

menanglepark



MENANGLE PARK (DRAFT)

VISUAL ASSESSMENT STUDY

March 2010



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EXECUTIVE SUMMARY

HASSELL has prepared this visual assessment for Landcom and Campbelltown City Council. It determines the visual impact of proposed development at Menangle Park comprising residential development, employment lands, a new town centre, rural uses and open space.

The introduction provides background information about the project, a brief description of the Menangle Park study area and a description of the extent of development envisaged by the Draft Revised Structure Plan (dated 14-01-2010 Issue 6).

The Visual Assessment Methodology used in this report is described in Section 2. It utilises a well-recognised approach to visual quality assessment that is systematic, consistent, and based on professional value judgement of commonly adopted and accepted criteria. The visual impact of the proposed development is determined by evaluating the visual effect of the development in the context of the visual sensitivity of the surrounding land use areas from which the proposed development may be visible. Visual effect is a measure of the change that will be perceived between the existing and proposed landscape characters, and visual sensitivity is a measure of the importance of the visual environment to different user groups based on frequency, duration, distance and repetition of views

An outline of the landscape and cultural features that contribute to the existing visual character of the Menangle Park landscape is provided in Section 3. Review of valuable cultural elements is informed by previous work (by others) identifying the most significant historic features and heritage value of the significant Glenlee estate located in the north of the study area, as well as other cultural features. This is followed by a detailed description of the structure plan proposal including a description of typical development characteristics for each of the development types and the proposed vegetation offset plan. These descriptions provide the basis for understanding the degree of change anticipated in the landscape.

Views and viewer locations are determined and mapped based on topographical analysis and a number of site inspections undertaken in early 2007 and late 2009. An assessment of visual impact is determined for each of these views and viewer locations and presented in tabular format at the end of Section 3. These are based on the potential effect that the proposed development will have on the visual environment without any ameliorative landscape treatment.

The determination of visual impact is accompanied by a series of recommendations to mitigate the impact of development. These are presented in Section 4 as a series of strategies that can be applied in the development process to ensure that appropriate outcomes with respect to visual impact are achieved. They include recommendations for:

- Influencing, where possible, the built form and landscape treatments to preserve view lines and view corridors,
- providing landscape setbacks in private lots to allow establishment of canopy trees on private land to supplement the public domain landscape,
- influencing, where possible, materials selection, colour and quality in low and medium density residential development areas,
- preparing integrated master plan designs for open space and community lands comprising schools and other community facilities to allow preservation of existing trees where possible and to ensure provision of adequate additional canopy landscaping,
- providing for the protection, augmentation and effective long term management of existing significant site vegetation.

The proposed development footprint seeks to achieve residential development density and housing targets set by the NSW Government under the NSW Metropolitan Strategy. In this process, an important objective of the development proposal is to manage visual impact to acknowledge and properly consider the key natural and cultural landscapes of Menangle Park. Whilst the government has determined that significant urban development is required to accommodate the growth of the city, it must occur in a way that does not encroach in Sydney's important rural homesteads, road corridors and landscape settings. Preliminary visual observations/topographic analysis has already informed the master planning of the subdivision. Further scrutiny of visual impact will determine the areas of highest impact and will produce mitigation recommendations that can maximise the opportunity to preserve those key natural and cultural landscapes.

01 INTRODUCTION

BACKGROUND

At the end of 2001 in light of concerns over Sydney's housing market and housing affordability, the State government announced further investigations of release areas in Western Sydney including Menangle Park. The area was included in the Metropolitan Development Program (MDP) which coordinates the planning, funding, servicing and development of all major new residential projects in the Sydney Region. Menangle Park was included on the MDP and agreement in principle has been reached with the Department of Planning (November 2008) for a notional total yield of 3,600 lots. Preparation of the Local Environmental Study was commenced to identify the capability of the study area to accommodate urban development and recommend appropriate land use zones for incorporation into a subsequent draft local environmental plan (LEP) for the area.

In September 2004 a preliminary LES was finalised by MG Planning. The LES was supported by technical studies addressing geology and soils, air quality, local drainage, riverine flooding, flora and fauna, indigenous heritage, non indigenous heritage, transport and access, visual and landscape character, socio-economic issues, extractive resources, infrastructure and services, bushfire and noise. The preliminary LES concluded that the site is suitable and capable of supporting urban development having regard to a "moderate" development option. It was identified that this would contribute to land supply within the Sydney Metropolitan Region consistent with the objectives for the site under the MDP.

However, it was also identified that the site is underlain by a high quality coal resource which is of State significance. Consideration of the potential impacts of coal mining on the site determined that mining of the site would be likely to result in unacceptable impacts on urban development, primarily in the form of mine subsidence, should urban development occur prior to mining. The report therefore concluded that the decision regarding what development should ultimately occur on the site is a matter for the State government in balancing the competing demands of coal mining and urban land supply.

Following preparation of the preliminary LES in September 2004 work on the Menangle Park release area stalled pending a decision from the State government regarding whether mining or urban development would be pursued on the site. The State government decided against supporting mining and in May 2006 advised that planning for the urban development of Menangle Park should be recommenced as a matter of priority. Further study (2007-2009) of flood behaviour, ecological offsets and development yield has been conducted to confirm development constraints and contribute to the identification of an acceptable footprint for urban development.

Landcom, in conjunction with Campbelltown City Council, is now preparing relevant documents and draft planning controls (LEP, DCP, Section 94 Contributions Plan/ Planning Agreement etc) ready for public exhibition midway through 2010.

This report describes the visual, landscape and cultural qualities of the study area, assesses the visual impacts of the proposed development footprint and makes recommendations to protect highly valued landscape and cultural features likely to result from the proposed urban development of the land. (*Refer Figure 1, over page*).

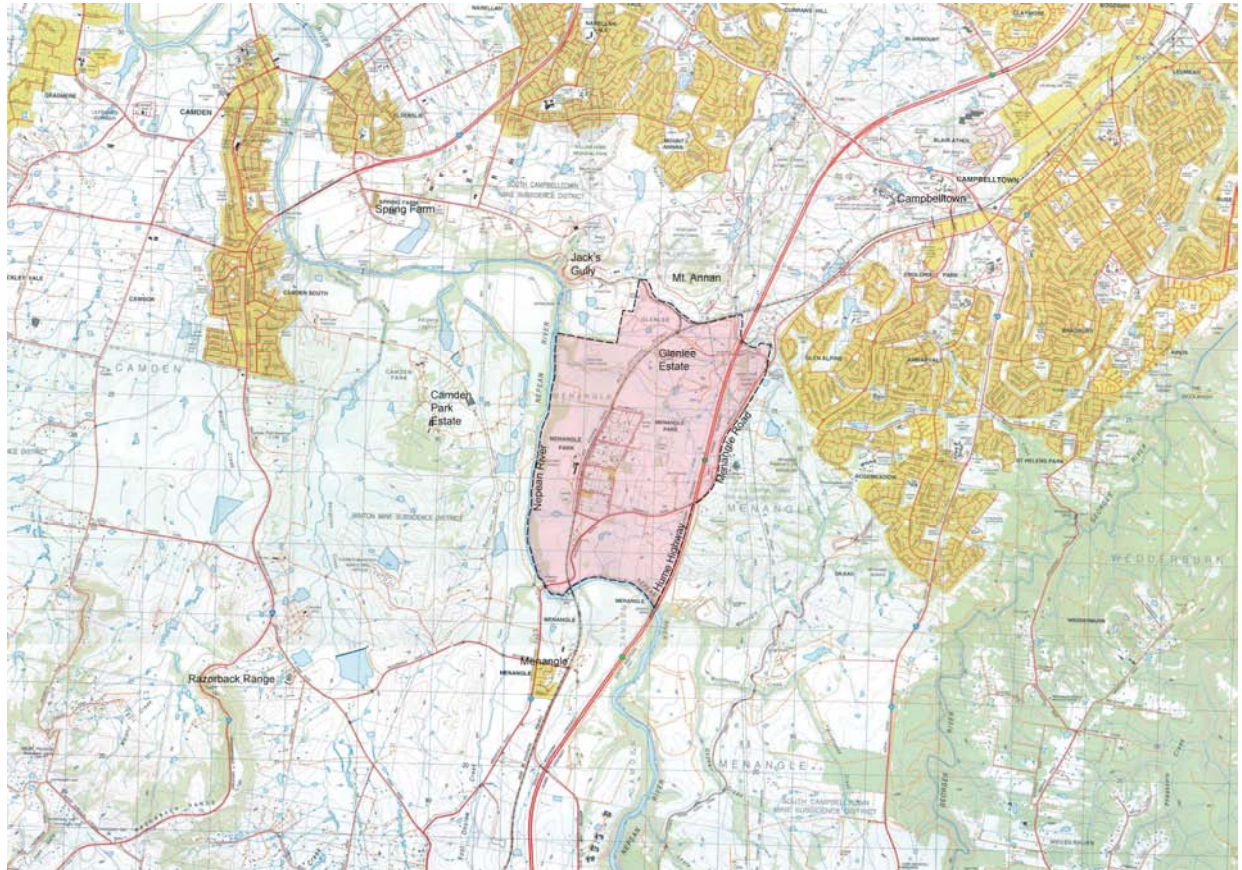


FIGURE 1: LOCATION PLAN.

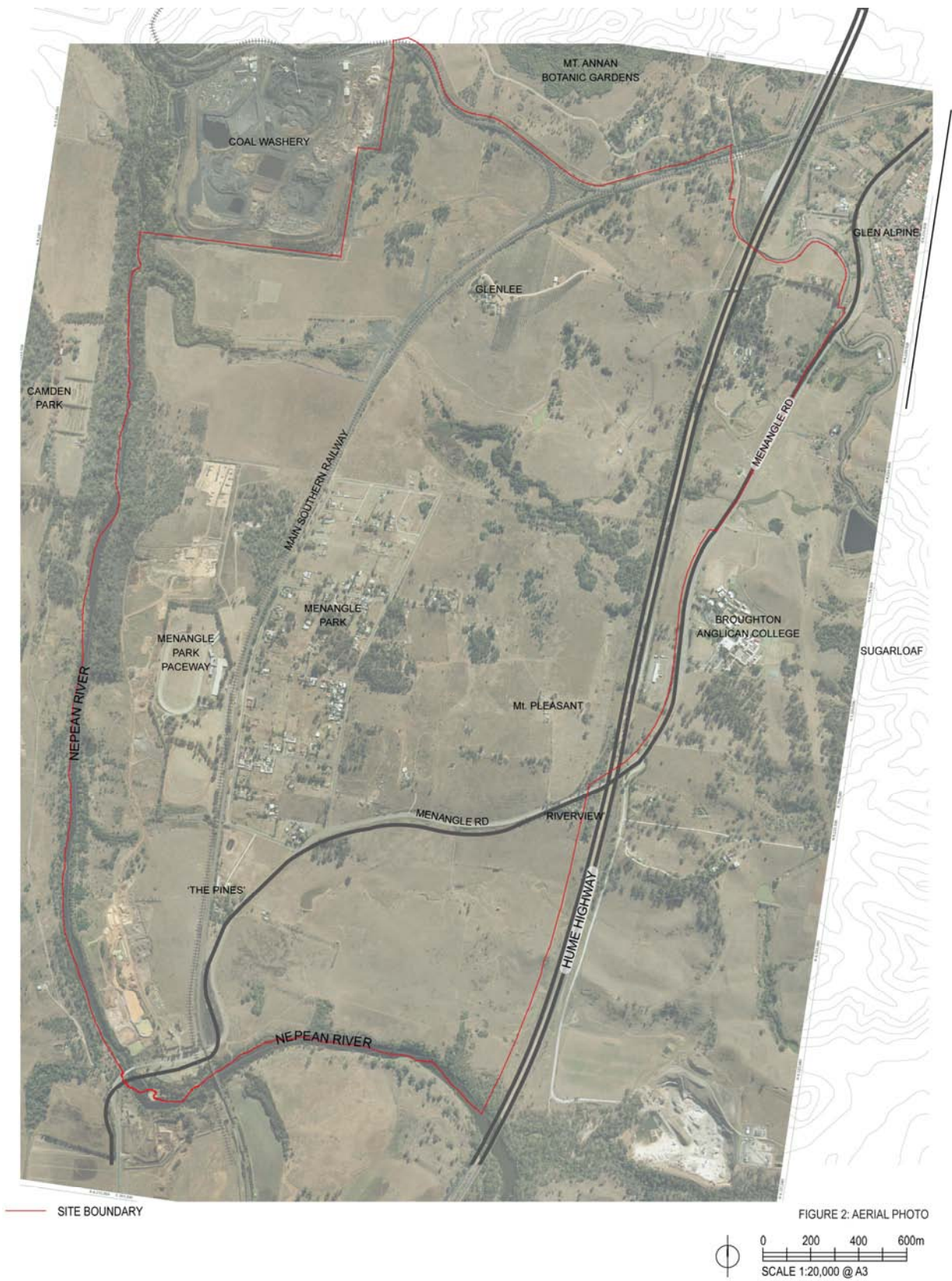


THE MENANGLE PARK STUDY AREA

The development site comprises lands of approximately 950ha southwest of Sydney within the local government area of Campbelltown. The site is bounded by the Hume Highway and Menangle Road to the east; the Sydney water supply upper canal and Mt. Annan Botanic Gardens to the north; and the Nepean River to the west and South. The site is divided by the Southern Railway and the Hume Highway. The site falls in the Nepean Catchment area.

The study area contains a number of indigenous and non-indigenous heritage items, Menangle Park Village, Menangle Park Paceway and a coal washery.

Over 1/3 of the site is flood affected and there are significant sand deposits within the site that will be extracted. The Site is illustrated in the aerial below. Refer (*Figure 2, over page*).



THE DRAFT REVISED STRUCTURE PLAN

The Draft Revised Structure Plan (DRSP) prepared by Urbis in 2009 provides for the urban development of the Menangle Park precinct to accommodate medium and low density residential uses, employment lands, retail and community uses, and recreation. The DRSP describes proposed street connections and hierarchy, block layouts, town centres, ecological zones/riparian corridors, community facilities, open space provision and continued current rural uses.

The current DRSP proposal is shown in *(Figure 7)*.

RESOURCE INFORMATION

Information for this study was collected by:

- Visiting the site and surrounding areas from nearby vantage points and identifying significant views within the site and surrounding area in early 2007 and late 2009;
- Reviewing topographical maps and aerial photographs (1:25,000);
- Reviewing the draft structure plan prepared by Urbis and the preliminary LES prepared by MG Planning in 2004; and
- Review of background information provided by APP (refer Appendix A).

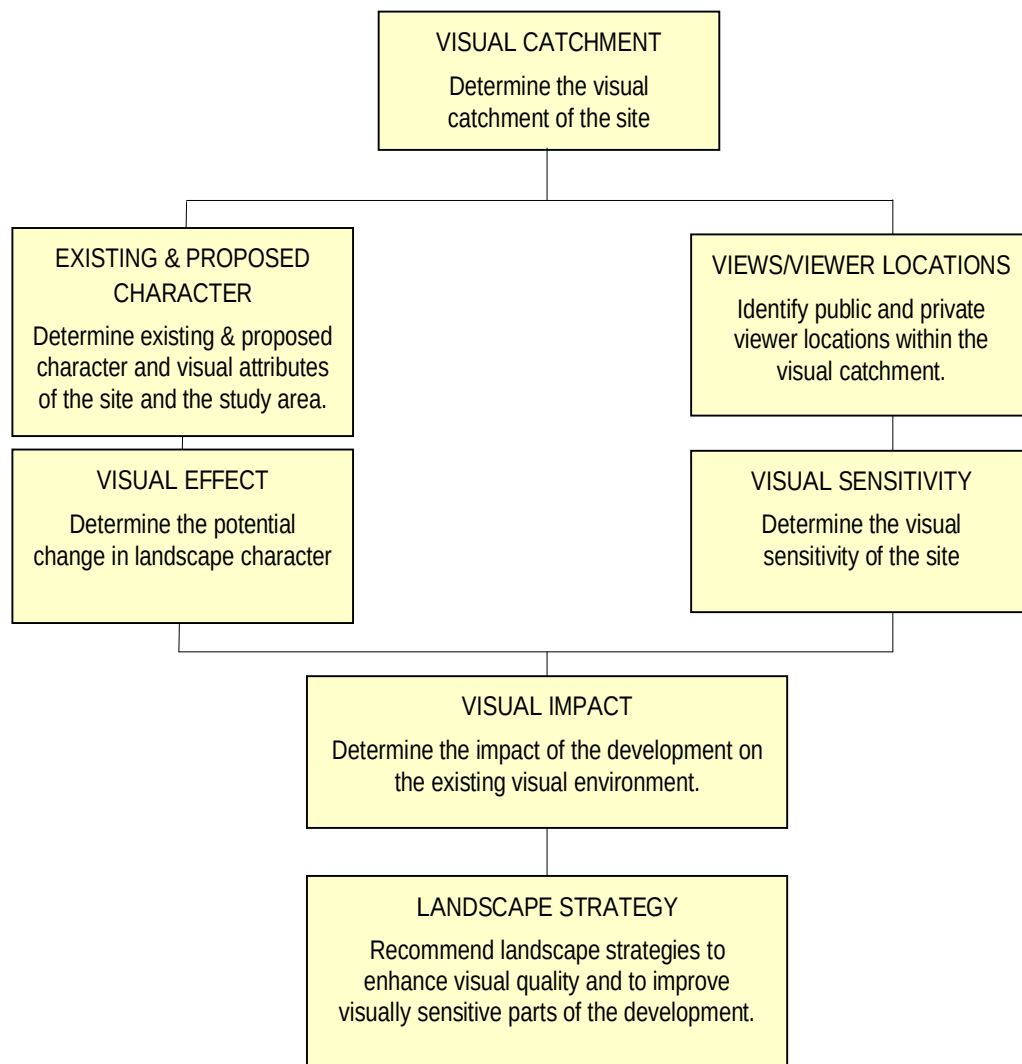
02 VISUAL ASSESSMENT METHODOLOGY

DESCRIPTION OF VISUAL ASSESSMENT METHODOLOGY

The objective of visual and landscape assessment is to identify scenic resources that should be protected because of their value to the community.

This report uses a well-recognised approach to visual quality assessment that is systematic, consistent and based on professional value judgement of commonly adopted and accepted criteria.

The visual impact of the proposed development is determined by evaluating the visual effect of the development in the context of the visual sensitivity of the surrounding land use areas from which the proposed development may be visible. The following chart describes the visual assessment methodology undertaken for this project, which is described in more detail in the following pages.



Once environmental constraints including those imposed by visual and landscape significance have been assessed, more detailed strategies for the conservation and management of these valued landscape character and elements can be developed. These strategies can be incorporated into master planning and a Development Control Plan for Menangle Park. These may include:

- built form, where possible, which enhances the local visual environment (including setbacks, form, height, scale, mass, street pattern, street frontage);
- maintenance of significant views, vistas, landmarks and other key features;
- open space;
- streetscape; and
- landscaping.

VISUAL CATCHMENT

The visual catchment of a site is the extent of the landscape that can be viewed from the site and likewise the extent of locations from which the site can be seen.

Landscape, vegetation, land use and landform play key roles in determining the visual catchment. For example, where a development is surrounded by vegetation, the visual catchment is likely to be significantly restricted. Conversely, grazing land does not create the same impediment to views.

The visual catchment has been initially approximated by topographic analysis.

Where possible, ground truthing has been undertaken to ascertain the influences of the surrounding vegetation and land use, and to adjust the catchment if necessary. Some private (rural) lands located within the nominated visual catchment area, but outside Menangle Park, are not accessible and have not been able to be accurately ground truthed.

The extent of the visual catchment area determined by this process is shown in Section 3.

LANDSCAPE CHARACTER

Landscape character is the recognisable pattern of elements that occurs in a particular landscape. Variations in geology and soils, landform, land use and vegetation, land use and settlement patterns and building styles, give rise to different landscapes each with its own distinctive character and unique sense of place. The landscape character of Menangle Park was assessed in order to determine the degree of change to the landscape character that would occur as a result of the proposed development.

VISUAL EFFECT

The visual effect of the proposed development is the expression of the change in landscape character created by the interaction between the development, and the existing environment. It can also be expressed as a level of contrast between the development and the visual setting within which it is placed. Critical issues are:

- changes to landform;
- changes to vegetation patterns; and
- the nature, density and scale of existing and proposed development.

A high visual effect would result if the development is a major element and contrasts strongly with the existing landscape. In such a situation there is little or no natural screening or integration, such as could be provided by vegetation or topography. In situations where the existing environment is heavily modified by the proposed development, for example through the large-scale removal of vegetation, a high visual effect would also result.

A moderate visual effect occurs if the proposed development is, to a certain extent, integrated with the landscape. This would occur if the surrounding vegetation and/or topography provide some measure of screening, background or other form of visual integration of the development with its setting.

A low visual effect occurs where there is minimal contrast and a high level of integration of form, line, shape, pattern, colour or texture values between the development and the environment. This can occur through integration of the development within the landscape setting or by substantial preservation of the existing visual setting.

VIEWER LOCATIONS

Viewer locations are public or private places where the proposed development site can be viewed.

Illegal or uncommon use of land which results in a view of the site has not been considered.

Viewer locations within the visual catchment area and representative views from a particular area were marked on a topographic plan as well as the extent of the view of the site (refer Section 3).

VISUAL SENSITIVITY

Visual sensitivity is a measure of the importance of the visual environment to different user groups and areas or locations. The function of each area affects the significance with which potential changes are viewed.

The visual sensitivity of the development depends on a range of user-group characteristics and the authors' knowledge and experience of public perception of the quality of particular land uses and landscapes.

The characteristics considered in this study are:

- the perceived cultural value of the visual environment and elements within it;
- user groups (residents, motorists, recreation users etc);
- frequency (refers to the number of viewers that will be affected by changes in their views. If more people will be affected, the visual impact is likely to be higher);
- duration of view (refers to how long the viewers spend viewing the proposed development); and
- the distance of the proposed development from viewers.

Frequency

Frequency is the number of people who might view the proposed development and is measured as a density ie. number of dwellings/1km².

Three categories were determined:

- <5 dwellings/km²
- 5-8 dwellings/km²
- >8 dwellings/km²

Duration

Different levels of view duration at various view locations were identified and qualitative descriptions were determined:

- Short - views from naturally vegetated (forested) areas or industrial areas that area partially obscured by topography, landscaping or structures.
- Short to moderate - views from local roads where the duration of the view is short to moderate, many of the viewers are frequent users of the road, and their visual sensitivity is constrained because the orientation of the viewer is focussed on the road for much of the time (a viewer travelling in a vehicle only has a 20° angle of visual either side of the centre view of the road at speeds of 100km/hr and a focusing distance of 600m, Road Traffic Authority, 1991).
- Long - Long duration views from residential and public recreational areas. Views include elements that dominate the landscape.
- Long duration views from housing, or views form public places that have high visitation, would have highest visual impact. Short duration views, which are partially or largely obscured by existing topography, landscape or structures, would have the lowest visual impact.

Distance

Distance zones were determined around the proposed development site within the visual catchment area. The distance zones are as follows:

- foreground zone - areas within 0-300 metres of the viewer - (within this range the observer experiences maximum discernment of landscape details Great Lakes Council, 2002) eg. such as shape, colour and contrast.
- middle ground zone - areas between 300 metres and 1 kilometre - (within this range, vegetation textures and land use patterns are visible to the observer Great Lakes Council, 2002).
- background zone - areas greater than 1 kilometre from the proposed development - (within the range, textures and patterns are indistinct to the observer Great Lakes Council, 2002). The viewer is unaware of individual details and discerns broader landscape units as patterns of light and dark.

Viewer locations that fall within the foreground zone are considered to be in the zone of highest visual impact because the proposed development would be part of their ground views. Changes to views in the middle ground are considered to be important, but less important than in the foreground. This is because the subject site is further from the viewer and would therefore likely occupy a lower proportion of the total views from the viewer location. It is considered that visual impact or viewer locations within the background one is of least significance, however, still worthy of consideration. In some cases, wholesale change of broad distant views in terms of colour, texture and pattern can still be significant.

VISUAL IMPACT

Visual impact is a measure of the potential effect that the proposed development (including both natural and built elements) will have on the visual environment without any ameliorative landscape treatment.

Visual impact depends upon the visual catchment area (extent of visibility), visual sensitivity (the number of views and viewers affected, duration of views, and distance) and visual change (the degree of visual intrusion or obstruction that will occur). These visual impacts can be positive or negative.

The table below illustrates the visual impact as a result of the relationship between visual effect and visual sensitivity.

Visual Sensitivity Levels	Visual Effect Levels			
		HIGH	MODERATE	LOW
	HIGH	High impact	High impact	Moderate impact
	MODERATE	High impact	Moderate impact	Low impact
	LOW	Moderate impact	Low impact	Low impact

Matrix for Determining the Visual Impact of Proposed Development

03 VISUAL ASSESSMENT

VISUAL CATCHMENT

The Menangle Park site occupies low lying and undulating land in the floodplain of the Nepean River. The visual catchment of the site is largely contained by surrounding elevated topography on all sides including the Camden scenic ridge to the west, the Sugarloaf Ridge to the east, Mt Annan and the Mt Annan Botanic Garden to the north, and the elevated Menangle Village to the south.

Existing vegetation also limits views of the site from many vantage points. Riparian vegetation along the Nepean River screens view into the site from low lying land to the west and the south. Median and verge tree and shrub planting along the Hume Highway provides intermittent screening of the site from vantage points along the freeway. Roadside planting along Menangle Road also provides intermittent screening of the site along its alignment. Views into the site along the Main Southern Railway are alternately open and screened by embankment cuttings.

The historic Glenlee estate and homestead is prominently located high on a ridgeline in the northeastern area of the site. Glenlee is visible from a range of locations within and from outside the study area. From the Glenlee estate there is a significant panoramic view to the south and west across the Nepean River and towards the Great Diving Range and Camden Park estate ridgeline. The Glenlee estate is considered to be 'a rural cultural landscape of exceptional significance' and noted for the 'exceptional composition of the architecture and landscape setting of the homestead group' (SHR 1999) so these views are particularly valued from a heritage perspective and need to be considered in this context. The Glenlee Road alignment also has heritage and visual significance. At a crest in the road a dramatic and impressive view of the homestead and its broad landscape setting is available.

The visual catchment of the site is largely determined by the ridgelines to the west and to the east which include some isolated vantage points at high elevations. In the north views are contained by noticeably undulating topography and by existing stands of vegetation. The Glenlee estate is a focal point in this landscape and a vantage point for prominent panoramas to the south and west. The Menangle Park Village and significant stands of existing trees at elevated locations are the dominant landscape features in the central portion of the site. In the south the visual catchment is more expansive, encompassing the flood prone land of the Nepean River and contained to the south and west by riparian vegetation associated with the river.

The visual catchment of the site is shown in *(Figure 3, over page)*.

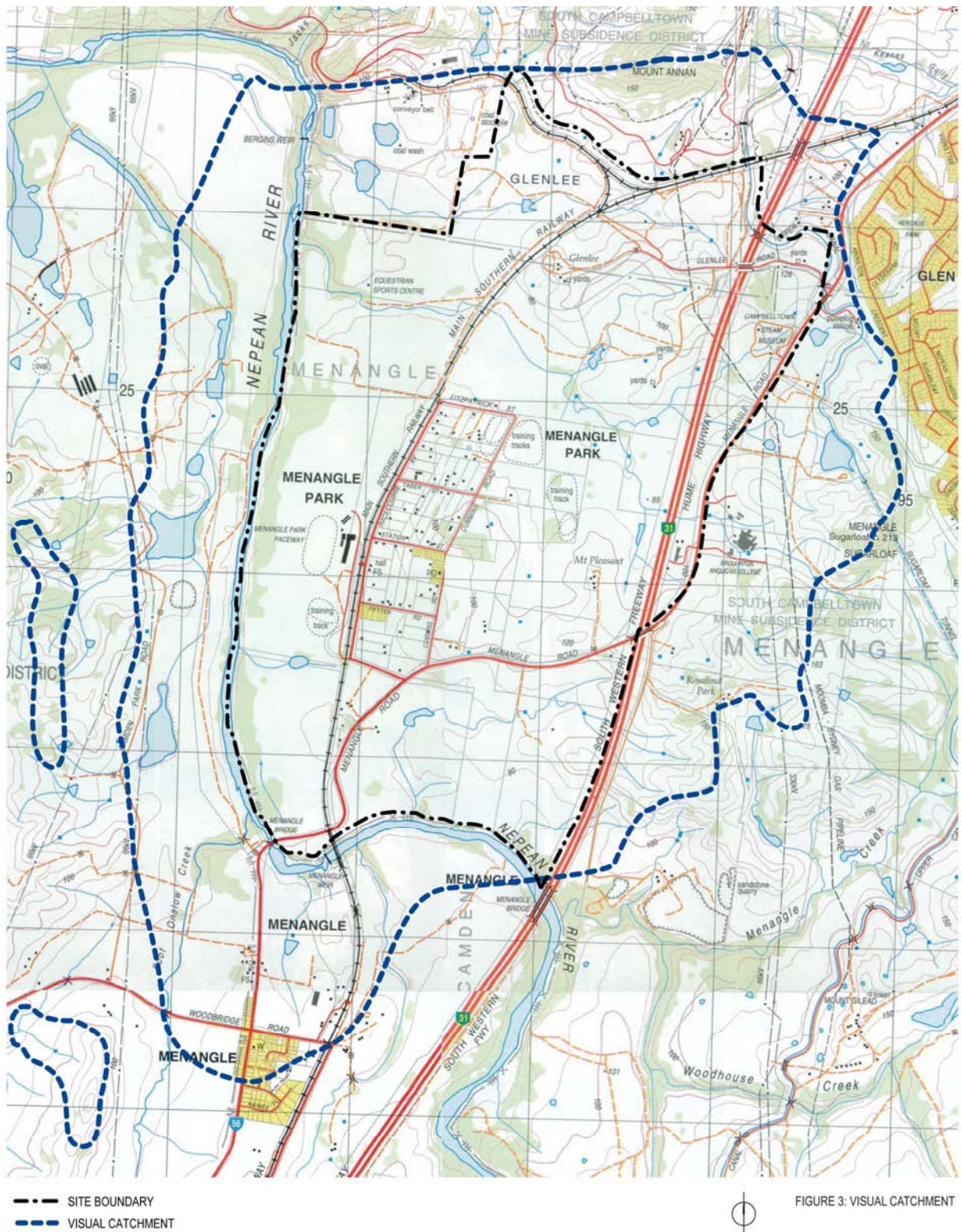


FIGURE 3: VISUAL CATCHMENT

Landscape character

The Natural Landscape

Key Features

Menangle Park is predominantly flat to moderately undulating. The dominant vegetation comprises scattered woodland remnants and rural grassland with patches of natural bushland along the Nepean River and associated creek corridors. The site is largely rural in character but also contains a village area with large residential allotments. The land has been cleared for grazing over the past decades and has been farmed since the issue of land grants in the early 1800's.

Landform (refer Figure 4, over page)

The northern section of the site is undulating and elevated with slopes up to 10 to 18 degrees. A gentle ridge runs east to west. The historic Glenlee Road traces the alignment of the ridge from Menangle Road to the prominent location of the historic Glenlee estate, positioned on the spur of the ridge with a vista across the Nepean River floodplain. Directly south of the Glenlee estate the existing watercourse drains in a westerly direction to the Nepean River.

The central area of the site between the SW freeway and the Main Southern Railway contains gentle west facing slopes and includes the Menangle Park Village. The village is a rural residential subdivision and a few civic buildings. The area immediately to the east of the village comprises rural land which is largely cleared other than some remnant patches of scattered bushland. The high point in this area is occupied by the existing Mt Pleasant farm complex constructed in the 1970's, which commands views across the site in most directions.

The area south of Menangle Road is occupied by low lying rural land which is largely flood affected with a small ridge running east to west. A minor drainage line divides this area and generally follows the line of Menangle Road before entering the Nepean River to the south. A prominent knoll located adjacent to the Hume Highway is a key feature in the locality. This landform and its associated vegetation and minor structures are a identifying feature when viewed from distant vantage points in low lying and elevated locations around the site. This southern area of the site is predominantly cleared with only a few scattered individual trees remaining other than the riparian vegetation associated with the Nepean River.

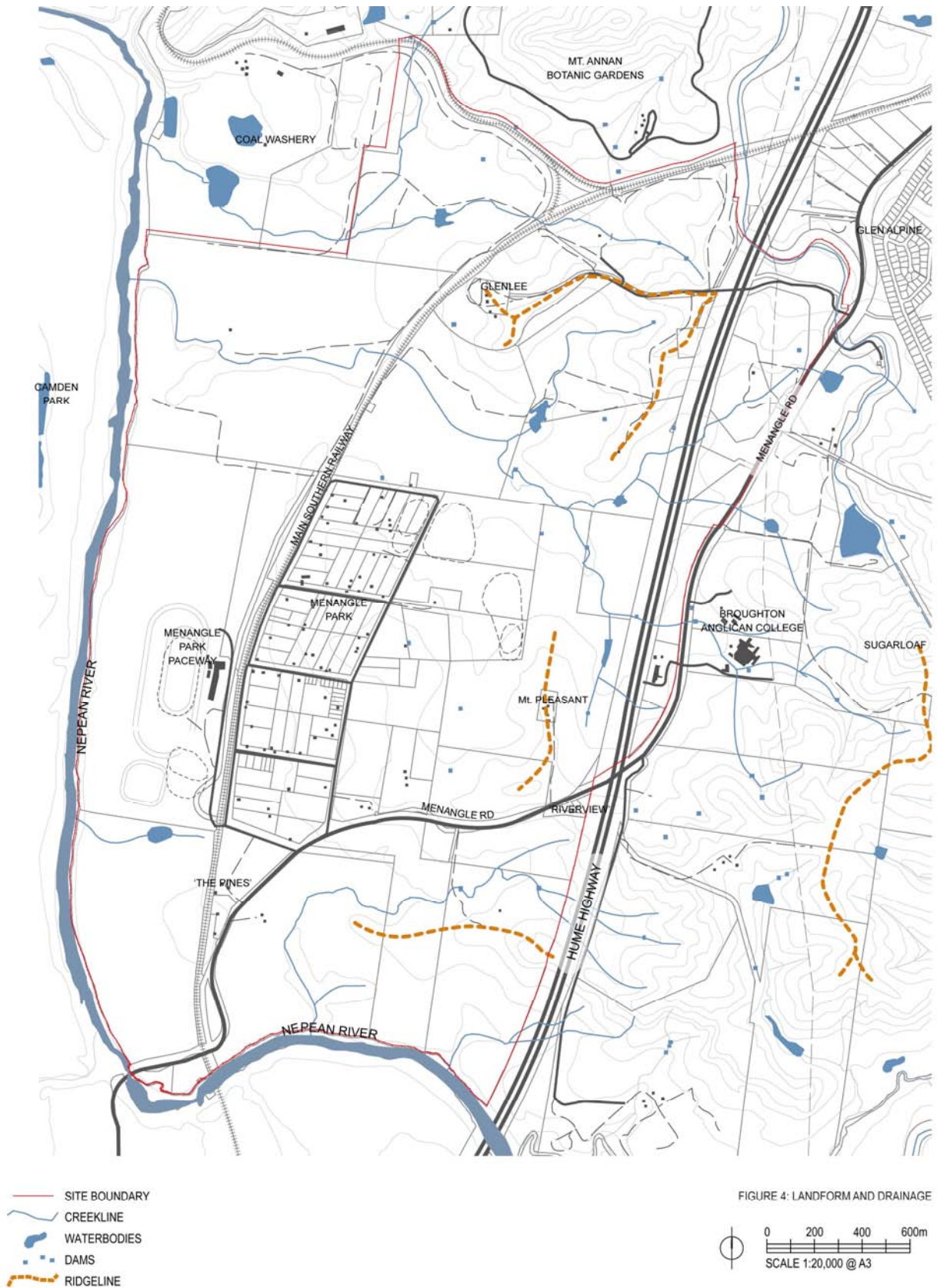
To the west of the Main Southern Railway, the site comprises a large area of flood affected land adjacent to the Nepean River.

Nepean River and Associated Creek Lines (refer Figure 4, overpage)

The Nepean River forms the western and southern boundaries of the site and is the major natural landscape feature in the area. Much of the site is located within the floodplain of the Nepean River and is affected by 2 year to 100 year flood events.

Smaller creek lines within the site drain in a westerly or southerly direction towards the river. They are ephemeral and generally dry, although much of this land was awash with water during a site visit in February 2007. An unnamed creek located to the north of the Menangle Village is the main tributary of the site. The headwaters are located within the small farms on the slopes to the east of Menangle Road.

There is a small wetland area north of Glenlee Homestead which connects to a creek running adjacent to the southern boundary of the coal washery. This area also provides an important ecological link to the Mount Annan Botanic Gardens.



Vegetation (refer Figure 5, over page)

The majority of the study area comprises significantly disturbed land following years of agricultural activities including clearing, grazing and other farm related activities, and sand mining. Remnant native and riparian vegetation now occurs in narrow strips along the Nepean River and some creek lines, as well as some scattered shade trees over the slopes and in some regrowth stands across the site. There are several cohesive stands of canopy vegetation on the site considered to have high ecological value. These are mainly located along the Nepean River and the unnamed tributary immediately south of the Glenlee Estate. There are also some significant stands located in the Menangle Village area. These are now some of the main visual ordering elements in the landscape.

Some significant cultural plantings are also present. These are mainly associated with the historic homesteads on the site, and with the Menangle Park Village as an arrangement of street trees and private plantings in rural holdings.

Considerable work has been undertaken to determine the ecological condition and quality of the various stands of vegetation on the site. For visual assessment it is also important to acknowledge the contribution of existing vegetation as landmarks in the landscape. Where vegetation stands occur as continuous or cohesive canopies in higher elevations they have also become significant visual elements in the landscape of the site and its surrounds.

Pastures are dominated by exotic grasses. Floristic diversity across the site is low and the natural woodland structure in most areas of native vegetation has been substantially modified.

Three native vegetation communities listed as endangered ecological communities under the Threatened Species Conservation Act 1995 (TSC Act) have been identified on the site:

- Cumberland Plain Woodland,
- River Flat Eucalypt Forest (formerly Sydney Coastal River-Flat Forest) and
- Sydney Freshwater Wetlands.

The Cumberland Plain Woodland is also protected under the Environment Protection and Biodiversity Act 1999 (EPBC Act).

There are significant cultural plantings related to Glenlee which add to the cultural importance of the property. Mature ornamental specimens include Araucaria and White Cedars. An olive grove is a recent addition to Glenlee which becomes a visual feature in itself and continues the agricultural tradition of the property. 'The Pines' homestead has associated cultural plantings most significantly *Pinus pinea* (Stone Pine) which provide a concealed setting for the homestead.

The area to the west of the Main Southern Railway is mostly pastureland supporting rural activities such as grazing. It supports some high condition River Flat Forest associated with the Nepean River and some freshwater wetlands along minor creek lines draining to the river from the east. There are a number of significant ornamental plantings within this area also. This land contains significant amount of sand that will be extracted within the next few years. The area also contains a coal washery which is a heavily disturbed landscape representing a visually intrusive element in a predominantly rural landscape. The boundary of the coal washery comprises a steep embankment with native screen plantings to mitigate the visual impact.

There are also a number of scattered cultural plantings within and around the Menangle Park Village.

The assessment of vegetation quality shown in Figure 5 is based on the health and ecological value of the existing vegetation on this site. It does not consider the visual or cultural value of the vegetation. An important consideration in the development of a structure plan for new development includes recognising and understanding the cultural value of specimen trees and significant stands of existing trees in the landscape. Existing vegetation is one of the key discernible elements contributing to the recognition, memory and perception of rural land. Vegetation typically traces watercourses and ridgelines, and highlights recognisable cultural interventions in the landscape.



Land Use

The predominant landuse is rural agricultural and associated uses including horse agistment, cattle grazing, and orcharding. The village area contains large rural residential allotments. There are about 130 private dwellings within the village of generally older style weatherboard and brick construction. West of the village is the paceway with associated infrastructure.

In the northeastern section of the site is the coal washery which will continue to operate. Sand extraction will take place in areas where there are significant deposits of quality sand.

Beyond the site boundary there is the Mount Annan Botanic Gardens to the north, small rural holdings and institutions east of Menangle Road, rural lands to the south and west.

The Cultural Landscape (refer Figure 6, overpage)

Glenlee Estate

This is an important house and complex of farm buildings situated in a landscape that has had little modification since the latter 19th century. Glenlee House is listed on the State Heritage Register. It is considered to be an estate of exceptional aesthetic value being one of few homesteads left in the area that still has it's picturesque landscape setting and connection to the river, ridge and an another adjacent early homestead (Camden Park Estate) intact.



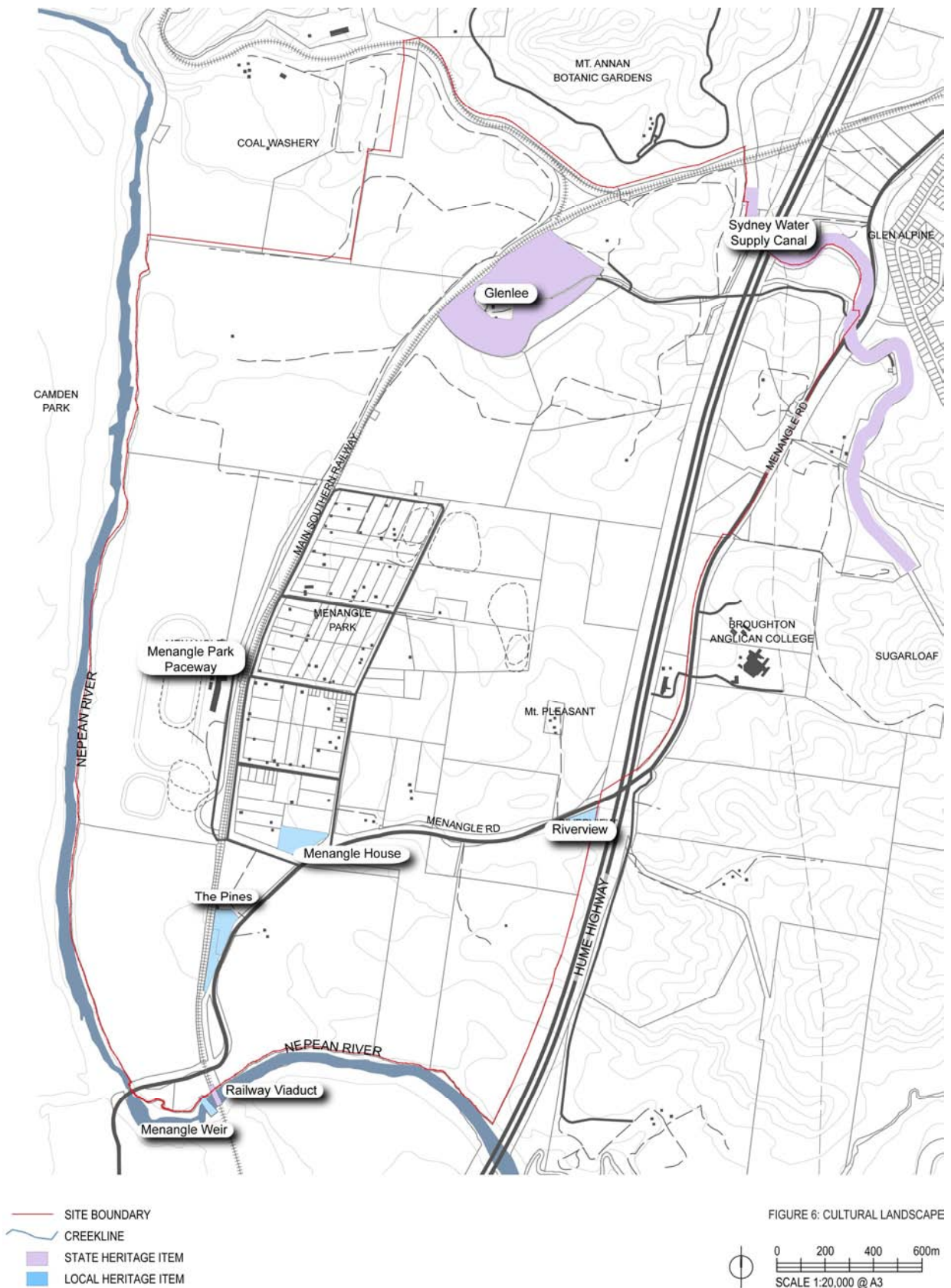
The Statement of Significance in the State Heritage Register includes the following text:

'The Glenlee estate is a rural cultural landscape of exceptional significance including elements of Aboriginal heritage significance, association with early influential European settlers and the exceptional composition of the architecture and landscape setting of the homestead group. It is the core remnant including the accessway of the Glenlee estate, an important and rare surviving early 19th century pastoral holding in the Mount Annan/Menangle district of the Cow Pastures once considered as one of the best and earliest dairy farms in the colony. The estate was one of the first farms in Sydney's west to make the change from cereal cropping to dairying in the 19th century and the property continued to prosper throughout the 19th and 20th centuries. The landscape of the area of the estate is of exceptional aesthetic value as a rare reminder of the former pastoral industry which once characterised the area. It is still possible to appreciate the siting of the homestead in view of, and with frontage to, the Nepean River as part of the original land grant. The mid-19th century Southern Railway, though sited close to the homestead group, was constructed to maintain this visual relationship. The siting of the homestead group in a context of undulating landform, is an outstanding example of colonial landscape planning to form a picturesque composition with direct sightlines to the neighbouring Camden Park Estate and the Great Dividing Range.'



The colonial farming estate remains in its rural setting surrounded by paddocks, outbuildings, gardens, roads and hedges and is a record of colonial rural life. Views of the Camden Park Estate homestead are now obscured from view by woodland vegetation on the Camden Park Ridgeline when viewed from in front of the house in the western corner of the property. The dark green foliage of the pines and palms planted around the Camden Park Estate house are visible, however, and it is possible that more of the homestead can be seen from the upper floors of Glenlee House.

The visual sensitivity of this landscape is heightened by the summit track at Mt Annan Botanic Gardens that follows the ridgeline behind the house.



Sydney Water Upper Canal

A section of the Sydney Water Canal forms the northern boundary of the site. Built in 1880-1888, the canal is part of the Upper Nepean Water Supply and is an operating part of Sydney's water supply. It is a listed item on the State Heritage Register. The canal carries water to the Prospect Reservoir. The listing of the canal is for its length from Prospect Reservoir to Wollondilly and includes the small sandstone bridge where Glenlee Rd. crosses over the canal.



Sydney Water Upper Canal

The Pines

This homestead was built in 1880 and was cut off from the main part of its estate after a deviation to Menangle Road was implemented. This house is a very good late example of the classical colonial stone house. The Pines has a symmetrical façade with French windows opening onto the front veranda, a slate roof and two rear service wings enclosing a small grassed courtyard. It was built by Edward John Edrop about 1870. The house faces the Nepean River and still has an open prospect over rural land towards the river.



The Pines

Menangle House

Menangle House was built as a hotel in the late 1830's and was closed down for a period until the arrival of the railway in 1860. It has also been known as the Horse and Jockey Inn. The property has recently been upgraded and now operates as a café/restaurant with the house providing office and private residential accommodation. The building is a substantial building in the Colonial manner close to Menangle Road. Like "The Pines" Menangle House faces the Nepean River and still has an open prospect over rural land towards the river.



Menangle House

Riverview

Riverview House is located on a small parcel of land between the Freeway and Menangle Road. It is not easily visible from outside its site boundaries. The house was built in the 1860's and is listed in the Campbelltown DCP. The building has historic, architectural and aesthetic significance.



Riverview

Menangle Park Paceway

Races were held at Menangle Park from the 1870's. Two rail sidings were built to bring spectators, competitors and horses directly to the track. In 1914 three grandstands were built at the paceway. The construction also included official stands and luncheon rooms. Patronage was drawn from metropolitan areas by special trains. Today infrastructure includes the trotting track, grandstands, entrance gates, and other buildings.

During World War I, Germans and German/Australians were held at a camp on Menangle Park Paceway. It is still in use as a paceway and is the venue for the Campbelltown Show. The old railway platform face is also located on this land and is overgrown with grass.



Menangle Paceway

Menangle Weir

Menangle Weir was built to maintain the riparian rights of landowners along the Nepean River following the completion of the Upper Nepean Scheme in 1886. It is one of a series of weirs and is largely undisturbed and is still serving its original purpose.

Menangle Railway Viaduct

Built in 1860/63 with ironwork cast in England. This is the oldest railway bridge in NSW still in use. This box girder bridge is listed on the SHR and the Rail Infrastructure Corporation Register.

THE DRAFT REVISED STRUCTURE PLAN

The Draft Revised Structure Plan (DRSP) proposal for the Menangle Park precinct is to create a new mixed use development comprising a town centre, employment lands and approximately 3,400 new homes. A density of 13.8 dwellings per hectare of residential land is proposed. The DRSP describes proposed street connections and hierarchy, block layouts, town centres, ecological zones/riparian corridors, community facilities and open space provision (*refer Figure 7*).

The precinct area to the south of Menangle Road is to be developed by Campbelltown City Council in association with Landcom. The precinct area to the north of Menangle Road is to be developed by Landcom. It is understood that the majority of the development is likely to be sub-divided and sold as land packages.

The DRSP has been developed following considerable review of landscape and cultural characteristics and features of the Menangle Park precinct. The final precinct plan preserves the majority of significant riparian corridors as open space and provides for the augmentation of core riparian vegetation in accordance with DECC agreements.

Proposed medium density development (townhouses-small detached dwellings) is generally located in the vicinity of the existing area of Menangle Park Village. Low density detached housing development occupies the undulating land behind Glenlee House, and the central and southern portions of the site. Larger rural-style lots are proposed in the remaining undulating area between Glenlee House and the Hume Highway. Location of rural development in the more visually dominant, hilly area in the north of the site provides greater opportunity to retain existing scattered trees and to provide substantial tree canopy vegetation to screen views of new housing. Consideration of setbacks or other measures to ensure achievement of adequate landscaping in private lots for these sites will assist in achieving this.

Residential Development

The DRSP provides for a mix of residential density development types from large rural lot development to medium density housing. Lot sizes are likely to be as follows.

— Rural residential lots	1,200-2,000+sqm, 1-2 stories assumed	Total - 481 lots.
— Low density residential	535-700sqm (lot sizes typically 18.5x29m, and 22.5x31m), 1-2 stories assumed.	Total – 2, 274 lots.
— Medium density	200-350sqm (lot sizes typically 6.5x31m, and 10-12.5x28m), 2-3 stories assumed.	Total – 645 lots.

Block and lot layouts at this density will result in a major change to the existing rural landscape, effectively transforming the rolling green pastoral landscape to a typically urbanised environment with formalised street patterns accentuated by formal tree planting. An important criterion in minimising the impact of such a change will be in creating a new landscape setting that blends and softens new housing with a combination of new canopy tree planting and carefully selected built form materials. It will also be important to retain existing stands of vegetation in elevated locations where possible. The creation of a significant tree canopy connection across the site is recommended and will be most achievable in the areas of low density development where trees can be incorporated in private gardens as well as in the public domain. A key consideration in achieving this is in planning lot depths deep enough (more than 32m) to allow private backyard tree planting. This can be addressed by planning a row of deep (32m+) lots backing onto shallower lots and providing relevant setbacks for built form. This simple structure allows space for planting trees in the deeper lots between the two rows of houses providing the opportunity for the establishment of canopy trees giving natural shade, amenity and capability to provide some temperature control to both rows of houses as well as visual softening of the development. Measures such as this will assist the developer to demonstrate its commitment to delivering sustainable housing into the future in line with government and community objectives.

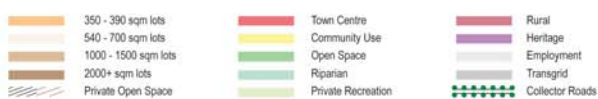
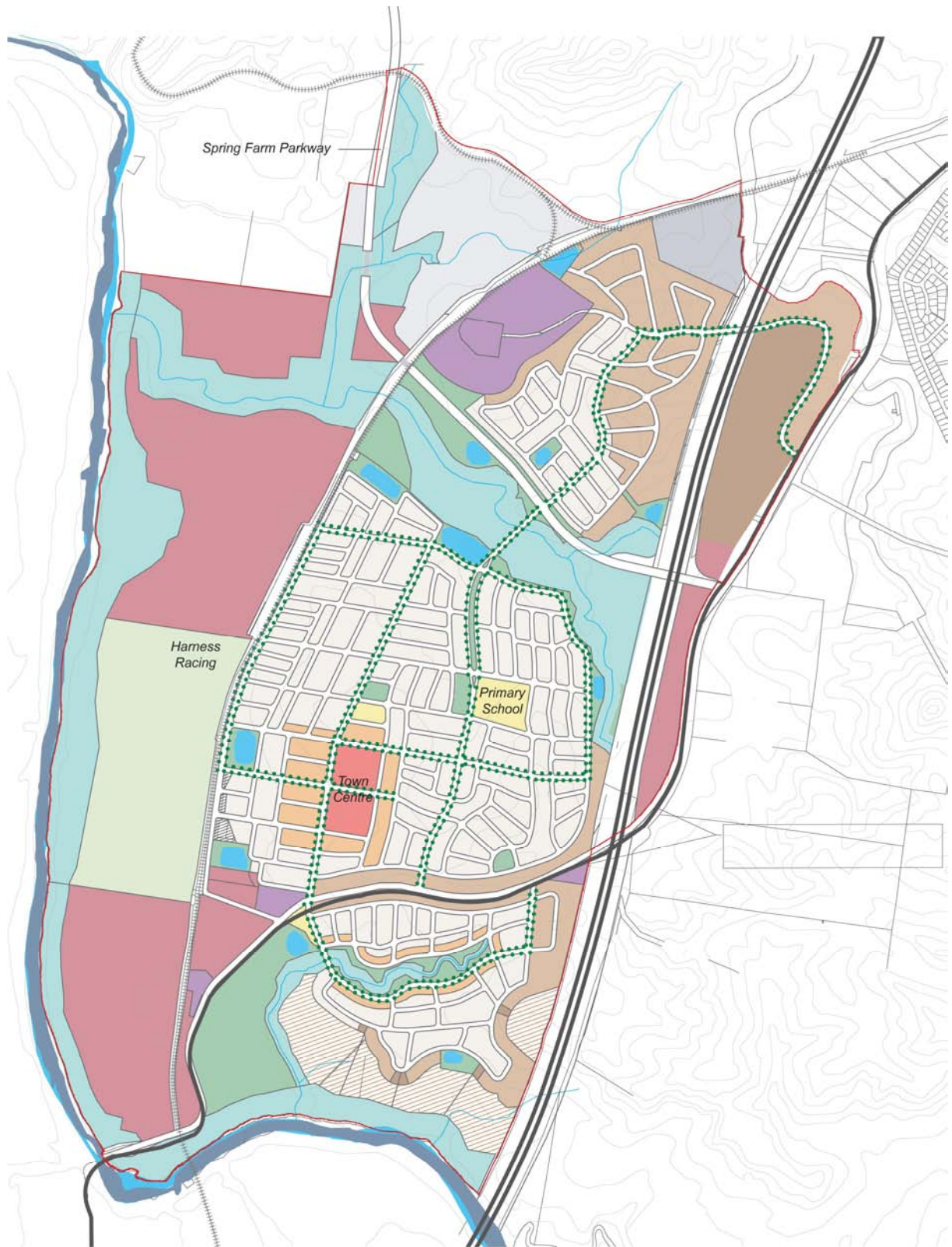


FIGURE 7: DRAFT REVISED STRUCTURE PLAN



Low density and rural style development is proposed on the slopes to the east of Glenlee Estate. These will need to be developed with special care to minimise the visual impact of new built form on the setting of the heritage property. Location of these properties butting up to the boundaries of and obscuring the visibility of the heritage estate is a lost opportunity. Noise walls are not proposed around new or existing roads as a result of the development.

Employment Lands

An area of employment land is proposed in the northernmost portion of the site with frontage onto the new Spring Farm arterial road. This area is beyond the main vista from the Glenlee estate which is generally focussed to the west and south.

The land is generally low lying and associated with an existing riparian zone. It is mostly visible from the north and from within the development. It is assumed that development is likely to be one to two storey large scale built form suitable for bulky goods retail and business/commercial uses. Establishment of tree canopy vegetation and careful selection of building materials will be required to minimise the impact of built form on the landscape.

Town Centre

A new town centre is proposed near the area currently occupied by the Menangle Park Village. Development will comprise 3 storey apartment blocks with retail and commercial uses occupying ground floor level. This location of this development on a low ridge (100mAH) will be visible from surrounding locations and is likely to result in removal of existing vegetation. The town centre will be surrounded by new medium density development and represents a major change to existing uses and visual character.

Rural Uses and Open Space

The proposed development aims to retain remnant vegetation pockets wherever possible, particularly fingers of riverine vegetation along sensitive creek lines in new open space zones. A major strategy of the DRSP also provides a continuous green connection along the major watercourse immediately south of Glenlee, and for the augmentation of the more significant stands of existing vegetation in this zone via the proposed vegetation offset strategy. Some small isolated pockets of vegetation will also be retained in parks or in new private land holdings. Most open space areas are located in the low lying lands of the site where they serve multiple drainage functions such as preservation of core riparian vegetation, provision of detention basins, and water quality control facilities.

Much of the precinct area adjacent to the Nepean River is also set aside as open space or continued rural uses which allows the preservation of existing significant roadside tree vegetation along this corridor. These uses are similar to existing uses are unlikely to present any major change to the existing visual character of these lands.

Future Context

Development of Menangle Park must be considered in the context of its identification on the Metropolitan Development Program. Existing and future development of Spring Farm is creating a new, more urban context for the Menangle Park precinct and landscape. The visual effect, or change, resulting from the proposed development in this future context will be much lower than from this current predominant rural setting.

It is understood that large lot rural land holdings to the west, east and south will continue under the current rural land use and will retain their existing pastoral character. The Menangle Park development will become the southernmost urban development precinct on the Hume Highway and a gateway to the urban footprint of Sydney.

Spring Farm Parkway (refer Figure 8, over page)

A new arterial road connection between the Glenlee spur line (railway) and the Spring Farm development area to the north will traverse the northern portion of the proposed Menangle Park development. The final alignment of the arterial is the result of detailed options investigations undertaken in consultation with key stakeholders.

The proposed horizontal alignment of the new arterial traverses employment land, skirts to the south of the Glenlee estate, and follows an alignment along the northern boundary of the proposed riparian corridor to finally intersect with Menangle Road. North facing ramps are proposed from the new arterial road onto the Hume Highway. The proposed vertical alignment of the new arterial is elevated over the Glenlee spur line (40m single span bridge), over the riparian zone in the north (2x48m span bridges), over the Main Southern Railway MSR (8.5m bridge and embankment), and over the Hume Highway (8m height bridge and northbound ramps). No noise walls are proposed on the new arterial road.

These elevated structures are highly visible in the landscape. The location of the elevated structure between the Glenlee estate and the Nepean River with its ridgeline backdrop disrupts the visual connection between the estate and the Nepean River and distant views to the horizon (refer *Spring Farm Arterial View Impact Images in Appendix A*).

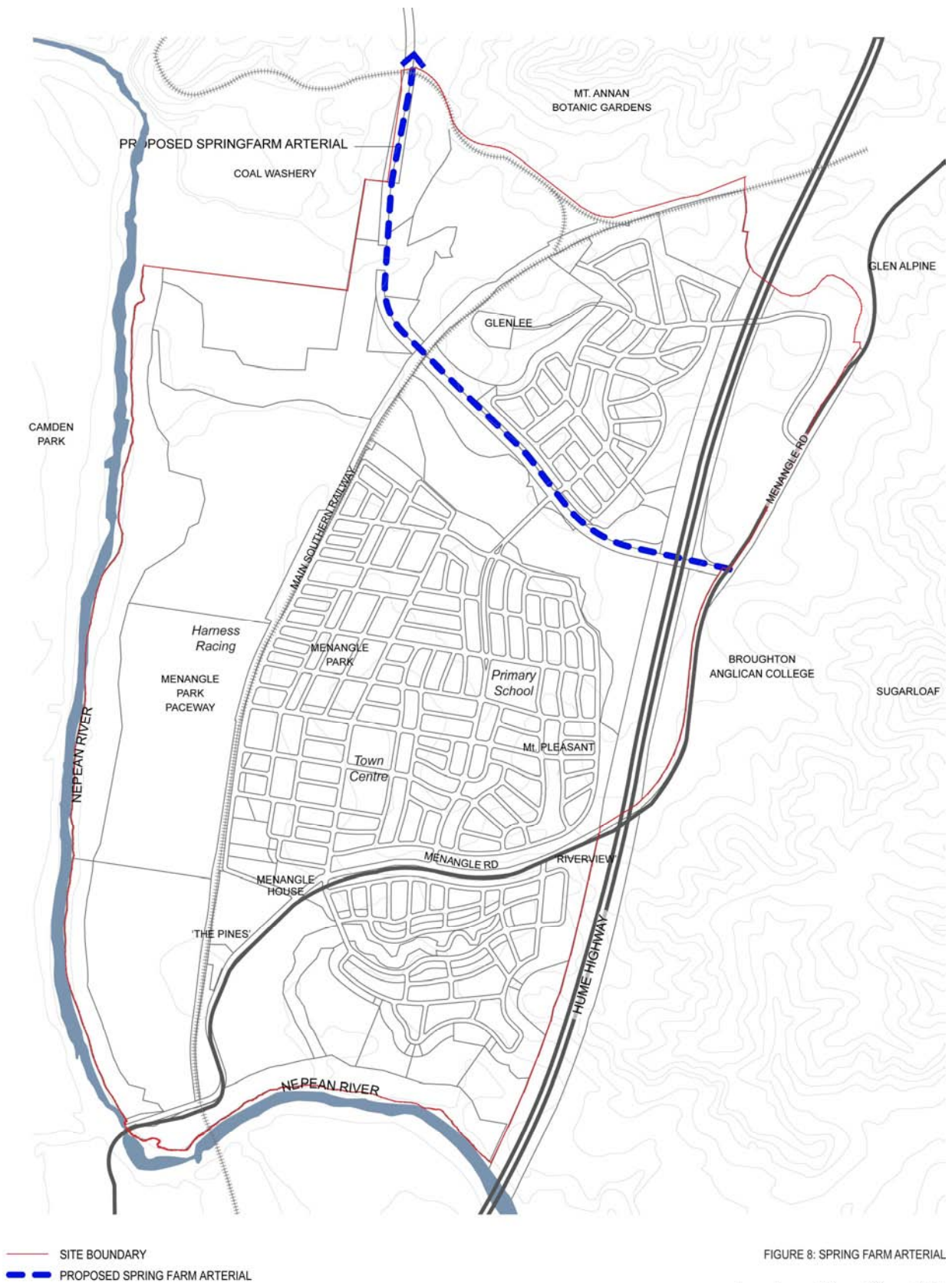
Vegetation Offset Strategy

A vegetation offset strategy is proposed as part of the development in order to maintain, through time, a 'no net loss' of native vegetation cover over the site as a result of urban development. It will also provide for the restoration of retained degraded vegetation stands.

The strategy provides for the allocation of 50 hectares of land within the development for revegetation. It is understood that this will be in the form of the natural endangered vegetation communities impacted by the development including:

- River-flat Eucalypt Forest on Coastal Floodplain, and
- Shale Plains Woodland

The proposed revegetation areas are located in existing riparian lands of the Nepean River and Howes Creek. These lands are currently cleared for pasture and will be returned to original natural bushland subject to detailed requirements and design of flooding, drainage and water quality control elements. A visual change will result, although in this case the land will remain largely 'green' and will still provide a natural setting.



VISUAL ASSESSMENT

Views and Viewer Locations

LANDCOM and Council necessarily seek to achieve the residential development density targets set by the NSW government under the NSW Metropolitan Strategy. In this context, the most important objective of development is to acknowledge the value and significance of the cultural heritage and visual landscapes of these rural lands. Whilst the NSW government has determined that significant urban development is required to accommodate the growth of the city, it must occur in a way that does not encroach on important rural homesteads, road corridors and landscape settings.

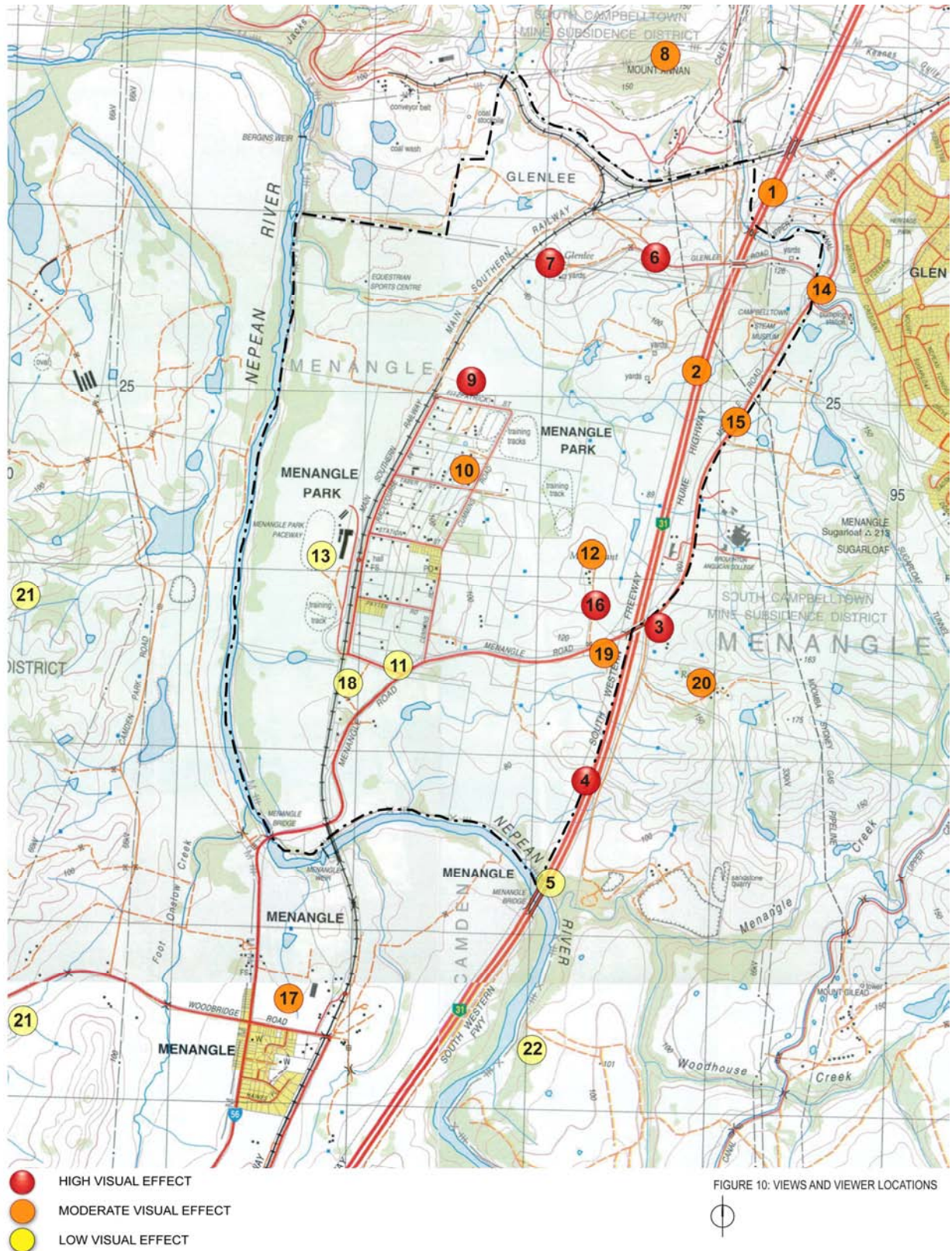
The previous sections provide an outline of the landscape and cultural features that contribute to the existing visual character of the landscape and an outline of the development proposal. This provides the background for the assessment of the visual impact of the proposed development on the existing landscape.

An analysis of significant views and viewer locations relating to the Menangle Park development has been undertaken as a basis for assessing the impact the development will have on the significant landscape and cultural features identified in this report. These are a reflection of the importance of the visual and cultural landscape and of the opportunity and frequency with which the landscape or elements will be viewed.

Identified views and viewer locations are identified in *(Figure 10, over page)*. Each of these views and view locations is assessed using the methodology outlined in section 2 and presented in the following table. Visual impact is determined as a result of the relationship between visual effect and visual sensitivity in accordance with the following matrix.

Visual Sensitivity Levels	Visual Effect Levels			
		HIGH	MODERATE	LOW
	HIGH	High impact	High impact	Moderate impact
	MODERATE	High impact	Moderate impact	Low impact
	LOW	Moderate impact	Low impact	Low impact

Matrix for Determining the Visual Impact of Proposed Development.





Vantage Point 1: Long distance views towards the site from the Hume Highway at the northern entry to the site are largely screened by existing roadside and site vegetation.



Vantage Point 2: View to the east towards Menangle Road from the Hume Highway. The rural character of this view will be retained. The new Spring Farm arterial road will be constructed over this land.



Vantage Point 2: Views into the site from the Hume Highway are alternately open and obscured by roadside and site vegetation. The general rural character of these views will be significantly altered by the development.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
1	Hume Highway - Upper Canal/Glenlee Road	Moderate visual effect Views directly into the site are obscured by a berm along the freeway. Long distance views towards the site to the south are partly obscured by scattered existing roadside, median and site vegetation. Proposed removal of existing site trees from elevated areas within the site will open up this view of the new urban land use.	Moderate visual sensitivity. Large numbers of motorists will be affected however views are fleeting. The change will only affect a small portion of the overall view.	Moderate visual impact Due to the removal of existing mature vegetation within the site, the view to the south (Mt Pleasant) will be highly altered.	Liaise with relevant authorities and private land owners so that selective planting can be implemented to minimise visibility of the new land use: - in the freeway reservation; - on elevated areas within the site, and - within private land adjacent to the freeway. <i>Note that this measure mitigates views of new housing but also represents a changed view from the existing rural character.</i>
2	Hume Highway – creek crossing	High visual effect. The Spring Farm arterial represents a major visual change due in large part to the likely removal of roadside and riparian vegetation. This vegetation currently provides screening to the site from the freeway and Menangle Road. Views from the highway to the east remain predominantly rural. Views of the new development from the highway to the west are alternately open and screened by roadside and median planting. The new development would be in sharp contrast to the existing rural land use.	High visual sensitivity. Large numbers of motorists will be affected for medium duration.	High visual impact. The existing predominantly rural panorama will change significantly for large numbers of motorists for a medium duration.	Liaise with relevant authorities and private land owners so that selective planting can be implemented to minimise visibility of the new land use: - in the freeway reservation (verge and median); - on elevated areas within the site, and - within private land adjacent to the freeway. <i>Note that this measure mitigates views of new housing but also represents a changed view from the existing rural character.</i>



Vantage Point 3: Views towards the development from vantage points from the Hume Highway in the north of the site are obscured by an existing roadside berm and associated roadside vegetation located in the freeway corridor.



Vantage Point 4: Views towards the new development from vantage points on the Hume Highway will change significantly.



Vantage Point 4: The existing grassy knoll is a landmark in the area. New development should be controlled so that new buildings do not interrupt the skyline from short distance vantage points on the Hume Highway.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
3	Hume Highway – at Menangle Road junction.	Low visual effect. A berm along the western side of the freeway for a portion of the freeway at the junction with Menangle Road forms a visual barrier to the proposed development to the west. It is understood that the berm and associated vegetation is located within the freeway reservation and will not be impacted by the development.	Low visual sensitivity. The development will be obscured from view to motorists travelling in both directions at this location. Only a very small portion of the overall view will be affected.	Low visual impact. No views of the new development are anticipated at this location.	Not applicable.
4	Hume Highway (south)	High visual effect. Views towards the new development to the west are alternately open and screened by roadside and median planting. The new development would be in sharp contrast to the existing rural land use. A prominent grassy knoll located in this area is a significant landmark which is clearly visible to motorists travelling north and south along the freeway. New structures located on this hill will affect short and long distance views of the slopes of the knoll and possibly a portion of the skyline.	High visual sensitivity. Large numbers of motorists will be affected for medium duration. A large portion of the view will be affected.	High visual impact. The existing predominantly rural panorama will change significantly for large numbers of motorists for a medium duration. Views of the prominent grassy knoll will be impacted.	Minimise the number of new buildings located on the elevated knoll. Influence where possible the building heights and setbacks so that new built form does not protrude above the skyline of the knoll. Liaise with relevant authorities and private land owners so that selective planting can be implemented to minimise visibility of the new land use: - in the freeway reservation (verge and median) and; - within private land adjacent to the freeway.



Vantage Point 5: View from Hume Highway view the Nepean River Bridge looking northwards into the site. This view will damage significantly as a result of the development.



Vantage Point 6: The alignment of Glenlee Road was carefully designed to give a dramatic view of the Glenlee property from a crest in the road, on approach. This will be obscured by proposed new development.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
5	Hume Highway - Nepean River Bridge	Low visual effect. For motorists travelling north on the freeway there will be glimpses of the new development through existing tree vegetation associated with the Nepean River.	Low visual sensitivity A large number of motorists will be affected however views will be fleeting and motorists will be travelling at high speeds. The change will only affect a small portion of the overall view.	Low visual impact. Minimal access to views of the new development is anticipated at this location.	Liaise with relevant authorities and private land owners so that selective planting can be implemented to minimise visibility of the new land use: - in the freeway reservation (verge and median) and; - within private land on the site adjacent to the freeway and to screen new built form.
6	Glenlee Road	High visual effect. New residential development will be clearly visible on both sides of Glenlee Road in contrast to the current rural view. The road alignment has historical significance as it has been carefully designed to give a dramatic view of the Glenlee estate over a natural crest in the landscape. The development proposal challenges earlier visual and landscape advice (Chris Betteridge, 2004) that the rural character of Glenlee Road should be maintained from this point.	High visual sensitivity. The new development will effect a significant change to the foreground view along Glenlee Road. Whilst it will only affect a few current local users it also disrupts valued cultural views to Glenlee House. The heritage significance of the alignment and rural character of Glenlee Road (as cited in the SHR) increases the sensitivity of proposed changes in the area.	High visual impact. The proposed new development effects a significant foreground view change in a location with high cultural and landscape sensitivity.	Liaise with relevant authorities and private land owners so that selective planting can be implemented to minimise visibility of the new land use: - in the streetscape; and - within private land adjacent to Glenlee Road. Note that this measure also represents a changed view from the existing rural character and needs to be designed to address the new street as well as heritage views of Glenlee House.



Vantage Point 7: Views from Glenlee estate to the south will be affected by new residential development.



Vantage Point 7: The heritage value of Glenlee Estate is heightened by its existing pastoral setting adjacent to the Nepean River and the panorama of the Camden Park Estate ridge line.



Vantage Point 8: Distant views to the south from Mt Annan will be affected by the proposed development and the new Spring Farm Parkway arterial road.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
7	Glenlee House and Estate	High visual effect. The above-ground and elevated alignment of the Spring Farm arterial road will significantly disrupt panoramic views southwest to northwest from Glenlee house and estate to the Nepean River, Camden Park Estate ridgeline and the context of its historic rural setting. The new road alignment will intrude on the exceptional aesthetic landscape setting of the property (SHR 1999). The great southern railway, constructed in the 1850's was intentionally aligned below the property so that these expansive landscape views would be retained. Short distance views immediately to the south and east of the property will be affected by the alignment of new residential development (SHR 1999).	High visual sensitivity. Foreground and panoramic background views from the Glenlee estate will be significantly changed. The heritage significance of the property, which includes its landscape setting and rural context (as cited in the SHR), increases the sensitivity of proposed changes in the area.	High visual impact. The exceptional composition of the architecture, landscape setting, and rural context of the homestead group of buildings at Glenlee are affected by the proposal.	It is possible to screen views of the new arterial road by incorporating screen planting in adjacent open spaces areas. This treatment will not mitigate against the loss of panoramic views and pastoral context of the Glenlee estate.
8	Mount Annan	Moderate visual effect. Distant views to the south from Mt Annan will change from rural to suburban. The new Spring Farm arterial road will also be visible from within the gardens. Immediate foreground views are filtered by significant vegetation. The Glenlee estate is clearly visible from Mt. Annan.	Low visual sensitivity. A relatively low number of visitors will be affected, however, Mt Annan Botanic Gardens is considered an important tourist destination and its rural setting with picturesque views to the south are part of its attraction. The change will only affect a small portion of the overall view. Note that Mount Annan is already surrounded by significant urban development areas and will be further impacted by future development to the west. In the future the visual context of the gardens site will be more urban anyway.	Moderate visual impact. Part of the view from Mt Annan will be affected by the proposed development and new infrastructure (Spring Farm arterial road).	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.



Vantage Point 9: View north from Menangle Park Village to Glenlee House. Views of Glenlee House from this location will be affected by the elevated construction of the new SFP arterial road.



Vantage Point 10: Existing development in Menangle Park Village will be affected by the proposed new development.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
9	Menangle Park Village - View North	High visual effect. The view of the Glenlee estate will be significantly impacted by the elevated alignment of the Spring Farm arterial road. At the same time the new view of the elevated arterial road will be a middle-distance focus. Part of the northerly view from Menangle Park Village towards Glenlee will be affected by residential development (largely the area to the east of Glenlee). The expansive open view across the riparian zone north of Menangle village is largely unaffected. This has a mitigating effect.	Moderate visual sensitivity. Middle distance views from Menangle Park Village to Glenlee house will be lost. This is an important vantage point for the appreciation of the historic rural and landscape context of the Glenlee estate. Middle-distance views will also include new residential development. The altered views affect a moderate number of current local residents for long duration. New users will not be sensitive to the change.	Moderate visual impact. The place making opportunity to retain visual connection with an historic cultural landmark to future residents in this location is affected by the proposal.	It is possible to screen views of the new arterial road by incorporating screen planting. This treatment will not mitigate against the loss of pastoral context for the Glenlee estate. Augment existing native vegetation in the riparian zone to mitigate against views of the Spring Farm arterial and new residential zones.
10	Within Menangle Park Village	High visual effect. New residential development will be clearly visible from many locations within Menangle Park Village. The view will be in contrast to the existing rural aspect but will be similar to the existing village character.	Low visual sensitivity. Views beyond the area of the village will be changed. This will impact a moderate number of current users for a long duration. New users will not be sensitive to the change.	Moderate visual impact.	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.



Vantage Point 11: View from Menangle House driveway towards the Pines. The development proposal retains the predominantly rural view between Menangle House and the Pines.



Vantage Point 12: The Mt Pleasant residence does not have significant heritage value. However the house is located prominently on the top of a hill and new development should be developed in such a way that visual impact is minimised from distant vantage points.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
11	Menangle Park House	Low visual effect. Menangle Park is oriented towards the Nepean River. The proposal provides for the continued rural use or new recreation use of most of the area in front of the house which represents minimal change to current use. It will be possible to see proposed development in the floodplain area to the east of the house but this is not the primary vista of the property. The proposal successfully retains a rural connection between Menangle House and The Pines.	Low visual sensitivity. Proposed changes represent a minor proportion of the view shed from the property which will be perceived by a moderate number of users of the Menangle Park property.	Low visual impact. Negligible change is anticipated.	Not required.
12	Mt Pleasant	High visual effect. New residential development will be clearly visible from the Mt Pleasant property which will be in contrast to the existing view. Panoramic views from the Mt Pleasant property will be considerably changed.	Low visual sensitivity. Foreground, middle-distance and panoramic views will be considerably changed. This will impact a low number of current users for a long duration. New users in the vicinity will not be sensitive to the change. Mt Pleasant House does not have high cultural value.	Moderate visual impact.	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.



Vantage Point 14: Relocation of the intersection with Glenlee Road (right) may have an impact on existing roadside vegetation. It is important to minimise loss of this vegetation, particularly the prominent *Araucaria bidwillii*.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
13	Menangle Park Paceway	Low visual effect. The Main Southern Railway line visually separates the Menangle Park Paceway from the main area of proposed new urban development to the east. The proposal provides for the continued rural use or new recreation use to the north, west and south of the paceway which represents minimal change to current use It is understood that sand mining activity to the north and south of the paceway will have a moderate impact for a temporary period. These areas will then be returned to pasture land for continuing rural use. It is understood that final land profiles will be similar to existing.	Low visual sensitivity Foreground and middle-distance views will be minimally changed.	Low visual impact Temporary sand mining activity will visually impact a moderate number of users of the paceway facility for a short period of time. Long term proposals for this area will have a minimal visual impact.	Not applicable.
14	Menangle Road - North	Moderate visual effect. The current alignment of Glenlee Road, at the intersection with Menangle Road, is proposed to be adjusted. This is likely to result in removal of existing roadside vegetation which will considerably change the character of this area. An existing prominent and historic <i>Araucaria bidwillii</i> tree is located in this area. Proposal designs are not sufficiently progressed at this stage to ascertain whether or not this tree will be retained. New development comprising 1,000-2,000sqm lots to the west of Menangle Road is proposed. This will also change the character of the road. Views of the development to the south are largely screened by existing vegetation.	Moderate visual sensitivity. Foreground views to the west of Menangle Road are likely to be considerably changed. This will impact a moderate number of motorists for a short duration. Distant views of the site will not be impacted.	Moderate visual impact.	Retain the existing prominent and historic <i>Araucaria bidwillii</i> located on the ridge. This is a prominent distant landmark for many miles and an identifying feature of the journey along Menangle Road in this location. Retain existing vegetation within road reserves and at the rear of new lots to maintain a significant canopy vegetation cover in the new development area. Liaise with relevant authorities and private land owners so that selective planting can be implemented to minimise visibility of the new land use: - in the road reservation; and - within new private lots adjacent to Menangle Road.



Vantage Point 15: View of Menangle Road from Hume Highway. Continued rural use of the area of Menangle Road and the Hume Highway is proposed. The new SFP arterial will intersect with Menangle Road in this area.



Vantage Point 16: View from Menangle Road towards the Hume Highway near the Menangle Road Bridge.



Vantage Point 17: View northwards from Station Street, Menangle. Distant views from the Menangle township will change from predominantly rural to predominantly suburban.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
15	Menangle Road - Central	Moderate visual effect. The proposal provides for the continued rural use of the area between Menangle Road and the Hume Highway. This represents minimal visual change. Intermittent views of developed areas of the site beyond the freeway will also be available to southbound motorists. Views along Menangle Road will also be affected by the proposed alignment of the new Spring Farm arterial across this area and a new at grade intersection of the new arterial at Menangle Road.	Low visual sensitivity. Foreground views will be minimally changed. Fleeting intermittent middle distance views of new areas of development areas will be available to a moderate number of motorists travelling in a southerly direction. The new Spring Farm road will occupy a relatively small portion of the existing rural view. The new road is proposed at grade and is likely to have a rural character similar to other rural roads in the area.	Moderate visual impact. The new Spring Farm arterial represents a change to the existing landscape, but it is likely to have a similar character to other rural roads in the area. Views of the new development are generally intermittent and of short duration.	Liaise with relevant authorities and private land owners so that selective planting can be implemented to minimise visibility of the new land use: - in the road reservation; and - within new private lots adjacent to the freeway and Menangle Road. Provide appropriate streetscape treatment at the new intersection.
16	Menangle Road – bridge over freeway.	Low visual effect. The character of Menangle Road will change with the introduction of 1000-1500sqm lots on both sides. At this location there are relatively steep banks above and below the road. It is expected that these will not be affected and can continue to support vegetation to supplement future roadside vegetation and landscape embellishment.	Low visual sensitivity. Foreground views are expected to be minimally changed.	Low visual impact.	Not applicable.
17	Menangle Township – Woodbridge Rd.	High visual effect. Distant views from the Menangle township will change from rural to suburban. Views from some of the more prominent buildings in the township (The Store, St James Church) address the northerly view towards the Nepean River and to the existing rural vista of the site beyond.	Moderate visual sensitivity. A moderate number of users in Station Street and in the prominent township buildings will be affected. The change will affect a moderate portion of the overall view.	Moderate visual impact. There will be a major change to distant views beyond the Nepean River. They will affect a moderate number of users and a moderate portion of the overall view.	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number of lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.



Vantage Point 18: The Pines Menangle. The rural setting of this property will not be affected by the development.



Vantage Point 19: View to the south from the Riverview property. The rural setting of the Riverview property will be changed as a consequence of development.



Vantage Point 20: View from the Rosalind Park across the southern portion of the site. The rural context of Menangle will be significantly changed following development.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
18	The Pines	Low visual effect. The Pines house is oriented towards the Nepean River. The proposal provides for the continued rural use or new recreation use of most of the area in front of the house which represents minimal change to current use. It will be possible to see proposed development in the floodplain area to the east of the house but this is not the primary vista of the property.	Low visual sensitivity. Proposed changes represent a minor proportion of the view shed from the property which will be perceived by a low number of residents in the property.	Low visual impact. Negligible change is anticipated.	Not required.
19	'Riverview'	High visual impact. There will be major alteration to the southern outlook from the Riverview property. It is possibly that the change to views from the house is largely screened by existing trees on the property. Visual inspection indicates that the house is not oriented in a southerly direction. The surrounding area will change from rural to suburban. Existing vegetation within the property will provide some screening.	Moderate visual sensitivity. Foreground, middle-distance and panoramic views will be considerably changed. This will impact a low number of current users for a long duration. New users in the vicinity will not be sensitive to the change.	Moderate visual impact	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance. Maintain existing vegetation along the southern boundary of 'Riverview'.
20	'Rosalind Park'	High visual effect. New residential development on the floodplain in the southern portion of the development site will be clearly visible from the road below Rosalind House in contrast to the current panoramic rural view. It is likely that a similar change will be perceived from Rosalind House.	Moderate visual sensitivity Middle-distance and panoramic views will be considerably changed. A large portion of the view will be changed. This will impact a low number of current residents and users of the low key access road.	Moderate visual impact	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.



Vantage Point 21: View looking north across the development site from the elevated St James Church site in Menangle. This rural view will be significantly changed following developments.



Vantage Point 22: The view across the southern portion of the development site will be considerably changed.



Vantage Point 23: The Great Southern Railway. New residential development will be clearly visible to travellers on the rail line in the areas where the line is elevated or at grade. Where the line is in cutting views will be restricted.

	VANTAGE POINT	VISUAL EFFECT	VISUAL SENSITIVITY	VISUAL IMPACT	RECOMMENDATIONS (REFER FIGURE 11)
21	Surrounding Elevated Lands – south west	High visual effect. New residential development on the site will be clearly visible from vantage points on the ridge to the west.	Low visual sensitivity The ridge line is generally under private ownership and the number of users is relatively low. A portion of the overall rural view will be affected.	Moderate visual impact.	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.
22	Surrounding Elevated Lands – south east	High visual effect. New residential development on the site will be clearly visible from vantage points in the elevated area to the south east of the site.	Low visual sensitivity. These lands are generally under private ownership and the number of users is relatively low. A portion of the overall rural view will be affected.	Moderate visual impact.	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.
23	Great Southern Railway	High visual effect. New residential development on the site will be clearly visible to travellers on the rail line. Note that the rail line is elevated in some areas in the vicinity of Glenlee House and over the creek where visual effect will be considerably changed, and some locations in the vicinity of the Menangle Park Village and towards The Pines where the rail line is in a cutting and changed views will not be available.	Low visual sensitivity. Trains are not frequent (approximately one train per hour) and they do not carry many passengers. Views of the new development are fleeting.	Moderate visual impact.	Ensure delivery of high quality landscape embellishment in the public domain including substantial canopy tree planting. Ensure the provision of a reasonable number lots with enough depth to allow backyard tree planting on private land. Influence where possible the built form, colours, materials, setbacks and landscape treatments in order to minimise the impact of the development when viewed from a distance.

04 LANDSCAPE STRATEGIES

A number of landscape strategies are recommended to mitigate the visual impact of the proposed development. These are noted specifically at each of the identified viewpoints in the Visual Assessment Table. They have been developed as a response to the potential impacts anticipated by the development proposal. These are summarised on the following plan (refer Figure 11, over page).

A summary of landscape strategies recommended for the Menangle Park development are as follows.

Glenlee Estate

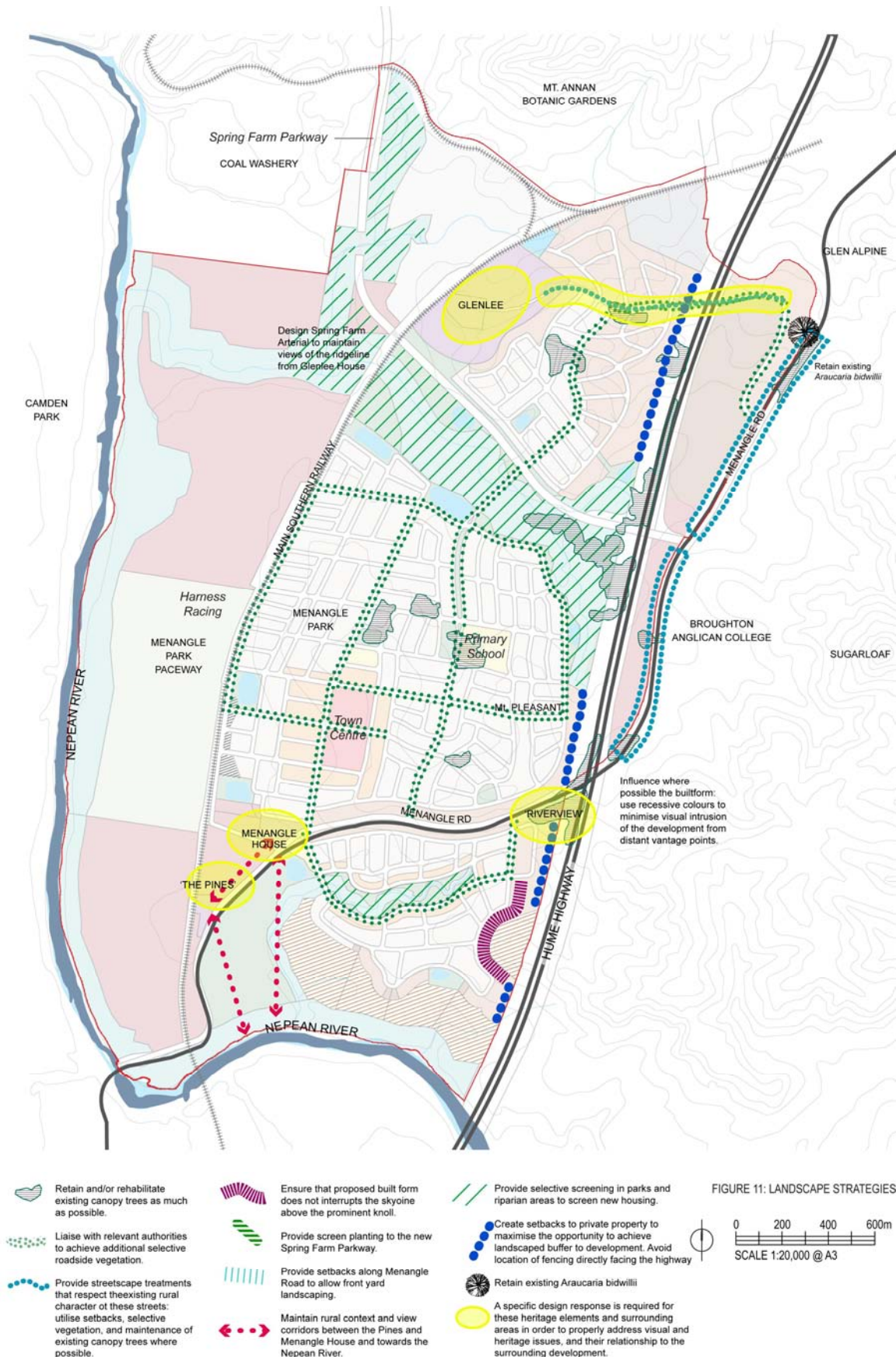
Objective: Acknowledge the value of and preserve the pastoral setting of the Glenlee estate group of buildings and retain the visual connection between the estate and the Nepean River and ridgeline backdrop.

- Provide screen vegetation along the route of the new SFP arterial to minimise views of, and disturbance caused by, the alignment of the new arterial adjacent to the SHR listed Glenlee Estate. Note that this measure will minimise views of the new structure from the estate, but will not assist to mitigate against the loss of historic panoramic views and pastoral context of the estate.
- Influence where possible the built form, height, bulk and scale of the new development immediately to the east of the Glenlee Estate. Consider a house and land package delivery process would be the best way to control built form outcomes in this location on a site by site basis.
- Retain and supplement existing tree vegetation on the ridgeline along the alignment of Glenlee Road as a backdrop to views from the south.
- Design the SFP arterial to minimise impact on views from the property and house to the Nepean River and the ridgeline beyond.

Glenlee Road

Objective: Acknowledge and preserve the historic prominence of the alignment of Glenlee Road (which has visual significance). Minimise the impact of new development along its alignment.

- Liaise with relevant authorities and private landowners so that selective planting can be used to minimise visibility of adjacent new land uses in the streetscape.
- Provide setbacks in private lots (low density development along Glenlee Road) to allow the achievement of canopy tree planting on private land to contribute to the Glenlee Road streetscape. Ensure that the streetscape treatment along Glenlee Road also addresses the needs of adjacent new development.
- Provide a rural character to the new Glenlee Road.



Hume Highway

Objective - acknowledge the importance of the Hume Highway as the main spine between Sydney and the south-west of NSW, and the importance of Menangle Park as the southernmost extremity of Sydney's urban footprint and the gateway to the city.

- Prepare detailed landscape proposals that describe an integrated vision for the Hume Highway that addresses the context of the development as the southernmost extension of Sydney's urban footprint and as a gateway to the city. In preparing the landscape proposal consider the provision of generous landscaped verges, creation of an open parkway character reminiscent of the existing rural context, retention of existing trees, provision of new signature tree planting and mounding to mitigate noise as required.
- Liaise with relevant authorities to achieve the embellishment of existing verge and median vegetation in selective locations to maximise the screening of new areas of development from the freeway.

Menangle Road

Objective - retain the existing rural character of Menangle Road

In the north:

- Retain the existing *Araucaria bidwillii* located on the elevated section of Menangle Road near the Glenlee intersection.
- Influence where possible the built form setbacks in the areas of low density development (to the north of the site) proposed along Menangle Road to allow for planting on private land to contribute to the streetscape.
- Utilise landscape setbacks and vegetation treatments to effectively screen new residential development along Menangle Road.

In the south:

- Ensure the retention and/or rehabilitation of existing roadside vegetation where it exists (near the bridge over the highway).
- Liaise as required to provide new roadside vegetation/landscape embellishments on the embankments above and below Menangle Road as it travels westward through the proposed area of low density residential development.
- Prepare detail designs for the open space areas adjacent to Menangle Road that provide effective vegetation screening to proposed low and medium density development below Menangle Road, and that is cognisant of the setting on the banks of the Nepean River.

Low Density Residential Development

Objective – Minimise the visual impact of new urban development when viewed from distant vantage points.

- Ensure the provision of rows of deep lots (32m+) and relevant built form setbacks within the more compact development areas to provide reasonable opportunity for the immediate or future establishment of canopy tree planting on private. This planting will have the capacity to provide shade, amenity and temperature control for housing in the near vicinity and assist the developer to demonstrate its commitment to delivering sustainable housing in line with government and community objectives.
- Retain and protect existing trees in elevated locations to ensure that significant landscape landmarks are preserved wherever possible.
- Provide significant evergreen tree planting in medium density areas and local /town centres to maximise year round softening of the most compact areas of development.
- Provide landscape setbacks in private lots (low density areas) to allow canopy tree planting on private land as well as in the public domain.
- Influence where possible the built form materials and nominate recessive colours to minimise the intrusion of housing and development in the landscape when viewed from distant vantage points.
- Prepare detail designs for landscaped areas for medium density development (private domain), open space areas, schools,

and other community facilities to address the creation and preservation of canopy vegetation.

- Provide for the protection, augmentation and effective long term management of existing significant site vegetation.

— **Views from the East** (Menangle Road, Rosalind House, and Elevated Vantage Points)

Objective - maintain existing vegetation buffers along the Hume Highway to minimise visual impact from locations to the east of the development.

- Liaise as required to achieve protection, augmentation and effective management existing roadside vegetation along the Hume Highway as required to ensure the creation of an effective vegetated buffer to development of the low lying lands as viewed from the east.
- Carefully select built form materials and nominate recessive colours to minimise the intrusion of housing and development in the landscape when viewed from distant vantage points.
- Prepare detail designs for landscaped areas for medium density development (private domain), open space areas, schools, and other community facilities to address the creation and preservation of canopy vegetation.

Views from the South (eg Menangle Village and environs)

Objective - minimise the impact of development of the rural landscape of the Menangle Park precinct.

- Mitigate low density development in line with the recommendations under 'low density residential development' above.
- Carefully select built form materials and nominate recessive colours to minimise the intrusion of housing and development in the landscape when viewed from distant vantage points.
- Prepare detail designs for landscaped areas for medium density development (private domain), open space areas, schools, and other community facilities to address the creation and preservation of canopy vegetation.

Other Heritage Items

Objective – preserve and respect existing valuable cultural items on the site for the enjoyment, education and understanding of future generations.

- Maintain a visual connection between 'The Pines' and Menangle House with their original land grants on the banks of the Nepean River through the provision of an open space corridor and rural land uses between Menangle Road and the Nepean River.
- Maintain a rural context and visual connection between 'The Pines' and Menangle House.



APPENDIX A

LIST OF DOCUMENTS REVIEWED

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Additional Archaeological Assessment of Indigenous Heritage Issues, Menangle Park, Jo McDonald cultural Heritage Management September 2004.

Riparian Corridor Assessment, GHD, December 2007.

Offsetting Strategy, GHD, November 2009.

Flood Study, GHD, September 2008 Rev 4.

Spring Farm Parkway Route Options Review, Lean and Hayward, October 2008.

Menangle Park Preliminary Local Environmental Study, MG Planning, September 2004.

Colonial Landscapes of the Cumberland Plain and Camden, Colleen Morris and Geoffrey Britton, January 1999.

DRAFT Revised Structure Plan, Urbis, 14-10-2010 Issue 6.

Draft Acoustic Assessment Report, AECOM Australia, February 2010.

Flora, Fauna and Aquatic Assessments, EcoLogical Australia, April 2007.

Non-Indigenous Heritage Study, Menangle Park NSW, Casey and Lowe Pty Ltd. December 2003.

Draft Visual and Landscape Study, Second Draft, Chris Betteridge, MUSEcape, May 2004.