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14th October 2012

Dear Dr Caryl Bosman,

Inspired Creative Sustainable Minds (*ICSM*) takes pride in presenting you with a Development Assessment (DA) Report, ready for submission to the Gold Coast City Council. The report outlines the proposal of the Ecoji Centre, the subject of our ongoing consultations.

Please find attached the DA Report, which is informed by the findings of a scoping and feasibility study, the feedback from a design folio as well as the outcomes from various meetings with Ecoji and representatives of the Gold Coast City Council. It proposes ways of achieving the desired objectives and outcomes whilst meeting applicable legislative requirements.

ICSM prides itself on creating positive community legacies, takes pride in its long history of successful sustainable projects and strives to maintain long lasting industry relationships. *ICSM* is confident of fast development approval times and looks forward to future discussions with Ecoji during the approval process.

ICSM welcomes your openness, your queries and your comments and invites you to contact the *ICSM* team members at any time.

Yours Sincerely,

Jessica Strickland
Project Manager

Brendan Barnes
Senior Marketing Consultant

Louis-Marie Pont
Environmental Planner

Liam Martin
Urban Designer

Enclosure

DA Report

Proposal:
The Ecoji Centre

Commissioned by:
Ecoji

Site:
Lots 1-20 on RP80238,
Brisbane Road, Biggera Waters

Date:
15th October 2012

Authors:
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1.0 Executive Summary

This report seeks development approval from the Gold Coast City Council for the proposed *Ecoji Centre*, a sustainable community precinct located on lots 1-20 of RP80238 on Brisbane Road in Biggera Waters. It provides a comprehensive project outline, a detailed description of the proposal for the site, an in-depth regional and site analysis and details of compliancy with legislative requirements using the Integrated Development Assessment System (IDAS).

The project outline details the gradual development of the proposal to date, including the stages that have been undertaken thus far. It provides insight into *Ecoji's* vision for the site, which is to create a benchmark development that is environmentally, socially and economically sustainable, that guides future projects and that gains recognition as a world-class development. Furthermore, the project outline recognises issue with previous versions of the design and demonstrates how resolutions have been applied to the proposal. The project outline also details feedback and alterations that have occurred throughout the design process, based on ongoing consultations with *Ecoji* and representatives of the Gold Coast City Council.

The proposal of the site is clearly described within this report and the development includes group cabins, paddle ponds, a sports court, a skate park, a community garden, extensive open green space and an iconic sustainable building containing a restaurant, childcare centre, learning centre and parking. The proposed development seeks to increase environmental awareness, strengthen community ties, encourage alternative transport and integrate all levels of youth through the various recreational services and facilities provided. Aspects of the proposal such as land use, buildings, parking provision, access, circulation, waste and water management, open space and landscaping are outlined in detail.

A regional and site analysis provides in-depth information pertaining to influential factors of the site and its surrounds. It examines the existing site context in terms of location and land uses and provides an analysis of the strengths, weaknesses, opportunities and threats of the site. Additionally this report seeks to identify existing features within the region including the types of terrain, soils, site aspect, solar access, existing biodiversity, flooding potential, air and noise pollution, access, circulation and the predominate microclimate. Key findings include the presence of acid sulphate soils, the site being located in a potential flood area, the site having desirable

solar access, the presence of air and noise pollution due to the proximity to Brisbane Road and the potential for increasing and bettering accessibility by improving footpaths in the region.

To ensure the development of the *Ecoji Centre* receives timely approval, specific legislative requirements are outlined and addressed in detail within this report. For each requirement, a detailed description of the proposal's compliance is provided. In instances where the proposed development does not comply, an acceptable alternative solution and *Ecoji's* reasons for non-compliance are provided. In each case where non-compliance occurs, it is due to the fact that *Ecoji* is seeking to create a community precinct that encourages sustainability, builds social capital within the community, promotes education, improves the aesthetics of the area and improves the quality of life in Biggera Waters and surrounding suburbs. *ICSM* is confident that the proposed alternative solutions will be acceptable and provide more desirable outcomes than could otherwise be achieved with full compliance.

Overall this report details the benefits of such a development in this area, outlining how these benefits will be achieved. It provides acceptable design solutions to potential issues addressed throughout the creation of the proposal. It addresses the legislative requirements and shows how the *Ecoji Centre* supports the intent, objectives and outcomes of the planning legislation.

2.0 Introduction

Ecoji has proposed the development of a community precinct on lots 1-20 of RP80238 on Brisbane Road in Biggera Waters. The proposal comprises of group cabin accommodation facilities, recreational facilities, a childcare centre, a restaurant, a water play area, a community garden and a learning centre. The development makes use of innovative technologies in sustainable design and encompasses principles of urban ecology to deliver a community oriented development suitable within the context of Biggera Waters. This report will inform of the project outline and projects background including the progression of the proposal to date and planned development stages. The proposal for the site will be detailed and a regional and site analysis will be undertaken to show the suitability of the proposal within the context of Biggera Waters. Furthermore, relevant Integrated Development Assessment System (IDAS) requirements will be identified and measures for compliance within the proposal will be outlined.

3.0 Project Outline

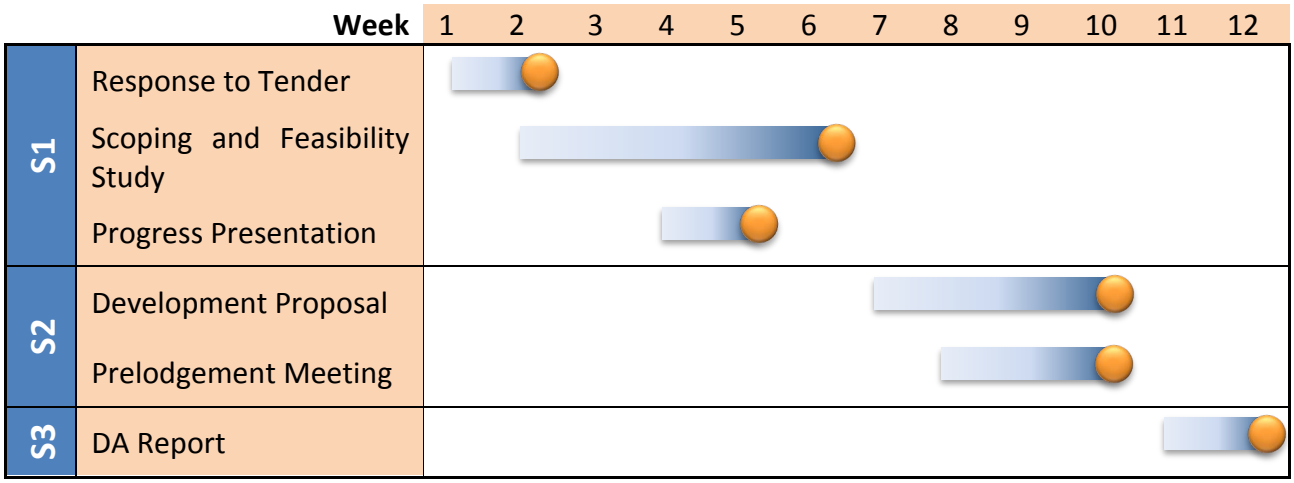
3.1 *Ecoji* Project Vision

Ecoji is a well-known and established property development company with years of experience locally, nationally and internationally through large-scale developments. *Ecoji* has a respected name in the property market with an extensive portfolio of buildings and designs, including the Christie Walk in Adelaide and the Singapore Gardens Precinct. Now *Ecoji* wishes to create a green name for themselves through the utilising principles of Ecologically sustainable Design (ESD), Urban Ecology and Transit-Oriented Design (TOD). For the Biggera Waters site, *Ecoji* envisioned a benchmark development that is environmentally, socially and economically sustainable, that guides future projects and that gains recognition as a world-class development.

3.2 Project History

The project to date has stretched over a ten-week period and has encompassed various stages, which are outlined in figure 3.2.1. Upon the submission of a tender to *Ecoji*, Inspired Creative Sustainable Minds (*ICSM*) won the rights to create a proposal for the development of *Ecoji*'s site on Brisbane Road, in Biggera Waters. *ICSM* are a planning consultancy that aims to improve the 'green' qualities of already highly established companies, locally, nationally and internationally. *ICSM* has previously conducted a scoping and feasibility study to determine suitable development options for *Ecoji*. Based on the feedback from *Ecoji* and community consultations, a masterplan was developed for the proposal that was deemed to be most appropriate for the site. Furthermore, *ICSM* has been commissioned to produce a Development Assessment (DA) report on the Biggera Waters site for submission to council. Various presentations and meetings with *Ecoji* and council representatives allowed for feedback and adjustments to the design.

Figure 3.2.1: Timeline of the project to date.



The outcome of the various project stages thus far is the proposal of the *Ecoji Centre*, a community precinct leading in environmental design. Aspects of the design were revised based on feedback from *Ecoji*, the community and council representatives across various stages of the design process. These stages and the associated feedback and adjustments are outlined in table 3.2.1.This community precinct aims to improve the quality of life of all individuals while promoting green initiatives to the public at all age levels. This development will be open to the public is aimed at all age groups. In addition, recommendations for ownership and management recommendations have been made to ensure this is a financially viable development for *Ecoji*.

Table 3.2.1: Proposal development stages and feedback

Project Stage	*Description*	*Feedback*
Tender Submission	- A project outline, description and methodologies - Project objectives and outcomes - A timeline - Project team summary, qualifications and consultancy fees	The design proposal was deemed appropriate for the site and *Ecoji* declared *ICSM* the tender winner.
Scoping and Feasibility Report	A scoping and feasibility report included: - An in depth project outline - A literature review - A contextual, site and SWOT analysis - Legislative frameworks and requirements - A statement of proposal - The development funding	- Childcare centre and restaurant have now been moved inside community centre, to decrease the building footprints of the community infrastructure. - More community outdoor areas needed.
Scoping and Feasibility Presentation	A presentation covered: - Funding - A SWOT analysis - Legislative frameworks - Other key findings from the scoping and feasibility study.	- Potential effects on surrounding businesses (childcare and community centres) - The current need for childcare centres in the region - Development funding
Masterplan Design	A masterplan design including Sustainable Design Principles, and meeting applicable legislative requirements was developed: including conceptual plans and architectural drawings.	- Inclusion of skate park and paddle ponds. - Six two-storey cabins instead of five single storey cabins. - Shade sales over paddle ponds and community outdoor areas.
Pre-lodgement Presentation	A presentation provided details of water and waste management, transportation and accessibility and aesthetic qualities to *Ecoji* and Gold Coast City Council representatives.	Design complications include: easement and building placement, footpaths, accessibility, septic and waste management, the number of car spaces and site setbacks.

3.3 Issue Resolution

Below table 3.3.1 lists all design issues that have been brought to the attention of *ICSM* through *Ecoji* and representatives from the Gold Coast City Council over the process of constructing the design proposal. It clearly identifies each issue coupled with both the consequences of leaving the issue unchanged and the resolution that *ICSM* has provided.

Table 3.3.1: Design issues identified, potential consequences and resolutions.

Issues	*Consequences*	*Resolution*
Easement	Original designs included skate park and recreational facilities located on the easement. This would result in issues for the GCCC should they require access to underground infrastructure. Consequently *Ecoji* would incur the costs of demolition of structures built over the easement.	All facilities have now been setback from the easement to abide by legislative requirements and to improve accessibility for council.
Footpaths/ Accessibility	Original designs did not include a footpath parallel to Brisbane road, but rather included a footpath through the site to promote use. Consequences included limited pedestrian accessibility to Brisbane Road.	A footpath has been added parallel to Brisbane Road to ensure increased accessibility and to meet legislative requirements.
Flooding	Original designs included measures for avoiding flood damage to building 1 (the learning centre building) but not other structures on site.	This has been resolved through engineering, elevating the site under structures and encouraging evapotranspiration through extensive site vegetation.
Car parking	Original designs included minimal car parking to encourage alternative transport. Consequences of this include traffic and accessibility being hindered as well as legislative issues.	This has been resolved by increasing the parking onsite to abide by legislative requirements and to improve accessibility.

3.4 Project Stages

The project stages outline the proposed order of procedures from decommission of current dwellings to the completed construction of the *Ecoji Centre*. The four stages will pan out over a total of 90 weeks and are detailed in figure 3.4.1.

Figure 3.4.1: Project development stages

Stage 1 Early Works: weeks 1-15

- Public involvement and consultations.
- Early works include: Decomission of current dwellings and businesses, followed by demolition and waste management.

Stage 2 Construction phase 1: weeks 16- 80

- Construction phase 1: Construction and completion of community centre, restaurant, childcare centre and the paddleponds. Competion of all appropriate landscaping and carparking .
- Public involvement and consultations.

Stage 3 Construction phase 2: weeks 60-80

- Construction phase 2: Construction and completion of the sports recreation facilities including all outdoor rectreation areas (Skate park, multi use sport court). All appropriate footpaths, Landscaping, carparking and driveways.
- Public involvement and consultations.

Stage 4 Construction phase 3: weeks 75-90

- Construction phase 3: Construction and completion of the school campin cabins, and all appropriate landscaping, footpaths and car parking.
- Public involvement and consultations.

4.0 Proposal for the Site

Careful consideration and a rigorous design process lead to the development of a proposal for the Biggera Waters site, the design of which can be seen in figure 4.1 and figure 4.2. The following sections pertain to the various features of the proposal.

4.1 Land Uses

The development incorporates mixed land uses to meet a range of underlying community needs identified in a scoping and feasibility study (Strickland et al. 2012). The land use types represented on the site are community purpose, commercial and public open space. These features onsite include community infrastructure, private businesses, short-term accommodation facilities and green open space. This mixture of land uses will benefit the community of Biggera Waters and will ensure the long term sustainability of the development (Strickland et al. 2012).

4.2 Buildings

The proposal includes eight buildings on the site, the first is the *Ecoji Centre*, the second is a clubhouse and restrooms for the onsite recreational facilities and the other six are accommodation cabins for group camping experiences. The site coverage is 1,410 square metres of the total 9,858 square metre site and the building materials and designs vary.

A scoping and feasibility study (Strickland et al. 2012) recognised the importance or incorporating significant design principles into the development, including Crime Prevention through Environmental Design (CPTED), Urban Ecology and Ecologically Sustainable Design (ESD) principles.

CPTED describes ways of orienting and constructing the built environment to encourage safety and limit crime in communities (Jeffery 1971). Lighting, visibility, building orientation, vegetation and other aspects of the environment have been carefully considered within the proposed development based on Jeffery's (1971) CPTED principles.

There is extensive literature that outlines what ecological sustainability is and the principles that guide it (Faiden 2011). In creating the design of the *Ecoji Centre*, *ICSM* had considered the Australian National Strategy for Ecologically Sustainable Development, as it seeks to guide Australian developments towards achieving specific long-term goals (Ecologically Sustainable Development Steering Committee 1992).

Urban Ecology is the understanding that the world, the built environment and human society is living and is reliant upon one another (Downton 2009). The concept of urban ecology can be described as 'a means of reconciling the natural and artificial in a systematic way that seeks connectivity between diverse areas of knowledge and ways of comprehending the world' (Downton 2009, p. 49). Urban Ecology principles have been important components of the proposed design of the *Ecoji Centre*.

Building 1: The Ecoji Centre

The *Ecoji Centre* is a three storey green building of architectural merit and encompasses the desired attributes outlined by the client, *Ecoji*, in the early stages of the idea generation process (figure 4.2.1). *Ecoji*'s envisioned a benchmark development that is environmentally, socially and economically sustainable, that guides future projects and that gains recognition internationally as a world-class urban development.

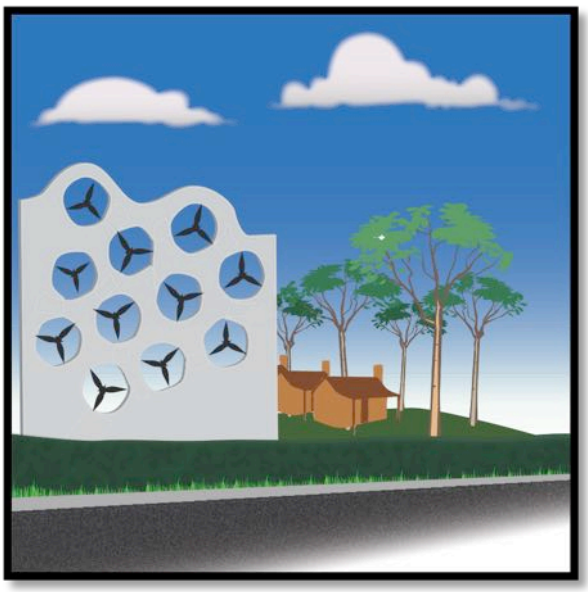
Figure 4.2.1: Conceptual drawing of the Ecoji Centre.

(Source: Strickland 2012)

The building footprint covers a total of 990 square metres but, due to the sloped nature of the roof, the useable space of each level is progressively smaller than the one below it. The first storey consists of a car park with access from Loder Street, which contains 25 car spaces and has a useable floor area of 820 square metres. The second storey has a total useable floor area of 575 square metres and contains a restaurant on the eastern end, which has an internal floor area of 70 square metres and an outdoor dining area of 60 square metres. Also on the second floor, at the western side of the building is a childcare centre, with internal access both directly from the car park below as well as via the main centre entrance. The childcare centre has a floor area of 505 square metres and will cater for 40 children. The third storey of the building is the learning centre and has a total useable floor area of 340 square metres. It will contain computers and learning hubs for community use.

Building 1 has been oriented and located on site to best utilize the ocean breezes and solar access. Care was also taken to avoid overshadowing and the creation of unpleasant microclimates. As building 1 is located near Brisbane road and has many windows to take in the natural surroundings, double glazed windows are used. This will mitigate noise pollution from Brisbane Road and will contribute to insulating the building. Building 3 will be powered mostly by the windwall of turbines (figure 4.2.2).

Figure 4.2.2: Conceptual drawing of the windwall for generating electricity.



(Source: Strickland 2012)

Building 2: Clubhouse

Building 2 is a one storey building made from salvaged building materials from local sources. It is powered mostly by the wind wall, a tall structure with numerous windmills utilizing the ocean breezes. Building 2 has dimensions of 16.5 metres by eight metres, giving it a floor area of 132 square metres). It contains a small canteen that is capable of serving basic foods for sporting events and a clubhouse, which stores a small amount of equipment. The restrooms will provide shower and toilet facilities to players, supporters and general passers-by.

Buildings 3-8: Cabins

The six cabins are each eight metres by six metres in dimension and cater for ten individuals in a camping setting. They are each two storey and have a total floor area of 576 square metres. They have a total building footprint area of 288 square metres. They are constructed from basic recycled materials obtained from sustainable local sources including rescued timber and corrugated iron. They are designed in a way that suits the context of the surrounding bush and from materials that are cheap and durable to minimise maintenance costs and repair costs in the instance of a flood. They will be powered by the solar panels on the roof of each building

4.3 Parking Provision

Regulations stipulate that parking must be provided for the childcare centre, the restaurant and the community infrastructure on the site, such as the learning centre, the paddle ponds and the sporting facilities. The first level of building 1 provides 30 parking spaces with access from Loder Street. Requirements state that nine spaces are to be provided for the restaurant (6.7 spaces per 100 square metres and one per 15 square metres over) and 12 spaces be provided for the childcare centre (one per staff member and one per five children). However, the times of use of the parks for the child care centre will be in the morning and afternoon and the restaurant parks will be used mainly at midday and the evening. The different times of use mean that 15 parks will be provided for the child care centre and the restaurant, so that there is sufficient space for staff to park all day and guests to park during times of use. The remaining 15 spaces are provided for the community facilities on site (regulations state community infrastructure parking requirements are decided by council upon application). A large fraction of the people using the learning centre will be groups of children, likely travelling by bus, which will utilise the drop off point at the northernmost part of the site and will not need extensive parking. As the cabins will be used by school children and other groups coming in busses and group transport, a set down and pick up point is provided but no parking is designated.

The car park is designed in a way to mitigate queuing problems and to increase safety. The furthest end of the car park (away from the road and parking entrance but closest to the internal access point) has spaces allocated for the childcare centre, minimising the risk of an accident occurring to a child. Additionally

To keep with the message of sustainability this development aims to promote, alternative transport methods are encouraged through the design. For example, a large, aesthetic waiting area with seating and public art is provided adjacent to the bus stop to encourage bus use. Additionally, the development seeks to link up and beautify the footpath to encourage pedestrian and bicycle travel. These measures will likely be effective in decreasing the reliance on personal vehicles and therefore will minimise the number of parks required on site. In the event of overflow, surrounding streets have extensive on street parking spaces.

4.4 Access and Circulation

To encourage active use of the development, ease of accessibility onto and within the site was carefully considered. To encourage alternative methods of transport and to cater for pedestrians, cyclists and skaters a well linked and extensive network of paths were incorporated into the design (Figure 4.1). To ensure active use of these networks by cyclists, bicycle racks are provided on site.

Although vehicular transport is not encouraged by this development, parking and vehicular access has been provided for patrons, as per regulations. As outlined previously, the first lever of building 1 contains 25 car spaces for the various enterprises on site. Vehicular access to the site is from Loder Street, as this eliminates potential negative impacts on accessibility caused by congestion from Brisbane Road. A sufficient queuing area has also been provided as part of a driveway that leads on and off site.

Access to within building 1 for car users occurs internally from the ground floor, however, access for pedestrians, cyclists and bus goers occurs from the main site entrance, located on the south-eastern side of the building. To improve accessibility onto the site a shuttle bus is provided to link the development with surrounding transport nodes such as Helensvale Station. The drop off point is located at the easternmost point of the site, near the driveway (figure 4.2).

To ensure the site is accessible by all, paths and buildings are wheelchair accessible. The cabins, however, contain stairs and therefore disabled occupants would be required to stay on the first level. Additionally, the slope of the roof of building 1 means that the path to the community gardens has stairs, limiting wheelchair access.

4.5 Waste Management

4.5.1 Waste Mitigation

Waste production is an unavoidable part of any construction process, however, it is how waste is managed that is crucial in development. Waste has the potential to harm many ecological functions and services including biodiversity, water quality, social value and human health. However, if managed correctly, waste can be reused and has the potential to utilised in development, making it a resource. This section touches on the management of waste through the total lifespan of the *Ecoji Centre*, from early construction to the finished and working product. This section also covers legislative requirements, both commonwealth and state specific. At *ICSM* the assurance of *Ecoji*'s environmental integrity is a high priority; therefore the subject of waste is a very important matter.

ICSM considers the following values to be fundamental in any development and endeavour:

- The life, health and wellbeing of local and regional residents; and
- The diversity of ecological processes and ecosystems.

ICSM has well-considered environmental objectives aimed at managing generation of waste from construction to operation including:

- Minimising the waste generated throughout the lifespan of the project and maximising the reuse and recycling of all waste wherever possible; and
- Storing, handling, transporting and disposing of waste in the most environmentally friendly manner possible, which does not cause adverse harm to the local region and ecosystems.

To ensure the mitigation of waste through the construction process there are many legislative requirements that must be adhered to, at local, state and commonwealth levels. Legislative measures have been put in place to ensure the ongoing conservation of the environment wherever possible. As waste is an imposing factor, these legislative requirements are of utmost importance to *ICSM* in guaranteeing environmental conservation and promoting the environmental integrity of *Ecoji* as a leader in sustainable design. The applicable state and commonwealth legislative requirements are outlined below.

Commonwealth Frameworks

- National Waste Policy: Less Waste, More Resources (EPHC, 2009)
- National Environment Protection Measures (Implementation) Act 1998
- The National Environment Protection (National Pollution Inventory) Measure (NPI)

The commonwealth frameworks above have many aims and objectives base on ensuring the conservation of the environment is managed through the proper management of waste.

State Frameworks

- Environmental Protection Act 1994.

This aims to protect Queensland's environment through mitigating waste, whilst also providing the ability for development and construction that improves quality of life and maintains the ecological processes on which life depends.

4.5.2 Waste Management Outcomes

Mitigating waste is a high priority for *ICSM* not only to ensure the environmental integrity of *Ecoji* but also to meet legislative requirements and preserve the native environment of surrounding areas. *ICSM* aims to mitigate all waste management issues through a series of measures. Although total waste production cannot be eradicated, measures can be put in place to ensure the proper storage and transportation of waste through the construction and operation phases of the development. *ICSM* waste management methods include are outlined in more detail below.

Construction Waste Management

Measures include:

- Ensuring the correct amount of materials is obtained to ensure no excess waste is produced from over ordering;
- Ensuring all materials are cut and sized off site to ensure no waste is generated from offcuts onsite; and
- Ensuring materials will be sourced from local business and recycled and reused wherever possible.

Operational Waste Management

Measures include:

- The allocation and use of energy efficient equipment wherever possible;
- Utilising proper waste storage methods to ensure excess waste collection on site is minimised; and
- Providing recycling facilities and proper waste management disposal systems are readily and easily available at all times.

4.6 Water Management

The management of water is a crucial part of any construction process, similar to that of waste. Water management can refer to a number of areas from rainfall to potable drinking water, and how each of these areas are either mitigated or utilised. Improper water management can cause long-term harm to any development, especially if drainage and topographical issues are not addressed. There are also many legislative requirements in terms of mitigating water issues, including local, commonwealth and state requirements. This section outlines briefly some of the current water management issues on site.

The site being in a low lying region means it is quite susceptible to flooding, and therefore improvements to drainage need to be considered. *ICSM* has identified several issues to be addressed in order to mitigate water issues on site including:

- Minimising the impact of flooding onsite through the construction and operational phases of development by reusing water wherever possible, and improving onsite drainage and topography; and
- Storing water as economically as possible, to reduce environmental harm due to overuse.

ICSM recognises that water management is integral in the operation of the *Ecoji Centre* so the following features have been adopted within the development to mitigate flooding and to ensure that water is reused on site wherever possible:

- Grey water tanks;
- Water catchment;
- Paddle Ponds;
- Extensive vegetation on site;
- Engineer approved drainage methods; and
- Green roofs

ICSM recognises the importance of vegetation in alleviating drainage problems, and has included a large amount of vegetation in the development. The extensive vegetation onsite allows for greater evapotranspiration, however this will not eliminate all water management issues onsite. The paddle ponds onsite are used for recreation but can also be used to mitigate flooding and drainage issues. As the pond is directly linked to underground grey water tanks, any excess flooding can be stored and reused for flushing toilets and watering vegetation. Rainwater collection tanks will also be located onsite to service the cabins and the clubhouse. Finally, engineers will be utilised to ensure drainage is sufficient on site in times of flooding to meet legislative requirements.

ICSM regards environmental issues very highly, not only to ensure the safety of the environment, but the local community as well. Through adopting these mitigation measures, *ICSM* aims to minimise the environmental impacts of this development whilst also raising awareness of *Ecoji* as a leader in sustainable design.

4.7 Open Space

The site has a large proportion of open and green spaces as the development proposal has only 14 per cent site coverage. Within the open space there is a sporting court near building 2, the paddle ponds near building 1, the high ropes course near buildings 3-8 and extensive vegetation throughout the site. Within vegetated areas, several types of landscaping and greenspace options have been considered (figure 4.7.1).

Figure 4.7.1: Conceptual drawing of Wattle Place, in the open space on the proposal.

(Source: Strickland 2012)

4.8 Landscaping

Extensive landscaping provides natural amenity, guides the movement of visitors through the site and contributes to minimising air pollution within the development. A number of landscaping types have been included to diversify the surroundings and to suit each feature within the development (figure 4.3). Existing vegetation on the northernmost corner of the site will be preserved and large native Australian trees such as those outlined in table 1 will be planted to create a natural bush setting surrounding buildings 3-8. Additionally, landscaped gardens throughout the development direct movement and contribute to safety by creating barriers between the open space and the road (table 4.8.1). Hardy native species will be used to minimise the need for extensive ongoing maintenance and to ensure their long-term viability.

4.9 Proposal Summary Table

	Building 1	**Building 2**	**Buildings 3-8**	**Total**
Site Coverage	990m^2	132m^2	288m^2	**1,410m^2**
Building Height	3 storeys	1 storey	2 storeys	**Highest: 3 storeys**
Total Floor Area	1,735m^2	132m^2	576m^2	**2,443m^2**
Associated Parking	30 spaces	N/A	Drop off only	**30 spaces**

Table 4.8.1: Plant species suggested for proposed development site.

		
Eucalyptus tereticornis (Queensland blue gum)	Eucalyptus argophloia (Queensland white gum)	Brachychiton rupestris (Queensland bottle tree)
		
Dvelonix regia (Royal poinciana)	Acacia pycnantha (Golden wattle)	Macadamia ternifolia (Dwarf macadamia tree)
		
Ixora coccinea (Jungle geranium)	Rosa noaschnee (White groundcover rose)	Cymbopogon citratus (Lemon grass)
		
Nelumbo nucifera (Aster flowers)	Plumbago auriculata (Cape leadwort)	Various edible crops

(Source: Google Images 2012)

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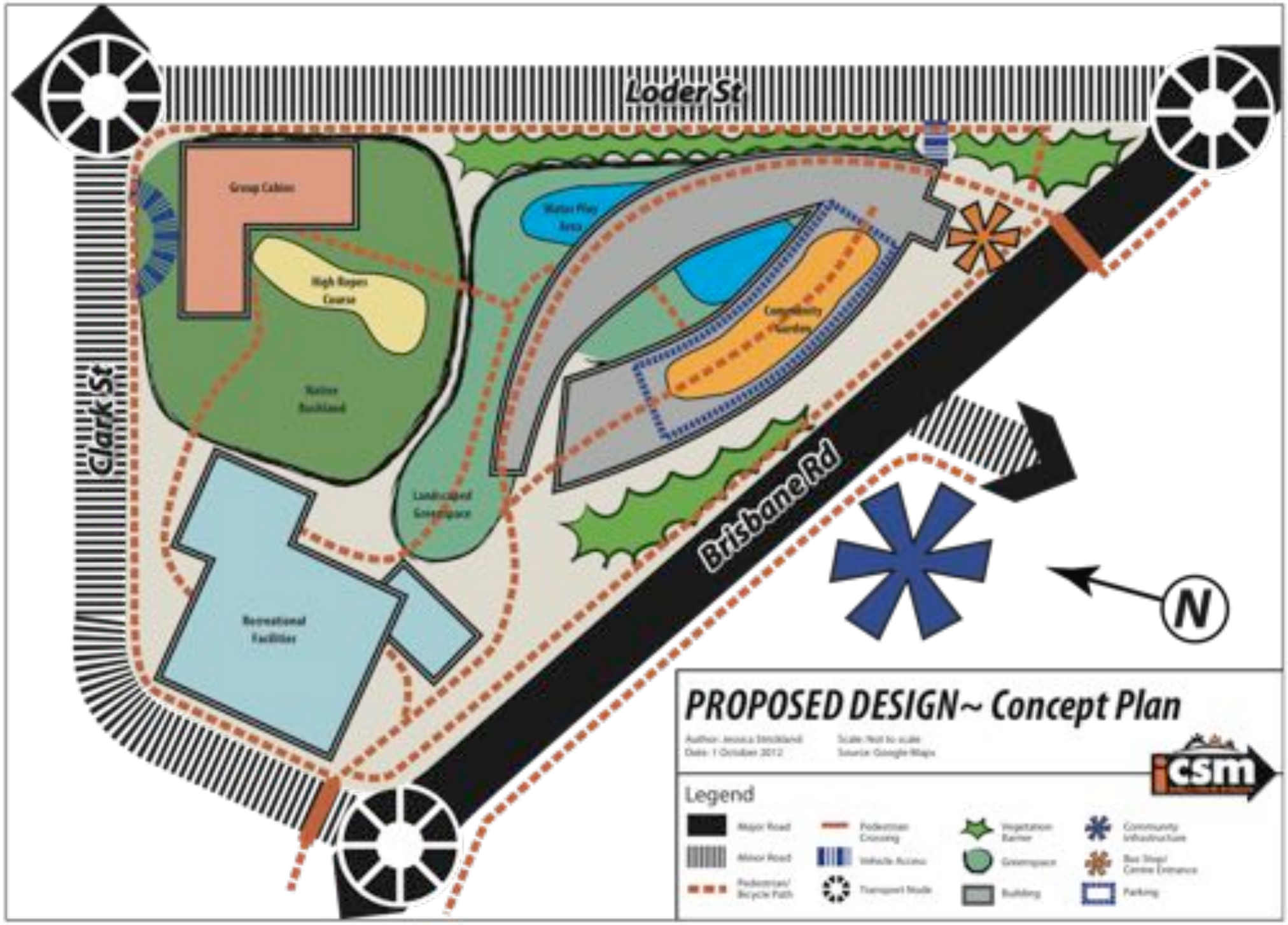
Figure 4.1: Concept Plan of Proposed Design



(Source: Strickland 2012)

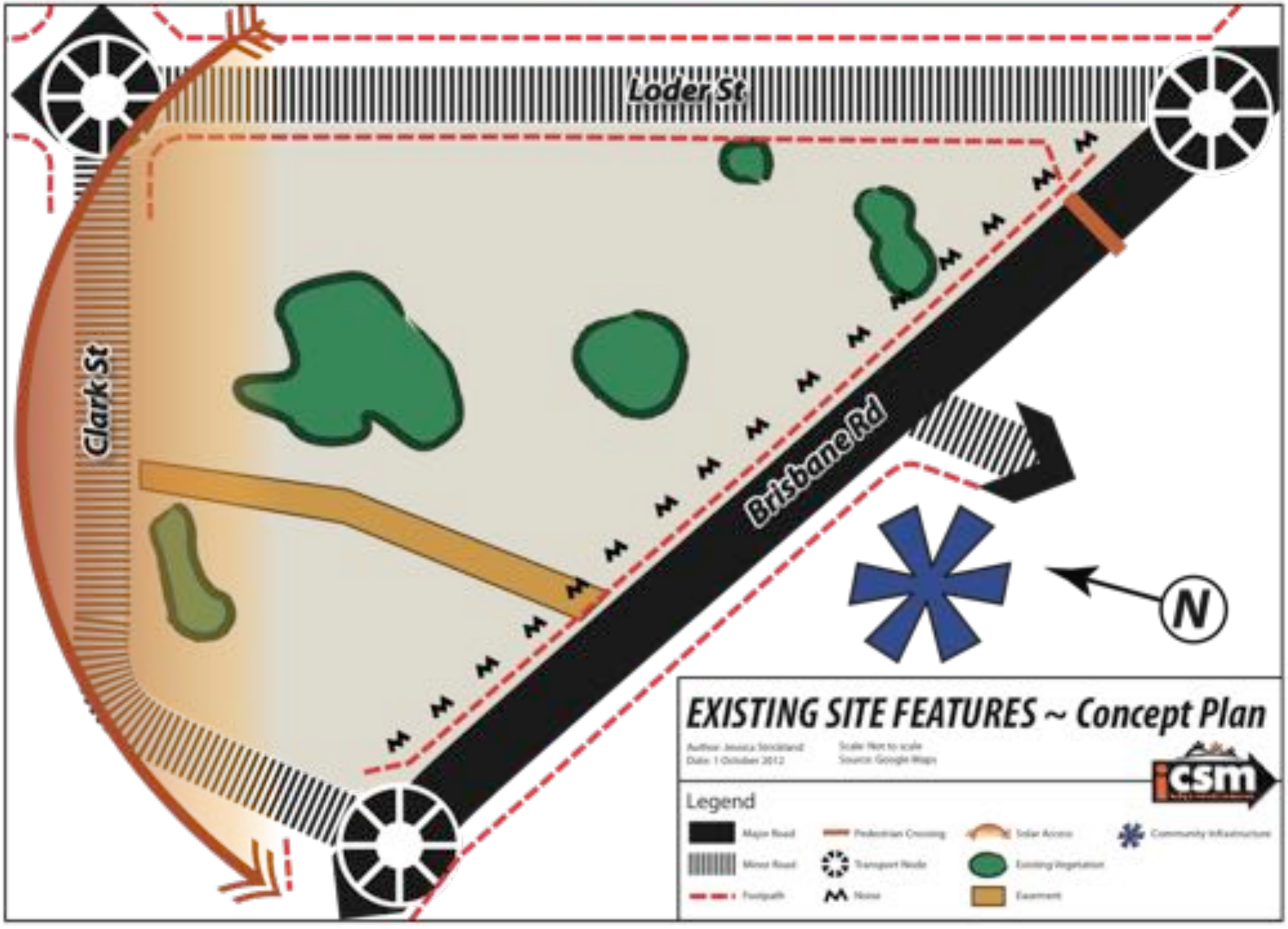
Figure 4.2: Master Plan of the Ecoji Centre

(Source: Strickland 2012)

Figure 4.3: Landscaping Plan of the Ecoji Centre

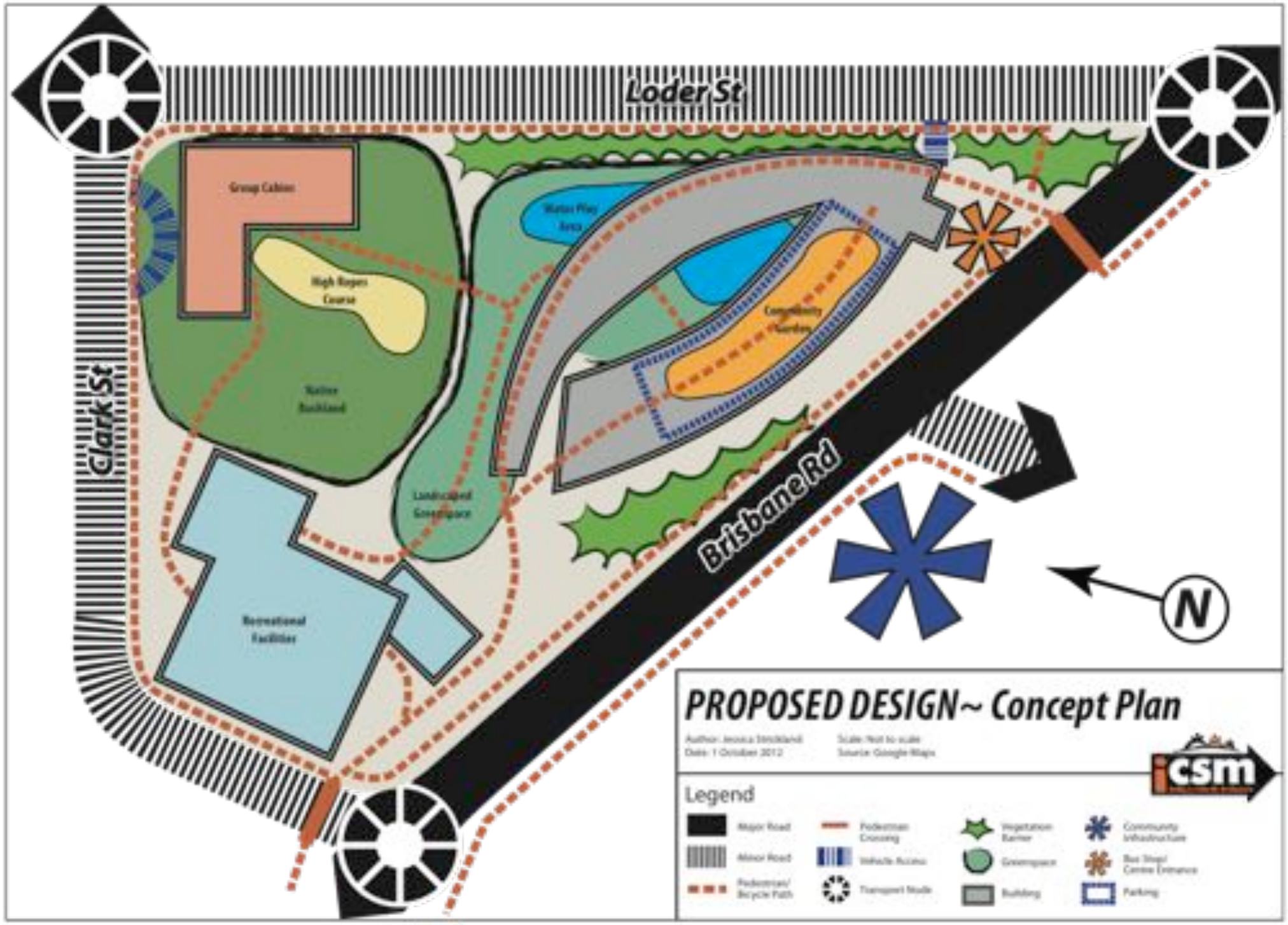
(Source: Strickland 2012)

Figure 5.1: Concept Plan of the Existing Site Features



(Source: Strickland 2012)

Figure 4.1: Concept Plan of Proposed Design



(Source: Strickland 2012)

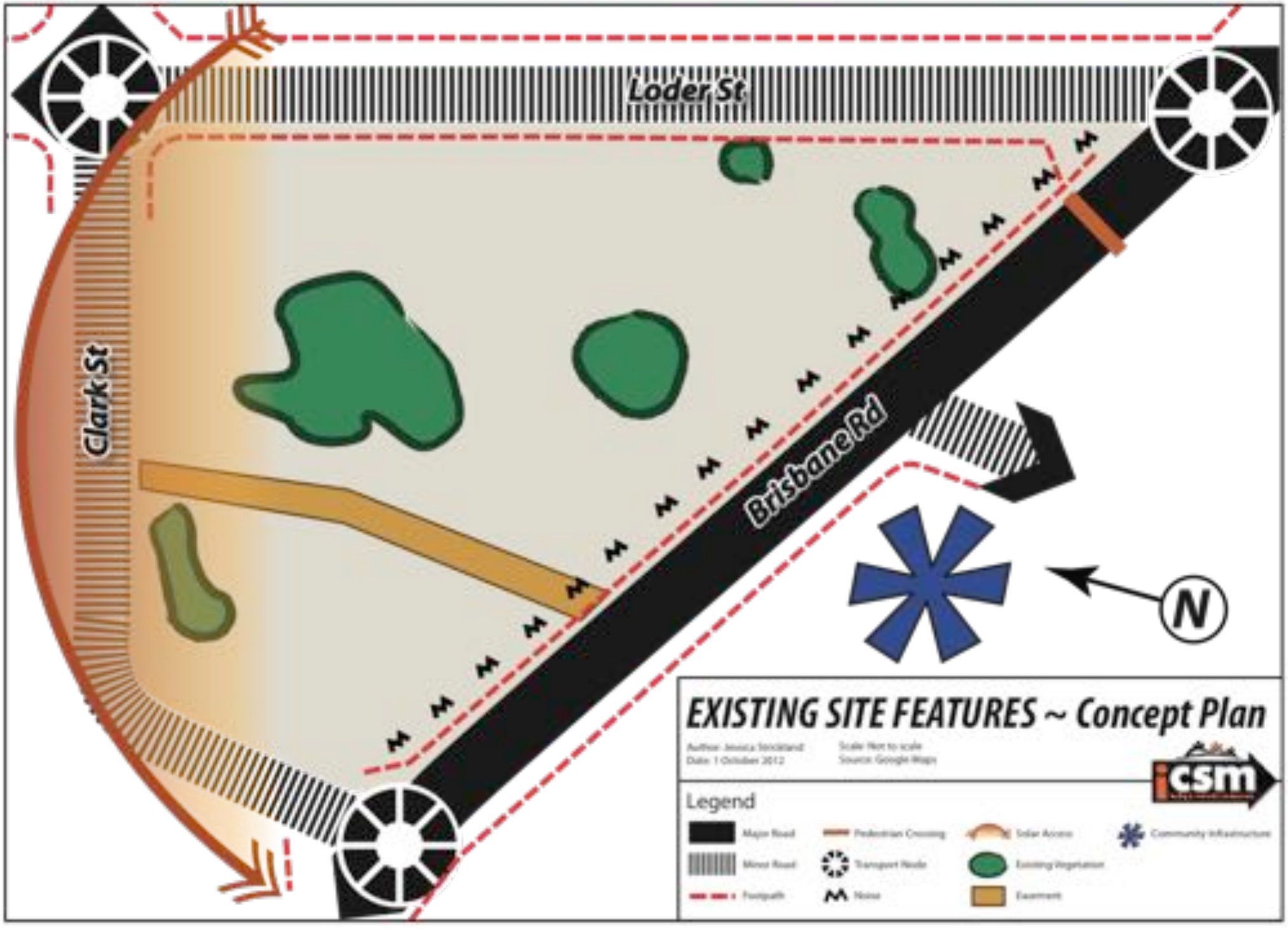
Figure 4.2: Master Plan of the Ecoji Centre

(Source: Strickland 2012)

Figure 4.3: Landscaping Plan of the Ecoji Centre

(Source: Strickland 2012)

Figure 5.1: Concept Plan of the Existing Site Features



(Source: Strickland 2012)

5.0 Regional and Site Analysis

5.1 Existing Site Context

To ensure the site and the surrounding environs were well understood prior do deciding upon an apropriate development, various aspects of the site and its surrounds were examined. A concept plan of the existing site features is available in figure 5.1.

5.1.1 Site Location

As seen in figure 5.1.1, the site is located on Brisbane Road in Biggera Waters and is near the Southport Broadwater. It has strong connectivity to surrounding facilities such as Harbour Town Shopping Centre, schools, Helensvale Railway Station, Griffith University, Southport TAFE churches, community infrastructure and shopping facilities.

Figure 5.1.1: Aerial photograph of site in Biggera Waters

(Source: Google Maps 2012)

Various photographs of the site can be seen in appendix 1.

5.1.2 Land Uses

There are a variety of land use themes that exist within the suburb of Biggera Waters and surrounding the site on Brisbane Road (Gold Coast City Council 2011). These include regions of residential/tourism, community infrastructure, urban residential, open space/nature conservation

and rural/nature conservation (Gold Coast City Council 2011). The site does not fall within a Local Area Plan but the Hollywell and Southport Domain maps outline the types of land uses expected on and around the site (Gold Coast City Council 2009). The most prominent land use type within the area (and the type that covers the proposed site) is residential choice, which seeks to 'support the provision of a range of housing choice that is responsive to the changing demographic structure of the City' (Gold Coast City Council 2011). Other land uses within the general vicinity of the site include public open space, tourist and residential, local business and fringe business (see appendix 2) (Gold Coast City Council 2009).

5.2 SWOT Analysis

In order to understand the site and its surrounds, an analysis of the strengths, weaknesses, opportunities and threats pertaining to several aspects of the area was conducted. The findings are as follows.

5.2.1 Economic Attributes SWOT Table

Strengths	**Weaknesses**
• Mixed residential and commercial land uses. • High potential for economic growth.	• Low-income population. • High instance of failing businesses in the area.
Opportunities	**Threats**
• Stimulate economic growth. • Bring capital to the region. • Increase employment within the area. • Increase education and employment skills.	• Economic difficulty for displaced residents/ businesses. • Existing competing businesses (child care centres).

5.2.2 Physical Characteristics SWOT Table

Strengths	**Weaknesses**
• Flat site is easy to develop. • Close proximity to the Broadwater increases the value and aesthetics of the site. • Close proximity to the main road provides good accessibility and connectivity.	• Flat surface has slow, limited drainage. • Expensive land due to the close proximity to the Broadwater. • Close proximity to the main road impedes pedestrian and child safety.
Opportunities	**Threats**
• Flat site provides the opportunity developing without extensive engineering solutions. • Opportunity to integrate the nearby Broadwater into the development of the site. • The nearby main road provides the opportunity for a TAD.	• Slow drainage means the site would be susceptible to damage from flooding. • Close proximity to the ocean introduces the threat of weather events and storm surges. • Main road provides the threat of health risks from car emissions.

5.2.3 Social and Cultural Characteristics SWOT Table

Strengths	Weaknesses
• Large proportion of families in the area. • Existing social behaviour includes the regular use of nearby public space. • Diverse population (32% born overseas).	• Much of the population is 65 and over, requiring accessibility solutions. • Low socioeconomic area (based on analysis of average income).
Opportunities	**Threats**
• A community-based development. • Increasing diversity and awareness through a community-oriented development. • Providing job opportunities for locals. • Improving social interaction.	• Interracial tension. • Community disapproval (resistance to change). • Misuse or non-use of development.

5.2.4 Development Potential SWOT Table

Strengths	Weaknesses
• Good accessibility via Brisbane Road. • Good solar access. • Availability of green building materials locally. • Proximity to Broadwater, Community Hub and Scout Hall. • Proximity to shops and education facilities.	• Land near Broadwater is expensive. • Pedestrian accessibility is hindered by main road. • Disjunction amongst current developments in the area. • Noise and air pollution from Brisbane Road.
Opportunities	**Threats**
• Stimulate Biggera Waters by injecting capital. • Incorporate nearby facilities such as the Broadwater, Community Hub and Scout Hall. • Increase pedestrian/ cycling transport. • Improve surrounding air quality by increasing vegetation. • Promote environmental awareness and community interactions.	• Weather related event hazards (flooding, storms, tsunamis) • Presence of acid sulphate soils. • Increased traffic congestion. • Community resistance to change. • Low use due to competing developments. • Slow development approval times. • Financial complications.

5.3 Existing Features

6.3.1 Terrain

The topography of the Eastern Coast of Australia is very flat. Biggera Waters is located in a very low-lying area of the Gold Coast. The Australian Government (Geoscience Australia) states that the whole region of the eastern coast of Queensland, especially the northern part of the Gold Coast is very low-lying (2011, p. 3-5). For a comprehensive map of elevations refer to appendix 3. Due to the very low topography of Biggera Waters, the drainage of the site is not efficient; however, an easement is crossing the western part of the site that acts as a swale to evacuate water into the storm water drainage system.

6.3.2 Soils

The Northern part of the Gold Coast is known to have acid sulphate soils (Gold Coast City Council 2004). According to Gold Coast City Council 'when the moist soil is exposed to the air it starts to produce acid, which can be damaging for the health of the fauna and flora' (2005, p. 16). CSIRO (2012) also found that, if acid sulphate soils are unearthed, the acid present in the soil drains out into water bodies or reacts with clay mineral deposits and carbonates in the soil, releasing dissolved particles such as copper, magnesium, calcium and iron. They warn that if acid sulphate soils are not managed properly, it could lead to millions of dollars of loss and degradation of infrastructure due to acid corrosion (CSIRO 2012). Carefully considered design and clever management of the land is required to reduce the negative impacts of this soil on the natural environment and built structures.

6.3.3 Aspect and Solar Access

The Biggera Waters site is oriented with main road access along the south (Brisbane Road), the North and West (Clark Street) and the East (Loder Street). The solar orientation of the site is appropriate and perfect to access the sun light during most of the day. In addition, there are no high-rise buildings in the surrounding area that could potentially obstruct the sunlight. Therefore, passive heating and cooling can be achieved with well-considered design and proper building orientation facing north in order to obtain the best natural lighting.

6.3.4 Existing Biodiversity

The region of Biggera Waters has very little biodiversity because most of the area is used for residence and retail purposes. Several common bird species like parrots, Magpies and Butcherbirds have been observed on the site but bird diversity is impeded by the extensive built environment in the surrounding area. According to the Australian Government, 'the Government's new ongoing Biodiversity Fund of $946 million over its first six years will support landholders to undertake projects that establish, restore, protect or manage biodiverse carbon stores'' (Australian Government 2012). Therefore, *ICSM* aims to retain as much native vegetation as the construction will allow. As a result, vegetation present in the northern part of the site near the group cabins will be preserved to maximise biodiversity conservation. To replace the original vegetation that will need to be displaced or cut down, *ICSM* seeks to re-introduce hardy native trees.

6.3.5 Flooding

The Gold Coast has seen more than 45 major floods in 87 years, which have resulted in moderate to severe damages to personal property and public infrastructure (Gold Coast City Council undated). The area of Biggera Waters is located in a potential flooding zone (Gold Coast City Council 2012); therefore, *ICSM* has created a design an appropriate for these conditions.

6.3.6 Air and noise pollution

The Gold Coast is one of the fastest growing cities in Queensland and each year approximately 15,000 people come to the Gold Coast to live (Gold Coast City Council 2005). This will ultimately lead to an increase in the local economy and in air pollution due to increased traffic and manufacturing (Gold Coast City Council 2005). This increase in pollution could be mitigated by increasing the public transport and discouraging personal vehicle reliance (Gold Coast City Council 2005). However, the air pollution level on the Biggera Waters site is less than 5.0 ug/m3; a level which is acceptable (Brown, Affum & Chan undated, p. 14). However, they (Brown, Affum & Chan undated, p. 5) also found that the noise level on the site is superior to 68 decibels, which is over the noise allowance set by the Gold Coast City Council (Gold Coast City Council 1997, p. 7.1). More details and a map of noise levels can be found in appendix 4. Excessive noise over long periods has been shown to have significant health implications for individuals and communities (Gold Coast City Council 1997, p.7.1). To prevent noise pollution from entering the buildings, solutions like double-glazed windows will be utilised.

6.3.7 Access and Circulation

Cars

Different sorts of road types surround the site. The main road (Brisbane Road), facing the southern part of the site, is a double lane road that allows fluid circulation and quick and easy access to and from the site. Two other streets surround the site, Clark Street on the northern side and Loder Street on the eastern side of the site. On-street parking is available for car users around the site but often slows down the circulation of cars in the residential areas.

Buses

The site has access to two main bus stops located on each side of the Brisbane Road. Loder Street and Clark Street are not equipped with bus stops; therefore, residents must access Brisbane Road in order to use the Translink bus routes.

Pedestrians

Pedestrians, cyclists and skaters utilise the footpath parallel and adjacent to Brisbane Road. No barriers are present to protect pedestrians from air and noise pollution. This increases the chances of accidents and health impacts. Pedestrian crossings are provided to allow accessibility between segments of footpath in the area. The footpaths to and from the Broadwater are well and stretch south down the coastline. However, non-vehicular transport is not well provided for in other directions from the site. The opportunity exists to increase accessibility in the area by linking current footpaths and bike paths through development.

6.3.8 Microclimate

The Gold Coast is situated in a subtropical zone of the state of Queensland; its climate is warm in summer and cool in winter (National Oceanic and Atmospheric Administration 2012). The average temperature of the Gold Coast in 2012 is about 20°C and the average rainfall is about 1,200 mm (Bureau of Meteorology 2012). Additionally, according to two newspaper articles from *The Gold Coast Bulletin*, this region experiences more thunderstorms than any other Australian cities (Wuth 2011, Bedo 2011). The development will require proper design features to face these kinds of weather events. For more detailed climate information see appendix 5.

6.0 Integrated Development Assessment System (IDAS)

This application seeks a development permit for a Material Change of Use and Reconfiguring of a Lot to allow a three storey building including a learning centre, a child care centre and a restaurant. The site will also include cabins, a water play area, a skate park, a sports court and clubhouse. The development triggers impact assessment in the Residential Choice Domain for a number of reasons. The department of Main roads will also be a referral agency due to the front boundary being on Brisbane Road.

6.1 South East Queensland Regional Plan (SEQRP)

ICSM's proposed use of the site complies with numerous sections of this plan as shown in a previous Scoping and Feasibility Study (Strickland et al. 2012). *ICSM* would also like to note that the proposed development is included in the Urban Footprint as stipulated in the South East Queensland Regional Plan. The intended development is consistent with the relevant State Planning Regulatory Provisions for developments within the Urban Footprint.

6.2 Gold Coast Planning Scheme

6.2.1 Desired Environmental Outcomes

The seventeen Desired Environmental Outcomes (DEOs) 'provide a primary focus or direction for the entire Planning Scheme' (Gold Coast City Council 2003, p. 1). They are at the crux of the Planning Scheme and they provide context to the subsequent planning strategies within the document (Gold Coast City Council 2003, p. 1). Collectively, DEOs aim to achieve three outcomes; to be ecologically, economically and socially beneficial, and each individual DEO is therefore grouped into one of these three categories. The following will show how each of the relevant DEOs will relate to the proposed development (relevant meaning ones that directly apply to the development, for example DEO Ecol.1 about preservation of natural landscapes isn't relevant to a redeveloped site).

Ecological Processes

DEO Ecol.3: 'The maintenance of high standards of air quality, including minimising and reducing greenhouse gas emissions' (Gold Coast City Council 2003, p.4).

Ultimately, this is to be achieved through an appropriate choice of land use and integrated or alternate transport systems. The proposal contributes to achieving this goal because it provides a mixed-use hub for nearby residential areas and has the potential to reduce car trips by localising

services for local residents. Moreover, the development will comply with all of the specific planning objectives to support DEO Ecol.3 which include:

- achieving an urban form which reduces the need to travel long distances,
- achieving an urban form which supports maximum use of public transport and non-motorised transport,
- minimising use of non-renewable energy sources, and
- minimising airborne pollutants, which contribute to unhealthy air quality standards.

(Gold Coast City Council 2005, p. 4)

Our development supports all four of these planning objectives to support DEO Ecol.3.

DEO Ecol.4: 'The minimisation of waste products and the provision of efficient systems to ensure their effective reuse, treatment or, where unavoidable, disposal.' (Gold Coast City Council 2003, p.5)

As the learning centre is aimed at teaching people about sustainability and the environment, the design of the built structures will also promote these themes. The development will maximise opportunities to reuse waste products and will have an efficient waste management system. Again, the development will comply with all four planning objectives that support DEO Ecol.4

Economic Development

DEO Econ.1: 'The provision of an efficient land use pattern that is conducive to business activity, and attractive for new business opportunities, particularly those that complement existing or emerging business activity and those that offer opportunities for sustainable new businesses which diversify the existing economic base of the city' (Gold Coast City Council 2003, p.6).

The *Ecoji Centre* will provide viable options for businesses to establish and service the needs of local residents and passing motorists, thus expanding and diversifying the existing economic base of Biggera Waters. As such, the planning objectives that support DEO Econ.1 are satisfied. The planning objectives for Econ.1.1 and Econ.1.2 outline the importance of key industries that are crucial to the local economy and future prosperity in which the environment and education are included. The development also satisfies the other two planning objectives within this DEO.

DEO Econ.3: 'The provision of a viable system of Activity Centres (based on service catchments) and Activity Clusters (based on the locational needs of productive business sectors) to ensure that the City's communities have access to a wide range of suitably planned and located goods and services.' (Gold Coast City Council 2003, p.7).

The development is situated well within an activity cluster (concentrations of specialised business activity located to meet particular business sector requirements) of community precincts. The development opts to consolidate with this existing community precinct activity cluster across Brisbane road. Moreover, the proposed development concurs with the five planning objectives that support DEO Econ.3.

Social Wellbeing

DEO Soc.2: 'The location and design of residential areas and support facilities to maximise accessibility to community facilities and places of employment, and to maximise opportunities for community interaction' (Gold Coast City Council 2003, p.13).

This is achieved through:

- creating accessible community facilities and employment opportunities;
- high accessibility from activity clusters to residential areas;
- providing open space, high levels of pedestrian permeability and,
- multiple use areas and facilities

(Gold Coast City Council 2003, p.13)

This is reflected in *ICSM*'s proposal as the *Ecoji Centre* is a development on a community activity cluster while providing pedestrian accessible green spaces, sports facilities, a skate-park, paddle ponds, a learning centre and important community facilities. The development directly satisfies this DEO through providing local employment opportunities close to residential areas, a community facility and spaces and places for community interaction (restaurant, sports fields, skate park and green space).

DEO Soc.5: 'The maintenance of residential amenity, through the minimisation of any environmental harm or adverse social impacts occurring from the construction and operation of commercial, community, tourism, industrial and extractive industry activities' (Gold Coast City Council 2003, p.15).

According to the planning objectives, this can be achieved through:

- ensuring land uses with the potential to conflict with residential amenity are separated and or buffered from residential areas;
- designing development that minimise the potential for adversely impacting amenity of close residential areas, and;
- ensuring new residential development does not constrain, and is within close proximity to, community facilities and transport infrastructure

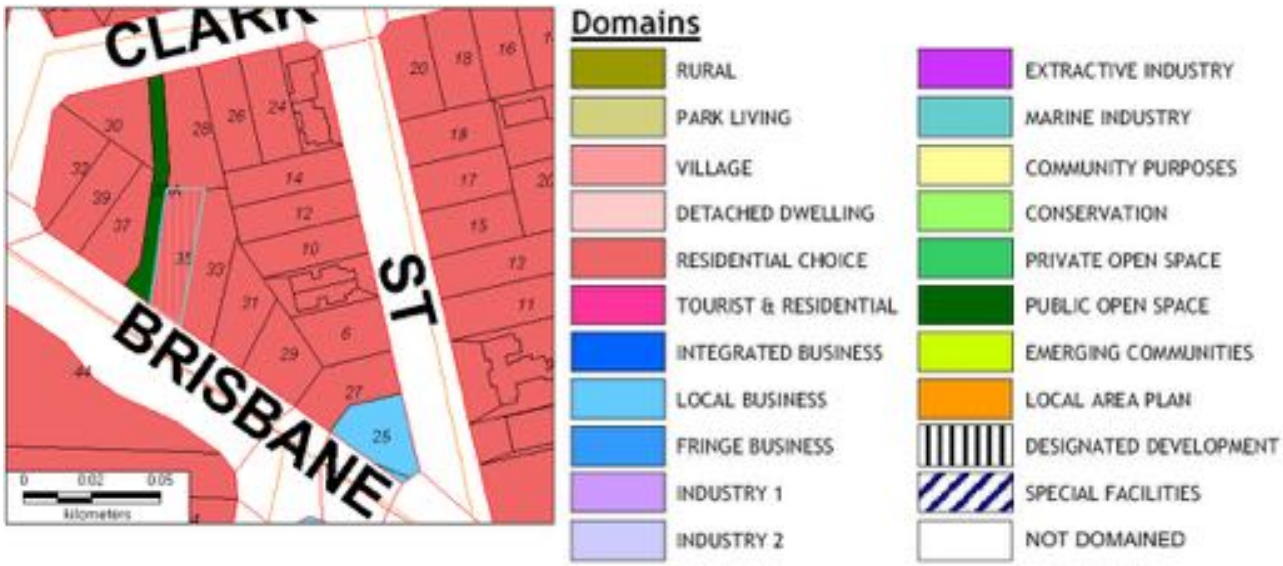
(Gold Coast City Council 2003, p.15).

ICSM's proposed development satisfies this DEO as building 1 is situated close to Brisbane road (distanced from the dwellings to the north) which gives surrounding residential areas a buffer consisting of less intrusive facilities (sports courts and cabins), green space, trees and the surrounding road. Also, the development satisfies this DEO because it ensures residential areas are within close proximity to community facilities and it does not hinder local access to transport infrastructure.

DEO Soc.7: 'The location and design of development to minimise the potential risk to life and property from known natural hazards' (Gold Coast City Council 2003, p.17)

This is to be achieved through constraint code compliance and mitigation of acid sulphate soils and flood potential (Gold Coast City Council 2003, p. 17).

Figure 6.2.2: The domain map from the Gold Coast Planning Scheme



(Source: Gold Coast City Council 2009).

6.2.2 Planning scheme intent

The Gold Coast planning scheme stipulates that the development is within the Residential choice domain as well as the Local business domain shown in figure 6.2.2.

Residential Choice Domain

The intent of this domain is as follows:

'This domain seeks to support the provision of a range of housing choice that is responsive to the changing demographic structure of the City, whilst maintaining an efficient land use pattern. The purpose of this domain is to support the development of a residential pattern comprising mixed dwelling types, including detached dwellings, attached dwellings and apartment buildings that relate well to each other. This domain seeks to: support residential densities that are moderately higher than traditional detached dwelling areas; facilitate a wide variety of home office, home occupation and residential support services to be located within the domain, commensurate with local residents' needs; and achieve a high standard of residential amenity across the range of dwelling types in the domain' (Gold Coast City Council 2003, p.1).

The multi-use development will keep with the intent because it is within the scale and intensity of development within the area (such as residential across the road). Moreover, the development will go further by contributing to the range of residential support services located within the domain. In terms of residential amenity, the *Ecoji Centre* provides a substantial buffer from Brisbane Road to properties across from Loder Street and Clark Street.

Local Business

The property located at 25 Brisbane Road is within the *Local Business Domain*. The intent of the domain is as follows:

'The purpose of this domain is to ensure that local business centres provide opportunities for local community interaction and a sense of place and identity. It seeks to provide for a wide variety of activities including retailing, office uses, personal services entertainment and recreational activities, without changing the function or the predominant local service orientation of the business centre. This domain also provides for residential activity to locate within local business centres where this can be accommodated without fragmenting the commercial centre or creating conflicts between residential and commercial uses.

A key objective of the domain is to ensure that the development of local business centres does not threaten the viability of other existing local centres and other existing and proposed business centres at the District, Sub Regional, Regional, and Key Regional/Metropolitan Activity Centre levels in the activity centre system.

This domain seeks to promote a local community focus and to support community identity through the provision of high quality public spaces and effective urban design' (Gold Coast City Council 2003, p.1).

Because the property is not currently in use, redevelopment will not fragment the existing commercial centre across the road. Also the development will not threaten existing local centres because the main focus of the proposed development is an education centre along with a small skate park, outdoor sports grounds and cabins. No similar development is within the local area so it will not threaten the viability of any existing businesses, the development is filling its own niche within the area (in the case of the learning centre, it is fulfilling a niche at the city scale).

Furthermore, the proposed development satisfies the domain intent because it strongly promotes a local community focus through things such as the high quality green spaces, the sports courts, the skate park, Wattle Place (a courtyard) and the restaurant which all contribute to place making in the area.

6.2.3 Draft Local Area Plan (LAP)

The following correspondence with Iain Bailey, the Senior Strategic Planner for the Chief Executive Officer of the Gold Coast City council suggests that aspects of the Draft LAP are dated and therefore should not be weighted too heavily in the decision process for the development:

'[T]he draft LAP is not part of the current endorsed LAP work program. Consequently given the amount of time that has passed since Council last viewed this document and likely changes to the characteristics of the area, it is considered that should Council resolve to recommence the preparation of an LAP for East Labrador the process would more than likely have to recommence from the beginning' (Bailey 2012).

However, rather than specific development guidelines, this document does offer a broad insight as to what council envisages for East Labrador in the coming years. It also offers the most accurate and recent description of the existing built form.

It is for this reason that specific development requirements (such as the performance criteria of land use precincts) of this document have not been closely followed. Rather *ICSM* would like to consider the broader requirements such as the intent.

Intent

The proposed development directly satisfies the following statements within the intent of the Draft LAP:

- 'Improve pedestrian and cycle movement and circulation to enhance access between residential areas, commercial centres, Broadwater and open space areas. East/west streets will be developed as well landscaped streets ('Park Streets') that are pedestrian friendly' (Gold Coast City Council 2005, p.1).
- 'Retain and enhance strong visual and physical connections between the Broadwater, Biggera Creek Corridor, parks and residential areas to ensure public and private open spaces are of high quality and well integrated' (Gold Coast City Council 2005, p.1).

The proposed development will have its own well-landscaped pedestrian paths which link the site to the surrounding residential and commercial areas. These paths encourage public use of the site through providing open spaces and public facilities (skate park and sports courts). It is in doing this that public and private realms will be integrated.

Additionally, it satisfies the following:

- 'Promote climate responsive, energy efficient and water conservation design elements in built form outcomes' (Gold Coast City Council 2005, p.1).

The buildings are situated well within the site to maximise solar access and minimise energy consumption. The building orientation also takes advantage of the sea breezes travelling through Brisbane Road with the windwall. The development also uses efficient water conservation design elements by using a grey water tank and through rainwater catchments on the cabins and clubhouse.

Furthermore, the development satisfies the following:

- 'Promote mixed-use development in key entry and centre locations that have a distinct urban form that will be unique to East Labrador' (Gold Coast City Council 2005, p.1).
- 'Provide essential commercial and service activities supported by a landscaped streetscape that provides a safe pedestrian environment' (Gold Coast City Council 2005, p.1).

The proposed development will be a mixed-use development including commercial uses and community purpose and public facilities and it will unique development within the city. The site will aim to provide essential commercial activities such as the cabins and the childcare centre and the whole site provides a safe pedestrian environment away from roads.

6.2.4 Applicable Codes

This section of the report outlines the codes that are relevant to development and there is also a brief compliance statement under each heading.

Residential Choice Domain Place Code

The proposed development complies with all performance criteria of this place code, though a minor alternate acceptable solution is sought after for building height. It is as follows:

- AS6 'Building Height'; to allow the building to consist of three full storeys, rather than two and a partial third storey.

ICSM believes that this proposed acceptable solution is consistent with the building height performance criteria and is discussed in detail later in this report.

Local Business Domain Place Code

ICSM's proposed development complies with all performance criteria of this place code although again building height will require an alternate acceptable solution:

- AS10.1.1 'Building Height', to allow the building to consist of three storeys with ground floor car parking, commercial on the second floor, and community purpose on the third.

This proposed acceptable solution is discussed in detail later in this report.

Retail and Related Establishment Code

Development is required to comply with the Retail and Related Establishments code and it does, although one proposed acceptable solution is to be put forth which is:

- AS5 'Car Park Areas and Visual Amenity,' an alternate Acceptable solution is sought to allow car parking on the ground level of the building

It is thought that the proposed acceptable solution is consistent with the performance criteria.

Landscape Work Code

The requirements of this code are adhered to by the development. All relevant performance criteria of this code have been met with the according acceptable solutions.

Works for Infrastructure Code

All the works for infrastructure performance criteria have been met with the acceptable solutions

Child Care Centres Code

The requirements for this code apply to development. All performance criteria comply with acceptable solutions except for the following:

- AS8.1 'Location', an alternate acceptable solution is sought to allow the development within a building fronting Brisbane Road (an arterial road) and within the designated flood area.

Reconfiguring a Lot Code

The requirements for this code apply and all the performance criteria are satisfied through the acceptable solutions.

Changes to Ground Level and Creation of New Water Bodies Code

The requirements for this code apply and all the performance criteria are satisfied by the acceptable solutions.

Car Parking and Transport Integration Constraint Code

The requirements for this specific development code apply and all criteria have been satisfied except for the following:

- AS16.1 'provision of car parking spaces', an alternate acceptable solution is sought to allow the development to have a shortfall of 6 car parking spaces, due to the different times car parking spaces will be used.

This solution is proposed in confidence that it will meet the relevant performance criteria.

Flood Affected Areas Constraint Code

All performance criteria for this code have been met by the proposed development.

Road Traffic and Noise Management Code

All performance criteria for this code have been satisfied by the proposed development.

Overlay Map OM-14 Acid Sulphate Soils

The site is identified in the planning scheme overlay maps as an area that may have acid sulphate soils. There is no corresponding code, but instead there exists *Policy 14 – Management of Activities Located Within Areas of Acid Sulphate Soils*. Clause 3.1 of this policy outlines activities that are a problem for an area with acid sulphate soils. Our proposed development does not

include any activities listed in clause 3.1, therefore our proposed development does not need to have an acid sulphate management plan.

Overlay Map OM-18 Stormwater Drainage Areas

The overlay map for this issue does not refer to any code. However a stormwater management plan must comply with what is stipulated in the Building Code of Australia. A stormwater management plan will be proposed with thorough consultation with engineers and councillors.

6.2.5 Compliance with Relevant Codes

The development complies with all of the required acceptable solutions given in each code above. The only exceptions are outlined below in table 6.2.5, where the proposed acceptable solutions are presented.

Table 6.2.5: Proposed acceptable solutions

Performance Criteria- Acceptable solution	***Proposed Alternate Solution***
Place code - Residential Choice Domain	
PC6 – AS6.1.3	'Building Height', to allow the building to consist of three full storeys, rather than two and a partial third storey.
Place code- Local Business Domain	
PC10- AS10.1.1	'Building Height', to allow the building to consist of three storeys with ground floor car parking, commercial on the second floor, and community purpose on the third.
Specific development Code- Retail and Related Establishments	
PC5- AS5	'Visual Amenity of Car Parking Areas,' an alternate Acceptable solution is sought to allow car parking on the ground level of the building
Specific Development Code- Child Care Centres	
PC8- AS8.1	'Location', an alternate acceptable solution is sought to allow the development within a building fronting Brisbane Road (an arterial road) and within the designated flood line.
Constraint Code- Car parking Access and Transport Integration	
PC16- AS16.1	'Provision of Car Parking Spaces', to allow the development to have a shortfall of 6 car parking spaces, due to the different times of use.

6.2.6 Proposed Acceptable Solutions

This section seeks to outline in more detail the proposed acceptable solutions introduced in the previous section of this report.

Residential Choice Domain – Building Height

Acceptable solution AS6.13 sets the maximum building height to 11.5 meters and three storeys including a partial third storey. *ICSM* seeks approval of a three-storey development. The performance criteria PC6 is as follows:

'All buildings must be of a height which is in keeping with the predominant residential character of the surrounding area. Building height must not result in a significant loss of visual amenity' (Gold Coast City Council 2003, p.11).

The proposed acceptable solution complies with the performance criteria for the following reasons:

- The closest surrounding residential buildings to the *Ecoij Centre* are those across Loder Street, which are already higher than three storeys.
- This proposed three-storey building will not result in a loss of visual amenity because the proposed three-storey building is placed furthest away from lower density dwellings to the north and there is a large buffer of road and green space in-between.
- The building will not exceed 11.5m in height.

Local Business Domain – Building Height

Acceptable solution AS10.1.1 states that a three-storey building must have commercial use on the ground floor and residential on the third storey. *ICSM* proposes that the ground floor be a car park, the second floor be for commercial purposes and the third floor for community purposes. This is thought to be acceptable because it is a flood mitigation measure and for the reasons mentioned in the last proposed acceptable solution.

Retail and Related Establishments – Visual Amenity of Car Parking Areas

Acceptable solution AS5 states that ground level car parking is to be located to the side or the rear of the main building. *ICSM* seeks to make the ground floor of the *Ecoji Centre* exclusively for car parking. The performance Criteria PC5 is shown below:

'All car parking areas must not be visually intrusive or the dominant feature of any individual development' (Gold Coast City Council 2003, P.2).

The proposed car parking arrangement is appropriate for the following reasons:

- It has enclosed ground floor car parking under the building making parking a less dominant feature of the site than it would otherwise be.
- Having enclosed car parking on the ground level makes parking less visually intrusive than it would otherwise be.

Child Care Centres – Location

Acceptable solution AS8.1 states that development is not to be located within the flood area or on an arterial road. *ICSM* proposes that the development of a childcare centre on an arterial road and within the flood regulation line be permitted. The performance criteria are as follows:

'The development must be located to minimise:

a) the hazards of heavy traffic;

b) introduction of additional traffic into minor residential streets;

c) flood damage or hazard' (GCCC 2003, P.2).

ICSM believes that the proposed acceptable solution is designed in accordance with the performance criteria and is acceptable because:

- There are alternative routes that do not involve direct entry form Brisbane Road.
- There is many pedestrian routes which do not involve Brisbane Road.
- There is a significant buffer between the building and Brisbane Road.
- Pedestrian and road traffic is segregated.
- The childcare centre will not introduce additional traffic into minor residential streets.
- The childcare itself is not within the flood regulation line because it is on the second storey of the building.
- There are already other childcare centres situated on arterial roads such as:
    - *My Kindy* at 336 Oxley Drive, Runaway Bay,
    - *Olsen Ave Community Childrens Centre* 47 Olsen Avenue, Labrador, and;
    - *Little Feet Childcare & Pre Preparatory* at 27 North Street, Southport.

Car Parking Access and Transport Integration – Provision of Car Parking Spaces

Acceptable solution AS16.1 states that the number of car parking spaces must comply with the stipulations in the *Table of Acceptable Solutions AS16.1*. According to this table, the *Ecoji Centre* must have:

- 9 car parking spaces for the restaurant (6.7 spaces per 100m2 of GFA);
- 12 spaces for the childcare centre (one park per staff member and 1 park per 5 students), which allows the centre to have 5 staff and 35 students; and
- a certain number of car parking spaces for the community purpose building which is to be determined by council (*ICSM* have put aside 15 spaces for the learning centre).

This means the development should have a total of 36 car parking spaces. However, due to the different times of the day that these parking spaces will be used the development will opt for cross-utilisation of parking spaces as previously mentioned in this report under *4.3 Parking Provision.* It is for this reason we request the development is allowed a shortfall of 6 car parking spaces.

The relevant performance criteria, PC16, is as follows:

'Sufficient car parking spaces must be provided to meet the car parking needs of the development. The number of car parking spaces provided must be consistent with the practical opportunities available for shared car parking provision and the operation of alternative transport modes to private motor vehicles. Car parking design contributes to delivering development with a built form that is robust and flexible, allowing adaptation or redevelopment over time to a variety of uses, increased densities or increased employment intensity' (Gold Coast City Council 2003, p.7).

It is thought that the proposed amount of car parks is appropriate for the following reasons:

- Most of the commuting to the learning centre will be by school students, and will therefore be predominantly bus travel and will make use of the use the drop off point; car parking spaces will not be required during school hours. Thus, learning centre spaces can be shared at other times of the day.
- The site is within comfortable walking distance of large residential areas.
- The site is on the doorstep of a well serviced public transport route.
- The limitation on parking spaces will encourage more sustainable alternative transport choices (walking, bicycle, public transport). Through this, some of the DEOs (such as Ecol.3 on reducing transport emissions) will be satisfied. Additionally, it will comply with the provisions of the South East Queensland Regional Plan on public transport promotion.

6.2.7 Summary of Solutions

This application is for a Reconfiguring of a Lot (impact) and a Material Change of Use (impact) for a mixed-use building consisting of a restaurant, childcare centre and a learning centre. The development adheres to the triple bottom line, which is the basis for all DEOs, meaning the development is economically, socially and environmentally viable.

The proposed mixed-use development also conforms to the intent for both the residential choice domain and local business domain, while furthering the intent by providing a range of residential support services and by creating business that will benefit the local community without threatening existing ventures.

The development complies with all of the acceptable solutions of the Gold Coast Planning Scheme except for the ones mentioned in table 6.2.5. These proposed acceptable solutions are considered to satisfy the performance criteria. In addition to this, the development also conforms to the future intentions for the area as shown in the Draft East Labrador Local Area Plan.

7.0 Conclusion

This report seeks development approval from the Gold Coast City Council for the proposed *Ecoji Centre*, a sustainable community precinct located on lots 1-20 of RP80238 on Brisbane Road in Biggera Waters. This DA report has provided a comprehensive project outline, a detailed description of the proposal for the site, an in-depth regional and site analysis and details of compliancy with legislative requirements using the Integrated Development Assessment System (IDAS).

A project history and the Ecoji's vision for the site have been recognised and their influence on the design process has been detailed. The proposal has been outlined in detail and salient topics included the proposed land uses as well as how the development will relate to the site and the existing urban form. Transport was another main issue within the report and information and an analyses of the proposed access and circulation, parking provision, public transport and promotion of non-motorised transport choices has been provided.

To demonstrate the appropriateness of the proposed Ecoji Centre for the Biggera Water Site, an in-depth site and regional analysis was conducted, outlining existing features of the region. Key findings included the presence of acid sulphate soils, flood potential, desirable solar access, adverse noise pollution and the potential for increasing accessibility and connectivity by improving footpaths in the region.

This report also addressed the requirements of the IDAS and outlined how the *Ecoji Centre* satisfies all relevant Desired Environmental Outcomes, as detailed within the Gold Coast Planning Scheme. Furthermore, this report goes over how the development is keeping with the intent of the relevant domains in the region. Additionally, proposed acceptable solutions are provided for where there is a non-compliance with code requirements. Altogether, this development is essential for increasing the environmental awareness and social prosperity of Gold Coast residents. It also services recognised underlying community needs and provides benefits to the local economy. ICSM anticipates the development application will be considered favourable by the Gold Coast City Council, as it will benefit the city from an economic, social and environmental standpoint.

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9.0 Appendices

Appendix 1: Site photography

Appendix 2: Land uses in Biggera Waters

Appendix 3: Topography of Queensland

Appendix 4: Noise pollution

Appendix 5: Queensland temperature and rainfall

Appendix 1: Site photographs.

Image 1: Easement across the site, property of the GCCC.	*Image 2: Footpath along the site, adjacent to Brisbane Rd.*	*Image 3: Community Hub opposite the site.*
		
Image 4: Derelict building on the site.	*Image 5: Surrounding streetscape.*	*Image 6: Derelict lot on the site.*
		

(Source: ICSM 2012)

Appendix 3: Land uses in Biggera Waters.

Legend

(Source: Gold Coast City Council 2009)

Appendix 3: Topography of Queensland

(Source: Australian Government Geoscience Australia 2011, p. 5)

Appendix 4: Noise pollution

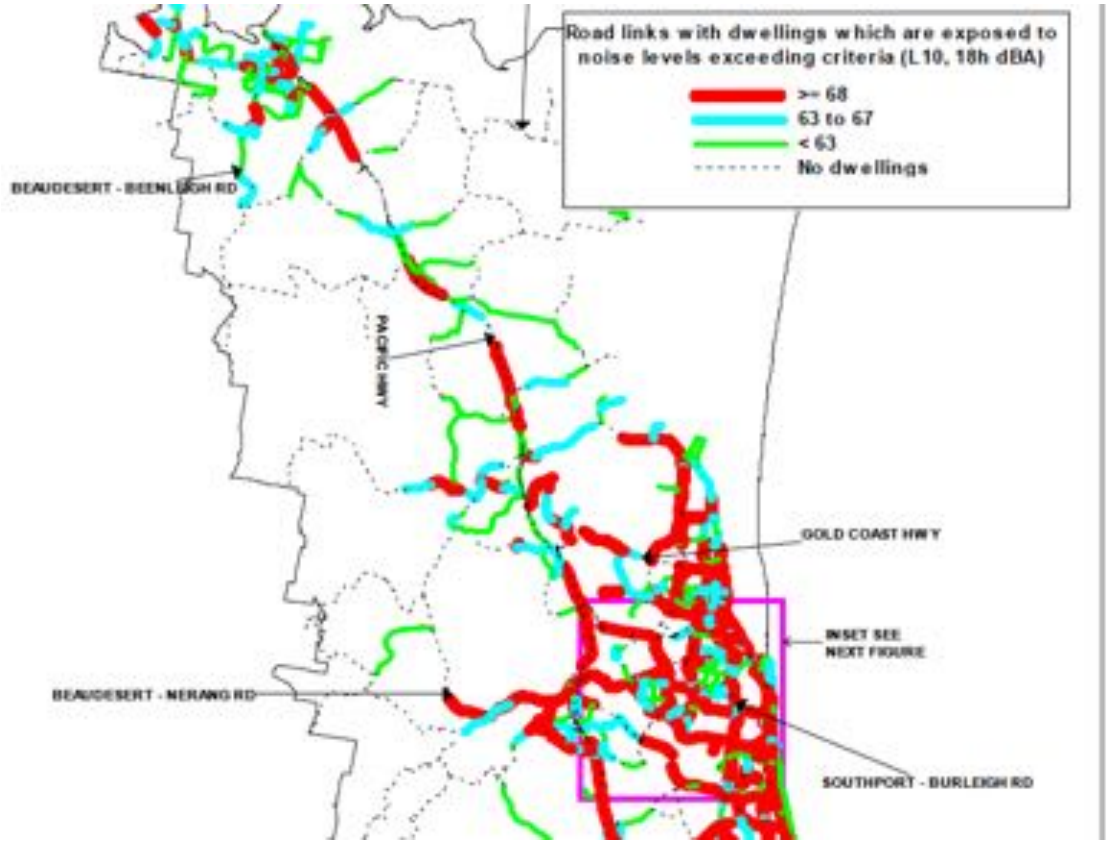
With the increasing noise pollution caused by traffic, industries, and increased growth the Queensland Department of Environment has set draft guidelines for daytime and night-time noise limits as shown below:

-55 dB(A) (Leg (8 hour) night-time (22:00 - 06:00)): This is the equivalent continuous noise exposure level for the specified period.

-63 dB(A): (L10 (18 hour) night-time (06:00 - 00:00)): This is the 'A-frequency range' weighted noise level that is allowed to be exceed for only 10% of the specified time period. The 'A frequency range' approximates that of the human ear."

(Gold Coast City Council 1997, p. 7.3)

Image: Map of pollution on the Northern Gold coast



(Source: Brown, Affum & Chan undated, p. 5)

Appendix 5: Queensland temperature and rainfall. *(Source: Bureau of Meteorology 2012)*

Image 1: Queensland total rainfalls for 2012

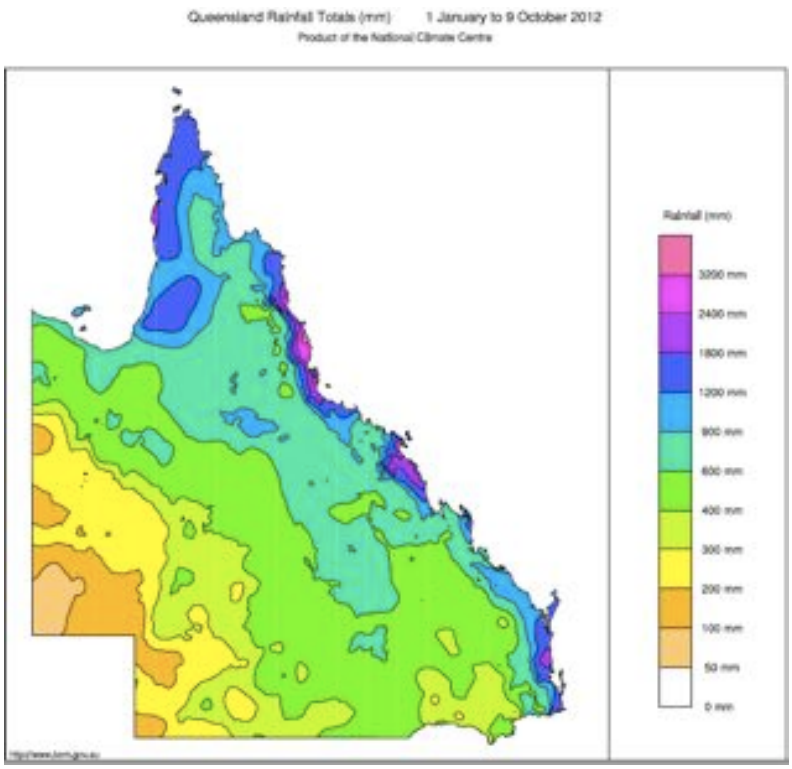


Image 2: Queensland Average Temperatures for 2012