ROSEDALE PRELIMINARY ASSESSMENT

Batemans Bay Property Services

Project Co-ordination:
Planning Initiatives

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FIGURES

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1 INTRODUCTION

Kiah Infranet have been commissioned by Planning Initiatives to prepare a subdivision concept plans for the site. Key to the plan was to prepare an environmentally sensitive scheme that would fit into the local context, maximise opportunities of the site, respond practically to the real constraints of the site and comply with the NSW. Planning document: “South Coast Guidelines for NSW”.

Background planning work for the Rosedale site commenced in the middle of 2002. The following studies have informed the development of the concept plans:

- Bushfire protection assessment
- Flora and fauna assessment
- Aboriginal cultural heritage assessment
- Water management strategy
- Traffic and transport assessment

1.01 The Site

The land is made up of Lot 12 and Part Lot 122 DP 755902, Part Lot 1 DP 511266, Part Lot 1 DP 403372 and Lot 1 DP 243483 George Bass Drive Rosedale. The area of the site is approximately 49.4 hectares. Batemans Bay town centre is located approximately 17 kilometres to the north-west by road. Malua Bay is about 2 kilometres by road to the north-east and Tomakin is around 4 kilometres to the south-west.

1.02 Regional Context

See figure 1

The site is located south of Batemans Bay adjacent to the existing village of Rosedale. Rosedale is a growing residential area with limited services and part of the greater Batemans Bay Urban Expansion Area.

The site is directly west of Rosedale, a quiet residential enclave and to the west of George Bass Drive. As a consequence, the site is partially exposed to George Bass Drive, in particular the northern section. Another significant subdivision is being planned for development to the west of the site and Mogo State Forest lies further west.

Figure 1 illustrates the general context surrounding the site.

Figure 1: Local area map

Travelling South, Bevian Road intersection to the right

Open clearing north of Salt Water Creek

Spotted Gum & Macrozamia vegetation

Salt Water Creek in foreground, treed ridgeline behind

2 SITE ANALYSIS

2.01 Landscape Appraisal

Landscape and Aesthetic Appraisal

The site can be divided into three general zones, a heavily vegetated area to the north and south-west along the higher grounds of the site, a low lying flood plain with open views towards the adjacent ridges and a partially cleared knoll towards the southern side of the site. The topography is generally flat within the open areas of the floodplain while fairly steep ridges flank the northern and southern side of the property. Panoramic views are available from the southern knoll looking north across the floodplain as well as from different locations along the edge of the floodplain, including from George Bass Drive. A panoramic view is also available from the northern end of the site, adjacent to George Bass Drive in a south-easterly direction.

Although the site is in close proximity to the sea, there are no views to the sea from the site and the main feature is its bushland and floodplain setting.

The key landscape elements that need to be considered are:

- Retention of the bushland setting, in particular within gullies
- Minimisation of drainage line disturbances
- Flood level impacts
- Minimising impacts to the topography

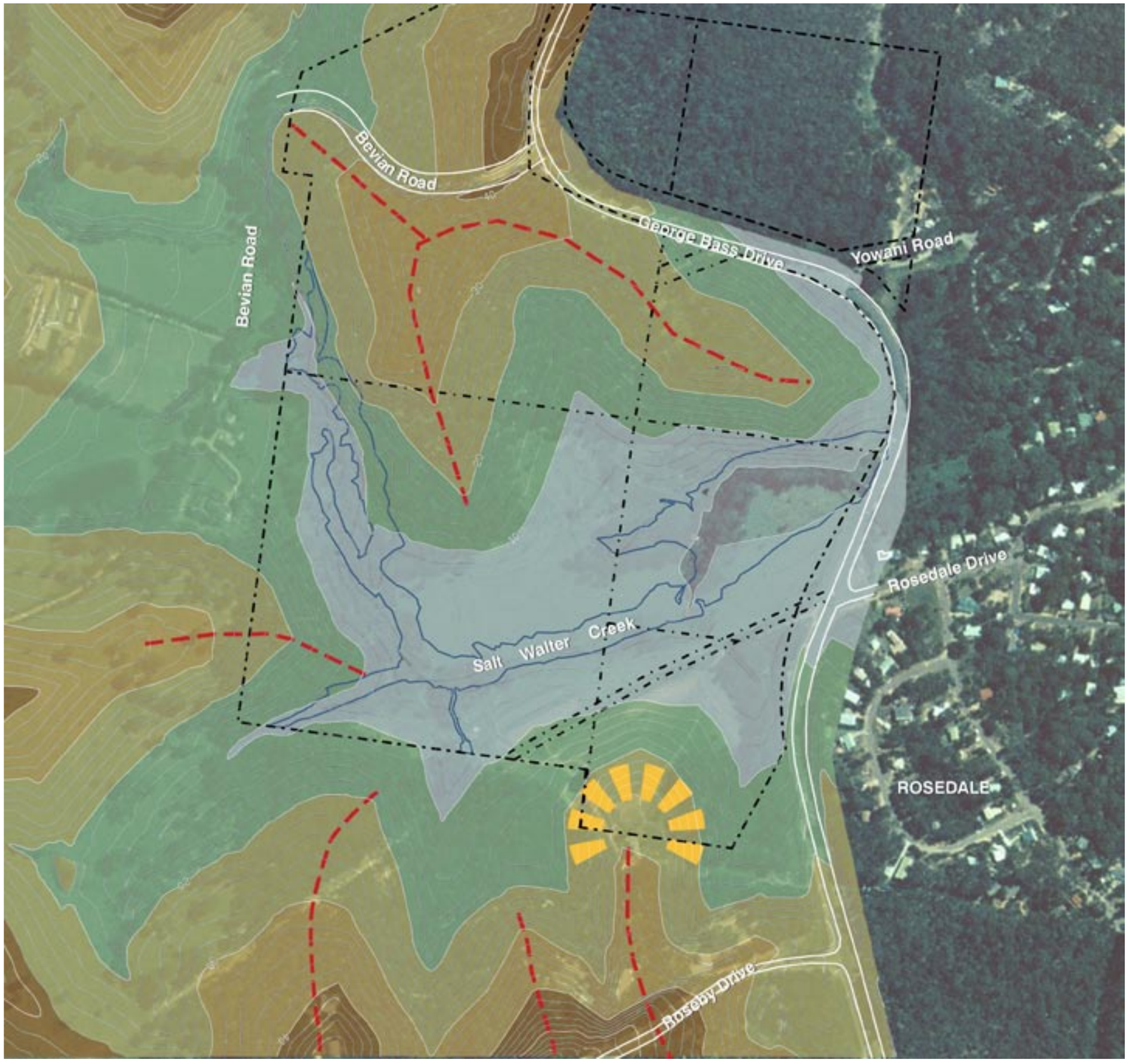
2.02 Topography and Drainage

See figure 2

The land consists of steep to undulating topography with various ridgelines running predominantly north/south defining the edge of the lower floodplain areas. From between the ridgelines, various drainage gullies discharge into the floodplain of Salt Water Creek. The drainage lines have a significant ecological value and together with the steep topography and the also significant floodplain provide all key constraints on the development potential of the site.

Figure 2 demonstrates the landform and its key elements:

- Low lying grassland and floodplain along Salt Water Creek
- Two vegetated ridgelines running north/south and northwest/southeast along the northern portion of the site from which a drainage tributary leads to the floodplain.
- A west facing enclosed vegetated slope at the most northern end of the site
- Two vegetated ridgelines running north/south along the most southern portion of the site from which three main drainage tributaries lead to the floodplain.



LEGEND

TOPOGRAPHY

- Knoll
- Main ridgelines

DRAINAGE

- Drainage lines
- 100 year flood levels
- 5 year flood levels

ELEVATION

- Higher than 0 metres
- Between 10 and 20 metres
- Between 20 and 30 metres
- Between 30 and 40 metres
- Higher than 40 metres

- Property boundary

SCALE 1:5000
0 50 100 150 200m

Figure 2: Topography and Drainage.

Travelling north towards Yowani Road intersection

Casuarinas & Melaleucas along Salt Water Creek

Spotted Gum forest

Flat floodplain with Casuarinas defining Salt Water Creek

2.03 Visual Analysis

See figure 3

Visual Absorption Capacity

The visual absorption capacity is the site's ability to accept change in relation to the site's visual sensitivity level. The visual sensitivity is a judgmental value that takes into account the site's visual dominance over its surrounds, its distinctive character, its natural state and contrast with the surrounding land.

The site has a partial visual exposure both to the George Bass Drive and some areas of Rosedale. Hence the site has a medium to low visual absorption capacity at key locations. In order to counteract this, it is desirable to provide some visual screening through the introduction of a buffer zone in the form of existing bushland along visually exposed areas to maintain the existing character as much as possible.

Other areas with moderate to high visual exposure include the low lying grasslands along Salt Water Creek due to their open character and the cleared knoll with bushland backdrop to the south.The area beside the Creek area is considered of high visual quality and developments within this area should be restricted. The area of the predominantly cleared knoll has a backdrop of natural vegetation and is suited to a sensitive development plan.

Spatial Analysis

The site can be divided into four zones:

- Low lying open grassland areas which are partially flood prone and highly visually exposed
- Bushland setting along ridges which are partially visually exposed
- Bushland setting within gentler enclosed slopes with low visual exposure
- Visually exposed knoll (mostly visible from within the site) with open grassland

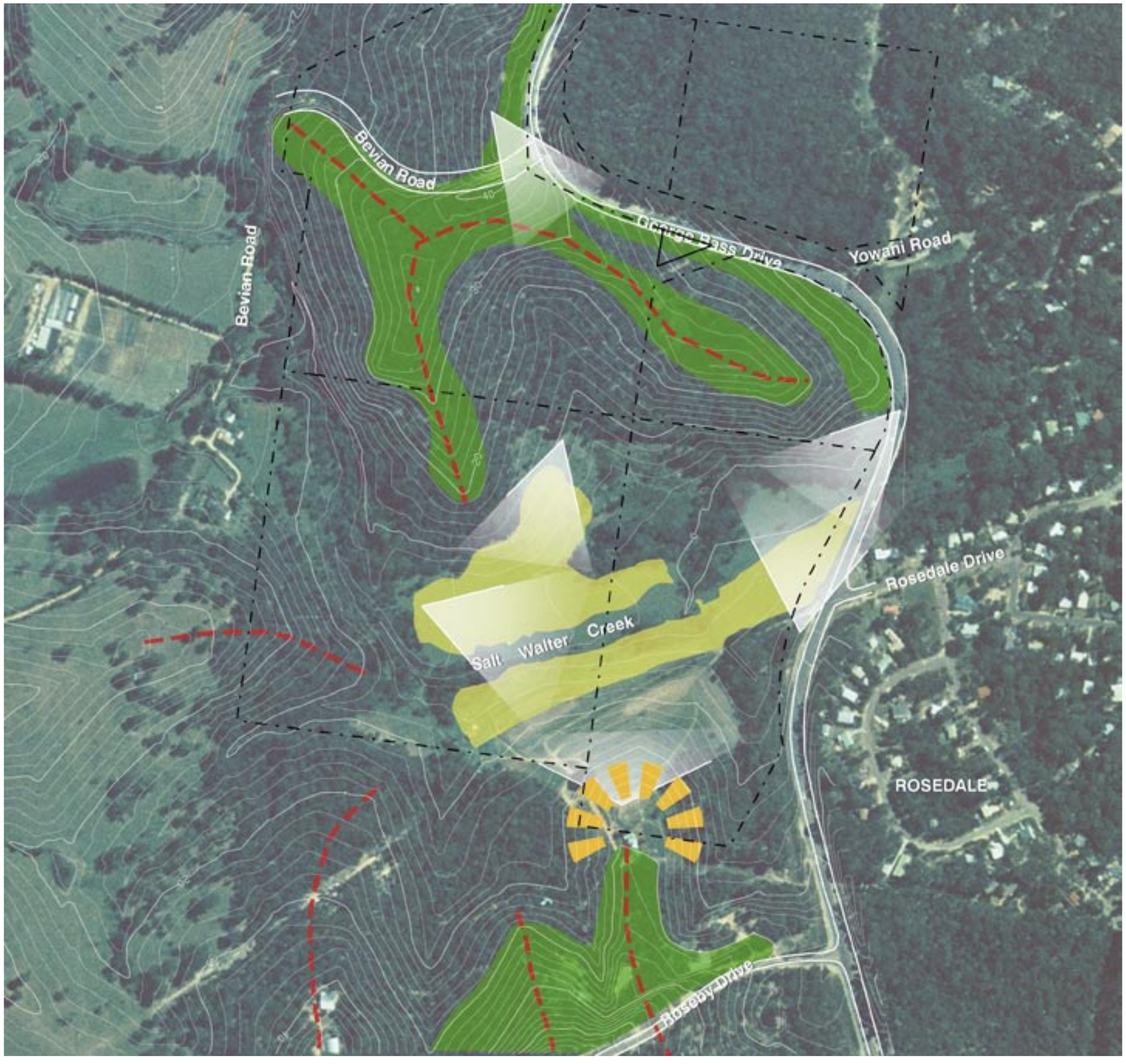
2.04 Slope Analysis

See figure 4

- Steep slopes are predominantly concentrated towards the western side of the site along the slopes east of Salt Water Creek and along Bevian Road. To the exception of the floodplain/low lying grassland, the majority of the site has slopes in excess of 5 degrees. Severely restricting slopes between 15 and 18 degrees occur in small pockets throughout the site.

- A large area with slopes of less than 5 degrees dominates the central portion of the site located along Salt Water Creek.

- Large pockets of slopes between 5 and 10 degrees offer opportunities for development, however retention of vegetation, impacts to existing drainage patterns and creating dedicated buffer zones at key locations will require careful consideration.



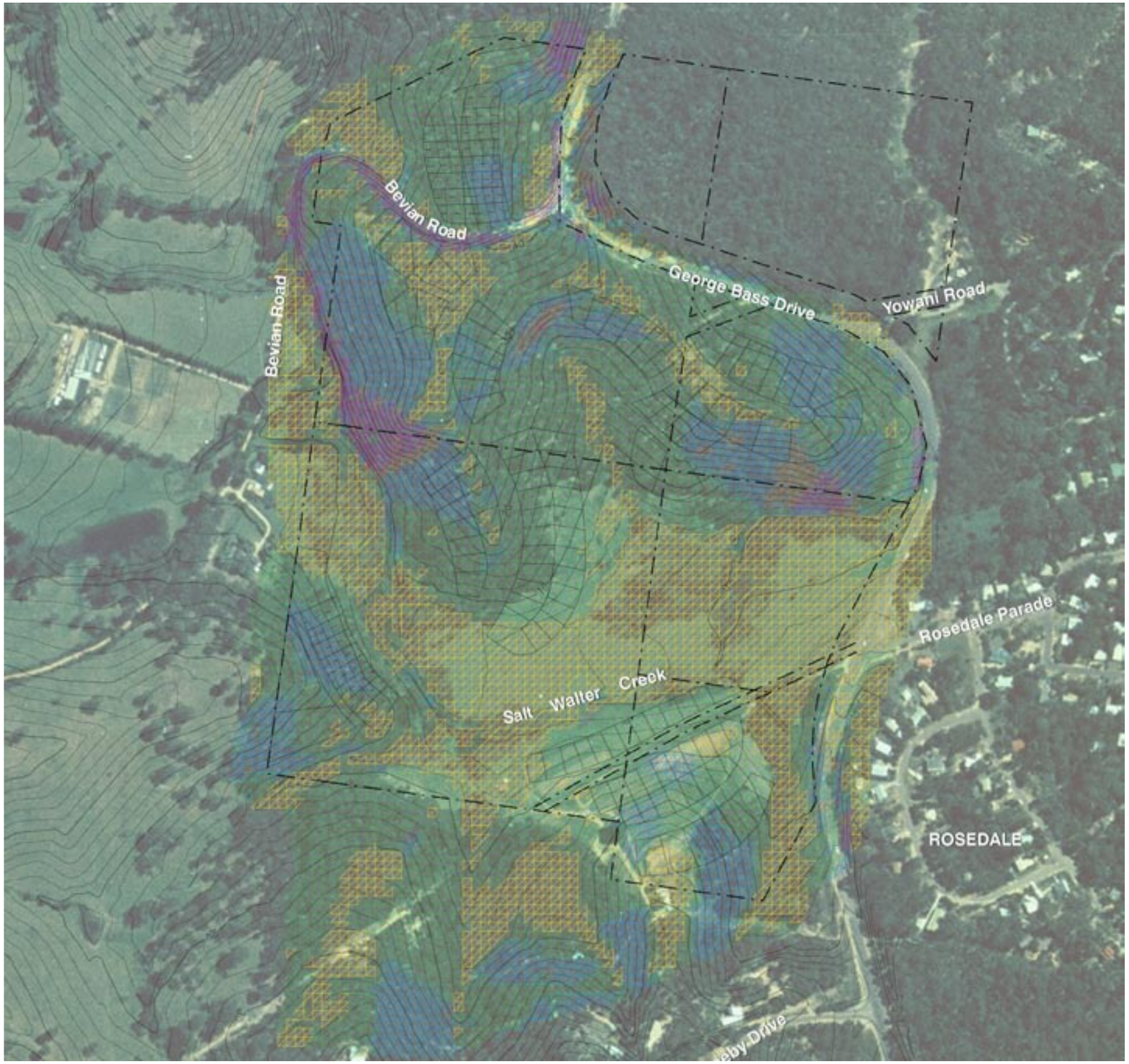
LEGEND

HIGH VISUAL SETTING

- Enclosed bushland
- Open pastoral land
- Knoll
- Key contextual views
- Major ridge lines
- Property boundary

SCALE 1:5000
0 50 100 150 200m

Figure 3: Visual Analysis



LEGEND

SLOPE ANALYSIS

- 18° - >
- 15° - 18°
- 10° - 15°
- 5° - 10°
- 0° - 5°

Property boundary

SCALE 1:5000

0 50 100 150 200m

Figure 4: Slope Analysis

2.05 Vegetation

See figure 5

The site is located in North Rosedale with forest connections noticeably evident to the north and south. There is a high density of middle aged trees suggesting clearing within the past 40 years. To the west of the site much of the land remains as pasture land. Landuse on the site has been extensive, varying from dairy farms, to market gardening and forestry.

PMA Consulting was commissioned to undertake the Flora and Fauna Assessment for the area. Information shown on the adjacent figure was derived from their June 2004 report. The site is covered by a variety of vegetation communities. However, in forested areas there is evidence of affected vegetation by forestry activities, although there is still a moderate representation of all vegetation layers.

The vegetation communities(f*rom pma consulting report)* both in and around the site are shown in figure 7 and are summarised below:

- Spotted Gum – Burrawang Forest: the most extensive area of vegetation over most of the northern portion of study site possesses many characteristics of the Forest Ecosystem 9 'Coastal Lowlands Cycad Dry Shrub Dry Forest– *Corymbia maculata/Macrozamia communis'* community as described in Terrestrial Ecosystems of the Eurobodalla Local Government Area (NPWS, 2000). This community is reasonably common throughout the region.

  Moist phase – drainage routes and less exposed areas: *Eucalyptus maculata/Eucalyptus paniculata* being dominant with *Eucalyptus pilularis* frequently encountered. Understorey: *Macrozamia communis/Eucalyptus reticulatus* and *Pittosporum undulatum*. The dry phase is similar, however, the understorey is more open. *Eucalyptus maculata/Eucalyptus paniculata* are the most dominant with *Eucalyptus globoidea/Allocasuarina littoralis/ Daviesia ulicifolia* and *Themeda australis* also occurring withinin this phase.

- Swamp Oak Floodplain Forest: there is a patch of Swamp Paperbark *Melaleuca ericifolia* closed scrub along the central eastern portion of the site grading into an association dominated by *Casuarina glauca* and *Melaleuca ericifolia* which is potentially a degraded Forest Ecosystem 24 'Coastal Wet Heath Swamp Forest – *Casuarina glauca/Melaleuca ericifolia'* as described in the previously mentioned report (NPWS, 2000). *Casuarina glauca* becomes dominant along the eastern (most likely brackish) portion of the creek. This community is listed as a vulnerable community within the Eurobodalla Shire, - ecosystems which may have been subject to over-clearing, regionally rare or potentially locally common but restricted geographically. Both of these communities are now part of the Endangered Ecological Community "Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner Bioregions".

- Swamp Paperbark /Closed Scrub: *Melaleuca ericifolia/Casuarina glauca/ Leptospermum polygalifolium* – located along eastern portion of creek where conditions are slightly saline – entirely on low lying areas with dominant species changing from west to east as moisture increases in the following order; *Leptospermum polygalifolium/Melaleuca ericifolia/ Casuarina glauca.*

Spotted Gum - Ironbark Forest

- Spotted Gum/Southern Mahogany Damp Forest:some moister portions of the intermittent creekline have a community dominated by a Damp Forest, similar to that described in Eurobodalla National Park Plan of Management (NPWS,2000, p 14.). A small number of Spotted Gum *Corymbia maculata* and Southern Mahogany *E.botryoides* were present along with more moist species including Lilly-Pilly *Acmena smithii* and *Pomaderris* sp. Lilly Pilly Rainforest: *Acmena smithii/Synoum glandulosum/ Eupomatia laurina/Doryphora sassafras* – occurs along western portion of creek below a steep, south facing slope.

- Grassland (Pasture/cleared): Introduced species dominate cleared land with this community having little significance to native flora and fauna.

LEGEND

VEGETATION ASSOCIATIONS*

- Swamp Oak / Swamp Paperbark Forest
- Swamp Paperbark / Closed Scrub
- Spotted Gum / Burrawang Forest
- Spotted Gum / Southern Mahogany Forest
- Cleared

- Creeks
- Property boundary
- 1:100 Year flood level

*Note vegetation source : pma study, SITE PLAN 19/07/04 and SITEPLAN 20/07/04

SCALE 1:5000
0 50 100 150 200m

Figure 5: Vegetation

2.06 Opportunities & Constraints

See figure 6

The site's major physical constraints are illustrated on this plan. They include ridgelines to the north and south, drainage lines and the 1:100 year flood level.

The ridgelines are significant as they visually contain the site, and also provide ideal ground for the main roads. There are higher ridgelines to the west of the land.

The drainage lines should be incorporated into the open space system and the 1:100 year flood level land is an obvious constraint to development.

North facing slopes offer ideal housing orientation whilst south facing slopes are a constraint to housing.

Slope steeper than 15 degrees (1:3.5 slope) are a constraint to development.

The exposed open knoll to the south and the enclosing valley form to the north are topographical elements that offer opportunities for appropriate open space development or urban form arrangements, respectively.

LEGEND

HIGH VISUAL SETTING

- Enclosed bushland
- Open pastoral land
- Knoll
- Key contextual views
- Major ridge lines
- Property boundary

SCALE 1:5000
0 50 100 150 200m

Figure 6: Opportunities and Constraints

2.07 Built Form Pattern

Development at Rosedale reflects suburban housing in bushland setting. Today such development would have fire controls strictly applied, thereby reducing the relationship between built form and the bush.

The goal of the development is to reflect Rosedales bushland/natural ecology character as much as possible, within the latest bushfire management controls. Unfortunately there is a direct conflict between “living in the bush” and designing to current bushfire controls. To mitigate this conflict the design proposes pockets of residences with open green spaces between these.

Predominantly well established suburban residential developments occur to the east of the site at Rosedale. The residences in this area are generally well established and integrated with the bushland setting and typically are one or two storeys. To the west of the site a large new subdivision plan has been prepared as part of the Rosedale Urban Expansion Area. The interface between the two proposed subdivisions carefully considers vehicular and pedestrian connectivity to ensure proper urban permeability.

Coastal Design Guidelines for NSW

Five key principles have been applied consistent with the Coastal Guidelines for NSW. These are:

- Defining the footprint and boundary of the settlement. This is achieved by limiting the extent of the development and protecting the local character and visual setting and introducing natural areas/open spaces that provide a visual break between settlements.

- Connecting open spaces. The introduction of an interconnected network between developed areas and open spaces is important for urban permeability, safety and a high quality character between developed areas.

- Protecting natural edges. This includes the protection of buildings from storm / flood events, the reinforcement of active and passive recreation areas and the management of bushfire. In addition, a Development should not occur in environmentally sensitive areas, on land having high visual qualities and where it is likely to have an adverse impact on water resources.

- Reinforcing the street pattern. Key issues to consider include ensuring the street pattern responds to the topography, way finding and legibility is promoted, high quality landscaping is included and pedestrian connectivity is considered.

- Appropriate buildings in a coastal context by relating to the natural features of the site and recognise the importance of materials suitable for the setting.

3 THE DESIGN CHALLENGE

The challenge is to introduce a high quality residential development that responds to the site's constraints and demonstrates environmentally sensitive design while integrating into the overall Rosedale Urban Expansion Zone.

To achieve this, the following design principles are proposed:

- Maintain the bushland setting along creek lines and gullies to provide a sustainable ecology within the site.
- Develop pockets of residential lots rather than a continuous development to create a more sensitive built pattern that promotes permeability and responds to the natural setting.
- Minimise disturbances to visually exposed areas that are also ecologically significant.
- Minimise the extent of infrastructure elements such as access roads.
- Minimise disturbances to existing drainage lines.
- Retention of significant amounts of existing vegetation.
- Integrate the bushland setting with the development to develop a unique residential area of high visual quality and interaction with its environment.

The design is governed by both the rugged topography with limited relatively flat areas and low lying areas along Salt Water Creek.

From a visual and ecological point of view it is desirable to avoid developing the low lying areas which are flood prone, visually exposed and provide a high visual setting to the overall site. Hence, the areas of development concentrate on the slopes and upper areas of the site

3.01 Road Infrastructure

The design avoids developments along the northeastern area which is on the east side of George Bass Drive and also along the low lying flood prone areas of Salt Water Creek.

Access to the site is achieved at the northern end through the existing Bevian Road and through an existing track opposite to Rosedale Parade at the southern end.

A local street designated as a bus route branches off towards the south from Bevian Road and follows the ridgeline down to the floodplain from where it travels east towards George Bass Drive to create the southern access point.

At the northern end, a local street in the form of a loop road provides access to the most northern development of the site.

From the designated bus route another loop road as a local street follows the eastern ridgeline to intersect with the bus route at the low lying area of the floodplain. Off this loop road two sets of cul-de-sacs provide access to the eastern properties of the site.

Various cul-de-sacs branch off the designated bus route along the western and southern areas of the site. These cul-de-sacs configuration enhances safety and noise environs by not allowing through traffic, making it more attractive for residential purposes. The length of the cul-de-sacs was carefully considered not to create a confusing street network that is difficult to oversee.

It should be noted that an optional subdivision concept has been developed that reduces the number of cul-de-sacs (see figure 19 on page 37).

The road network allows the consolidation of the low lying areas along Salt Water Creek minimizing disturbances to the floodplain.

Road Network

Figure 7 indicates the street network

Three types of roads are proposed within the development:

- local street designated as a bus route; this route acts as the main artery through the development off from which various loop roads and cul-de-sacs branch off. This street connects the northern access with the southern access;
- local streets that act as loop roads for development pockets and cul-de-sacs; and
- access streets in the form of cul-de-sacs where there is a limited number of lots.

Local Streets Designated as a Bus Route

This type of street has a road reserve of 22.5 metres and pedestrian paths are designated on one side of the street except at the most southern portion of the route. The street pavement is 7 metres and pedestrian paths are 1.5 metres wide.

Local Streets

This type of street has a designated road reserve of 18.5 metres. Pedestrian paths are located only on one side of the street to maximise a green streetscape in character with the setting. The street pavement is 7 metres and pedestrian paths are 1.5 metres wide.

Single Access Lane

The road reserve for this street is 10 metres and the pavement width is 3.5 metres. No pedestrian paths are located within this type of street due to the limited access/ traffic volume.

Cul-de-sacs

The length of dead end roads has been minimised wherever possible to ensure that a confusing street pattern where the end of the street is not visible does not occur.

Street Parking

Visitor's parking has been integrated at key locations within the development in a consolidated manner (blocks). Visitor parking is conceived as indented parking bays. The number of consecutive bays is not to exceed 4. Bays are to be located in close proximity to the houses (not to exceed 60 metres). 0.25 spaces are to be allocated per lot.

Pedestrian/Cycle Connectivity

Figure 7 illustrates the pedestrian and cycle network and relationship to open spaces, multi-purpose fire trail/recreational trails, and board walks through the bushland and floodplain areas. Some of the bush trails will also provide improved access to bus routes.

The goal is to provide a well integrated system of paths, trails, and board walks that promote permeability through the site. The different materials and characters proposed will directly relate to the type of environment through which one passes.

Multi-purpose fire/recreational trails are proposed along properties facing the bushland and at the most southern area of the site to connect with Roseby Drive. Recreational trails will be provided elsewhere to facilitate permeability and promote an appreciation of the site. Boardwalks are proposed at the lower lying areas within the floodplain.

LEGEND

ROADS

- Existing arterial road
- Local street: bus route (22.5 m width road reserve)
- Local street (18.5 m width road reserve)
- Access street (10 m width road reserve)
- Road reserve

PEDESTRIAN / CYCLE

- Pedestrian / nature trail
- Pedestrian boardwalk
- 4 Metre multipurpose fire / recreational trail

- Property boundary
- Lots

SCALE 1:5000

0 50 100 150 200m

Figure 7: Road hierarchy and site connectivity

3.02 Built Form

See figure 12

Building Clusters

The layout of properties within the site has been configured in clusters. These clusters are separated by ‘green zones’ which not only respond to the site’s drainage lines but also provide permeability between developed areas and bushland. In addition, the clusters provide a stronger sense of individuality for residents and ensure that the site does not appear ‘overdeveloped’.

Overall 141 lots are proposed from which 22 lots are configured as semi-detached; the rest are configured as single freestanding residences.

Lot Orientation

The site is strongly constrained by its topography, approximately half of the lots have a northern or north-east/west exposure for a good orientation opportunity for solar access with the remaining half facing either east/west or south. Lots facing east/west or south tend to be wider to provide better opportunities for orientation within the lot.

The overall concept for the built form is to maximise lots facing the bushland/ floodplain while providing building clusters to retain some of the overall character of the site.

The use of overhangs for shading during summer months should be carefully considered for north, east and west facing facades.

Interaction with Bushland Setting

It is envisaged that the built form compliments the bush setting and that it visually interacts with it. The use of natural materials and a palette of subdued colours that compliment the natural attributes of the site are considered important.

Building Heights

Building heights will be constricted to a maximum 8.5 metres above ground level and two storeys. As the sections indicate, split levels are preferred for sloping sites.

Set Backs

See figure 9

Set backs from the street are determined at 5.5 metres throughout most of the site. Up to 50% of the front façade of dwellings (excluding garages or carports) may be setback 4.5 metres from the front boundary. In the case of two storey dwellings, the setback of the upper storey to the front boundary would be a minimum of 7.5 metres. This is in order to minimise impacts on the bush setting, retain as much vegetation as possible and to comply with Eurobodalla Shire Council’s Residential Design Code.

At the northern end of the site, the setbacks are determined at 10 metres to minimise impacts on the bushland setting.

Building Forms

It is recommended to use simple building forms with clear and crisp lines, including roof forms, to contrast with the bushland. This approach will create a better visual integration by using simple elements against the complex forms and shapes of the bush, thereby creating a more serene effect.

Building Materials

The use of glass is strongly recommended(except for west facing walls) both for passive solar use to the north facades and to create a seamless visual flow between outer and inner spaces while creating a visually lighter architecture. Open courtyards should also be encouraged to promote natural ventilation.

Natural building materials such as wood, stone, and gravel are strongly encouraged in combination with the contemporary use of highly processed materials such as glass, steel, concrete, etc. However, the use of wood should be carefully considered in relation to bushfire considerations.

Examples of sympathetic development in a bush setting