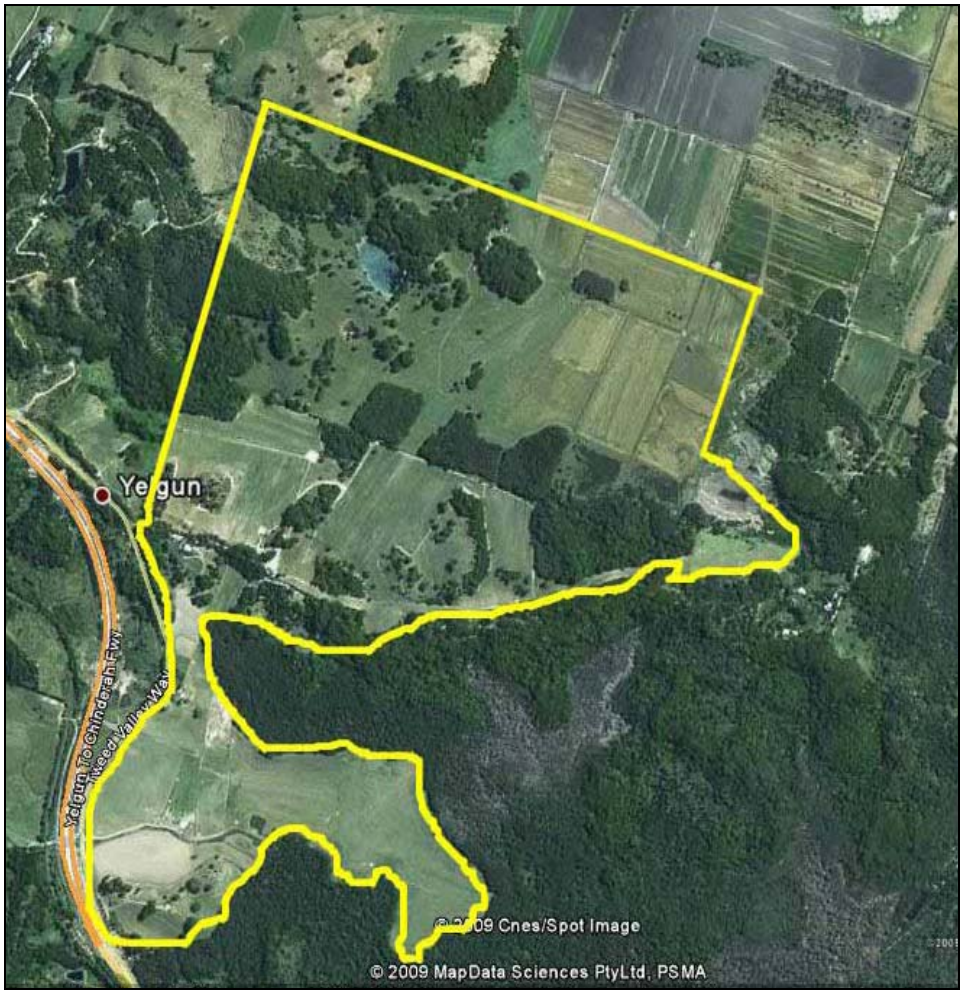
# MAJOR PROJECT ASSESSMENT: CULTURAL EVENTS SITE AT TWEED VALLEY WAY AND JONES ROAD, YELGUN

## Proposed by Billinudgel Property Pty Ltd

Director-General's
Environmental Assessment Report
Section 75I of the
*Environmental Planning and Assessment Act 1979*

November 2011



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# ABBREVIATIONS

| | |
|---|---|
| Proponent | Billinudgel Property Pty Ltd |
| Council | Byron Shire Council |
| Department | Department of Planning and Infrastructure |
| DPI | Department of Primary Industries |
| NOW | NSW Office of Water |
| NRCMA | Northern Rivers Catchment Management Authority |
| OEH | NSW Office of Environment and Heritage |
| RFS | NSW Rural Fire Service |
| RMS | NSW Roads and Maritime Services |
| --- | --- |
| ARI | Average Recurrence Interval |
| AMP | Acoustic Monitoring Program |
| BoM | Bureau of Meteorology |
| Byron LEP | *Byron Local Environmental Plan 1988* |
| CHA | Cultural Heritage Assessment |
| CONOS | Conservation of North Ocean Shores Inc |
| DGRs | Director-General's Environmental Assessment Requirements |
| Director-General | Director-General of the Department of Planning and Infrastructure |
| EA | Environmental Assessment |
| EEC | Endangered Ecological Community |
| EP&A Act | *Environmental Planning and Assessment Act 1979* |
| EPBC Act | *Environmental Protection and Biodiversity Conservation Act 1999* |
| EPI | Environmental Planning Instrument |
| EH&SM Manual | Environmental Health and Safety Management Manual |
| ESD | Ecologically Sustainable Development |
| FEA | Flood Evacuation Assessment |
| FIA | Flood Impact Assessment |
| INP | Industrial Noise Policy 2000 |
| IWCAM | Integrated Water Cycle Assessment and Management |
| KPIs | Key Performance Indicators |
| L&E Court | Land and Environment Court of NSW |
| MEDLI | Model for Effluent Disposal by Land Irrigation |
| Minister | Minister for Planning and Infrastructure |
| NGLG | Noise Guide for Local Government 2010 |
| NIA | Noise Impact Assessment |
| NMP | Noise Management Plan |
| Part 3A | Part 3A of the *Environmental Planning and Assessment Act 1979* |
| PAC | Planning Assessment Commission |
| PB | Parsons Brinckerhoff Australia Pty Ltd |
| PMF | Probable Maximum Flood |
| FRMP | Flood Risk Management Plan |
| PPR | Preferred Project Report |
| PPV | Persons Per Vehicle |
| RBL | Rating Background Level |
| RWG | Regulatory Working Group |
| SEPP 14 Wetlands | *State Environmental Planning Policy No. 14 – Coastal Wetlands* |
| SEPP 44 Koala Habitat | *State Environmental Planning Policy No. 44 – Koala Habitat Protection* |
| SMEC | SMEC Australia Pty Ltd |
| SECs | Special Event Clearways |
| SES | NSW State Emergency Service |
| Splendour | Splendour in the Grass Music Festival |
| STP | Sewage Treatment Plant |
| The Strategy | Far North Coast Regional Strategy 2006 |
| TIA | Traffic Impact Assessment |
| TMP | Traffic Management Plan |
| TSC Act | *Threatened Species Conservation Act 1995* |
| VMP | Vegetation Management Plan |
| VMS | Variable Message Signs |
| WTP | Water Treatment Plant |

Cover Photograph: *Proposed Cultural Events Site – Tweed Valley Way, Yelgun (source: Environmental Assessment)*


Published November 2011
NSW Department of Planning and Infrastructure
www.planning.nsw.gov.au

# EXECUTIVE SUMMARY

SJ CONNELLY CPP Pty Ltd on behalf of Billinudgel Property Pty Ltd (the proponent) is seeking concurrent concept plan approval and project approval for Stages 1 and 2 for a proposed cultural events site at Tweed Valley Way and Jones Road, Yelgun, in the Byron local government area, pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The concept plan includes:

- approval for the site to be used for cultural, educational and outdoor events with associated camping with a maximum capacity of 50,000 patrons;
- water and wastewater treatment infrastructure;
- a cultural centre;
- a conference centre with associated accommodation; and,
- a comprehensive vegetation management plan.

Project approval for Stages 1 and 2 includes:

- camping in association with event usage;
- construction of a 2.3km long spine road linking the northern and southern farming areas;
- a site office;
- a water treatment plant;
- a wastewater treatment plant;
- event laneways and car parking; and,
- commencement of the vegetation management works.

The proposal was declared a project to which Part 3A of the EP&A Act applies under State Environmental Planning Policy (Major Development) 2005 on 23 July 2009. Part 3A of the EP&A Act, as in force immediately before its repeal on 1 October 2011 and as modified by Schedule 6A to the EP&A Act, continues to apply to transitional Part 3A projects. The Director-General's Environmental Assessment Requirements have been issued in respect of this project and the Environmental Assessment (EA) was lodged prior to 1 October 2011. The project is therefore a transitional Part 3A project and this report has consequently been prepared in accordance with the requirements of Part 3A and associated regulations.

The proponent estimates the capital investment value of the project at approximately $7.65 million. The proposal is expected to create 15 full-time jobs throughout construction of the project, and 115 full-time equivalent jobs during operation.

The EA for the proposal was publicly exhibited at five locations and also on the Department of Planning and Infrastructure's (the department) website for a period of 44 days in October and November 2010. During the public exhibition period, the department received a total of 5,540 submissions from the general public, and eight submissions from public authorities. Of the public submission received, 87% were in support of the proposal (many of these being pro-forma letters of support) and 13% in objection. The issues raised in the submissions form key components of the department's assessment of the proposal. Key issues considered by the department include;

- the scale and frequency of events;
- flooding and evacuation;
- traffic, access and parking;
- ecological impacts;
- event noise and acoustic impacts;
- integrated water cycle management;
- bushfire hazard; and,
- Aboriginal cultural heritage.

The department has assessed the merits of the project and is satisfied that the key issues identified throughout exhibition of the proposal can be appropriately managed through the proponent's Statement of Commitments and the recommended conditions of approval. The department considers

that a satisfactory level of environmental performance and sustainability can be achieved through consistent monitoring and reporting of environmental impacts associated with the proposal.

The concept plan and Stages 1 and 2 project application are therefore recommended for approval, subject to conditions. Approval is recommended for events up to a maximum of 50,000 patrons to be carried out at the site, subject to compliance with all key performance indicators (KPIs) and the department's recommend phased approval approach.

The recommended starting capacity (Phase 1) consists of three major events of 30,000; 25,000; and 15,000 patrons respectively, with no limit on the number of minor events (less than 300 patrons) during the first year of operation. A single event of 30,000 patrons may be carried out in perpetuity should the proponent meet all KPIs to the Director-General's satisfaction after the first 30,000 patron event carried out. The recommended phased approval approach will see an incremental increase of the site's usage, and allow for monitoring of any impacts associated with events – in particular the impacts of increased traffic generation on the surrounding road network. Any increase in the size of events, or request to proceed from one phase to the next, will be at the discretion of the Director-General following consideration of a KPI Report prepared by the proponent, and any other matters the Director-General considers relevant at the time.

The proposal will provide the Byron Shire with a permanent cultural events site that will attract tourist numbers from throughout the State, interstate, and overseas. The proposal will also provide employment opportunities; contribute significantly to the local and regional economies; and identify Byron as one of the State's leading centres for the arts, music, entertainment and culture. A significant environmental benefit is also anticipated as the proponent has committed to undertake replanting and revegetation works across the site, including native vegetation plantings throughout the Marshalls Ridge wildlife corridor; creation of constructed wetlands on the border of the Billinudgel Nature Reserve; and dedication of land to National Parks and Wildlife Service.

# 1. BACKGROUND

## 1.1 SITE DESCRIPTION

### 1.1.1 Site Location

The subject site is located on the New South Wales far north coast, approximately 22km to the north of the Byron Bay town centre and 35km south of Tweed Heads, in the Byron local government area. The site encompasses an area of approximately 256ha and is formally described as part lots 46, 402, 403 and 404; DP 755687; part lot 10 DP 875112; part lots 2 and 12 DP 848618; part lot 30 DP 880376; part lot 102 DP 1001878; and lot 1 DP 1145020 – Tweed Valley Way and Jones Road, Yelgun. Billinudgel Property Pty Ltd (the proponent) is the registered owner of the site. The site in context to the NSW far north coast is displayed in **Figure 1** below.

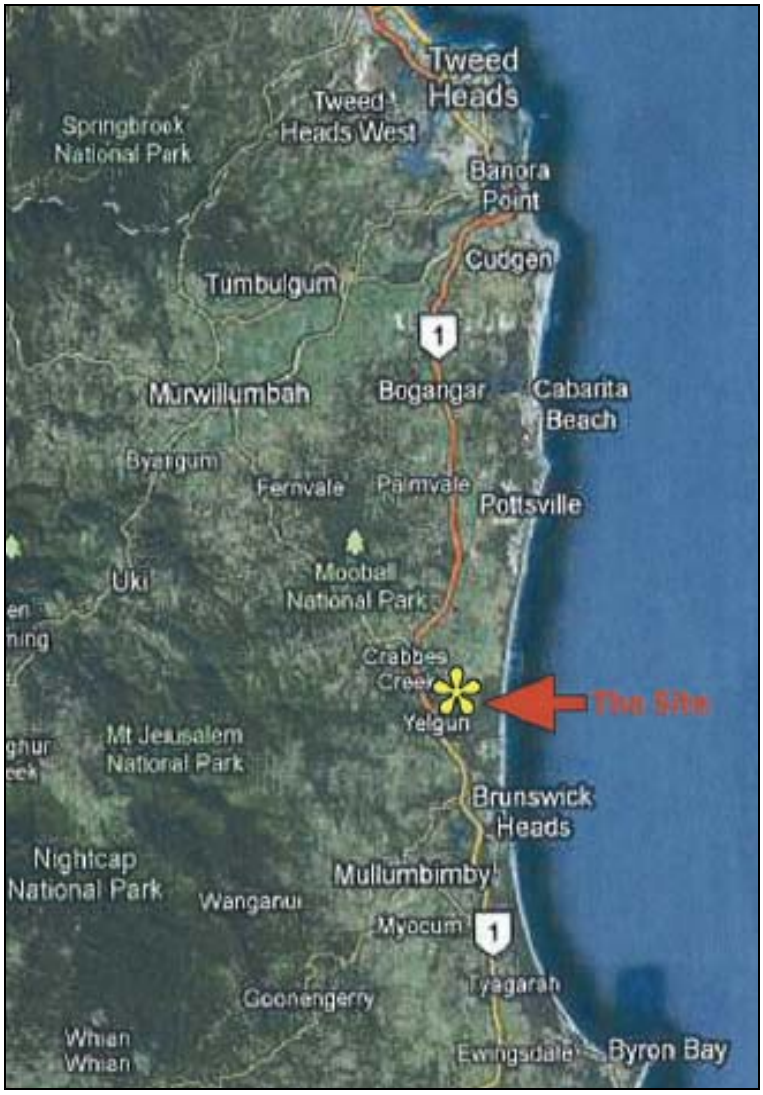


**Figure 1: Site Context (source: Environmental Assessment)**

### 1.1.2 Locality and Surrounding Environment

The site is situated in a rural-residential locality in the far north-east of the Byron Shire. Local residential communities in proximity to the site include Brunswick Heads, Fern Beach, Billinudgel, and Ocean Shores to the south; Wooyung and Pottsville to the north; and Yelgun, Middle Pocket and Crabbes Creek to the west. The South Pacific Ocean is approximately 1km to the east.

In regards to the surrounding land uses, the site is bound mostly by pasture and agricultural lands. The Billinudgel Nature Reserve is located to the south and east, and the Pacific Highway and Tweed Valley Way are located immediately to the west. Entry to the site is located approximately 1km north of the Yelgun interchange and is obtained Tweed Valley Way. An extensive area of wetlands listed under State Environmental Planning Policy No. 14 – Coastal Wetlands (SEPP 14 Wetlands) (No. 57) borders the south-eastern site boundary. **Figure 2** below shows the site location, including the adjoining Pacific Highway and Billinudgel Nature Reserve, and nearby residential communities.


**Figure 2: Site Location (source: Environmental Assessment)**

### 1.1.3 Existing Site Features

The subject site consists of two existing farms which are currently used for grazing and agricultural purposes. The two farming areas are separated by Jones Road which extends east-west off Tweed Valley Way, servicing a small number of existing residential dwellings. The site will continue to be used for such purposes between the carrying out of events.

Vegetation across the site is dominated by large areas of exotic pasture, remnant trees and fragmented forest blocks. There are two existing farm sheds located on land to the north of Jones Road. The portion of the site north of Jones Road is within the Crabbes Creek floodplain and is predominately flat open pasture land in the north-east, whilst towards the north-west the terrain is more undulating and contains drier sclerophyll communities with canopy species. An existing farm dam is also located towards the north-western corner of the site, as shown in **Figure 4** below. The dam is a man-made feature and is utilised for grazing and agricultural uses. An extensive area of Swamp Sclerophyll Forest and other forms of floodplain forests combine to form a fragmented vegetated peninsula extending east-west across the central-northern part of the site.

The portion of the site south of Jones Road is situated in the lower catchments of Yelgun and Billinudgel Creeks which form part of the Marshalls Creek floodplain. This portion of the site is dominated by exotic pasture land with remnant sclerophyll forest patches. A small area of SEPP 14 Wetlands contained within the adjoining Billinudgel Nature Reserve extends within the south-eastern site boundary.

The central portion of the site incorporates an east-west orientated ridge (referred to as Marshalls Ridge) which rises to approximately 30m above sea level. A number of identified Endangered Ecological Communities (EECs) are located within the Marshalls Ridge corridor on the northern side of Jones Road.

**Figures 3** to **6** below are photographs taken of the site during a site visit undertaken by the department in March 2011.

**Figure 3: Proposed event and camping area – north-eastern portion of the site.**

**Figure 4: Existing farm dam – north-western portion of the site.**

**Figure 5: Fragmented forest blocks – central portion of the site.**

**Figure 6: Proposed southern car parking area with the adjoining Billinudgel Nature Reserve and SEPP 14 Wetlands in the background.**

### 1.1.4 Surrounding Road Network

The subject site is located on the eastern side of Tweed Valley Way and the Pacific Highway. At present, primary access to the site is obtained via Jones Road which traverses between the northern and southern farming areas. Jones road is an unsealed single-lane rural road under the care and control of Byron Shire Council (council) which services a small number of existing properties. Tweed Valley Way is a two-lane regional level road with the nearest connection to the Pacific Highway provided via the Yelgun interchange approximately 1km to the south. Access to Tweed Valley Way via the Pacific Highway can also be obtained from several nearby interchanges including the Brunswick interchange to the south and Cudgera Creek interchange to the north. **Figure 7** below shows the surrounding road network in context to the site.

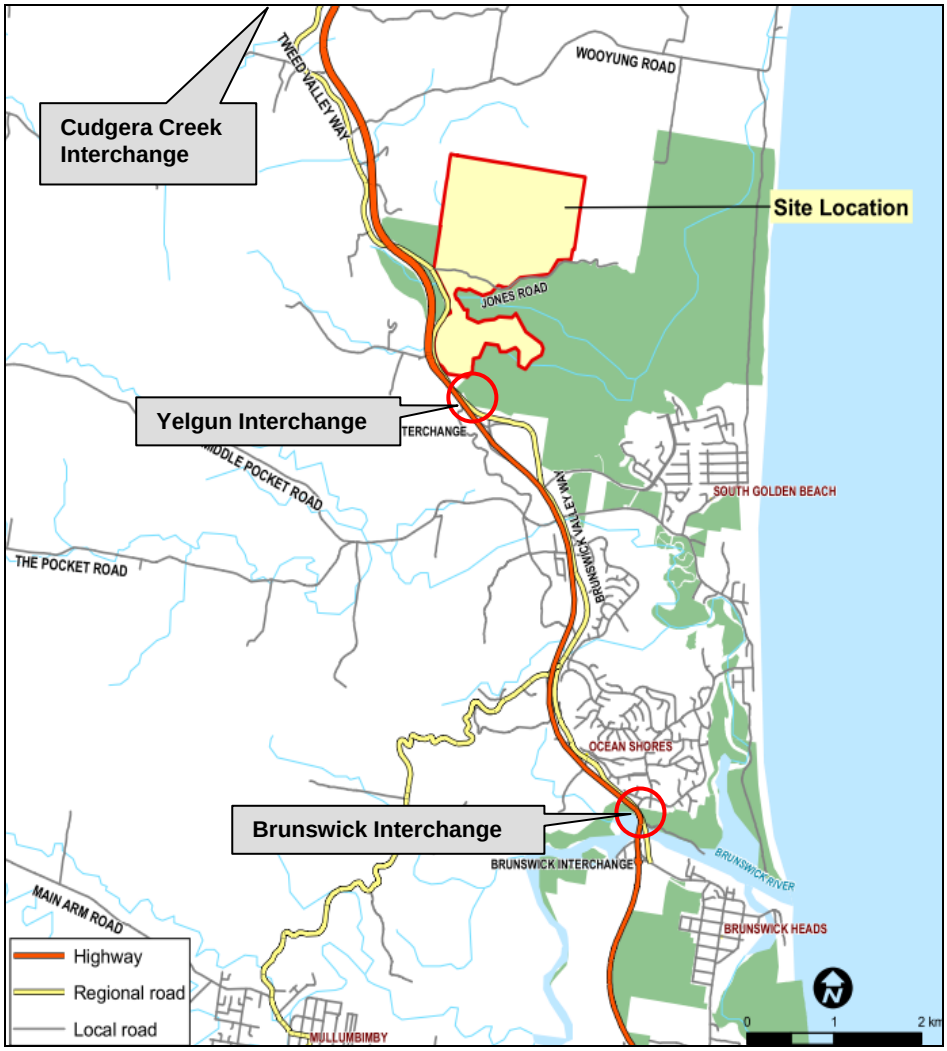


**Figure 7: Surrounding Road Network (source: Traffic Impact Assessment, PB – July 2010)**

### 1.1.5 Justification for the Development Site

The proponent has identified the need for a purpose built sustainable cultural events venue within the Byron Shire, and considers the carrying out of cultural events will contribute greatly to the region's economy, workforce, and attract tourists from throughout the State, interstate and overseas.

The proponent considers that there is currently no appropriate site within the Byron Shire to cater for outdoor events of the size and scale proposed by this application. It is noted that an outdoor events venue is located at Tyagarah, approximately 13km south of the site, which hosts the six-day Byron Bay Bluesfest, with associated on-site camping accommodation. The proponent has advised that this site is not large enough for events of the size and scale proposed at Yelgun. Furthermore, the Tyagarah site is predominately flat in comparison to Yelgun with no elevated land for flood refuge; and the Pacific Highway interchange capacity near the Tyagarah site is limited, requiring an additional highway off-ramp for events exceeding 25,000 patrons.

In sourcing an appropriate location to carry out outdoor events of the size and scale proposed by this application, the proponent is of the opinion that the subject site meets the following key criteria:

- is a large area of cleared, relatively flat land;
- the number of nearby residences is relatively low;
- it is within close proximity to a highway or main road interchange with suitable capacity;
- it is within convenient distance from an urban centre with visitor accommodation for patrons not camping on-site;
- it is within convenient distance of transportation services including airports and railway network; and,
- the topography is conducive to acoustic mitigation.

### 1.1.6 Previous Applications

On 6 August 2008, council granted consent for a temporary place of assembly with camping and associated infrastructure at the site. The consent specifically allowed for the 2009 Splendour in the Grass Music Festival to be held at the site over a four day "trial" period. The permitted event capacity for the trial was for a maximum of 15,000 day patrons and 7,500 campers.

The validity of council's consent was challenged in the Land and Environment Court of NSW (L&E Court) by the Conservation of North Ocean Shores Inc (CONOS). The primary argument presented by CONOS was that the consent permitted the carrying out of development for a purpose (place of assembly) that is prohibited on part of the land (land zoned (7k) Habitat Zone). Specifically, CONOS argued that the roads and pedestrian pathways approved within the 7k zone should not be considered as being for an independent use, but rather a subordinate use to the dominant purpose of the proposal – being a place of assembly.

The L&E Court subsequently ruled that council had granted consent to a development for a purpose (place of assembly) that is prohibited on part of the land on which the development is to be carried out. Chief Justice Preston subsequently declared the consent to be invalid and of no effect.

It is noted that the subject application can overcome certain prohibitions as it is assessed as a concept plan under Part 3A of the EP&A Act. This is discussed further under **Section 3.4**.

# 2. PROPOSED PROJECT

## 2.1 CONCEPT PLAN

The proponent seeks concept plan approval for development involving the following:

- approval for the site to be used for cultural, educational and outdoor events with associated event camping, with a maximum capacity of 50,000 patrons;
- an administration building;
- a gatehouse building;
- a water treatment plant;
- a wastewater treatment plant;
- a cultural centre;
- a conference centre with associated accommodation; and,
- a comprehensive vegetation management plan.

The proposal is to be developed across three stages. Stages 1 and 2 are subject to concurrent project approval and are described further under **Sections 2.2.1** to **2.2.6** below. Approval for Stage 3 will be sought at a later date and will involve the finalisation of site infrastructure and environmental repair works. Proposed Stage 3 specifically includes the following:

- construction of a cultural centre with approximately 110m² of floor space. The centre is intended to provide for the exhibition of indigenous heritage and culture, as well as being an administrative point for local indigenous community operations;
- construction of a 500m² conference centre facility with associated tent/cabin style accommodation. The facility is envisaged to host conferences for up to 180 people and provide overnight accommodation for up to 60 people; and,
- finalisation of a comprehensive vegetation management plan for the site.

**Figure 8** below illustrates the proposed land use structure of the site for a 100% capacity major event (50,000 patrons) and includes all features proposed as part of the concept plan and project application.

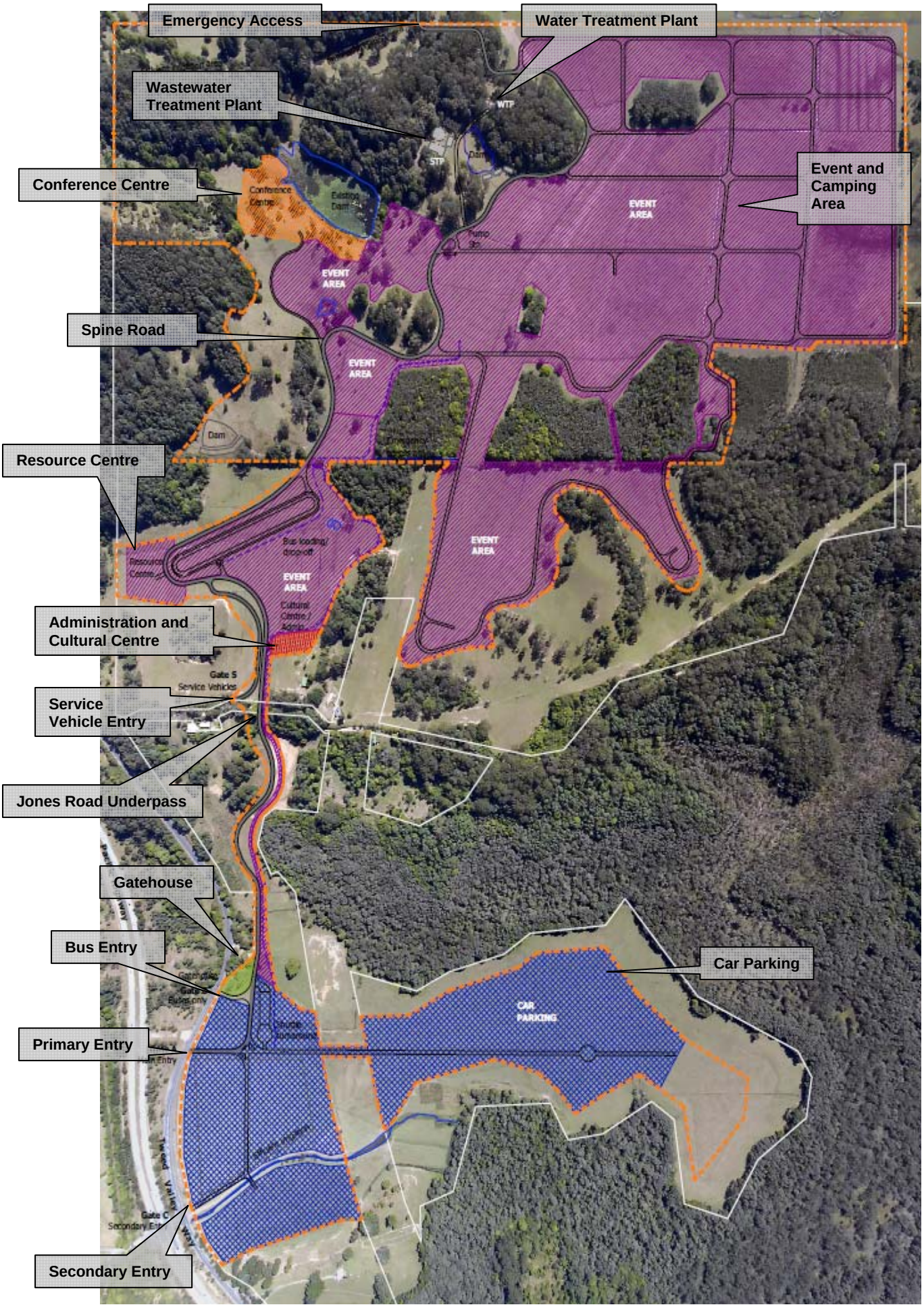


**Figure 8: Land Use Structure for a 100% Capacity Major Event (source: Preferred Project Report)**

## 2.2 PROJECT APPLICATION

The proponent seeks project approval for Stages 1 and 2 for development involving the following:

Stage 1

- event usage area of approximately 97ha with associated camping and temporary structures;
- a 2.3km Spine Road linking the northern and southern farming areas;
- upgrading of the western 340m of Jones Road;
- a 25ha southern car parking area;
- an administration and gatehouse building; and,
- implementation of a Vegetation Management Plan and environmental repair works.

Stage 2

- an on-site water harvesting, filtration and reticulation system; and,
- an on-site wastewater treatment and management system.

Those aspects of development proposed as part of the Stages 1 and 2 project application are discussed further in **Sections 2.2.1** to **2.2.6** below.

### 2.2.1 Event Usage, Camping and Temporary Structures

Event Usage

The site encompasses a total area of 256ha, of which approximately 97ha is proposed to be used for events with associated camping accommodation. Events include a variety of music festivals, jamborees, conferences and the like. The event and camping area is contained wholly within land to the north of Jones Road. The proponent has advised that events will be categorised into four sub-groups, based on the anticipated number of patrons per event, and capped on an annual basis. **Table 1** below lists the proposed event categories and number of patrons per event.

In the first five years of operation, the proponent seeks approval for three major events per year, with a maximum capacity in the first year of operation of 60% (30,000 patrons); 50% (25,000 patrons) and 40% (20,000 patrons) respectively for each event. A maximum annual patron increase of up to 15% per event is proposed during the first five years of operation, subject to key performance indicators being achieved. From the sixth year of operation and beyond, the site is proposed to be used at its full capacity (up to 50,000 patrons per event), with the following number of events proposed on an annual basis:

**Table 1: Total Number of Patrons per Event**

| Event Category | Number of Patrons |
|---|---|
| Minor Event | Less than 300 |
| Small Event | 301 – 3,000 |
| Moderate Event | 3,001 – 10,000 |
| Major Event | 10,001 – 50,000 |

- Minor Events – no limits;
- Small Events – maximum of 4 event days per annum;
- Moderate Events – maximum of 4 event days per annum; and,
- Major Events – maximum of 12 event days per annum.

It is noted that event days do not include 'bump in' and 'bump out' periods which occur in the days leading up to and at the conclusion of events and involve the setting up and dismantling of event equipment and temporary infrastructure (including performance stages, food stalls, portable toilet and shower facilities, etc.). For major events, the bump in and bump out schedule will be up to 21 days to set up the temporary event infrastructure and seven days to dismantle.

Camping and Temporary Structures

Camping is to occur in association with particular events being carried out at the site. Campers will be accommodated in tents and moveable dwellings (such as camper vans) which are to be provided by the patrons themselves. Camping is considered to be ancillary to event usage and will only occur within the designated 'event area' in the northern portion of the site, which is predominately cleared grassland and flat terrain. The maximum number of campers proposed at any one time during a 100% capacity event is 25,000. Temporary event structures will be provided in association with event usage, including; toilet facilities (portaloos), portable water tanks, shower facilities, guardrails, seating, artificial lighting, performance stages and speakers, tent structures, food and drink stalls, etc. The location of temporary structures and distribution of campers will be flexible in order to allow for different configurations of varying event types and sizes.

### 2.2.2 Access, Car Parking and Internal Road Network

Access and Car Parking

Access to the site will be provided at four entry gates, three of which are located along Tweed Valley Way (Gates A, B, and C), with Gate S located at Jones Road. An emergency access entry is also provided at Gate E. Gate A which is located at the southern portion of the site will be the primary access and egress point for event patrons. Gate B is located approximately 200m north of Gate A and will provide access and egress for public transport services only. Gate C is the southern-most access and egress point and will be a secondary entry option, to be utilised only when required during major events. Gate S will provide access and egress for service vehicles only. Gate E is located at the northern boundary and will provide access and egress for emergency service vehicles only. Emergency access to and from the site is provided via a northern road connection extending to Wooyung Road, approximately 900m north of Gate E, which ultimately connects to Tweed Valley Way.

Road upgrading is proposed for a 340m stretch of Jones Road between the Tweed Valley Way intersection and the proposed Jones Road underpass. A two-lane bitumen seal upgrade is to be provided for this stretch of road. Road network upgrades and connections will also be undertaken at the intersections of Tweed Valley Way with access Gates A, B, and C.

A maximum of 11,901 car parking spaces are proposed on the site. This includes 4,746 spaces in the northern and central portions, and 7,155 spaces in the southern portion. The proponent has advised that the southern car parking area will only be utilised when required, most likely during major events. A minimum buffer distance of 30m is proposed between the southern car parking area and adjoining SEPP 14 Wetlands. **Figure 9** below displays the sites four access points and car parking areas. The location of Gate E (emergency access) is identified at **Figure 8** above.

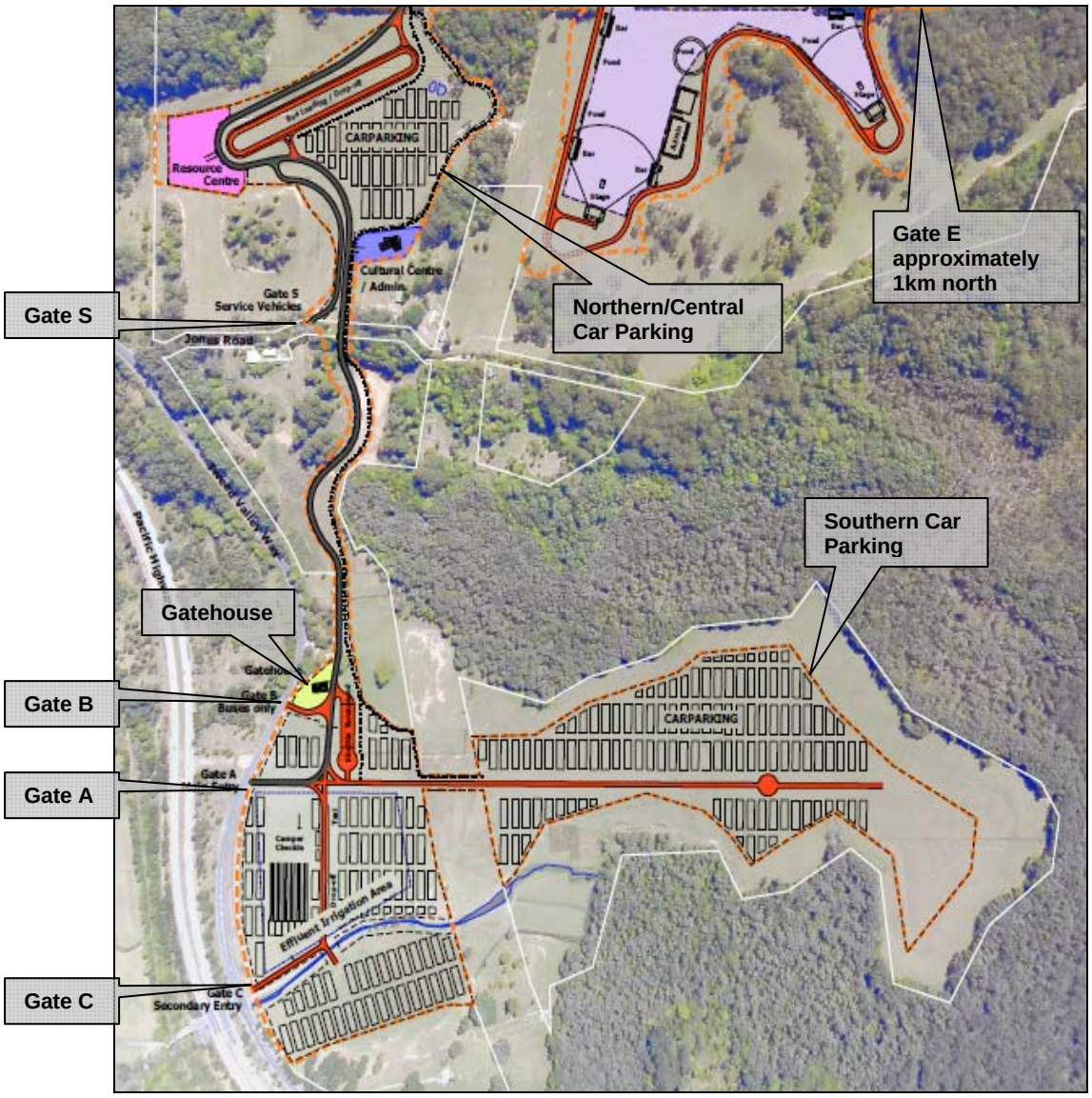


**Figure 9: Site Access Points and Car Parking (source: Preferred Project Report)**

Internal Road Network

An internal road referred to as the 'Spine Road' traversing in a north-south direction through the site is proposed as part of the project application. The Spine Road is approximately 2.3km in length and 7m in width and will be constructed for the purpose of a 'road' to allow for the continued functioning of the land for agricultural and grazing purposes when events are not being carried out on the site. The Spine Road will link the existing northern and southern farming areas to Wooyung Road in the north, and Tweed Valley Way to the south. Whilst the primary use of the Spine Road is to provide access to, and link the northern and southern farming areas; it will also act as a corridor for accessing event laneways and provide access to a proposed bus terminal in the central portion of the site. **Figure 10** below shows the proposed route of the Spine Road through the northern portion of the site and proposed bus terminal. **Figure 8** above shows the entire route of the Spine Road through the site.

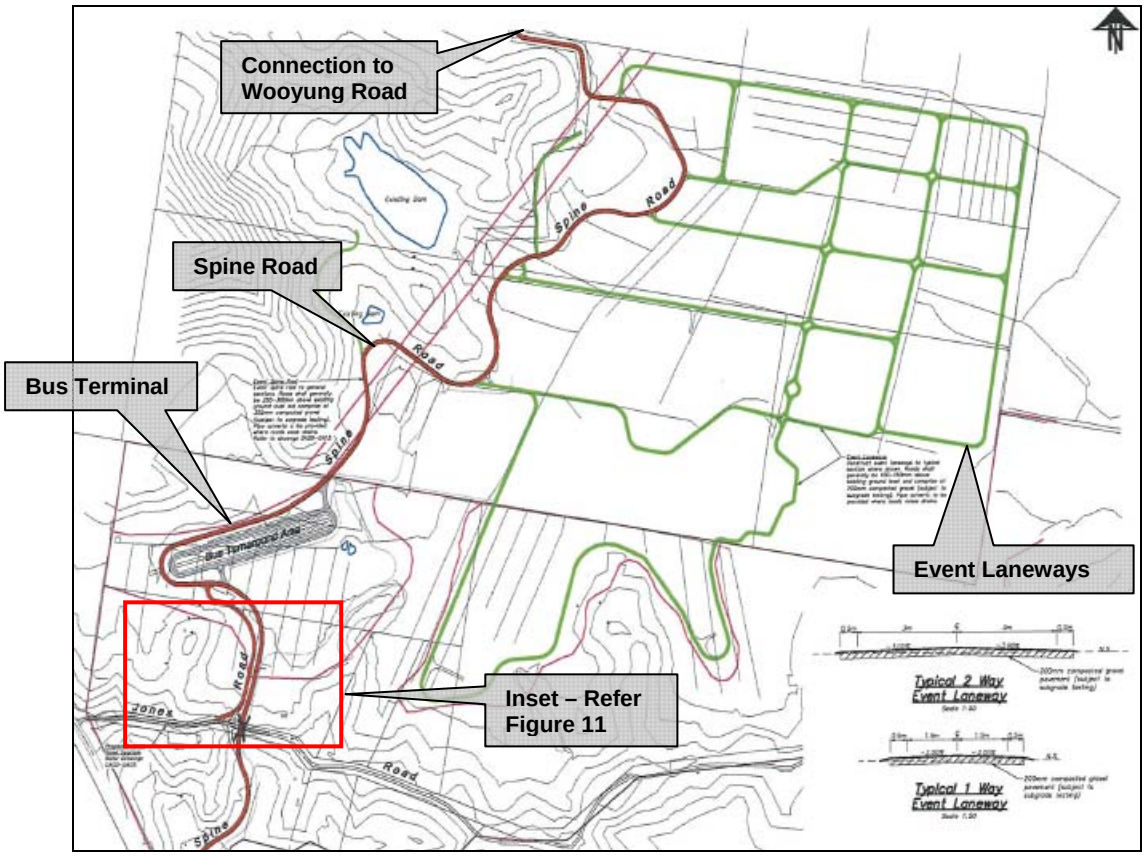


**Figure 10: Proposed Spine Road and Event Laneways (source: Environmental Assessment)**

Jones Road Underpass

An underpass is proposed beneath Jones Road to link the northern and southern portions of the site, as illustrated in **Figure 11** below. The underpass will prevent conflicts with local traffic using Jones Road.

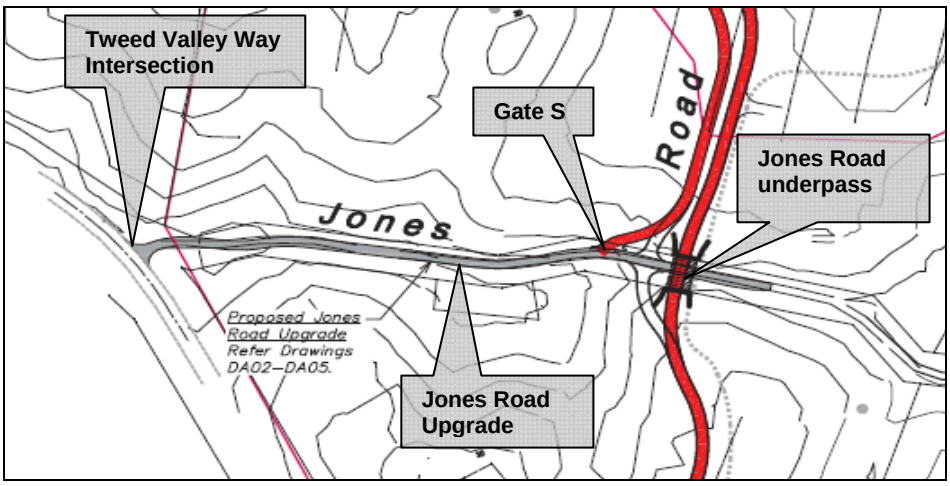


**Figure 11: Proposed Underpass at Jones Road (source: Environmental Assessment)**

### 2.2.3 Administration and Gatehouse Buildings

Two permanent structures are proposed as part of the project application involving an administration building and gatehouse. The proposed administration building incorporates 175m² of floor space and is located between Jones Road and the northern car parking area. It will provide office space, amenities, and meeting rooms for event staff and management.

A gatehouse building incorporating 100m² of floor space is located to the south of Jones Road, adjacent to Tweed Valley Way and the Gate B entry. The gatehouse will provide a base for event staff to manage the site entry and southern car parking area during major events. **Figure 8** above shows the location of the administration and gatehouse buildings in context to the site layout, whilst **Figures 12** and **13** below display the proposed floor plans for both structures. It is noted that the cultural centre (proposed as part of future Stage 3) has the potential to be built as an expansion to the administration building, as outlined on the **Figure 12** floor plan.

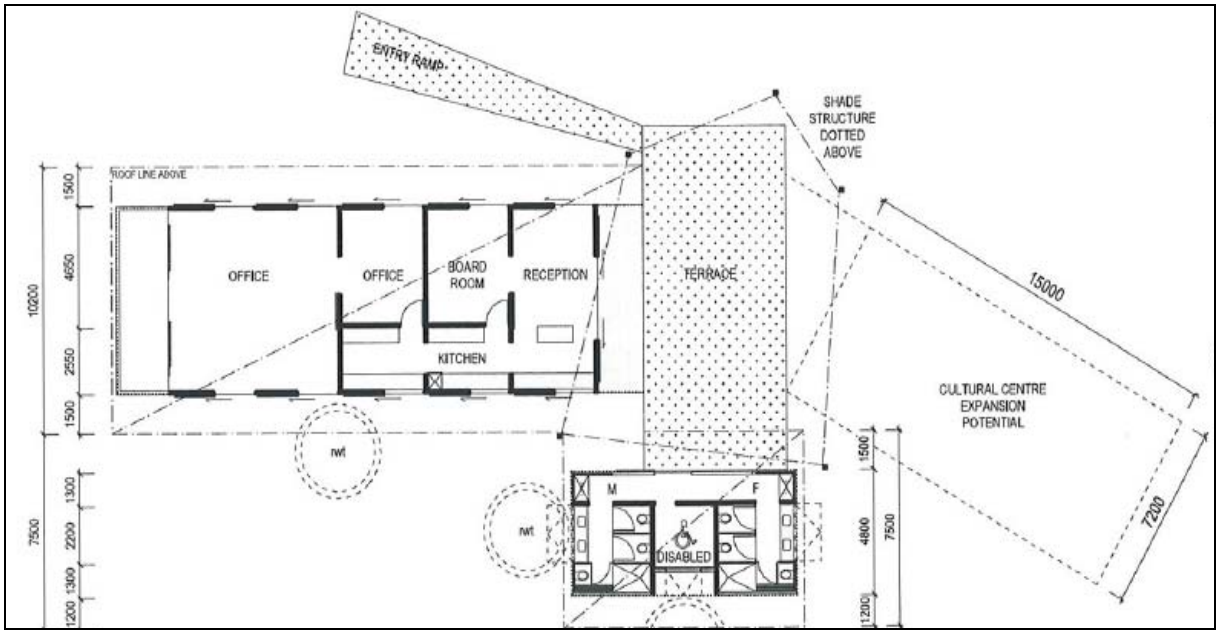


**Figure 12: Administration Building Floor Plan (source: Environmental Assessment)**

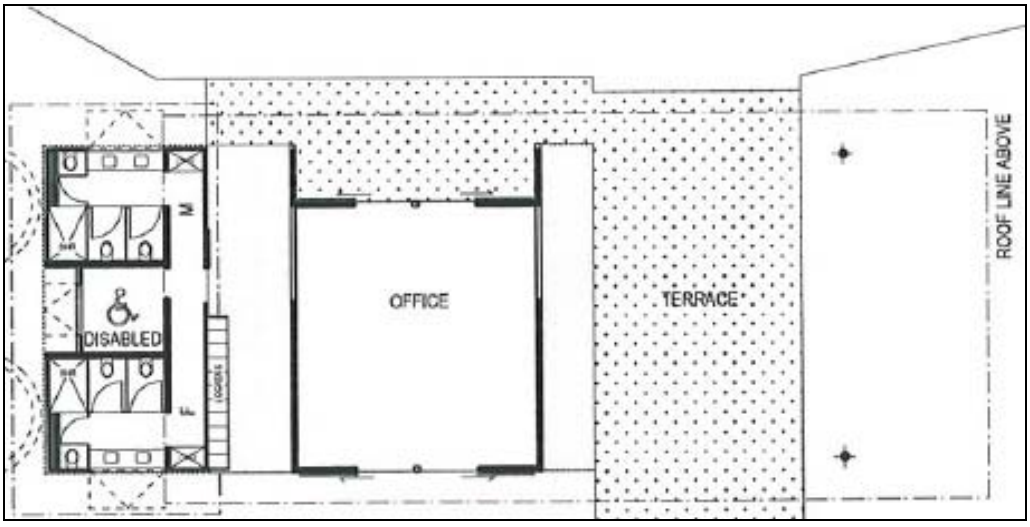


**Figure 13: Gatehouse Building Floor Plan (source: Environmental Assessment)**

### 2.2.4 Resource Centre

A resource centre is proposed adjacent to the bus terminal within the central portion of the site, as identified at **Figure 8** above. The resource centre is a designated space for the management of waste and recycling materials. A number of temporary facilities will be located within the resource centre, including recyclable storage skips; general waste bins and compactors; and, temporary liquid waste (sewage and wastewater) contained in holding tanks before being transported off-site. The resource centre will be managed by event staff overseeing vehicles movements, infrastructure placement, and the collection of waste and recyclable materials.

### 2.2.5 Water and Wastewater Treatment Facilities

Water Treatment Plant

Stage 1 of the proposal will utilise temporary water facilities, with water supply being transported to and from the site by licensed service vehicles. Water will be derived from local reticulated water supplies and transported to the site via water carters, and will be stored on-site in portable water tanks. The portable water supply will provide for all sanitary purposes, drinking, and food preparation uses.

As part of Stage 2, a permanent water treatment plant is to be constructed. Water supply at the site is currently available from two groundwater production wells which are licensed to provide water for stock and domestic supply. Water is also available from an existing 15.9ML farm dam through the harvestable use rights attached to the property. A second dam is to be constructed towards the northern site boundary with a minimum capacity of 7.5ML. The water treatment facility is also proposed at this location. Water will be pumped between the existing farm dam and the proposed new farm dam to the potable water treatment facility with a treatment capacity of 1ML per day. Water delivery across the site will be via a gravity-fed reticulated water supply network which will cater for both permanent and temporary facilities and uses. The location of the proposed water treatment plant and new farm dam is shown in **Figure 14** below.

Wastewater Treatment Plant

As part of Stage 1, wastewater generated on-site will be collected and stored on the site (via temporary toilet facilities such as portaloos) before being transported via licensed service vehicles to an appropriate wastewater treatment facility.

A permanent wastewater treatment facility is proposed to be constructed as part of Stage 2. The facility includes a sewage treatment plant (STP) and ancillary sewage infrastructure, a pump station, effluent holding dams, effluent polishing wetlands, and dedicated effluent irrigation areas. The STP has been designed to be able to treat peak loads experienced during major events and also to accommodate much smaller but continuous loadings associated with the permanent site uses, including the cultural and conference centres (both proposed as part of the concept plan and to be provided as part of future Stage 3). The STP is strategically located towards the far north of the site, away from any neighbouring dwellings, the Billinudgel Nature Reserve and SEPP 14 Wetlands. As part of the wastewater treatment regime, three on-site effluent irrigation areas are proposed across the site, including two areas in the north-western portion of the site and one treatment area in the southern portion of the site. **Figure 14** below shows the location of the proposed STP including proposed effluent irrigation area adjoining the northern site boundary.

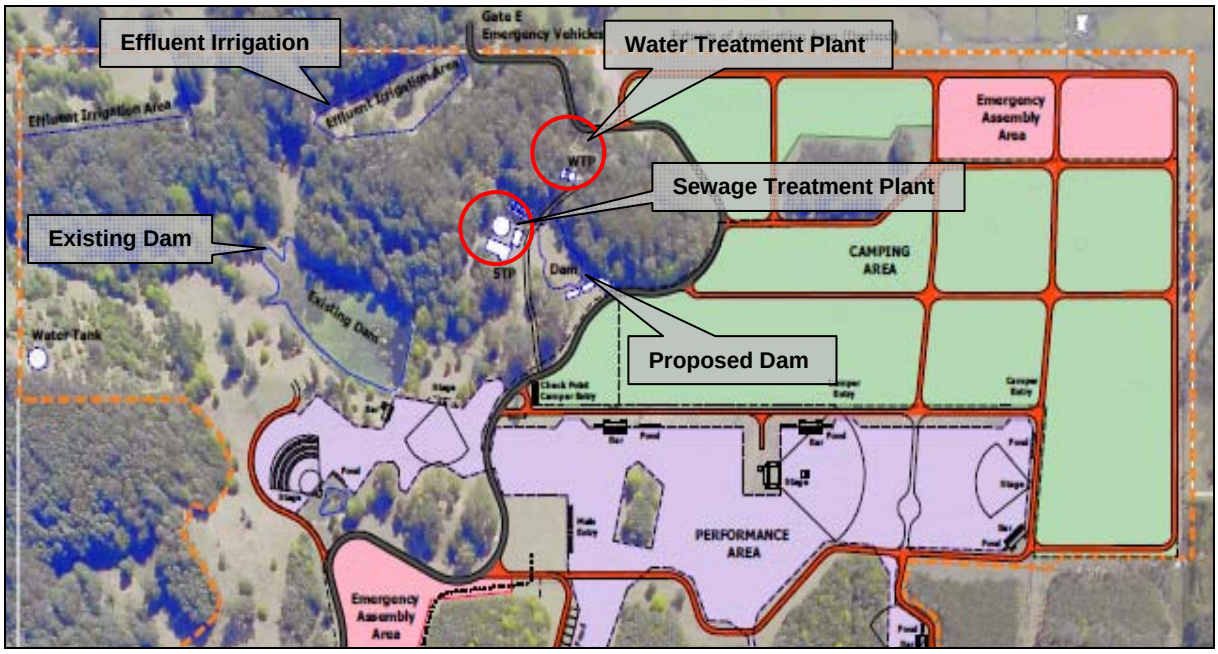


**Figure 14: Location of Proposed Water Treatment Plant and Wastewater Treatment Plant (source: Preferred Project Report)**

### 2.2.6 Vegetation Management Plan and Environmental Repair Works

A Vegetation Management Plan (VMP) will be progressively implemented throughout Stages 1 and 2, before being finalised as part of future Stage 3. The VMP is considered an essential part in managing and restoring native vegetation across the site. The VMP aims to:

- maintaining and improving conditions of existing native forest areas;
- restoring native vegetation in identified new habitat areas;
- restoring tree cover in managed parkland areas;
- controlling and removing weeds from native forest and habitat areas; and,
- implementing control programs for feral animals.

More specifically, the VMP will involve plantings, assisted regeneration, weed removal, mowing, slashing, and watering of managed parkland areas; and the establishment of cattle-exclusion fencing, deployment of nest boxes, fauna surveying and monitoring of existing full habitat areas. An area of approximately 9.4ha of grazing land is identified for bush regeneration, weeding, and the planting of some 7,000 plant and tree species. Monitoring and evaluation is a key component of the VMP and will be used to gauge the success of ecological restoration of the property.

## 2.3 PROJECT NEED AND JUSTIFICATION

The proposal is justified as it will provide the Byron local government area and the state of New South Wales with substantial economic, social and environmental benefits. The proposal will promote and attract tourism both within the Byron Shire and throughout the northern New South Wales region. A range of permanent and temporary employment opportunities will be provided for local residents; and local business operators will benefit from the increased trading that future cultural events will generate. The establishment of a permanent cultural events site will add to Byron's iconic image as a centre for the arts, music, entertainment and culture. The proposal also provides an environmental benefit through revegetation and rehabilitation works to be carried out across the site, in particular the replanting of native vegetation species along the Marshalls Ridge wildlife corridor and constructed wetlands along the border of the Billinudgel Nature Reserve.

## 2.4 PROJECT AMENDMENTS

The project application was been amended on one occasion. On 1 March 2011, the proponent submitted a Preferred Project Report (PPR). The PPR outlined a number of amendments made to the proposal that was publicly exhibited. The amendments were made in response to the issues raised throughout the public exhibition period. The most significant amendments involve the size and scale of proposed events, including:

- No more than three major events annually during the first five years of operation;
- No more than 10 event days per annum in the first five years of operation;
- A starting capacity of three major events consisting of 60% (30,000 patrons), 50% (25,000 patrons), and 40% (20,000 patrons) capacity respectively in the first year of operation, with a maximum patron increase of 15% per event annually, subject to satisfying key performance indicators;
- No minor, small or moderate sized events during the first five years of operation;
- Elevation of the Spine Road to ensure it is flood proof in the event of a 1 in 100 year flood;
- Further vegetation plantings throughout the site, including additional native plant species provided along the Marshalls Ridge wildlife corridor;
- New managed parkland areas to assist in consolidation of fragmented forest blocks;
- Habitat restoration and revegetation works and an increased buffer distance between the south-western site boundary and SEPP 14 Wetland area; and,
- Installation of fauna friendly box culverts at the Spine Road underpass to facilitate fauna movements through the existing wildlife corridor.

# 3. STATUTORY CONTEXT

## 3.1 MAJOR PROJECT DECLARATION

The proposal was declared a project to which Part 3A of the EP&A Act applies under the former State Environmental Planning Policy (Major Development) 2005 as it is development for the purpose of tourist facilities, major convention and exhibition facilities or multi-use entertainment facilities that employs 100 people or more (Schedule 1, Group 6, Item 17(b)). Under the savings and transitional arrangements, the Minister (or his delegate) may approve or disapprove of the carrying out of the project under sections 75J and 75O of the EP&A Act.

## 3.2 MINISTER'S DELEGATION

Under the Instrument of Delegation dated 14 September 2011 and taking effect from 1 October 2011, the Minister has delegated his functions to determine Part 3A applications to the Planning Assessment Commission (PAC) where:

- council has made an objection in relation to the proposal; or,
- more than 25 public submissions objecting to the proposal were received; or,
- a political disclosure statement has been made in relation to the application.

The application is being referred to the PAC for determination as council has lodged a submission objecting to the proposal; and a total of 719 public submissions were received in objection to the proposal. No political disclosure statement has been made in relation to the application.

Accordingly the application is able to be determined by the PAC under delegation.

## 3.3 STATEMENT OF COMPLIANCE

In accordance with Section 75I of the EP&A Act, the department is satisfied that the Director-General's Environmental Assessment Requirements have been complied with.

## 3.4 ZONING AND PERMISSIBILITY

The subject site encompasses five zonings under the *Byron Local Environmental Plan 1988* (Byron LEP). The applicable zones include:

- 1(a) (General Rural Zone);
- 1(b1) (Agricultural Protection (b1) Zone);
- 7(a) (Wetlands Zone);
- 7(k) (Habitat Zone); and,
- 9(a) (Proposed Road Zone).

The Land and Environment Court Appeal decision for a proposed trial event at the site (Conservation of North Ocean Shores Inc v Byron Shire Council & Ors 2009 NSWLEC 69) found that the spine road component was not permissible within the 7(k) Habitat Zone as it forms part of the event use, and is therefore categorised as a 'place of assembly' which is not permissible within the zone. The proponent has indicated that the spine road will link the northern and southern portions of the site and is to be largely used for agricultural use, and is therefore permissible. **Figure 15** below provides a zoning plan of the subject site.

Sections 75J(3) and 75O(3) of the EP&A Act, state that in deciding whether or not to approve the carrying out of a project, or give approval for a concept plan; the Minister or his delegate may (but is not required to) take into account the provisions of any environmental planning instrument, subject to the Environmental Planning and Assessment Regulation 2000 (the EP&A Regulation) not precluding such an approval. The EP&A Regulations (clause 8O) does not preclude approval of the project on the subject site.

Although permissibility is therefore not strictly relevant, the department has assessed the merits of the proposal including the impacts of the proposal on existing vegetation within the 7(k) (Habitat Zone) and has concluded that any impacts will be minimal and can be appropriately managed. This is discussed under **Section 5.0**. The applicable zones and a summary of the zoning objectives for each are discussed further at **Appendix C**.

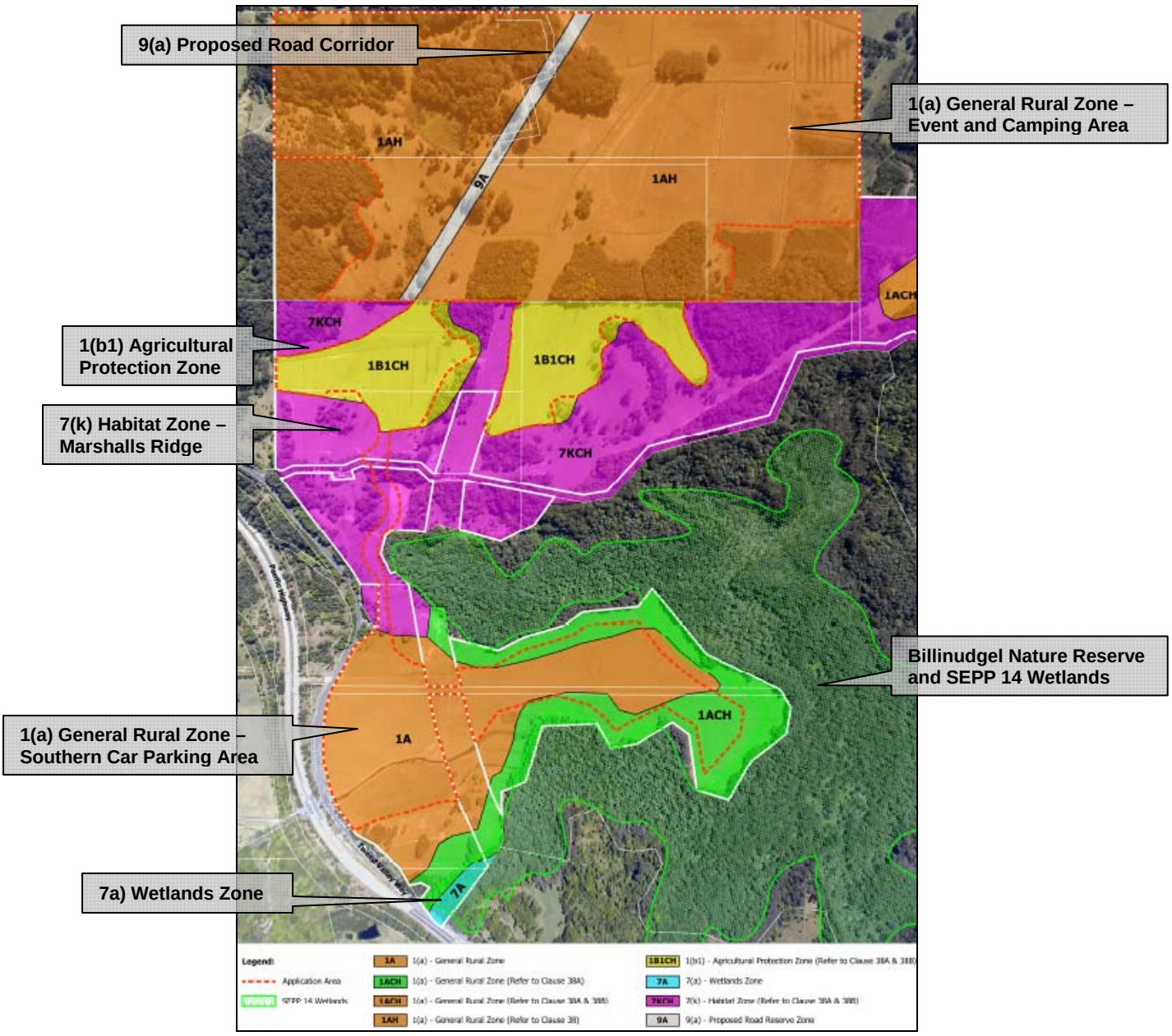


**Figure 15: Zoning Plan – Proposed Cultural Events Site, Yelgun (Source: Proponent)**

## 3.5 ENVIRONMENTAL PLANNING INSTRUMENTS

Under Sections 75I(2)(d) and 75I(2)(e) of the EP&A Act, the Director-General's report for a project is required to include a copy of, or reference to, the provisions of any State Environmental Planning Policy (SEPP) that substantially governs the carrying out of the project, and the provisions of any environmental planning instruments (EPI) that would (except for the application of Part 3A) substantially govern the carrying out of the project and that have been taken into consideration in the assessment of the project. The relevant EPIs applicable to the proposal include:

- Byron Local Environmental Plan 1988;
- State Environmental Planning Policy No. 14 – Coastal Wetlands;
- State Environmental Planning Policy No. 44 – Koala Habitat Protection;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 64 – Advertising and Signage;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (Temporary Structures) 2007;
- State Environmental Planning Policy (Rural Lands) 2008; and,
- North Coast Regional Environmental Plan.

The department's consideration of the relevant EPIs is provided at **Appendix C**.

### 3.6 OBJECTS OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Decisions made under the EP&A Act must have regard to the objects of the Act, as set out in Section 5 of the Act. The relevant objects are:

*(a) to encourage:*
- *(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment;*
- *(ii) the promotion and co-ordination of the orderly and economic use and development of land;*
- *(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats; and,*
- *(vii) ecologically sustainable development.*

The proposal is considered to be consistent with the objects of the EP&A Act as listed above. The proponent is committed to conserving the natural environment both within and surrounding the site by committing to a Vegetation Management and Biodiversity Plan to guide ecological restoration across the site; rehabilitation of Yelgun Creek; and revegetation works along the boundaries of the Billinudgel Nature Reserve and SEPP 14 Wetlands. The proposal is also expected to provide a positive impact to the economy of the Byron Shire and wider northern rivers region by means of attracting local, state, and international tourists; and generating opportunities for local business operators – particularly in the hospitality and entertainment industries. The development as proposed is considered to be both economically and ecologically sustainable, and is in accordance with the relevant objects set out in Section 5 of the EP&A Act.

### 3.7 ECOLOGICALLY SUSTAINABLE DEVELOPMENT PRINCIPLES

With respect to ecologically sustainable development (ESD) principles, the EP&A Act adopts the definition in Section 6(2) of the *Protection of the Environment Administration Act 1991*. The five accepted principles for ESD are the:

- Integration Principle;
- Precautionary Principle;
- Inter-generational Principle;
- Biodiversity Principle; and,
- Valuation Principle.

Of particular relevance to this environmental assessment is the precautionary principle which has been applied throughout the decision making process during a thorough and rigorous assessment of the environmental impacts of the project. In particular, the precautionary principle has been applied to the carrying out of events on the site, including no increase in patron numbers or the total number of events permitted until such time the proponent has satisfactorily demonstrated compliance with specific key performance indicators and provided monitoring data for the department's consideration. Furthermore, the evaluation of environmental impacts is confirmed by studies, surveys and reports undertaken and prepared by qualified professionals. These reports have in turn been distributed to relevant agencies and other persons qualified to assess and comment on the adequacy of the conclusions and recommendations contained within.

The department has considered the principles of ESD in its assessment and considers that the proposal is consistent with these principles. A detailed assessment of the impacts of the proposed development is contained within **Section 5.0** of the report.

### 3.8 NSW STATE PLAN 2021

The NSW State Plan 2021 is a 10 year vision for the future of New South Wales with specific priorities and targets to be delivered by the NSW Government. Key priorities of the plan including rebuilding the economy; providing quality services; renovating infrastructure; restoring government accountability; and, strengthening local environment and communities. The proposal to provide a permanent cultural events venue contributes to a number of goals outlined in the NSW State Plan 2012, including:

- Goal 1 – Improve the Performance of the NSW Economy – the proposal to carry out cultural events on annual basis will provide a boost for the State economy through increased business investment and expenditure, and through the creation of employment opportunities, including some 15 full time construction jobs and 115 full time equivalent jobs during operation of the project.
- Goal 3 – Drive Economic Growth in Regional NSW – cultural events carried out in the shire will contribute towards economic growth throughout Byron and wider northern rivers region through the creation of local job opportunities, and by providing a boost for local tourism, hospitality, and entertainment industries.
- Goal 22 – Protect Our Natural Environment – the proposal incorporates a number of initiatives to protect the natural environment both within and surrounding the site. This includes the dedication of approximately 35ha of land to National Parks and Wildlife to strengthen the existing Marshalls Ridge wildlife corridor; significant replanting and bush regeneration works across the site; and the provision of permanent new habitat for areas adjoining SEPP 14 Wetlands and the Billinudgel Nature Reserve.
- Goal 27 – Enhance Cultural, Creative, Sporting and Recreation Opportunities – the proposal contributions towards participation in the arts, entertainment and cultural activities; as well as increasing the number of artistic and creative events in the State.

### 3.9 FAR NORTH COAST REGIONAL STRATEGY 2006 – 2031

The Far North Coast Regional Strategy 2006 – 2031 (the Strategy) provides a framework to balance competing considerations of the region and to manage growth in a sustainable manner over a 25 year timeframe. The Strategy will ensure future development caters for housing and employment needs, whilst also protecting the regions valuable natural and cultural resources. A key component of the Strategy is to provide for a balanced approach to development and conservation.

Of particular relevance in context to the proposal is Sections 4 and 9 of the Strategy. Section 4 considers environmental and natural resources, with a focus on the protection of areas considered to be of high biodiversity value. Section 9 considers economic development and employment growth. It notes that the Far North Coast is an important domestic and international tourist destination. Large scale tourism facilities are encouraged to be located in the prime tourism development areas, including Byron Bay. The Strategy notes that whilst tourism creates significant economic and employment benefits, its impacts need to be carefully managed with a particular focus on protecting the region's coastal and hinterland assets.

The proposal is considered to be consistent with the objectives of the Strategy as it provides for economic development and employment growth within an area identified for future tourism facilities, whilst also providing measures to ensure the regions existing biodiversity and natural resources are protected through environmental monitoring and management.

# 4. CONSULTATION AND SUBMISSIONS

## 4.1 PUBLIC EXHIBITION

The EA for the project was publicly exhibited in accordance with section 75H of the EP&A Act from 7 October 2010 until 19 November 2010. The EA was made available to the public at five exhibition locations and on the department's website. Notification of the exhibition, including information on how to make a submission was circulated in the Public Notices section of local publications the Byron Shire News, the Byron Shire Echo and the Tweed Boarder Mail. Letters were sent to all adjoining and nearby landowners notifying of the exhibition and inviting a submission. The public exhibition locations were:

- The Department of Planning and Infrastructure – Information Centre, 23-33 Bridge Street Sydney;
- The Nature Conservation Council of NSW – Level 2, 5 Wilson Street, Newtown;
- Byron Shire Council – Administration Centre, 70-90 Station Street, Mullumbimby;
- Byron Bay Library – 10 Lawson Street, Byron Bay; and,
- Ocean Village Shopping Centre – Summerland Credit Union, Rajah Road, Ocean Shores.

A Preferred Project Report (PPR) was lodged on 1 March 2011. As the changes to the nature of the project were not considered to be significant, the proposal was not be re-exhibited. It was however made available to the public on the department's website.

## 4.2 PUBLIC SUBMISSIONS

The department received a total of 5,540 submissions from the public during the exhibition period. Of these, 4,821 submissions were in support of the proposal (many of these being pro-forma letters of support), and 719 submissions were in objection to the proposal. As required under clause 8B of the EP&A Regulation, a summary of all public submissions received can be found at **Appendix E**. An analysis of the public submissions received is also contained at **Appendix E**.

Assessment of the key issues raised in the public submissions is discussed under **Section 5.0**.

## 4.3 PUBLIC AUTHORITY SUBMISSIONS

The department received eight submissions from public authorities during the exhibition period. Submissions were received from:

- Byron Shire Council;
- NSW Office of Environment and Heritage;
- NSW Office of Water;
- NSW Roads and Traffic Authority;
- Department of Trade and Investment, Regional Infrastructure and Services;
- NSW Rural Fire Service;
- Department of Primary Industries;
- Northern Rivers Catchment Management Authority; and,
- NSW Police Force.

A summary of the issues raised by public authorities is provided in **Sections 4.3.1** to **4.3.9** below.

### 4.3.1 Byron Shire Council

Council provided a detailed submission in relation to the proposal and advised that the likelihood of significant adverse impacts is evident and the proposal should therefore be refused. Council considers the proposed development unsuitable for the site and destructive to the local character and amenity. The key issues raised in council's submission on the EA is summarised below.

<u>Impacts on Ecology, Biodiversity and Archaeology</u>

- All forest blocks within and adjacent to the event footprint are mapped as High Conservation Value Vegetation under council's Biodiversity Conservation Strategy 2004.
- The site contains areas identified as a wildlife corridor, threatened fauna habitat, and koala habitat in accordance with council's mapping.
- The proposal is contrary to council's planning principles and specific planning initiatives undertaken by various State government agencies.
- The Marshalls Ridge/Jones Road locality is a known area of Aboriginal archaeological significance. The proposed Jones Road underpass will impact on the cultural heritage values and overall integrity of the area.

- The cumulative impact of removing natural vegetation and habitat to upgrade Jones Road will be significant given the narrow wildlife corridor at this location.
- The Marshalls Ridge wildlife corridor and Billinudgel Nature Reserve are particularly sensitive environmental areas.
- Long-term cumulative impacts of regular events on fauna species is difficult to predict. In the absence of information, it is anticipated that significant disturbances created by regular music festivals is likely to impact on both resident fauna, seasonal fauna, and fauna that rely on habitat for movement between the coast and hinterland areas.

Events in the Byron Shire

- Council has an approach to limiting music festivals in the shire in regards to frequency, location and attendance. The recently adopted Events on Public and Private Land policy outlines a restriction of two major music events within the shire during any calendar year. Major events are those that exceed 6,000 patrons, participants and staff per day. The policy provides for a review of the performance of events every two years, with provisions to allow for an incremental expansion of events.
- Council has resolved to proceed with an amendment to the Byron LEP to include a clause on restricting the number of major events in excess of 6,000 patrons to no more than two per year.
- There is no mention in the EA in regards to expressions of interest from other interested parties to host major events at the site (other than Splendour in the Grass music festival).
- There is no demonstrated need for a venue of the scale proposed within the shire.

Scope of the Application

- There is concern the timing of infrastructure is not tied to the hosting of events, with a lack of integration between the prospective events schedule and the components within Stages 1 and 2.
- It would be inappropriate to provide consent based on the information contained within the EA given its broad and non-specific commitment to various features of the development.
- It could be argued that the proposed Spine Road and widening of Jones Road is not compatible with the 7(k) zone objectives, potentially jeopardizing the validity of the application.

Wastewater Management, Water Supply and Waste Disposal

- In accordance with clause 45 of the Byron LEP, the proposed on-site wastewater management system must be demonstrated to be adequate prior to the issue of development consent.
- The proponent's Integrated Water Cycle Assessment and Management report is insufficient. The stated wastewater load per person per day and effluent flow per day for a 100% capacity event; as well as the sizing of on-site effluent irrigation areas have been underestimated.
- The effluent irrigation area proposed to the south of Jones Road is also proposed to be used for car parking. It is essential that vehicles and livestock are excluded from effluent irrigation areas to protect irrigation infrastructure and soils.
- Site constraints including proximity to waterways, local vegetation, flooding, topography, and a high groundwater table mean effluent irrigation on the site is largely unsuitable.
- It should be clearly defined as to when the on-site wastewater management system will be required, and it should be demonstrated that such a system is adequate.
- As water is to be trucked in during the initial stages, the proponent's calculated water demand is considered to have been underestimated. The issue of waste management has not been adequately addressed.

Noise

- The close proximity of the site to residential areas including North Ocean Shores and properties along Jones Road, Wooyung Road and Tweed Valley Way means proposed events have the potential to significantly impact upon the amenity of nearby residents. The noise limits proposed are considered unreasonable.

Traffic, Access and Car Parking

- Concern is raised regarding the capacity of the public road network to adequately service the proposed development, and the adequacy of proposed car parking provisions.
- There is concern in regards to safe intersection sight distances at access Gate B which intersects with Tweed Valley Way.

- There is no assurance the proposed car occupancy rates will be achieved. The collection and analysis of actual traffic data based on actual events should be provided to ensure there is no impact on the Pacific Highway and Yelgun interchange.
- Concern is raised in regards to proposed transport planning strategies such as restrictive car parking.
- The location of the 'vehicle processing area' in proximity to Tweed Valley Way could see traffic queuing along Tweed Valley Way and potentially the Yelgun interchange.
- Concern is raised in regards to the Level of Service experienced along Tweed Valley Way, the Pacific Highway and the Yelgun interchange as events increase in size over time.
- There is considered to be insufficient on-site car parking provided for a 100% capacity event.

Flooding and Evacuation

- Flooding impacts may prevent use of the venue as a festival/camping site, and concerns is raised in respect to a development of this size within a floodplain.
- The Marshalls Creek Floodplain Management Plan identifies the area as "High Hazard – Flood Storage".
- The flooding evacuation plan must clearly indentify evacuation routes and flood levels on those evacuation routes.

Preferred Project Report

Council advised in its response to the PPR that a number of outstanding issues remained, particularly in regards to the size and frequency of events; impacts on local amenity; wastewater management; traffic and car parking; flooding and evacuation; and ecological impacts. Council advised that should an approval be contemplated, only a single event with a maximum attendance of 20,000 patrons and subject to suitable conditions should be provided to ensure consistency with council's past practice.

### 4.3.2 NSW Office of Environment and Heritage

The NSW Office of Environment and Heritage (OEH) (formally the Department of Environment, Climate Change and Water) also provided a detailed submission on the EA in relation to the proposal, and included a number of recommended conditions of approval. OEH's key issues are outlined below.

Biodiversity

- The proposed 'managed parklands' will offer little additional value in the short term to the sites overall ecological corridor. Contributions to the east-west corridor in particular will take up to a decade to become functional.
- The impact of human disturbance including noise and lighting affects is proposed to be offset by maximising down-time between events. Noise and lighting have scope to detrimentally impact upon fauna, causing minor stress and other physiological impacts and habitat abandonment
- It is recommended that a greater proportion of the site be established as permanent habitat with greater connected groundcover and canopy, particularly the central forest blocks. It is recommended that only the northern portion of the site be approved form amplified noise and a suitable buffering distance form the central forest blocks and other large forested areas be established. An acceptable buffering distance of 75m to the central forest blocks is recommended.
- Amplified noise is likely to affect those species utilising the central forest blocks as a movement corridor, and impact on audibly communicative species.
- Fencing of ecologically sensitive areas is recommended.
- A cut and cover tunnel beneath Jones Road (underpass) is recommended as it results in less vegetation loss than an at-grade intersection.
- Event noise has the potential to adversely impact on foraging, roosting and breeding behaviour for a range of fauna species within the Billinudgel Nature Reserve.
- Event lighting has the ability to draw insects towards festival activities and away from areas within the range of their dependant predators.
- It is recommended that additional ranger patrols from the Parks and Wildlife Group be provided to monitor impacts within and around the Billinudgel Nature Reserve.
- Permanent habitat restoration is recommended for the area between the SEPP 14 Wetland boundary and the Billinudgel Nature Reserve, in conjunction with OEH's weed removal and regeneration program.
- Ecological impacts at the site will effectively be multiplied by the scale and frequency of events. It is recommended that any approval is provided on a trial and monitor approach. Any intensification

of the use of the site should be contingent on the results of ecological monitoring data. The nature and scope of any ecological monitoring program should be determined, approved and reviewed by an independent ecological impact assessment committee.

Wastewater Management

- A monitoring and maintenance program for the proposed sewerage treatment plant and irrigation area is supported.
- It is recommended that prior to commissioning the reticulated sewerage system, an operations, monitoring and maintenance plan be developed for the system.
- The system should be managed to ensure no overflow from the effluent holding dam/wetlands and no surface runoff occurs from the irrigation area.

Flooding

- The climate change assessment implies that the site will be flooded more frequently and severely in the future and careful consideration should be given in regards to the viability of the proposed use of the site.
- A well formulated and documented flood evacuation plan should be required. Particular consideration should be given to the fact that campers in the north of the site will potentially be up to 1km away from their vehicles in the southern car parking area, and that a flash flood scenario could potentially occur at night.

Aboriginal Cultural Heritage

- The long term management of areas identified as having Aboriginal cultural heritage value is supported, however, only limited cultural heritage management strategies are proposed.
- Any management measures should be developed in consultation with registered Aboriginal stakeholders and the proponent should continue to consult with and involve all registered Aboriginal stakeholders for the duration of the project.
- Opportunities for registered Aboriginal stakeholders to monitor soil disturbance and earth moving activities should be provided and in the event that surface disturbance identifies a new Aboriginal site, all works must stop in the immediate area to prevent further impacts.

Other Issues

- Any proposed bonfires on the site should be subject to an approved bonfire management plan and located 100m from any mapped forest blocks and other forest vegetation.
- It is encouraged to liaise closely with council in setting appropriate maximum noise levels.

Preferred Project Report

In response to the PPR, OEH acknowledged that a number of positive amendments had been made to the proposal, in particular the efforts to revegetate strategic areas around Jones Road to ensure the area functions more effectively as a regional biodiversity corridor. OEH further advised that it is able to support the proposal subject to the department conditioning amendments to the draft Statement of Commitments in relation to the following:

- establishment of an ecological assessment impact committee to ensure no significant impacts upon the functioning of the fauna corridor, threatened species and EECs are caused by events;
- ecological monitoring is undertaken to evaluate impacts on fauna within the Billinudgel Nature Reserve;
- on-site searches for Grass Owl species are undertaken prior to mowing/slashing works for events, with a commitment to exclude any mowing/slashing works within a 100m radius of any nesting Grass Owl species that are found; and,
- only the northern portion of the site be used for amplified noise and a suitable buffer distance be provided to the central forest blocks.

### 4.3.3 NSW Office of Water

Environmental Assessment

Key issues raised by the NSW Office of Water (NOW) in its submission include:

- Given the shallow groundwater table, ponds associated with the wastewater collection and management system are to be located above the watertable or lined with an impermeable material to prevent potential groundwater contamination.
- The proposed Acid Sulfate Soil Management Plan must ensure appropriate management and mitigation measures are applied to ensure groundwater is not contaminated by acid sulfate soils.

- Any stormwater management on the site must be done in accordance with Water Sensitive Urban Design principles to ensure protection of surface water resources adjacent to the site, including Yelgun Creek and SEPP 14 Wetlands.
- A core riparian zone and vegetated buffer is recommended for inclusion to the creek rehabilitation plan for restoration works along Yelgun Creek.

Preferred Project Report

NOW advised that the PPR adequately addresses the concerns raised in the EA, and the Statement of Commitments incorporate most of the recommended conditions of approval regarding water management. NOW further recommended appropriate buffers are implemented between the developed site and all watercourses on and adjacent to the site, including the adjacent SEPP 14 Wetland.

### 4.3.4 NSW Roads and Maritime Services

Environmental Assessment

NSW Roads and Maritime Services (RMS) (formerly the NSW Roads and Traffic Authority) raised concern with the proposed size and scale of events, and the consequential impacts of increased traffic generation on the surrounding road network. The RMS advised that the interchange was not envisaged to accommodate traffic generated by events of 35,000 or even 50,000 people in the vicinity; and that events of such size would be expected to impact on the safety and operation of the Pacific Highway. The RMS further advised that there is little surety that the proposed demand management measures will be achieved, or how they will be implemented in a real-life scenario.

The RMS provided a further response to the EA re-iterating its concerns regarding the performance of the interchange and advised that it is uncertain the proposed car occupancy and arrival rates to support the proposal can be achieved. The RMS advised against the Yelgun interchange being utilised as the single access point of all event patrons and recommended alternative interchanges (Cudgera Creek, North Brunswick and South Brunswick) also be utilised. The RMS suggested a trial event of 35,000 patrons (consisting of 17,500 day patrons and 17,500 campers) could be achievable, with provisions, for the proponent to collect traffic data.

Preferred Project Report

In response to the PPR, the RMS maintained its concern regarding the performance of the Yelgun interchange and Pacific Highway. The option of a trial event was again suggested for the purpose of data collection to assess the suitability of the site as a permanent events site. In the event that the department recommends a permanent approval for the site, the RMS provided a number of proposed modifications to the concept plan to ensure a continued level of service and safety is maintained at the Yelgun interchange and Pacific Highway.

### 4.3.5 Department of Trade and Investment, Regional Infrastructure and Services

Environmental Assessment

The Department of Trade and Investment, Regional Infrastructure and Service's (formerly the Department of Industry and Investment NSW) submission on the EA advised that whilst a 50m buffer to sensitive aquatic habitats is typically required, the provision of a 30m buffer to SEPP 14 Wetlands as proposed is acceptable given the buffer width varies and is often much greater than 30m. It was recommended that the buffer width be planted with native endemic wetland and riparian vegetation and is managed to control weed growth. The proposed continuation of agricultural uses on the site between events is supported; and it was advised that future development of the site should continue to have an agricultural focus given the surrounding land uses are primarily for agricultural purposes.

Preferred Project Report

In response to the PPR, the Department of Trade and Investment, Regional Infrastructure and Services supported the proposed 30m buffer to the adjoining SEPP 14 Wetlands, including the proposal to plant native endemic wetland and riparian vegetation within the buffer zone.

### 4.3.6 NSW Rural Fire Service

Environmental Assessment

The NSW Rural Fire Service (RFS) advised in its submission that the site and surrounding area is bushfire prone and raised concern particularly with regards to the number of people occupying the site and the safe evacuation of patrons during a bushfire event. It was recommended that large events not be held on the site during the local bushfire season. A further submission on the EA was

provided re-iterating its concerns in regards to bush fire evacuation and advised that the RFS is prepared to sit on a joint committee to consider the preparation of an Emergency Management Plan for the site.

Preferred Project Report

The RFS provided a number of recommendations in response to the PPR, including; an Emergency Management Plan to be prepared for endorsement by the Local Emergency Management Committee; stages and camping areas be set back 10m from areas of unmanaged bushland; water supply for fire fighting purposes is to be provided on-site; and, no open fires shall be permitted on TOBAN days (Total Fire Ban).

### 4.3.7 Department of Primary Industries

Environmental Assessment

The Department of Primary Industries (DPI) (formerly the Land and Property Management Authority) concerns relate to an adjoining Crown road to the north of the site which has been proposed to be used for emergency service vehicle access and egress. The DPI advised that permanent reliance on the Crown public road is not supported as the DPI does not receive any funding for road construction and maintenance. The DPI advised that unless council is prepared to accept transfer of the road, it may be an option to otherwise close the road and offer it for sale to the proponent.

Preferred Project Report

No comments were received in response to the PPR.

### 4.3.8 Northern Rivers Catchment Management Authority

Environmental Assessment

The Northern Rivers Catchment Management Authority (Northern Rivers CMA) raised concern in regards to the adjacent Billinudgel Nature Reserve and regionally significant Marshalls Ridge wildlife corridor. It considered that regular impacts of noise and people within the corridor and adjacent to the reserve would be detrimental to fauna within these localities.

Preferred Project Report

In response to the PPR, the Northern Rivers CMA advised that whilst the revegetation along Marshalls Ridge will improve the physical aspects of the wildlife corridor, the enhancement of vegetation does not necessarily mean that it will function as an effective wildlife corridor due to the numerous events planned for the site each year.

### 4.3.9 NSW Police Force

The department referred a copy of the EA and PPR documentation to the Tweed-Byron Local Area Command. The department specifically requested information regarding any limitations that may experienced in policing the proposed major events.

The Tweed-Byron Local Area Command advised that there were no objections to the proposed application and events in general terms; however, it was acknowledged that there would be flow-on effects within the Tweed and Byron communities, and that this would impact on policing services. It was further advised that there is the potential for between 130 and 150 extra police required to service proposed events (based on a scenario of three major events per year); that the proponent will have to contract these extra police based on a 'user pays' system.

# 5. ASSESSMENT

Key issues considered in the department's assessment of the project's Environmental Assessment (EA) and the Preferred Project Report (PPR), and consideration of the proponent's Statement of Commitments includes the following:

- Size and Frequency of Events;
- Flooding and Evacuation;
- Traffic, Access and Car Parking;
- Ecological Impacts;
- Event Noise and Acoustic Impacts;
- Integrated Water Cycle Management;
- Bushfire Hazard; and,
- Aboriginal Cultural Heritage.

## 5.1 SIZE AND FREQUENCY OF EVENTS

The size and frequency of events carried out at the site was a contentious issue raised by government agencies and the public. The proposal as presented in the EA sought approval for two major events of 35,000 patrons in the first year of operation; three major events of 40,000 patrons in the second year of operation; and four major events of up to 50,000 patrons from the third year of operation and beyond.

The department received thousands of submissions from the public following exhibition of the EA. Of the public submissions in support of the proposal (87%), many considered the site an appropriate events location given its distance away from any built-up residential area. Those in objection (13%) considered the proposed size and frequency of events in a rural-residential and environmentally sensitive locality to be unacceptable, and that events had the potential to detrimentally impact on the site and surrounding locality. Particular concern was raised in regards to residential amenity; ecological impacts; traffic generation; flooding and evacuation; and integrated water cycle management.

In response to the submissions received, the department requested the proponent consider a reduction in both the size and frequency of events to reduce the impacts of the proposal on those residents living in proximity to the site; on the region's existing infrastructure capacity; and on the sensitive ecological environments within and surrounding the site.

Having considered the department's request, and the issues contained in the government agency and public submissions, the proponent submitted a PPR with a reduced number of patrons and events for the first five years of operation. A maximum event capacity of 50,000 patrons is still proposed, however, this capacity is not sought until the fifth year of operation at the earliest, and only following demonstration that any impacts associated with the proposal can be appropriately managed or mitigated. **Table 2** below lists the event size categories and number of events annually proposed as part of the PPR for years one to five, and from year six and beyond.

**Table 2: Proposed Number of Event Days per Year**

| Event Category | Number of Patrons | Maximum Number of Event days Annually (EA) | Maximum Number of Events Annually (as proposed in the PPR) | |
|---|---|---|---|---|
| | | | Years 1 to 5 | Year 6 onwards |
| Minor | Less than 300 | No daily limits | None | No daily limits |
| Small | 301 – 3000 | 4 event days* | None | 4 event days* |
| Moderate | 3001 – 10,000 | 4 event days* | None | 4 event days* |
| Major | 10,001 – 50,000 | 15 event days* | 10 event days* | 12 event days* |

* Excludes 'bump in' and 'bump out' periods

It is noted that event days do not include 'bump in' and 'bump out' periods which involve the construction and dismantling of temporary event infrastructure and occurs in the days leading up to and at the conclusion of events. The proponent has advised that for major events, the bump in and bump out schedule will comprise a maximum of 21 days and seven days respectively.

In order to increase the size of major events, a progressive increase of 15% per event annually is proposed, subject to the satisfaction of all relevant conditions of approval and key performance

indicators (KPIs) which are outlined in the proponent's Environmental Health and Safety Management Manual (EH&SM Manual), which was provided as part of the EA. The EH&SM Manual sets out guiding policies, objectives and targets for the management of environmental, health and safety risks across all event activities at the site, and provides the overarching framework for operating events in a safe an environmentally responsible manner. Auditing and monitoring parameters (referred to as key performance indicators throughout this report) are outlined within the EH&SM Manual to assist in managing any impacts on the environment, traffic, flooding and evacuation, noise, bushfire hazard, water and wastewater.

The submission received from the NSW Office of Environment and Heritage (OEH) recommended approval for one major event at the site per year (over a maximum of four event days) for a period of three years, which is linked to a prescribed review process. The RMS requested a trial event of 35,000 patrons be conducted for the purposes of data collection to assess the suitability of the site before granting approval for events permanently. Further consultation was undertaken with the RMS following submission of the PPR. The RMS suggested modifications to the concept plan in the event that a permanent approval is recommended – this is discussed further in **Section 5.3** below. Council advised that it considers the proposed development to be too large and proposes too frequent activities for the locality. It considered that if approval was recommended, only a single event of a maximum capacity of 20,000 patrons should be considered.

Having considered the agency and public submissions in regards to cumulative environmental and social/amenity impacts, the department considers that the site can accommodate events up to a capacity of 50,000 patrons. However, the department considers a precautionary approach to development at the site should occur and recommends a phased approval with no increase in the size or frequency of events beyond the first year of operation until the proponent has demonstrated that specific KPIs can be achieved. The KPIs, as outlined in the EH&SM Manual, have a particular focus on achieving sound environmental outcomes, sustainable traffic generation, appropriate noise levels, and positive community relations.

In principle, the department is supportive of the site being utilised as a cultural events venue. However, it is considered that any increase in the size of events must be progressive and subject to consistent demonstration of compliance with all KPIs, as well as any other matters the Director-General considers relevant. The department does not support the proposed 15% annual increase in the size of events, and instead recommends a more conservative four-phase approach in increasing the site's usage, as illustrated in the flowchart at **Figure 16**.

Approval is therefore recommended for events up to a maximum capacity of 50,000 patrons. However, only Phase 1 which includes three major events of 30,000; 25,000; and 15,000 patrons respectively may be carried out in the first calendar year of operation (over a combined maximum of 10 event days). The 30,000 patron event may be carried out in perpetuity each calendar year only after the proponent has demonstrated after the first year of operation that an event of this size is sustainable, particularly in regards to traffic. In order to operate under Phase 2 and beyond, the proponent must demonstrate compliance with all KPIs, and any other matters the Director-General considers relevant, to the department's satisfaction through a KPI report. Any increase in event size, or progression to the next phase, will be considered by the department on its merits. Any increase in event size from one calendar year to the next will not exceed more than 5,000 patrons.

Phase 4 is the proposed maximum site usage and consists of four events of 50,000; 40,000; 30,000; and 20,000 patrons respectively, to be carried out over a single calendar year (over a combined maximum of 12 event days). It would take a minimum of six years to reach Phase 4. There is no guarantee the proponent will operate under Phase 4 unless they have consistently obtained approval for an increase in event size in accordance with the recommended conditions of approval.

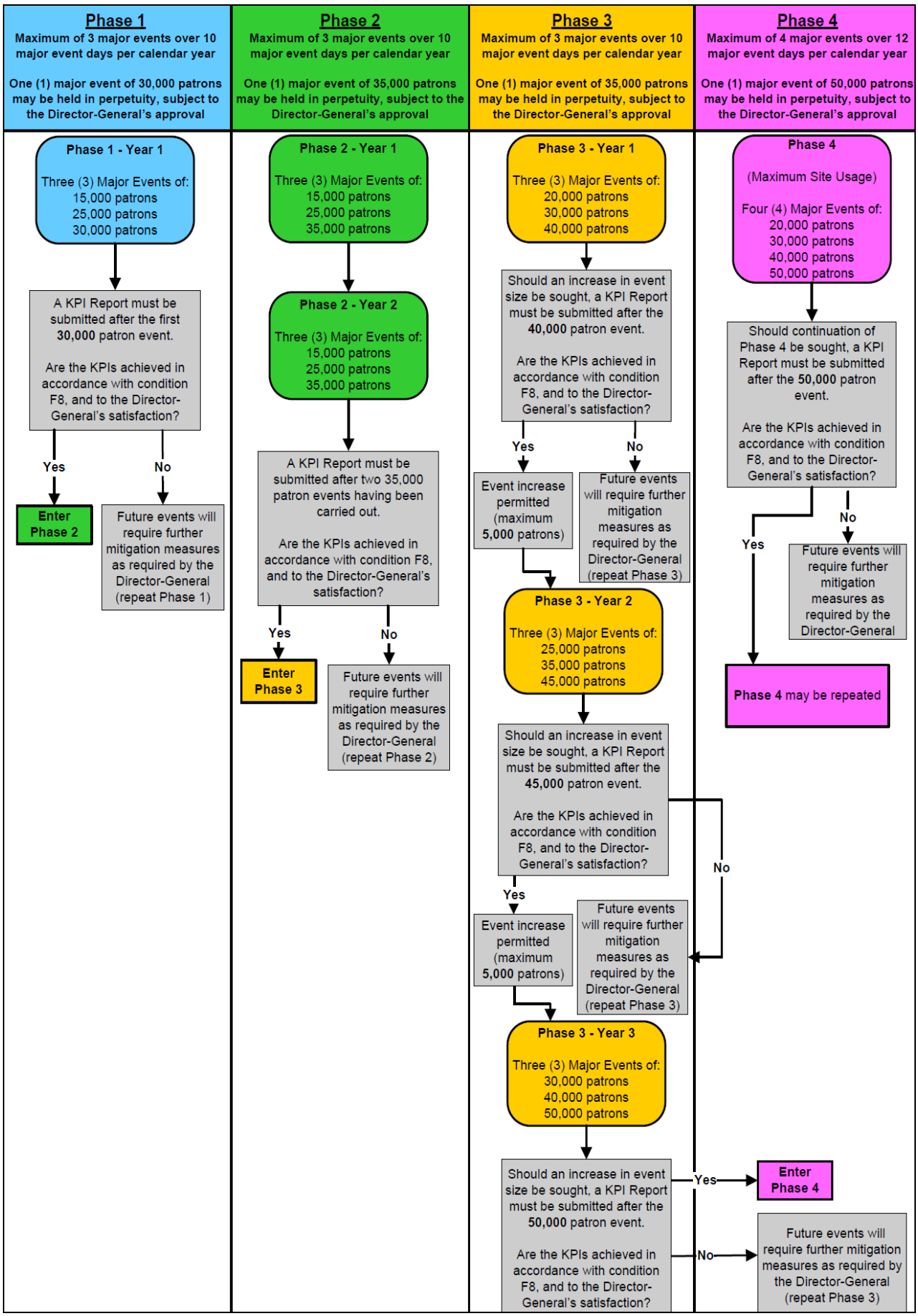


**Figure 16: Recommended Approval Phasing for Major Events**

**Figure 16** above outlines the recommended approach for major events only. In addition, it is recommended that no small or moderate sized events are permitted from Phases 1 to 3 inclusive. Should the proponent obtain approval to operate under Phase 4, up to four event days each for small and moderate sized events may be granted. There are no restrictions at any phase for the number of minor events (less than 300 patrons) carried out at the site.

The department further recommends the following event restrictions:

- any major event where more than 15,000 patrons will be in attendance must be carried out over a minimum of two days (primarily due to traffic related concerns, as discussion in **Section 5.3**);
- no event shall exceed more than five consecutive days;
- the maximum number of campers permitted on the site at any one time is restricted to 25,000 and camping may only occur when an event is being carried out; and,
- no moderate or major events are permitted to occur over the Christmas/New Year and Easter holiday periods, unless as otherwise agreed to by the Director-General.

### 5.1.1 Monitoring and Reporting of Environmental Impacts Associated with Events

The department's recommendation proposes continual monitoring and reporting of any impacts associated with events being carried out at the site. This approach aims to ensure that events are consistently carried out in a sustainable manner; that the cumulative impacts of the proposal are constantly monitored; and, that the project is being carried out in accordance with the recommended conditions of approval. Consistent monitoring will also allow for any detrimental impacts or unsustainable practices to be identified immediately and for appropriate solutions to be enforced.

Measures to ensure an appropriate level of monitoring and reporting occur include the preparation of a KPI Report for the department's consideration prior to any increase in event size (or at any other time the Director-General deems necessary); and the establishment of a Regulatory Working Group (RWG) to work with the proponent in providing advice and offering solutions to improve the carrying out of future events. A complaints register for local residents is also recommended to be established. The KPI reporting, RWG, and complaints register are discussed further below.

Key Performance Indicators Report

As outlined in the recommended conditions of approval, a KPI Report will be required to be submitted to the Director-General for consideration prior to any permitted increase in the size of an event, or to proceed from one phase to the next (refer recommended condition F8). All KPI's as identified in the proponent's EH&SM Manual are required to be addressed, with no increase in the size of an event permitted prior to the proponent having demonstrated compliance with these KPIs.

Each KPI Report is required to specifically include the following;

- an assessment of the project's performance and compliance with the recommended conditions of approval, and parameters outlined in the EH&SM Manual;
- an assessment and comparison of the project's performance against the environmental impacts and performance as predicted in the EA;
- identification of trends in monitoring data;
- environmental management targets and strategies for the following 12 month period, taking in consideration identified trends in monitoring data and results;
- a copy of the complaints register;
- information regarding consultation with the RWG; and,
- any other matters the Director-General considers relevant.

Regulatory Working Group

A recommended condition of approval requires the establishment of the RWG prior to the construction of temporary infrastructure for events. The RWG is to comprise at least one representative of the proponent, OEH, Roads and Maritime Services (RMS), NSW Police, Rural Fire Service (RFS), NSW State Emergency Services (SES), and council. The RWG must also include two representatives of the local community to be appointed on a rotational basis. The purpose of the RWG is to:

- act as an advisory committee and oversee the environmental performance of the project;
- meet at least once prior to a major event being carried out;
- review the proponent's performance with respect to environmental management and community relations;

- undertake periodic inspections of the site; and,
- provide advice on any KPI Report prepared by the proponent and submitted to the Director-General seeking an increase in event size.

Complaints Register

A further recommended condition of approval requires the establishment of a complaints register to record all complaints received both during the construction of temporary site infrastructure ('bump in' period) and during the carrying out of events. The proponent must make available for the community a 24-hour phone number, a postal address, and an email address for complaints to be lodged. Details on how to record a complaint must to be advertised in a local newspaper prior to the commencement of each moderate or major event. The register must record the nature of any complaints; the date and time the complaint was made; any personal details of the complainant; and any actions taken by the proponent to address the issue. Details of the complaints register must be provided with any KPI Report, and must be available for inspection by the Director-General upon request at any time.

Department's Consideration

The department considers a phased approach to carrying out major events with consistent monitoring and reporting procedures provides an acceptable level of precaution in recommending permanent approval for the site. The department's assessment considers the site suitable to sustain three major events in the first year of operation, over a combined maximum of 10 event days (with a maximum event comprising no more than 30,000 patrons). There is no guarantee the proponent will be able to operate more than one event of 30,000 patrons beyond the first year of operation unless the department is satisfied that all KPIs are achieved, as well as any other matters considered relevant. The recommended phased development approach allows for impacts associated with the carrying out of events to be immediately identified and addressed by the proponent, and prior to any increase in site usage being permitted.

The proposed event day restrictions per calendar year avoid excessive use of the site and it is considered that this will maintain an acceptable level of amenity at the locality, and allow for natural rehabilitation of the site's ecological features to occur when events are not being carried out. Furthermore, the recommendation to increase the size of events of no more than 5,000 patrons per event, per calendar year will ensure that any intensification of site usage is gradual, with sufficient time for monitoring and reporting of any residual impacts; and for the implementation of further management measures.

In response to the impacts of disrupted amenity, the department has closely considered the concerns raised by those living in nearby and surrounding communities, and has addressed these concerns throughout **Sections 5.2** to **5.8** below. It is considered that the recommended site usage of three major events over a combined 10 event days per calendar year as part of Phase 1 will maintain an acceptable level of amenity in this rural-residential locality. Only once the proponent has successfully demonstrated compliance with all KPIs will approval to proceed beyond Phase 1 occur. Furthermore, unless the proponent can satisfactorily demonstrate that the project is able to achieve all KPIs, which includes consideration of social and amenity impacts, an increase in the size or frequency of events will not be permitted. The recommended conditions of approval also require the proponent to develop a complaints register which will be considered by the Director-General as part of any KPI Report seeking an increase in event size or frequency.

In summary, the department's recommendation is for the site to carry out three major events of 30,000; 25,000; and 15,000 patrons respectively over a single calendar year for the first year of operation. The maximum site usage will comprise four major events, with the maximum sized event capped at 50,000 patrons. A single event of 30,000 patrons may be carried out in perpetuity should the proponent meet all KPIs after the first year of operation. Should the proponent seek to increase the size of events, this will be at the discretion of the Director-General following consideration of a KPI Report, and any other matters the Director-General considers relevant.

## 5.2 FLOODING AND EVACUATION

The site is located in a sub-tropical climate which is subject to highly variable rainfall patterns and storm events. The site is split into two catchments divided by the east-west alignment of Jones Road and Marshalls Ridge. The majority of the northern camping/event area is within the Crabbes Creek floodplain, which is part of the Mooball Creek catchment. The southern car parking area is located within the Billinudgel and Yelgun Creek floodplain, which is a tributary of Marshalls Creek. Concerns in relation to flash flooding and evacuation of the site were raised by a number of agencies including council and OEH. Many of the public submissions in objection to the proposal also raised this issue. A Flood Impact Assessment (FIA) prepared by BMT WBM Pty Ltd (BMT WBM) was submitted as part of

the EA. The FIA provided an analysis of catchment-wide hydrological modelling to determine the likely flood levels, depths and flood hazard categorisation of the site post-development.

### 5.2.1 Flood Characteristics

The site is affected by both local catchment flows and flooding from the broader catchment. The northern portion of the site drains north and east to Crabbes Creek which forms part of the Mooball Creek catchment. This portion of the site has a relatively flat gradient and flooding is predominately dictated by flows backing up within the Crabbes Creek watercourse and spreading across the northern part of the site. The southern portion of the site consists of more undulating terrain and flood characteristics are dominated by water breaking out of Billinudgel Creek and Yelgun Creek. These watercourses enter the southern portion of the site via culverts under Tweed Valley Way and the Pacific Highway, discharging to the Brunswick River system at Brunswick Heads to the south-east.

In determining flood characteristics of the site post-development, the proponent relied on hydraulic modelling of Mooball and Marshalls Creeks previously undertaken by BMT WBM in preparing the Tweed-Byron Coastal Creeks Flood Study 2009. The model is based on a 30m² grid with the design of the proposed Spine Road and event laneways included in the model. It is acknowledged in the FIA that a 30m² grid resolution does not accurately define the sub-grid scale flood characteristics; however, it is sufficient in determining the rate of rise, peak flood depths and velocities, and the broader flood behaviour experienced across the site. A range of flood events from the 5 year Annual Recurrence Interval (ARI) up to the Probable Maximum Flood (PMF) were modeled. **Figures 17** and **18** below illustrate the peak flood depths across the developed site for a 5 year ARI and 100 year ARI flood event.

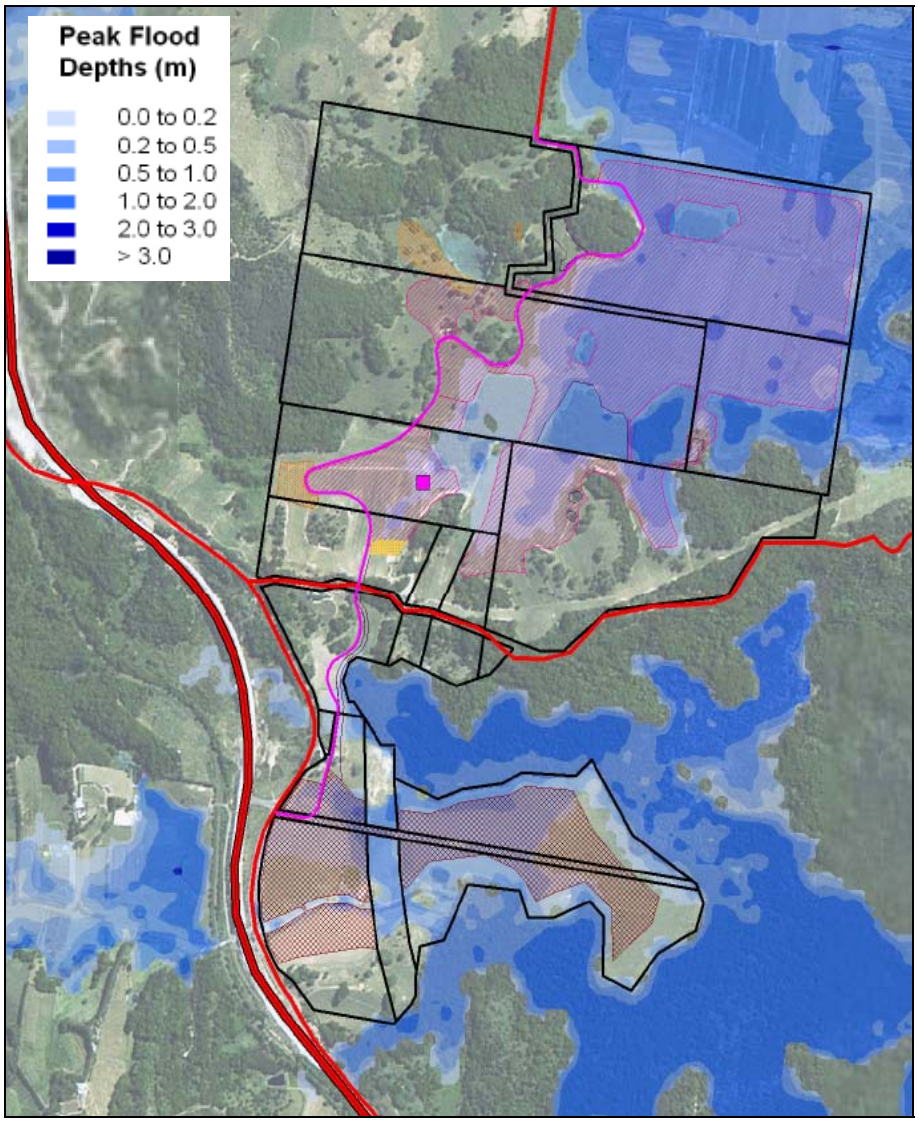


**Figure 17: Flood Depths – 5 Year ARI (source: Flood Impact Assessment, BMT WBM – July 2010)**

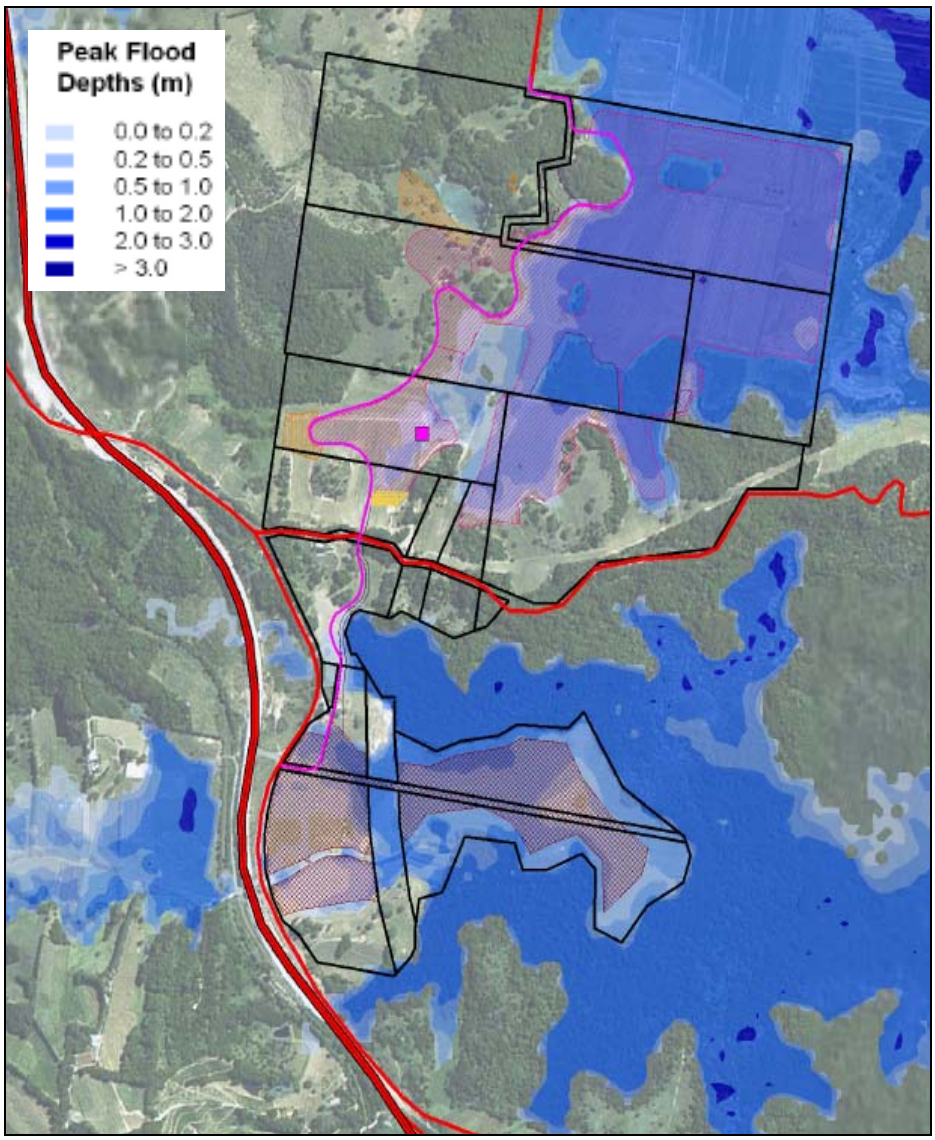


**Figure 18: Flood Depths – 100 Year ARI (source: Flood Impact Assessment, BMT WBM – July 2010)**

The hydraulic models show the proposed Spine Road inundated at two locations south of Jones Road for a 5 year ARI event. The northern event/camping area as well as the southern car parking area are also prone to inundation from a 5 year ARI event and above. In accordance with the modelled illustrations provided in the FIA, peak flood depths of between 1.0m to 2.0m would be experienced across almost the entire northern event/camping area and southern car parking area during a 100 year ARI event. These depths would further increase to between 2.0m and 3.0m during a PMF event. A large area towards the north-west of the site is flood immune, even during a PMF event.

Council noted in its submission that the Tweed-Byron Coastal Creeks Flood Study 2009 indicates flood depths of up to 2.5m may be experienced in the northern camping/event area during a 100 year ARI event. The proponent's FIA predicts maximum flood depths of up to 1.9m in the same area. Whilst there are discrepancies between council's and the proponent's assessment, it is evident that the site is subject to flooding and that the peak flood depths are significant at certain locations. **Table 3** below provides a comparison of council's and the proponent's estimated peak flood depths at various locations across the site.

**Table 3: Comparison of Estimated Peak Flood Depths – 100 Year ARI Rainfall Event**

| Location | Peak Flood Depth (Council's Flood Study) | Peak Flood Depth (Flood Impact Assessment) |
|---|---|---|
| Central Car Parking Area | 0m - 1.8m | 0m – 1.8m |
| Southern Car Parking Area | 0.4m – 1.1m | 0.25m – 0.7m |
| Northern Camping Area | 2.5m | 0m – 1.9m |
| Event Area | 2.0m | 0m – 1.5m |

Consideration of Climate Change

In accordance with OEH's *Practical Consideration of Climate Change – Floodplain Risk Management Guideline*, the FIA considered the implications of climate change on the proposed development. A climate change scenario involving a 30% increase in rainfall intensity and 0.91cm rise in sea level was assessed in conjunction with a 100 year ARI flood event. The modelled climate change scenario indicates that peak flood depths would rise a further 1.62m in the vicinity of the northern event/camping area and 1.29m in the vicinity of the southern car parking area in conjunction with a 100 year ARI event. **Figure 19** below illustrates the modelled climate change scenario.

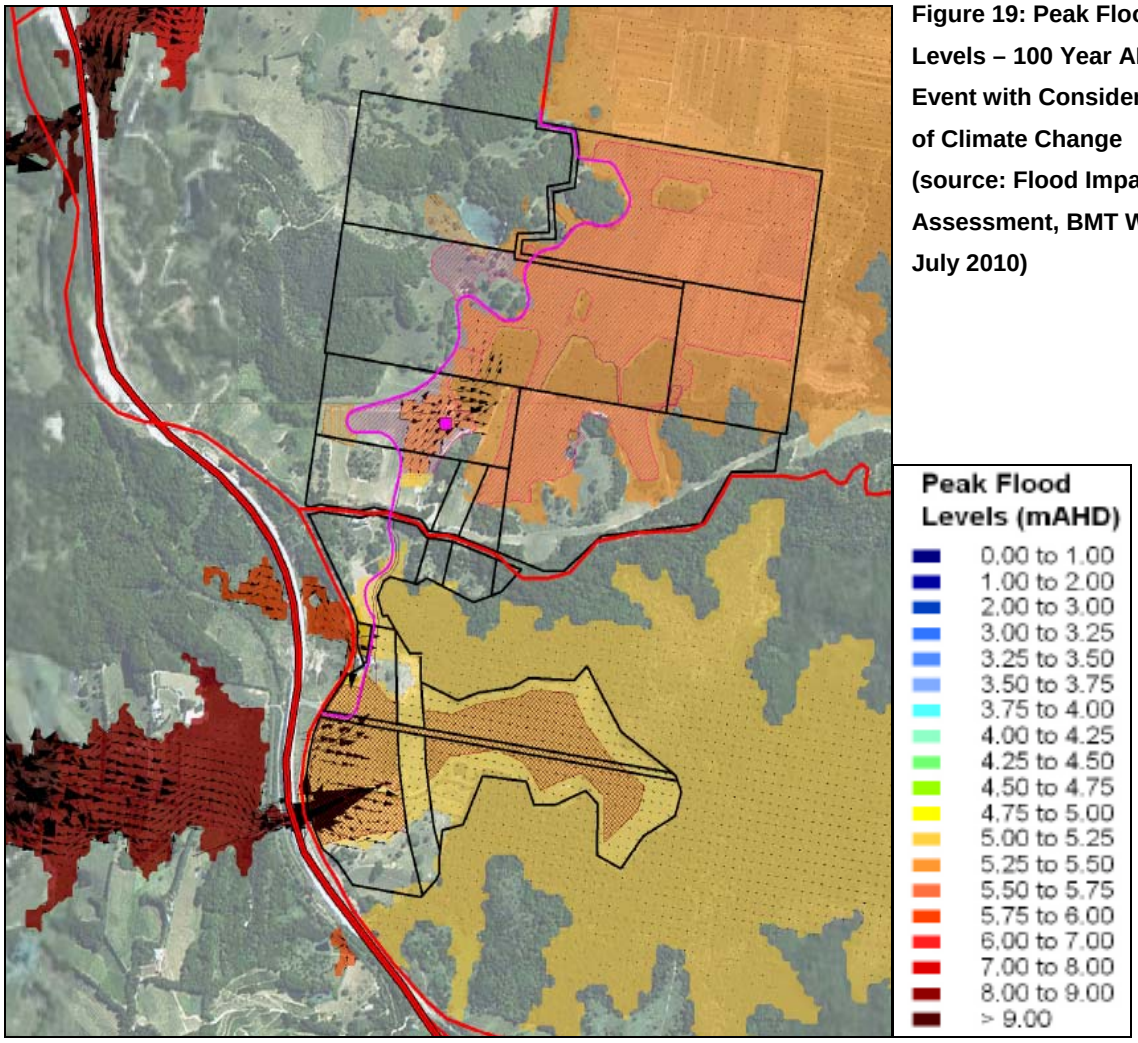


**Figure 19: Peak Flood Levels – 100 Year ARI Event with Consideration of Climate Change (source: Flood Impact Assessment, BMT WBM – July 2010)**

OEH noted in its submission that the climate change assessment indicates the site is likely to be flooded more frequently and severely in the future. OEH also noted that the Spine Road is the only available evacuation route and should therefore be constructed to ensure it remains flood free in a 100 year ARI event. Council advised that if flood depths of between 1.0m and 2.0m are expected to occur during a 100 ARI event, the site is therefore categorised as being within a High Hazard Flood Zone in accordance with the NSW Floodplain Development Manual 2005. Council further advised, however, that the high hazard categorisation could be mitigated by a satisfactory evacuation plan. Many public submissions also made note of the site location in a flood prone area and of the intensification of flooding impacts as a result of climate change.

Having considered council's, OEH's and the public submissions, the department requested the proponent provide further justification for the positioning of campers and event infrastructure within a flood prone area.

The proponent submitted a PPR which acknowledged that use of the site is constrained by flooding, and advised that event organisers have no intention to carry out events of any scale when there is the likelihood of a flood. The PPR and Statement of Commitments further outlined a variety of measures to address outstanding flooding issues, including:

- positioning of permanent site structures and key infrastructure (including electricity boards) outside of the 100 year ARI flood extent;

- elevation of the Spine Road to ensure it is constructed above the 100 year ARI flood level;
- development and implementation of a significant rainfall event forecasting system based on the Australian Water Resources Council's Floodplain Management in Australia guidelines and Emergency Management Australia's Flood Warning and Flood Response manuals which will allow for decisions to be made on whether events should be carried out, or to alter the form of events based on anticipated climatic conditions;
- implementation of an automatic rainfall recording station and stream height gauging stations;
- development of a car park management plan that distributes the maximum number of vehicles across flood free areas of the site first prior to utilising areas that are subject to inundation; and,
- implementation of a flood evacuation plan with consideration of various evacuation scenarios.

The department is supportive of the proposed flood mitigation measures outlined in the PPR. However, there were a number of outstanding issues that the department considered necessary for further investigation and assessment. These issues involved the level of detail of flood modelling undertaken as part of the FIA; and the lack of certainty about the impacts a flash flood would have whilst an event was being carried out at the site.

To obtain a greater understanding of these issues, and potential implications in safely evacuating the site, the department engaged a hydrological consultant from SMEC Australia Pty Ltd (SMEC) to undertake a critical review of the proponent's FIA, Flood Evacuation Assessment, and all relevant public and government agency submissions.

Independent Review

SMEC's review of the documentation concluded that the flood modelling results provided as part of the FIA did not examine in sufficient detail the local catchment runoff and associated flood effects within the site due to the proponent's reliance on a regional-scale flood model, which was developed for a previous study commissioned by council. SMEC's review of the FIA also identified an under-estimation of the flood hazard categorisation of the site. In addition, SMEC raised concern in regards to the safe and efficient evacuation of the site during a flood event.

In summary, SMEC considered that additional information was required to enable the department to undertake a comprehensive assessment of flooding issues. In response to SMEC's recommendations, the department requested the proponent to undertake the following:

- consider the effects of local catchment runoff and associated flooding impacts;
- consider amendments to the design of culverts, ensuring the proposed Spine Road remains flood free during a 100 year ARI event;
- consider the site's flood risk categorisation, taking into account the criteria for flood depth; and,
- prepare a comprehensive flood evacuation plan for the site (discussed under **Section 5.2.2**).

In response to the requirements listed above, the proponent's flood engineers BMT WBM provided the department with further information and justification.

In regards to the regional-scale catchment modelling provided as part of the FIA, BMT WBM advised that Stages 1 and 2 of the proposal do not include the construction of many permanent features that will influence hydraulics through the catchment; with the most influential feature being the proposed Spine Road (which was accounted for in the regional-scale catchment flood model). It was advised that the features proposed as part of Stage 3 (conference centre and cultural centre) will be constructed in areas identified as being flood free for the regional-scale model of a 100 year ARI event. BMT WMB noted that whilst there may be localised overland flow paths in this area, this can be addressed by designing appropriate drainage systems around these features as part of the future Stage 3 application. In summary, BMT WBM advised that the model grid resolution of 30m² used to provide flood modelling as part of the FIA accurately represented the site's flood behaviour, and any further modelling at a local catchment level would not alter the results presented in the FIA.

Having considered BMT WBM's justification, the department is satisfied that the regional-scale catchment flood model accurately indicates the likely impacts of flooding across the site, and that a satisfactory level of flood modelling has been provided. To address the issue of Stage 3 features potentially altering the site's existing flood behaviour, a recommended condition of approval as part of the concept plan requires the proponent to undertake further flood modelling at a local catchment level prior to the construction of Stage 3 facilities. The proponent must also provide details of an appropriate drainage system – incorporating water sensitive urban design measures – designed around the proposed Stage 3 facilities to ensure any flooding impacts within and adjoining the site are not exacerbated.

In regards to the culvert design having sufficient capacity to ensure the Spine Road is flood free during a 100 year ARI event, the proponent advised that the culverts will be appropriately sized to

ensure the Spine Road remains flood free in a 100 ARI event. The department has included this as a recommended condition of approval.

In regards to the flood risk categorisation as outlined in the NSW Floodplain Development Manual 2005, BMT WMB acknowledged that the criterion for flood depth alone was not accounted for in the FIA. Accordingly, the proponent provided a revised flood hazard categorisation map, as shown at **Figure 20** below, which indicates the site is located within a High Hazard Flood Zone. In response to the site's location within a flood prone area, a detailed flood forecasting and response management system was prepared by an expert flood evacuation consultant – this is discussed further in **Section 5.2.2** below.

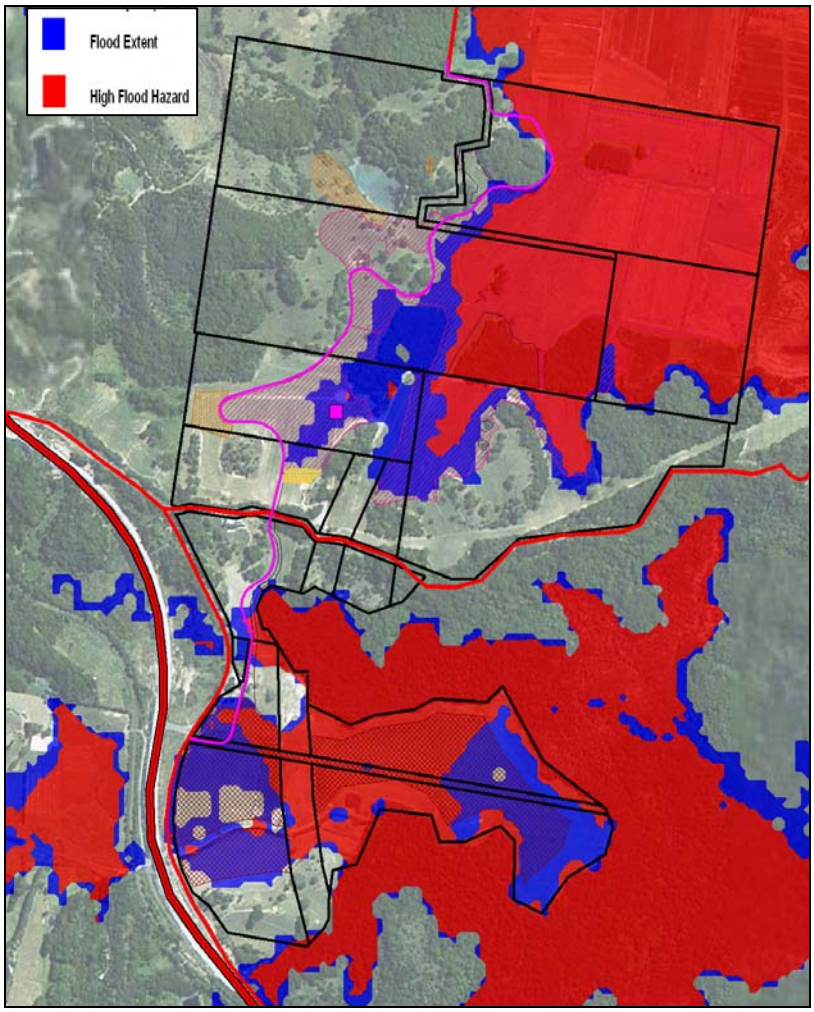


**Figure 20: Flood Hazard Categorisation – 100 Year ARI Event (source: BMT WBM)**

**Note: High Flood Hazard is defined as any location with a flood depth greater than 0.7m and/or a velocity-depth product greater than .04m²/second.**

### 5.2.2 Flood Evacuation

The proponent's Flood Evacuation Assessment (FEA) was prepared by BMT WBM and submitted as part of the EA. The FEA considered potential evacuation routes from the site; depth and time of flooding along these evacuation routes; and methods to safely evacuate patrons and vehicles. The FEA notes that evacuation warning times vary from 0.5 to 8 hours notice at locations within the site. Given the possibility of only 30 minutes warning time to evacuate during a flash flood event, the FEA devised two evacuation scenarios – sufficient time to evacuate; and insufficient time to evacuate. The proposed methods of evacuation are summarised below.

Sufficient Time to Evacuate

In the event of an evacuation whereby sufficient warning time is provided, patrons would be advised (via the public address system) to pack all belongings and return to their vehicles. Vehicles located in the northern/central car parking area would be directed north along Tweed Valley Way via Jones Road. Vehicles in the southern car parking area would be directed south along Tweed Valley Way via Gate A. **Table 4** below outlines the maximum number of vehicles on-site for different sized events and the estimated time it would take to evacuate them from the site. It is noted that once the smaller northern/central car park is completely evacuated, vehicles from the southern car park would then be directed both north and south along Tweed Valley Way.

**Table 4: Total Number of Cars On-Site and Time Required to Evacuate**

| | Northern Car Park | | Southern Car Park | | Total Car Parking | |
|---|---|---|---|---|---|---|
| **Event Category** | **Total Vehicles** | **Hours to Evacuate** | **Total Vehicles** | **Hours to Evacuate** | **Total Vehicles** | **Hours to Evacuate** |
| **100% (50,000 patrons)** | 4,746 | **7.0** | 7,155 | **10.0** | 11,901 | **8.5** |
| **70% (35,000 patrons)** | 3,992 | **5.0** | 6,017 | **7.0** | 10,009 | **6.0** |
| **40% (20,000 patrons)** | 2,795 | **3.0** | 4,213 | **4.5** | 7,008 | **4.0** |
| **30% (15,000 patrons)** | 1,763 | **2.5** | 2,657 | **3.5** | 4,420 | **3.0** |
| **Moderate** | 1,322 | **2.0** | 1,992 | **3.0** | 3,314 | **2.5** |
| **Small** | 1,124 | **1.0** | 1,693 | **1.0** | 2,817 | **1.0** |
| **Minor** | 397 | **0.5** | 597 | **0.5** | 994 | **0.5** |

Whilst the proposed evacuation procedure is considered a sound approach in evacuating all patrons and vehicles from the site, **Table 4** indicates the considerable amount of time required to evacuate, even for a moderately sized event. The FEA does not consider the fact that patrons may be under the influence of alcohol and unable to legally drive, nor are there any contingency measures should vehicles become bogged or breakdown along the evacuation route. Furthermore, should a 100 year ARI rainfall event occur immediately prior to, or during an event, complications would quickly arise as Tweed Valley Way would become inundated and impassable to the north of the site before the Cudgera Creek interchange, and south of the site before the Yelgun interchange. This would prevent access to the Pacific Highway at both evacuation points, and would force vehicles to queue on external roads until floodwaters subside. In the event that external roads become impassable during an evacuation response, the FEA proposes to evacuate all patrons to flood-free land within the site – as discussed below.

Insufficient Time to Evacuate (Remain on Site)

In the event of little to no warning of a flash flood occurring, the FEA proposes all patrons be directed towards flood free land (north-western part of the site) on foot as directed by event and security staff. Should Tweed Valley Way become impassable whilst an evacuation is being carried out, patrons who are attempting to evacuate via vehicle will be required to cease driving, abandon the vehicle, and move to the designated flood evacuation assembly area.

The FEA concludes that a more detailed evacuation plan should be developed in conjunction with the SES and site manager prior to any event being carried out, and enforced through any recommended conditions of approval.

Department's Consideration of the FEA

The department acknowledges the proponent's intention to produce a more robust evacuation plan as a post-approval requirement. However, for the purpose of this assessment, it was considered that the FEA provided insufficient information demonstrating that either scenario (sufficient or insufficient time to evacuate) could be executed in a safe and orderly manner. The FEA provides no information regarding enforcement actions to ensure patrons cease driving when required, or move to the designated flood evacuation area when directed. No consideration has been given to the fact that an evacuation may occur under treacherous climatic conditions (such as heavy rain and storm conditions), or during the night. Furthermore, the plan relies heavily on local Police, security and SES personnel to assist in managing an evacuation response, though any detailed consultation undertaken with these authorities is not documented. The department consequently requested the proponent to document as part of the response to submissions further investigation and information regarding the safe and efficient evacuation of patrons and vehicles during a flood event.

The proponent's PPR addressed the issue of flood evacuation by declaring that no events will be carried out during a time of flood. However, no information was provided in regards to specific triggers or thresholds that would be drawn upon in deciding when an event will be cancelled, or when an evacuation response will be enforced.

As discussed in **Section 5.1.1**, the department engaged an independent consultant (SMEC) to critically review all flooding and evacuation documentation. SMEC advised that despite the preliminary information and evacuation scenarios provided in the FEA, it remained unclear as to whether the site could be safely evacuated. It was recommended the proponent prepare a more

detailed flood evacuation plan prior to any development approval, to be prepared by a suitably qualified floodplain management specialist engineer, in conjunction with local emergency services, SES and local Police prior to any determination of the project.

Flood Risk Management Plan – Molino Stewart Pty Ltd

In response to SMEC's recommendation and the department's request for the proponent to prepare a detailed evacuation plan prior to determination, the proponent engaged Molino Stewart Pty Ltd to prepare a rainfall forecasting and evacuation response plan. The plan, titled North Byron Parklands Flood Risk Management Plan (FRMP) includes detailed rainfall forecasting and flood warning systems, with thresholds for an evacuation response and appropriate management actions to be enforced.

The fundamental outcome of the FRMP involves the monitoring of weather forecasts and warnings to ensure evacuation response actions are enacted prior to flood waters reaching dangerous levels. The FRMP relies on data produced by the Bureau of Meteorology (BoM) in keeping up to date with the latest rainfall forecasts and any weather warnings issued. BoM issues forecast maps to estimate anticipated rainfall over the forthcoming eight days, four days, and 24 hours via its website. In addition to BoM's forecasts and warnings, the plan relies on the stream height readings of two gauges to be installed – one at Crabbes Creek downstream of the site and one at Billinudgel Creek upstream of the site – to detect potential flood waters affecting the site. The stream gauges will also assist in general flood forecasting of the wider region.

To assist with decision-making and communicating response actions, the FRMP includes a decision support framework that assists in making early evacuation or event cancellation decisions, and efficient site evacuation procedures to reduce the chance of patrons becoming trapped on the site. The FRMP outlines seven colour-coded flood alert levels and the required actions of event staff, as outlined in **Table 5** below.

**Table 5: Flood Alert Thresholds and Required Actions (source: Flood Risk Management Plan, Molino Stewart Pty Ltd – June 2011)**

| Trigger Level | Alert Level | Required Actions |
|---|---|---|
| **White** | **Normal Conditions** | Daily monitoring of weather forecasts and warnings. |
| **Blue** | **Flood Watch** | Flooding might be a possibility. More frequent weather and warning monitoring, evacuation preparatory actions. |
| **Yellow** | **Flood Warning** | Flooding is expected to occur. Continuous weather and warning monitoring and preparation for evacuation. |
| **Orange** | **Evacuation** | All patrons and staff to leave the site by vehicle. Continuous weather and warning monitoring. |
| **Red** | **Take Refuge** | Flooding is an immediate threat to patrons and they must take refuge on flood free land within the site. Continuous weather and warning monitoring. |
| **Black** | **Event Cancellation** | Imminent flood threat or actual flooding making it unrealistic for an event to be held, or continued. |
| **White** | **After Flood / All clear** | The event may continue, or may be cancelled depending on the circumstances. |

The thresholds that determine an escalation from one alert level to the next are based on a series of climatic forecasts and other observations that require consistent monitoring by event staff. These include BoM's forecasted rainfall totals; any rainfall that has occurred at the site in the previous 24-hour period; stream height readings of Crabbes and Billidnugel Creeks; any existing water on the site; and any inundation on local roads.

The flood alert levels correspond with a series of alert matrices which outline the thresholds in triggering an escalation from one alert level. Individual alert matrices have been provided for:

- a week prior to an event;
- one day prior to an event;
- days one and two of an event;
- final day of an event; and,
- during the 'bump in' and 'bump out' periods.

The alert matrices outline climatic forecasts and observations that require monitoring by event staff. Rainfall forecasts and flood warnings will be determined on the basis of BoM's latest climatic data, which is consistently updated and accessible via the BoM website. Alert levels will be escalated even if only one of the trigger thresholds is reached. It is noted that the appropriate stream gauge readings for Crabbes Creek and Billinudgel Creek will be determined in collaboration with BoM once the gauges have been installed (this has been included as a recommended condition of approval). As an example, the alert matrix for a week prior to an event is provided at **Table 6** below. The alert matrices provide appropriate rainfall forecasting and warning triggers to ensure that any evacuation commences well before a flood event occurs; and in extreme circumstances, to ensure that events are cancelled prior to patrons arriving on-site. In the event that alert level red *take refuge* is enacted during an event, all patrons will be directed to an emergency assembly area, as shown at **Figure 21** below.

**Table 6: Example Alert Matrix – Week Prior to an Event (source: FRMP, Molino Stewart Pty Ltd – June 2011)**

| *Forecast/Observation* | Individual alert thresholds during week before the event | | | | |
|---|---|---|---|---|---|
| *8 days forecast* | >300mm | NA | NA | NA | NA |
| *4 days forecast* | >150mm | NA | NA | NA | >500mm including the event days |
| *24 hour forecast* | >50mm | >250mm | >275mm | NA | NA |
| *Flood warnings* | Flood Watch, Severe Weather Warning or Flood Warnings from BOM/SES | Directive from SES | Directive from SES | Directive from SES | Directive from SES |
| *Radar* | Moderate or heavy after >100mm in 24hrs | Heavy after >175mm in 24hrs | Heavy after >225mm in 24 hrs | NA | NA |
| *Fallen rain in 24 hours* | >100mm plus more forecast | >150mm plus >75mm forecast or >200mm fallen | >200mm plus 75mm forecast or >250mm fallen | NA | NA |
| *Stream gauge readings* | Crabbes Creek Xm and rising<br>Bilinudgel Creek Xm and rising<br>Lacks Creek Xm and rising | Crabbes Creek >Xm or rising<br>Bilinudgel Creek >Xm or rising<br>Lacks Creek Xm or rising | Crabbes Creek >Xm or rising<br>Bilinudgel Creek >Xm or rising<br>Lacks Creek Xm or rising | Crabbes Creek >Xm or rising<br>Bilinudgel Creek >Xm or rising<br>Lacks Creek Xm or rising | NA |
| *Water on site* | 100mm anywhere on site | More than 100mm depth in areas being used | More than 100mm depth in areas being used | More than 200mm depth in areas being used | NA |
| *External Roads* | Any local roads cut by floodwaters | NA | NA | North and South Cut and Orange Alert threshold reached | NA |
| **Alert Threshold** | **Flood Watch** | **Flood Warning** | **Evacuation** | **Take Refuge** | **Cancellation** |

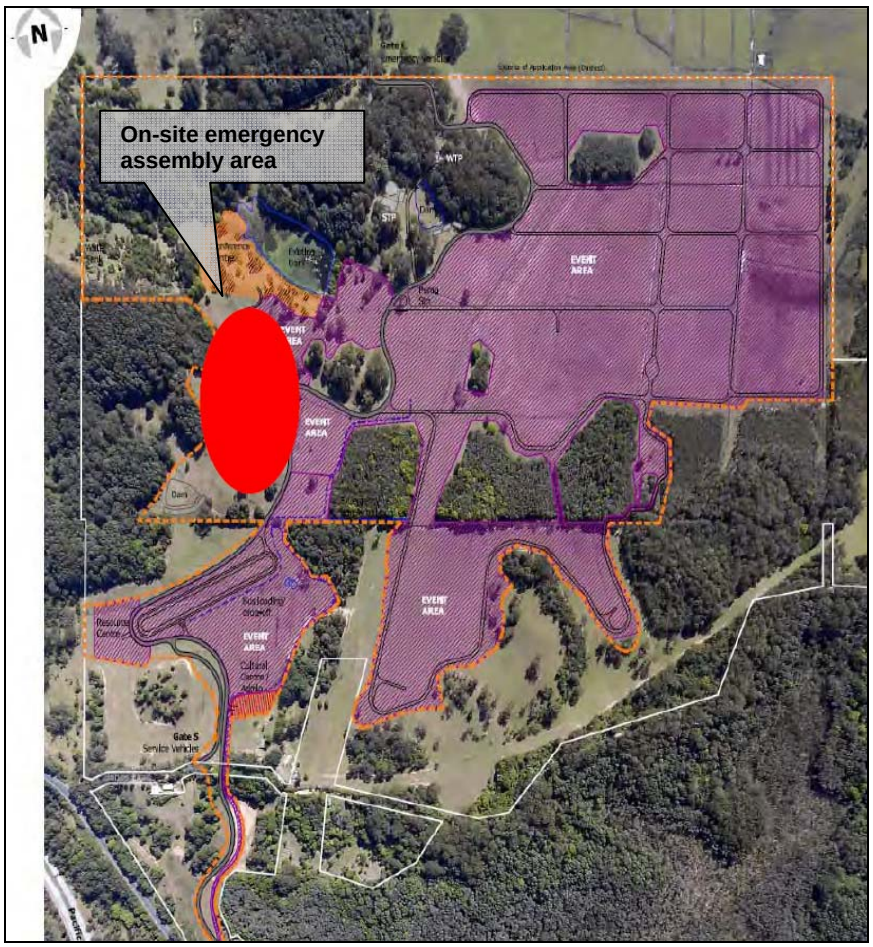


**Figure 21: Emergency Assembly Area (source: Flood Risk Management Plan, Molino Stewart Pty Ltd – June 2011)**

For those patrons on-site and within a vehicle attempting to evacuate when the alert threshold escalates from *evacuation* to *take refuge*, the FRMP requires traffic marshals, police and security personnel to advise patrons to exit their vehicle and walk directly to the emergency assembly area. Given the proposed Spine Road is recommended as part of the conditions of approval to be constructed above the 100 year ARI flood level, this will provide for an adequate evacuation route to flood free land within the site.

For patrons arriving at the site whilst a *take refuge* procedure is being carried out, traffic marshals will advise that the site is closed and to only return once alert levels return to either *flood watch* (blue) or *normal conditions* (white). In addition, electronic message boards located on the Pacific Highway 20km north and south of the site (used to direct event traffic) will be updated to notify travellers of any evacuation response or temporary site closure. Any event website or social media pages will also be updated with information and a media release issued in the event of an evacuation.

Independent Review – Flood Risk Management Plan

Following submission of the FRMP, the department re-engaged SMEC to critically review the document. SMEC advised that the FRMP was generally sound and provided satisfactory flood evacuation and management response actions. However, an outstanding issue identified by SMEC was that the proponent had failed to provide or even investigate as part of the plan any physical measures to reduce the site's flood risk (either through filling or other flood modification works). In essence, SMEC considered the proponent's reliance on the FRMP and evacuation as the sole mitigation measure to address flooding was unsatisfactory and that further measures (involving structural modifications to the site) to reduce the site's flood risk should be undertaken. SMEC recommended the site be physically modified to meet the appropriate stability criteria for small vehicles and safety criteria for small children and less mobile patrons, as outlined in the Australian Rainfall and Runoff (2011): Revision Project 10, Stage 2 Report (AR&R), prepared by the Water Research Laboratory. The criteria is outlined in **Table 7** and **Table 8** below.

| Proposed *DRAFT INTERIM* criteria for stationary vehicle stability | | | | | | | |
|---|---|---|---|---|---|---|---|
| Class of vehicle | Length (m) | Kerb Weight (kg) | Ground clearance (m) | Limiting still water depth[1] | Limiting high velocity flow depth[2] | Limiting velocity[3] | Equation of stability |
| Small passenger | < 4.3 | < 1250 | < 0.12 | 0.3 | 0.1 | 3.0 | $DV \leq 0.3$ |
| Large passenger | > 4.3 | > 1250 | > 0.12 | 0.4 | 0.15 | 3.0 | $DV \leq 0.45$ |
| Large 4WD | > 4.5 | > 2000 | > 0.22 | 0.5 | 0.2 | 3.0 | $DV \leq 0.6$ |
| [1] At velocity = 0 $ms^{-1}$; [2] at velocity = 3$ms^{-1}$; [3] at low depth | | | | | | | |

**Table 7: Safety Criteria for Stationary Vehicle Stability (AR&R)**

| DV ($m^2s^{-1}$) | Infants, small children (H.M ≤ 25) and frail/older persons | Children (H.M = 25 to 50) | Adults (H.M > 50) |
|---|---|---|---|
| 0 | Safe | Safe | Safe |
| 0 – 0.4 | Extreme Hazard; Dangerous to all | Low Hazard[1] | Low Hazard[1] |
| 0.4 – 0.6 | | Significant Hazard; Dangerous to most | |
| 0.6 – 0.8 | | Extreme Hazard; Dangerous to all | Moderate Hazard; Dangerous to some[2] |
| 0.8 – 1.2 | | | Significant Hazard; Dangerous to most[3] |
| > 1.2 | | | Extreme Hazard; Dangerous to all |

[1] Stability uncompromised for persons within laboratory testing program at these flows (to maximum flow depth of 0.5 m for children and 1.2 m for adults and a maximum velocity of 3.0 $ms^{-1}$ at shallow depths).
[2] Working limit for trained safety workers or experienced and well equipped persons (D.V < 0.8 $m^2s^{-1}$)
[3] Upper limit of stability observed during most investigations (D.V > 1.2 $m^2s^{-1}$)

**Table 8: Safety Criteria for People (AR&R)**

To achieve the stability criteria for small vehicles (outlined in **Table 7** above), minimum levels must not exceed 0.3m below the 100 year ARI flood level. To achieve the safety criteria for children and less mobile patrons (outlined in **Table 8** above), minimum levels must be no more than 0.5m below the 100 year ARI level.

The department consequently requested the proponent consider further measures to reduce the site's flood risk to a more acceptable level, including consideration of filling across the site to meet the safety criteria for vehicle stability and for the safety of children and less mobile patrons.

Proponent's Response

In response to SMEC's review of the FRMP, the proponent clarified that the FRMP was not the sole source of flood mitigation, and that measures including raising the Spine Road to a 1 in 100 year ARI flood level, and locating permanent structures outside of flood affected areas contributed to reducing the site's flood risk. Nonetheless, the proponent's flood engineers BMT WBM undertook an assessment of filling the site, based on the recommendations provided by SMEC. A preliminary analysis indicated that to fill the entire southern car parking area and the northern event/camping area to a level above the 100 year ARI would require approximately 305,000m³ of fill. The proponent did not consider this amount of fill to be either environmentally or economically sustainable for the site. Instead, the proponent seeks to provide selective filling within the southern car parking area, and to designate a location within the northern event/camping area for campers with children and less mobile patrons which is above the 100 year ARI flood level, which is also in close proximity to the Spine Road and designated flood evacuation area. **Figure 22** below shows the proposed fill locations and area for campers with children and less mobile patrons.

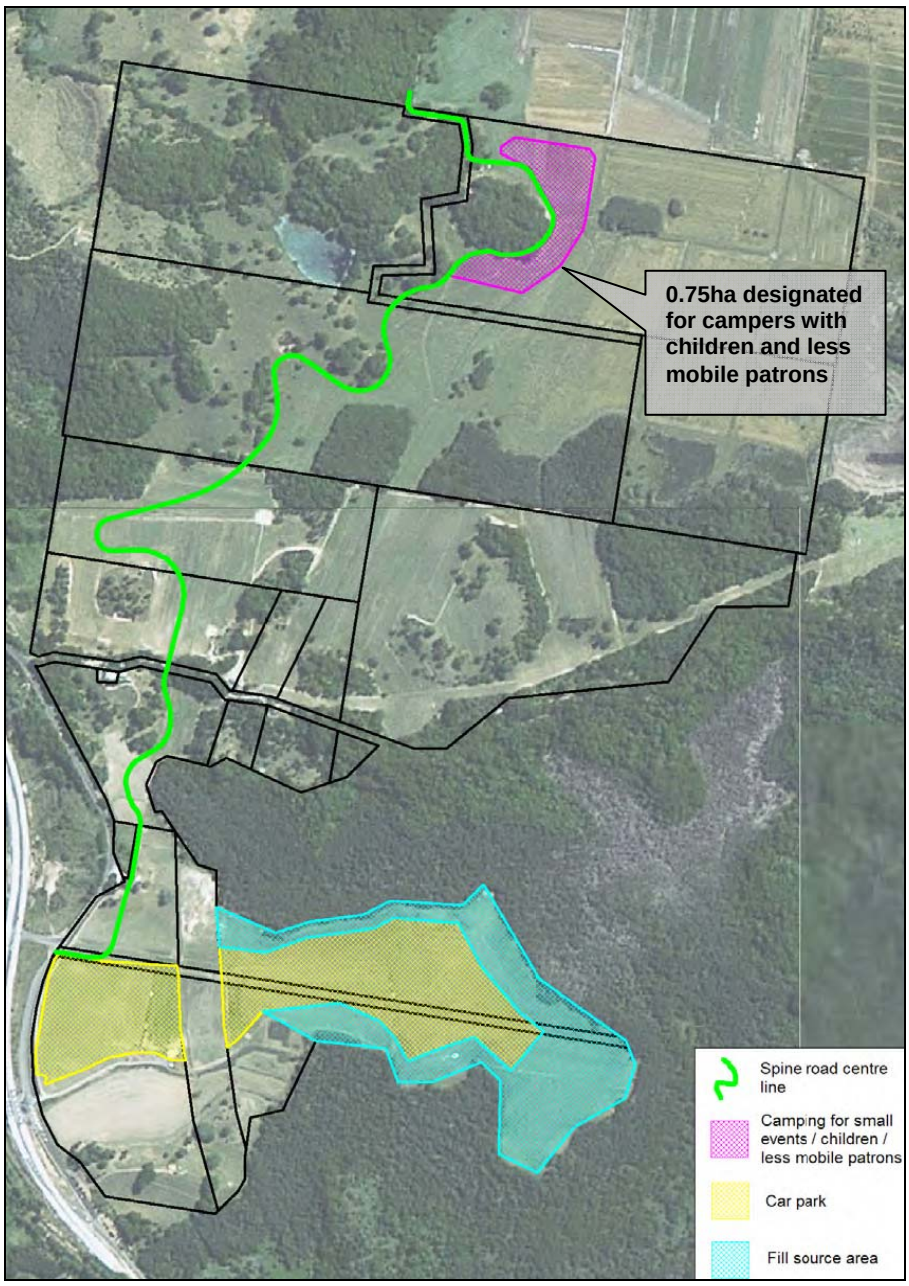


**Figure 22: Proposed Filling Works and Area Designated for Campers with Children and Less Mobile Patrons (source: BMT WBM, Cut and Fill Assessment)**

The proposed area set aside for campers with children and less mobile patrons contains approximately 0.75ha of land located above the 100 year ARI level. SMEC advised that this was an appropriate location with suitable grades (no greater than 1 in 20 fall (5%)) to accommodate these patrons.

In regards to the proposed filling, the proponent advises that an east-west laneway will be constructed above the 100 year ARI flood level through the southern car park, providing sufficient egress opportunities for vehicles. Feeder laneways which rise up to the east-west laneway will provide for a continually-rising vehicle evacuation route. Selective and progressive filling of any hollow or low points within the car parking area will occur.

In addition to the proposed filling works, the proponent has complied with SMEC's recommendation to prevent patrons from parking anywhere south of Yelgun Creek in order to remove the need for patrons to cross the creekline. The implications of reduced car parking at the site will be required to be considered in any KPI report seeking an increase in event usage. Should this area be required for car parking in the future, the recommend conditions of approval require the proponent to demonstrate that patrons can access vehicles parked south of the creekline in a risk free manner for events up to a 100 year ARI event. **Figure 23** below shows the area to be removed from the southern car park.

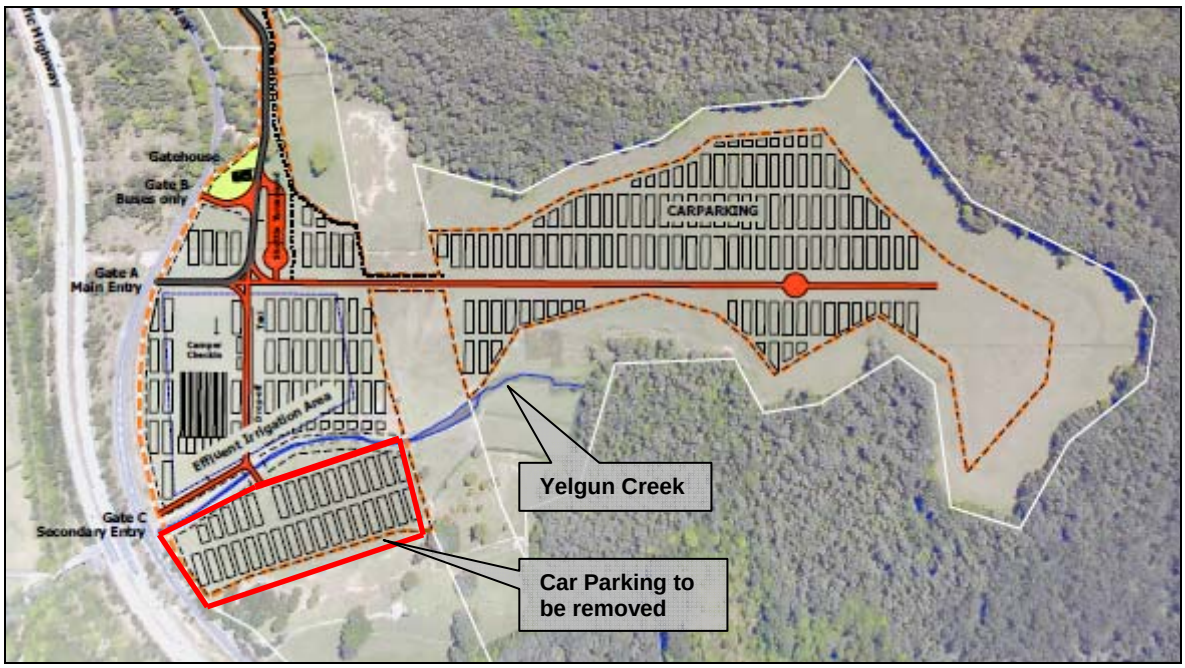


**Figure 23: Proposed Car Parking to be Removed (source: Preferred Project Report)**

BMT WBM considered the proposed filling works in the southern car parking area and designated elevated land in the northern event/camping area ensures the hydraulic criteria for vehicle stability and safety of children and less mobile patrons up to a 1 in 100 year ARI flood event.

In response to the proponent's additional flood mitigation measures, SMEC advised that it was supportive of the proposed flood management measures, including:

- implementation of the flood forecasting, warning and evacuation measures as contained in the FRMP;
- utilising only the most flood prone areas of the site for less frequent events;
- undertaking localised filling of low points in the terrain to prevent localised flood issues; and,
- providing adequate warning to event patrons regarding the risk of flooding to personal safety and vehicles/possessions (warnings provided on fliers handed out to patrons upon entry).

SMEC further advised that whilst filling was favoured as an overall approach to dealing with the site's flood risk, it was satisfied that given the relative infrequency of occupation (which contributes to a lower probability of a flood event occurring), the requirement to provide comprehensive site filling is essentially offset. However, SMEC noted that the proponent should be prepared (particularly from a commercial point of view) for the need to cancel or evacuate patrons due to flooding which may occur on the site.

Department's Consideration and Recommended Conditions

In assessing the implications of flooding and evacuation of the site, the department has considered the advice from its independent consultant and subsequent responses from the proponent's flood engineer and flood evacuation specialist. The department acknowledges that the area is prone to flooding, and that an element of risk exists in the carrying out of events. However, it is also acknowledged that events will only occur intermittently throughout the year, thus the probability of a flood occurring whilst an event is being carried out is not as likely for a development occupying the site on a permanent basis. In the event that flooding is an issue whilst an event is being carried out, the proponent has engaged a specialist in natural hazards warning systems and response planning (Molino Stewart) to prepare a robust management plan to monitor climatic conditions and to assist in the decision making of evacuation and cancellation responses. The department considers the plan reduces the risk that patrons will be on-site during a flood event through the stringent forecasting and monitoring requirements of the plan. Furthermore, the provision of a designated area (0.75ha) of higher ground (above the 100 year ARI flood level) will provide adequate space to cater for campers with children and less mobile patrons. The construction of the Spine Road above the 100 year ARI flood level also provides a safe evacuation route to exit the site, or to reach flood free land within the site (emergency assembly area located above the PMF level).

The department is satisfied that a thorough assessment of the implications of flooding has been carried out. The proposed flood mitigation works reduces the site's overall flood risk; and the proponent's comprehensive flood evacuation plan will assist with any unforeseen flash flood event that may occur while an event is being carried out.

The department therefore recommends the following conditions of approval to address flooding and evacuation concerns associated with the carrying out of events:

- detailed local catchment flood modelling is to occur prior to the issue of a construction certificate;
- any event carried out at the site is to be done so in accordance with the responsibilities and management actions outlined in the FRMP prepared by Molino Stewart, and is to be made readily available on-site under the control of the site/event manager;
- the proposed Spine Road is to be constructed above the 100 year ARI flood level to provide an appropriate evacuation route and to provide access to flood free land within the site;
- all permanent habitable structures are to be constructed a minimum of 500mm above the 100 year ARI flood level;
- all temporary structures that cannot be readily moved and/or dismantled are to be designed so that they will remain stable during a 100 year ARI flood event;
- an area of no less than 0.75ha with a suitable grade of no more that a 1 in 20 fall (5%), and located above the 100 year ARI flood level is to be set aside to accommodate campers with children, the elderly, and those with mobility restrictions;
- an emergency assembly area to be located on land above the PMF level;
- an elevated east-west laneway constructed above the 100 year ARI flood level within the southern car parking area (south of Jones Road) is to provide egress opportunities for vehicles;
- the southern car parking area is required to be managed in such a way that requires those parking spaces on the most elevated land to be used first;
- the southern car parking area may only be used for major events with a capacity of more that 20,000 patrons, all other events must make use of the northern/central car park;
- No car parking is to occur on land to the south of Yelgun Creek;
- in the event of a 'Red Alert - Refuge' flood evacuation procedure being enacted in accordance with the FRMP, measures to prevent patrons from accessing the southern car parking area via the Spine Road must be employed to ensure patrons do not attempt to access their vehicles, and are instead directed to flood free land within the site;
- equipment to monitor the site's flood behaviour is to be installed, including an automatic rainfall recording station; at least two soil moisture sensors; and, stream gauges installed at an appropriate off-site location to monitor stream height readings of Crabbes Creek and Billinudgel Creek; and,
- consultation with the RWG is to occur in response to flood management and any evacuation procedures carried out.

In summary, the department considers that the FRMP prepared by Molino Stewart, and the abovementioned recommended conditions of approval provide sufficient measures to ensure the safety of event patrons and a satisfactory reduction of the site's overall flood risk.

## 5.3 TRAFFIC, ACCESS AND CAR PARKING

The impact of increased traffic generation on the surrounding road network and existing road infrastructure was a key issue raised by government agencies and the general public. The proponent engaged Parsons Brinckerhoff Australia Pty Ltd (PB) to prepare a Traffic Impact Assessment (TIA) as part of the EA. Given the substantial level of concern outlined in the submissions regarding traffic management and impacts on existing infrastructure, the department sought further advice from SMEC following a review of all traffic and transport associated information, including all submissions received in response to traffic management.

### 5.3.1 Traffic Generation Rates and Anticipated Impacts on the Yelgun Interchange

Traffic Generation Rates

In assessing the impacts of event traffic, an understanding of the number of vehicles likely to be generated by proposed events is required. The department's assessment has primarily accounted for

the highest traffic-generation scenario (major event), and whereby an event is carried out over several days (such as the Splendour in the Grass music festival (Splendour) which is held from Wednesday to Sunday). Traffic data obtained from the 2010 Splendour event held at Woodford in south-east Queensland was used in predicting likely event traffic generation at Yelgun, including anticipated public transport usage and car occupancy rates.

In estimating the potential traffic generation of the proposal, the proponent's TIA analysed two mode share scenarios – a low public transport mode share and a high public transport mode share. Car occupancy rates were also considered in estimating the likely traffic generation. The following number of persons per vehicle (ppv) were analysed for different event scenarios:

- 2.5 ppv – low scenario;
- 2.9 ppv – medium scenario (based on PB's previous event experience); and,
- 3.2 ppv – high scenario (based on survey results from the 2007 Splendour event).

The TIA identified the medium scenario (2.9ppv) as the most likely scenario to occur at Yelgun. For the purposes of the department's assessment, the 2.9ppv has been assessed as the 'real-life' scenario in predicting the anticipated trip generation rates.

Impacts on the Yelgun Interchange

Capacity of the Yelgun interchange and its ability to distribute traffic to Tweed Valley Way is a potentially limiting factor to the level of traffic that can be generated by the proposal, and therefore a potentially limiting factor for the size of events carried out at the site. A key issue of consideration is the impact peak arrival rates will have on the capacity of the interchange to handle the level of traffic generated by large-scale events. There is a risk that should traffic become congested at the interchange off-ramps, vehicles will queue to the Pacific Highway, increasing the risk of a rear-end or lane-changing collisions on the highway as a result of reduced safe stopping distances.

The TIA notes that the length of the interchange link road between the T-junction and the roundabout is 75m, and once this portion of road is at capacity, vehicles will begin to queue on the off-ramps. The maximum allowable queue length for each off-ramp to ensure safety is not compromised is 97m for the southbound off-ramp, and 247m for the northbound off-ramp. **Figure 24** below shows the configuration of the interchange, including the location of the link road and interchange off-ramps. **Figure 25** below illustrates the queuing distances and appropriate safety margins for each off-ramp.

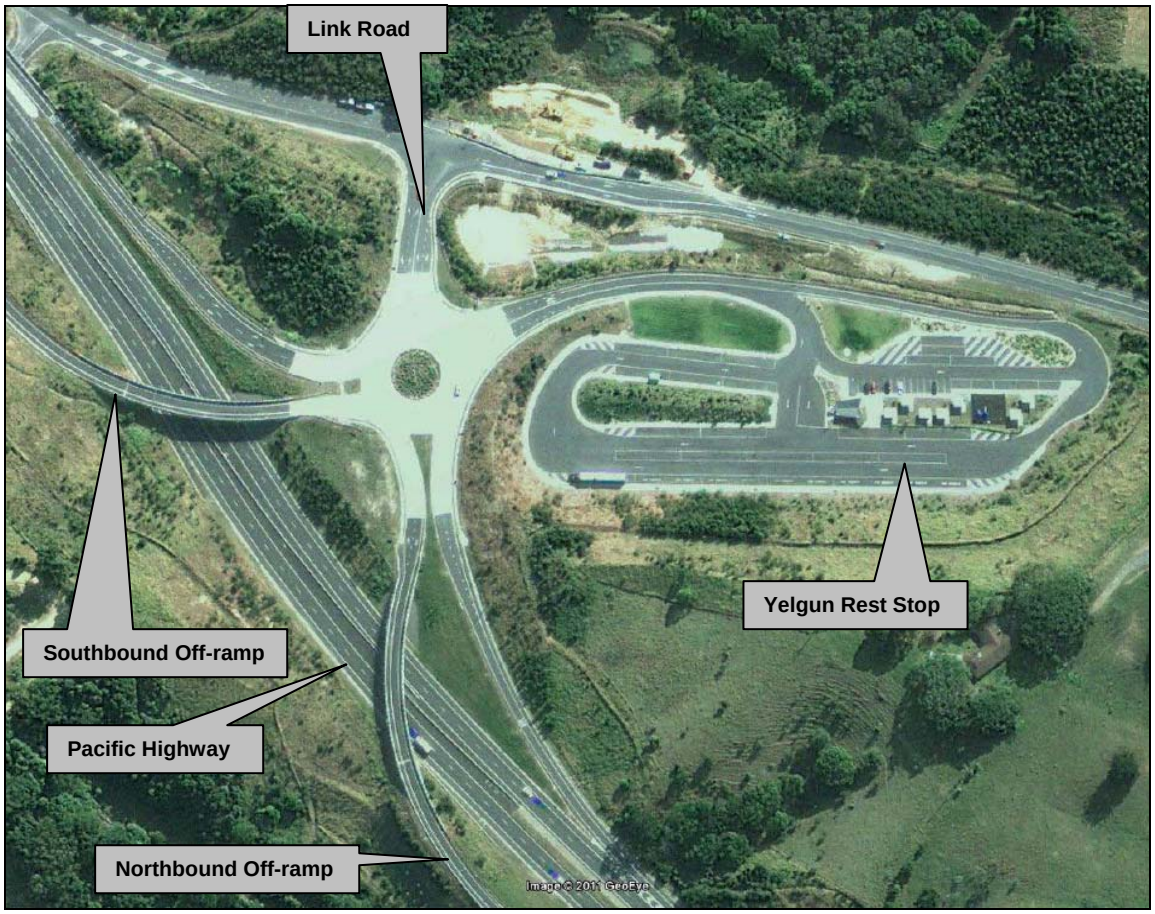


**Figure 24: Yelgun Interchange (Source: Google)**

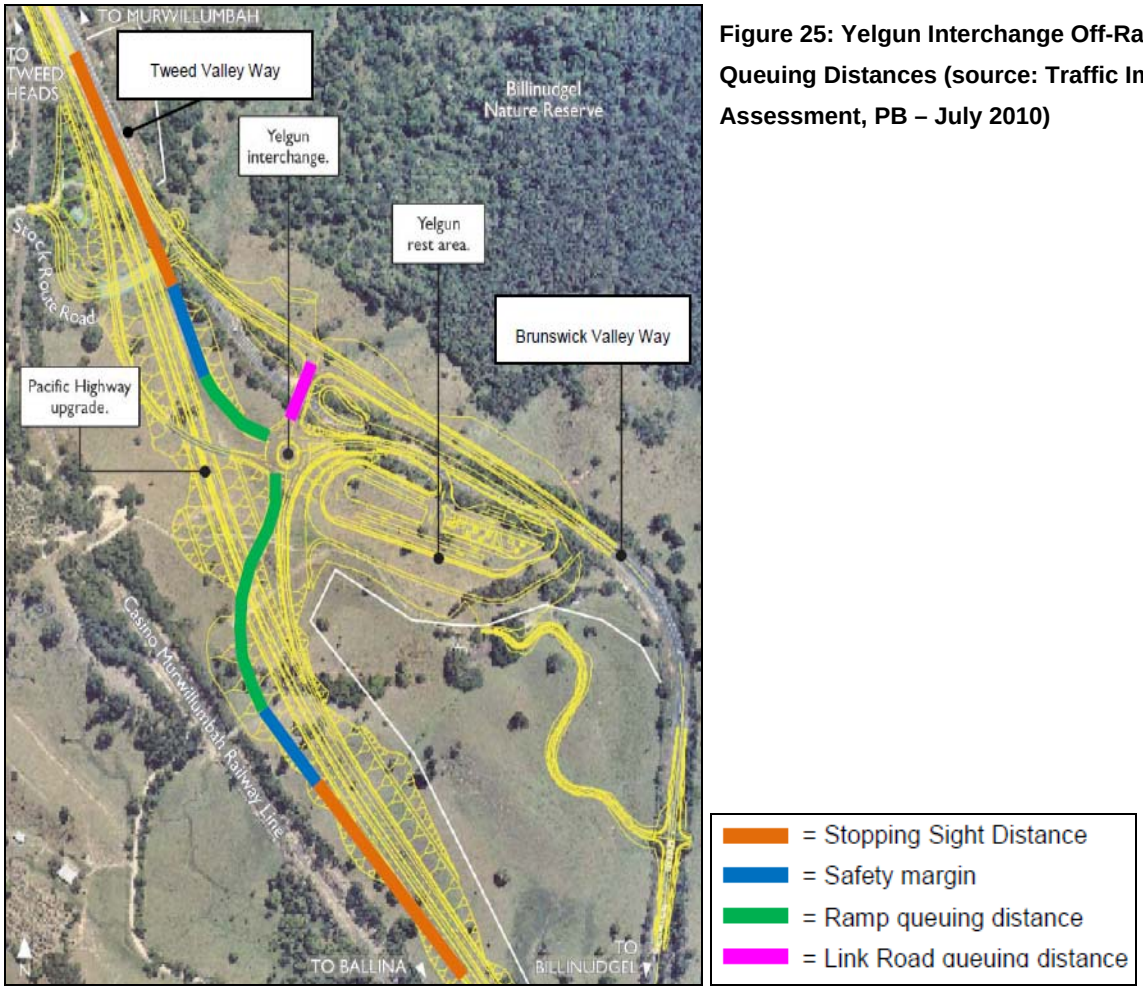


**Figure 25: Yelgun Interchange Off-Ramp Queuing Distances (source: Traffic Impact Assessment, PB – July 2010)**

The TIA provides an analysis of predicted impacts on the interchange for a moderate sized event, as well as 70% and 100% capacity major event for the years 2015 and 2030 (including consideration of a 4.4% annual increase in traffic for the Pacific Highway). For a moderate sized event (up to 10,000 patrons); the link road queue is not forecast to exceed 75m in distance and therefore unacceptable queuing on either off-ramp is not expected to occur. For a 70% capacity event, forecast traffic volumes indicate that the interchange (notably the southbound off-ramp) would be operating beyond capacity by the year 2030 and reductions in traffic volumes would be required. For a 100% capacity event (50,000 patrons), both off-ramps would be operating well beyond capacity both for 2015 and 2030 scenarios.

According to the TIA, for the interchange to be operating at an acceptable level of service, the following transport initiatives would need to be achieved:

- 70% capacity event: car occupancy of 2.9 ppv and high (39%) public transport mode share.
- 100% capacity event: car occupancy of 3.2 ppv and high (39%) public transport mode share.

The proponent acknowledged the need to encourage public transport usage and discourage private vehicle usage during major events. To achieve the desired car occupancy rates and public transport mode shares, the TIA outlined a number of transport initiatives that the proponent could implement, including: a network of planned shuttle bus routes linking the main accommodation areas in the region to and from the site; ride sharing/car pooling initiatives and incentives; on-site car parking restrictions; encouragement for those living nearby to cycle; and ticketing incentives. In addition to these initiatives, the TIA also proposed a number of traffic management measures, including:

- Temporary Special Event Clearways (SECs) for Tweed Valley Way, Jones Road and Yelgun Road to ensure illegally parked vehicles can be immediately towed;
- Traffic controllers to ensure the safe and efficient movement of emergency vehicles and buses; coordinate vehicle flows at the Yelgun interchange; and prevent traffic queuing to the highway;
- Controlled access roads for both Jones Road and Yelgun Road to prevent unauthorised access (residents would be provided permits to utilise these roads); and,
- Signage and strategically placed barriers erected during events to assist in directing traffic.

The RMS advised in its submission on the EA that any event carried out at the site must not significantly impact on the safety or performance of the Pacific Highway, the Yelgun interchange, or the surrounding road network. The RMS considered the traffic demand management strategies proposed in the TIA provided little surety that the proposed traffic contingency plans could be achieved. The RMS further advised that the interchange was unable to accommodate the likely traffic volumes generated by a major event without risking severe implications to the safety and efficient operation of the Pacific Highway. Council advised in its submission that a decreased level of service is likely to be experienced along Tweed Valley Way as a result of event proceedings. The department requested the proponent provide further traffic management measures to address the predicted traffic volumes.

In response to the RMS, council's and the department's submissions, the proponent's PPR proposed a reduced number of patrons (60% starting capacity) and the use of alternative interchanges to transfer event traffic to Tweed Valley Way as a contingency measure. The proponent also advised in the PPR that for major events, the section of Tweed Valley Way between the Yelgun interchange and the primary site entry (gate A) will be managed under traffic control in accordance with a Traffic Management Plan (TMP). The TMP will include a range of contingency measures to avoid impacts on the performance of the surrounding road network. Measures include a reduced speed limit under traffic control (40km/hour); hiring of tow trucks to immediately attend to any vehicle breakdowns or illegally parked vehicles; and a temporary third lane as an alternative traffic flow option in the event of a vehicle breakdown. The proponent also advised that this section of road will be monitored with a chain of command system to immediately respond to any unforeseen circumstances which may impact on the level of service.

In response to the PPR, the RMS maintained its concern relating to permanent usage of the site as the safe performance of the Yelgun interchange and Pacific Highway remained uncertain under the anticipated traffic loads for major events. The RMS could not confirm that the car occupancy and arrival rates used to support the proposal could be achieved due to high levels of sensitivity in arrival times and car occupancy rates. However, the RMS did note in its submission that a trial event in the vicinity of 30,000 patrons could be achievable, with provisions, in order to collect traffic information for any future permanent approval that may be granted.

Independent Review

Given the level of concern raised by the RMS and the intricacy of traffic associated information contained within the proponent's application, the department engaged an independent traffic consultant from SMEC to undertake a critical review of the proponent's documentation and submissions relating to traffic impacts. The department specifically requested an assessment be undertaken of the predicted arrival traffic volumes under differing public transport usage and car occupancy scenarios; and predicted queue lengths and impacts upon the Yelgun interchange – primarily during peak arrival periods.

SMEC's review indicated that for an event of 60% capacity (30,000 patrons) and beyond, significant impacts on the road network would be experienced and that the existing road network infrastructure was unsustainable. SMEC recommended further information was required for a thorough assessment to be carried out. The department subsequently requested the proponent provide further information, including an analysis of peak hour arrivals under varying traffic and transport scenarios.

Response to Independent Review

In response to SMEC's critical review, PB provided an arrival profile validated by more recent data than what was provided in the EA, which was obtained from the 2010 Splendour event at Woodford. **Table 9** below is a sensitivity analysis provided by the proponent outlining the anticipated peak number of vehicles per hour arriving at the site during a 70% capacity event (35,000 patrons). A range of differing scenarios are considered, including high and low public transport usage and varying car occupancy rates. A peak hour arrival percentage of 20% has been accounted for – the proponent considers this to be a conservative figure given the recorded peak hour arrival percentage at the 2010 Splendour event was recorded at 13%. SMEC's peak hour arrival assessment is included in the final column of **Table 7**.

**Table 9: Peak Number of Vehicles per Hour for a 70% Capacity Event Under Varying Scenarios**

| Scenario | High PT, high car occ. | Real-life data | High PT, mid car occ. | High PT, real car occ. | High PT, low car occ. | Low PT, high car occ. | Low PT, mid car occ. | Low PT, real car occ. | Low PT, low car occ. | SMEC review |
|---|---|---|---|---|---|---|---|---|---|---|
| **Total Patrons** | **35,000** | **35,000** | **35,000** | **35,000** | **35,000** | **35,000** | **35,000** | **35,000** | **35,000** | **35,000** |
| Maximum patrons arriving in **one day** | 17,500 | 17,500 | 17,500 | 17,500 | 17,500 | 17,500 | 17,500 | 17,500 | 17,500 | 35,000 |
| Peak hour arrival percentage | 20% | 13% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 27% |
| Mode split % for car | 44% | 60% | 44% | 44% | 44% | 60% | 60% | 60% | 60% | 77% |
| Average car occupancy | 3.2 | 2.7 | 2.9 | 2.7 | 2.5 | 3.2 | 2.9 | 2.7 | 2.5 | 2.5 |
| Traffic generation relative to real-life scenario | 95% | 100% | 105% | 113% | 122% | 130% | 143% | 154% | 166% | 576% |
| **Total Vehicles Per Hour** | **481** | **506** | **531** | **570** | **616** | **656** | **724** | **778** | **840** | **2,911** |

Note: Green cells = low scenario, orange cells = medium scenario, red cells = high scenario, and grey cells = real-life scenario.

The analysis shows SMEC's peak arrival rate of 2,911 vehicles per hour to be significantly higher than the 506 vehicles predicted by the proponent. In response to the differentiation, the proponent's traffic consultant, PB, advised that SMEC had considered overly-conservative assumptions on all traffic variables, and that the subsequent traffic volume is approximately six times the volume of traffic calculated when using real-life data from the 2010 Splendour event. PB further advised that the 27% peak arrival rate for Bluesfest (a nearby annual music festival) used in SMEC's calculation is significantly higher than the recorded 13% peak hour arrival rate at the 2010 Splendour event. Furthermore, SMEC's calculations considered all patrons arriving on a single day. The TIA's modelled arrival rates are based on an event whereby camper and day patron arrival is spread across several days. PB noted that this spread arrival is a standard arrangement as per previous Splendour events and that ticketing arrangements ensure campers arrive one or two days in advance of day patrons.

SMEC advised that for an event of even 60% capacity (30,000 patrons), significant traffic impacts on the local road network would be experienced and recommended the distribution of event traffic across the two adjacent interchanges, which is consistent with the RMS's preferred traffic management option. In response to this recommendation, the proponent advised that the TIA and supplementary information had applied conservative assumptions with built-in margins for error which had been accepted by the RMS; and considered that the Yelgun interchange could accommodate the traffic volume forecast for major events, provided all transport management initiatives are achieved. In support of the proposal to utilise the Yelgun interchange as the primary facility in transferring event traffic to Tweed Valley Way, PB provided an analysis of forecast queue lengths for a 60% and 70% capacity event for the year 2015 with a contingency base measure of 15% and 30%, as shown in **Tables 10** and **11** below. The green cells indicate queue lengths of a safe distance; orange cells indicate queue lengths of the link road will exceed capacity; and red cells indicate queue lengths on the off-ramps extend within the safety margin.

| | Link Road queue | Southbound off-ramp queue | Northbound off-ramp queue |
|---|---|---|---|
| **2015 Base plus 15%** | | | |
| 154% of real-life data scenario (Low PT usage, real-life car occupancy (2.7)) | 75m | 33m | 19m |
| 143% of real-life data scenario (Low PT usage, 2.9 car occupancy) | 67m | 25m | 14m |
| 113% of real-life data scenario (high PT usage, real-life car occupancy (2.7)) | 45m | 19m | 12m |
| 100% of real-life data scenario | 32m | 16m | 10m |
| **2015 Base plus 30%** | | | |
| 154% of real-life data scenario (Low PT usage, real-life car occupancy (2.7)) | 75m | 37m | 20m |
| 143% of real-life data scenario (Low PT usage, 2.9 car occupancy) | 75m | 28m | 15m |
| 113% of real-life data scenario (high PT usage, real-life car occupancy (2.7)) | 90m | 21m | 13m |
| 100% of real-life data scenario | 36m | 18m | 10m |

**Table 10: Forecast 2015 Queue Lengths of the Yelgun Interchange for a 60% Capacity Event (Source: PB)**

| | Link Road queue | Southbound off-ramp queue | Northbound off-ramp queue |
|---|---|---|---|
| **2015 Base plus 15%** | | | |
| 166% of real-life data scenario traffic generation - Low PT usage, low car occupancy | 75m | 190m | 151m |
| 150% of real-life data scenario | 75m | 99m | 74m |
| 133% of real-life data scenario | 75m | 47m | 31m |
| 116% of real-life data scenario | 62m | 25m | 15m |
| 100% of real-life data scenario | 43m | 19m | 13m |
| **2015 Base plus 30%** | | | |
| 166% of real-life data scenario traffic generation - Low PT usage, low car occupancy | 75m | 278m | 226m |
| 150% of real-life data scenario | 75m | 142m | 109m |
| 133% of real-life data scenario | 75m | 73m | 51m |
| 116% of real-life data scenario | 69m | 30m | 17m |
| 100% of real-life data scenario | 48m | 23m | 14m |

**Table 11: Forecast 2015 Queue Lengths of the Yelgun Interchange for a 70% Capacity Event (Source: PB)**

The data indicates that the interchange would operate at an acceptable level of service if the real-life data scenario (2.7ppv, 40% public transport usage and 13% peak hourly arrival rate) were to occur in the year 2015. There is less margin for error, however, for a 70% capacity scenario, with the link road exceeding capacity should a 133% real-life data scenario occur. The southbound off-ramp queue would extend within the appropriate safety margin in the event of a 150% real-life data scenario occurrence.

In response to the potential impacts on the level of service of the Yelgun interchange, the proponent outlined further traffic management strategies to be enacted during a major event, including:

- manually operated portable traffic signals provided at the intersection of Tweed Valley Way and the interchange link road, and on the north-bound and south-bound off-ramps;
- traffic controllers with two-way communication at the each off-ramp to advise of queuing issues;
- advanced warning signs advising of the potential use of traffic signals;

- Variable Message Signs (VMS) advising of potential queuing on off-ramps; or advising if an off-ramp has been closed; and,
- staff with barriers positioned at the beginning of the off-ramps with "*Ramp closed proceed to next exit*" signs to be implemented with minimal delay, if necessary.

In response to SMEC's recommendation to utilise alternative interchanges, PB advised that its analysis of predicted impacts for a 60% capacity event confirmed the Yelgun interchange can cope with the predicted traffic demand. Nonetheless, if unexpected traffic conditions were to occur while an event was being carried out and the interchange was operating at or beyond capacity, a three interchange strategy would be enacted. The proposed strategy involves varying levels of traffic management, with the use of alternative interchanges to be utilised at level 3. The levels of traffic management are outlined below:

*Level 1*: Hold northbound traffic on Tweed Valley Way at the link road, allowing uninterrupted flow of the link road queue. If the queuing continues, enact level 2.

*Level 2*: Hold traffic on the northbound off-ramp if the southbound off-ramp continues to cause queuing issues. If this is unsuccessful, enact level 3.

*Level 3*: Activation of the three interchange strategy by advising event arrival traffic (through the use of VMS) to use alternative interchanges on approach to the northbound off-ramps of the Brunswick North interchange; the Billinudgel interchange; and, the Yelgun interchange.

Department's Consideration

The department considers the safe and efficient functioning of the Yelgun interchange and Pacific Highway as critical requirements for larger events to be successfully carried out at the site. It is considered that the existing road network capacity and proposed traffic management strategies will ensure that events of at least 60% capacity (30,000 patrons) can be carried out at the site without significant impacts on the functioning or safety of the Pacific Highway, the Yelgun interchange, or the surrounding road network. The recommended phased approval process with regular KPI reporting, as discussed in **Section 5.1**, allows the department and other government agencies, including the RMS, the Police and council, the opportunity to review the site's performance, specifically in relation to traffic, prior to any increase in the size of future events. It is considered that the first three major events carried out at the site as part of Phase 1 (consisting of 30,000; 25,000; and 15,000 patrons respectively) will provide valuable data in assessing whether the surrounding road network and existing infrastructure has capacity to handle events of a larger scale. The RMS in its submission on the EA advised that a one-off event in the vicinity of 30,000 patrons could be achievable with provisions in order to collect such traffic data.

The department's recommendation allows an event of 30,000 patrons to be carried out in the first year of operation. Should this event satisfactorily meet specific KPI objectives (particularly in regards to traffic performance), the proponent may then request a 30,000 patron event be carried out in perpetuity. There will be no increase in event size above 30,000 patrons unless the proponent has demonstrated that the site can adequately cater for events of this capacity. The KPIs specifically in relation to traffic and transport management are provided in the proponent's EH&SM Manual, and involve the following parameters to be achieved during both the bump in and bump out periods, and on event days:

- maintaining a minimum Level of Service "D" at both the Yelgun interchange and along Tweed Valley Way;
- maintaining a degree of saturation of less than 0.95 at the Yelgun interchange;
- maintaining a maximum average delay of 56 seconds per vehicle at the Yelgun interchange;
- queue lengths not exceeding more than 97m on the southbound off-ramp and 247m on the northbound off-ramp;
- installation of VMS on the Pacific Highway on approach to the Yelgun interchange warning of queues on approach to the off-ramps; and,
- a temporary special event speed limit of 40km/hour between the Yelgun interchange roundabout and the primary site entry on Tweed Valley Way.

A reduction in patron numbers or event days may be enforced if impacts in the first year of operation are found to be unacceptable, or if the abovementioned KPIs are not achieved to the department's satisfaction. In addition to the KPI reporting, the department also recommends a number of conditions of approval to mitigate against potential impacts on the surrounding road network and existing road infrastructure. These include the preparation of a Traffic Management Plan (TMP) to provide details on how queuing along Tweed Valley Way and the Yelgun interchange off-ramps will be avoided; how event organisers will facilitate the efficient processing and inspection of patron vehicles arriving on-

site; measures to avoid queues forming at the site entry; and, details of demand management strategies to reduce car dependency (demand management measures are discussed further in **Section 5.3.2** below). In addition, the proponent is required to prepare a Traffic Monitoring Program by a suitably qualified traffic engineer, in consultation with the council and the RMS. The monitoring program is to be prepared having regard to the EH&SM Manual and is to include details of the total number of patrons for each event, and provide reporting of monitoring results to facilitate an assessment of each events traffic performance. Results of the monitoring program will assist the department and RWG in determining whether an increase in the size of events should be permitted.

Following consultation with the RMS regarding the recommended conditions of approval, the RMS further advised that the proponent's EH&SM Manual should be updated to include the following traffic management parameters as part of the KPI reporting:

- maintaining a minimum Level of Service "C" at both the Yelgun interchange and along Tweed Valley Way (as opposed to the proposed Level of Service "D");
- queue lengths not exceeding more than 210m on the northbound off-ramp (as opposed to the proposed maximum queue length of 247m); and,
- queue lengths on the link road between Tweed Valley Way and the Yelgun interchange are to be limited to a maximum of 70m.

In response to the advice received from the RMS, the department has recommended a modification to the concept plan which requires the proponent to update the EH&SM Manual to include the RMS's recommended traffic management parameters.

### 5.3.2 Demand Management Measures

Results of the Yelgun interchange capacity analysis indicate that there is a need for a range of demand management measures to be achieved, particularly for events of greater than 60% capacity (30,000 patrons). Demand management measures are therefore proposed to assist in achieving the required car occupancy and mode split targets. A range of values were analysed by the proponent to test the sensitivity of the impacts to changes in travel behaviour and to understand what travel demand management measures would be required to further reduce traffic. It is understood that demand management measures will be tailored to suit the particular type and size of event being carried out.

Demand management measures proposed to be implemented include:

- financial incentives to arrive by public transport;
- timed entry passes for campers driving to the site to spread arrivals;
- pre-paid parking so patrons know before they leave whether they have a parking space reserved or not. Tickets sold without a parking permit would be automatically provided with public transport information;
- resolution bays for vehicles arriving without valid parking pass to avoid delays to vehicle processing;
- separate gate entry for bus services to provide priority for public transport services;
- monetary incentives for vehicles with three or more persons per vehicle (to attract a higher car occupancy rate) and for vehicles arriving before midday to spread arrival times;
- restricting the number of parking tickets available to encourage car sharing and public transport usage;
- convenient and well-planned network of public transport services to the site;
- shuttle bus services from site to Brunswick Heads to minimise traffic leaving the site once already settled; and,
- facilities provided on-site to reduce the need for patrons to travel off-site.

The first event of 30,000 patrons will test the abovementioned traffic management measures and travel demand strategies proposed; and will allow for fine tuning for any future events permitted. The demand management strategies will need to be tailored to suit the size and type of event. The department is satisfied that the proposed demand management measures are appropriate, and if implemented successfully, should ensure reduced private vehicle usage. A condition of approval requires the demand management strategies to be included as part of the TMP, which is required to be endorsed by the Local Traffic Committee prior to each event. The TMP will also be referred to the RWG which will comprise at least one representative from the RMS. A TMP will be required for any moderate or major event proposed, and must outline specific measures to achieve a car occupancy rate of 2.9ppv, and a minimum public transport mode share of 27% for any event up to 70% capacity. For events of 70% capacity and beyond, the TMP must outline measures to achieve a car occupancy

rate of 3.2ppv, and a minimum public transport mode share of 39%. Furthermore, for the purposes of future event planning, the proponent is required to undertake traffic impact research for each moderate and major event to collect travel behaviour data as part of the recommended Traffic Monitoring Program.

The traffic impact of moderate sized events (up to 10,000 patrons) was also assessed and the impacts found to be significantly less than that of a major event, with no demand management measures necessary to maintain an acceptable level of performance on the surrounding road network. However, the department considers that travel demand management incentives such as public transport services and car pooling incentives should still be employed for moderate sized events. The TMP is therefore required to also provide details of demand management strategies to reduce car dependency for any moderate sized event carried out at the site.

### 5.3.3 Car Parking

The EA advises that a maximum of 11,901 car parking spaces can be accommodated on the site. Concerns have been raised regarding the limitation of car parking spaces to restrict the number of patrons arriving at the site via private vehicle. The TIA advises that there is sufficient car parking planned on-site to accommodate a 100% capacity event if a car occupancy rate of 2.9 ppv is achieved. During a major event, patrons wishing to park at the site will be required to pre-purchase a parking ticket with an event ticket and select a time of arrival within a restricted number of timeslots. Only a certain number of tickets would be sold for each timeslot. Patrons who are unable to purchase a car parking pass would have to car pool or make use of public transport options.

Despite the above parking restrictions, unauthorised parking in the vicinity (including the Yelgun rest stop) is a potential issue that will need to managed. The proponent proposes the following measures to prevent illegal parking:

- installation of Special Event Clearway signs;
- roving parking patrols by event staff and verbal requests to move illegally parked vehicles;
- having towing vehicles on stand-by, to be funded by the event organiser;
- requests to the RMS or user-pays Police for fining/towing of illegally parked vehicles; and,
- a holding area for illegally parked vehicles (though not strictly an impound facility).

Only the RMS can implement Special Event Clearways and the RMS advised that the facilities to provide special event clearways are not currently available in the RMS's northern region. Therefore, implementation of the clearways will require further liaison with the RMS and would be required to be funded by the proponent. Furthermore, the towing of illegally parked vehicles can not be carried out unless special legislative requirements are met, including appropriate signage, authorised towing vehicles and secure storage compounds. A condition of approval requires the proponent to ensure these matters are addressed to the satisfaction of the RMS and form part of the TMP.

## 5.4 ECOLOGICAL IMPACTS

The site is located in an area considered to be of significant ecological value with the Billinudgel Nature Reserve located immediately to the east; the presence of SEPP 14 Wetlands to the east and south-east; and the Marshalls Ridge wildlife corridor extending through the central portion of the site. A number of threatened flora and fauna species and Endangered Ecological Communities (EECs) have been recorded during extensive site surveying. The proponent engaged ecological consultant Mark Fitzgerald to prepare a comprehensive Ecological Assessment as part of the EA. A number of submissions were received from government agencies and the public in regards to potential impacts on the existing ecological functions and processes within and surrounding the site.

### 5.4.1 Impacts on Threatened Flora, Fauna and Endangered Ecological Communities

A key focus in the assessment of ecological impacts is the potential for future events to impact upon threatened flora and fauna species known to occur at the site. The Ecological Assessment identifies 11 fauna species listed as vulnerable under the NSW *Threatened Species Conservation Act 1995* (TSC Act), including one also listed as vulnerable under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act); all of which were recorded during various surveys between 2006 and 2010. A further 21 threatened fauna species are listed as possibly occurring at the site. **Table 12** below lists the threatened fauna species recorded at the site.

**Table 12: Threatened Fauna Species Recorded at the Site**

| Species (Common Name / Scientific Name) | TSC Act | EPBC Act |
|---|---|---|
| Comb-crested Jacana (*Irediparra gallinacea*) | Vulnerable | - |
| Masked Owl (*Tyto novaehollandiae*) | Vulnerable | - |
| Grass Owl (*Tyto capensis*) | Vulnerable | - |
| Rose-crowned Fruit-dove (*Ptilinopus regina*) | Vulnerable | - |
| White-eared Monarch (*Carterornis leucotis*) | Vulnerable | - |
| Koala (*Phascolarctos cinereus*) | Vulnerable | - |
| Eastern Bent-wing Bat (*Miniopterus orianae oceanensis*) | Vulnerable | - |
| Little Bent-wing Bat (*Miniopterus australis*) | Vulnerable | - |
| Northern Long-eared Bat (*Nyctophilus bifax*) | Vulnerable | - |
| Blossom Bat (*Syconycteris australis*) | Vulnerable | - |
| Grey headed Flying-fox (*Pteropus poliocephalus*) | Vulnerable | Vulnerable |

In regards to threatened flora, six species recorded on the site are listed as either vulnerable or endangered under the TSC Act and EPBC Act. Three rare or threatened Australian plants and four EECs are also present. **Table 13** below lists the recorded threatened flora species and EECs.

**Table 13: Threatened Flora Species and Endangered Communities Recorded at the Site**

| Species (Common Name / Scientific Name) | TSC Act | EPBC Act |
|---|---|---|
| Davidson's Plum (*Davidsonia jerseyana*) | Endangered | Endangered |
| Coolamon (*Syzygium moorei*) | Vulnerable | Vulnerable |
| Green-leaved Rose Walnut (*Endiandra muelleri ssp. bracteata*) | Endangered | - |
| Stinking Cryptocarya (*Cryptocarya foetida*) | Vulnerable | Vulnerable |
| White Laceflower (*Archidendron hendersoni*) | Vulnerable | - |
| Rough-shelled Bush-nut (*Macadamia tetraphylla*) | Vulnerable | - |
| **Rare or Threatened Australian Plants** | | |
| Black Walnut (*Endiandra globosa*) | 2RC- | |
| Smooth Scrub Turpentine (*Rhodamnia maideniana*) | 2RC- | |
| Veiny Laceflower (*Archidendron muellerianum*) | 3RCA | |
| **Endangered Ecological Communities** | | |
| *Swamp Sclerophyll Forest* | | |
| *Sub-tropical Coastal Floodplain Forest* | | |
| *Coastal Cypress Pine Forest* | | |
| *Lowland Rainforest* of the NSW north coast bioregion | | |

The Ecological Assessment identified two broad categories of activities which may potentially impact on threatened flora and fauna species – the construction and upgrading of site infrastructure; and the carrying out of events.

Construction and Upgrading of Site Infrastructure

Construction works required as part of the proposal involve the widening of Jones Road and service gate connection; construction of the Jones Road underpass, Spine Road and internal laneways; and, construction of the administration and gatehouse buildings. The proponent has advised that the underpass works require the removal of 75 existing trees, of which 34 of these are *Camphor Laurel* species – an introduced noxious weed. A small area of lowland rainforest EEC vegetation is also required to be removed to facilitate construction of the underpass. The proponent's Ecological Assessment notes that the removal of vegetation in this area is likely to temporarily disrupt foraging and movement patterns for a number of local fauna species such as the Swamp Wallaby and Carpet Python; and involves the loss of fruit for several bird and bat species. It is noted, however, that the *Camphor Laurel* resource is extremely abundant and widespread in this location. This is the only location which will require the removal of any native vegetation as part of the proposal.

Carrying out of Events

The impacts associated with the carrying out of events include an increased human presence; trampling and edge effects; disturbing foraging activities; increased traffic generation; amplified noise; and lighting. These impacts on existing fauna species was a key issue raised in submissions from OEH and the public. OEH advised that amplified noise and lighting have the ability to impact negatively upon fauna species through minor stress and other physiological impacts, habitat abandonment, and possibly leading to a reduction in long term population viability. As part of the public submissions, the department received a report prepared by Benwell and Scotts, titled *A Review of the Effects of Human Disturbance on Wildlife*. The report reviewed the current state of knowledge concerning the effects of human disturbances on wildlife and the ecological impacts of intensified land-use on conservation areas. The report also highlighted the need for protection of nature conservation areas with suitable buffer zoning.

The proponent's Ecological Assessment states that the complex and variable disturbance regime experienced by the carrying out of events is likely to affect fauna in different ways and to varying extents of severity. The proponent's assessment of the impacts associated with event activities is focused on activities proposed during the first year of operation, and considers that disturbance activities at the site need to be carefully and continually monitored to validate, modify or refute the scale and intensity of impacts.

Department's Consideration

The department has considered the direct and cumulative impacts of the project on flora and fauna, including the impacts on threatened species and EECs. It is acknowledged that the cumulative impact of events being carried out at the site in perpetuity is difficult to predict, and that continual reporting of the site's environmental performance is therefore necessary to monitor the level of impact. The department has recommended approval for one event of 30,000 patrons per calendar year in perpetuity and considers the site is able to sustain an annual event of this size without irreversible impacts upon existing threatened flora and fauna species and EECs. However, it is acknowledged that the carrying out of multiple large scale events per calendar year has the potential to impact on threatened species, primarily as a result of the cumulative impacts associated with an increased human presence. A phased approach to any increase in the size or frequency of events is therefore proposed, with no increase permitted until the proponent can demonstrate compliance with all KPIs and prove that the site is operating at an acceptable level of environmental performance. Furthermore, the department has recommended a number of conditions of approval to address the concerns raised regarding the impacts on endangered flora and fauna species and EECs.

Key Environmental Conditions

Prior to the commencement of construction of permanent structures, the proponent is required to undertake the following:

- a suitably qualified environmental representative must be employed throughout the life of the project as the primary contact in relation to the project's environmental performance and is responsible for implementing all environmental management plans and monitoring programs; and,
- at least one representative of OEH is to be appointed to the RWG who is to be consulted in relation to the management of impacts on threatened species and EECs.

The proponent is required to comply with the following conditions prior to the commencement of events:

- A Flora and Fauna Management Plan is to be prepared by a suitably qualified ecologist to manage the ecological impacts of event activities. The plan is to ensure there are no significant impacts from the carrying out of events upon threatened species, EECs, or on existing wildlife corridors;
- A Flora and Fauna Monitoring Program is to be developed in consultation with the RWG to monitor and assess impacts on flora and fauna within and adjacent to the site; and,
- Temporary human exclusion fencing bordering forested areas and other native vegetation within the site must be provided during event activities.

In addition to the abovementioned conditions, the proponent has included as Statement of Commitments the following measures to minimise the impacts of increased human presence on fauna species:

- amplified noise is only to occur on land to the north of Jones Road and directed away from forested areas where possible;
- internal traffic shall not exceed 30km/hr;

- use of low pressure sodium vapour lights which are less attractive to insect and bat species;
- artificial lighting to be located in open areas away from forested areas and trees;
- use of footlights as opposed to overhead lights, with any overhead lighting directed downwards to reduce light spill; and,
- an experienced fauna management crew to be on-site for the duration of any event.

### 5.4.2 Impacts on Adjoining Environments

The impact of the proposal on adjoining environments was a key issue raised by council, OEH and the public. Of particular concern was the cumulative impact of proposed events on SEPP 14 Wetlands; the Marshalls Ridge Wildlife Corridor; the Billinudgel Nature Reserve; and SEPP 44 Koala Habitat Protection.

State Environmental Planning Policy No. 14 – Coastal Wetlands

The department requested that the proponent assess direct and indirect impacts of the development on any wetlands within or adjoining the site. The Ecological Assessment identifies direct impacts from the development as being pollution derived from vehicles in the southern car parking area, littering, and the risk of fire from arson. Indirect impacts include disturbance of fauna from human activities.

A vegetated buffer of 30m between the edge of SEPP 14 Wetlands boundary and the southern car park was proposed as part of the EA to act as an inception area for any contaminated run-off.

Despite the proposed buffer, the department raised a number of concerns regarding the continued health and functioning of the adjoining SEPP 14 Wetland, including:

- whether the proposed buffer distance was large enough to off-set the cumulative impact of potentially thousands of vehicles traversing through the southern car parking area;
- significant crowds of people trampling across the site, creating a risk of permanent soil structure breakdown which will potentially be washed into the adjoining wetland following rainfall; and,
- the facilitation of contaminated surface water being transported into the wetlands via drainage lines which drain to the adjoining Billinudgel Nature Reserve.

OEH's submission on the proposal recommended permanent habitat restoration with appropriate native vegetation to be established in the area between the SEPP 14 Wetland boundary and Billinudgel Nature Reserve to prevent further weed invasion at the interface to the Billinudgel Nature Reserve.

The proponent advised in the PPR, that the width and size of the proposed buffer adjoining the SEPP 14 Wetland boundary had been increased to provide the wetland with a greater level of protection. The buffer width varies alongside the edge of the southern and south-eastern site boundary, with a minimum distance of 30m, and maximum distance of approximately 80m to the edge of the existing wetland. **Figure 26** below illustrates the proposed buffer.

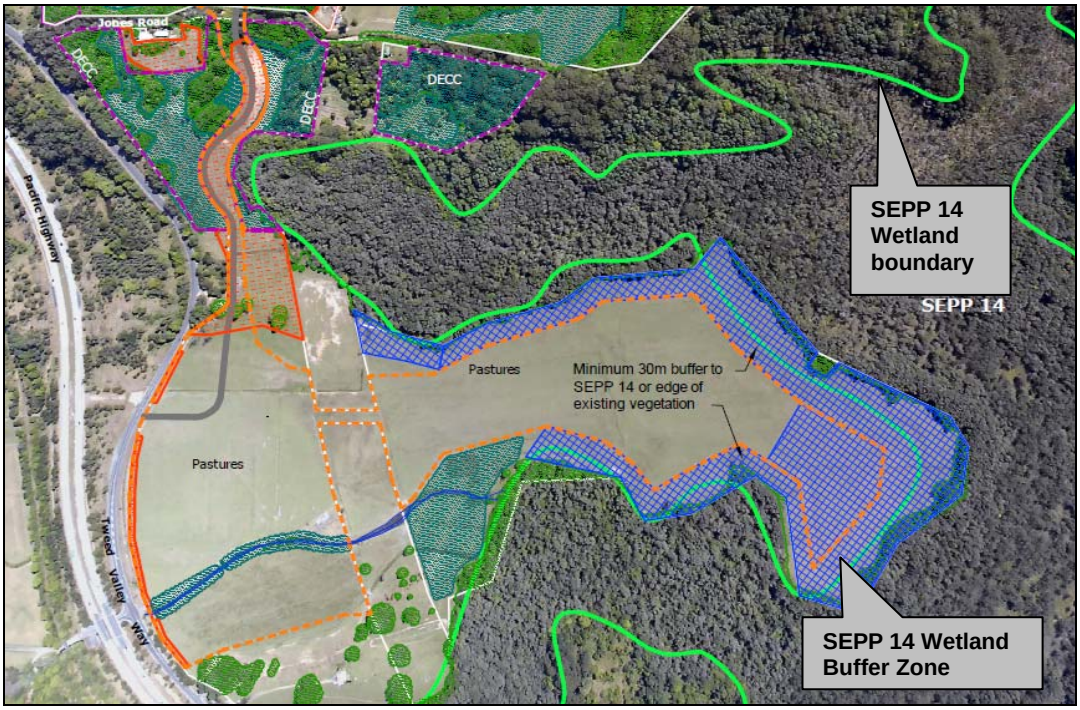


**Figure 26: Buffer zone between the southern car park and SEPP 14 Wetlands (source: Preferred Project Report)**

The proponent's Statement of Commitments require the provision of 12.9ha of permanent new habitat with constructed wetlands to provide a vegetated buffer between the Billinudgel Nature Reserve and SEPP 14 Wetlands; as well as a habitat restoration program for this area. The department considers the increased buffer distance will ensure the adjoining wetland is adequately protected from any foreseeable impacts from uses proposed in the southern car parking area. The proposed new habitat creation works will also provide a long-term benefit to the continued health and functioning of the wetland. Furthermore, the area adjoining the SEPP 14 Wetland is to be utilised for car parking only, and therefore the risk of event patrons physically entering the wetland is minimal. As discussed in **Section 5.1.1**, the recommended conditions of approval require the proponent to prepare of a Flora and Fauna Management Plan to manage any impacts that may arise from the carrying out of events, with a specific requirement to provide measures ensuring the protection of adjoining SEPP 14 wetlands.

Marshalls Ridge Wildlife Corridor

The Marshalls Ridge Wildlife Corridor extends through the central portion of the site and segregates the proposed northern camping/event area and southern car parking area. **Figure 27** below illustrates the general location of the corridor in context to the site (within the yellow dashed line).

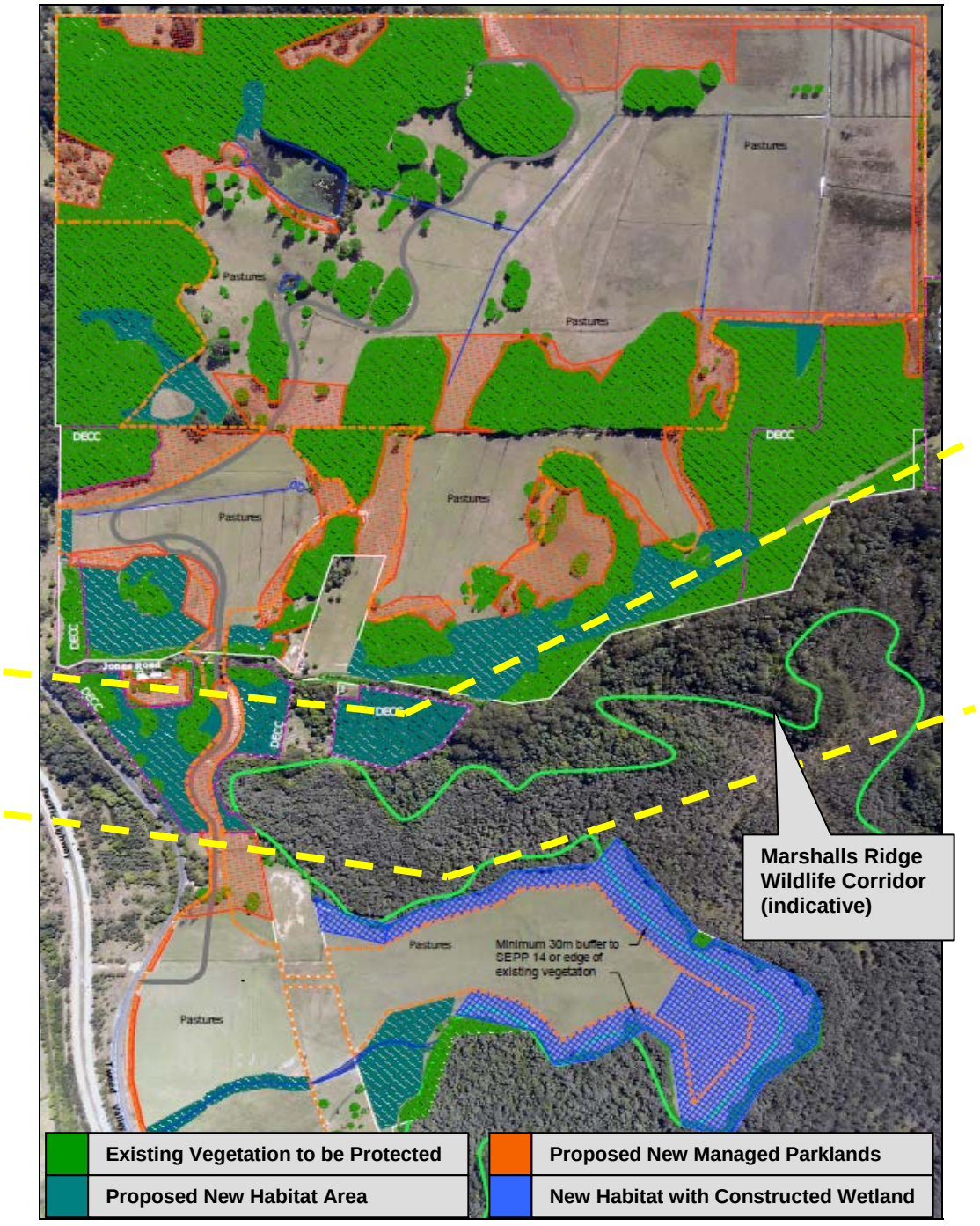


**Figure 27: Revised Ecological Structure Plan (source: Preferred Project Report)**

A key issue of concern raised by OEH and the public was the potential impacts on the existing vegetation within the corridor; and the functioning of this area as a passage for fauna to move freely been the western side of the Pacific Highway and the Billinudgel Nature Reserve. Submissions received from council, OEH, and the public made note of a 1997 Commission of Inquiry into the rezoning of land at North Ocean Shores to resolve issues of conflicting land use. The Commissioner recognised the Marshalls Ridge locality as being ecologically significant despite its partial degradation; and recommended the majority of the corridor be zoned for environmental protection, with the remainder zoned for agricultural protection.

OEH raised concern in regards to the continued health of the corridor, though the department was advised that the construction and operation of the four-lane Yelgun to Chinderah section of the Pacific Highway (completed in August 2002) through Marshalls Ridge to the west of the site has permanently changed habitat connectivity in the vicinity for terrestrial fauna species.

The proponent advised that the corridor is appropriately zoned 7(k) Habitat Zone, in accordance with the recommendations of the Inquiry; and that a significant amount of additional vegetation for habitat purposes has been provided throughout the corridor, beyond that proposed by the Inquiry.

The PPR included a revised ecological structure plan for the site incorporating an additional 50ha of proposed new habitat area and managed parklands, including significant revegetation works throughout the Marshalls Ridge corridor. The proponent notes in the PPR that the application will see a narrow and fragmented corridor, enlarged by native vegetation plantings and weed removal, which will ultimately improve connectivity. **Figure 27** above illustrates those parts of the site proposed for habitat restoration works. **Figure 27** also shows portions of the site that the proponent has dedicated to OEH to assist in the improvement of the corridor.

In response to the PPR, OEH supported the proposed new habitat plantings and noted that the increased habitat creation should enhance the ecological value of the wildlife corridor along Marshalls Ridge and ultimately the regional biodiversity corridor which traverses the site. However, OEH did note that habitat and connectivity restoration would take five to ten years to become fully established.

The department is supportive of the proposed restoration works and considers the additional plantings will enhance the functioning of this area as a passage for fauna to travel between the adjoining nature reserve and western side of the Pacific Highway. To facilitate the continued functioning of the corridor post-development, the recommended conditions of approval include a requirement to provide concrete box culverts beneath the proposed Spine Road which are designed to function as fauna underpasses, allowing for the continued movement of terrestrial fauna species. The proponent is also required to prepare a Flora and Fauna Management Plan outlining measures to ensure there are no significant impacts from the carrying out of events upon the functioning of the corridor. The department has recommended the proponent to construct the Jones Road underpass with sufficient width to ensure adequate cover for continuous vegetation on both sides of the underpass; as well as additional compensatory planting on privately owned land adjacent to the underpass.

Billinudgel Nature Reserve

The Billinudgel Nature Reserve forms part of a wider system of reserves along the northern New South Wales coast. The reserve covers an area of 713ha, extending from the south-eastern site boundary through to Crabbes Creek Beach and adjoins the south-eastern site boundary.

Submissions received from OEH and the public raised concerns in regards to the cumulative impact of proposed events on the reserve. Specifically, OEH made note of additional camping, campfires, arson and littering as potential impacts. OEH recommended the proponent fund additional ranger patrols as part of any event operation, and that a performance bond be lodged to cover any unforseen damages to the reserve to ensure a high level of environmental performance is maintained.

The proponent addressed the issues raised in the PPR and Statement of Commitments. Measures to reduce impacts on the reserve include the creation of 12.9ha of permanent new habitat with constructed wetlands and a habitat restoration program for the area between the boundary of the reserve and the southern car parking area, as shown on the revised ecological structure plan at **Figure 30** above. The proponent has also committed to the provision of additional ranger patrols from OEH's Parks and Wildlife Group to monitor activities on the edge of the reserve; as well as the lodgement of an annual performance bond of $25,000 to OEH to rectify any unforseen impacts that may occur upon the reserve. OEH advised that the proposed habitat restoration program should improve connectivity between disjunct vegetated areas and improve the core-to-edge ratio for habitat within the reserve.

In addition to the proponent's Statement of Commitments, the recommended conditions of approval require a Flora and Fauna Management Plan be prepared outlining measures to ensure the ongoing protection of the adjoining reserve. The department recognises the reserve's ecological significance and considers the cumulative impacts of events carried out at the site can be monitored over time and

satisfactorily addressed through the recommended conditions of approval and Statement of Commitments.

State Environmental Planning Policy No. 44 – Koala Habitat Protection

The proponent was required to consider the presence of core koala habitat and prepare a Koala Plan of Management (KPoM). The impact of events upon koala populations, habitats, and food resources was an issue raised by the public. The proponent's EA advised that a koala habitat assessment was undertaken in 2007 as part of an application lodged with council for a proposed trial event at the site. As part of the 2007 assessment, a small area of core Koala habitat was identified in the central east of the site, outside of the current application area, as shown on **Figure 28** below.

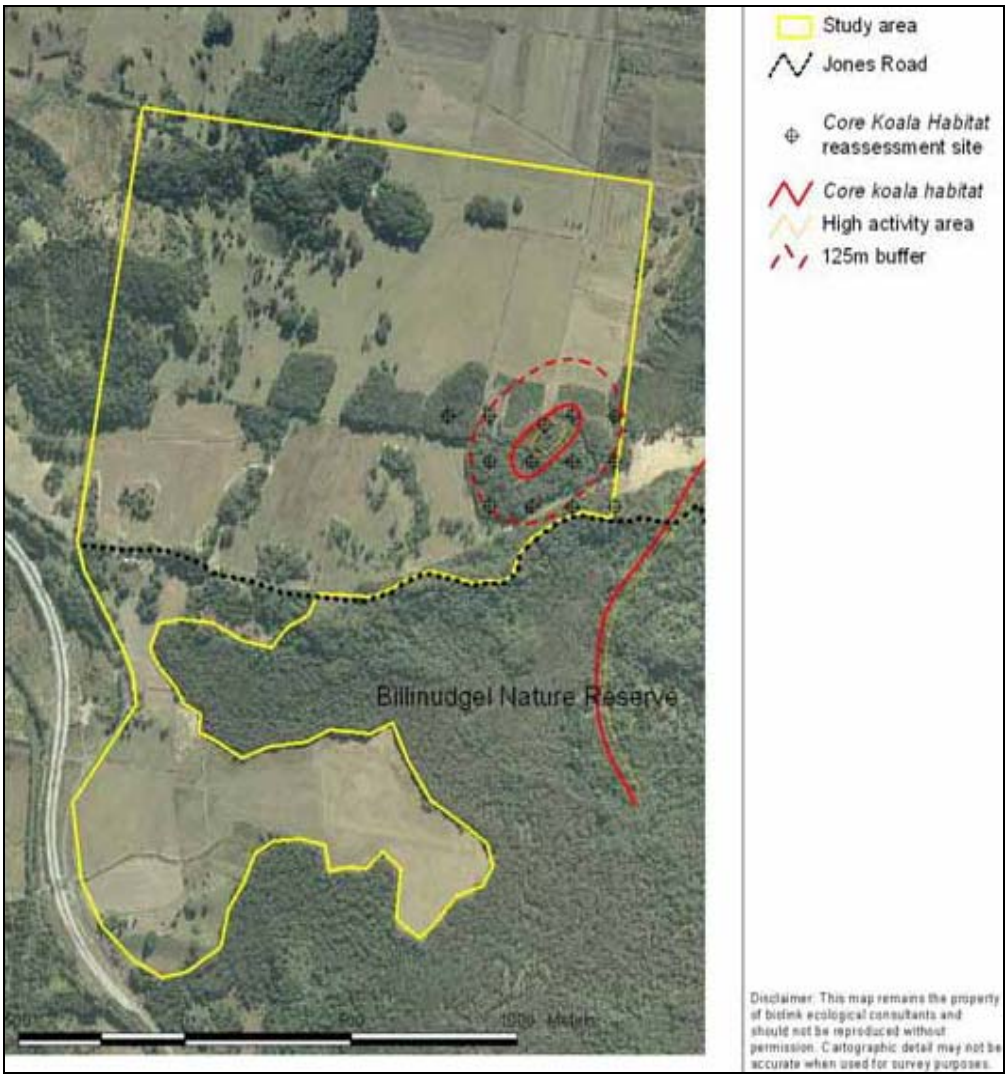


**Figure 28: Location of SEPP 44 Core Koala Habitat – Proposed Trail Event (source: Ecological Assessment)**

Due to the presence of core Koala habitat, a KPoM was prepared by Biolink Ecological Consultants for the purposes of the proposed trial event – this document was provided as part of the EA. The EA states that a subsequent Koala Habitat reassessment in 2008 recorded significantly lower levels of Koala activity in the vicinity and the disappearance of core Koala habitat (Biolink 2008). Given the recorded disappearance of habitat and observed decline in Koala presence, the proponent proposed to defer the completion of a further KPoM until a contemporary assessment is undertaken.

Whilst no core Koala habitat is located within the current application area, the department acknowledges that Koala habitat areas and populations are present across the broader locality. It is considered that the recent surveying work and assessment undertaken for the KPoM prepared for the trial event and provided as part of the EA provides an accurate indication of the level of Koala habitat and populations present at the site. Nonetheless, the recommended conditions of approval require the Draft Vegetation Management and Biodiversity Plan provided as part of the EA to be updated to include a revised KPoM prior to the commencement of any events carried out at the site. The updated KPoM is required to address the operation of ongoing events carried out at the site and the potential impacts that this will have on any areas of core Koala habitat and existing Koala populations.

### 5.4.3 Impacts on Existing Forest Blocks

The site contains a number of fragmented forest blocks through the central portion of the site to the north of Jones Road containing areas of Swamp Sclerophyll Forest EEC. OEH's submission on the EA recommended a greater portion of the site be established as permanent habitat with greater ground cover and canopy connectivity, and advised that an updated event layout and ecological restoration plan should be provided demonstrating such a commitment. Council advised that all forest blocks within and adjacent to the proposed event footprint are mapped as High Conservation Value Vegetation under council's Biodiversity Conservation Strategy 2004. The department requested the proponent consider a revised event layout in order to maintain areas of existing vegetation and to reduce further fragmentation of the existing forest blocks, as identified on **Figure 29** below.

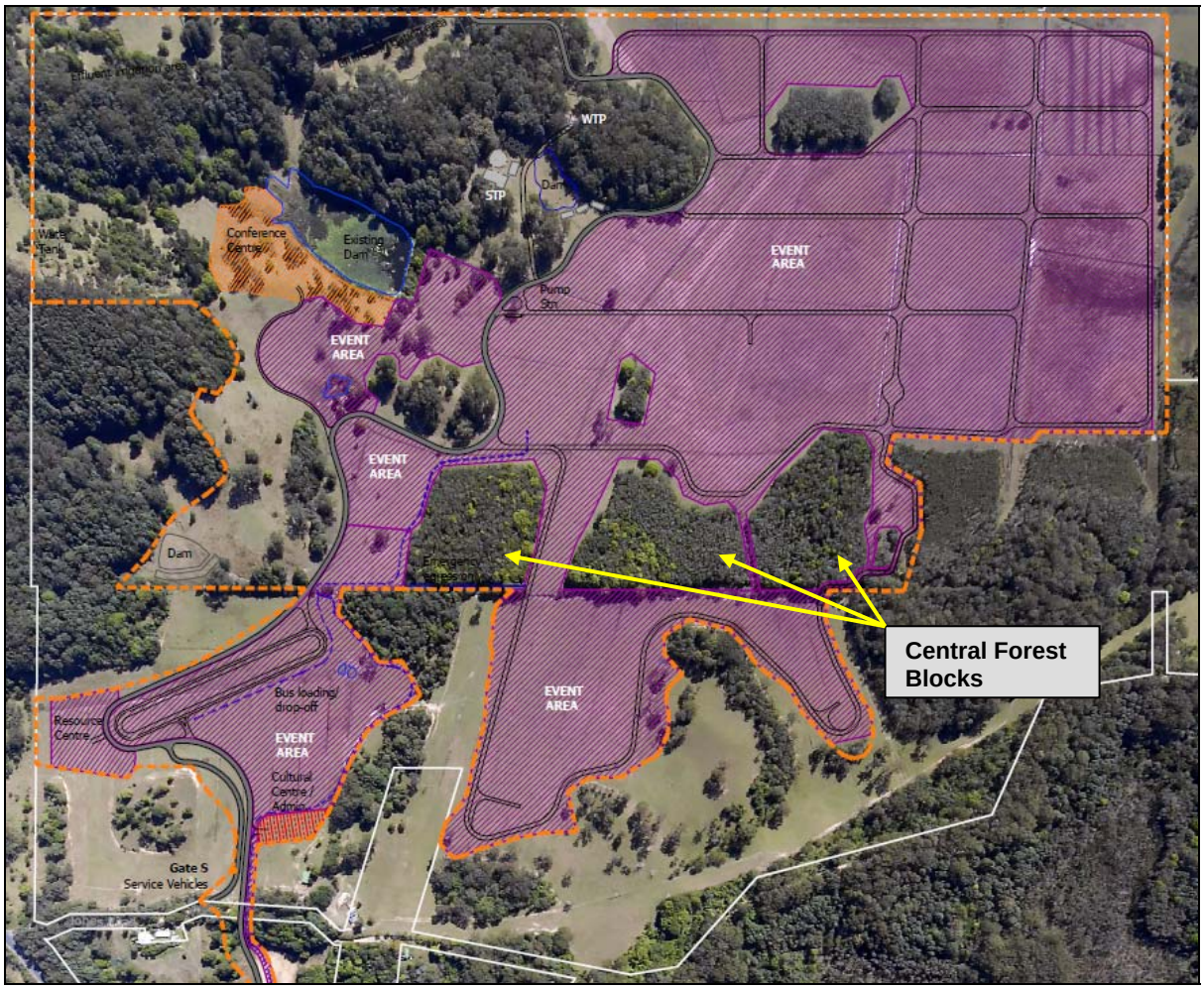


**Figure 29: Location of Central Forest Blocks (source: Preferred Project Report)**

The proponent advised in the PPR that any event activities will only take place within cleared pasture areas of the site, and that proposed fencing will exclude both humans and cattle from impacting on understory ecosystems of the existing forest blocks. OEH recommended a buffer distance of 75m to the central forest blocks, however, this was not supported by the proponent and it was noted in the PPR that events could not be carried out at all should a buffer of this distance be enforced. The proponent instead proposes fauna-friendly fencing around the forest blocks, and a weed removal program, as outlined in the Draft Vegetation and Biodiversity Management Plan. Bi-annual monitoring of threatened flora species within the existing forest blocks will also be undertaken in accordance with the plan. In addition, the revised ecological structure plan provided as part of the PPR outlines a further 5.9ha of permanent habitat and managed parklands to assist with connectivity of forested areas within the application area. **Figure 27** above (under **Section 5.4.2**) shows vegetated areas of the site subject to protection and areas of proposed managed parklands.

The department acknowledges the ecological significance of the existing central forest blocks, despite the understorey vegetation in these areas having been significantly disturbed by cattle through trampling and grazing impacts. The proponent's Ecological Assessment notes that provided these forested areas are barrier fenced and human intrusion is minimised, then no adverse effects are predicted upon this vegetation. Furthermore, the temporary removal of cattle whilst events are being carried out will provide respite to unfenced vegetated areas. To ensure forested areas within the site

are adequately protected from trampling and edge effects, the department has recommended a condition of approval requiring temporary human exclusion fencing a minimum distance of 10m to the designated forest blocks and other native vegetation, to be provided prior to the commencement of any event. The fencing is to be "fauna friendly" incorporating 250mm gaps at 10m intervals at the base. A weed removal program for this area will also see an improvement to the quality of understorey vegetation. OEH's recommendation to direct speaker systems away from forested areas is also reflected in the recommended conditions of approval with a requirement to position event stages and sound equipment away from any forested areas where possible.

## 5.5 EVENT NOISE AND ACOUSTIC IMPACTS

The assessment of noise impacts is complex and subjective and the end result must strike a balance between what is reasonable and feasible, whilst maintaining an acceptable level of amenity for the local community. Any level of discomfort experienced is dependent on the type, timing, duration and frequency of noise. The EA recognises noise impacts as a key consideration of the merits of the proposal. As such, addressing these concerns has been a key consideration of the project design with the inclusion of mitigation measures such as limits on the proposed frequency of events; event capacity and duration limits; a commitment for an event noise management plan (NMP), including acoustic monitoring before and during events; and establishment of a complaints register. The proponent has undertaken consultation with potentially affected residents (indentified as sensitive receivers), particularly those residents adjoining the site. As a result of the assessment provided in the EA and responses received during the consultation period, the proponent has committed to managing event noise levels on a performance-based approach and to a standard similar to that recommended by the OEH's Industrial Noise Policy 2000 (INP). A Noise Impact Assessment (NIA) prepared by Benbow Environmental was submitted as part of the EA. Key recommendations of the report have been included in the proponent's Statement of Commitments.

In addressing potential noise impacts, the proponent has undertaken both ambient background modelling and predictive noise modelling for various event scenarios at the nearest sensitive receivers. Noise loggers were deployed at 18 residential locations, as shown in **Figure 30** below.

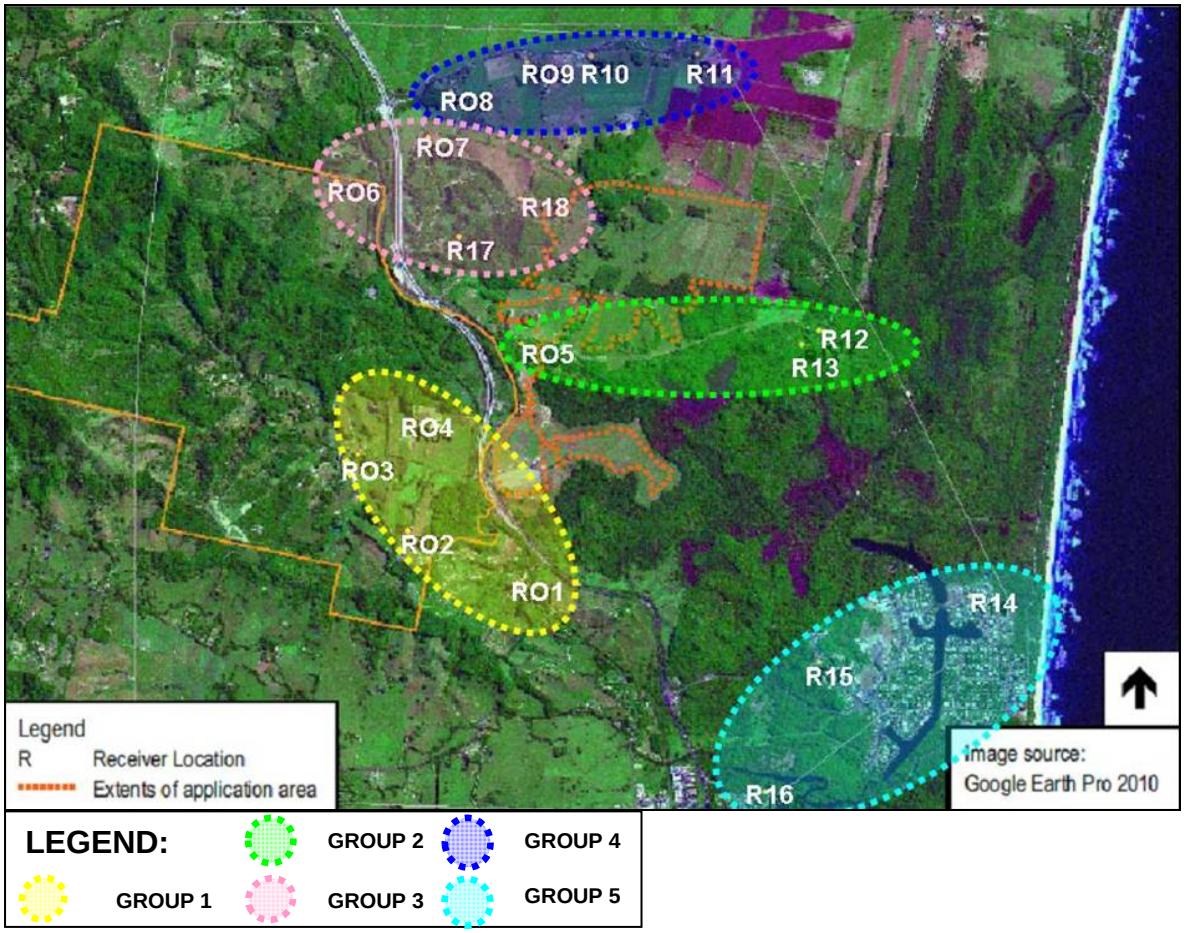


**Figure 30: Location of Noise Loggers (source: Noise Impact Assessment, Benbow Environmental, August 2010)**

Note: Long-term unattended monitoring took place at R03, R04, R05, R07, R09, R11, and R12. Short-term attended noise monitoring was undertaken at R03, R04, R05, R07, R09, R11, R12, R14, R15, and R16.

Potentially affected properties have been identified and clustered according to **Figure 33** above:

- Group 1 – the village of Yelgun;
- Group 2 – individual dwellings on Jones Road;
- Group 3 – Crabbes Creek and dwellings along Tweed Valley Way;
- Group 4 – individual dwellings on Wooyung Road; and,
- Group 5 – Ocean Shores and South Golden Beach.

Topographical Context

As described in **Section 1.1.3**, the site is effectively split in two by Marshalls Ridge which forms a natural acoustic barrier between the proposed events site to the north, and Jones Road and the southern part of the site. In terms of proximity, the properties identified within Groups 2 and 3 are likely to be the most sensitive receivers with regard to noise impacts. Group 2 properties are located along this ridgeline, whilst Group 3 properties are elevated above the floodplain to the north-west of the site, on the other side of the valley. The Pacific Highway and Tweed Valley Way are located at the head of this valley and are significant sources of roadtraffic noise within the locality.

Existing Ambient Noise Environment

The proponent undertook both short-term attended and long-term unattended monitoring on properties to determine existing background noise levels around the site and to identify local noise sources. Average noise levels ($L_{Aeq}$) and background noise levels ($L_{A90}$) were recorded and used to set the Rating Background Levels (RBL) for the noise assessment. The RBLs are used in noise impact assessment to set a baseline (or ambient noise level) from which to then set noise criteria for the activity proposed. The majority of noise recorded during attended monitoring sessions originated from traffic on the Pacific Highway and Tweed Valley Way at receivers R03, R04, R05, and R07. Birds, insects and other typical rural sounds were responsible for noise levels recorded at other attended receivers. The RBLs used in the noise impact assessment in the NIA are outlined in **Table 14** below:

**Table 14: Rating Background Levels as derived from a combination of unattended and attended monitoring**

| Receiver | R03 | R04 | R05 | R07 | R09 | R11 | R12 | R14 | R15 | R16 |
|---|---|---|---|---|---|---|---|---|---|---|
| **RBL ($L_{A90}$)** | 45 | 44 | 42 | 44 | 37 | 45 | 35 | 46 | 38 | 41 |

Noise Management Approach

Given the lack of specific standards or guidelines for this type of activity in NSW, the proponent has recommended noise management techniques and criteria based on overseas standards; best practice within the music industry; and other approaches to similar outdoor music events around NSW and Australia.

Council's standard practice in the past has been to use the INP as a basis for determining appropriate site specific noise limits. This was undertaken for the former Belongil Fields festival site, the Bluesfest site at Tyagarah (both located in the Byron Shire), and in council's assessment for a trial event at the site (which was approved and subsequently declared invalid due to an appeal on legal grounds). However the INP is specifically aimed at assessing noise from large and complex industrial activities scheduled under the *Protection of the Environment Operations Act 1997.* Moreover, the INP was developed to manage noise generated on a regular basis over the whole year. In contrast, the subject proposal is for only a maximum of 12 days per year and it is therefore considered more appropriate to adopt management strategies used successfully for similar outdoor events. In NSW noise criteria such as the INP, Road Noise Policy (RNP) and the Noise Guide for Local Government (NGLG) have been commonly developed to preferentially protect the more noise sensitive periods of the day. Accordingly, the acoustic noise criteria in **Table 13** are based on music industry best practice and are more stringent after midnight. This is also a period when peak noise events can cause sleep disturbance and therefore criteria for these short term noise events have also been included.

**Table 15: Acoustic Criteria Comparison – Proponent's Acoustic Criteria based on Music Industry Best Practice**

| Event Type | Design Factors | ACOUSTIC CRITERIA AT RECEIVER LOCATIONS | | | |
|---|---|---|---|---|---|
| | | Until 11pm | | After 11pm | |
| Minor | 1-4 event days per year | RBL + 10 | | RBL + 5 | |
| | > 5 event days per year | RBL + 5 | | RBL | |
| | Sleep disturbance | N/A | | $L_{A90}$ + 15 dB(A) | |
| Small | 1-4 event days per year | RBL + 15 | | RBL + 10 | |
| | Sleep disturbance | N/A | | $L_{A90}$ + 15 dB(A) | |
| Moderate | 1-4 event days per year | 65dB $L_{Aeq}$ | 90dB $_{Lcmax}$ | 60dB $L_{Aeq}$ | 80dB $_{Lcmax}$ |
| | Sleep disturbance | N/A | N/A | $L_{A90}$ + 15 dB(A) | N/A |
| Major | | Until 12am | | After 12am | |
| | 12 event days per year | 65dB $L_{Aeq}$ | 95dB $_{Lcmax}$ | 60dB $L_{Aeq}$ | 80dB $_{Lcmax}$ |
| | Sleep disturbance | N/A | N/A | $L_{A90}$ + 15 dB(A) | N/A |

The Department considers the flexible approach to noise management and negotiating reasonable and feasible best practice outcomes in the recently released NGLG (2010) is the appropriate document for the assessment of outdoor music events. This negotiated approach to noise management has been used successfully for similar outdoor music events such as the Hawkesbury Music Festival and Playground Weekender, and for major music events in The Domain in Sydney. In terms of outdoor concerts, the NGLG states that the suggested management approach is to either negotiate the implementation of reasonable and feasible best practices or to issue a Noise Control Notice or a Prevention Notice. As this is a new activity, it is not considered appropriate to issue a Noise Control Notice or Prevention Notice upfront.

Neither the Byron LEP nor council's Events on Public and Private Land Policy (adopted in October 2010) provide for any controls over the effects of noise from such events. The department therefore considers the approach outlined in the NGLG as an appropriate reference for the type of activities proposed as it allows for the development of site specific NMPs in consultation with the relevant authorities and the community; and provides for flexibility in the different types of events that may be carried out. These NMPs may develop best practice noise management measures that are both reasonable and feasible and specifically tailored to individual events, prevailing meteorological conditions, and the physical characteristics of the site. The proponent considers that consultation and negotiation with sensitive receivers and the recommended approach to trial events involving monitoring and reviewing of performance will ensure any adverse noise impacts are appropriately managed. The proponent further advised that a detailed noise management and monitoring plan will be prepared prior to any noise producing event.

In addition to the site specific noise criteria outlined in the NIA, the Statement of Commitments intends to control noise impacts both on and off-site. This includes specific objectives to control noise after midnight to 55dB(A) outside the bedroom windows of affected sensitive receivers, and an intent to control bass noise and average noise levels so that it is not clearly audible inside sleeping areas. This is an outcome focused control that seeks to ensure noise limits are met at the receiver, and allows the proponent flexibility in approach to meeting this limit. Furthermore, as part of the EH&SM Manual, the proponent has developed a specific noise standard for the operation of the site that will ensure noise levels are adequate to support an event that is both fit for the purpose, and does not unduly impact on the health of event patrons or disturb nearby residents.

Modelled Noise Impacts

The NIA presents noise modelling for a number of event scenarios and anticipates noise levels at the 18 sensitive receivers identified in **Figure 30** above. A number of different event layouts were used for minor to major events, and were then combined with a light wind blowing toward the receiver to reflect a worst case scenario. The event layouts and stage orientations were intended to reflect what may occur on-site for similar scale events. The modelling also took into account the effects of PA systems and auxiliary noise sources such as the crowd, campers, generators and lights. The results of this were then compared against the recorded ambient noise levels at each receiver and the proponent's own criteria (refer **Table 15** above) for daytime (12pm - 12am), night time (12am – 3am) and during sleeping hours.

Without mitigation measures, noise modelling predicts that Group 2 receivers and R11, R17 and R18 would exceed the recommended acoustic criteria. With a range of architectural treatments on homes,

barriers and event layouts an acceptable level of internal noise can be achieved at all affected residential receivers except R5. At this receiver the proponent will need to negotiate an agreement with the property owner or consider additional reasonable and feasible treatments aimed at achieving acceptable internal noise amenity.

Assessment

Modelling shows that noise impacts will be experienced by the nearest sensitive receivers off-site even with the mitigation measures proposed. These dwellings are all located immediately adjacent to the site and are described as R05, R10, R11, R12, R13, R17 and R18. Consequently, the proponent must focus on reducing noise at these receiver locations prior to undertaking the first event. Conditions of approval will restrict the number of major event days to 12 days per calendar year which ensures significant respite periods between major events.

Undertaking the approach recommended in the NGLG allows for best practice noise mitigation; and it is considered that the adoption of a specific NMP, combined with a set noise level of 55dB(A) outside the bedrooms of sensitive receivers provides both a reasonable and feasible approach. With an expected reduction of 10dB(A) achieved via attenuation through the window or wall of a building, this will be consistent with limits normally applied to industrial activities and is considered to be an acceptable outcome given the short duration of event activities. Therefore, the recommended conditions of approval require a revised set of noise criteria to be developed specific to each event but within defined parameters to ensure residential amenity is maintained. This outcome focused approach will allow the proponent a degree of flexibility in mitigating noise impacts through the NMP and community consultation, thereby reducing potential noise concerns raised by surrounding residents, and enable patrons and traffic to disperse from the site within an earlier time period. Adequate consultation with affected persons has been identified as critical to the successful operation of events and therefore fewer noise complaints. The proponent has committed to maintaining consultation with residents, council and the Police and sees it as a key mitigation measure in managing noise impacts into the future.

Noise mitigation can be achieved at source, during transmission, and at the receiver. Control of noise at the source is the preferred method as it reduces the entire impact on the surrounding area. Complete mitigation of the noise impacts at the source for outdoor concerts is not by itself a reasonable approach in this instance due to the noise emanating from concerts being the primary use of the site. Therefore a combination of mitigation measures at source (choosing suitable start and finish times, keeping neighbours informed, re-orientating equipment), interception or attenuation of noise during transmission (increased separation distances, site selection, and natural and artificial barriers), and mitigation measures at receiver (barriers and building construction methods) is required. The natural topography of the proposed event site also allows the proponent a degree of flexibility in designing an event layout to reduce noise through appropriate sitting and topographical attenuation.

Key Conditions

A recommended condition of approval requires the preparation of a NMP in consultation with council and the RWG prior to each moderate or major event. The NMP is required to be approved by the Director-General at least 60 days prior to a major or moderate event occurring. The NMP is to include, but is not limited to: the positioning and orientation of stages and speakers; requirements for sound engineers at each stage; identification of all sensitive receivers; identification of relevant noise limits for sensitive receivers; community consultation requirements; complaint procedures; noise mitigation measures for speakers and PA systems; and, other noise mitigation options. In particular, the Department will require a clear responsibility matrix along with a process for responding promptly to any non-compliances. The NMP will also be required to outline a procedure for reviewing performance and adopting 'lessons learnt'. The Department recognises that the low frequency component of music is more pervasive than that of higher frequencies and will therefore require the proponent to develop a schedule of performances that reduces the noise sources with bass or tonal components after midnight.

A second recommended condition of approval requires an extensive Acoustic Monitoring Program (AMP) be undertaken by an independent and suitably qualified noise consultant to ensure the noise criteria for events are met before, during and after the event. The AMP will reflect the criteria of the NMP and involve both attended and unattended monitoring at various sensitive receivers to assess the impact of initial events whilst they are in progress and to inform future event planning. This will allow changes to sound levels to be made during an event and for an overall assessment of the impact of event noise on the surrounding residences and ecology to be gained. If necessary, the project-specific noise criteria can be modified or reduced if the impacts on surrounding residences and ecological impacts are found to be unacceptable.

A third key condition is the recommendation for the implementation of additional noise mitigation measures such as insulation, double glazing, and secondary glazing of 'weak' areas should it be identified in the Noise Management Plan or after an event. This will be triggered by a written request from the affected landowner.

It is recommended the proponent will then be required to submit a detailed Noise Impact Report after the event to detail compliance with the NMP, provide results of the AMP, and a summary of any complaints received and what action was taken. This will be included in the KPI Report that will determine the ongoing use of the site for the events and activities proposed. It is therefore in the proponent's interest to ensure that noise is managed effectively as this will be a critical consideration in determining the ongoing use of the site.

In conclusion, the Department considers that the infrequent schedule of events, long respite period between these events and the implementation of the noise management approach recommended will ensure that noise impacts to surrounding receivers is minimised to an acceptable level.

## 5.6 INTEGRATED WATER CYCLE MANAGEMENT

The proponent seeks approval as part of Stage 2 for the construction of a permanent sewage treatment plant (STP) and water treatment plant (WTP) given the site is currently not serviced by reticulated sewage and water. The proponent engaged Gilbert & Sutherland Pty Ltd to prepare an Integrated Water Cycle Assessment and Management Report (IWCAM Report) as part of the EA to provided advice on the provision of potable water and management of wastewater on-site.

### 5.6.1 Temporary Water and Wastewater Infrastructure

Prior to construction of the STP and WTP facilities, temporary water and wastewater infrastructure will be provided. Water is to be 'trucked in' and wastewater 'trucked out' while an event is being carried out. The proponent advised that wastewater will be transported to a licensed sewage treatment plant to dispose of all event generated wastewater for up to three major events per year. For an event involving 30,000 patrons, approximately 50 wastewater truck movements are required for a three to four day event.

In regards to wastewater treatment, OEH advised in its submission that there were no objections to the transportation of wastewater from the site, provided the commercial or municipal sewage treatment plant receiving the wastewater has capacity to manage the additional load in an environmentally appropriate manner. Council raised an issue regarding clause 45 of the Byron LEP, which states that consent must not be granted to the carrying out of development unless prior arrangements have been made for the provision of sewerage, drainage and water services. The department considers clause 45 of the Byron LEP has been satisfied as prior arrangements have been made for temporary water and wastewater services during Stage 1, with construction of a permanent WTP and STP as part of Stage 2, as discussed further in **Section 5.6.2**. Furthermore, the proponent advised in the PPR that approval had been granted and an account established with Allconex Water to dispose of all event generated wastewater for up to three major events annually.

In regards to water supply, all potable water requirements for events carried out prior to the construction and operation of the permanent WTP facility will be imported to the site. This water will be used for all sanitary, drinking and food preparation uses. It is proposed that large temporary potable water supply tanks (minimum 200,000L) will be provided as a central reservoir to be filled from tankers over a number of days prior to an event and topped up during an event. Council noted in its submissions that the proponents water demand calculation of 26.5L/person per day is a likely underestimation given water will not only be used for drinking, but for food preparation, showering and general cleaning. The proponent responded to council's concerns in its PPR and advised that council's assessment of water loading is based on traditional residential standards which are particularly conservative. The proponent further advised that water use data shall be collected during the initial phases of operation and will assist with the planning of subsequent events and the detailed design of the permanent water supply infrastructure. The department does not raise any concern in regards to temporary potable water supply at the site, and is supportive of the proposed concept to collect water usage data during the initial phases of the development to assist in the preparation of the detailed design of the permanent WTP proposed as part of Stage 2.

### 5.6.2 Sewage Treatment Plant

The proposed STP consists of a centralised treatment facility, effluent holding dams, effluent polishing ponds and three dedicated effluent irrigation areas. **Figure 31** below shows the location of proposed STP and WTP facilities in context to the site. The proponent advised that the STP facility will be constructed between year six and year eight of operation, based on commercial and operational considerations. Key issues of consideration in the assessment of the STP included the predicted wastewater generation loads and the treatment of on-site effluent irrigation which were raised by both government agencies and the public.

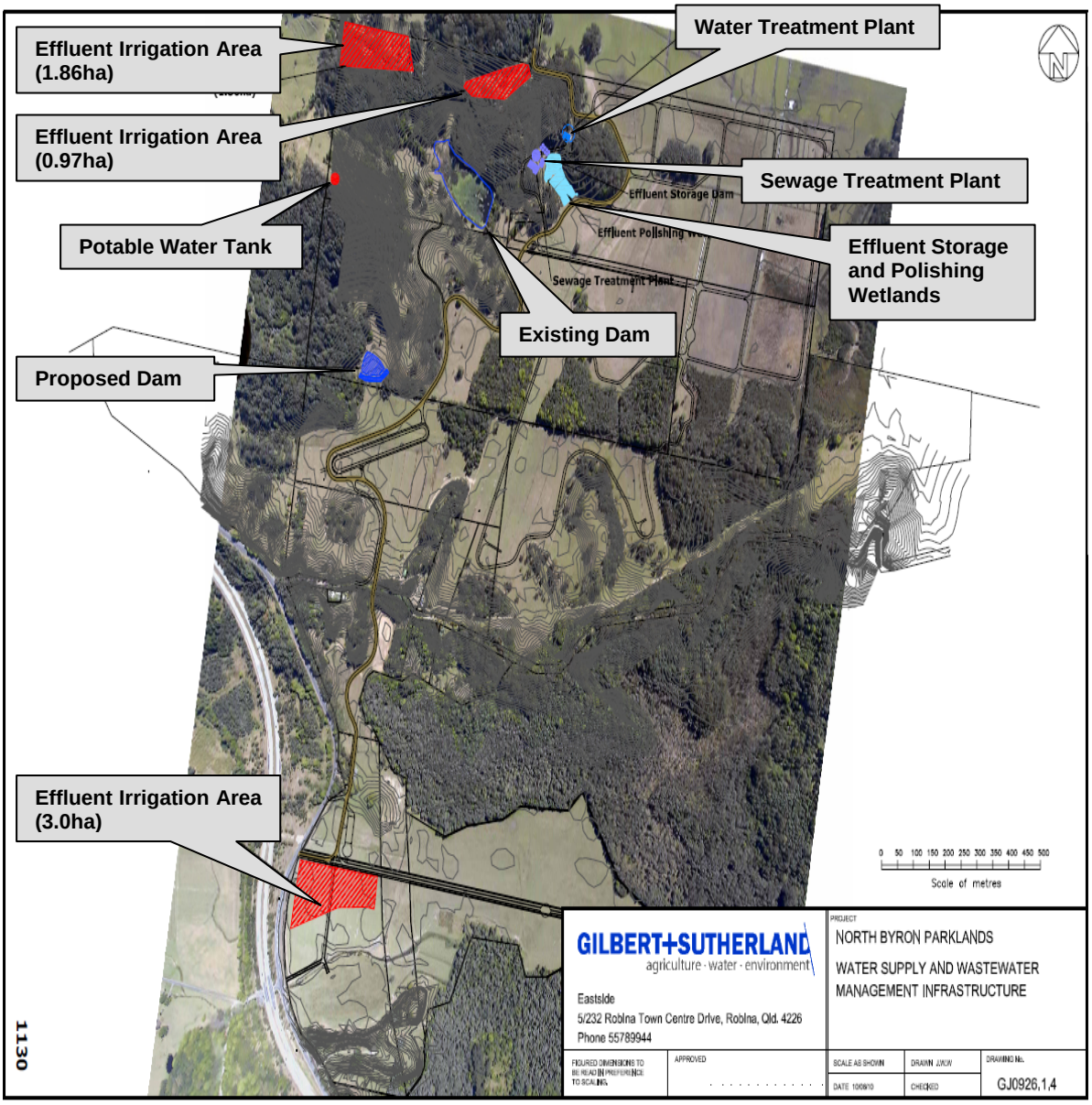


**Figure 31: Water Supply and Wastewater Management (source: IWCAM Report, Gilbert & Sutherland, July 2010)**

Wastewater Generation Loads

The IWCAM Report included calculations estimating the volume of wastewater that would be generated during various sized events. The indicative daily wastewater produced during different sized events is shown in **Table 16** below.

**Table 16: Daily Wastewater Demand (source: IWCAM Report, Gilbert & Sutherland – July 2010)**

| Event Category | Wastewater Loading (L/Day) |
|---|---|
| Minor (Maximum 300 patrons) | 8,646 |
| Small (Maximum 3,000 patrons) | 86,460 |
| Moderate (Maximum 10,000 patrons) | 288,200 |
| Major (Maximum 50,000 patrons) | 940,500 |

Council expressed significant concern in relation to the wastewater generation loads outlined in the IWCAM Report and considered the holding capacity of the treatment plant and required effluent irrigation treatment area had been significantly underestimated.

The proponent advised that estimates of wastewater loading are based on data collected from previous festival events which has been conservatively adjusted to take into account proposed water saving measures. To ensure that the detailed design of the STP is sufficient to accommodate the wastewater loadings for future events, data will be collected from events carried out during Stage 1 whereby temporary wastewater infrastructure will be used to service the site. Furthermore, the proponent will be required to submit a Section 68 application to council under the *Local Government Act 1993* which will provide further opportunity for council to evaluate the loading data of the proposed system and assess the detailed design of the proposed STP infrastructure. The department supports the estimated wastewater loadings to be based on data collected from events carried out as part of Stage 1. However, for the purpose of data collection, events should ideally be major events carried out over several days and with the inclusion of campers for optimal results. In addition, data derived from events held at the Woodford site, which operates the same type of STP facility proposed for the Yelgun site should be used to calculate predicted wastewater loads and the required effluent treatment capacity. As noted above, the STP is subject to a Section 68 Certificate from council and the proponent will be required to demonstrate to council's satisfaction that the estimated wastewater generation loads are appropriate; and that the proposed facility will have sufficient capacity to hold and treat the wastewater loads generated during a 100% capacity event.

On-Site Effluent Irrigation

Once the STP has been constructed, effluent will be treated at several locations across the site. As outlined in the IWCAM Report, a water balance and nutrient impact assessment was undertaken using the Model for Effluent Disposal by Land Irrigation (MEDLI model). For the maximum number of event days proposed, the MEDLI modelling indicates that a total area of 5.8ha will be required for irrigated effluent to achieve the proposed standard of wastewater treatment, without having an adverse environmental impact. The proposed effluent treatment areas will be a minimum of 5m from any property boundary and incorporates two wooded areas towards the north-west comprising 1.86ha and 0.97ha respectively, and 3ha of pasture land in the south-west. The proposed pasture effluent irrigation area is approximately 750m to the south of Jones Road. This area will also be used for car parking during major events and for grazing purposes when events are not being carried out. **Figure 31** above shows the location of proposed effluent treatment areas.

The proposed location of the southern effluent irrigation area is of concern given its location in a 1 in 100 year ARI flood prone area; close proximity to Yelgun Creek and SEPP 14 Wetlands; and high groundwater table. Given the known constraints in the southern portion of the site, council and the department considered this portion of the site largely unsuitable for effluent irrigation. The department requested the proponent outline mitigation measures to ensure adjoining environments are not adversely affected by run-off from effluent irrigation areas. While the proponent proposes to undertake monitoring of effluent quality and groundwater, the risk of groundwater contamination and subsequent impacts on the adjoining waterways and SEPP 14 Wetlands is high and therefore it would be appropriate for the proponent to investigate an alternate location on site for effluent irrigation.

A proposed modification to the concept plan therefore requires no on-site effluent irrigation to occur on land south of Jones Road. The proponent is required to provide an alternative area for on-site effluent irrigation on land north of Jones Road, without introducing any adverse environmental impacts. The department recommends this modification to ensure the protection of existing groundwater conditions and adjoining environments, including SEPP 14 Wetlands.

### 5.6.3 Water Treatment Plant

The proposed WTP is located in the far northern part of the site and consists of a treatment plant, a potable water tank and two raw water dams (one existing and one new dam), as shown in **Figure 31** above. The long term, permanent water supply concept for the site is for all potable water to be sourced from harvestable use rights attached to the property. The site's maximum harvestable rights dam capacity is 42.2ML. The existing dam has a volume of approximately 15.9ML. A second dam with a minimum capacity of 7.5ML will be constructed as part of Stage 2 to capture additional surface water runoff. Detailed design and construction of the dam would be undertaken in accordance with the OEH's NSW Farm Dams Policy. The department does not raise any concern in regards to the construction of the WTP or creation of additional farm dam as part of Stage 2. The WTP is proposed as part of Stage 2 and the detailed design of the system will require further assessment when an application for the system is lodged with council.

## 5.7 BUSHFIRE HAZARD

The site is known to contain areas of peat soils, which are compacted, decomposing organic matter which when dry are susceptible to becoming ignited and can become difficult to extinguish. The proposal to locate bonfires and the likelihood of campers setting up camp fires on this type of soil presented a significant bushfire risk. The department therefore requested the proponent address the issue of potential peat fires at the site. As part of the EA, The proponent provided a Bushfire Hazard Assessment prepared by Barry Eadie Consulting Pty Ltd. The assessment was undertaken in accordance with the requirements of the RFS's Planning for Bushfire Protection 2006.

The RFS raised a number of concerns in its submission on the EA, specifically in regards to the proposed number of people occupying a site that is surrounded by bushfire prone land; the ability to evacuate patrons in the event of a bushfire; and, the location of emergency assembly areas.

The proponent advised in the PPR that its bushfire consultant had consulted with the RFS following receipt of the RFS submission. The RFS recommended a number of conditions of approval, including the preparation of a bushfire management plan and a suitable bushfire emergency evacuation plan. Preparation of the evacuation plan is discussed further below.

In response to the department's concerns regarding the use of bonfires and camp fires within the event and camping areas, the proponent advised that camp fires will not be permitted in the event/camping areas, and that fire wardens in the camping area will provide continuous surveillance to enforce the "no fire" policy whilst events are being carried out. Bonfires managed by event staff may be used in controlled circumstances in liaison with the RFS. Bonfires are to be located on fire retardant bases, and will be fenced and monitored by fire wardens at all times. The proposal does not involve the use of bonfires during times of high bushfire potential.

The recommended conditions of approval require the proponent to prepare a Bushfire Management Plan prior to the commencement of any event on the site. The plan is to include information regarding the prevention, mitigation and management of the potential for peat fires, including the responsibilities of fire wardens and bonfire management procedures and controls. The plan to be reviewed by the RFS and RWG, with a copy of the endorsed plan provided to the department for approval. Further recommended conditions of approval to ensure the site is adequately protected from bushfire hazard include the provision of a 10,000L dedicated water supply provided on-site for fire fighting purposes; and no open fires to be permitted on days whereby a Total Fire Ban (TOBAN) has been declared.

Bushfire Emergency Evacuation Plan

The RFS and public submissions raised concerns regarding the safe evacuation of patrons from a constrained site during hazardous bushfire conditions. The RFS advised that it is not feasible to assemble large numbers of patrons and remain on site during a large scale bushfire event. To address the issue, the PPR advises that should a bushfire occur while an event is being carried out and evacuation from the site is necessary, approval from the landholder adjoining the northern site boundary has been obtained to allow for both emergency vehicle access and patron evacuation. This property provides access to Wooyung Road, which connects to Tweed Valley Way, and has large open grazing pasture paddocks that are a significant distance from any bushfire prone areas.

The RFS has agreed to sit on a joint committee with the proponent to consider the preparation of an Emergency Management Plan for the site to be endorsed by the Local Emergency Management Committee. The department has therefore included a recommended condition of approval requiring the preparation of a Bushfire Emergency Evacuation Plan to be reviewed by the RFS and RWG, and approved by the Local Emergency Management Committee prior to any event being carried out. The RFS has provided specific detail that is required to be included within the plan. The proponent has committed to preparing the plan through the Statement of Commitments. The plan will be reviewed by the RWG, including representatives of the Police and RFS, prior to each major event being carried out. The department is satisfied that the issue of site evacuation during a bushfire event is satisfactorily addressed through the recommended conditions of approval and Statement of Commitments.

## 5.8 ABORIGINAL CULTURAL HERITAGE

The proponent was required to identify whether the site has significance to Aboriginal cultural heritage and to recommend measures to preserve any significant features found. The proponent therefore engaged Consultant Archaeologist Jacqueline Collins to prepare a Cultural Heritage Assessment (CHA) as part of the EA.

As part of the CHA, eight Aboriginal stakeholder groups registered an interest in the assessment (with one stakeholder group subsequently withdrawing its interest). The stakeholders considered Marshalls Ridge to represent a traditional pathway used to access ceremonial sites on the coastal plain at

Wooyung. Due to their connection with this traditional transit and artefact occurrences recorded on the ridge, the fringing spurs of the ridge were considered to be of high cultural significance. The stakeholders did advise, however, that to their knowledge the proposal would not affect any unmodified sites or places of ceremonial, mythological or otherwise spiritual significance.

A review of OEH's Aboriginal Heritage Information Management System identifies nine site locations within 500m of the CHA's study area. These sites comprise disturbed, generally low-density stone artefact occurrences found in low gradient contexts along the spine of Marshalls Ridge. The largest artefact occurrence registered in the vicinity of the study area is located on the eastern end of a spur south of Marshalls Ridge. Council advised in its submission that Marshalls Ridge is identified as an area of "High Archaeology Sensitivity" and that the proposed underpass will impact on the cultural values and overall integrity of the area. Due to the high level of disturbance in the Jones Road/Marshalls Ridge locality, the CHA advises that the proposed Spine Road underpass would not compromise the values attributed to the wider ridgeline.

The CHA identified the remaining forests at Yelgun as providing a physical link with the traditional past, and that the conservation of the existing forests and biodiversity is integral in maintaining contemporary socio-cultural values. The CHA advised that development of the site for a cultural events venue would not impact upon any of the natural forested areas, and that the existing biodiversity would be maintained and potentially enhanced by a program of forest restoration and weed removal. Given that appropriate steps would be taken to exclude unauthorised access through human exclusion fencing during cultural events, the Aboriginal stakeholders agreed that the proposal would not affect the socio-cultural values of the natural environment.

The CHA outlined a number of management recommendations, developed in liaison with Aboriginal stakeholders to assist in avoiding and/or mitigating impacts of the proposal. Such measures include:

- protection of all registered sites in close proximity to event usage areas and areas containing natural forest by erecting temporary human exclusion fencing when an event is being carried out on the site;
- erection of signage referring to Aboriginal sites and values (developed and installed with agreement of all Aboriginal stakeholders); and,
- immediately ceasing construction/disturbance works at the site should identified or suspected Aboriginal objects be uncovered, with temporary protective fencing erected around the find and the relevant Aboriginal stakeholders and project archaeologist contacted to inspect the find and determine appropriate actions and management recommendations.

OEH acknowledged the proponent's measures to protect Aboriginal cultural heritage values within the project area, however, it was noted that only limited management strategies were provided to ensure protection of Aboriginal cultural heritage in perpetuity. OEH therefore recommended a program of ongoing monitoring by the local Aboriginal community; and management during maintenance activities (such as weed spraying, pest control, etc.).

OEH's recommended management strategies have been included as part of the Statement of Commitments. The department has also included recommended conditions of approval ensuring the proponent manages Aboriginal cultural heritage in accordance with the recommendations outlined in the CHA; and that all personnel involved in any ground surface disturbance activities at the site undertake a Cultural Heritage Induction training session before commencing construction activities. It is considered that the recommended conditions of approval and the proponent's Statement of Commitments will ensure the protection of Aboriginal cultural significance at the site.

# 6. CONCLUSION

The department has assessed the proposal for a permanent cultural events site at Yelgun on its merits and has considered the submissions received during the public exhibition period. The key issues raised in the submissions were in relation to the size and frequency of future events carried out at the site; flooding and evacuation procedures; traffic generation and impacts on existing road infrastructure; impacts on biodiversity both within and surrounding the site; noise impacts; bushfire hazard; and Aboriginal cultural heritage. The department has considered these issues associated with the project and is satisfied that an acceptable level of environmental performance and sustainability can be achieved. The recommended conditions of approval, in conjunction with the proponent's Statement of Commitments will ensure that any detrimental impacts associated with the proposal are appropriately mitigated.

Public benefits of the proposal include:

- the creation of 15 full time construction jobs and 115 full time equivalent jobs during operation of the project;
- the establishment of a permanent cultural events site in the Byron Shire to host events of a varying size and nature;
- a significant economic benefit to existing business operators in the region, particularly for the tourism, hospitality, and entertainment industries;
- rehabilitation and revegetation works along Marshalls Ridge, strengthening this area as a vegetated wildlife corridor; and,
- the creation of permanent new habitat with constructed wetlands along the boundary of the Billinudgel Nature Reserve.

Furthermore, the project has largely demonstrated consistency with applicable environmental planning instruments, including the Far North Coast Regional Strategy 2006 and the NSW State Plan 2021. On these grounds, the department considers the site suitable for the proposed development, and is in the public interest. The department therefore recommends that the concept plan and Stages 1 and 2 project approval be granted approved, subject to the recommended conditions of approval and the proponent's Statement of Commitments.

Endorsed by:

Heather Warton
**Director**
**Metropolitan and Regional Projects North**

Chris Wilson
**Executive Director**
**Major Projects Assessment**

30/11/11

Richard Pearson
**Deputy Director-General**
**Development Assessment & Systems Performance**

# APPENDIX A ENVIRONMENTAL ASSESSMENT

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=3209

# APPENDIX B RESPONSE TO SUBMISSIONS / PREFERRED PROJECT REPORT

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=3209

# APPENDIX C ENVIRONMENTAL PLANNING INSTRUMENTS

The proposal has been considered against the following Environmental Planning Instruments:

- Byron Local Environmental Plan 1988;
- State Environmental Planning Policy No. 14 – Coastal Wetlands;
- State Environmental Planning Policy No. 44 – Koala Habitat Protection;
- State Environmental Planning Policy No. 55 – Remediation of Land;
- State Environmental Planning Policy No. 64 – Advertising and Signage;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (Temporary Structures) 2007;
- State Environmental Planning Policy (Rural Lands) 2008; and,
- North Coast Regional Environmental Plan.

**Byron Local Environmental Plan 1988**

The Byron Local Environmental Plan 1988 (Byron LEP) aims to promote sustainable development throughout the Byron shire. The Byron LEP has been considered in the department's assessment of the proposal, including consideration of proposed uses in accordance with the applicable zoning provisions. The subject site encompasses five zonings under the Byron LEP. The applicable zones include:

- 1(a) (General Rural Zone);
- 1(b1) (Agricultural Protection (b1) Zone);
- 7(a) (Wetlands Zone);
- 7(k) (Habitat Zone); and,
- 9(a) (Proposed Road Zone).

In regards to the defined uses proposed as part of the Stages 1 and 2, the proposed 'event area' is defined as being a *place of assembly*; and the 'camping' component is defined as being ancillary to *a place of assembly*. The Spine Road is defined as being for the purpose of a 'road' in order to provide a physical link to the northern and southern farming areas.

The applicable zones and a summary of the zoning objectives for each are discussed below.

1(a) (General Rural Zone)

The majority of the site including the northern event and camping area, and the southern car parking area is zoned 1(a) (General Rural Zone). The objectives of the zone are to encourage a range of uses at a scale and character that maintains or enhances the natural, economic, cultural, social and scenic amenity of the rural environment. The zoning also encourages a pattern of settlement which does not adversely affect the quality of life of residents and maintains the rural character.

Uses proposed in the zone include events (*place of assembly*), camping (ancillary to a *place of assembly*), roads, water treatment plant, and wastewater treatment plant. All uses are permissible within the zone, subject to development consent.

1(b1) (Agricultural Protection (b1) Zone)

The 1(b1) (Agricultural Protection (b1) Zone) is located through the central portion of the site, north of Jones Road. The objectives of the zone are to preserve high quality agricultural land and to restrict development which may prejudice such potential.

Uses proposed in the zone include events (*place of assembly*), camping (ancillary to a *place of assembly*) and roads. All uses are permissible within the zone, subject to development consent. The proposed administration building and Spine Road are located within a cross-hatched section of the zone which requires consideration of clause 38A of the Byron LEP. Clause 38A(c) states that a person must not erect a building or construct a road on the land to which this clause applies, except with the consent of council. It is noted that projects under Part 3A are not required to consider this clause, however, the proposed use is not considered to be inconsistent with the objectives of the zone.

7(a) (Wetlands Zone)

A small portion of the 7(a) (Wetlands Zone) extends within the boundary of the site at the far south-western corner. This area also contains a small portion of SEPP 14 Wetlands within the site boundary. The objectives of the zone are to identify all lands covered by SEPP 14 Wetlands and to prohibit development that is likely to have a detrimental effect on the wetlands. There are no physical works or uses proposed in the zone.

7(k) (Habitat Zone)

The 7(k) (Habitat Zone) extends through the central portion of the site and is located both north and south of Jones Road and encompasses the area referred to as the Marshalls Ridge wildlife corridor. The objectives of the zone are to identify and protect significant vegetation and wildlife habitats for conservation purposes, and to prohibit development that is likely to have a detrimental effect on existing wildlife habitats.

The only use proposed within the zone is for a road, which is permissible subject to development consent. The proposed road is located within a cross-hatched section of the zone which requires consideration of clause 38A of the Byron LEP. Clause 38A(c) states that a person must not erect a building or construct a road on the land to which this clause applies, except with the consent of council. It is noted that projects assessed under Part 3A are not required to consider this clause, however, the proposed use is not considered to be inconsistent with the objectives of the zone.

9(a) (Proposed Road Zone)

A narrow strip of land approximately 40m in width and 920m in length located in the northern portion of the site is a designated 9(a) (Proposed Road Zone) corridor. The objective of the zone is to set aside land for proposed roads. The Roads and Traffic Authority advised the land owner that there is no proposal to utilise this proposed corridor and that council has been requested to remove the zoning from the Byron LEP. It is understood council intends to formally remove the zoning as part of its comprehensive LEP process.

**State Environmental Planning Policy No. 14 – Coastal Wetlands**

State Environmental Planning Policy No. 14 – Coastal Wetlands aims to ensure coastal wetlands are protected from clearing, draining, filling and levee construction and are preserved in the environmental and economic interests of the State. The subject site contains a small portion of SEPP 14 (No. 57) within the site's southern boundary, outside of the project application area. The department has considered potential impacts of the proposal on existing wetlands within and adjoining the site under **Section 5.5.2**. Requirements to ensure continued protection of the wetlands include the creation permanent new habitat with constructed wetlands adjoining the SEPP 14 boundary, and a habitat restoration program for this area.

**State Environmental Planning Policy No. 44 – Koala Habitat Protection**

State Environmental Planning Policy No. 44 – Koala Habitat Protection aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas. A small area of core Koala habitat was identified in the central east of the site, outside of the current application area. A Koala Plan of Management (KPoM) prepared for a proposed trial event at the site in 2009 was provided as part of the EA. The recommended conditions of approval require the KPoM to be updated prior to the commencement of any events carried out at the site. The updated KPoM must address the operation of ongoing events carried out at the site and the potential impacts that this will have on any areas of core Koala habitat and existing Koala populations.

**State Environmental Planning Policy No.55 – Remediation of Land**

State Environmental Planning Policy No.55 – Remediation of Land aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. No contaminated land is identified within the site and no remediation works are required.

**State Environmental Planning Policy No. 64 – Advertising and Signage**

State Environmental Planning Policy No.64 – Advertising and Signage aims to ensure signage is compatible with the desired amenity and visual character of an area; provides effective communication; and is of high quality design and finish. Any temporary advertising or signage erected on the site as part of future events will be required to consider the provisions of the SEPP.

**State Environmental Planning Policy (Infrastructure) 2007**

State Environmental Planning Policy (Infrastructure) 2007 aims to facilitate the effective delivery of infrastructure across the State. In accordance with the SEPP, the proponent is to ensure that all infrastructure works carried out as part of the project are permissible, with consent, in the land use zone in which it is carried out, and meets the relevant provisions of the Building Code of Australia.

**State Environmental Planning Policy (Temporary Structures) 2007**

State Environmental Planning Policy (Temporary Structures) 2007 aims to ensure that suitable provision is made for ensuring the safety of persons using temporary structures; and to encourage the protection of the environment at the location, and in the vicinity, of temporary structures by managing noise, parking and traffic impacts and ensuring heritage protection. Any temporary structures provided as part of future events will be required to be constructed in accordance with the provisions of the SEPP.

**State Environmental Planning Policy (Rural Lands) 2008**

State Environmental Planning Policy (Rural Lands) 2008 aims to facilitate the orderly and economic use and development of rural lands for rural and related purposes; and to implement measures designed to reduce land use conflicts. The site is located in a rural-residential location and is currently used for grazing purposes. The site will continue to be used for grazing purposes when events are not being carried out.

**North Coast Regional Environmental Plan**

The North Coast Regional Environmental Plan (North Coast REP) provides a framework for policy preparation for the North Coast region and specifies objectives for the future planning and development of land throughout the NSW north coast. The proposal is generally consistent with the provisions of the North Coast REP, in particular the objectives of Part 6 – Tourism and Recreation, which aims to encourage tourism activity that will complement the existing natural and man-made features of the region and be of positive benefit to the region's economy; and encourage a range of tourism facilities without degrading important environmental or agricultural features of the region.

# APPENDIX D DIRECTOR-GENERAL'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

## Director-General's Environmental Assessment Requirements

**Section 75F of the *Environmental Planning and Assessment Act 1979***

| **Application number** |
|---|
| 09_0028 |
| **Project** |
| A **Concept Plan** for a 'Cultural Events Site' incorporating:<br>• approval for the site to be used for cultural, educational and outdoor events with associated camping;<br>• a cultural centre;<br>• a conference centre and associated accommodation;<br>• camping infrastructure and facilities; and<br>• a comprehensive vegetation management plan.<br><br>Stages 1 and 2 **Project Application** incorporating:<br>• approval for the site to be used for cultural, educational and outdoor events;<br>• approval to erect temporary structures;<br>• approval for camping areas in association with event usage;<br>• construction of a site offices;<br>• toilet and shower facilities;<br>• a water treatment plant;<br>• a wastewater treatment plant;<br>• construction of a spine road and event laneways, walkways, car parking areas, and associated works; and<br>• implementation of a vegetation management plan. |
| **Location** |
| Part Lots 46, 402, 403 and 404 DP 755687; Part Lot 10 DP 875112; Part Lots 2 and 12 DP 848618; Part Lot 30 DP 880376; Part Lot 102 DP 1001878; and, Lot 1 DP 1145020 Tweed Valley Way and Jones Road, Yelgun, Byron LGA. |
| **Proponent** |
| Billinudgel Property Pty Ltd |
| **Date issued** |
| 25 August 2009 |
| **General requirements** |
| The Environmental Assessment (EA) must include:<br><br>**PART A: Concept Plan Application**<br>1. An executive summary;<br>2. A detailed description of the proposal including:<br>  • any development options;<br>  • justification for the project taking into consideration any environmental impacts of the project, the suitability of the site and whether the project is in the public interest;<br>  • outline of the staged implementation of the project if applicable;<br>3. A thorough site analysis including constraints mapping and description of the existing environment; |

4. Consideration of any relevant statutory and non-statutory provisions and identification of any non-compliances with such provisions, in particular relevant provisions arising from environmental planning instruments, Regional Strategies (including draft Regional Strategies) and Development Control Plans;
5. Consideration of the consistency of the project with the objects of the *Environmental Planning and Assessment Act 1979;*
6. Consideration of impacts, if any, on matters of National Environmental Significance under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*;
7. An assessment of the potential impacts of the project and a draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures to be implemented to minimise any potential impacts of the project;
8. The plans and documents outlined in **Attachment 2**;
9. A signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading; and
10. An assessment of the key issues specified below and a table outlining where these key issues have been addressed.

**PART B: Project Application**

1. The matters listed above in Part A.

| **Key Issues for the Concept Plan** | |
|---|---|
| The EA must address the following key issues: | |
| **1. Strategic Planning** | |
| 1.1 | Justify the proposed land uses across the site having regard for the *Byron Local Environmental Plan 1988*. Provide justification for any inconsistencies. |
| 1.2 | Justify the proposal with reference to relevant local, regional and State planning strategies. Provide justification for any inconsistencies with these planning strategies. |
| 1.3 | Outline the proposed staging of the development. |
| 1.4 | Outline the proposed location and approximate size and scale of facilities proposed for future stages (including the cultural centre, conference centre, camping infrastructure, water treatment plant and wastewater treatment facility). |
| 1.5 | Outline in detail the scale and frequency of events (eg: the total number of major, moderate, and minor events per year). |
| **2. Urban Design and Sustainability** | |
| 2.1 | Demonstrate suitability of the proposal with the surrounding area in relation to bulk, scale, amenity (including noise) and visual amenity having regard to the *Coastal Design Guidelines of NSW* (2003) and the *NSW Coastal Policy 1997*. |
| **3. Visual Impact** | |
| 3.1 | Address the visual impact of the proposal in the context of surrounding development and relevant mitigation measures. Use visual aids such as scale model or photomontage to demonstrate visual impacts. |
| **4. Infrastructure Provision** | |
| 4.1 | Address existing capacity and requirements of the development for sewerage, water, electricity, waste disposal, telecommunications and gas in consultation with the relevant agencies. Identify and describe staging, if any, of infrastructure works. |
| 4.2 | Provide details on how and where water supply will be derived from to service the site. |
| 4.3 | Consider the capacity of existing infrastructure, services and facilities within the Byron shire to accommodate the temporary population increase generated by proposed large-scale events. |

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| **5. Traffic and Access** | |
| 5.1 | Prepare a traffic impact study in accordance with Table 2.1 of the RTA's *Guide to Traffic Generating Developments*. |
| 5.2 | Provide an analysis of the operational capacity, traffic amenity and safety of the Yelgun interchange with the Pacific Highway to accommodate levels of traffic generated by the proposal. |
| 5.3 | Provide details on the connection between the proposed spine access road and Tweed Coast Road. |
| 5.4 | Provide details on the location and total number of car parking spaces to be provided as part of the proposal. |
| 5.5 | Provide details of any application to close the Crown Road within and south of Lot 403. |
| **6. Hazard Management and Mitigation** | |
| *Contamination* | |
| 6.1 | Identify any contamination on the site and appropriate mitigation measures in accordance with the provisions of *SEPP 55 – Remediation of Land*. In particular, investigations should be undertaken to identify any contamination from former banana plantations once located on the site. |
| *Acid Sulfate Soils* | |
| 6.2 | Identify the presence and extent of acid sulfate soils on the site and, where relevant, appropriate mitigation measures. Identify the need for an Acid Sulfate Management Plan (prepared in accordance with ASSMAC Guidelines). |
| *Bushfire* | |
| 6.3 | Address the requirements of *Planning for Bush Fire Protection 2006* (RFS). |
| *Geotechnical* | |
| 6.4 | Provide an assessment of any geotechnical limitations that may occur on the site and if necessary, appropriate design considerations that address these limitations. |
| *Flooding* | |
| 6.5 | Provide an assessment of any flood risk on site (for the full range of floods including events greater than the design flood, up to probable maximum flood; and from coastal inundation, catchment based flooding or a combination of the two) and having consideration of any relevant provisions of the *NSW Floodplain Development Manual 2005.* The assessment should determine: the flood hazard in the area; address the impact of flooding on the proposed development, address the impact of the development (including filling) on flood behaviour of the site and adjacent lands; and address adequate egress and safety in a flood event. |
| 6.6 | Assess the potential impacts of an increase in rainfall intensity on the flood regime of the site and adjacent lands with consideration of *Practical Consideration of Climate Change – Floodplain Risk Management Guideline (DECC, October 2007).* |
| *Air Quality* | |
| 6.7 | Address the potential odour impacts from the proposed wastewater treatment plant and mitigation measures proposed with reference to *Assessment and Management of Odour from Stationary Sources in NSW* (DEC, 2006). |
| **7. Water Cycle Management** | |
| 7.1 | Address and outline measures for Integrated Water Cycle Management (including stormwater) based on Water Sensitive Urban Design principles which addresses impacts on the surrounding environment, drainage and water quality controls for the catchment, and erosion and sedimentation controls at construction and operational stages. |
| 7.2 | Assess the impacts of the proposal on surface and groundwater hydrology and quality during both construction and occupation of the site. Provide details on any monitoring and/or mitigation plans to ensure surface water and groundwater are not detrimentally impacted |

| | |
|---|---|
| | upon. |
| 7.3 | Consider the nature and profile of the groundwater regime under the site, including any hydrologic impacts which would affect its depth or water quality, result in increased groundwater discharge, impact on the stability of potential acid sulfate soils in the vicinity, or affect groundwater dependent native vegetation. |
| 7.4 | Consider the requirements of DECCW's *NSW Farm Dams Policy*. |
| **8. Heritage and Archaeology** | |
| 8.1 | Identify whether the site has significance to Aboriginal cultural heritage and identify appropriate measures to preserve any significance. The assessment must address the information and consultation requirements of the draft *Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation* (DEC 2005*)* and *Interim Community Consultation Requirements for Applicants* (DEC 2004). |
| 8.2 | Identify the nature and extent of impacts, if any, on Aboriginal cultural heritage values across the site. |
| 8.3 | Describe any actions that will be taken in order to avoid or mitigate impacts the proposal may have on Aboriginal cultural heritage values. |
| 8.4 | Identify any items of non-indigenous heritage significance and, where relevant, provide measures for the conservation of such items. |
| **9. Flora and Fauna** | |
| 9.1 | Assess the potential direct and indirect impacts of the development on flora and fauna taking into consideration impacts on any threatened species, populations, ecological communities and/or critical habitat and any relevant recovery plan in accordance with DECCW's *Guidelines for Threatened Species Assessment* (2005) and *Threatened Species Assessment – Guideline for Development and Activities*. |
| 9.2 | Assess any potential direct or indirect impacts of the development on any wetland areas within or surrounding the site. Particular consideration should be given to SEPP 14 wetland no. 57. |
| 9.3 | Assess any potential direct or indirect impacts of the development on any Endangered Ecological Communities within or surrounding the site. |
| 9.4 | Describe any actions that will be taken in order to avoid or mitigate impacts the proposal may have on any threatened species. |
| 9.5 | Given the presence of core koala habitat across the site, a comprehensive Koala Plan of Management is to be prepared. |
| 9.6 | Outline measures for the conservation of existing wildlife corridor values and/or connective importance of any vegetation on the subject land. |
| 9.7 | Address measures to protect and manage the riparian corridor both within and adjacent to the site. Any proposed works within riparian areas should be outlined in the EA. |
| 9.8 | The proposed car parking area to the south of the site is in close proximity to the Billinudgel Swamp Nature Reserve. Indicate what measures will be undertaken to prevent weed infestation and toxic runoff into the reserve. An appropriate buffering distance should be identified between the Reserve and proposed southern car parking area. |
| 9.9 | Outline measures to protect and manage proposed habitat areas and managed parklands. |
| 9.10 | Provide details on any proposed offset measures to compensate for the loss of biodiversity and/or clearing of native vegetation. Offsets should be consistent with DECCW's *Principles for the use of Biodiversity Offsets in NSW*. |
| **10. Socio-economic Impacts** | |
| 10.1 | Provide a social impact assessment for the development. Address the social and economic context of the development in terms of infrastructure requirements, public transport, community services and facilities (such as medical services). |
| **11. Off-Site Impacts** | |
| 11.1 | The concept plan area is located adjacent to the Billinudgel Nature Reserve. Address any direct and/or indirect impacts of the project where it adjoins this land. |
| 11.2 | Address any direct and/or indirect impacts the proposal may have on the surrounding and nearby residential and rural residences (eg: traffic and access, noise levels, anti-social behaviour, amenity issues etc.). |
| **12. Planning Agreements and/or Developer Contributions** | |
| 12.1 | Address and provide details on the likely scope of any planning agreement and/or developer contributions with Council and/or any Government agencies. |

| **Key Issues for the Project Application** |
|---|
| The EA must address the following key issues: |
| **13. Compliance with the requirements for the Concept Plan** |
| 13.1 The EA must demonstrate consistency with all DGRs detailed in Part A. |
| **14. Site Layout, Access and Car Parking** |
| 14.1 Provide a description and details on the layout of the site, including the size, scale and location of all uses proposed under Stages 1 and 2.<br>14.2 Provide details on access to the site from Tweed Valley Way, the internal road and pathway network, and car parking provisions taking into consideration the potential ecological and archaeological significance of Marshalls Ridge.<br>14.3 Provide details on any proposed connections between the site and Wooyung Road. |
| **15. Infrastructure Provision** |
| 15.1 Provide details of wastewater and water treatment facilities, including capacity, types of systems, and management of odours.<br>15.2 Address and provide the likely scope of any planning agreements and/ or development contributions with Council/ Government agencies (including relevant community/state infrastructure contributions). |
| **16. Socio-economic Impacts** |
| 16.1 Address any potential social or economic impacts of the proposal, including measures to reduce identified impacts. |
| **17. Off-Site Impacts** |
| 17.1 Provide details on mitigation measures to minimise noise levels, including traffic noise.<br>17.2 Consider any potential impacts or land use conflicts the proposal may have on agricultural lands both within and adjoining the site. |
| **Consultation** |
| You should undertake an appropriate and justified level of consultation with the following agencies during the preparation of the environmental assessment:<br>(a) *Agencies or other authorities:*<br>• Byron Shire Council;<br>• Department of Environment, Climate Change and Water;<br>• Department of Primary Industries;<br>• NSW Rural Fire Service;<br>• Department of Water and Energy;<br>• Roads and Traffic Authority;<br>• Department of Lands;<br>• State Emergency Service;<br>• Northern Rivers Catchment Management Authority;<br>• Local Aboriginal Land Council/s and other Aboriginal community groups;<br>• Utility and infrastructure providers; and<br>• NSW Police Force.<br>(b) *Public:*<br>Document all community consultation undertaken to date or discuss the proposed strategy for undertaking community consultation. This should include any contingencies for addressing any issues arising from the community consultation and an effective communications strategy.<br>The consultation process and the issues raised should be described in the Environmental Assessment. |
| **Deemed Refusal Period** |
| 120 days |

# APPENDIX E SUMMARY OF PUBLIC SUBMISSIONS

**Concept Plan and Project Approval for Stages 1 and 2**

Total Number of Submissions: 5,540

**Key Issues Raised in Support of the Proposal (4,821 in Support)**

| **Tourism and the Economy** |
|---|
| • Cultural events will provide an economic boost for a variety of business operators across a number of industries within the Byron shire and wider Northern Rivers region.<br>• Events proposed for the site will promote tourism which is a major contributor the regional economy.<br>• Cultural events will attract tourists from throughout the state, interstate and overseas.<br>• The proposal provides employment opportunities for those living in the shire, particularly the younger demographic.<br>• The winter months are often a quiet period for tourism and hospitality industries within the Byron shire and Northern Rivers region. Proposed events during this time of the year will provide a significant economic benefit to these industries. |
| **Ecology** |
| • The proponent has taken a proactive approach to managing the site's ecological significance, evident through the environmental studies and surveys that have been undertaken.<br>• The proposed Vegetation Management Plan will provide for the planting of native tree species, increasing habitat area and providing an overall environmental benefit to the site.<br>• The proposal will improve existing wildlife corridors and fragmented forest blocks through environmental repair works and the creation of managed parklands.<br>• The proponent has already dedicated large parcels of land to National Parks and Wildlife to assist in consolidation of fragmented forested areas and wildlife corridors.<br>• The proposal incorporates a range of environmental initiatives and promotes environmentally sustainable development. |
| **Culture and Entertainment** |
| • Byron shire is known for its contribution to the arts and culture. The proposal will provide a sustainable outdoor events venue, adding to the shire's reputation as a centre for the arts, culture and entertainment.<br>• The proposal provides opportunities for local artists and musicians within the arts and music industries to showcase their skills. |
| **Social** |
| • Cultural events promote a sense of community.<br>• The proposal provides for youth initiatives to become involved in music and the arts. |

**Key Issues Raised in Objection to the Proposal (719 Objections)**

| **Size and Scale of Events** |
|---|
| • The total number of patrons proposed (up to 50,000) is excessive.<br>• The total number of events annually (up to 4 major events with 100% capacity) is excessive given the lack of infrastructure and the surrounding rural-residential setting.<br>• There is already an appropriate events site at Tyagarah which could be used.<br>• The proposal is in breach of Council's Events Policy which allows for only two major events per year. |
| **Impacts on Biodiversity** |
| • The site is located within an existing wildlife corridor (Marshalls Ridge), which provides a vital link between the Billinudgel Nature Reserve and the Mt Warning caldera. This |

corridor should be preserved in its current state.

- Fauna species within the Billinudgel Nature Reserve will be subjected to consistenet noise and lighting.
- Up to 50 threatened fauna species known to inhabit the Billinudgel Nature Reserve will be detrimentally impacted on.
- Koala populations, habitat and food sources will be diminished.
- Breeding cycles of certain fauna species will detrimentally be impacted upon.
- Construction of the Spine Road will see the removal of high conservation habitat utilised by a variety of fauna species.
- A number of Endangered Ecological Communities are located on the site.
- The effluent irrigation area is located in close proximity to SEPP 14 Wetlands.
- Pollutants from the southern car parking are will potentially be washed into SEPP 14 Wetland areas.

**Social Impacts**

- The proposal will destroy the tranquil way of life experienced in the north of Byron shire, and particularly on nearby towns such as Ocean Shires, South Golden Beach and Brunswick Heads. The proposed events are not conducive to the cultural and social fabric of the area.
- The proposal is not in keeping with surrounding coastal communities and rural amenity and will be a permanent visual impact on Jones Road residents.
- Unacceptable noise levels (event and traffic noise) will be experienced by those residents in close proximity to the site.
- Holiday letting and all night partying will be a problem throughout the shire when events are being held.
- Music festivals are known for their drug taking culture.
- Alcohol related crime and violence will be experienced throughout the shire.

**Traffic and Access**

- Unacceptable levels of traffic will be generated on the Pacific Highway and on Tweed Valley Way.
- The Yelgun interchange was not designed to handle large volumes of traffic.
- What will happen to those people living in close proximity to the site that need to access emergency services immediately if traffic is banked up along Tweed Valley Way?

**Flooding and Bushfire Constraints**

- The camping and car parking areas are located on flood prone land.
- The existing flood regime will be intensified as a result of climate change.
- The site is known to be bushfire prone, with peat fires having burned on the site in the past.
- Increased risk of fire given the number of people located on the edge of a nature reserve.

**Impacts on Infrastructure and Services**

- Byron Shire does not have the amenities to cope with an influx of up to 50,000 people.
- The road network surrounding the site cannot cater for the number of cars expected during major events.
- Emergency health services will be heavily relied upon during large scale events.

**Other Issues**

- The proposal was determined to be invalid following a Land and Environment Court challenge for a proposed trial event at the site.
- A Commission of Inquiry was called in relation to rezoning of the Jones Road wildlife corridor.
- The proposal to excavate a tunnel through the Jones Road ridgeline will impact on areas of high archaeological sensitivity.
- The proposal will impact on regionally significant archaeological sites.
- South Golden Beach is a dangerous, unpatrolled beach only 1km from the site.

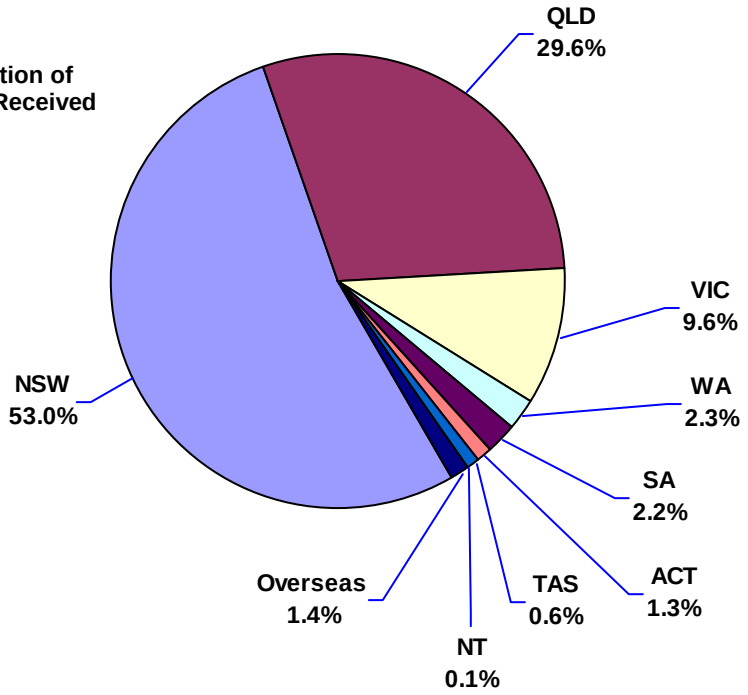
## Public Submissions Analysis

An analysis of the public submissions received during the exhibition period indicates that the submissions were not limited to those living in the local area. Whilst a large number of submissions were received from the Byron and northern rivers region – nearly 20% of total submissions – the remaining submissions were received from throughout the state, interstate and overseas. It is noted, however, that a large proportion of the submissions (particularly those in support of the project) were pro-forma letters of support.

**Figure 1** below identifies the states from which submissions were received. Whilst the department received a total of 5,540 submissions, 111 of these did not provide a residential or business address and have not been included in the analysis.

The analysis shows that more than half of the submissions received came from New South Wales – 53%, with Queensland contributing 29.6%. The remaining states combined contributed a total of 16% of the total sample. Submissions from overseas accounted for 1.4%.

**Figure 1: Location of Submissions Received**



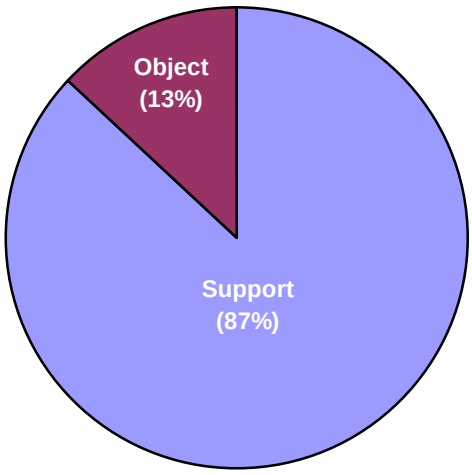

**Total Submissions**

**NSW: 2,916**
**QLD: 1,627**
**VIC: 527**
**WA: 125**
**SA: 120**
**ACT: 73**
**TAS: 34**
**NT: 7**
**Overseas: 75**

**Total: 5,429**

**Figure 2** below identifies the total submissions received with 87% in support and 13% in objection to the proposal.

**Figure 2: Total Submissions Received**



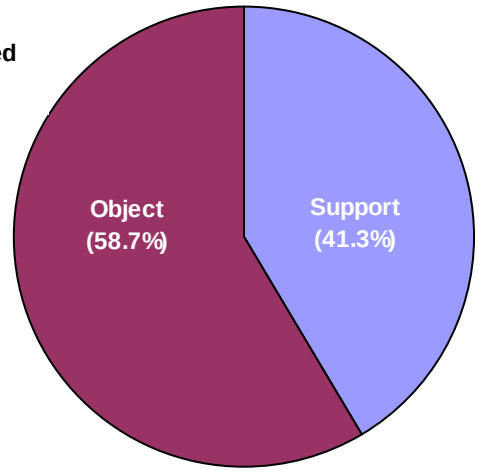

**Total Submissions**

**Support: 4,821**
**Object: 719**

**Total: 5,540**

**Figure 3** below identifies the total submissions received within the Byron Shire. A total of 1,040 submissions (18.9% of the total sample) identified a residential or business address from within the shire. Of these, 58.7% objected to the proposal and 41.3% were in support.

**Figure 3: Total Submissions Received from the Byron Shire**




**Total Submissions – Byron Shire**

**Object: 610**

**Support: 430**

**Total: 1,040**

# APPENDIX F DISCLOSURE OF CONTACTS WITH REGISTERED LOBBYISTS

| Date | Registered Lobbyist | Who the Registered Lobbyist represented | Subject Matter | Outcome | Method<br>Meeting, phone call, etc. |
|---|---|---|---|---|---|
| **28 October 2010** | Sean Macken<br><br>Hawker Britton Group Pty Ltd | Billinudgel Property Pty Ltd<br><br>(the proponent) | Introduction of the proposal to the then Minister for Planning; and query on the likely project determination timeframe. | The Department provided advice on timeframes. | Meeting at the office of the then Minister for Planning. |
| **28 June 2011** | Sean Macken<br><br>Hawker Britton Group Pty Ltd | Billinudgel Property Pty Ltd<br><br>(the proponent) | Update on the timing of project determination and query if the assessment would be determined by the Minister or the Planning Assessment Commission. | Advised that the Department is working towards completing the Environmental Assessment report in a few weeks and that the project will likely go to the Planning Assessment Commission for determination. | Meeting at the Department of Planning and Infrastructure – Bridge St office. |
| **23 August 2011** | Sean Macken<br><br>Hawker Britton Group Pty Ltd | Billinudgel Property Pty Ltd<br><br>(the proponent) | Discussion regarding determination timeframe. | Advised that the Department will be in a position to make a recommendation to the Planning Assessment Commission in the next couple of weeks. | Phone call taken by Chris Wilson – Executive Director, Major Projects Assessment. |
| **25 August 2011** | Sean Macken<br><br>Hawker Britton Group Pty Ltd | Billinudgel Property Pty Ltd<br><br>(the proponent) | Discussion regarding a letter received from Queensland Premier Anna Bligh. | Letter to be forwarded to Chris Wilson – Executive Director, Major Projects Assessment. | Phone call taken by Chris Wilson – Executive Director, Major Projects Assessment. |
| **23 September 2011** | Sean Macken<br><br>Hawker Britton Group Pty Ltd | Billinudgel Property Pty Ltd<br><br>(the proponent) | Outstanding issues associated with the project – primarily flood-related concerns and proposed size and frequency of events. | Advised that the Department is working with an independent consultant in assessing flood-related issues. The Department to consult with NSW Police regarding the proposed size and frequency of events. | Meeting at the Department of Planning and Infrastructure – Bridge St office. |

| | | | | | |
|---|---|---|---|---|---|
| **28 November 2011** | Sean Macken<br><br>Hawker Britton Group Pty Ltd | Billinudgel Property Pty Ltd<br><br>(the proponent) | Status of the application. | Advised that the recommendation to the Planning Assessment Commission would be made this week. | Phone call taken by Chris Wilson – Executive Director, Major Projects Assessment. |

# APPENDIX G INSTRUMENT OF APPROVAL – CONCEPT PLAN

# APPENDIX H INSTRUMENT OF APPROVAL – STAGES 1 AND 2 PROJECT APPLICATION

# APPENDIX I PLANS – CONCEPT PLAN

# APPENDIX J PLANS – STAGES 1 AND 2 PROJECT APPLICATION