrel		Frequent occurrence				Present
<i>Ozothamnus ferrugineus</i>	Tree Everlasting		Diverse shrub layer		Common		Common
<i>Poa sieberiana</i>	Grey tussock-grass			Common in ground layer		Present	
<i>Poa labillardieri</i>	Common Tussock-grass		Frequent occurrence				
<i>Poa morrisii</i>	Soft tussock-grass			Common in ground layer			
<i>Poa poliformis</i>	Blue tussock-grass	Dominant of ground layer				Present	
<i>Poa tenera</i>	Slender Tussock-grass		Frequent occurrence				
<i>Polystichum proliferum</i>	Mother Shield-fern						Present
<i>Pomaderris aspersa</i>	Hazel Pomaderris				Common		Present in lower tree layer
<i>Pratia pedunculata</i>	Matted Pratia		Frequent occurrence				
<i>Pteridium esculentum</i>	Austral Bracken		Always below shrubs		Present in ground layer		Common
<i>Pultenea daphnoides</i>	Large-leaf Bush-pea				Common		
<i>Rhagodia candolleana</i>	Seaberry Saltbush	Frequent occurrence					

Species Name	Common Name	Coastal Dune	Herb-rich Foothill Forest	Grassy Dry Forest	Shrubby Foothill Forest	Coastal Headland Scrub	Shrubby wet forest
<i>Schoenus apogon</i>	Common Bog-sedge					Occasional	
<i>Spinifex sericeus</i>	Hairy Spinifex	Dominates foredune. Often replaced by Marram grass					
<i>Spyridium parvifolium</i>	Dusty Miller					Common	
<i>Stellaria flaccida</i>	Forest Starwort						Present
<i>Stellaria pungens</i>	Prickly Starwort		Frequent occurrence				
<i>Tetragonia implexa</i>	Bower Spinach	Frequent occurrence					
<i>Tetrarrhena juncea</i>	Wire Grass		Common		Present in ground layer		Common
<i>Viola hederacea</i>	Ivy-leaf Violet		Frequent occurrence			Occasional	Present

Vegetation Canopy Cover

Utilising GIS software, an analysis of vegetation canopy cover has been undertaken to ascertain to what extent vegetation canopy clearing has occurred. Figure C3 illustrates the level of canopy cover within Lorne.

No Cover

Areas that have been predominantly cleared of native vegetation tend to be located along the coastline and within the central township area. Two areas that have been largely cleared and are located away from coastline area include:

- The Lorne Country Club located north west of Holiday Road
- The Transmission Line easement to the north of the township.

Minor Cover

Areas of minor cover generally occur in linear bands adjacent and inland from the areas of no vegetation cover. The largest pockets are located adjacent to the commercial centre of Lorne.

Major Cover

The main area with major vegetation cover is located to the south of the township and is roughly bounded by Road-Knight Street to the north, the Great Ocean Road and Armytage Street / Raymond Street to the south.

Other smaller pockets are located around Hopetoun and Toorak Terraces and Grove Road to the west of Lorne.

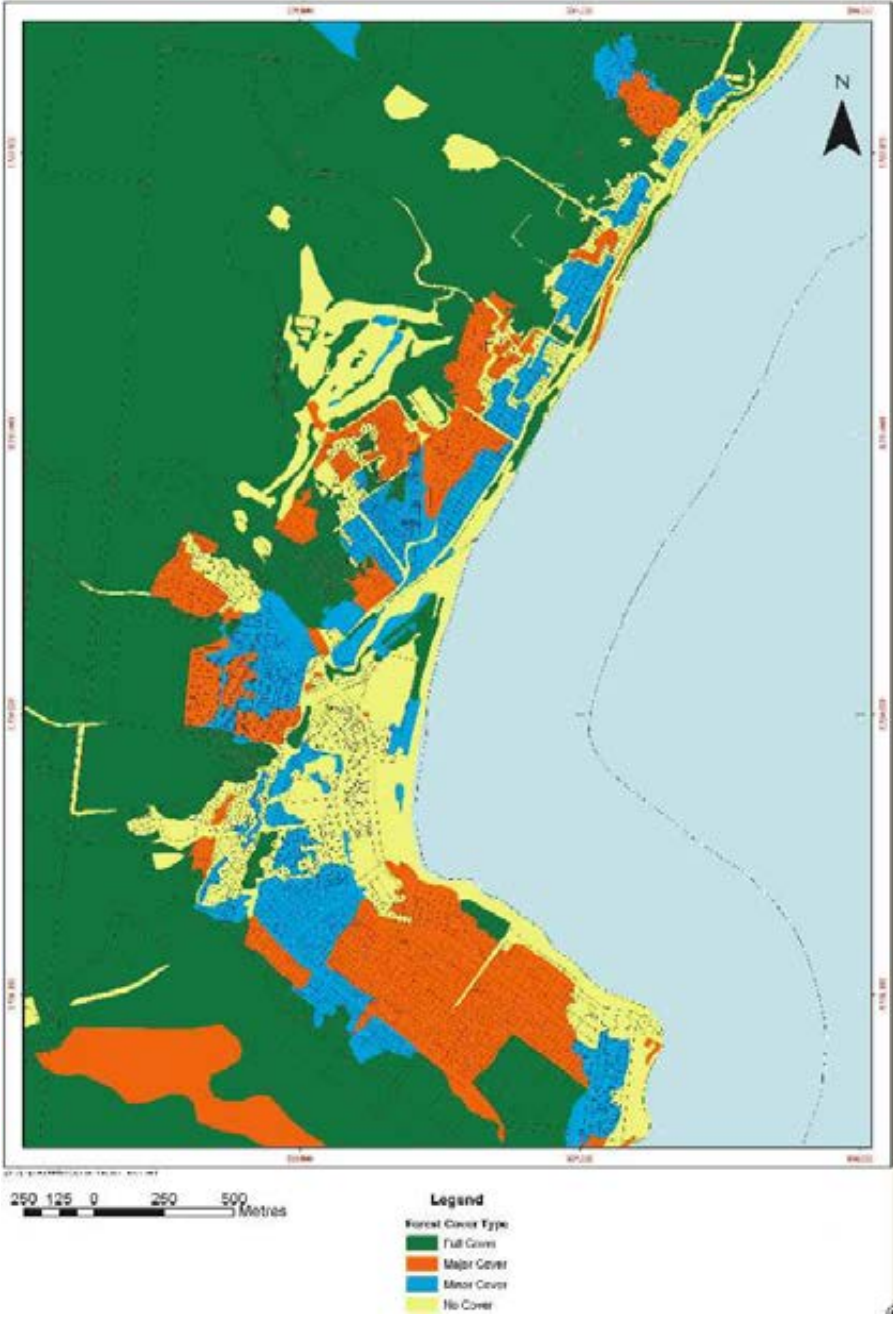
A third area is located to the north of Lorne around Howard Street Deans Marsh Road and Smithers Street.

Full Cover

Some areas of full vegetation coverage are located within the urban fabric. These are located at the corner of Erskine Street and Fernleigh Terrace, and in two areas along Belvedere and Normanby Terraces. Full cover vegetation enters the urban areas along the Erskine River easement and this cover connects to vegetation around the Lorne Country Club. Dense areas of vegetation are also located along the coastline and are associated with coastal shrubs.

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Figure C3: Canopy Cover



PHYSICAL ATTRIBUTES

Topography

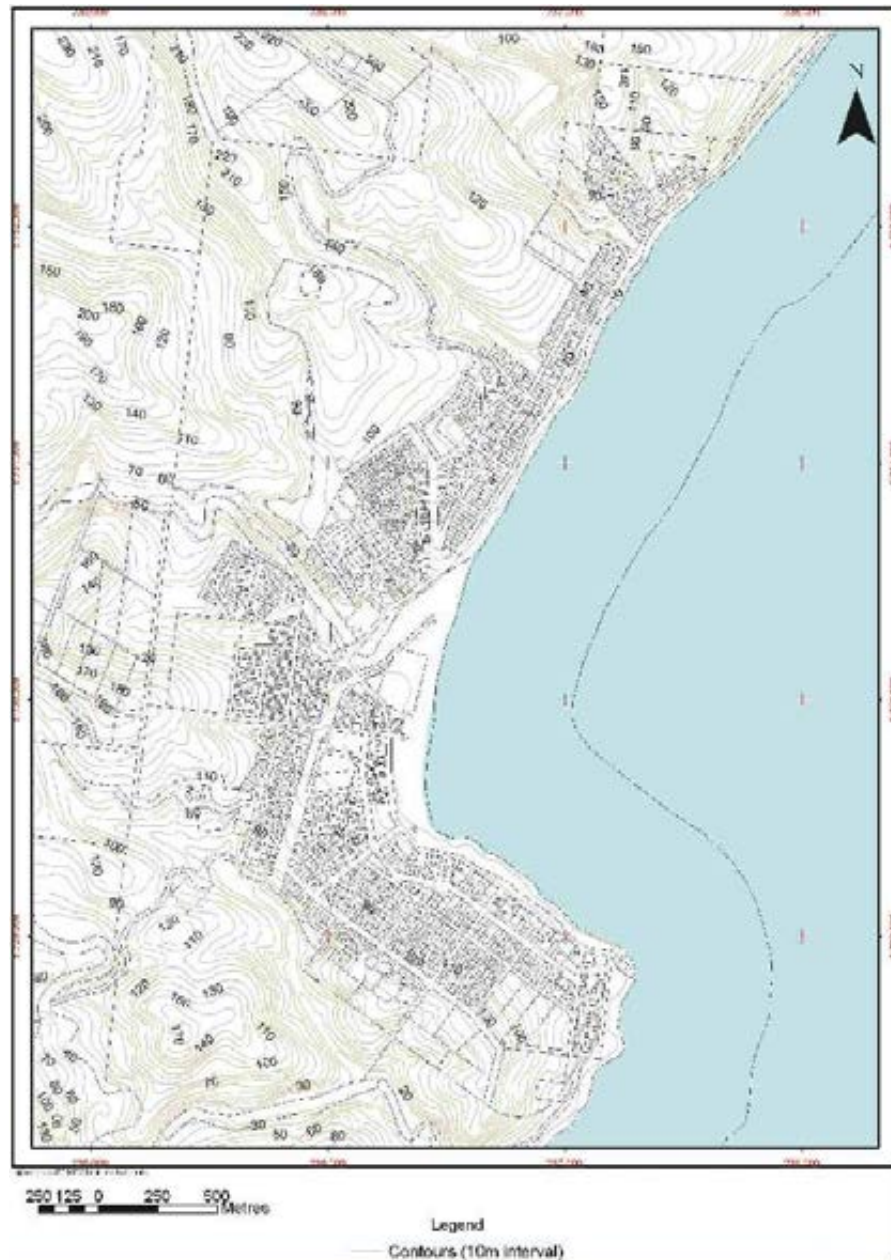
The topography of Lorne is defined by a series of ridgelines, many of which run parallel the coastline creating a natural amphitheatre surrounding Loutitt Bay and running to Point Grey to the south. Refer Figure C4.

The hills which form the backdrop to the Lorne township, rise to between 170-220 metres and are densely vegetated.

The backdrop of vegetated hills and prevalent views to the sea, particularly the north facing views from the ridgeline of south Lorne are some of the characteristics that make Lorne a memorable location along the spectacular coastline traversed by the Great Ocean Road.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS
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Figure C4: Topography



APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Slope

An assessment of slope using GIS software indicates that the majority of the township is constructed on terrain with a slope angle less 1:3 (33%). Slopes greater than 1:3 are designated with the dark orange colour in Figure C5.

A noticeable exception to this is the development occurring on the northern most point of the township. In this area a recent subdivision has been located on land steeper than 33%. This subdivision is visibly apparent as a result of extensive vegetation removal on steep slopes to accommodate what appear to be houses with high site coverage.

Flatter areas (grades less than 1:10 and coloured light beige in the Figure opposite) are generally associated with the mouth of the Erskine River and river flats that extend around the foreshore in a north and south direction.

The crests of various ridgelines are also apparent as they flatten and crown before falling away to the valley on the other side.

Figure C5: Slope



APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Ocean And Coastline

Lorne township is located on Loutitt Bay, approximately 142km from Melbourne. Loutitt Bay is characterised by wide sandy beaches, which provide for swimming and other recreational activities.

To the north of the Erskine River, the coastline consists of rocky outcrops with intermittent sandy beaches.

Point Grey defines the southern limit of the Lorne in the vicinity of Scotchman's Hill. The pier is located just north of this point. Refer Figure C6.

The coastline is generally flat and rocky with some large rock pools. Further along the coast these rocky areas are interspersed with some sandy beaches as the coastline wraps around the point in a westerly direction.

Figure C6: View of Loutitt Bay looking south toward the pier and Point Grey



DEVELOPMENT ATTRIBUTES

Lot Frontages

Utilising GIS software an analysis of lot frontages has been undertaken to determine if concentrations of particular lot frontages impact the main character elements of hills, vegetation, ocean and views.

A mixture of lot frontages occurs within the Lorne township. They range in size from between <10 metres to >20 metres.

Lots <10 metres frontage

The majority of Lots <10 metres are concentrated in an area immediately north and south of the Erskine River. These lots are accessed from Normanby Terrace, Belvedere Terrace, Fernleigh Terrace and Lorne Terrace between Howard Street and Minapre Street.

The Figure opposite shows part of this area and it is apparent from this aerial and from a site inspection that many houses span two allotments, thereby lessening the visual connection between the narrow frontages on the titles and the built form.

Other isolated narrow lots occur throughout Lorne and are randomly spread over the remaining urban area with no major concentrations.

Lots 10 – 15 metres frontage

A concentration of lots with frontages between 10 – 15 metres occurs between Grove Road and Clissold Street accessed from Hopetoun Terrace and Polwarth Road. Intermixed with these are some smaller lot frontages, which reinforce this as an isolated area of small lot frontages.

Lots 15 – 20 metres

Lots with frontages between 15 – 20 metres appear to be most concentrated in the southern portion of Lorne between William Street and Francis Street. In this area the majority of remaining lots have frontages >20 metres, with very few lots frontages less than 15 metres.

Lots > 20 metres

The greatest concentration of lots with frontages >20 metres are concentrated in a small pocket between Waverly Avenue and Minapre Street. Intermixed in this area are other lots with frontages between 15-20 metres and relatively few lots with frontages <15 metres. Otherwise these lots are relatively evenly spread across the remainder of the township. Other isolated lots occur randomly throughout Lorne.

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Figure C7: Part aerial showing many houses spanning two allotments



Figure C8: Lot Frontages



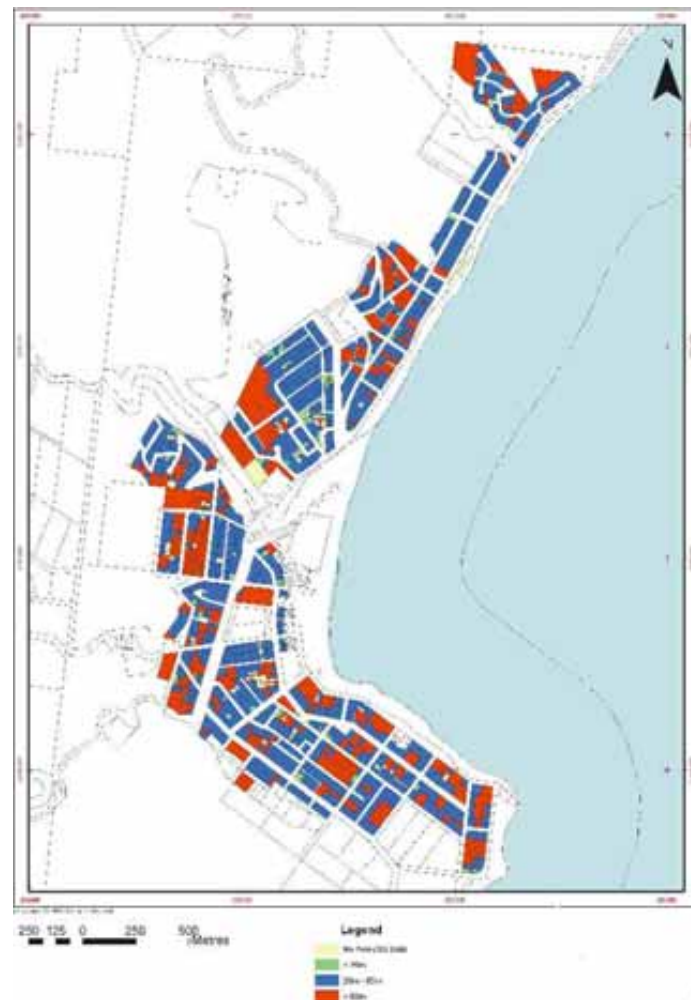
APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

While the majority of allotments are approximately 15 metres wide (the red allotments in Figure C8 above, allotments with different frontages are relatively evenly distributed across the Lorne urban areas. Areas of smaller allotments or particularly allotments with narrower frontages have often one house spanning two allotments.

Lot Depths

Utilising the GIS software an analysis of parcel depths was made to determine if concentrations of particular lot depths impact the main character elements of hills, vegetation, ocean and views.

Figure C9: Lot Depths



APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Lot Depth < 20 metres

Very few lots with a depth of less than 20 metres occur in Lorne. Two small areas of this sized lot occurs near the corner of Howard St and Fernleigh Crescent. Another occurs near the intersection of Minapre Street and Alpha Terrace.

Lot Depth 20 metres – 50 metres

Majority of the lots in Lorne are 20 to 50 metres in depth. A dense pocket of this depth lot occurs in the northern part of Lorne bounded by Howard Street Holiday Road and Minapre Street. Another dense pocket occurs in the area around Dorman, Muir, Hall and Duncan Streets and the Great Ocean Road. The remainder of this depth lot is relatively evenly interspersed with lots greater than 50 metres.

Lot Depth > 50 metres

A pocket of lots with a depth greater than 50 metres occurs along the southwest side of Waverly Avenue and between the north east side of Lascelles Terrace and the end of Normanby Terrace. Another pocket occurs along Clissold Street, Grand Parade and Polwarth Road. The remainder of lots with a depth greater than 50 metres are interspersed relatively evenly with lots 20-50 metres throughout Lorne.

The majority of lots within the Lorne township have lot depths between 20-50 metres with no apparent concentrations forming a pattern to development. Occasional smaller lot depths and lots with lengths greater than 50 metres are randomly distributed throughout the township.

Lot Areas

Utilising the GIS software an analysis of parcel areas was made to determine if concentrations of particular lot depths impact the main character elements of hills, vegetation, ocean and views.

Lot Area < 500 metres

A concentration of lots with an area of less than 500 metres occurs in the area bounded by Howard Street up to Holiday Road, Mianpre Road, and Deans Marsh Road. Another pocket occurs in the area bounded by Polwarth Road, Clissold Street, Otway Street and Grove Road.

Lot Area 500 metres –1000 metres

This lot area is probably the most common in Lorne occurring in small dense pockets. One of these is to the north of Lorne in the vicinity of Adderley Avenue Hall Street and the Great Ocean Road. Another is in the vicinity of Gardiner Avenue, Austin Court and Richardson Boulevard. A third occurs to the south of Lorne between the south end Armitage Street and the Great Ocean Road.

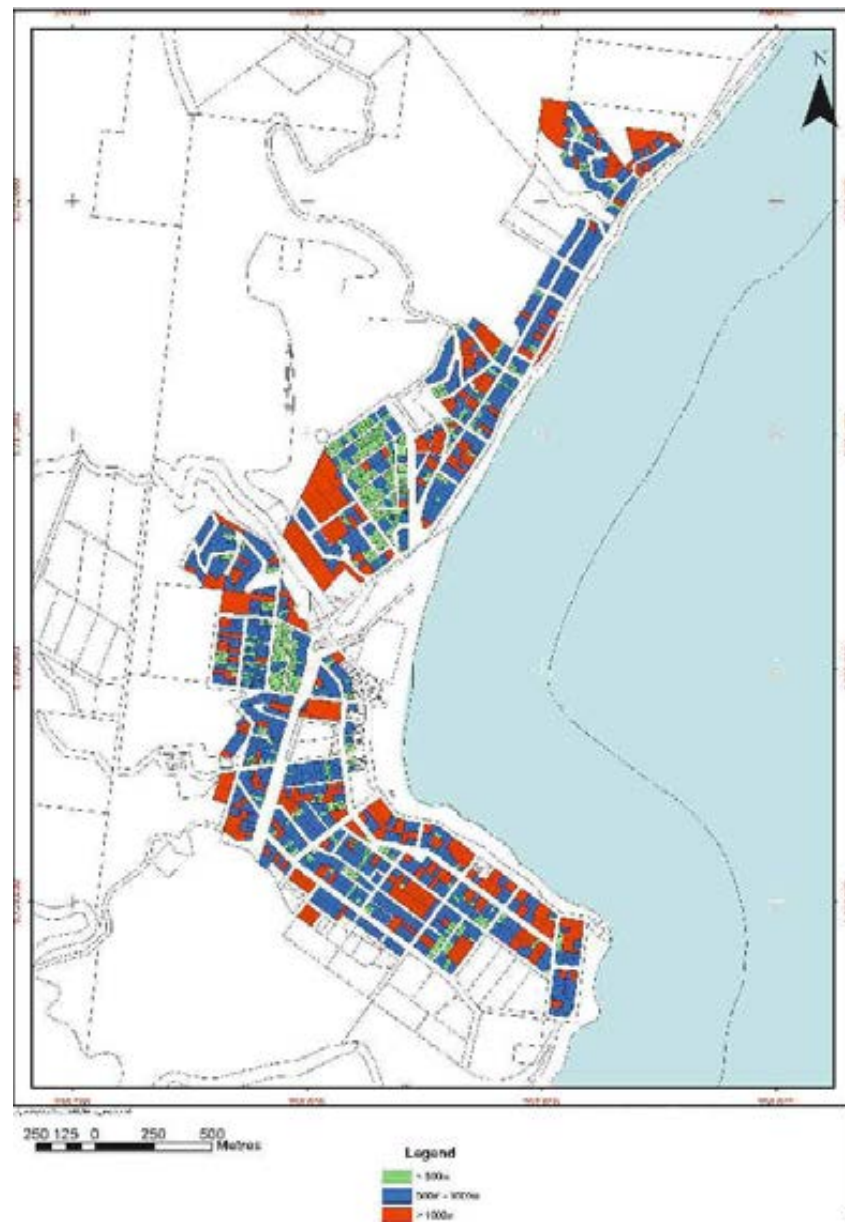
Lot Area > 1000 metres

Lots with an area greater than 1000 metres are concentrated on both sides of the Erskine River to the south at the point the river intersects with the Great Ocean Road. Two caravan parks are located on these sites. Another pocket of lots of this area occurs along Staughton Avenue.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

A third concentration of lots with an area greater than 1000 metres is bounded by Smith Street, William Street and Otway Street. This is the site of Lorne Primary School and Stribling Reserve. Approximately 70 percent of the beachfront lots along the Great Ocean Road to the south of William Street are greater than 1000 metres in area.

Figure C10: Lot Areas



APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

The distribution of Lots with similar areas reflects the variation to Lot frontages previously discussed. Two pockets of development with smaller lot areas are discernible north and south of the Erskine Rive. However on site verification has shown that many houses span two allotments (refer lot frontage figure), therefore the visual difference is not sufficient to generate a different precinct or neighbourhood based on allotment size.

Buildings

Height

Buildings within residential areas are generally limited to 7.5 metres above natural surface level in accordance with the Surf Coast Planning Scheme.

Generally height alone has not been the primary reason for a building to be considered inappropriate. In the work by Dr Ray Green inappropriate buildings were more often the result of bulky building mass (as a result of poor articulation) and inappropriate styles (the overtly modernistic cube, or the Georgian townhouse).

Style

A wide range of Architectural styles occur within Lorne reflecting its transition from early settlement to current day. Recent concern has arisen regarding the replacement of traditional fibro and weatherboard holiday houses with contemporary dwellings.

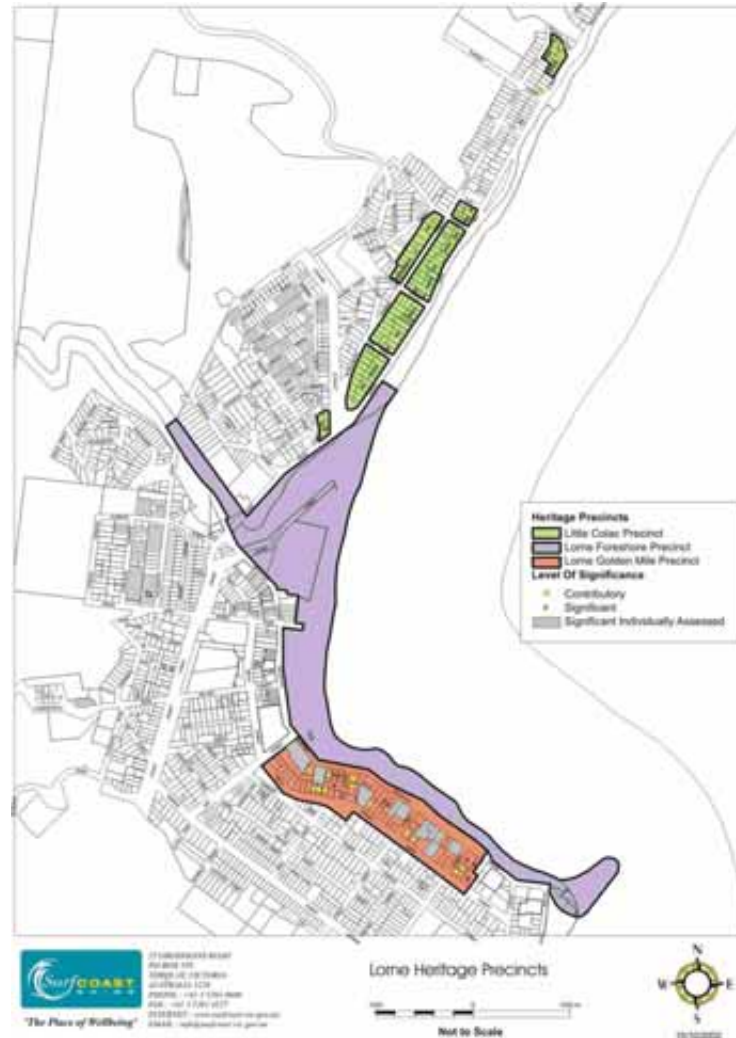
Heritage Precinct

A number of older buildings, many with historical significance occur within Lorne and are identified within the Surf Coast Heritage Study (Context et al, 2000). This study incorporates many of the identified historical buildings within three heritage areas that are defined as:

- Little Colac Precinct
- Lorne Foreshore Precinct
- Lorne Golden Mile Precinct.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Figure C11: Heritage Precincts



Setbacks and Site Coverage

A review of setbacks and site coverage was undertaken utilising aerial photography. The variation in range was great with many allotments having substantial setbacks (often greater than 15 metres) while other houses were only set back three or four metres from the frontage.

No area exhibited discernible differences with regard to setbacks and site coverage, with the apparent loss of vegetation generally resulting from traditional clearing practises within the more historic areas of Lorne.

APPENDIX C URBAN CHARACTER AND VEGETATION ANALYSIS BACKGROUND INFORMATION

Streetscape Image

A variety of construction techniques have been applied to street construction within the Lorne area. These include gravel and asphalt roads, with kerb and channel or roll over kerb. Road verges vary relative to the road surface construction. In general the more informal construction of roads is complemented by informal verge treatments which generally occur in the upper ridgeline areas. The informal road easements allow for increased retention of large canopy trees within the easement further complementing the informal character of these areas.

Figure C12: Informal Road and Verge Treatment



Figure C13: Informal Road and Verge Treatment



There are also various pedestrian path treatments that range from an unmade track on the grassed nature strip, to more formal concrete footpaths paralleling the kerb. In many areas pedestrians are required to walk on the roads, with the verges acting as a refuge for pedestrians if vehicles approach.

The informal treatment of roads with either rollover kerbing or swale drains is more visually compatible with the 'natural' characteristics of the area.

It is apparent in the Figures C12 to C15 that the road types also correspond to the degree of vegetation retention. The informal roads are typically within areas that have a greater proportion of retained vegetation, therefore precincts based on canopy retention will also reflect the streetscape settings.

Figure C14: Semi Formal Road and Verge Treatment



Figure C15: Formal Road and Verge Treatment



**APPENDIX D RESOURCE DEVELOPMENT
OPPORTUNITIES**

APPENDIX D RESOURCE DEVELOPMENT OPPORTUNITIES

ENVIRONMENTAL PLANNING REVIEW

The *Lorne Strategy Plan* 1991 focussed particularly on the resource use and tourism development options for Lorne, structuring an economically sustainable and beneficial tourism economy and developing the area towards this goal. Clearly this Strategy has met with significant success. Particular emphasis was directed at resource development – making the most of existing opportunities and highlighting where under-utilised assets existed. A summary of the implementation of the resource development opportunities outlined in Chapter 6.4 of the *Lorne Strategy Plan* 1991 is presented in Table D1.

Table D1: Lorne Strategy Plan 1991 – Resource Development Opportunities Review

Resource Opportunity	Objective	Proposed Location	Status	Comment
Development of New Resource Opportunities				
Information Centre	To centralise all tourism and recreational information for Lorne and the surrounding areas	Upper storey of building on Mountjoy Parade	Implemented. The 1998 Lorne CAP states that it was inadequate to cope with the increase in demand	The need to construct a new visitors centre incorporating the historical society display was identified in the Lorne CAP
Information Boards	To complement a visitors information centre in disseminating tourism and recreational information	Ridgeways Centre and Point Grey	Informal information board provided at the Ridgeway Supermarket (not sponsored by Council)	Not provided at Point Grey
Coordinated Sign System	To provide direction to tourists and the community	As required	Lorne has benefited from on-going program of signage development along the Great Ocean Rd (part of the Great Ocean Rd Tourism Development Plan)	Guidelines for foreshore areas recommended under the Lorne CAP
Community Centre/Multi-purpose Centre	Provide an off-peak focus for tourists and the community	As appropriate	Fig Tree Community house constructed in 1999 on land in front of Elderly Citizens Centre, Mountjoy Parade	X
Historic Society Museum/Display	To draw on an interesting and significant history to promote Lorne and the surrounding area	As appropriate	Historical society catered for in Fig Tree House. Additional display area may be included in a new tourist info centre	Identified for inclusion within a new visitors centre under the Lorne CAP
Public Common	Provide an outdoor space suitable for conducting community activities	Foreshore opposite commercial	Ad hoc use of foreshore as public common particularly during holiday periods and large scale events (such as the Falls Festival)	Refer Lorne CAP

APPENDIX D RESOURCE DEVELOPMENT OPPORTUNITIES

Resource Opportunity	Objective	Proposed Location	Status	Comment
Family Accommodation	To diversify existing accommodation to cater for families, potentially in the form of guest houses	As appropriate	Development of a number of large-scale accommodation facilities: Erskine House, Ocean Views Motel, Cora Lyn and redevelopment of Pacific Motel and Kalimna	Numerous small to medium scale accommodation facilities including redevelopment of Babington's caravan park to units, cabins out of town on Erskine Falls Rd and Allanvale Rd etc. Boutique accommodation (B&B) also emerged in last decade
Boating Facilities	Maintain and enhance boating facilities	X	X	X
Cliff Walk	To extend the Cliff walk from the foreshore to Point Grey for recreational benefit	Foreshore and cliffs	Extension of walking trail undertaken. Establishment of Lorne shuttle bus at Christmas and Easter	X
Cycle Paths	Potentially encouraging a bicycle hire facility to encourage cycling along the foreshore and the surrounding area	Foreshore	Cycling path and hire facility not developed	X
Scenic Drives	Promote scenic drives and walks through the Lorne and surrounding areas	Otways and Great Ocean Rd	X	X
Scenic Vista Points	To provide lookouts from the Great Ocean Road to take advantage of the values of the natural landscape	Southern and northern ends of Lorne	X	X
Cultural Interpretation Sites	Provide context for visitors for several popular cultural sites	Various	X	X
Green Space at end of Pier	Provide a green area for public use	Pier	X	X
Tramway Forest Trail	To diversify existing walking track options	Tramway Forest	X	X
Special Events	Introduce some key special events to promote Lorne during the non-peak season	As appropriate	Falls Festival (peak) Pier to Pub	X

APPENDIX D RESOURCE DEVELOPMENT OPPORTUNITIES

Resource Opportunity	Objective	Proposed Location	Status	Comment
Quarry Site	To manage this asset.	Quarry	Consideration given to use for car parking	No work on site to date.
Rationalisation of Existing Opportunities				
Non-coastal Related Facilities	To relocate facilities that do not intrinsically require proximity to the coast to non-coastal areas.	Non-coastal areas	Relocation of bowls club	X
Caravan and Camping Grounds	Analyse and improve where appropriate existing caravan and camping grounds to protect the local environment	N/A	Parks near Erskine River to be left open for peak periods. Other facilities have been upgraded in support of this objective	Reference made in the Lorne CAP
Public Toilets, Picnic Areas	Replace and upgrade several picnic/toilet facilities that were substandard	Scotchman's Hill and North Lorne	Facilities have been upgraded commensurate with the increase in use	X
Commercial Centre	Enhance the main commercial centre's streetscape through appropriate controls	Main commercial strip	X	X
Improved Management, Promotion and Landscape Enhancement				
Erskine House	To appropriately develop Erskine House to enhance its current status	Erskine House	Development undertaken and ongoing	Reference within the Lorne CAP (High Priority)
Forest Walks	To enhance walking trail assets in areas where standards are substandard	Various	In general, walking trails in and around Lorne are developed and maintained	X
Landscape Plantings for Visual Enhancement	Plant native vegetation where appropriate to accentuate the natural aspect of Lorne	Various	X	X

Since the inception of the *Lorne Strategy Plan* 1991, the emphasis and importance placed on managing and protecting the local environment has swelled to a point where consideration of environmental issues now becomes integral to future strategy.

APPENDIX D RESOURCE DEVELOPMENT OPPORTUNITIES

Following this increase in public awareness of the unique natural and cultural environment of Lorne since 1991, stakeholder and government asset managers have spent considerable effort to develop management plans for specifically important environmental areas, either due to their special ecological values or other pressures. Such areas include the Lorne foreshore and coastal areas, the Angahook-Lorne State Park and the various catchments and waterways in the area.

The following summarises several management plans for some of these sensitive areas in and around Lorne to summarise these key management approaches and to outline how far Lorne has come to date in recognising its unique environment and therefore its environmental management responsibilities.

These are:

- *The Lorne Coastal Action Plan (1998)*
- *The Erskine River and Stony Creek Catchment Plan (2000)*
- *The Angahook-Lorne State Park Management Plan (1999)*
- *The Corangamite Regional Catchment Strategy (draft)*
- *The Environment and Conservation Plan (1996).*

It is worth noting that all these plans have been produced since the release of the *Lorne Strategy Plan 1991*.

Table D2: Summary of Relevant Regional and Local Environmental Management Plans and Strategies

Plan / Strategy	Summary	Protect the natural environment	Tourism	Recreation	Catchment Mgmt	Flora & Fauna	Sustainable development
Lorne CAP (1998)	Protect and enhance the Lorne foreshore areas	√	√	√			√
Erskine River & Stony Creek Catchment Plan (Dec 2000)	Protect the Erskine River and Stony Creek catchments, the estuarine environments	√		√	√	√	
Angahook-Lorne State Park Management Plan (Feb 1999)	Manage recreation and tourism within the Park to ensure the protection of the natural assets of the Park	√	√	√	√	√	
Corangamite Regional Catchment Strategy (Draft)	Provide a coordinated approach to managing the regions catchments	√			√	√	

APPENDIX D RESOURCE DEVELOPMENT OPPORTUNITIES

Plan / Strategy	Summary	Protect the natural environment	Tourism	Recreation	Catchment Mgmt	Flora & Fauna	Sustainable development
Environment and Conservation Plan (1996)	Manage and conserve the environment of the Surf Coast Shire	√		√	√	√	