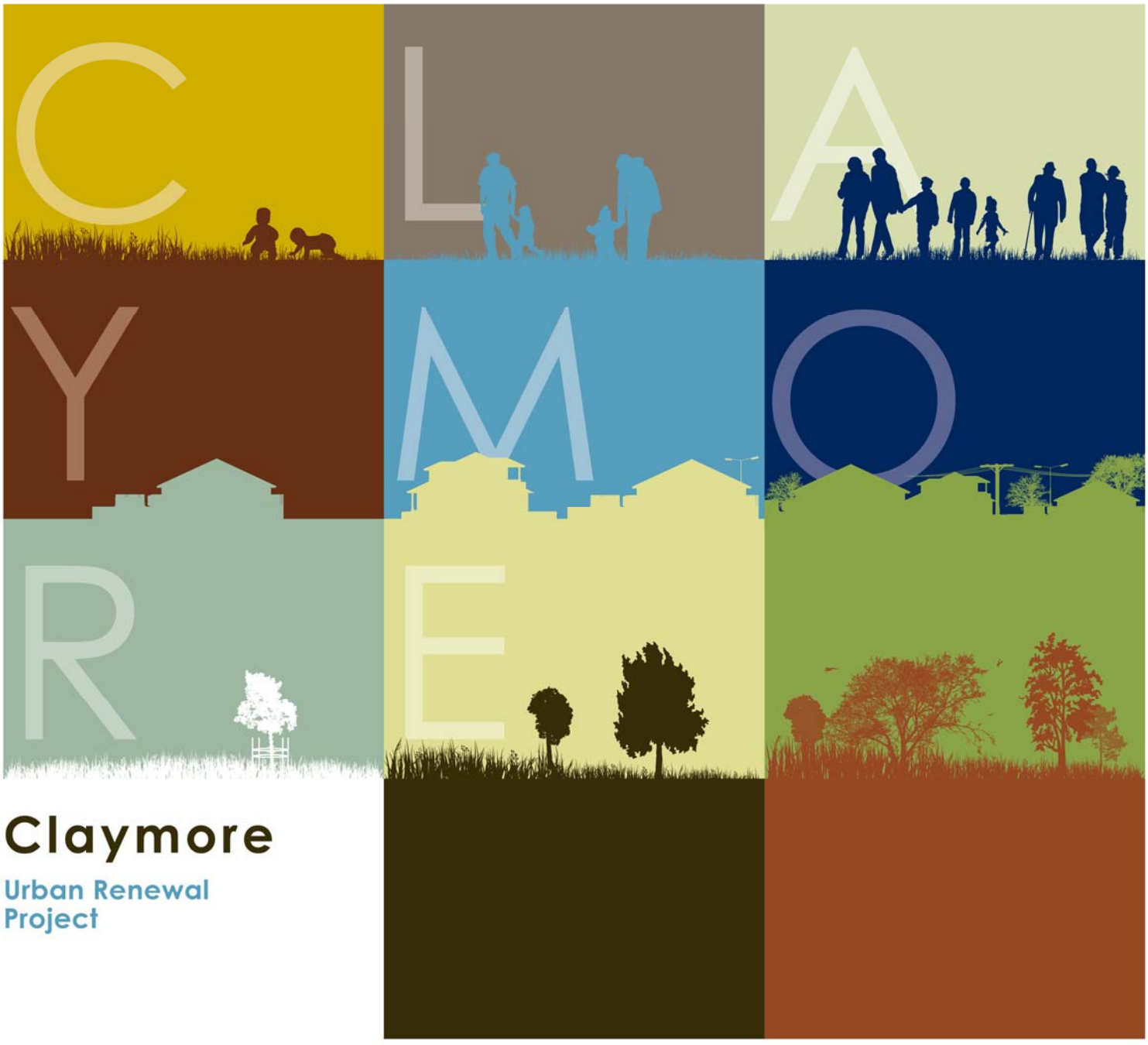
Environmental Assessment Report

Prepared by BBC Consulting Planners
September 2011



Claymore

Urban Renewal Project

Cover Design by AECOM

FIGURES

APPENDICES

STUDY TEAM

A range of consultants have contributed to the preparation of the Concept Plan for the Claymore Urban Renewal Project and to the preparation of this Environmental Assessment. The team includes:

Consultancy	Company
Lead Consultant; Civil Infrastructure	Mott MacDonald Hughes Truman
Urban Design and Landscape Design	AECOM
Statutory Planning	BBC Consulting Planners
Traffic / Transport	Traffic Solutions Pty Ltd
Water Cycle Management	Mott MacDonald Hughes Truman
Retail Assessment	Hill PDA
Geotechnical and Contamination	Geotechnique
Surveying	Vince Morgan Surveyors
Cultural and European Heritage	AHMS
Acoustic	Renzo Tonin
Ecological	Cumberland Ecology
Social Sustainability	Elton Consulting

STATEMENT OF VALIDITY

Submission of Environmental Assessment

Prepared under Part 3A of the *Environmental Planning and Assessment Act, 1979*

Environmental Assessment prepared by

Name	Dan Brindle
Qualifications	B Econ; MSc URP; MPIA
Position	Director
Address	BBC Consulting Planners Level 2, 55 Mountain Street Broadway NSW 2007
In respect of	MP11_0010, Claymore Urban Renewal Project Concept Plan

Applicant and Land Details

Applicant name	Housing NSW
Applicant address:	Level 1, 223-239 Liverpool Road, Ashfield NSW 2131
Land to be developed	Refer to EA

Environmental Assessment An environmental assessment is attached hereto

Statement of Validity	I certify that I have prepared the contents of the environmental assessment in accordance with the Director-General's requirements (dated 24 March 2011) and that to the best of my knowledge, the information contained in the environmental assessment is neither false nor misleading.

Signature

Name Dan Brindle

Date 1 September 2011

EXECUTIVE SUMMARY

Project Overview

Landcom and Housing NSW (HNSW) are undertaking the long term rejuvenation of the Claymore public housing estate to create a sustainable, mixed community. The urban renewal of the area is proposed to address issues of urban structure, housing quality and social mix based on a detailed consideration of the characteristics of the site and its context including the existing community.

The current "Radburn" design of the estate has resulted in poor amenity and poor environmental and social outcomes, including poor quality and excessive open space areas, lack of surveillance and poor maintenance of common areas. The town house precincts contain a high percentage of public housing and a high concentration of disadvantaged people in poor quality urban form and dwellings.

The project vision for the Claymore Community is:

> *"The people of Claymore desire a community that is vibrant, confident and safe. They desire access to services, shops, jobs and other opportunities that are taken for granted in other parts of Sydney. They have expressed a desire to actively support proposed initiatives, and to build upon past initiative and successes."*

This vision can be achieved by actions that:

- facilitate the de-concentration of social housing within the estate;
- improve the overall built form character of the estate;
- improve connectivity within the site in order to provide choice of movement and enable clear and direct routes;
- provide an efficient residential layout that can accommodate a range of lot sizes and housing types in a manner that is flexible and responsive to the needs of HNSW and future market demand;
- provide an active and viable community hub which can cater for the retail and social needs of local residents, and potentially the wider community;
- provide convenient access to a wide range of social and community services and promote the efficient use of resources through maximising opportunities for co-location and multiple-use;
- meet the public open space and recreational needs of the residents in an equitable and efficient manner;
- create opportunities for seniors living accommodation and affordable housing;
- ensure design options are robust in terms of their proposed staged development;
- maximise opportunities for the sale of individual lots through Torrens Title subdivision; and

- improve the perception of safety within the estate through the creation of a built environment that is conducive to social interaction.

The Site

The Claymore Urban Renewal Project ('the site') is shown on **Figure 1** and covers an area of approximately 125 hectares. The majority of the site is owned by the Housing NSW. Claymore is one of the largest public housing estates in South West Sydney, containing 1,123 public housing dwellings and 28 private dwellings including detached cottages, townhouses and villas. A number of dwellings have been demolished.

Proposed Development

The Claymore Urban Renewal Project seeks to improve the quality of the social and urban environment by creating conditions conducive to the establishment of a sustainable place to live. The project seeks to rationalise the existing built form pattern using a combination of existing and new roads, rationalised open spaces and new residential lots and dwellings. The existing urban structure and form will be redeveloped including new streets and subdivision pattern, new or improved open spaces, new lots for residential development and a new retail centre with potential community facilities and associated services and infrastructure.

Upon completion it is anticipated that the project will deliver approximately 1,490 dwellings/lots in which a maximum of 30% of the final yield (or approximately 447 dwellings) will be retained for public housing and will consist of a mixture of dwelling types generally:

- 140 retained detached cottages;
- 100 new seniors living units; and
- 207 new residential lots for dwelling house construction.

The final mix is subject to detailed design and market demand at the time.

The Concept Plan will be implemented in stages to maintain the community throughout the project and has been designed to respond to the changing property market conditions throughout this period. Housing NSW will replace the public housing dwellings lost from the estate within the Greater Western Sydney region over the life of the project to align with its projected public housing client needs and the need to maintain the total stock number in the region.

In short, the development as outlined in the concept plan includes:

- The demolition of existing townhouses, poorly configured cottages and structures including roads and services;
- The HNSW cottages to be retained on site are planned to be upgraded;
- The construction of a new subdivision with works including:
  - new streets;
  - new stormwater management works;
  - utility services; and

- bulk earthworks;

- Public domain improvements including landscaped reserves and new parks as part of a network of public open spaces and street trees;
- The provision of a site for a new retail facility and community facilities; and
- The use of land for housing and related purposes.

The Concept Plan is shown on **Figure 2**.

A draft planning agreement under Sections 93F to 93L of the EP&A Act is being prepared. The proponent will enter into a planning agreement with Council to provide roads, social and community infrastructure, drainage and facilities and amenities generally as indicated in the Environmental Assessment Report.

A draft statement of commitments for the project has been prepared and is contained in Section 5.

The Claymore Urban Renewal Project Housing Affordability Fund (HAF) was established in November 2010 between the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and the NSW Department of Human Services (DHS). The HAF provides a total of $12,760,000 (ex GST) for the project.

Consultation

The Concept Plan application reflects the outcomes of an extensive process of consultation with the community and with key stakeholders.

Consultation with Claymore residents has occurred over a number of years, co-ordinated by the Claymore Community Regeneration Team. Since 2005-6, a number of service initiatives and works projects have been carried out under the NSW Government's Building Stronger Communities program, in response to the needs expressed by residents.

In assessing the need for and benefits of the proposed Urban Renewal Project, a Community Information Group has been established and residents are provided with regular updates on the proposed urban renewal project. Consultation has continued with Claymore residents, service providers and other stakeholders. This has now been intensified and extended to include personalised interviews and assistance.

Consultation with the community and key government and non-government agencies has occurred throughout the planning and design process and will continue through implementation.

Planning Process

Section 75B of the Environmental Planning and Assessment Act, 1979 (the EP&A Act) provides that Part 3A of the EP&A Act applies to the carrying out of development that is declared to be a project to which this Part applies.

The Minister for Planning has declared the Claymore Renewal Project to be a project to which Part 3A applies. The Minister has authorised the proponent to submit a concept plan for the project. Accordingly, a concept plan and Stage 1

application has been prepared and consent is sought for the Claymore Renewal Project under Section 79B(3A) of the EP&A Act.

The Director General has issued Environmental Assessment Requirements for the project (***Appendix 1***). This Environmental Assessment Report addresses these requirements.

Environmental Assessment Report

This report and appended technical reports comprise a comprehensive environmental assessment of the Claymore Urban Renewal Project. A thorough site analysis has led to the development of the Concept Plan and guiding principles for future development.

The proposal demonstrates a high level of consistency with prevailing planning instruments including State and Regional Environmental Plans and the provisions of Campbelltown (Urban Areas) Local Environmental Plan 2002 (CLEP2002).

An assessment of environmental impacts of the proposal indicates that the project and the principles guiding future development represent a beneficial environmental outcome. Positive social impacts will arise from the provision of a range of housing opportunities in an accessible and pleasant environment.

The assessment has concluded that the Site is suitable for the proposal and that the implementation of the Claymore Urban Renewal Project is consistent with the public interest.

The Minister is requested to favourably consider the application.

Figure 1

Figure 2

Claymore Urban Renewal Final Concept Plan

09 June 2011

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1. INTRODUCTION

1.1 The Claymore Urban Renewal Project Area

Claymore is a 125 hectare public housing estate located at the junction of Badgally Road and the Hume Highway (F5) within the Campbelltown Local Government Area (LGA). The Claymore Renewal Area (**Figure 1**) comprises the suburb of Claymore and a small part of the suburb of Eagle Vale ("the site").

The site is bound by the Hume Highway to the east and Badgally Road to the south. The suburb of Eagle Vale is to the north and west. The site is generally disconnected from the residential areas east of the Hume Highway, with the only vehicular access via Badgally Road. The RTA recently constructed a pedestrian and cycle bridge connecting Claymore and Woodbine (completed in 2010).

As part of the development of the Turner Road precinct in Sydney's South West Growth Centre, Badgally Road will be upgraded to a four-lane sub arterial road and extended to Camden Valley Way in the west. There is currently land reserved along the northern side of the road on the southern boundary of Claymore to facilitate this road upgrade. In this context, Claymore is well located between the future South West Growth Centre precincts and Campbelltown town centre. Further, Campbelltown Council and State agencies are considering options for the extension of Badgally Road to connect over the Campbelltown railway line, to facilitate better access and integration of the south-western suburbs with the commercial and retail offer of the Campbelltown city centre.

The existing retail centre features a FoodWorks supermarket which serves the local community and a number of other shops and a medical centre. The retail centre has poor visual exposure from the street has as it is located on the low side. It is poorly located and experiences property neglect.

Claymore is served by a public school and a neighbourhood centre for the local residents. It is also in close proximity to Blairmount Public School (on the opposite side of Badgally Road) and Eagle Vale High School (located opposite the north west corner of the site).

The majority of the lots within the site are owned by the NSW Land and Housing Corporation. A number of the residential lots are also in private ownership. No development is proposed on the sites which are privately owned and they do not form part of the land to which the Concept Plan application relates.

1.2 Background to the Claymore Renewal Project

The Claymore public housing area is one of five public housing areas in Campbelltown built in the 1970s and early 1980s by the (then) New South Wales Housing Commission. It is one of the largest public housing estates in South Western Sydney, containing 1,123 public housing dwellings. In common with other public housing areas of that era, significant parts of the Claymore public housing area are laid out in accordance with "Radburn" urban design principles, which have proven themselves unsuitable in a public housing context.

Much of the housing was built using the Radburn design principles which includes the separation of pedestrian and vehicular access resulting in dwellings facing

onto parks and walkways, with access from car courts at the rear. Radburn designs have proven to be unsuitable for public housing communities because of poor vehicular access, unsafe rear lanes and inadequate surveillance of open spaces. Many of the townhouse dwellings have a high cost of maintenance and do not meet resident needs or HNSW's current demand for dwellings. Road widths and drainage do not always meet current urban design standards. The estate is subdivided into "superlots" containing a large number of attached dwellings. This prevents Housing NSW from achieving tenure mix in the area.

The poor quality of housing and urban design and the concentration of social disadvantage results in urban decay and a poor quality and poorly maintained residential environment not appreciated or respected by many of the residents.

The Claymore Renewal Area contains significant areas of poor quality and underutilised open space. Usage rates, ease of maintenance, range of activities, attractiveness, local image all perform badly in the perception of residents and other stakeholders. Public housing areas in western Sydney have too much open space yet they lack the range of sustainable spaces, places and functions that make open space an enjoyable part of community life. Parks are in locations that are not safely accessible by the community.

Table 1 shows the number, type and ownership of dwellings within the site. Currently, 98% of the Project Area is public housing.

Table 1- Existing Stock

Social dwellings	
Cottages	308
Townhouses/villas	780
Seniors units	0
Dwellings demolished	35
Total social dwellings	1123
Private dwellings	28
Total dwellings	1151
Existing concentration of social dwellings	98%

As a result of this concentration of disadvantaged people, the community of Claymore experiences a range of social issues including high unemployment and poor health, low income, high percentage of single parent families, a lack of access to educational opportunities and other services and high crime rates. Over the years, the area has become highly stigmatised, further exacerbating the social and economic issues.

1.3 The Relationship of this Concept Plan Application to the Claymore Urban Renewal Project

1.3.1 Concept Plan Application

The Concept Plan for which approval is sought has been based on background studies and a series of community and stakeholder consultations. This work has led to the preparation of a preferred concept plan for the renewal project.

HNSW has commenced community consultation and has put in place strategies for managing the relocation of existing public housing tenants who will need to move for the implementation of the Concept Plan as described in Section 3 of this report. This includes the provision of a housing team based in Claymore.

Section 75B of the Environmental Planning and Assessment Act, 1979 (the EP&A Act) provides that Part 3A of the EP&A Act applies to the carrying out of development that is declared to be a project to which this Part applies.

The Minister for Planning has confirmed the Claymore Renewal Project as being a project to which State Environmental Planning Policy (Major Development) 2005 applies and is thus declared to be a project to which Part 3A applies. The Minister has authorised the proponent to submit a concept plan for the project.

The Director General has issued Environmental Assessment Requirements for the project (***Appendix 1***). This Environmental Assessment Report addresses these requirements.

1.3.2 Planning Agreement

A draft planning agreement under Sections 93F to 93L of the EP&A Act is being prepared. It is intended that the VPA will be discussed with Council and executed prior to registration of the plan of subdivision for the first stage of the development. The details of this agreement are being resolved. It is envisaged that the agreement will include:

- provision and embellishment of open space as described in Section 3.8 and in accordance with the indicative concept plans for the parks contained in ***Appendix 2***;
- the provision of a multi-purpose community centre and a child care centre;
- stormwater management works;
- movement systems (road works (including landscaping), streets to accommodate bus services, cycleways and pedestrian pathways.

As a consequence of the facilities provided under the planning agreement, no S94 or S94A contributions would be payable.

1.3.3 Draft LEP

The Campbelltown (Urban Area) Local Environmental Plan 2002 (CLEP) is the principal local environmental planning instrument applying to the site. The zoning of the site under the CLEP generally reflects the current pattern of land use with existing parks and some vacant and underutilised land included in an open space zone. Although not required for approval to be granted to the Concept Plan

application, changes to zone boundaries to reflect the new land use and subdivision pattern are recommended.

In the terms of Section 75O(3) of the EP&A Act and Clause 8N of the EP&A Regulation, the proposed development is not prohibited and consequently the Concept Plan application can be approved.

The Minister is requested to make a determination that a provision of an environmental planning instrument prohibiting or restricting the carrying out of the project under Part 4 does not have effect as discussed in Section 1.4.2.

1.3.4 Design Guidelines

The renewal project requires new streets and land uses to integrate into and existing built fabric resulting in some restrictions on the ability to locate streets and resulting block patterns. This ultimately affects the allotment sizes.

Generally consistent with Landcom design guidelines and State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, Housing NSW and Landcom propose to accommodate a range of housing types on lot sizes that are less than the minimums allowable under the Campbelltown (Sustainable) City DCP 2009 (the DCP) and that will not comply with dwelling controls in the DCP. Consequently alternative guidelines are proposed.

1.4 Development for which Approval is Sought

1.4.1 Development Summary

Approval is sought for a Concept Plan for the Claymore Urban Renewal Project. The Concept Plan envisages the following development:

- The demolition of approximately 948 existing dwellings, vegetation and structures including roads and services (some 35 dwellings have already been demolished by Housing NSW);
- Subdivision of land including the consolidation of existing lots and the re-subdivision of land for residential and related purposes;
- Subdivision works including:
  - new streets;
  - new stormwater management works;
  - extended and upgraded utility services; and
  - bulk earthworks;
- Public domain improvements including new and embellished parks as part of a network of landscaped public open spaces and street trees and pedestrian and cycle paths;
- Provision for a neighbourhood community centre and child care centre;
- The construction of a new shopping centre;
- Alterations and additions to existing Housing NSW dwellings to be retained on the site.
- The use of land for housing and related purposes.

The general features of the renewal are:

- Approximately 948 mostly town house/villa dwellings will be demolished, with the balance (168 cottages/dwellings – 140 public and 28 private) retained;
- Rehousing the occupants of approximately 948 dwellings from public houses to be demolished;
- The construction of approximately 1,250 new dwellings and 100 seniors housing units located mainly within the demolished townhouse precincts;
- A resulting increase in dwellings (excluding the existing 28 private dwellings within the area) from 1,123 to 1,490, 30% of which will be public housing and 70% private;
- New and upgraded roads, utility services, parks and community facilities in association with the new development.

These numbers are approximate and may vary during more detailed design of subdivisions for each stage of the development and as a consequence of market forces or Housing NSW needs. Thus they are indicative of the development envisaged under the Concept Plan.

Existing public housing cottages to be retained as public housing will be progressively upgraded as part of the ongoing Community Renewal Strategy in place for the past 10 years.

The Concept Plan is shown on **Figure 2**.

1.4.2 Determinations for Approved Concept Plan

There are a number of elements of the development that can occur without the need for further environmental assessment. Specifically subsequent environmental assessment is not considered necessary for demolition of dwellings and associated urban infrastructure such as roads, vegetation and utility services undertaken in accordance with the processes outlined in Section 3.15. This is because sufficient detail of these works and assessment of their impacts is discussed in this Environmental Assessment.

As a consequence of recent changes to the SEPP (Major Development) approval to carry out subsequent stages of the project is to be the subject of Part 4 of the Act. The Minister may make a determination to this effect and if this determination is made, the Minister is also requested to direct, pursuant to S75P(2)(c1), that a provision of an environmental planning instrument prohibiting or restricting the carrying out of the project under Part 4 does not have effect. This will enable stages of the project to be approved prior to any housekeeping amendment to the LEP to be consistent with the Concept Plan as approved.

1.4.3 Draft Statement of Commitments

A draft statement of commitments has been prepared for the project and is contained in Section 5.

1.5 Consultation

There has been extensive consultation with Claymore residents over a number of years, co-ordinated by the Claymore Community Regeneration Team. Since 2005-6, a number of service initiatives and works projects have been carried out under the NSW Government's Building Stronger Communities program, in response to the needs expressed by residents.

In assessing the need for and benefits of the proposed Urban Renewal Project, a Community Information Group has been established and residents are provided with regular updates on the proposed urban renewal project. Consultation has continued with Claymore residents and with service providers and other stakeholders. This has now been intensified and extended to include personalised interviews and assistance.

A summary of the recent consultation activity is as follows:

- May 2010 – Letters to residents advising that Claymore had been awarded $13m under the Housing Affordability Fund by the Australian Government.
- June 2010 – Public meetings held 10am & 7pm.
- July 2010 - Street meetings held across 10 precincts 10am & 7pm.
- July 2010 – Fact Sheet for Claymore delivered to a residents & key stakeholders.
- July 2010 – Briefing for former Local Member of Parliament – Geoff Corrigan.
- August 2010 – Presentation to Campbelltown Council.
- August 2010 - Precinct representatives elected to the Community Information Group. Representatives of HNSW, Landcom, Argyle Community Housing, and several service agencies also attend.
- September 2010 - Precinct representative training – Meeting procedures, privacy & confidentiality, personal safety & security, working with residents and stakeholders.
- December 2011 – Christmas lunch for Precinct Representatives.
- March 2011 - Public meeting for residents in Stages 1 & 2 to advise timeline.
- March 2011 - Staging Plan and details of Precinct Representatives delivered to all residents and key stakeholders in Claymore.
- March 2011 – 80 Residents in Stages 1 & 2 being interviewed by Housing NSW Relocation Officers to asses their rehousing needs.

All residents and stakeholders are provided with a copy of the minutes from each Community Information Group meeting – held monthly. Precinct representatives bring issues to the Community Information Group meetings and feedback response to residents. The issue is confirmed in monthly minutes.

Meetings have been held with local schools, non-government agencies and resident groups as requested to provide specific details of the redevelopment plan.

More meetings are planned, in the next few months, with other schools, non-government and government agencies by request.

The urban renewal process has had the benefit of the input of a range of key stakeholders including (but not limited to):

- Private landowners
- RTA
- Sydney Water
- Transport NSW
- Integral Energy
- Busways
- Health NSW (South West Area Health Service)
- Aboriginal Housing Office
- Local church groups
- Local community service providers including Youth off the Streets, Claymore Community Centre, Argyle Community Housing
- NSW Office of Water
- Tharawal Aboriginal Corporation
- Department of Education and Training including representatives of local public and high schools
- NSW Rural Fire Services
- NSW Police.

1.6 Structure of Environmental Assessment Report

The following table presents the Director-General's Environmental Assessment Requirements and indicates where each requirement is addressed in this report.

Environmental Requirements	Where addressed
KEY ISSUES	
Relevant EPI's policies and Guidelines to be Addressed	
Planning provisions applying to the site, including permissibility and the provisions of all plans and policies including: • Objects of the EP&A Act; • Water Management Act 2000; • Water Act 1912; • State Environmental Planning Policy (Major Development) 2005; • State Environmental Planning Policy (Infrastructure) 2007; • State Environmental Planning Policy No.55 – Remediation of Land • State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004; • NSW State Plan; • Metropolitan Plan for Sydney 2036; • South West Subregion Draft Subregional Strategy; • Campbelltown (Urban Area) Local Environmental Plan 2002;	Section 4.1

Environmental Requirements	Where addressed
• Relevant Development Control Plans; and Nature and extent of any non-compliance with relevant environmental planning instruments, plans and guidelines and justification for any non-compliance.	
Built Form and Urban Design	
• Height, bulk and scale of the proposed development within the context of the locality, existing development proposed to be retained and adjoining development. Detailed envelope/height, FSR and contextual studies should be undertaken to ensure the proposal integrates with the local environment, and that the form, street layout, subdivision pattern and siting of the buildings achieve optimal design and amenity outcomes; • Details of proposed urban design, building mass and streetscape controls for future development; • Details of proposed open space, public domain and landscaped areas; and • The Concept Plan shall be designed and assessed against the principles of Crime Prevention through Environmental Design (CPTED).	Section 3.5, 3.6, 4.2 and Appendix 2.
Environmental and Residential Amenity	
• Impacts of the proposal on solar access, acoustic privacy, visual privacy, view loss and wind impacts (within the site and on surrounding development); and • Details of the measures to be implemented to achieve a high level of environmental amenity.	Section 4.3 and Appendix 2
Staging	
Details regarding the staging of the proposed development, including information regarding the current and future Project Applications and the extent of works proposed for each application.	Section 1 and 3.21
Transport and Accessibility Impacts	
Provide a Transport & Accessibility Study prepared with reference to the Metropolitan Transport Plan – Connecting the City of Cities, the NSW State Plan, the NSW Planning Guidelines for Walking and Cycling, NSW Bike Plan, NSW Health's Healthy Urban Development Checklist, the Integrated Land Use and Transport policy package and the RTA's Guide to Traffic Generating Development, considering the following: - Demonstrate how users of the development will be able to make travel choices that support the achievement of relevant State Plan targets;	Section 3.2, 4.4 and Appendix 12

Environmental Requirements	Where addressed
- Detail the existing pedestrian and cycle movements within the vicinity of the site and determine the adequacy of the proposal to meet the likely future demand for increased public transport and pedestrian and cycle access; - Identify potential traffic impacts during the construction stage of the project, and measures to mitigate these impacts; - Provide an analysis of public transport provision, expected transport mode shares based on planned future demographics, and car parking and address potential for improving accessibility to and from the town centre within the site and connections to the wider region via sustainable transport modes; - Describe the measures to be implemented to promote sustainable means of transport including public transport usage and pedestrian and bicycle linkages in addition to addressing the potential for implementing a location specific sustainable travel plan; - Daily and peak traffic movements likely to be generated by the proposed development, including the impact on nearby intersections and the need / associated funding for upgrading or road improvement works (if required). The traffic impact assessment should consider base models with future traffic generated by the proposal; - Details of the proposed access, parking provisions and service vehicle movements associated with the proposed development; and - Demonstrate a minimal provision of onsite car parking for the proposed development having regard to the site's accessibility to public transport, opportunities for car sharing, local planning controls and RTA guidelines (note: The Department supports reduced parking provisions, if adequate public transport is available to access the site).	
Social Impact Statement	
Social considerations with respect to both the existing surrounding residents and the potential new residents which may be more vulnerable members of the community. The Social and Health Impact Statement should include but not be limited, to a consideration of: - Population characteristics - existing and expected changes; - Cultural diversity and any specific measures / services required; - Distribution of Housing NSW tenants and private	Section 4.5 and Appendix 11

Environmental Requirements	Where addressed
residents and how this will be managed; - Adequacy of existing services, social infrastructure, employment opportunities and open space – and what new services etc will be required as a result of the incoming residents; and - How the existing community has been consulted regarding these future changes, what their perceptions are regarding any impacts on existing social, health and safety issues and how this will be managed.	
Ecological Sustainable Development	
Detail how the development will incorporate ESD principles in the design, construction and ongoing operation phases of the development.	Section 4.10 and Appendix 5
Contributions	
Address Council's Section 94 Contribution Plan and/or details of any Voluntary Planning Agreement.	Section 1.3.2
Heritage	
A statement of significance and an assessment of the impact on the heritage significance of any heritage items and/or conservation areas should be undertaken in accordance with the guidelines in the NSW Heritage Manual. The assessment should be given consideration to the existing adjacent local heritage listed items, 'Glenroy' and 'Hillcrest'.	Section 4.6 and Appendix 6
Aboriginal Heritage	
The EA shall address Aboriginal Heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005. This should include relevant consultation with the local Aboriginal Local Council and Native Title Claimants.	Section 4.6 and Appendix 7
Drainage	
The EA shall address drainage issues associated with the proposal including stormwater and drainage infrastructure.	Section 3.14, 4.7 and Appendix 8
Flooding	
An assessment of any flood risk on site in consideration of any relevant provisions of the NSW Floodplain Development Manual	Section 3.14, 4.7 and Appendix 8

Environmental Requirements	Where addressed
(2005) including the potential effects of climate change, sea level rise and an increase in rainfall intensity.	
Utilities	
In consultation with relevant agencies, the EA shall address the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure works.	Section 2.4, 3.13, 4.8 and Appendix 10
Riparian Land	
The EA shall assess and provide details on: - All watercourses and riparian land on the site (including watercourses and riparian lands located offsite that could be potentially affected by the proposal) including: (a) scaled plans; (b) the location of all watercourses; (c) top of bank; (d) minimum riparian corridor widths (measured from top of bank) to be protected and enhanced; (e) the boundary of the site; and (f) the footprint of the proposal in relation to the watercourses and riparian areas. - Potential impacts of the proposal on any watercourses and riparian areas, including areas of disturbance; and - Safeguard measures to mitigate impacts, contingency plans for the remediation and rehabilitation of riparian areas in the event of potential adverse impacts and the long term management of the riparian lands.	Section 2.3, 4.9 and Appendix 5
Biodiversity	
• Assess biodiversity impacts of the project in accordance with Department of Environment, Climate Change and Water's (DECCW) guidelines, including: - A field survey of the site should be conducted and documented; - Assessment, evaluation and report on the likely impacts on threatened species, populations, endangered ecological communities (ECC) and their habitats, including, but not limited to, Cumberland Plain Woodland (CPW), Cumberland Plain Land Snail, Sydney Plains Greenhood and Spiked Rice-flower; - Identify any remnant ECC on site, including a description of their condition, disturbance history and recovery capacity and extent of any proposed EEC to	Section 2.3, 4.10 and Appendix 5

Environmental Requirements	Where addressed
be disturbed and/or removed; - Identify the area of any hollow-bearing, foraging, roosting, feed and nesting trees proposed to be removed and/or modified; - A description of the measures that will be taken to avoid or minimise impacts or compensate for unavoidable impacts of the project on any threatened species, population or ecological communities. • The assessment should clearly identify any relevant Matters of National Environmental Significance and whether the proposal has been referred to the Commonwealth or already determined to be a controlled action under the Commonwealth EPBC Act.	
Groundwater	
• The EA shall identify whether there will be below ground works and deep excavations associated with the urban renewal and if the proposal is likely to intercept groundwater. Any part of the development that intercepts or uses groundwater may require a water license under Part 5 of the *Water Act 1912*. the NSW Office of Water will assess the need for a licence when more detailed groundwater assessment information is provided at project application stage. • All proposed groundwater works, including bores for the purposes of investigation, extraction, dewatering, testing or monitoring must be identified in the proposal and an approval under the relevant water legislation be obtained from the NSW Office of Water prior to their installation. • The EA should provide details on the presence and distribution of Groundwater Dependant Ecosystems (GDEs) in the vicinity of the site and: - Demonstrate that the proposed development would maintain natural patterns of groundwater flow and not disrupt groundwater levels that are critical to GDEs; - Identify any potential impacts on GDEs as a result of the proposal including: ▪ the effect of the proposal on the recharge to groundwater systems; ▪ the potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections; and ▪ the effect on the function of GDEs (habitat, groundwater levels, connectivity). - Provide safeguard measures for any GDEs.	Section 4.1 and 4.11
Noise and Vibration	

Environmental Requirements	Where addressed
Provide a quantitative assessment of the potential demolition, construction, operation and traffic noise and vibration impacts of the project, in accordance with the *NSW Interim Construction Noise Guidelines* and *NSW Industrial Noise Policy* and relevant guidelines. The assessment shall have regard to the impact from both the Hume Highway and Badgally Road on the Concept Plan and include details of any required acoustic attenuation methods.	Section 4.12 and Appendix 13
Waste	
• Identify, quantify and classify the likely waste streams to be generated during construction and operation, in accordance with the DECCW's *Waste Classification Guidelines (2008)*, including: - Preparation of a stage one contamination report that identifies potential contamination sources and potential hotspots and details the methods and processes to be adopted to address hazardous building materials during civil and other works; - How wastes identified will be handled and managed onsite, during removal and during off site transportation to a lawful facility; - Provision of statements demonstrating compliance with relevant DECCW waste handling and disposal requirements; and - Outline of contingency plans for any event that affects operations at the site that may result in environmental harm. Describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	Section 2.3, 3.18, 4.13 and Appendix 4
Consultation	
Undertake an appropriate and justified level of consultation in accordance with the Department's Major Project Community Consultation Guidelines October 2007.	Section 1.5
GENERAL	
An executive summary	Front
A thorough site analysis including site plans, aerial photographs and a description of existing and surrounding environment	Section 2 and Appendix 2
A thorough description of the proposed development	Section 3 and Appendix 2
An assessment of the key issues specified above and a table outlining how these key issues have been addressed	Section 1.6

Environmental Requirements	Where addressed
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	Section 4 and 5
Plans and documents outlined below	
A signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false or misleading	Front of report
A Quantity Surveyor's Certificate of Cost to verify the capital investment value of the project (in accordance with the definition contained in the Major Projects SEPP)	Provided under separate cover
A conclusion justifying the project, taking into consideration the environmental impacts of the proposal, the suitability of the site and whether or not the project is in the public interest	Section 6
PLANS AND DOCUMENTS	
An **existing site survey** plan: • the location of the land, boundary measurements, area (sq.m) and north point; • the existing levels of the land in relation to buildings and roads; • location and height of existing structures on the site; and • location and height of adjacent buildings and private open space. • All levels to be to Australian Height Datum.	Appendix 2 and 10
A **site analysis plan** which identifies existing natural elements of the site (including all hazards and constraints), existing vegetation, footpath crossing levels and alignments, existing pedestrian and vehicular access points and other facilities, slope and topography, utility services, boundaries, orientation, view corridors and all structures on neighbouring properties where relevant to the application (including windows, driveways, private open space etc).	Appendix 2 and 10
A **locality/context plan** at an appropriate scale should be submitted indicating: • significant local features such as parks, community facilities and open space and heritage items; • the location and uses of existing buildings, shopping and employment areas; • Traffic and road patterns, pedestrian routes and public transport nodes.	Appendix 2 and 10

Environmental Requirements	Where addressed
Architectural drawings at an appropriate scale illustrating: • the location of any existing building envelopes or structures on the land in relation to the boundaries of the land and any development on adjoining land; • location of proposed building envelopes and indicative elevation plans; • the height (AHD) of the proposed development in relation to the land; • indicative subdivision layout and proposed lot sizes and configurations; • location and details of new roads and pedestrian routes; and • indicative changes that will be made to the level of the land by excavation, filling or otherwise.	Appendix 2
OTHER PLANS	
Stormwater concept plan: illustrating the concept for stormwater management;	Appendix 8
Geotechnical report: prepared by a recognised professional which assesses the risk of Geotechnical failure on the site and identifies design solutions and works to be carried out to ensure the stability of the land and structures and safety of persons;	Appendix 3
View analysis: Visual aids such as a photomontage must be used to demonstrate visual impacts of the proposed building envelopes in particular having regard to the siting, bulk and scale relationships from key areas;	Appendix 2 and Section 4.3
Landscape plan: illustrating treatment of open space areas on the site, screen planting along common boundaries and tree protection measures both on and off the site; and	Appendix 2
Shadow diagrams: showing solar access to the site and adjacent properties at summer solstice (Dec 21), winter solstice (June 21) and the equinox (March 21 and September 21) at 9.00 am, 12.00 midday and 3.00 pm.	Appendix 2

2. SITE ANALYSIS

2.1 Introduction

The Concept Plan has been the culmination of a detailed process of site analysis and review and consideration of options undertaken by AECOM and other consultants for Landcom including Jackson Teece. The key site characteristics are summarised below and discussed in greater detail in the appendices to this EA.

2.2 Regional Context

The suburbs of Claymore and Eagle Vale are located approximately 2 km north west of the Campbelltown CBD, the regional centre of the Macarthur Region, about 56 km from the City of Sydney. Claymore and Eagle Vale are established residential suburbs. The site is generally disconnected from the residential areas east of the Hume Highway, with the nearest vehicular access via Badgally Road, which runs underneath the highway. Campbelltown train station acts as a major transportation interchange, being serviced by a number of metropolitan and regional lines (***Figure 3***). Busways provides a service (the 880) which runs along Badgally Road/Dobell Road and links Claymore/Eagle Vale with both Campbelltown train station as well as Minto train station.

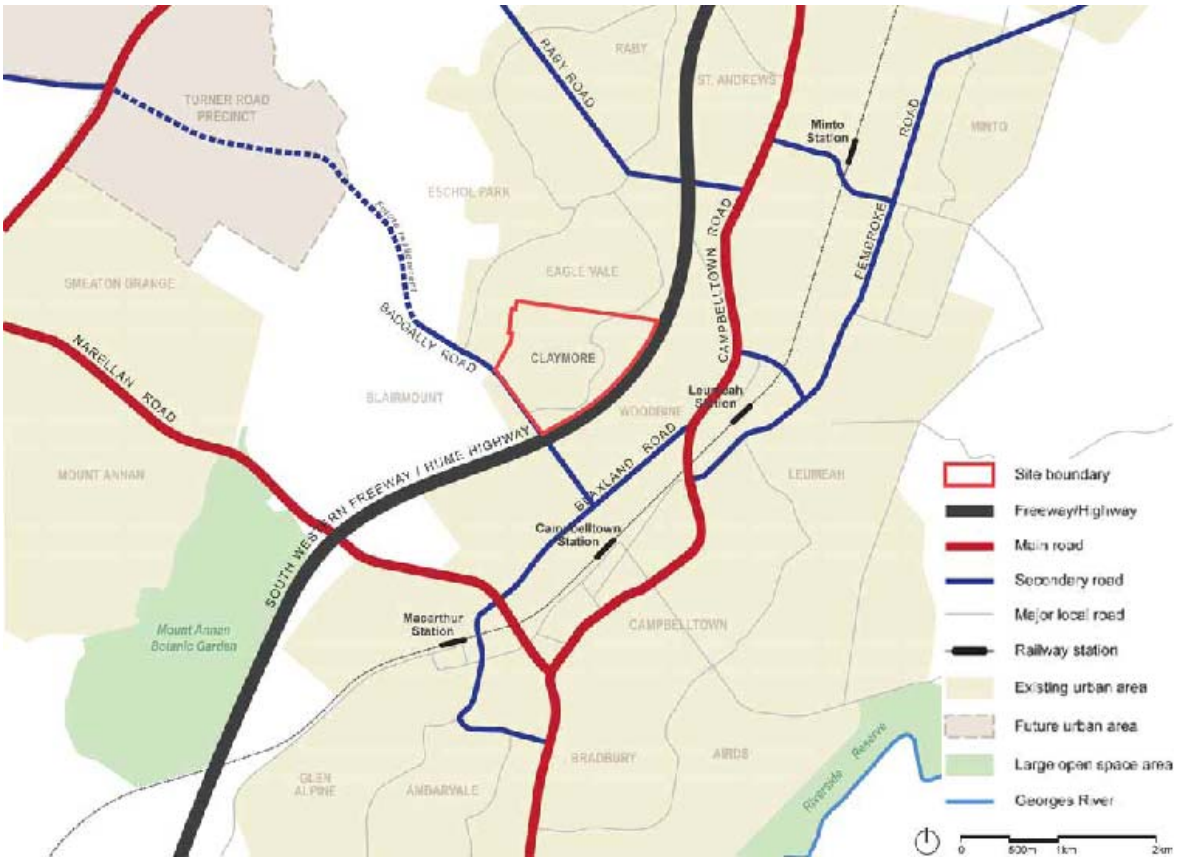

Figure 3. Regional Context (Source: Jackson Teece)

There are a number of educational facilities located within and adjoining the site including Claymore public school, Blairmount public school and Eagle Vale high school. The site also has access to the facilities and services on offer in the regional centre of Campbelltown, with access to the CBD being provided via Badgally / Blaxland Road. The services available include Campbelltown Hospital, University of Western Sydney - Macarthur campus, Southwestern Institute of TAFE, Campbelltown College and Macquarie Fields College, Campbelltown Arts Centre, Campbelltown Catholic Club, H J Daley Library, Sporting facilities including Campbelltown Football Stadium, Athletics Centre, Swimming Centre and Skate Park, Campbelltown Mall and Macquarie Square (regional shopping centres), and a range of other leisure and entertainment facilities including cinemas, restaurants, cafes.

2.3 Natural Environment

2.3.1 Topography and Landform

The Claymore site is undulating, with ridgeline generally extending along Badgally Road.
There are several high points in the southern and middle portions of the site, with low points generally within the riparian area along the northern site boundary.

There is a significant drainage depression dipping towards the east along the northern site boundary. Several other minor drainage depressions were noted dipping from the southern portion of the site towards the main drainage depression in the northern portion.

In general, ground surface across the site dips from the south towards the north west.
However, locally the ground surface dips easterly or westerly towards the minor drainage depressions. Although ground surface slopes in most portions of the site range from about 5% to 15%, isolated areas of steep slopes were also noted.

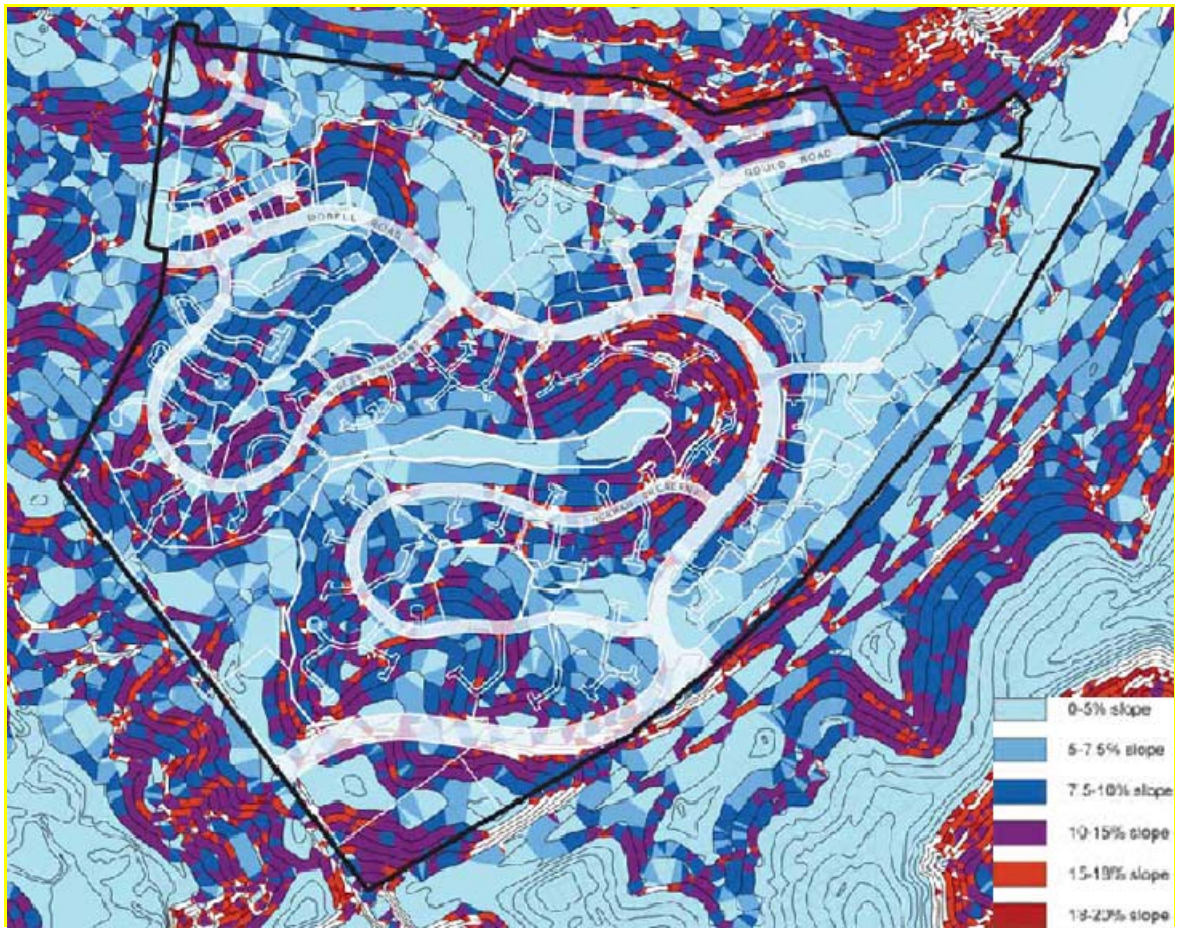

Figure 4. Landform (Source: Jackson Teece)

2.3.2 Geology and Landscape

Geotechnical investigations (***Appendix 3***) reveal the sub-surface profile across the site comprises a sequence of topsoil, fill and natural soil underlain by bedrock. Natural soils include alluvial soil and/or residual soil and bedrock is predominantly shale with bands of siltstone.

Soils encountered across the site are predominantly medium to high plasticity clayey soils, with potential for high reactivity and susceptibility to erosion. Soils across the site are non-saline and mildly aggressive to a depth of about 1.0m. However, at depths exceeding 1.0m soils are saline and moderately aggressive.

The risk of slope instability across the Claymore site is very low and the site is not within a mine subsidence district. Therefore, the site is suitable for proposed residential development provided (1) limitations imposed by high reactivity, erosion and salinity are addressed during site preparation and construction of buildings and other structures and (2) earthworks during site preparation and design of future buildings and other structures are carried out in accordance with the recommendations provided in this report.

Groundwater level or seepage was not encountered in all test pits and boreholes to depths of about 3.0m from existing ground surface. However, groundwater

seepage was encountered in some boreholes located in low lying areas at depths of 3.5m to 6.5m. It should be noted that fluctuations in the level of groundwater and/seepage might occur due to variations in rainfall and/or other factors.

2.3.3 Contamination

A preliminary site investigation has been undertaken by Geotechnique (***Appendix 4***). The objective of the investigation was to ascertain whether the site is likely to present a risk of harm to human health and/or the environment, under the conditions of the proposed residential development. As part of the preliminary contamination assessment, sampling was carried out across the site at 74 test pit locations by using a backhoe on 2, 3, 4 and 5 May 2011 and two sample locations in a soil stockpile and an earth mound by using a trowel on 10 May 2011.

Topsoil, fill, stockpile and earth mound samples were recovered for chemical testing, with analytes including Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), Organochlorine Pesticides (OCP), Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl Benzene, Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAH), Polychlorinated Biphenyls (PCB) and/or asbestos.

The investigation was conducted in general accordance with the relevant Australian Standards.

The findings of this preliminary contamination assessment are summarised as follows:

- In general, soils beneath the site do not appear to have been significantly impacted by past or present activities and/or the presence of fill materials, soil stockpile and earth mound.
- Topsoil, fill materials with demolition waste in isolated locations within the site and soil stockpile (see Drawing No 12467/2-AA2) were contaminated with lead, zinc and/or asbestos-cement pieces. Elevated lead (Pb) concentrations present a potential risk of harm to human health. Asbestos-cement pieces also present a potential risk of harm to human health. Elevated zinc (Zn) concentration could potentially impact on the growth of certain plant species but would not present a risk of harm to human health. Therefore remediation is required.
- Groundwater assessment was not carried out; however the potential for groundwater contamination is considered low.

Geotechnique concluded that the site is considered suitable for the proposed residential subdivision development, subject to the following:

- *Detailed sampling and testing in the vicinity of locations of concern to delineate the extent of contamination.*
- *Development of a remedial action plan (RAP) to remediate the elevated lead and zinc concentrations and asbestos-cement pieces, followed by appropriate validation.*
- *Following demolition and removal of houses, garages and clearing of roads, an inspection and/or sampling and testing of soils beneath the feature should be carried out by an Environmental Consultant. In the*

event that soil beneath the site feature(s) is contaminated, detailed sampling, testing and remediation will be required. Demolition and removal of the houses and garage should be carried out by appropriately licensed contractors. A hazardous materials survey and controlled removal process must be carried out/implemented by an occupational hygienist prior to commencement of demolition works. Any fibro structures might impact on surface soils if demolition is not carried out properly.

- *A site-specific Unexpected Finds Protocol (UFP) should be prepared and implemented throughout the construction works under the responsibility of the Principal Contractor.*

Based on these findings it is expected that remediation will be characterised as category 2 remediation as defined in *SEPP No 55 Remediation of Land* and will be undertaken in association with construction activity. The proposed remediation is not expected to meet the criteria for category 1 remediation.

2.3.4 Flora and Fauna

Comprehensive investigations into the ecological qualities of the site have been undertaken by Cumberland Ecology in their report contained in ***Appendix 5***.

The conclusion from the Ecological Study was that:

> *"The Project Area has had a long history of land use and development. Notwithstanding the high degree of modification of the landscape, areas of semi-natural vegetation remain and these have been derived from, or are low quality representations of, two threatened vegetation types:*
>
> - *River-flat Eucalypt Forest (TSC Act);*
> - *Cumberland Plain Woodland (TSC Act & EPBC Act).*

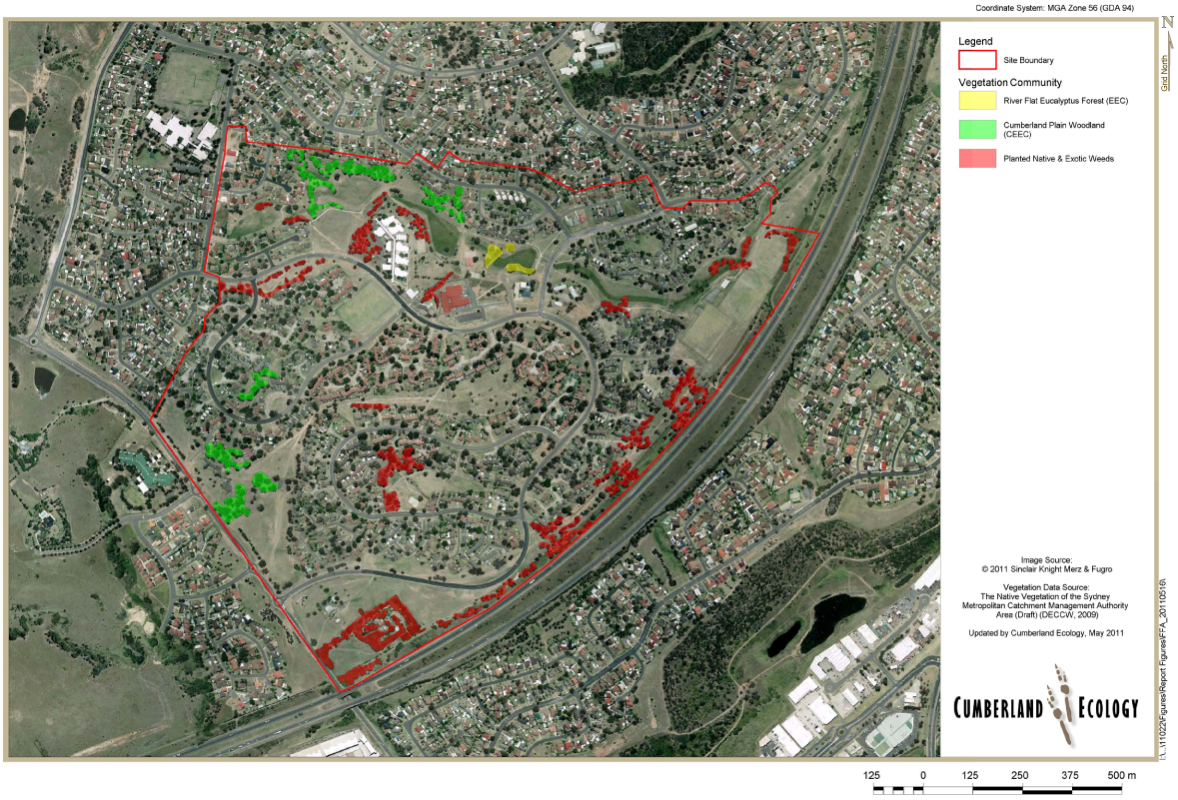

Figure 5. Vegetation Communities

The Claymore Urban Renewal Project has been referred to the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) to determine whether the impact to nationally listed matters is likely to be significant.

2.3.5 Aboriginal Heritage

An assessment of Aboriginal heritage has also been undertaken by Archaeological and Heritage Management Solutions (AHMS) and is contained in ***Appendix 6***.

The predictive model suggested that the most likely Aboriginal site types to be encountered would be stone artefacts sites of small size and density, and scarred trees. The results of the survey have confirmed the predictive model and one artefact site was found and is referred to as Claymore 1. The report recommends retaining items in Dimeny Park and relocate artefacts from Claymore 1 to Dimeny Park.

2.3.6 European Heritage

The site does not contain any individually listed items of local heritage significance as listed by Schedule 1 of the Campbelltown (Urban Area) Local Environmental Plan 2002. However, the site is in the vicinity of three individually listed items of local heritage significance as listed by Schedule 1 of the Campbelltown (Urban Area) Local Environmental Plan 2002. The proposal does not seek any material change to any of the three heritage items in the vicinity of the site. A Heritage

Impact Statement (HIS) has been prepared by Archaeological and Heritage Management Solutions (AHMS) (***Appendix 7***). AHMS concluded that:

> *"The proposal allows for a new mix and density in a suburb that has experienced major social issues. The proposal will have no discernible impacts on adjacent heritage items and on the item in the vicinity. The proposal also recognised the community that has evolved at Claymore"* (HIS; AHMS; 25).

Where the opportunity presents, the naming of new streets and/or community buildings that recognises the contribution of important community figures to the suburb of Claymore should be considered.

2.3.7 Drainage and Flooding

Drainage

A Water Cycle Report has been prepared by Mott MacDonald Hughes Truman and is contained in (***Appendix 8***). The site drains mostly to a drainage line and overland flow path that starts at a headwall from Drysdale Street and meanders west-east through the northern part of the development area. The flowpath then turns to the north-east of the site before eventually connecting flows beneath the Hume Highway via a large piped headwall (4 x Ø1800 pipes).

The flowpath typically grades at approximately 1% and includes a series of grassed detention basins which range in size from 6,000-16,000m^3. This channel/ basin system comprises the following:

- A low flow piped system exists within the channel/ basin system. This piped system is typically Ø600 but does increase to a Ø900 at the north-east corner.
- Existing detention basins appear to have been previously designed and constructed to include staged storage. Here piped outlets at embankment weirs typically increase to Ø1650 to allow surcharge at downstream positions.
- There are a series of existing stormwater piped outlets and flowpaths which convey surface flows from surrounding residential areas to the existing basins.

Existing flowpaths and piped systems convey surface flows towards the channel/ basin system.

A comprehensive analysis of the existing system has been undertaken as a basis for improvements to the system as part of the renewal process.

Flooding

Flood modelling has been undertaken to determine existing flood prone land within the drainage line and overland flow path across the northern part of the site. The 1 in 100 design storm flood prone land is generally contained within the open space reserve with minor flooding occurring on the periphery of the school

site and adjacent Housing NSW land and two residential properties on Auld Place with the extent of flooding minor and subject to detailed on site survey.

Existing flooding conditions have been taken into consideration in preparing Concept Plan.

2.4 Manmade Environment

2.4.1 Site Description and Ownership

The site comprises the properties contained in ***Appendix 9*** and other publically owned lands. Within this area there are a number of dwelling sites in private ownership (***Figure 6***). No development is proposed on these sites and they do not form part of the land to which the concept plan application relates. The Claymore Renewal Area is referred to as "the site".

Figure 6. Ownership

Figure 7. Existing Layout

2.4.2 Traffic Transport and Accessibility

The existing road pattern generally follows the contours of the topography, particularly Dobell Road, Gidley Crescent and Norman Crescent. This has led to a convoluted road pattern, which is further emphasised by the Radburn influenced use of cul-de-sacs, driveways and pedestrian paths.

The existing road network within the site offers very poor connectivity and legibility. Dobell Road offers the only east-west vehicular connection, which is indirect and convoluted. East-west pedestrian connections are hilly and poorly defined.

A transport and accessibility study was undertaken by Traffic Solutions (***Appendix 12***). Badgally Road and Eagle Vale Road are said to perform a sub-arterial road function, recognised by the Roads and Traffic Authority (RTA), as the RTA classify these roads as regional roads in the Authorities Restricted Vehicle (RAV) maps. Regional roads are under the care and control of Council's, however the RTA contribute funding to maintenance and upgrades generally on a 50/50 basis.

Dobell Road and Gould Road perform a collector road function in Claymore and Eagle Vale. The remaining roads in Claymore serve a local road function.

Access to dwellings is via shared driveways which are fronted by rear car ports and garages, since most dwellings have been orientated to address open space. Accessways and driveways are typically steep and pedestrian unfriendly due to the topography and location of dwellings.

2.4.3 Built Form and Character

A majority of Claymore has dwellings set well back from the street with poorly defined front and rear yards. Roads are wide and inefficient. Dwellings are tightly grouped around narrow ways which are usually concrete or paved and bounded by high timber paling fences.

There are significant areas of underutilised open space typically adjacent to roadways, at entrances to walkways and townhouse clusters and along service road reserves.

The streetscape character differentiates Claymore from its surrounding areas. The adjoining neighbourhoods accommodate streets with consistent setbacks, plantings and fencing. Parks and open areas are well proportioned and clearly defined. Dwellings are similar in size with much larger footprints on larger lots and front and rear yards are generally well maintained with a variety of exotic plantings.

Dwellings are predominantly one to two storeys, in a low density attached, detached, or semi-detached configuration. The majority of dwellings have similar materials and finishes, notably:

- Brown and red clay roof tiles.
- Red, brown and crème brickwork.
- Horizontal timber panelling.
- Timber paling or cyclone safety fencing.

The appearance of similar building forms, heights, colours and materials leads to a homogenous appearance of buildings across the estate. This causes the estate to be distinguishable from surrounding residential neighbourhoods, and does not accommodate the need for self-expression by residents through personalisation of dwellings.

2.4.4 Adjoining Areas

The suburbs of Eagle Vale and Blairmount adjoin Claymore to the north, west and south. The land to the west of Eagle Vale Road is currently vacant. Further to the west is the proposed Turner Road precinct, which is part of Sydney's South West Growth Centre. The adjoining residential areas are characterised by detached dwellings as the predominant housing form with the townhouses and villas of Claymore having a different character and appearance.

The M5 forms the eastern boundary to Claymore and provides a strong point of separation to suburbs to the east.

2.4.5 Community Facilities

Claymore has a number of community facilities that provide a wide range of services and opportunities for residents. These facilities are:

- Claymore Primary School;
- Claymore Youth Centre operated by Housing NSW and containing the Claymore Youth Service;

- Claymore Neighbourhood Centre and Gumnut cottage offering a meeting and function space and is used for outreach services, a community church etc. It has recently undergone some upgrades. Gumnut Cottage provides a launderette, IT facilities and a simple café. An adult literacy service also operates out of the building;
- Glenroy Cottage, a heritage building on the edge of the development area, is under repair at present. It houses employment and training initiatives;
- St Stephens Anglican church (currently vacant);
- Kalon House operated by St Vincent de Paul operating as a house of welcome to the community of Claymore;
- Retail centre - although run down, this offers some basic shopping facilities and a Post Office;
- A medical centre is located within the retail centre;
- Guardian Angel Preschool Kindergarten, Claymore;
- Waratah Cottage Early Learning Centre; and
- HNSW operates its Regeneration office at Claymore.

There are a number of other services provided by other agencies as described in the Social and Health Impacts Report prepared by Elton Consulting ***(Appendix 11)***. Facilities are shown on **Figure 8**.

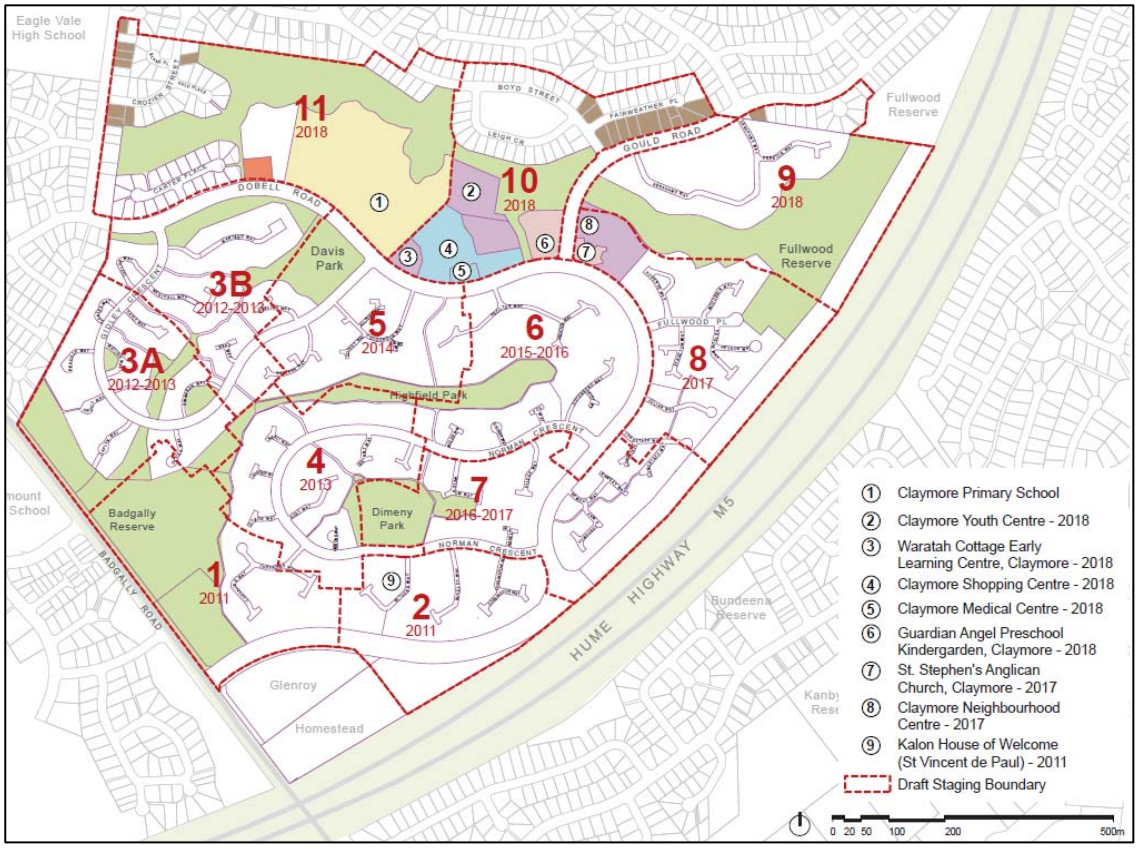

Figure 8. Community Facilities

The most notable feature of the existing service system is the concentration of services at Claymore many of which are targeted to a disadvantaged population. The Neighbourhood centre and youth centre are somewhat run down, as is the shopping centre. The renewal process will provide an opportunity to rationalise and improve community facilities.

2.4.6 Public Open Space

The current public open space areas within Claymore are extensive, dispersed, poorly planned, and of low utility. In particular, due to the estate being based on Radburn design principles, much of the space is semi-public and directly fronted by houses. It is a source of anti-social behaviour, litter and nuisance and in places does not provide for personal safety because of inadequate surveillance and an indeterminate sense of the ownership of the space.

Claymore includes approximately 12 reserves and parks totalling approximately 29ha of open space (**Figure 7**). There are six distinct parks including Davis Park, Fullwood Reserve, Dimeny Park, Claymore Park, Highfield Park and Badgally Reserve.

There is also a range of other smaller open spaces that act as neighbourhood parks.

Issues with the present open space provision include:

- Lack of causal surveillance and visual ownership of open space creates safety issues for users;
- Lack of connectivity between public open spaces and areas of activity such as shops and schools;
- Visual dominance of open space is detrimental to the quality of the public domain, which should provide a degree of enclosure to users;
- Ongoing maintenance costs associated with large extent of underutilised open space.

Opportunities to improve open space include:

- Better use of open space areas to provide a more focused area with a defined role and function;
- Relocate open space to encourage highest and best use of land within the study area and around the town centre;
- Redesign open spaces to improve the casual surveillance of the public domain and open space areas consistent with CPTED principles.
- Improve accessibility to important destinations such as shops and schools by re-arranging open space areas.
- Link open space network with broader Campbelltown open space network.

2.4.7 Availability of Utility Services

Investigations into existing utility services have been undertaken by Mott MacDonald Hughes Trueman (***Appendix 10***).

Water and Sewer

A main traverses the Hume Highway from Woodbine which services the northern portion of the estate and Eagle Vale. A pipe lies within Gidley Crescent, Norman Crescent and Dobell Road, these mains service the existing development. Smaller diameter mains traverse the site, the internal mains will be retained where possible but some re-locations may be unavoidable.

It is intended to retain as much of the major external mains network as possible, these however may require adjustment particularly where proposed roads bisect them, where existing roads are re-aligned or where proposed lots are placed over them. The majority of the water mains along retained roads such as Dobell Rd, Gidley Cres and Norman Cres may be retained.

Existing external sewer mains will be retained and modified as required with internal mains adjusted as required to service the new urban form.

Electricity

The existing Claymore Estate is predominantly serviced by underground electrical reticulation. Where possible existing ducts and cable routes will be maintained within roads that are to be retained. It is anticipated that all other existing ducting, cabling and pillars through proposed lots will be removed. Kiosk sub-stations may be able to be retained and upgraded dependant on location.

Gas

Existing gas mains are located at the boundaries of the Claymore Estate, the gas mains within the major road service corridors will be used to service the development, these are located in;

- Dobell Road
- Badgally Road
- Boyd Street
- Gould Road

Additional investigations and reviews are required to be undertaken with the service provider for confirmation of supply. Connection will likely be made from the existing 100mm diameter secondary main along Badgally Rd.

It is not anticipated that the existing gas services will constrain development.

Telecommunications

The existing Claymore Estate's telecommunications network consists of reticulated services. As with electrical, existing telecom ducts and cabling should be retained where possible but they will need to be removed where it does not follow proposed road alignments.

Additional underground conduit may be required for Telstra, NBN and other carriers to cater for increased demand in telecommunications services in the future such as Broadband, cable television and optical fibre cabling.

Conclusion

All services are available and can be readily augmented to meet the needs of the development.

2.5 The Existing Community

The Claymore community is complex and is characterised by high levels of socio-economic disadvantage. Based on the 2006 Census results for the area (based on census collectors districts within which the site is located), the community displays the following characteristics (see *Social and Health Impact Assessment* prepared by Elton Consulting contained in ***Appendix 11***):

- High level of relative social disadvantage – Claymore (as a postcode area) is ranked as the **most disadvantaged postcode in New South Wales**.
- Over half (57%) of all residents were aged under 25 years old - The proportion of children aged 0-14 years is substantially higher than the Campbelltown average (39% compared with 23%). While there are correspondingly lower proportions of middle aged adults in Claymore (21%) than in Campbelltown (29%), the suburb also have an very low proportion of residents aged over 65 years (3% in Claymore compared with 7% in Campbelltown).
- There are a relatively high proportion of Aboriginal and Torres Strait Islander residents in the suburb, at 5.2% compared with Campbelltown (2.7%). There is a large group within the population with a Pacific Islander background but otherwise cultural and linguistic diversity is limited. Around 25% of residents reported being born overseas, which is similar to the Campbelltown average of 26%. A similar proportion of people speak a language other than English at home (mainly Samoan), although Housing NSW reports that the vast majority speak good English as well, and that communication in English is effective for all but a handful of residents in the suburb.
- The median individual weekly income in Claymore ($237) is around half that of Campbelltown ($464) and the median weekly household income ($474) is less than half that of the LGA ($1,066).
- Low labour force participation rate (38%) – highlighting the large number of persons who are not involved in the workforce. High unemployment rate (32% compared with 7.5% in Campbelltown LGA).
- The proportion of students attending TAFE within Claymore was relatively lower than for Campbelltown and Sydney overall. However, the proportion of university students within Claymore (1.2%) is substantially lower than either Campbelltown (7.3%) or Sydney (13.2%).
- Claymore has a relatively high proportion of employees working as labourers (29.7%), machinery operators and drivers (18.8%) and community and personal service workers (13.1%). This differs from the wider LGA, where most employees are clerical and service workers (18.7%), technicians and

tradespeople (15.7%) and professionals (13.1%). Across Sydney, the occupational structure differs again, with 23.8% of employees classed as professionals, and the next largest occupational groups being clerical and services (16.7%) and managers (13.2%).

- The level of internet connectivity for homes in the Claymore suburb (32%) is around half of that in Campbelltown and Sydney (60.7% and 65.9% respectively).
- More than one third of Claymore residents do not have access to a motor vehicle, 42% have access to one vehicle and only 14% had access to more than one vehicle. In Campbelltown and Sydney, 11-14% of households did not have access to a motor vehicle and 38-40% had access to at least one vehicle.

3. THE PROPOSAL

3.1 The Claymore Concept Plan

Approval is sought for a Concept Plan for the Claymore Urban Renewal Project as shown on **Figure 2**. The Concept Plan comprises the following development:

- The demolition of approximately 948 dwellings, vegetation and structures including roads and services;
- Subdivision of land including the consolidation of existing super lots and the re-subdivision of land for residential and related purposes;
- Subdivision works including:
  - new roads;
  - new stormwater management works;
  - extended and upgraded utility services; and
  - bulk earthworks;
- Public domain improvements including new and upgraded parks as part of a network of landscaped public open spaces and street trees and pedestrian and cycle paths;
- Alterations and additions, including the construction of new community facilities;
- Alterations and additions to existing Housing NSW dwellings (approximately 180 detached cottages).
- The use of land for housing and related purposes.

The general features of the renewal are:

- Approximately 948 dwellings will be demolished, with the balance (approximately 35 have been demolished);
- Approximately 140 public and 28 private dwellings to be retained;
- Rehousing the occupants from public housing to be demolished;
- The construction of approximately 1,250 new dwellings and 100 seniors housing units;
- A resulting increase in dwellings from 1,123 to 1,490, 30% of which will be public housing and 70% private;
- A new retail centre;
- Provision for a neighbourhood community centre and child care centre;
- Improvements to the public domain including parks and streets;
- New and upgraded roads and utility services in association with the new development.

These numbers are approximate and may vary during more detailed design of subdivisions for each stage of the development and as a consequence of market forces or Housing NSW needs. Thus they are indicative of the development envisaged under the Concept Plan.

There will be the progressive release of some 1,043 residential lots for sale to private home buyers/home builders.

The development will see the staged construction of new roads to provide more direct pedestrian and vehicular links to Campbelltown (Major Centre) and to provide a more connective and robust urban structure together with an extensive street planting program to improve the amenity of the area.

Works are planned to be completed by 2026 subject to market demand and the rehousing program, providing a 15 year development time frame.

The urban design approach to the Concept Plan and details of the design are contained in the urban Design Report prepared by Aecom contained in ***Appendix 2***.

3.2 Street Systems and Access Arrangements

The Concept Plan provides an upgraded urban structure based on a more interconnective street system and improved access from the surrounding main road network. This provides an improved sense of arrival and gateway presentations for the area while improving the integration of the estate with the surrounding area.

The key transport objectives for the Concept Plan are:

- "De-Radburnise" the study area by improving linkages and overall connectivity within Claymore and to surrounding areas, focused on improvements to Dobell Road (the main circular route through the study area) and by constructing a new through road (Glenroy Road);
- Improve vehicular and public transport access within Claymore and to adjoining areas;
- Optimise the location of the town centre having regard to existing and future road network, and public transport networks;
- Provide safe and direct cycleways and pedestrian linkages connecting local services, schools and open spaces in Claymore as well as to other neighbourhoods. The cycleway to Woodbine has already been constructed and will be integrated with the proposed cycleway;
- Identify recommended changes to existing road network to improve connectivity within the estate and to adjoining areas and to support the renewal process; and
- Respect site topography.

These are achieved by works that include:

- Using existing streets as much as possible;
- Providing a new access road off Badgally Road – Glenroy Road;
- Integrating public transport, cycle paths and pedestrian paths into the new and improved network.

3.2.1 Street System

Figure 9 shows the proposed Concept Plan street system as discussed above.

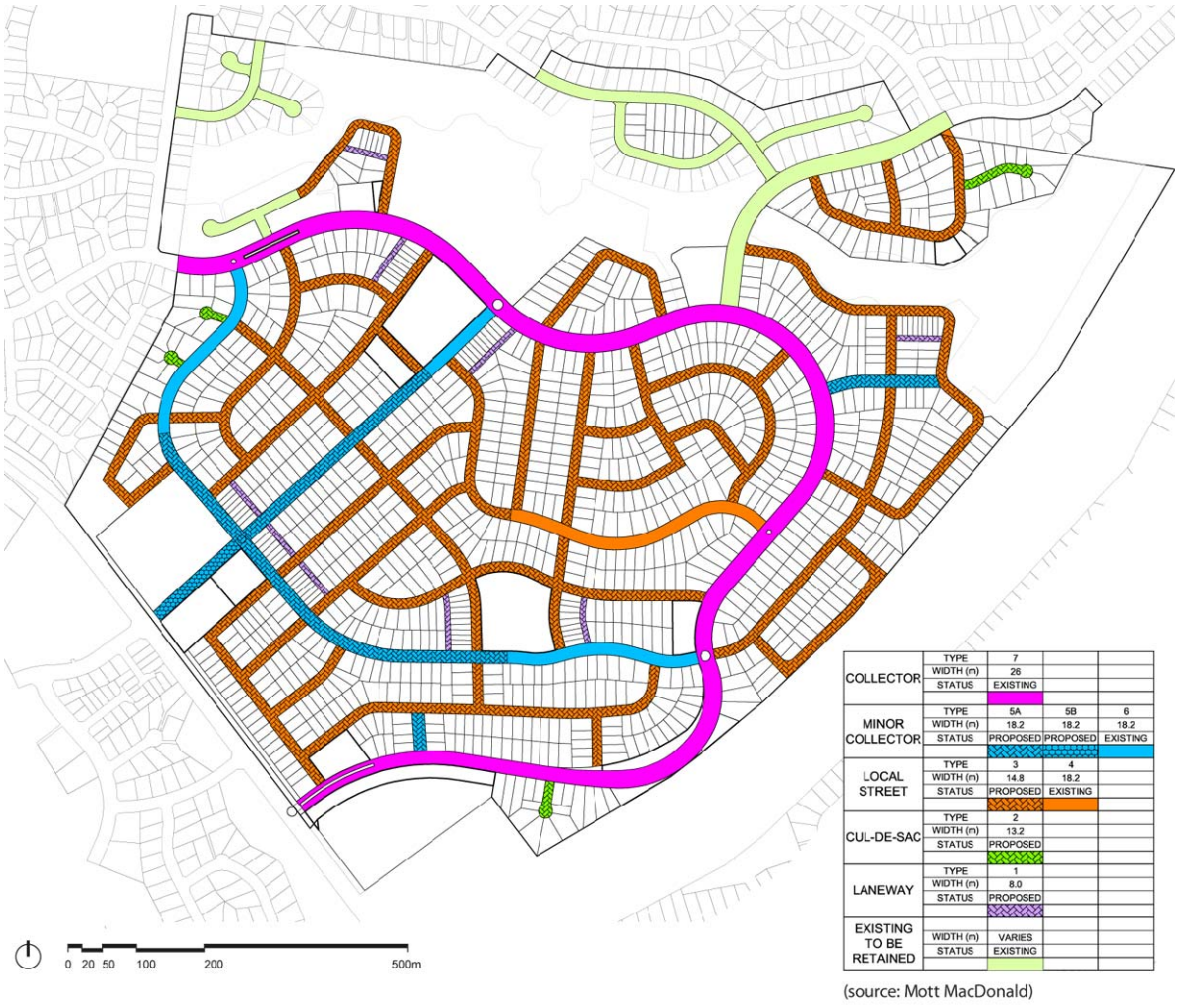

Figure 9. Street Hierarchy (Source: AECOM)

Proposed road cross-sections have been designed to ensure that all road users (such as pedestrians, cyclists, buses and cars) are catered for within the road reserve whilst integrating with retained streets. Cross-sections of all roads within the proposed development are included in the Urban Design Report contained in ***Appendix 2***.

Most of the road cross-sections, except laneways will have on-street parking provision on both side of the road.

3.2.2 Public Transport

The road network and intersection treatments have been designed to accommodate efficient bus movements through the suburb. Early consultation with Busways has been undertaken to develop an indicative bus network for Claymore.

3.2.3 Walking and Cycle Network

Concept walking and cycling networks have been developed with reference to a range of published guidelines and policies including the Planning Guidelines for Walking and Cycling (Department of Planning, 2004). The network is intended to provide safe and efficient routes that present a viable alternative to car travel for local and regional trips. The improved road network within the study area improves cycle and pedestrian connections.

The proposed pedestrian and cycle routes are shown in **Figure 10**.

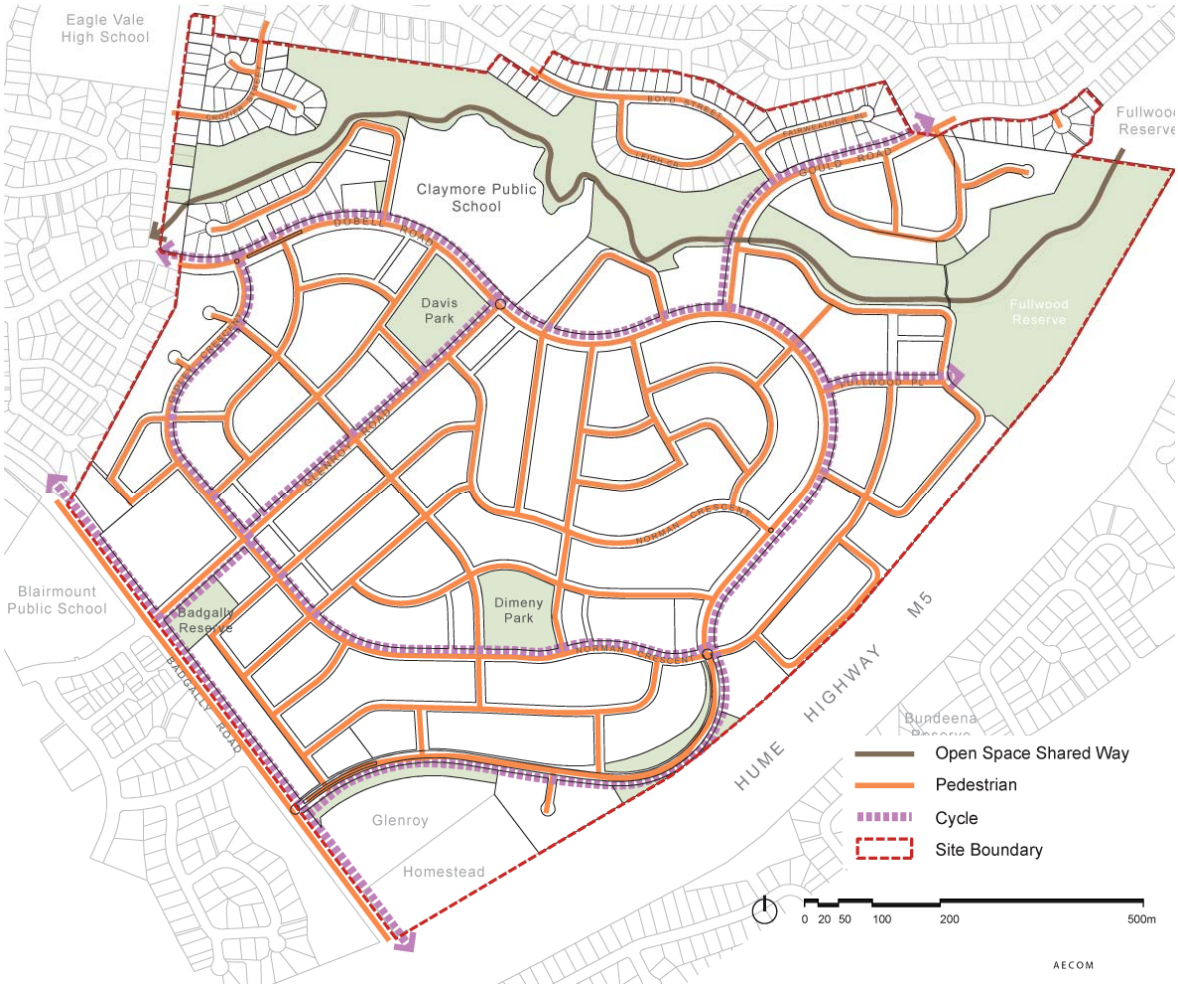

Figure 10. Pedestrian and Cycle Movement (Source: AECOM)

3.2.4 Sustainable Travel Measures

In addition to the infrastructure and service upgrades discussed above, other sustainable travel initiatives have been identified for consideration during project implementation including items such as:

- Household Information Packs for the new dwelling units within Claymore, which would incorporate public transport leaflets, route maps and timetables, pedestrian and cycle network maps including leisure maps, and information

on sustainable community initiatives and other local community projects to reduce travel or encourage uptake of sustainable modes.

- A local Bicycle User Group (BUG), which the local community could be encouraged to set up or join an existing BUG which is active in the local vicinity and which works to encourage bicycle use and promotes bicycle rides and initiatives.
- School travel plans for the local schools (including a walking school bus program), which can lead to a mindset which encourages active travel throughout life for both children and parents for other journeys. Access by walk and cycle will be facilitated by continuous, high quality pedestrian and bicycle paths.
- Car share scheme, which would reduce the residents' need to own and operate their own vehicle, safe in the knowledge that they can get access to a vehicle if they require one. Campbelltown Council could consider extending the provision of established car share schemes using an established provider (such as GoGet) to set up a car sharing network for Claymore.

3.3 Urban Structure

The Concept Plan approach is to create an urban structure based on a more inter-connective street system focussing movement onto streets. An additional vehicular entry point is provided which enhances a sense of arrival with formalised major pedestrian and cycle movement paths integrated into the street system. The Concept Plan incorporates the following:

- Reconfigured the open space network to respond to community needs, is safe and accessible and is linked to the pedestrian and cycle network;
- Preserve key community cultural resources;
- Improve community safety by introducing street edges to open spaces and fronting housing towards open spaces;
- Establish new roads to create new blocks of a size suitable for a variety of lot sizes and to improve vehicle and pedestrian accessibility and safety.

3.4 Subdivision Pattern

The Concept Plan (**Figure 2**) contains an indicative street layout. Subdivision to create streets and lots within the blocks formed by the new streets is proposed to be subject to subsequent applications. A range of lot sizes is proposed.

Figure 11 is an illustrative design of a subdivision pattern envisaged by the Concept Plan.

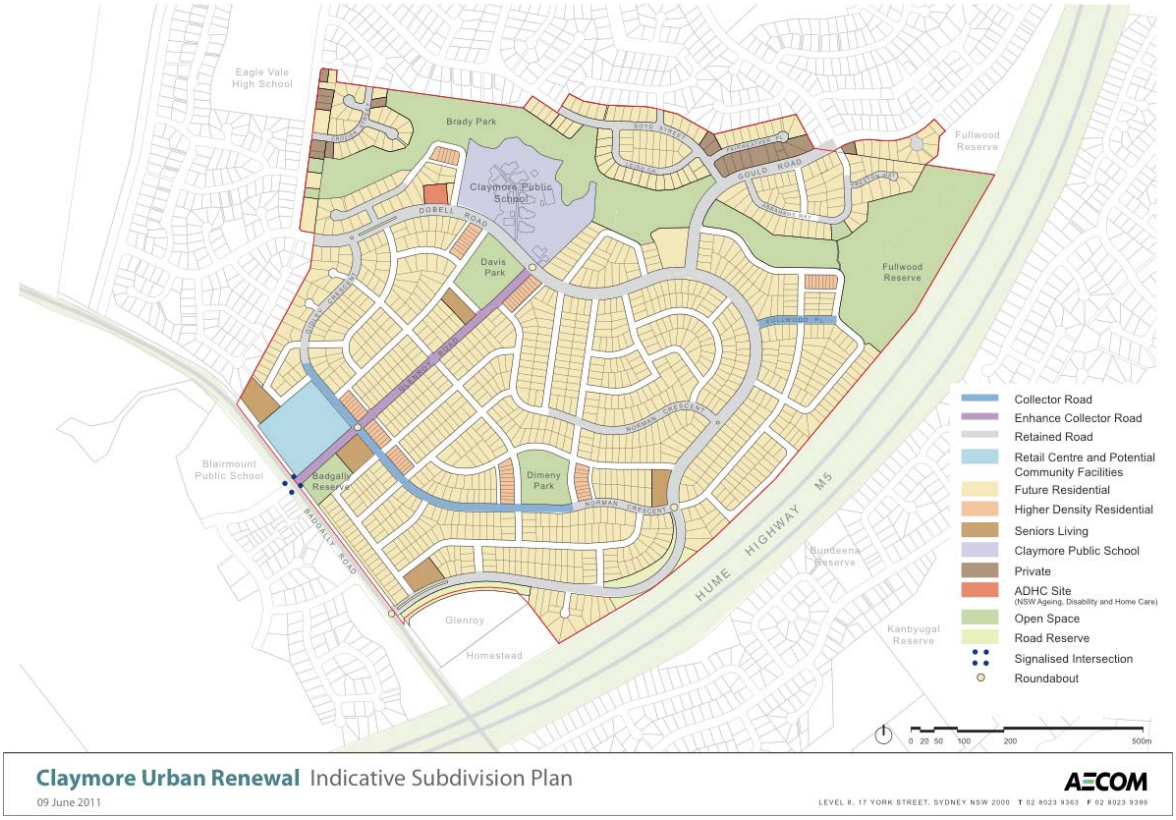

Figure 11. Illustrative Subdivision Pattern

This is illustrative only as the final lot layout will be subject to subdivision design and will be resolved at development application stage.

The proposed subdivision pattern provides a range of lot sizes with the more intensive development located closer to the town centre and along the main north south access street.

The subdivision and built form will be guided by sound planning principles and the principles in the DCP and the General Housing Code. Subdivision to create lots smaller that permitted under Council's DCP is proposed. Thus the following guidelines for subdivision are proposed. Where these conflict with Council DCP controls, these guidelines will prevail to the extent of any inconsistency:

- All allotments intended for attached and detached residential housing will have a minimum site area of 200 square metres with a minimum width measured at the building line of 6 metres;
- All proposed allotments will have frontage to a street;
- Battle axe type lots will be avoided and only entertained where a street frontage can not otherwise be provided due to levels or existing development constraints.

Lot size range predominantly from 200 square metres to 600 square metres. Some variation to this might occur in localised areas constrained by the road layout and

existing development. This may result in some smaller lots to a minimum of 200 square metres.

Lots have been designed to accommodate a variety of dwelling types including those envisaged in the General Housing Code.

3.5 Built Form

The built form envisaged under the Concept Plan has been driven by the suburban character of the surrounding area and the need to increase density and achieve increased housing provisions in areas with good access to services and transport.

The renewal project will reduce the concentration of social housing to 30% of all dwellings and will follow the traditional pattern of houses and front yards addressing the street. It also aims to emphasise the special qualities of the local environment through the built form and landscape design.

The Concept Plan seeks to:

- Provide a range of dwelling types in response to market demands;
- Provide a subdivision layout whereby new dwellings address and reinforce the street through appropriate building siting and orientation;
- Provide buildings that can be constructed to enhance safety through design, by providing casual surveillance over areas of public open space, including streets and paths;
- Provide varied built edges which respond to open spaces, reinforcing their importance to the community and improving their surveillance;
- Improve the character with higher density housing types, such as attached homes which are designed to resemble a large two-storey home;
- Improve community safety and encourage social interaction by orienting dwellings to the street, parks, and other public spaces;
- Reduce stigma of social housing by designing all dwellings to present a similar built form to the surrounding private housing;
- Encourage more active and inviting streetscapes by designing car parking structures and hardstand areas to complement the built form of dwellings and to avoid dominating the streetscape.

Because the proposed minimum lot size proposed under the Concept Plan is less than that allowed under Council's DCP, different dwelling controls are proposed. These controls are presented in the following table and will guide the built for within the estate.

Dwelling envelope controls have been developed by Aecom Urban Design to provide high quality urban design outcomes. Side setbacks have been standardised at ground and upper levels to reduce construction cost and promote affordable products. Where sloping land creates added complexity the lot layouts will be determined considering environmental, social and economic impacts (eg. sloping lots - garages to be situated on the low side). Built form

diagrams for standard lot types (6m, 8m, 10m, 11m, 13m and 15m frontages) indicate the preferred location for the dwelling element based on orientation and street location (***Appendix 2***).

Dwelling Development Criteria

Item	Lot Size	200-250m^2	250-300m^2	300-450m^2	450-600m^2	600-900m2
1	Maximum site coverage	70%	65%	60%	55%	55%
2	Primary street setback	3.0m	3.0m	4.0m	4.0m	4.0m
3	Secondary street setback	1.0m	1.0m	2.0m	2.0m	2.0m
4	Rear boundary setback	1.0m for rear access garage	1.0m for rear garage or 3.0m where no garage	3.0m	4.0m	4.0m
5	Side setbacks	refer Item 6	refer Item 6	0.9m	0.9m	0.9m
6	Built to boundary (zero lot line walls)	Lot width 6-8m: both sides Lot width 8-10m: one side and 0.9m other		n/a	n/a	n/a
7	Maximum length of zero lot line walls	66% of the lot depth		n/a	n/a	n/a
8	Garage setback	1.0m for rear access garage or 5.5m to primary street		5.5m	5.5m	5.5m
9	Garage dominance	Rear access garage (6.0m max door width) or single garage only to primary street		Garage door not wider than 50% of the total dwelling width		
10	Principal private open space area (directly accessible to living room)	16 square metres (provision of 4m x 4m square)		24 square metres (provision of 6m x 4m rectangle)		
11	Maximum building height	9.5m				
12	Maximum floor area for detached studio on laneway	45 square metres (not to be separately titled)		n/a		

All dwellings will seek to comply with the following additional criteria:

- A maximum roof pitch of 36 degrees;
- Provision of eaves up to 450mm (except on zero lot line or parapet walls);
- A minimum of 1 enclosed car space per dwelling;
- Contemporary architectural design;
- Garage to be setback a minimum of 1m behind the front building line;
- Location of all services and bin storage areas behind the front building line out of public view;
- Submission of a landscaping plan, also incorporating required fencing;
- Submission of shadow diagrams for all 2 storey dwellings.

The range of lot sizes and the variety on street frontage widths will ensure variety in house design and a suitable dwelling mix and streetscape quality. The controls seek to encourage buildings that result in a streetscape of compatible built form and variety in architectural styles.

3.6 Height, Bulk and Scale

Dwellings will be one or two storeys in height so that the proposed development is consistent with the suburban character of the adjoining residential suburbs.

Multi-unit housing in the form of seniors housing is proposed and is expected to have a maximum height of 2 storeys.

Additional details of height bulk and scale of dwellings is contained in Appendix 2. An indicative distribution of lots can be seem on Figure 11 shown the location of smaller lots at specific locations adjacent to parks and the village centre. The residential lots will accommodate a variety of dwellings reflecting the choice of the home owner with consistency in streetscape provided by building setback and façade design guidelines.

3.7 Housing

The Concept Plan envisages housing as follows:

- Approximately 140 retained cottages, all of which will be retained as public housing, which will be upgraded as part of the Community Renewal Strategy;
- 1,250 new dwellings to be constructed on lots created through the new subdivisions, some of which will be for public housing and some by private purchasers of new lots;
- Approximately 100 seniors housing units on sites selected by Housing NSW as suitable for this purpose.

It is expected that the predominant built form will be detached and attached dwelling houses with some small lot housing forms and seniors units. The Concept Plan envisages four additional seniors housing developments each comprising approximately 25 units. Indicative locations for seniors housing is shown on the Concept Plan. These may change during detailed design in response to housing needs as assessed by Housing NSW. It is not expected that such multi-unit housing would exceed 2 storeys in height.

3.8 Public Domain

The public domain comprises the proposed parks and reserves and the streets including off street movement systems.

Concepts for the public domain have been prepared by AECOM as shown in ***Appendix 2.***

The public streets and open space areas provide both legibility and unity to the renewal. The functional and operational restrictions placed on the public domain leads to the adoption of a strategic approach in the identification of the areas which may deliver maximum impact in the elements of the public domain. The critical areas within the open space, the town centre and the streetscape have been highlighted to maximise the potential outcomes delivered by the public domain and open space strategy.

3.8.1 Open Space

The design objectives for the open space system are:

1. Design to consider context, history and future use;
2. Open spaces to be contemporary in nature and innovative;
3. Passive parks to cater for a range of users, mix of spaces and both structured and informal recreation activities;

4. Design to promote passive surveillance of open space;
5. Maximise co-location and sharing opportunities of active recreation facilities;
6. Park furniture to be functional and aesthetically pleasing in design and be located to integrate not dominate open space areas;
7. Integrate existing park facilities into new layout;
8. Provide pedestrian connections between open space areas;
9. Create clear pedestrian view lines in Linear Parkland Corridor to encourage passive surveillance;
10. To encourage planting and landscape treatment which build the environmental value of the site including biodiversity and native fauna habitat.

The Landscape Plan is shown on **Figure 12**.

Figure 12. Landscape Concept (Source: AECOM)

Park design requirements are:

1. Parks shall generally be located as illustrated on the Landscape Master Plan;
2. Include embellishment within public open spaces generally in accordance with Concept landscape plans for each park included in ***Appendix 2***;
3. Where existing significant trees are located within the park areas consider detailed grading to maintain existing ground levels and allow retention of trees;
4. Incorporate planting of indigenous species and vegetation communities to enhance native fauna habitats;
5. Reduce water usage by using indigenous and low water tolerant species and efficient irrigation systems;
6. Native planting should be considered as deep root planting to reduce salinity risk;

Parks are provided at Dimeny Park (1.2 hectares), Davis Park (1.3 hectares), Fullwood Reserve (8.9 Hectares), and Badgally Reserve - a new park at the new entry to the site (0.6 hectare). An additional 8 hectares of linear open space is retained along the existing drainage channel/ overland flow from Brady Park to Fullwood Reserve.

Details of the parks and park embellishment are contained in the Design Report prepared by AECOM in ***Appendix 2***.

3.8.2 Streets

The landscape character of the street is created by well defined front gardens, street trees and the visibility of backyard trees beyond the house. The streetscape is a major contributor to the quality of the overall neighbourhood. (Built Form Guidelines for Landcom Projects May 2008)

The streetscape strategy objectives of the Concept Plan are:

- Street design to create a cohesive public realm with consistent street character;
- Street tree hierarchy and fencing responds to location and aspect;
- Retain and enhance existing trees where possible;
- Upgrade existing sport fields and facilities and integrate into new urban subdivision;
- Highlight estate and Linear Park Corridor entrances;
- Local Streets - solar aspect defines tree selection to shade from the western sun in summer, allow good solar access in winter;
- Local Streets have informal planting layout to accommodate driveway locations;
- Entry statement and intersection design - punctuate regular street tree planting on Collector Roads with intersection planting - terminates views along adjoining streets - refer Landcom Street Tree Design Guidelines

- Collector Roads and Dobell Road - Street trees in parking bays. Layout is a formal avenue punctuated by intersections and entry statement;
- Where possible use street trees to provide microclimate benefits - this includes shading from hot western sun in winter, and allowing solar access for the lower angled northern sun in winter;
- For local streets - larger canopies for lot frontages facing west and south;
- For local streets - smaller canopies for lot frontages facing north and east

The street tree strategy is shown in ***Appendix 2*** with details also contained in the Infrastructure Report contained in ***Appendix 10***.

3.9 Community Facilities and Services

The Concept Plan envisages that the site can be used for a range of community facilities generally permitted in residential zones. Community services will be provided by Housing NSW and Campbelltown Council during the renewal program. Community facility and services needs have been identified in the Social and Health Impacts Report prepared by Elton Consulting (***Appendix 11***). Their findings include the following in relation to community services for inclusion in the Concept Plan.

Unlike most residential projects, the project will lead to a reduction in the need for local services, because of a fall in the number of highly disadvantaged residents requiring intensive service support. There is expected to be greater integration into the wider area and more use of LGA-level and regional-level services. Eventually, the population of the site will be slightly higher than at present and will not give rise to any need for additional community facilities, although some facility buildings would benefit from upgrade or possibly replacement. I n the interim, some services (including Claymore Primary School and child care services) may face challenges because of the reduced population while renewal occurs.

The project will eventually result in only a modest increase in the population of Claymore, and in the short to medium term the population will fall, resulting in some reduction in demands on services and facilities. While this may itself create some challenges, it will mean that, on average, demands for many services and facilities will not increase.

Space for the community activities and functions will continue to be required by the future population. The Claymore neighbourhood centre provides sufficient space to meet future needs, which are not expected to be greater than at present. One option is that the existing centre is replaced by a single multi-purpose centre integrated into the new village centre. However, negotiations will be required between HNSW, Council, Landcom and other agencies to determine whether the centre should or could be replaced by a more modern multi-purpose facility. Future management arrangements will also need to be resolved. Similar consideration will be given to the need for a child care centre having regard to expected population change and the role of the private sector in the provision of child care services. The proposed new retail centre is an appropriate location for a child care centre.

The recommendations of this report will be discussed and negotiated with key stakeholders and will form the basis of an implementation plan to be prepared by Housing NSW to guide the implementation phase of the renewal project.

3.10 Land Use

The Concept Plan envisages the following land uses:

- Residential uses which include detached and attached dwellings and seniors housing The Concept Plan envisages a variety of residential types would be permissible on the site;
- Open space in the form of parks and reserves including active spaces and conservation managed spaces as discussed in Section 3.8;
- Community facilities to meet the needs of the development including the facilities identified in Section 3.9;
- A new retail centre at the intersection of Badgally Road and the new Glenroy Road.

3.11 Town Centre

The town centre is envisaged as a focal point where shopping, working, leisure, sporting and community activities can take place. The Concept Plan envisages a new retail centre at the intersection of the new Glenroy Road and Badgally Road at the entrance to the site.

The size of the retail centre has been determined following a retail study undertaken by Hill PDA and contained in ***Appendix 14***. Their investigations indicate that Claymore could support a centre of around 5,000 to 6,000sqm of leasable area of which around half would be a supermarket. The balance would be around 15 to 25 specialty stores including liquor, chemist, newsagent, fruit and veg, butcher, bakery, hair and beauty, some takeaways and restaurants. A site with an area of approximately 2.2 hectares has been identified for this purpose.

Closer settlement is proposed in the vicinity of the centre with a park planned adjacent to the centre.

3.12 Alterations and Additions to Housing NSW Houses

Alterations and additions to dwelling houses owned by the Housing NSW that will be retained on the site will be undertaken. It is anticipated that approximately 140 cottages will be upgraded, all of which will be retained by Housing NSW. These figures are subject to change during the project.

Alterations and additions include external and internal alterations. It is intended that there will be no discernable differences externally between social and private dwellings.

3.13 Utility Services

Utility services serving the site are described in Section 2.4 and ***Appendix 10***. All utility services are available or can be readily extended to meet the needs of the development. The Concept Plan seeks to minimisation disruption to the existing

services and thus the residents within the precincts where private residents are being retained.

Endeavour Energy has identified that the existing 11kV network does not have capacity for any additional load and an additional feeder would be required from Endeavour Energy's Campbelltown Zone Substation. The Claymore Urban Renewal Project will incrementally increase the load with an additional 400 dwellings over a 15 year period. The additional feeder will not only service the extra properties at Claymore, but service the greater region, therefore Endeavour Energy should consider full payment in accordance with standard industry service obligations.

3.14 Water Cycle Management

Water Quantity Management

The proposed Concept Plan water cycle management strategy is described in detail in the Water Cycle Management Report prepared by Mott MacDonald Hughes Truman and contained in ***Appendix 8.***

The strategy comprises a range of elements that work together to deliver an integrated outcome addressing stormwater quality improvement, detention and flooding.

As discussed in Section 2.3, the pre-developed site has a constructed channel/ basin system which travels from west to east and conveys runoff from a wider catchment area including the site towards north-east before discharging under the Hume Highway. This watercourse consists of a series of detention basins which will remain in place.

The site contains a combination of minor and major stormwater infrastructure in place to assist in conveyance of surface flows to their respective outlets to the channel/basin system. The proposed drainage system will also be a major/minor system. The (minor) piped drainage system is to be designed to control nuisance flooding and enable effective stormwater management for the site. Council's standard requires that the minor system be designed for a minimum 5 year ARI.

The major drainage system incorporates overland flow routes through proposed roads and has been assessed against the 100 year ARI design storm event, with general safety and flooding issues being addressed for events in excess of the 100 year ARI storm. If the major system cannot meet the safety and flooding criteria, the capacity of the minor system will need to be increased.

An additional "offline" detention basin and associated control structures is proposed at the existing modified soccer field at Fullwood Reserve complementing existing basins in order to decrease the peak flow rates generated from the proposed development. This is described in greater detail in ***Appendix 8***. This will provide the required detention for the development.

The modelling indicates that the proposed development will not have an adverse impact on downstream property as a result of increased flows.

Drainage corridors for the development have been designed to convey flows for the 100year ARI storm event.

Water Quality Management

The stormwater management systems for the site shall comply with Campbelltown City Council's Development Control Plan. Council's policy requires improved water quality of the stormwater flow from the developed site prior to discharge into the drainage system.

The proposed treatment train is as follows:

- Rainwater tanks are to be provided on the proposed dwellings for at source treatment and re-use of roof water;
- Gross pollutant traps and trash racks to capture larger pollutants and sediments before discharge into the watercourse; and
- Native Grass Infiltration swales to provide online treatment for effective removal of fine sediments and nutrients.

The possibility of using the tree bays as an at source stormwater bio-retention device has not been considered as part of this proposal. The deviation of low flows from the road gutters into these tree bays would enable the at source water quality treatment of the low flows. This additional treatment would further improve any water quality results obtained during this modelling. The potential for this would be assessed as part of individual evaluation of each stage depending upon site parameters including road networks and grades.

It is assumed that Gross Pollutant Traps (GPTs) would be located at the outflow from each discharge point into the watercourse. Additionally, GPTs are assumed upstream of any proposed water body or bio-retention devices to provide pre-treatment of gross pollutants and suspended solids. Indicative locations of these Gross Pollutant Traps are shown in ***Appendix 8***. A trash rack is provided at larger discharge points to the infiltration basin.

An infiltration basin is proposed to treat runoff with upstream flows from each sub-catchment directed to GPT's and trash racks to provide pre-treatment of gross pollutants and larger suspended solids prior to entry into the infiltration basin.

The overall water cycle management plan is shown on **Figure 13**.

Figure 13. Water Cycle Management Plan (Source: Mott MacDonald Hughes Trueman)

3.15 Demolition

Development envisaged under the Concept Plan requires the progressive and managed demolition of existing dwellings primarily within the town house precincts on the site. As with the construction phases, the demolition of existing dwellings will be staged as discussed in Section 3.21.

It is envisaged that a further 948 dwellings are to be demolished although it is expected that this figure may change as detailed design progresses and as more information comes to hand on the condition of existing dwellings.

Demolition will take place progressively within each stage. Residents will be progressively rehoused. Housing NSW has establishing a rehousing team to assist tenants through this period.

Approval is sought for the demolition of existing dwellings and structures on the site which are necessary for the development to proceed. This includes vegetation and inground services.

The demolition will be in accordance with the requirements as set out under the Australian Standard AS2601 – 2001: The Demolition of Structures which is incorporated into the Occupational Health and Safety Act 2000 which is administered by WorkCover NSW.

Demolition will include:

- the removal of all improvements;
- breaking down and removing all foundations and footings;
- breaking up and removing road pavements, footpaths and services not required for the development;
- removal of vegetation not retained as part of the project.
- removal of debris and rubbish.

Barriers will be erected around the work area to protect the public.

A Hazardous Building Materials Management Plan will be prepared prior to demolition commencing. This report will indicate the construction materials to be demolished on-site and the mechanism for controlling and managing the demolition and disposal of possible hazardous materials. Methods used to safely demolish and dispose of any hazardous materials will be provided. The demolition process will be controlled by specific guidelines including the Occupational Health and Safety Regulation 2001 and all WorkCover requirements.

An erosion and sediment control plan will be prepared to control run off during the demolition process.

A Waste Management Plan will be prepared prior to demolition commencing. Where possible materials will be recycled for reuse on the Site.

Gas, electricity, water, sewer and telecommunications will be sealed at relevant Site entrance points and will be undertaken according to the relevant utility standard.

A Site Management Plan will be prepared to ensure the safety of the existing residents during the demolition program. This will include, but will not be limited to:

- means of providing pedestrian and vehicular access to existing dwellings including temporary access as required;
- means of managing noise and dust including the management measures recommended in the Demolition Noise and Vibration Assessment prepared by Renzo Tonin & Associates and contained in Appendix 13;
- means of advising the community of the construction program on a regular basis;
- means of communicating with the contractor and clear procedures for registering complaints and follow-up.

The demolition program will involve consultation with the rehousing and community renewal teams.

It is considered that these works can proceed without further environmental assessment and a determination to this effect is requested.

3.16 Earthworks

Bulk earthworks will be undertaken on a stage by stage basis although there will be some transfer of excavated material between stages requiring short term stockpiling. Regrading works will be undertaken to modify and enhance overland

flow paths, to provide for new road construction and to provide suitable building platforms. All efforts will be made to achieve a balance of cut to fill. Additional earthworks will be required for road, drainage and utility works.

3.17 Tree Removal

The site contains a number of mature trees that have grown following completion of the housing estate. These are located in a number of areas including parks and vacant lands, in front and rear yards and occasionally along streets. The Concept Plan has been prepared having regard to the location of trees. Consideration has been given to locating trees within parks where consistent with other planning objectives. Trees along or streets to be retained are likely to be not affected.

It is inevitable that the renewal process will result in the removal of trees in the areas to be redeveloped. This is necessary to redesign the street network and construct new dwellings. Trees to be removed will be replaced with new street trees as outlined in Section 3.8. Trees are also likely to be planted on residential lots.

3.18 Waste Management

Waste materials result from construction and demolition (C&D) activities. C&D waste quantities can be significant for urban renewal projects, such as Claymore. Effective planning and management can prevent unnecessary disposal to landfill and consumption of resources. Recycling and reuse options must be considered on all projects with significant quantities of C&D waste.

Landcom's minimum targets will be incorporated in the delivery stage project management brief, tender package (sustainability returnable schedule) for development partners and associated Project Delivery Agreement (PDA), Builder Agreements, civil works contracts and building contracts (where building activity is a direct Landcom contract). The overarching Landcom target is to achieve 95% recovery (reuse and recycle) of total construction and demolition waste materials generated from sum of civil works contracts completed in that year.

The Concept Plan application does not envisage any works other than demolition of existing dwellings. It is proposed that a construction waste management plan will be prepared prior to commencement of construction as part of a construction management plan and a commitment to this effect in included in the statement of commitments.

The envisaged waste management regime is shown in the following table:

DEMOLITION/SUBDIVISION STAGE		
MATERIALS ON SITE	**DESTINATION**	
	Re-Use and Recycling	
Type of Materials	**ON-SITE**	**OFF-SITE**
Excavation material	Project aims for balance of cut and fill which may involve stockpiling between stages.	Any excess will be removed from site as clean fill

	Topsoil stripped and re-used	
Green Waste	Trees to be chipped on site for re-use as landscaping mulch	Any remainder to Camden soil mix, Narellan or equivalent for recycling.
Bricks		To crushing & recycling plant (Jack's Gully Waste Management, Narellan) or equivalent
Concrete Access ways	Possibly used as recycled road base, structural fill crushed on site. Any remainder to re-cycle plant.	To crushing & recycling plant
Footpaths / Driveway / Kerbs etc.	Possibly used as recycled road base, structural fill crushed on site. Any remainder to re-cycle plant.	To crushing & recycling plant
Timber:		To crushing & recycling plant
Plasterboard		To crushing & recycling plant
Metal – General (Includes reinforcement)		To crushing & recycling plant
Road Material - AC	Mill For Reuse, structural fill	
Road Material - Base	Possibly used as recycled road base, structural fill crushed on site. Any remainder to re-cycle plant.	To crushing & recycling plant
Ongoing Management of waste during the subdivision construction will be limited to general waste disposal by the nominated civil contractor. Waste disposal and recycling facilities requirement will be incorporated into the Construction and Environmental Management Plan to be implemented by the approved contractor.		

3.19 Sustainability

In striving for sustainability, development should contribute to the enhancement of the natural environment and to provide land and resources in an appropriate condition for future generations.

A major aim of sustainability is to decouple economic growth from increased use of resources and generation of waste. This can be achieved through more efficient use of resources – getting more value out of each unit of energy and mineral extracted from the ground and increasing the efficient use of water. Minimising waste in all stages of production, together with reuse and recycling of the end product, all contribute to resource efficiency and an improved ecological footprint. The Concept Plan is founded on the principles of sustainability. Sustainability is enhanced by the Concept Plan in a number of ways:

- Reuse of an existing developed site to provide improved housing, improved public transport accessibility and better use of available urban services in a location that is accessible to the centre of Campbelltown;

- Providing an urban form that facilitates walking and cycling in safety and with more direct access to facilities and services;
- The requirement for all new dwellings to be designed to achieve BASIX requirements;
- Providing the opportunity for mixed communities with diverse housing and community uses;
- Contributing to community infrastructure to meet the needs of the community;
- Integrating the new community into the existing surrounding community;
- The provision of a stormwater management system that provides controls over water quality prior to discharge off site and opportunities for source based rainwater harvesting;
- Replacing inefficient housing with more sustainable building stock;
- Providing a housing mix and urban form that is conducive to the on-going social sustainability of the precinct.

Subsequent applications for approval for stages of the renewal will give further specific consideration to sustainability.

Sustainability initiatives will be implemented during design, construction and operational phases of the project and will include the following.

3.19.1 Design

- Water sensitive urban design measures that will result in improvement in water quality, incorporate the riparian network and integrate with urban design;
- Providing lots with dimensions and orientation to allow good solar access;
- Making efficient use of existing parks where consistent with good urban design;
- Improve residential densities by more efficient use of serviced and accessible land;
- Providing opportunities for ageing in place through the provision of seniors housing;
- Providing a pedestrian and cycle movement system that is safe and attractive and conducive to healthy living;
- Connectivity to regional infrastructure to support more efficient transport within the wider region;
- Reduction in travel distances and improved mode share split by:
    - Providing a street network with a high level of connectivity and permeability;
    - Locating public transport routes within 400 metres walking distance of the majority of dwellings;

- Providing an interconnected network of pedestrian priority streets and open space corridors to encourage walking between residences and facilities; and,
- Providing a system of on-street and off-street cycleways to encourage bicycle usage.

3.19.2 Construction

- Re-use of the existing developed site to provide improved housing, improved public transport accessibility and improved community and recreational facilities;
- Reduction of subdivision construction waste going to landfill by recycling excavated materials 'in-situ';
- Recovery and recycling of waste materials from existing dwellings to be demolished;
- Reduction in waste from homes, during and after construction, by educating builders and residents on the benefits of waste minimisation;
- Undertake environmental and OH&S audits on all civil works and building contracts;
- Remediating land as required during the construction process;
- Implementing BASIX requirements in housing construction;
- All construction contracts let to include sustainable materials, design and practices requirements.

3.19.3 Operation

- Reduction in potable water usage through BASIX initiatives;
- Reduction in greenhouse emissions through BASIX initiatives;
- Achieving a 6 star thermal efficiency rating through NatHERS;
- Providing homeowner/resident kits to inform residents of the resource efficiency features and initiatives and the benefits available.

3.20 Safety and Security

Subdivision layout enhances safety through design, by providing casual surveillance over areas of public open space, including streets and paths. Building design and orientation, subject to further approval will also be considerate of safety and security.

Additional road and pedestrian connections are proposed to improve permeability and safety across the site. Pedestrian amenity and safety can be enhanced throughout the development precincts by establishing formal pathways that are clearly visible from the public domain.

Parks have been designed and located to encourage passive surveillance and public safety through their location in relation to adjoining streets, choice of landscaping, street furniture and lighting.

Subsequent applications will give further consideration to principles of CPTED when design details are advanced.

3.21 Development Staging

Subsequent to the approval of the Concept Plan application, separate applications will be lodged for all works and development on the land, including subdivision, the carrying out of subdivision works, the creation of parks, the erection of buildings, and any other matters for which further approvals or environmental assessment is required by the terms of the Ministers approval.

As stated above, it is submitted that no further environmental assessment is required for the demolition of buildings, structures, vegetation or services.

The indicative staging plan is shown in ***Figure 14***.

Project staging is subject to change depending on market demand and Housing NSW policies for the relocation of residents. Careful consideration has been given to staging to ensure sufficient time for resident relocation.

Figure 14. Staging Plan

3.22 Off-Site Works

The implementation of the Concept Plan may require additional works located off site this might include intersection works and works to lead in infrastructure trunk mains and services. Such works are envisaged by the Concept Plan.

4. KEY ENVIRONMENTAL ASSESSMENT ISSUES

4.1 EPIs Policies and Guidelines

4.1.1 Strategic Context

NSW State Plan

The NSW State Plan was released in 2010 as a long term plan to deliver education, health, transport and policing to planning, environmental protection and community services. It aims for better transport and more liveable cities.

> *The State Plan is the community's vision for the future of NSW in which:*
>
> *1. Our transport network is world class—safe, reliable and integrated. Our cities and towns are great places to live, and we experience a high quality of life*
>
> *2. Our economy grows stronger—supporting jobs and attracting business investment*
>
> *3. Our children are better educated, our people more skilled and we are known for our research and innovation*
>
> *4. Our health system provides the highest quality care accessible to all*
>
> *5. Our energy is clean, our natural environment is protected and we are leaders in tackling climate change*
>
> *6. Our community is strong and the most disadvantaged communities and our most vulnerable citizens are supported*
>
> *7. Our police and justice system keep the community safe.*

The plan aims to deliver 9,000 new homes for social housing through ongoing partnership with the Federal Government and the Housing NSW Building Plan. It states the following:

> *The importance of social inclusion was also consistently raised, with a focus on better linking appropriate and affordable housing with public transport and community infrastructure to engage disadvantaged and marginalised communities.*
>
> *Priority groups include Aboriginal communities, ethnic communities, young people, women, elderly, people with a disability or mental illness, the homeless, and low income earners.*
>
> *Our immediate efforts are focused on enabling an orderly supply of land for housing and employment uses in high growth regional areas in NSW*

The table below shows how the project will address the various goals set by the State Plan:

Heading	Goal	Relevant project activity
Rights, Respect and Responsibility	Keeping people safe	The project will reduce opportunities for crime by providing safer parks and ensuring CPTED principles are followed in new designs. The work will ensure there is good surveillance of public areas and well defined private areas.
	Building harmonious communities	The project will include community development activities and involve extensive community engagement. Community activities will be aimed at various sections of the community including youth, people with a disability, families, aged persons, etc, to minimise social exclusion of any part of the community. The aim is to reduce antisocial behaviour and increase participation and integration in community activities.
Delivering Better Services	Healthy communities	The project will include the undertaking of a Health Impact Assessment (HIA) as part of Housing NSW's partnership with the South West Area Health Service and UNSW. The aim of the HIA will be to ensure that community health aspects are taken into consideration in any decision making on the estate. Community development activities will include partnerships with Non-Government Organisations (NGOs) who work to improve health through reduced obesity, smoking, illicitly drug use and risk drinking.
	Students fulfil their potential	The project will include a Learning and Employment stream with various partners that may provide vocational training for students.
	A high quality transport system	The project will provide safer local road designs and look at opportunities to provide better accessibility for public transport routes throughout the estate.
	Customer friendly services	The project will ensure the integration of services delivered by various government agencies.
Fairness and Opportunity for the Most Vulnerable	Strengthening Aboriginal communities	As part of the project, partnerships will be established with local Aboriginal community groups, such as Tharawal Health Services to ensure improved health and education outcomes for Aboriginal people.
	Opportunity and support for most vulnerable	As part of the project partnerships will be established with NGOs and other government agencies to increase employment and community participation for people with disabilities and other vulnerable groups in the community.
	Early Intervention to tackle disadvantage	Partnerships will be established with NGOs and other government agencies to ensure appropriate services to families and children in line with the principles of prevention and early intervention.
Growing Prosperity across NSW	NSW Open for business	The project will include a Learning and Employment stream with various partners such as Workventures to encourage local business enterprise and appropriate training to meet local needs.

Heading	Goal	Relevant project activity
	Stronger rural and regional economies	Not applicable
Environment for Living	Securing our water and energy	New development will use appropriate water sensitive and environmentally efficient urban design principles.
	Practical environmental solutions	Any new development will take into consideration relevant environmental issues such as the replacement of River-Flat Eucalypt forests and Cumberland Plain forests in areas that are better suited (e.g. riparian corridor) and also acid sulphate soils.
	Improved urban environment	The project will provide opportunities for new housing development and assist with keeping housing affordable in the region. The project will encourage usage of local parks by ensuring they are accessible and have a safe environment.

The new residential lots created through the project are part of the 10,000 lots to be produced by Landcom to meet the requirements of the current Stage government.

Metropolitan Plan for Sydney 2036

The Metropolitan Plan for Sydney 2036 was released in November 2010 and updates the previous Metropolitan Strategy "City of Cities" from 2005 and its anticipated population, economic and demographic trends. It also integrates the Metropolitan Transport Plan to deliver a 25 year Metropolitan Plan for Sydney until 2036. It aims to guide Sydney's growth and coordinate efforts by the NSW Government and local councils and integrates land use, urban and funded transport planning to provide a framework for sustainable growth and development across the city.

The plan has 8 challenges for Sydney's future:

- Strengthening a City of Cities
- Growing and Renewing Centres
- Transport for a Connected City
- Housing Sydney's Population
- Growing Sydney's Economy
- Balancing Land Uses on the City Fringe
- Tackling Climate Change + Protecting the Environment
- Achieving Equity, Liveability and Social Inclusion

The plan states that Sydney's population is growing faster than previously expected and the composition of the population is changing due to increasing life expectancy. By 2036, the number of people aged 65 and above will more than double to just over one million, requiring new, more varied housing, social infrastructure and community services. By 2036, half the city's population will live in

Western Sydney (up from 43% in 2006) and the South West Subregion is expected to experience the highest level of growth

In addition, the average household size is falling, creating demand for smaller, more affordable homes. As a result, Sydney will need 770,000 additional homes by 2036 which is a 46% increase on the city's current 1.68 million homes.

The location of new homes and jobs are to reflect transport capacity and will determine how effectively Sydney develops as a compact and connected city.

The plan updates the draft South West Subregional housing targets, moving the timeframe to 2036 and represents a shift towards more homes in established areas. The dwelling target for the south west from 2006-2036 remains 155,000 with the area targets to be revised in the Subregional Strategies in partnership with local government and State agencies. The Claymore Concept Plan aims to provide new housing and renew existing housing across the site area. Overall an increase in dwellings from 1,123 to 1,490 is expected within the renewal area. The Concept Plan will retain an element of flexibility regarding the size and type of new housing through the development stages to reflect the population's changing needs.

The plan states the following in relation to renewing social housing stock:

> *Many older dwellings are no longer appropriate for current tenants. Redevelopment of estates presents an opportunity to renew housing stock, build more homes and help achieve Metropolitan Plan objectives and housing targets.*

This approach has evolved from a primary focus on asset renewal to improve the physical environment, build community capacity and develop partnerships with local organisations to improve access to services for public housing areas. This approach is showing significant promise in places like Minto and Bonnyrigg and now Claymore.

The Concept Plan addresses issues of urban structure, housing quality and social mix based on a detailed consideration of the characteristics of the site and its context including the existing community.

One of the key aims of the renewal project is to improve efficiency in the use of land, services and infrastructure while emphasising partnerships with the community, local government, non-government organisations, the community housing sector and the private sector where appropriate - in a way similar to the Minto Urban Renewal.

The aim is to achieve government objectives and Housing NSW's policy which is to introduce a mix of private ownership (approximately 70% of the estate) within public housing estates (retain 30%) to create a sustainable and safe community. Housing NSW will replace the public housing dwellings lost from the estate within the Greater Western Sydney region over the life of the project to align with its projected public housing client needs and the need to maintain the total stock number in the area.

Draft South West Subregional Strategy

Direction C4 of the Subregional Strategy aims to improve the affordability of housing through an increase in the provision of public housing and the construction of additional affordable housing units.

Direction C4.2 of the Subregional Strategy aims to redevelop and regenerate Housing NSW stock. Housing NSW is a significant landholder in this region yet the Draft Strategy identifies that many of these properties are not as appropriate for the needs of current and future clients as when they were first developed.

Redevelopment of these properties would allow them to be reconfigured to better match clients needs in terms of dwelling size, location and special requirements, while at the same time implementing best practice urban design.

There is a significant amount of low and medium density public housing within the subregion, particularly around Minto, Warwick Farm, Campbelltown (including Claymore) and Macquarie Fields. These sites provide opportunities for redevelopment over the next 25 years, and the Government will have the challenge of providing housing stock to match changing household requirements, with an increase in the demand for one and two bedroom dwellings in close proximity to centres. Redevelopment of housing estates will also provide opportunities to increase densities.

The South West subregion is targeted for the biggest proportional growth in employment capacity in Sydney. There will be strong focus on business park development. Claymore is in close proximity to Campbelltown (Blaxland Road), which has an area of approximately 140Ha, with about 30Ha being vacant land. The area west of Blaxland Road and south of Badgally Road provides a business park environment already. The Draft Subregional Strategy states the following in relation to the Campbelltown (Blaxland Road) area:

> *Campbelltown-Macarthur has the potential to evolve as a Regional City during the 25 year term of this strategy. Land in and around the centre will need to be developed to support the City in this role. Future actions that will affect this land will need to be identified to facilitate growth into a more prosperous, vibrant and attractive city.*

4.1.2 Commonwealth Considerations - EPBC Act

The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) commenced on 16 July 2000. The Act introduced a new assessment and approvals system for:

- actions that have a significant impact on matters of national environmental significance;
- actions that have a significant impact on the environment of Commonwealth land; and
- actions carried out by the Commonwealth Government.

Under the assessment and approval provisions of the EPBC Act, actions that are likely to have a significant impact on a matter of national environmental significance are subject to a rigorous assessment and approval process. An

action includes a project, development, undertaking, activity, or series of activities.

The Act identifies seven matters of national environmental significance:

- World Heritage properties;
- National Heritage places;
- Ramsar wetlands of international significance;
- nationally listed threatened species and ecological communities;
- listed migratory species;
- Commonwealth marine areas; and
- nuclear actions (including uranium mining).

There are no relevant World Heritage properties, National Heritage places, Ramsar wetlands, Commonwealth marine areas or Commonwealth lands on the Site.

The Project has been referred to DSEWPC stating that it is not considered likely that the proposed development will cause a significant environmental impact as stated in the referral, despite no official decision being made as yet. It is considered that this will be the likely decision because there are no matters of Matter of National Environmental Significance (MNES) within, or adjacent to, the project area.

4.1.3 Key Legislation

Environmental Planning and Assessment Act 1979 (EP&A Act)

The objects of the Environmental Planning and Assessment Act 1979 ("the Act") 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,*
>
> *(iii) the protection, provision and co-ordination of communication and utility services,*
>
> *(iv) the provision of land for public purposes,*
>
> *(v) the provision and co-ordination of community services and facilities, and*
>
> *(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, and*

(viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment."

It is considered that the development envisaged under the Concept Plan is generally consistent with these objects

Part 3A of the Environmental Planning and Assessment (EP&A) Act 1979 took effect on 1 August 2005 and provides an assessment and approvals process for major infrastructure and other projects where the Minister for Infrastructure and Planning is the approval authority.

The provisions of Part 3A apply to major projects where the Minister has made a declaration relating to the specific development or a class of developments to which that project belongs.

The NSW Government has announced that it will introduce a Bill to repeal Part 3A of the EP&A Act. The Minister for Planning & Infrastructure has put in place a number of interim arrangements pending that repeal. The Department will continue to assess all other applications (i.e. development that is not a residential, commercial or retail development or coastal subdivision project) that have been declared under Part 3A until the proposed legislation repealing Part 3A is passed by Parliament and takes effect.

The Minister for Planning declared the Claymore Urban Renewal Concept Plan to be a project to which Part 3A of the Act applies and also named the Renewal Concept Plan on the list of projects that are to remain under Part 3A.

Threatened Species Conservation Act 1995

The Threatened Species Conservation Act 1995 has the following objects:

"(a) to conserve biological diversity and promote ecologically sustainable development, and

(b) to prevent the extinction and promote the recovery of threatened species, populations and ecological communities, and

(c) to protect the critical habitat of those threatened species, populations and ecological communities that are endangered, and

(d) to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities, and

(e) to ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed, and

(f) to encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management."

An ecological report has been prepared for the site the findings of which are discussed in Section 4.10. The Concept Plan is consistent with the guidelines and directions in this report relating to biodiversity.

Water Management Act 2000 and Water Act 1912

Groundwater and riparian lands in NSW are administered and managed by the Office of Water through two major pieces of legislation, the Water Act 1912 and the Water Management Act 2000. The Water Act 1912 is progressively being phased out with implementation of the Water Management Act 2000.

The object of the Water Management Act 2000 is the sustainable and integrated management of the State's water for the benefit of both present and future generations.

4.1.4 Relevant State Environmental Planning Policies

State Environmental Planning Policy (Major Development) 2005

State Environmental Planning Policy (Major Development) 2005 was gazetted in May 2005 and aims to identify development of economic, social or environmental significance to the State or regions of the State, so as to provide a consistent and comprehensive assessment and decision-making process for that development.

As outlined above, the NSW Government has announced that it will introduce a Bill to repeal Part 3A of the EP&A Act. The Minister for Planning & Infrastructure has put in place a number of interim arrangements pending that repeal through *State Environmental Planning Policy (Major Development) Amendment 2011 (the SEPP).* The SEPP was gazetted on the 13 May 2011 and makes important amendments to *State Environmental Planning Policy (Major Development) 2005* (Major Development SEPP) in respect to the operation of Part 3A.

Group 5 of Schedule 1 to the Major Development SEPP has been repealed. The repeal of this Group means that residential, commercial and retail projects with a capital investment value greater than $100 million will no longer be identified as a class of development to which Part 3A of the EP&A Act applies.

Transitional provisions have been introduced into the Major Development SEPP for certain existing project applications and concept plan applications, of particular relevance to the Claymore Urban Renewal Concept Plan.

Under the transitional provisions, all project applications and concept plan applications for residential (as well as commercial or retail) development for which the Director General's environmental assessment requirements (DGRs) have been issued on or before 8 April 2011 will remain as Part 3A applications.

The Minister for Planning declared the Claymore Urban Renewal Concept Plan to be a project to which Part 3A of the Act applied and issued (revised) DGRs on the 24 March 2011. The Claymore Urban Renewal Concept Plan was also named on the list of projects that are to remain under Part 3A.

State Environmental Planning Policy (Infrastructure) 2007

State Environmental Planning Policy (Infrastructure) 2007 ("SEPP Infrastructure") provides for the effective delivery of infrastructure across the State in many cases

including special provisions for development by or on behalf of public authorities. Such infrastructure types include:

- Educational establishments
- Housing (including specific provisions for Housing NSW)
- Road infrastructure
- Stormwater management systems

The policy may have on-going application to the site.

The Concept Plan envisages more than 200 lots with additional access proposed to Badgally Road. Referral to the RTA may be required.

State Environmental Planning Policy (Affordable Rental Housing) 2009

State Environmental Planning Policy (Affordable Rental Housing) 2009 promotes the development of new affordable rental housing in New South Wales by providing development and design controls that assist with the delivery of housing stock for low and low-middle income earners and homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

The Concept Plan is consistent with the provisions of this policy with elements of the development permissible with or without consent under this policy.

State Environmental Planning Policy No. 55 (Remediation of Land)

State Environmental Planning Policy No. 55 (Remediation of Land) ("SEPP 55") 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 by specifying certain considerations to be had in determining development applications in general, by requiring that remediation work meets certain standards.

The EA contains a report of a preliminary investigation on soil contamination on the site (***Appendix 4***). This included limited soil sampling. The report enables the nature of potential contamination to be identified and recommends that a remediation action plan be prepared as part of the redevelopment process to ensure that the site is remediated and suitable for the proposed uses.

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004

State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 aims to encourage the provision of housing (including residential care facilities) that will increase the supply and diversity of residences that meet the needs of seniors or people with a disability, make efficient use of existing infrastructure and services, and be of good design. The SEPP achieves these aims by: setting aside local planning controls that would prevent the development of housing for seniors or people with a disability that meets the development criteria and standards specified in the SEPP, by setting out design principles that should be followed to achieve built form that responds to the characteristics of its site and form, and ensuring that proponents provide support services for seniors or people

with a disability for developments on land adjoining land zoned primarily for urban purposes.

The Concept Plan is consistent with the provisions of this policy with elements of the development permissible with or without consent under this policy. Future Applications for the staged reconstruction works will be required to demonstrate compliance with the provisions of the SEPP.

State Environmental Planning Policy No. 65 Design Quality of Residential Flat Development

State Environmental Planning Policy 65 (SEPP 65) aims to improve the design quality of residential flat development in New South Wales.

This Policy applies to development for the erection of a new residential flat building, and the substantial redevelopment or the substantial refurbishment of an existing residential flat building. The Concept Plan does not envisage any residential flat buildings of three or more storeys. Were such development to occur, this SEPP would apply.

State Environmental Planning Policy (Building Sustainability Index BASIX) 2004

BASIX is the Building Sustainability Index, the State Government's web-based planning tool designed to assess the potential performance of new homes against a range of sustainability indices, being: Landscape, Stormwater, Water, Thermal Comfort and Energy. BASIX aims to reduce the environmental impact of these features of new development and to produce homes that are more comfortable and cheaper to run than most existing homes.

The BASIX SEPP was gazetted on 25 June 2004, and operates in conjunction with the Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans, and specifying that SEPP 1 does not apply in relation to any development standard arising under BASIX.

A BASIX assessment will be required to accompany any application for housing proposed in accordance with the Concept Plan.

4.1.5 Greater Metropolitan Regional Environmental Plan No 2—Georges River Catchment

The general aims and objectives of this plan are as follows:

> *(a) to maintain and improve the water quality and river flows of the Georges River and its tributaries and ensure that development is managed in a manner that is in keeping with the national, State, regional and local significance of the Catchment,*
>
> *(b) to protect and enhance the environmental quality of the Catchment for the benefit of all users through the management and use of the resources in the Catchment in an ecologically sustainable manner,*
>
> *(c) to ensure consistency with local environmental plans and also in the delivery of the principles of ecologically sustainable development in the*

assessment of development within the Catchment where there is potential to impact adversely on groundwater and on the water quality and river flows within the Georges River or its tributaries,

(d) to establish a consistent and coordinated approach to environmental planning and assessment for land along the Georges River and its tributaries and to promote integrated catchment management policies and programs in the planning and management of the Catchment,

(e) to encourage more effective consultation between local government and State Government agencies in executing the responsibility for environmental planning within the Catchment,

(f) to provide a mechanism that assists in achieving the water quality objectives and river flow objectives agreed under the Water Reform Package.

The specific aims and objectives of this plan are as follows:

(a) to preserve and protect and to encourage the restoration or rehabilitation of regionally significant sensitive natural environments such as wetlands (including mangroves, saltmarsh and seagrass areas), bushland and open space corridors within the Catchment, by identifying environmentally sensitive areas and providing for appropriate land use planning and development controls,

(b) to preserve, enhance and protect the freshwater and estuarine ecosystems within the Catchment by providing appropriate development,

(c) to ensure that development achieves the environmental objectives for the Catchment.

(d) to identify land uses in the Catchment which have the potential to impact adversely on the water quality and river flows in the Georges River and its tributaries and to provide appropriate planning controls aimed at reducing adverse impacts on the water quality and river flows,

(e) to conserve, manage and improve the aquatic environment within the Catchment which is a significant resource base for the aquaculture industry, by providing controls aimed at reducing pollution entering the Catchment's watercourses,

(f) to protect the safety and well being of the local and regional community in accordance with standards and processes aimed at improving the water quality and river flows in the Catchment to enable recreation,

(g) to aid in the improvement of the environmental quality of Botany Bay in conjunction with other regional planning instruments.

The development is located within an established urban area. Measures are proposed to manage stormwater quality and quantity during construction and operation as outlined in the Water Cycle Report contained in ***Appendix 8***. This includes improvements in stormwater treatment and management on the site. The Site will be fully serviced and existing services upgraded or replaced as

required. This will be to the benefit of downstream receiving waters and comply with the aims, objectives and provisions of this REP.

4.1.6 Local Environmental Planning Policies

Campbelltown (Urban Area) Local Environmental Plan 2002;

Pursuant to the provisions of Campbelltown (Urban Areas) Local Environmental Plan 2002 ("the CLEP"), the site has various zonings including:

- 2(b) Residential B
- 5(c) Special Uses Sub-Arterial Roads – Badgally Road
- 6(a) Open Space
- 10(c) Local Comprehensive Centre

The site is adjacent to land zoned Zone 5(b) Special Uses Arterial Road (Hume Highway). Local roads are mostly unzoned.

Existing zoning is shown on ***Figure 15***.

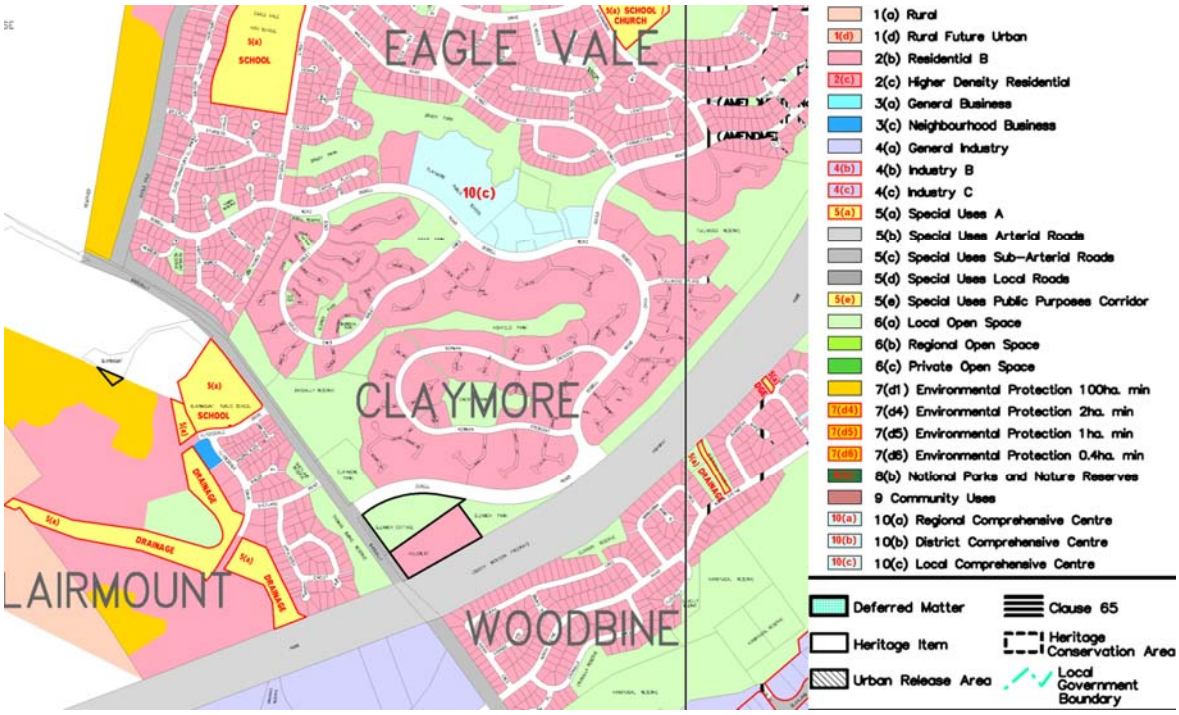

Figure 15. Existing Zoning

The existing zoning of the site reflects the current pattern of development and consequently the proposed Concept Plan is not totally consistent with the current zones or their objectives. The Concept Plan envisages development that would be prohibited within certain zones that apply to the site including the open space zones. Although not required for approval to be granted to the Concept Plan application, changes to zone boundaries to reflect the new land use and subdivision pattern are recommended.

In the terms of Section 75O(3) of the EP&A Act and Clause 8N of the EP&A Regulation, the proposed development is not prohibited and consequently the Concept Plan application can be approved. This applies to the zoning of the land and any other provision that would otherwise prevent approval from being granted.

It is possible that the Minister will make a determination under S75P(1)(b) to the effect that approval to carry out subsequent stages of the project is to be the subject of Part 4 of the Act (which is also a requirement under the Major Development SEPP). If this determination is made, the Minister is also requested to direct, pursuant to S75P(2)(c1), that a provision of an environmental planning instrument prohibiting or restricting the carrying out of the project under Part 4 does not have effect. This will enable early stages of the project to be approved prior to any housekeeping amendment to the LEP to reflect a land use zoning consistent with the Concept Plan as approved.

Other relevant provisions of the LEP are as follows.

Clause 32 deals with subdivision. Clause 32(2) provides that development consent under Part 4 must not be granted to the subdivision of land traversed by a zone boundary unless the boundaries of lots so created correspond generally with the boundaries between the zones as shown on the map and requires. As stated above the Concept Plan includes a pattern of development that traverses existing zone boundaries. As discussed above this does not prevent approval of the Concept Plan.

Clause 32(3) prevents consent from being granted to any subdivision which includes the opening of a new road if that new road does not accord with any pattern of proposed roads indicated on the map unless the consent authority is satisfied that the proposed new road will provide adequate access to adjoining land and fulfils the objectives of the road pattern indicated on the map. The road pattern under the Concept Plan is different from that on the LEP map. New roads and realigned roads provide adequate access to adjoining lands. They fulfil the objectives of this control.

Clause 38 applies to land that is within 50 metres of a boundary between any two of Zones 2 (b), 5 (a), 6 (a), 7 (d1) and 10 (c). However, the subject site is not a Greenfield site or in a rural state so the provisions of this clause are not relevant to the concept plan.

Clause 39 contains controls relating to earthworks and the preservation of trees. These matters relate to details that would be the subject of subsequent applications for the stages of the development.

Clause 41 relates to the demolition of structures and states that a structure which may only be erected with development consent must not be demolished without development consent. This clause will be the subject of subsequent applications for the stages of development. Demolition (if it is not considered exempt or complying development by other EPIs) will require the Development Consent of Council.

Clause 42 deals with restrictions on access to or from roads within Zones 5 (b) and 5 (c). This includes Badgally Road which is zoned 5(c). Clause 42(1) specifies that

a road or other means of access to an existing public road must not be opened without development consent. Clause 42(4) provides that before granting a development application which makes provision for vehicular access to or from a road within Zone 5 (c) the consent authority must take into consideration:

> *"(a) the treatment of the access and its location, and*
>
> *(b) the effect of opening the access on traffic flow and traffic safety on the road within Zone 5 (b) or 5 (c)"*

Issues regarding the treatment of the access and its location, and issues of road safety and efficiency of operation of the road network will be further considered in relation to applications for the construction of each stage of the project.

The implications of the proposed access arrangements under the Concept Plan are discussed in ***Appendix 12***.

Clause 49 deals with development in the vicinity of a heritage item. Before granting consent to development in the vicinity of a heritage item, the consent authority must assess the impact of the proposed development on the heritage significance of the heritage item and of any heritage conservation area within which it is situated.

The site does not contain any individually listed items of local heritage significance as listed by Schedule 1 of the Campbelltown (Urban Area) Local Environmental Plan 2002. However, the site is in the vicinity of three individually listed items of local heritage significance as listed by Schedule 1 of the Campbelltown (Urban Area) Local Environmental Plan 2002. The proposal does not seek any material change to any of the three heritage items in the vicinity of the site. A Heritage Impact Statement (HIS) has been prepared by Archaeological and Heritage Management Solutions (AHMS) (***Appendix 7***). AHMS concluded that:

> *"The proposal allows for a new mix and density in a suburb that has experienced major social issues. The proposal will have no discernible impacts on adjacent heritage items and on the item in the vicinity. The proposal also recognised the community that has evolved at Claymore"* (HIS; AHMS; 25).

Clause 54 relates to land zoned 6(a). Consent must not be granted to the carrying out of development on land within Zone 6 (a), being land owned or controlled or proposed to be owned or controlled by the Council, unless the consent authority has considered:

> (a) the need for the proposed development of the land, and
>
> (b) the impact of the proposed development on the existing or likely future use of the land, and
>
> (c) the need to retain the land for its existing or likely future use.

The Social and Health Impact Assessment, prepared by Elton Consulting (***Appendix 11***) examines the open space needs of the project site and the likely future demand based on the proposed building works. Elton Consulting make the following comment regarding open space:

> *"The Concept Plan proposes to redesign the open space at Claymore. Instead of extensive areas of semi-public space in front of the existing townhouses, private space will be provided within individual lots. Recreational open space will be consolidated into well-defined parks, and two of these will provide sports fields that will meet the active needs of the future population."*

Clause 56 enables development on existing roads and pathways if they are lawfully closed.

Clause 62 relates to development on land that may be affected by salinity. Salinity investigations were undertaken as part of the geotechnical investigation prepared by Geotechnique (***Appendix 3***). Geotechnique concluded that saline soils are unlikely to be encountered during proposed development works if depth of excavation is less than 1.0m from existing ground surface. However, saline soils will be encountered in portions of the site where depth of excavation is more than 1.0m from existing ground surface. Geotechnique provide recommendations on good soil and water management strategies to be adopted for the proposed redevelopment of the site, including a soil and water management plan.

Campbelltown (Sustainable City) Development Control Plan 2009

The renewal project requires new streets and land uses to integrate into an existing built fabric resulting in some restrictions on the ability to locate streets and resulting block patterns. This ultimately affects the allotment sizes.

Consistent with Landcom design guidelines and State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, HNSW and Landcom propose to accommodate a range of housing types on lot sizes that differ from the controls allowable under the Campbelltown (Sustainable) City DCP 2009 (the DCP). Proposed controls are discussed in Section 3.5.

The proposed minimum lot size is 200 square metres consistent with the General Housing Code. A minimum lot width at the building line of 6 metres is also proposed.

Dwelling controls are proposed to suite the proposed range of lot sizes as indicated in Section 3.5.

4.2 Built Form and Urban Design

4.2.1 Height, bulk and scale

The height bulk and scale of development envisaged under the Concept Plan is described in Sections 3.5 and 3.6. The Concept Plan envisaged development having a height generally of 1 to 2 storeys in the form of detached and attached dwellings. Some multi-unit housing such as seniors housing or other forms of social housing is also envisaged in selected locations, primarily close to the town centre and potential public transport services. The Concept Plan envisages four additional seniors housing developments each comprising approximately 25 units. It is not expected that such multi-unit housing would exceed 2 storeys in height. Indicative locations for seniors housing is shown on the Concept Plan.

Development under the Concept Plan will be of a height and scale that is compatible with the height and scale of existing development. However the development envisaged under the Concept Plan will be of a much higher standard of urban design based on improved subdivision pattern and street system.

It is considered that the height and scale of development envisaged under the Concept Plan is appropriate in the context and compatible with the existing and desired future character of the area as envisaged under the urban renewal project.

4.2.2 Details of Open Space and Landscaped Areas with specific consideration of Crime Prevention through Environmental Design

The proposed open space for the development is described in greater detail in Section 3.8 and ***Appendix 2***. The main public parks are:

Fullwood Reserve (8.9 hectares) – The existing playing fields are well used and the Campbelltown Southern Districts Soccer Club has its home base there. The fields will be improved to provide a multipurpose sports ground (suitable for sport in summer and two soccer fields in winter, depending on available area). The existing amenities block will be upgraded and lighting will also be provided/upgraded. The possibility of additional facilities will be investigated, such as a children's playground and a kick-about area. Additional landscaping will be provided, as well as a BBQ area and parking facilities. Fencing will be rationalised with existing fencing retained where possible. The northern part of the site will be upgraded to provide for passive recreation, with linkage into the open space to the north being maintained. The Reserve will have several access points to the proposed shared use cycling and walking track running through the adjacent Linear Park;

Davis Park (1.3 hectares) – The playing areas in the park are used for a number of team sports, especially by Claymore Public School. It has also been the venue for several "Little League" rugby league development events for juniors. The existing park will be upgraded to provide a single playing field. Improved connection will be provided to Claymore School, including a pedestrian crossing if possible;

Dimeny Park (1.2 hectares) – Council has already provided some upgraded equipment in the park, which will be a focus for passive recreation. The boundaries of the park (which currently extends into numerous undefined open areas fronted by houses that are to be demolished) will be defined by new roads. Children's play facilities will be upgraded or replaced and seating and shade provided. Landscaping will also be redesigned, in keeping with CPTED principles;

Badgally Reserve (0.6 hectares) – A small new reserve is proposed at the junction of Badgally Road and the new Glenroy Road, to mark the main entry point to the area. This will be suitable for passive recreation. Striking design will be employed in order to make a visual statement about the redeveloped suburb. A small playground with softfall and shade structure will be provided and BBQ facilities; and

Brady Linear Park (8 hectares) – The utility of the corridor will be enhanced by defining the open space all the way across the northern part of the site, and

providing a shared use cycleway/footpath along it, with access links to key facilities and roads along the route. Small areas of new landscaping will also be provided. The design will ensure that CPTED principles are incorporated to ensure the area is not only attractive but also safe.

Concepts for these parks have been prepared as a basis for on-going discussions with Council and for incorporation into a voluntary planning agreement (VPA) for the provision of public amenities and facilities.

Principles of crime prevention through environmental design have been incorporated into the design of the parks in the following manner:

- Design to promote passive surveillance of open space by maximising public street frontages to parks;
- Maximise co-location and sharing opportunities of active recreation facilities to encourage active use of open spaces;
- Lighting restricted to key pedestrian thoroughfares only to provide safe circulation and to discourage inappropriate use after dark;
- Integrating public toilets with amenities facilities;
- Minimal use of fencing;
- Lighting shall conform with the current Australian Standards, including AS 1158 Lighting for Roads and public spaces AS 2560 –Sports field Lighting;
- Landscaping and built structures not to create obscured areas. Ensure tree species selected in public areas can be maintained with a clear trunk to a minimum of 2 metres;
- Clearly defined pathways and cycleways;
- Development adjacent to parks address the street and promote passive surveillance of the parks;

In this way the form and detail design has been developed to incorporate the core principles of Crime Prevention Through Environmental Design (CPTED) and Safety By Design.

The design facilitates good ***surveillance*** by:

- the clear distinction between public and private domains with parks surrounded by streets in most cases;
- opportunities for passive surveillance from adjoining streets and from clearly delineated and lit pedestrian and cycle paths;
- appropriately scaled plantings to afford good visibility;

Access control is facilitated by:

- clearly delineated access points and pathways;
- lighting restricted to pathways at nights;
- a lack of fencing and other obstructions to movement in favour of access control through design;

- hiding or entrapment places are minimised;
- access to facilities and play areas are clearly identified from the surrounding road network.

Territorial reinforcement is enhanced by:

- clearly defined open space areas contained by streets;
- boundaries to parks clearly defined in most instances;
- co-location of facilities and sharing opportunities for more active use of spaces;
- landscaping and park furniture clearly delineating open space function.

4.3 Environmental and Residential Amenity

4.3.1 Solar Access

The Concept Plan envisages the subdivision of the site predominantly for residential home sites having a range of areas. Lot orientation is influenced by the existing road network and existing development on the site that is being retained and integrated into the new urban structure.

Dwellings to be constructed via subsequent approvals are likely to be one or two storeys in height depending on the design. This enables overshadowing impacts on neighbouring properties to be adequately managed with dwellings designed to achieve reasonable levels of solar access to private open spaces and living areas.

The Concept Plan does not result in adverse outcomes in relation to solar access.

Because the Concept Plan does not seek project approval for dwelling houses, it has not been possible or necessary to prepare shadow diagrams as required by the DGRs. This does not prevent the conclusion being drawn that solar access and overshadowing can be managed in the approvals process for individual dwellings on the lots created by subdivision in accordance with the Concept Plan.

The Urban Design Report contained in ***Appendix 2*** includes a typical housing mix and shadow study indicating how solar access can be provided to a range of dwelling types and lot configurations.

4.3.2 Acoustic and Visual Privacy

The built form proposed under the Concept Plan consists of predominantly detached or attached dwelling houses on a range of lot sizes. The nature of this development is such that amenity impacts resulting from noise and loss of privacy can be readily managed in the dwelling design process.

A Noise and Vibration Assessment Report has been prepared by Renzo Tonin and Associates (***Appendix 13***). The objectives of the noise and vibration report are to present the methods by which potential noise and vibration issues from and onto the development can be addressed. This report addresses the noise and vibration issues specifically in regard to the following:

- Road traffic noise onto existing and future development within the Claymore site;
- Operational noise from any noise generating development; and
- Management of construction noise and vibration.

The reports findings are as follows.

Road traffic noise was assessed through a combination of noise measurement and predictive modelling. The assessment revealed that road traffic noise will be addressed through a combination of external noise mitigation treatment such as barriers and earth mounds, along with provision of appropriate building envelope treatment so as to comply with the internal noise level criteria set out within the State Environmental Planning Policy (Infrastructure) 2007.

Operational noise would be generated primarily from any mechanical equipment that may be required for any development within the precinct. Other than mechanical equipment, operational noise would be limited to the use of the existing Church sites at the intersection of Dobell Road and Gould Road. As these are existing developments and residential development is not identified to encroach upon the sites, no specific measures have been recommended for their ongoing operation. However should these be redeveloped or refurbished, an acoustic assessment should be undertaken against any relevant noise Standards or policy guidelines.

Construction noise and vibration has been addressed through the measurement of existing ambient noise levels to establish noise goals in accordance with relevant policy guidelines. Whilst specific assessment of construction noise and vibration has not been provided at this concept stage, sensitive sites and activities have been identified. Suitable management procedures and principles have been provided for further development in the individual development application and design development stages, at which time further detail would be available.

4.3.3 View Loss

The renewal process will not have any significant impact on views over or within the site. The general appearance of the suburb will be improved through urban renewal and the provision of new housing. It is considered that the overall impact on views and visual quality will be positive.

The urban design considers the provision of views by designing new streets to provide outlook where possible including to local parks as shown in ***Appendix 2***.

4.3.4 Wind Impacts

The built form resulting from the development will be in the range of one to two storey dwellings. Such residential buildings are well articulated and result in minimal disturbance to wind movement and will not result in any significant adverse impacts at ground level.

4.3.5 Measures to be implement to achieve a high level of environmental and residential amenity

Measures to be implemented to achieve a high level of environmental and residential amenity include:

- An efficient urban structure that is interconnective and allows subdivision and dwellings that address the street;
- The implementation of Landcom and Housing NSW guidelines on street dimensions and character including landscaping;
- The provision of parks that are purpose built and designed to a high standard;
- Provision for dwellings that can be designed to achieve a high level of internal and external amenity.

4.4 Transport and Accessibility Impacts

4.4.1 Introduction

The transport and accessibility impacts of the proposed development have been addressed by Traffic Solutions in their *Transport and Accessibility Study* contained in ***Appendix 12***. Concept Plan proposals for access and movement are described in Section 3.2.

4.4.2 Public Transport Provisions

The proposed Concept Plan incorporates an improved bus network to maximise accessibility of Claymore to the new town centre, schools and other local recreational facilities (open spaces and sports grounds). The Concept Plan provides streets that accommodate bus movements and provision for bus stops with seating and signage.

The road design has flexibility for improvements in services with other areas subject to discussions with Busways and Transport NSW.

The Concept Plan facilitates improved public transport services.

4.4.3 Walking and Cycling Connections

As discussed in Section 3.2.3, a network of on and off road cycle paths are provided to improve cycle access with the site and connecting with surrounding areas and established cycle paths in the area.

Footpaths are provided along all roads (except laneways). Additional pedestrian refuges are proposed outside schools, major open spaces, senior living areas as well as the shopping centre to facilitate safe crossing opportunities for pedestrians.

4.4.4 New Road Connections

The Concept Plan provides better accessibility to the surrounding areas through the following measures:

- *Providing a new access off Badgally Road, Glenroy Road, to provide improved access through the site.*
- *Providing a more coherent road network system and reducing the amount of cul-de-sacs within the site.*

The Concept Plan also provides a number of new internal road networks improve the connectivity of the study area

These connections provide the structure for improved accessibility by all modes of travel including safer and more direct pedestrian and cycle connections and improve public transport accessibility.

4.4.5 Traffic Impact Assessment

A traffic impact assessment of the redevelopment was undertaken, and in conjunction with a review of the public transport, pedestrian and cycle networks proposed, a package of transport-related measures were prepared, and consist of the following:

- Proposed infrastructure upgrades
- Continuation of local bus services
- Provision of new bus stops (up to 10 with seating and signage only)
- More permeable street system.

4.4.6 Access, Parking Provisions and Service Vehicle Movements

The car park and servicing requirements for the new shopping centre/service station within the proposed Concept Plan will also be determined based on Council and RTA requirements and relevant environmental planning instruments at a later approval stage when more design details are known. The road network has been designed to accommodate servicing vehicles as required.

4.5 Social Impact Assessment

A Social and Health Impact Report prepared by Elton Consulting is contained in ***Appendix 11***. The report looks at social impacts from the perspective of existing Claymore residents (most of whom will be rehoused), future residents (who will include private sector purchasers) and surrounding communities. Key findings of the assessment are as follows.

Population characteristics – existing and expected

The proposal will increase the supply of housing, while population will increase to a lesser degree. Population make-up will change substantially. The current population is marked by extremely high representations of vulnerable and disadvantaged groups: incomes are very low, most households are families with a majority having only one resident parent (usually the mother), the proportion of residents in employment is low, a large proportion of residents have significant health issues or disabilities, reliance on intensive service support is high. By contrast, the future population will more closely resemble that found in

surrounding areas, with social housing tenants representing only about 30% of households. Most incoming residents are expected to be young.

Cultural diversity and any specific measures / services required

The two main cultural groups at Claymore will have their needs addressed through the rehousing process – Aboriginal people and people from a Pacific Island background. The focus is on ensuring that they are able to maintain their social and cultural links. Almost all existing residents speak fluent English, but interpreters and information in relevant languages are available. No culturally specific service needs have been identified.

Distribution of Housing NSW tenants and private residents and how this will be managed

In keeping with best practice, future social housing tenants will be "pepper-potted" throughout Claymore, and their homes will be indistinguishable from privately owned homes. Seniors' living units will be provided as integrated housing in clusters. Standard social housing management arrangements will be applied in the same way as elsewhere once the new residents have been supported to settle in. Experience elsewhere has not suggested that there will be problems of integration or co-existence. Indeed, equivalent projects currently underway suggest that this approach will help build community capacity.

Requirements for services, social infrastructure, employment opportunities and open space

One objective of the project, and an expected sign of success, is a reduced need for services in Claymore, particularly intensive health and welfare services. Incoming residents' needs will mainly be met through the neighbourhood centre and through services operating in the wider district, and they will have access to social infrastructure that is as good as or better than that available in surrounding areas. Mechanisms are in place to plan and monitor service transitions, and some outreach services may no longer be needed. Open space is currently of very poor utility and its layout is a source of anti-social behaviour. Consolidating and upgrading the open space will enhance utility and provide better recreation opportunities. Employment opportunities in the surrounding area are extensive and most incoming residents are expected to be in work. Training and employment services are able available to support residents who are being rehoused.

Consultation with the existing community and their perceptions.

Crime and anti-social behaviour are prime among residents' concerns in Claymore – and the existing Radburn layout facilitates such behaviour. There has been strong demand for transfers out of Claymore for many years and it is known that most residents wish to move elsewhere. However, a minority wishes to stay or return, and they will be assisted to do so where possible. Extensive consultation has been carried out in Claymore, resourced by a Regeneration Team based there. Residents have been kept collectively and individually informed about progress with management initiatives and works projects over recent years, and more recently about the proposed Urban Regeneration Project. A Community Information Committee is now operating. Concerns among residents relate

especially to the details of the rehousing process, and specialist teams are now working to determine individual needs and preferences. Intensive support will be provided during this process. Residents being rehoused can choose where they move to, taking account of social links, service needs, employment and other needs.

Management of Impacts

The following table prepared by Elton Consulting summarises some of the key impact issues assessed in the report and provides brief comment on their management and outcome.

. **Issue**	**Social impact**	**Management approach**
Small increase in dwelling yield and higher overall population.	Increased housing supply will benefit those seeking homes to buy/rent, more efficient use of land and infrastructure, better urban design.	Direct result of the Project .
Revised street layout, upgraded and consolidated open space, new housing.	Improved environment for everyday life, greater amenity, improved security and safety.	Direct result of the Project.
Mixing social housing tenants, private tenants and home owners.	Mix will promote community viability and strength.	Housing designs identical for all tenures no visible distinguishing features.
Changed population make-up.	A more balanced and diverse population will improve social cohesion and sustainability, and remove stigma.	An expected result of the proposed 70% private/30% social housing mix.
Introduction of home owners.	Affordable housing options for first home buyers. Reduction in extent of dependency on specialist services and welfare. Increased sense of community identity.	Affordable pricing of lots, selection of construction partners offering affordable house designs.
Integrating new residents.	Cohesive community and high level of community participation.	Landcom “Welcome initiatives” for incoming residents, supported by community development work and by HNSW support for new social housing tenants.
Management of anti-social behaviour.	Greatly reduced anti-social behaviour, improvement in security.	Benefits flow from new layout based on CPTED, impact of stronger community make-up, and tenancy management systems.
Rehousing of most existing residents.	Tenants able to nominate where they wish to live, including option of return to	Intensive resourcing and support to residents. All moving costs met.

	Claymore where eligible.	Counselling.
Impact on services of reduced population during renewal works.	Some services (eg. schools, child care, Work Ventures) will face reduced demand for several years.	A challenge for service providers which will need transition strategies. HNSW and Landcom will manage co-ordination and planning mechanisms.
Impact on services due to changed population makeup.	Some service closures possible, due to reduced needs for intensive support for vulnerable tenants.	HNSW and Landcom will manage co-ordination and planning mechanisms.
Physical and social connections to surrounding areas.	Integration into surrounding areas through social interaction, shared services, housing market integration.	Direct result of URP, through removal of stigma and through community development activities.

Housing NSW will implement strategies to manage social impacts during the renewal process so that social benefits of the project can be maximised and adverse impacts through the relocation and redevelopment phases are minimised.

4.6 Heritage

4.6.1 European Heritage

Investigations into the history of development on the site and existing heritage items were conducted by Archaeological and Heritage Management Solutions (AHMS) as part of the Claymore Urban Renewal Project (***Appendix 7***).

The site does not contain any individually listed items of local heritage significance as listed by Schedule 1 of the Campbelltown (Urban Area) Local Environmental Plan 2002. However, the site is in the vicinity of three individually listed items of local heritage significance as listed by Schedule 1 of the Campbelltown (Urban Area) Local Environmental Plan 2002. The proposal does not seek any material change to any of the three heritage items in the vicinity of the site. AHMS concluded that:

> *"The proposal allows for a new mix and density in a suburb that has experienced major social issues. The proposal will have no discernible impacts on adjacent heritage items and on the item in the vicinity. The proposal also recognised the community that has evolved at Claymore"* (HIS; AHMS; 25).

4.6.2 Aboriginal Heritage

An assessment of Aboriginal heritage has been undertaken by Archaeological and Heritage Management Solutions (AHMS) and is contained in ***Appendix 6*** as discussed in Section 2.3. The assessment was carried out in accordance with the Draft guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005). The site inspection was conducted by Donna Whillock (Tharawal LALC), Glenda Chalker (Cubbitch Barta Native Title Claimants) in accordance with the DGR's.

The project area was said to contain one known Aboriginal archaeological site, which was described as Claymore 1. The site Claymore 1 was assessed as having low archaeological significance, but good archaeological potential. Claymore 1 is described as a low density stone artefact site that contained 6 stone artefacts, located in exposures caused by sheet erosion in open public space on the south side of Dobell Road.

The site indicates that there is the potential for Aboriginal objects to remain in the study area, in relatively undisturbed contexts, despite the previous urban development. Although of low archaeological significance, Aboriginal objects have cultural heritage value to the Aboriginal community as they are a demonstrative example of the occupation of the Claymore area by Tharawal people prior to European arrival. The Claymore Urban Renewal assessment area was assessed to have some cultural landscape values, although these exist in a highly fragmented landscape context.

The Claymore 1 site is identified in the report as an area at risk of direct harm from the proposed Renewal Project during both the construction phase as well as once the site becomes operational. AHMS suggest that management measures will need to be implemented to ensure there is no unnecessary impact to areas of archaeological potential.

The proposal was assessed to be likely to have a minor detrimental impact to the Aboriginal cultural landscape values of the assessment area.

The following recommendations were made by AHMS:

> *1) The Claymore area should be subject to further archaeological investigation prior to development. The purpose of the investigations would be to:*
>
> *- intensively and systematically survey all areas of reasonably undisturbed land to identify the presence or absence of Aboriginal objects, both stone artefacts and scarred trees.*
> *- based on the results of the survey, sub-surface testing may be required to fully assess the archaeological significance of the area.*
>
> *2) The site Claymore 1 will be directly harmed by the proposed changes that will take place under the Concept Plan. Prior to further development the harm should be more fully assessed by sub-surface testing (excavation), and if appropriate mitigated by artefact collection.*
>
> *3) The maintenance of the cultural heritage values expressed for Dimeny Park and the carved stones that are currently within the park, should be incorporated into the planning of Dimeny Park in the Concept Plan. Such maintenance would involve retaining the carved stones in the proposed public open space and enhancing the Park's status and interpretation as a place that acknowledges the traditional Tharawal custodians.*
>
> *4) Subject to discussion with the Aboriginal community and appropriate arrangements for security of Aboriginal objects, Aboriginal artefacts*

collected from other parts of Claymore may be able to be stored or deposited at the Dimeny Park.

5) An Aboriginal Cultural Heritage Management Plan (ACHMP) should be developed to guide the ongoing management of Aboriginal cultural heritage matters throughout the Claymore Urban Renewal Project implementation. The recommendations at Point 1 are an essential first step for the ACHMP.

These recommendations will be implemented during the redevelopment process.

4.7 Drainage and Flooding

Drainage issues associated with the Concept Plan are discussed in the report by Mott MacDonald Hughes Truman contained in ***Appendix 8*** and discussed in Section 3.14. The measures proposed in this report will ensure that appropriate arrangements can be put in place to manage the quantity and quality of stormwater flows in a manner that has no adverse impacts on flooding of adjoining lands. The stormwater management strategy includes measures for the appropriate detention of run-off with the management train including rainwater harvesting at source in the form of household rainwater tanks, conveyance systems including piped systems and overland flow paths and detention facilities incorporated into the open space system.

Stormwater quality measures include a mix of gross pollutant traps/trash racks and infiltration swales.

The existing management systems in the drainage channel crossing the northern part of the site will be retained and improved in localised areas.

4.8 Utilities

As described in the Infrastructure Report prepared by Mott MacDonald Hughes Truman (***Appendix 10***) and in Section 3.13, all utility services are available or can be readily extended to meet the needs of the development. Maximum use will be made of existing infrastructure. Discussions have been held with all relevant servicing authorities and will continue during the preparation of subsequent applications.

4.9 Riparian Land

The site contains no natural streams or watercourses. The main drainage channel across the northern part of the site is an overland flowpath which starts at a headwall from Drysdale Street and meanders west-east through the northern part of the development area. The flowpath then turns to the north-east of the site before eventually connecting flows beneath the Hume Highway via a large piped headwall (4 x 1800dia pipes). The flowpath includes a series of four grassed detention basins. A low flow piped system exists within the channel/ basin system. This piped system is typically 600dia but does increase to a 900dia at the north-east corner. The existing detention basins appear to have been previously designed and constructed to include staged storage. There are a series of

existing stormwater piped outlets and flowpaths which convey surface flows from surrounding residential areas to the existing basins.

The proposed stormwater management concept as described in ***Appendix 8***. The existing overland flowpath and associated infrastructure will be retained as it functions adequately and represents a significant investment in infrastructure. Minor improvements will be made to lead in infrastructure. The area will be improved as a linear park with additional landscaping of species endemic to the area.

Additional off line detention will be provided at the down stream end within Fullwood Reserve and additional infiltration swales will be provides as part of the treatment train.

The proposed works will result in an improvement in water quality outcomes and in the detention and conveyance functions of the existing infrastructure with no adverse riparian consequences.

4.10 Biodiversity

4.10.1 Implications for Threatened Species Populations and Communities

Investigations into the biodiversity impacts of the development have been undertaken by Cumberland Ecology (***Appendix 5***).

The objectives of the report were to:

- *Describe and map the vegetation communities on the subject site;*
- *Describe fauna habitats and fauna usage of the subject site;*
- *Assess the likelihood of threatened species as listed under the TSC Act and the EPBC Act occurring on the subject site;*
- *Assess the ecological constraints and opportunities for development on the subject site; and*
- *Where relevant, suggest mitigation measures to reduce the impacts of the proposed development on flora and fauna.*

The impact assessment covers all native flora and fauna including terrestrial and freshwater species but focuses upon threatened communities, species and populations listed by both the NSW *Threatened Species Conservation Act 1995* (TSC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The key findings from the field investigation were as follows:

> *The Project Area has had a long history of human land use and development. Originally used for farming, the land had been cleared and heavily modified by the time of the original housing development in the 1980s. All original trees appear to have been cleared and the native trees that occurred scattered across the gently undulating site are made up of regrowth and planted trees of various ages. The canopy is largely dominated by planted Australian native trees most of which are representative of the original vegetation community within the area;*

however irregular occurrences of exotic native trees indicate the fact that most of the trees in the area are in fact planted. It is predicted that this planting occurred either in an agricultural setting, or following the original housing development.

Notwithstanding the high degree of modification of the landscape, areas of semi-natural vegetation remain and these have been derived from, or are low quality examples of, two threatened vegetation types:

- *River-flat Eucalypt Forest (TSC Act listed);*
- *Cumberland Plain Woodland (TSC Act & EPBC Act listed).*

The natural or semi-natural vegetation that occurs form patches within reserves including Badgally Reserve, Dimeny Park, Fullwood Reserve and the riparian land and parkland west of Fullwood Reserve. All of these areas are mown regularly and the vegetation consists of trees above a mown lawn, consisting of both native and exotic herbaceous plants. Young mature native trees occur within yards of houses and along roadsides within the Project Area.

The River-flat Eucalypt Forest includes scattered, highly modified stands of paperbarks (Melaleuca spp) and various trees such as Swamp Oak (Casuarina glauca) and Cabbage Gum (Eucalyptus amplifolia). The occurrences of the Cumberland Plain Woodland include specimens of Coastal Grey Box (E. moluccana), Forest Red Gum (E. tereticornis), Narrow-leaf Ironbark (E. crebra) and Spotted Gum (Corymbia maculata).

Native shrubs and creepers are essentially missing from treed areas due to mowing. The ground stratum includes grasses such as Austrostipa racemosa, Windmill Grass (Chloris ventricosa), and Weeping Meadow Grass (Microlaena stipoides). Native herbaceous plants include Einadia polygonoides, Kidney Weed (Dichondra repens), Twinning Glycine (Glycine clandestina) and Oxalis perenans. Exotic grasses are abundant and include such species as Couch (Cynodon dactylon), Paspalum (Paspalum distichum), African Love Grass (Eragrostis curvula) and Kikuyu (Pennisetum clandestinum). Exotic herbs include such species as Cats Ear (Hypochaeris radicata), Common Plantain (Plantago lanceolata), Fireweed (Solanum madagascariensis) and Spear Thistle (Cirsium vulgare). A list of species encountered in the field surveys and/or predicted to occur based upon literature review and interpretation of database records is presented in this report.

Fauna habitats are quite limited in the Project Area. Most trees lack hollows. There are no major water bodies and the gully that occurs along the northern boundary of the Project Area is a dry ephemeral creek that has been drained and is now regularly mown.

As a consequence of the modification of the Project, the fauna of the Project Area is typical of suburban areas. It is dominated by hardy native birds such as Australian Magpie (Cracticus tibicen), Australian Raven (Corvus coronoides), Eastern Rosella (Platycercus eximius), Rainbow Lorikeet (Trichoglossus haematodus) and Noisy Miner (Manorina

melanocephala). Likely fauna includes Ringtail Possum (Pseudocheirus peregrinus) and Common Brush-tail Possum (Trichosurus vulpecula). Herpetofauna is poorly represented due to mowing but is likely to include grass and garden skinks (Pseudomoia spp, and Lampropholis spp.) as well as the Common Eastern Froglet (Crinia signifera) and Spotted Marsh Frog (Limnodynastes tasmaniensis). A list of species encountered in the field surveys and/or predicted to occur based upon literature review and interpretation of database records is presented in this report. Likely feral animals include foxes and feral cats and Black Rats are well established in the Project Area.

Targeted surveys for threatened species did not locate any threatened species of plants or animals. However, several threatened species have limited potential to occur, these comprising mainly wide ranging threatened species such as bats, including the Grey-headed Flying Fox (Pteropus poliocephalus) and various microbats.

Cumberland Ecology concluded that:

The proposed redevelopment of the Project Area will remove patches of species-poor Cumberland Plain Woodland within Badgally Reserve and along the eastern side of the Project Area. It will remove native trees from across the existing suburban areas. At this stage it is not possible to be precise about the numbers of trees to be removed in the redevelopment.

The Project will provide for the revegetation of the linear park traversing the northern boundary of the Project Area with native trees, shrubs and understorey plants. A total of 13.89ha of vegetation will be managed under the VMP This area includes the native trees to be retained within Dimeny Park; Fullwood Reserve; part of the existing Badgally Road; and within a park proposed beside the Hume Highway.

Some Cumberland Plain Woodland of low management viability will be removed as the Project Area is redeveloped. This will be compensated for by replanting along the linear park.

No significant impacts are predicted for threatened species of plants or animals as a result of the redevelopment of the Project Area.

Based on the above conclusion, Cumberland Ecology recommended the following:

- *A Vegetation Management Plan be prepared and implemented to guide the conservation area;*
- *A variety of local native plants including riparian and dry land woodland should be replanted along the linear park (Brady park and Fulwood Reserve traversing the northern portion of the Project Area; and*
- *Consideration be given to retention of as many native trees within the existing urban areas as possible as the site is redeveloped.*

4.10.2 EPBC Act

The Concept Plan as a whole, including the proposed mitigation measures and off-sets set out above of this report, would not be likely to impose a significant impact upon any matter of National Environmental Significance.

However, given the scale of the project, and the variety of threatened species and ecological communities present, the project has been referred to the Commonwealth Minister for Environment and Heritage under the EPBC Act, for certainty.

4.11 Groundwater

Groundwater was not encountered during geotechnical investigations in all test pits and boreholes to depths of about 3.0m from existing ground surface. Groundwater seepage was encountered in some boreholes located in low lying areas at depths of 3.5m to 6.5m. It should be noted that fluctuations in the level of groundwater and/seepage might occur due to variations in rainfall and/or other factors.

River Flat Eucalypt Forest is a typically a groundwater dependent ecosystem due to its close proximity to riparian areas. A small amount of this vegetation community will be removed as part of the proposed development. It is unlikely that the remaining vegetation will be impacted as part of the proposed development due to the low level of excavation that will be used in close proximity to the vegetation. In addition to this the drainage network will not changed significantly. As a result, the water reaching the drainage line in the linear corridor will be of similar quality, and will recharge the groundwater system thoroughly. This should ensure that the remaining vegetation of this community will remain unaffected as a result of the proposed development.

Due to the depth to groundwater, excavations are unlikely to affect groundwater regimes.

4.12 Noise and Vibration

The main noise sources associated with the development are (***Appendix 13***):

- Noise from the Hume Highway and Badgally Road; and
- Construction Noise.

4.12.1 Traffic Noise

The extent of acoustic assessment was contained to road traffic noise onto the future residential premises within the Claymore Renewal project. As required by the DGR's assessment addressed both Badgally Road and the Hume Highway F5.

With regard to Badgally Road acoustic impacts can be readily addressed through boundary wall construction and building envelope treatment.

With regard to the Hume Highway F5, the 5m noise mound to be constructed as part of the F5 upgrade works was deemed to be sufficient for the majority of the precinct, with the exception of lots on the southern side of Dobell Rd in Stage 2 and three lots within Stage 8. With regard to Stage 2 lots, a combination of noise

wall/mound and treatment of the individual building envelopes is likely to be required to satisfy the ISEPP 2007.

4.12.2 Construction Noise

Construction noise and vibration has been addressed through the measurement of existing ambient noise levels to establish noise goals in accordance with relevant policy guidelines. Whilst specific assessment of construction noise and vibration has not been provided at this concept stage, sensitive sites and activities have been identified. Suitable management procedures and principles have been provided for further development in the individual development application and design development stages, at which time further detail would be available.

Construction noise should be assessed and management plans developed for the specific development application stages. Construction noise and vibration management plans should give consideration to project sequencing, equipment use, construction processes, hours of operation and consultation.

4.12.3 Recommendations

The noise assessment report recommends as follows:

> *With regard to road traffic noise it is recommended that barrier fences along the Badgally Road frontage be provided to reduce ground level external noise level to compliant levels. Further detailed modelling is required during the specific development application stages to determine appropriate building envelope design requirements for residual impacts at second storey locations.*
>
> *For the Hume Highway interface, results revealed that unreasonable mitigation would be required to meet the ECRTN. However as the ISEPP 2007 was largely satisfied without the need for alternative ventilation or building envelope treatment no further external mitigation was considered, with exception of Stage 2 on the southern side of Dobell.*
>
> *Nonetheless, for Stages 7, 8 and 9, as redevelopment is not proposed until after completion of the F5 widening it is recommended that post construction measurements are undertaken to validate the noise model and re-evaluate the noise impacts.*
>
> *With respect to Stage 2 works, in particular the lots proposed on the southern side of Dobell Road, additional external noise mitigation is recommended to provide reasonable external noise amenity and reduce building envelope constructions. Restriction of development to single storey could also be given after assessment of the required building envelope treatment. From the analysis, noise barrier construction in the order of 4-5m high was deemed to provide reasonable reduction in external traffic levels at ground level. The physical height of noise wall rather than earth mound could be balanced through excavation of the existing ground level.*

4.13 Waste

Waste streams to be generated during construction are described in Section 3.18. During operation, dwellings can be designed to ensure adequate space is

provided for Council waste collection services including storage of recycling receptacles.

A preliminary contamination assessment has been undertaken including soil sampling across the site. The results of this assessment are described in Section 2.3.3 and ***Appendix 4***. In general, soils beneath the site do not appear to have been significantly impacted by past or present activities and/or the presence of fill materials, soil stockpile and earth mound. Topsoil, fill materials with demolition waste in isolated locations within the site and soil stockpile were contaminated with lead, zinc and/or asbestos-cement pieces. Therefore remediation is required in these areas.

Geotechnique concluded that the site is considered suitable for the proposed residential subdivision development, subject to the following:

- *Detailed sampling and testing in the vicinity of locations of concern to delineate the extent of contamination.*
- *Development of a remedial action plan (RAP) to remediate the elevated lead and zinc concentrations and asbestos-cement pieces, followed by appropriate validation.*
- *Following demolition and removal of houses, garages and clearing of roads, an inspection and/or sampling and testing of soils beneath the feature should be carried out by an Environmental Consultant. In the event that soil beneath the site feature(s) is contaminated, detailed sampling, testing and remediation will be required. Demolition and removal of the houses and garage should be carried out by appropriately licensed contractors. A hazardous materials survey and controlled removal process must be carried out/implemented by an occupational hygienist prior to commencement of demolition works. Any fibro structures might impact on surface soils if demolition is not carried out properly.*
- *A site-specific Unexpected Finds Protocol (UFP) should be prepared and implemented throughout the construction works under the responsibility of the Principal Contractor.*

These investigations and any remediation action will be undertaken as part of the construction phase of each stage.

5. DRAFT STATEMENT OF COMMITMENTS

5.1 Draft Statement of Commitments

5.1.1 Introduction

The Director General's Requirements require the proponent to include in an environmental assessment a statement of the commitments the proponent is prepared to make for environmental management and mitigation measures on the site showing how the project will be managed in an environmentally sustainable manner.

In submitting this draft statement of commitments, it is recognised that the application is for concept plan approval and that additional environmental assessment, including additional statements of commitment or conditions of approval, will be required prior to works commencing (other than demolition).

5.1.2 General

A. The development will be undertaken generally in accordance with the Environmental Assessment Report dated June 2011 prepared by BBC Consulting Planners Pty Ltd (including accompanying Appendices).

B. Housing NSW and Landcom are committed to the principles of sustainability as defined in the Environmental Planning and Assessment Act 1979.

C. The proponent will continue to consult with the local community during the development process.

D. The proponent will continue to liaise with the Council during the development process.

E. The proponent will enter into a planning agreement with Council to provide roads, social and community infrastructure, drainage and facilities and amenities generally as indicated in the Environmental Assessment Report.

5.1.3 Remediation

A. A Remediation Action Plan will be prepared following more detailed sampling in the vicinity of locations of concern to delineate the extent of contamination.

B. Remediation will be undertaken in accordance with the RAP.

C. A site specific Unexpected Finds Protocol is to be prepared and implemented throughout the construction works.

5.1.4 During Demolition

A. Demolition will be undertaken in accordance with the requirements of Australian Standard AS2601 – 2001: The Demolition of Structures which is incorporated into the Occupational Health and Safety Act 2000 administered by WorkCover NSW.

B. A Hazardous Building Materials Management Plan will be prepared prior to demolition commencing.

C. An Erosion and Sediment Control Plan will be prepared to control run off during the demolition process.

D. A Waste Management Plan will be prepared prior to demolition commencing. Where possible materials will be recycled for reuse on the Site.

E. A Community Access and Safety Plan will be prepared to maintain access to, and to ensure the safety of, the existing community through the demolition process.

F. Demolition will occur in consultation with the community and will be integrated with the strategies to be put in place to manage the process of change and rehousing on the site.

G. Demolition is to take place in accordance with the recommendations of the Demolition Noise and Vibration Assessment prepared by Renzo Tonin & Associates contained in Appendix 13 of the Environmental Assessment.

5.1.5 Social Impacts

A. The proponent will prepare and implement a Strategic Social Plan to develop a coordinated approach to service planning, service delivery and change management.

B. The proponent will prepare and implement a Rehousing Process including establishing a Rehousing Team within Housing NSW.

C. The proponent will prepare and implement a Communications Strategy throughout the development process.

D. The proponent will obtain all necessary approvals required by State and Commonwealth legislation in undertaking the project.

5.1.6 Access and Movement

A. Roads will be constructed in accordance with the objectives principles and design criteria contained in Section 3.2 and Appendix 12 of the Environmental Assessment Report.

5.1.7 Urban Design

A. Development will take place generally in accordance with design guidelines contained in the Environmental Assessment.

5.1.8 Water Cycle Management

A. Stormwater management works will be undertaken generally in accordance with the Water Cycle Report contained in Appendix 8 of the Environmental Assessment Report.

5.1.9 Vegetation

A. The proponent will undertake a survey of all trees and other site features prior to the commencement of construction of any stage of the project and will seek to retain as many trees as possible for incorporation into the new urban form.

B. The proponent will provide landscaping to all streets and parks as outlined in the Environmental Assessment Report.

5.1.10 Open Space and Community Facilities

A. The public domain will be constructed and enhanced in accordance with the objectives and principles contained in Section 3.8 of the Environmental Assessment Report.

5.1.11 Construction Management

A. Prior to commencing construction, a Construction Environmental Management Plan will be prepared. This Plan will include:
- Development of a site specific soil erosion and sediment control plan,
- Management of saline soils,
- Construction hours,
- Air quality/dust control procedures,
- Noise management procedures,
- Waste management plan,
- Flora and Fauna Protection Plan,
- Community Safety Plan,
- Arrangements for temporary pedestrian and vehicular access,
- Storage and Handling of Materials Procedures,
- Environmental Training and Awareness,
- Contact and complaints handling procedures,
- Emergency Preparedness and Response.

B. All trees on the site that are not to be removed are to be suitably protected by way of tree guards, barriers or other measures as necessary are to be provided to protect root system, trunk and branches, during construction.

6. CONCLUSION

This report and appended technical reports comprises a comprehensive environmental assessment of the Claymore Renewal project Concept Plan. An extensive period of consideration of constraints and opportunities has been undertaken by a team of urban designers and specialist consultants, and development opportunities have been identified. This report describes the process of site analysis and Concept Plan preparation, and established and illustrates the guiding principles for future development.

The proposal demonstrates a high level of consistency with prevailing government policy and planning instruments including State and Regional Environmental Plans.

An assessment of environmental impacts of the proposal indicates that the project and the principles guiding future development represent an appropriate environmental outcome to be implemented through further approvals for subdivision and construction works. Water sensitive urban design will combine stormwater detention and treatment with open space and recreation opportunities. Significant positive social impacts will arise from the provision of a range of housing opportunities in a more connective and accessible residential environment.

The assessment has concluded that the site is suitable for the proposal and that the implementation of the Claymore Renewal Project is consistent with the public interest.

The Minister is requested to favourably consider the application.