

# **WEST SCHOFIELDS**

## **LANDSCAPE AND VISUAL APPRAISAL REPORT**


4 JUNE 2018

PREPARED FOR NSW DEPARTMENT OF PLANNING & ENVIRONMENT

**URBIS**

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# EXECUTIVE SUMMARY

The West Schofields Precinct (the Precinct) forms part of the housing release within the NSW Government's North West Growth Area (NWGA). The Precinct is approximately 576 hectares and is located wholly within the Blacktown City Council Local Government Area (LGA). This report assesses the suitable location for development of new housing within the Precinct

The Precinct is bounded by Eastern Creek to the east, Colebee Release Area to the south, Bells Creek to the west, and Garfield Road to the north. In the wider area, the Precinct is located approximately 50km from the Sydney CBD, 9km northwest of Blacktown and 5km west of Rouse Hill.

The objectives of this landscape and visual appraisal are to assess the landscape characteristics of the Precinct and its surrounding, and to consider the landscape and visual quality of the Precinct, its function in the landscape, and its relative qualities within the wider landscape. The work undertaken included an assessment of the existing landscape features of the Precinct, together with a visual appraisal of the Precinct and its context. The next step was to identify the landscape and visual opportunities and constraints and, to provide recommendations for the future planning of the Precinct for housing development.

The process that Urbis used to undertake this landscape and visual impact assessment included desk-top research and field survey, identification of the landscape and visual values and the analysis and documentation of the findings.

The area south of Townson Road has been rezoned for residential development as illustrated in the Blacktown Local Environmental Plan (BLEP) (2015). The assessment for this area has considered the likely landscape and visual quality of the future development.

The Precinct itself lies at an elevation of between 4 to 40 metres AHD rising in a southerly direction. A central north-south ridgeline traverses the southern half of the Precinct causing the land to fall north-west and east towards Bells Creek and Eastern Creek respectively. The Precinct is predominantly located within the Nepean Hawkesbury floodplain.

Significant existing vegetation and open space areas within the Precinct include the riparian corridors of Bells and Eastern creeks which comprise of native canopy vegetation which predominately encloses the Precinct from the surrounding area. The dominant vegetation communities along the riparian corridor of the creeklines is Shale Plains Woodland (listed as Cumberland Plain Woodland) and Alluvial Woodland (listed as River-flat Eucalyptus Forest) which are recorded as critically endangered and endangered ecological communities respectively.

The landscape character assessment of the Precinct identified these riparian corridors as being highly sensitive to change. These areas support remnant vegetation and wildlife habitat that contributes to the conservation and recreation value of the wider study area. Additionally, these areas have potential to contain high cultural values that are recommended to be protected. Most of the remaining landscape character units were assessed as having a low sensitivity to change due to the absence of any high-quality landscape features or designations.

The visual appraisal demonstrated that there are limited views to the Precinct from the surrounding landscape which include:

- truncated, near distance views towards the northern boundary of the Precinct from the town of Riverstone;
- curtailed, long distance views towards the eastern land within the southern half of the Precinct from Quakers Hill and Schofields;
- corridor, transient views towards the western boundary of the Precinct from South Street, Grange Avenue, Vine Street West and Carnarvon Road; and
- corridor, long distance views from Stonecutters Ridge to the south of the Precinct with the rising topography and the mature vegetation along the southern boundary predominately precluding views.

The landscape and visual opportunities and constraints assessment identified that the area above the Probable Maximum Flood (PMF) boundary, would be most suitable for development. The eastern slope of this land off the flat ridgeline would require sensitive design and mitigation to absorb development and improve views afforded from Quakers Hill and Schofields. Any proposed development, however, would be

seen in context with the future adjoining land use NWGA and should be designed as an integral part of an iterative process of precinct planning.

In developing the south-western part of the Precinct a substantial edge treatment to Bells Creek would be required to respect the biodiversity values along the riparian corridor. This would concur with the local planning legislation and policy objectives relevant to this study which have a focus on protection and enhancement of the natural and built environment, and ensuring that satisfactory measures are incorporated to ameliorate any impacts arising from development.

It is concluded that in developing the Precinct the following recommendations should be implemented as part of the development approval process to reduce adverse impacts on landscape and visual qualities:

- retention, protection and enhancement of significant landscape features including good quality substantial riparian woodlands and tree belts across the Precinct, and along the Eastern and Bells Creeks riparian corridors;
- conservation and protection of three sites of aboriginal cultural significance within the part precinct;
- physical sensitive treatment of the interface between significant landscapes such as the Eastern and Bells creeks and any proposed development edge, such as a minimum 10 metre vegetated buffer zone and appropriately sited crossing points, if required, to minimise disturbance;
- visually sensitive treatment of development on the flat ridgeline within the southern half of the Precinct, such as appropriately sited street trees to break views of built form from the surrounding landscape to the east including Quakers Hill and Schofields;
- strengthening of Site boundaries and provision of appropriate edges that protect significant landscape features that adjoin future adjoining land uses; and
- to maintain positive long distance views from the southern half of the part precinct to the surrounding national parks to the north.

# 1. INTRODUCTION

## 1.1. BACKGROUND

Urbis Pty Ltd was commissioned by New South Wales Department of Planning and Environment (NSWDPE) to undertake a landscape and visual appraisal of land at West Schofields, which includes the whole precinct (hereon in called the Precinct), in order to assess the suitable location for development of new housing.

The Precinct forms part of the housing release within the NSW Government's NWGA and is located within the Blacktown City Council LGA.

The objectives of this landscape and visual appraisal are to assess the landscape characteristics of the Precinct and its surrounding, and to consider the landscape and visual quality of the Precinct, its function in the landscape, and its relative qualities within the wider landscape. The work undertaken includes an assessment of the existing landscape features of the Precinct, together with a visual appraisal of the Precinct and its context.

Information is presented on the following plans and photographs:

- **AP-1:** Aerial Photograph;
- **Figure 1:** Topography;
- **Figure 2:** Hawkesbury Nepean Flood;
- **Figure 3:** Zoning;
- **Figure 4:** Easements;
- **Figure 5:** Non-Indigenous Heritage;
- **Figure 6:** Indigenous Heritage;
- **Figure 7:** Site Appraisal Photograph Plan;
- **Figure 8:** Landscape Character Plan;
- **Figure 9:** Visual Appraisal Plan;
- **Figure 10:** Landscape and Visual Opportunities and Constraints Plan;
- **Site Appraisal Photographs (A-H inclusive)** which illustrate the character and features of the Precinct; and
- **Site Context Photographs (1-5 inclusive)** which illustrate the character of selected views towards the Precinct from the surrounding landscape.

## 1.2. METHODOLOGY

The process that Urbis has used to undertake this landscape and visual impact assessment included the following:

### 1.2.1. Desk-top research and field survey

- review relevant legislation, policies and guidelines;
- compilation of data including topography, waterbodies, land use, sites of cultural significance and any designated landscape features;
- identification and verification of view corridors within the field; and
- photo documentation of the Precinct and the surrounding area.

### **1.2.2. Identification of landscape and visual values**

- documentation of preliminary landscape character unit boundaries and applicable key features such as sites of cultural and environmental significance;
- make an assessment of the natural landscape values of the land within the Precinct and its context and, its sensitivity to change; and
- describe and assess the visual quality of the land and its context.

### **1.2.3. Analysis and documentation of findings**

- identify the landscape and visual opportunities and constraints; and
- identify the most suitable land for development.

## 2. SITE CONTEXT

### 2.1. EXISTING SETTING

The Precinct is approximately 576 hectares and is roughly an irregular rectangular shape as illustrated on **AP-1: Aerial Photograph**. The Precinct immediately adjoins the suburbs of Riverstone to the north, Schofields to the east, Colebee to the south and Marsden Park to the west.

The area south of Townson Road has been rezoned for residential development as illustrated in the BLEP (2015). As such, this area has been excluded from this landscape and visual appraisal.

The eastern boundary of the Precinct adjoins the Richmond railway line and Eastern Creek. The southern area is defined by the Stonecutters Ridge Golf Course and Townson Road. The western boundary predominately traverses Bells Creek with a small section to the north that adjoins Garfield Road West.

Significant existing vegetation is located across the Precinct as illustrated in **AP-1: Aerial Photograph**. Bells and Eastern creeks comprise substantial canopy vegetation which encloses the Precinct from the surrounding area. Within the Precinct there are large groups of tall native canopy vegetation with scattering of vegetation along paddock boundaries and amenity planting around residential properties.

The dominant vegetation community along the riparian corridor of the creeklines, which also extends into the Precinct, is Shale Plains Woodland which is listed as a critically endangered ecological community under the *NSW Biodiversity Conservation Act 2016 (BC Act) (formally the Threatened Species Conservation Act 1995)*. Alluvial Woodland, listed as an endangered ecological community under the *BC Act*, can be found on the bank of the creeklines.

In accordance with the *West Schofields Precinct Biodiversity and Riparian Assessment*, Eco Logical Australia (May 2018), the highest quality and most significant vegetation found within the West Schofields precinct is the remnant Shale Plains Woodland found along the riparian corridor of Bells and Eastern creeks.

The landscape in the vicinity of the Precinct is undulating in character with three ridgelines crossing the landscape setting as seen in **Figure 1: Topography**. The northern area of Marsden Park lies at a low-lying elevation of 10 metres Australian Height Datum (AHD) rising to between 50 to 60 metres AHD at Bidwill and Glendenning to the south of the Precinct. The land falls to meet the valley of Eastern Creek and rises again to 90 metres AHD at Kings Park. These local ridgelines separate the current and future surrounding settlements physically and visually. The town of Riverstone located to the north of the Precinct is very low lying at elevations of approximately 10 metres AHD.

The Precinct itself lies at an elevation of between 4 to 40 metres AHD rising in a southerly direction. A central north-south ridgeline traverses the southern half of the Precinct causing the land to fall north-west and east towards Bells Creek and Eastern Creek respectively to elevations of approximately 4 metres AHD. This low-lying topography is reflected in **Figure 2: Hawkesbury Nepean Flood**, which illustrates that the Precinct predominantly lies within the 100-year Average Recurrence Interval (ARI) floodplain.

The Precinct comprises small rural lot housing and is predominately used for primary production, as illustrated in **Figure 3: Zoning under Blacktown Local Environmental Plan (2015)** with some areas used for grazing of horses and cattle.

There is one area within the Precinct zoned as public recreation. Riverstone Park is located in the northern section of the Precinct with access off Garfield Road West. It contains formal recreational facilities including four netball courts, two tennis courts and two football fields that also host little athletics and cricket. A former landfill site that is currently under rehabilitation is centrally located on the Precinct off South Road called Grange Avenue Reserve.

There are no shared paths across the Precinct or within the immediate vicinity.

High voltage transmission lines traverse the Precinct in a north-west to north-east direction from 500 metres north of Townson Road along Richmond Road to Kensington Park Road off Railway Terrace in Riverstone as illustrated in **Figure 4: Easements**.

As illustrated on **Figure 5: Non-Indigenous Heritage**, there are two sites listed as items of heritage in the Blacktown Council LEP Heritage Schedule. They are located within the northern area of the Precinct. Another two sites immediately adjoin the north-eastern and western boundaries. In regards to historical archaeological, the assessment undertaken by Extent Heritage (*West Schofields Part Precinct (Southern*

*Part) Non-Indigenous Heritage Assessment, Final Draft, May 2018, West Schofields Part Precinct (Northern Part) Non-Indigenous Heritage Assessment, Final Draft, May 2018)* found that the Precinct has the potential to contain archaeological relics. These are also illustrated on **Figure 5**.

An assessment of indigenous heritage was undertaken by Extent Heritage (*West Schofields Part Precinct (Southern Portion) Aboriginal Cultural Heritage Assessment Report Final Draft (May 2018)*), and *West Schofields Part Precinct (Northern Portion) Aboriginal Cultural Heritage Assessment Report Final Draft (May 2018)* which identified archaeological sites across the Precinct as seen in **Figure 6: Indigenous Heritage**. There are three Aboriginal cultural heritage areas located within the part precinct. The riparian corridors are considered to have potential to contain substantive and significant cultural materials based on other nearby studies.

## 3. LEGISLATION AND POLICY

The following section describes the landscape planning legislation and policies which are relevant to the Precinct. This information was reviewed and used to identify constraints and opportunities within the study area. Legislation and policies reviewed include:

### 3.1.1. National planning policies

*Environmental Protection & Biodiversity Conservation Act 1999 (EPBC Act)*

The EPBC Act provides for the protection of natural and cultural heritage places. The EPBC Act establishes a process for assessing the environmental impact of activities and developments where 'matters of national environmental significance' (MNES) may be affected. The EPBC Act lists endangered ecological communities, threatened and migratory species that have the potential to occur, or are known to occur on a site.

The approval of both stages of the strategic assessment occurred on the 28<sup>th</sup> February, 2012. This approval essentially means that the Commonwealth is satisfied that the conservation and development outcomes that will be achieved through development of the Growth Centres Precincts will satisfy their requirements for environmental protection under the EPBC Act. Further details are within the *West Schofields Precinct Biodiversity and Riparian Assessment*, Ecological Australia (May 2018).

The Act also establishes a National Heritage List and Commonwealth Heritage List which are protected under the terms of the Act. Like above the Act requires that the Minister administering the EPBC Act assesses any action which has, will have, or is likely to have, a significant impact on the heritage values of a listed place.

### 3.1.2. State

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

The NSW EP&A Act is the principal planning legislation for the state, providing a framework for the overall environmental planning and assessment of development proposals.

In determining a development application, the consent authority is required to take into consideration the matters listed under Section 4.15 of the EP&A Act that are relevant to the application. Key considerations include:

- any environmental planning instrument, including drafts;
- the likely impacts of the development;
- the suitability of the Precinct for the development;
- any submissions made in accordance with the EP&A Act or regulations; and
- the public interest.

*Growth Centres Development Code 2006*

The Growth Centres Development Code was produced by the former Growth Centres Commission (GCC) in 2006. The Development Code was produced to guide the planning and urban design in the North West and South West Growth Areas.

The Development Code includes objectives and provisions that support the retention of as much native vegetation, habitat and riparian areas within the precinct through incorporation into land use planning outcomes such as lower density development in these areas, subdivision patterns, road design, local parks, and other areas required to be set aside for community uses without adversely affecting the development yield of areas.

*Sydney Region Growth Centres (SEPP) 2006*

SEPP is the statutory planning framework that governs new release areas within the Growth Areas. It provides broad planning controls for development. Relevant objectives include:

- controls for the sustainability of land in growth centres that has conservation value;

- development controls in order to protect the health of the waterways in growth centres;
- protect and enhance land with natural and cultural heritage value; and
- provide land use and development controls that will contribute to the conservation of biodiversity.

The relevant precinct plan for the Precinct is the Schofields Precinct Plan 2012. An aim of this Precinct Plan is to protect and enhance riparian corridors and areas of significant native vegetation by establishing development controls that prevent the clearing of existing native vegetation within the Precinct.

## 4. SITE APPRAISAL

An appraisal of the landscape of the Precinct was completed in August 2016 and a number of site photographs were taken to appreciate the landscape setting. The locations from which the Precinct photographs were taken are illustrated on **Figure 7: Site Appraisal Photograph Plan** and are described as **Site Appraisal Photographs A to H** below.

The topography of the Precinct rises from the north to the south. The lowest point of the Precinct lies along the northern boundary at an elevation of approximately 4 metres AHD. At its highest point along the southern boundary, the Precinct lies at approximately 40 metres AHD.

The Precinct contains a number of mature tree copses particularly adjoining the Bells and Eastern creeklines. There are numerous tree belts, woodlands and scattering of mature trees across the Precinct particularly within the northern half.

**Site Appraisal Photograph A** is taken from Neville Road looking south-west within the northern third of the Precinct. There are views towards the mature tree copse that extends from Bells Creek to meet Burfitt and Carnarvon Roads. This landscape element dominates the horizon and prevents views further south. The land is low lying and flat predominately used for grazing. Typically, single storey houses on small rural lots are evident with agricultural machinery and shipping containers stored across the landscape.

**Site Appraisal Photograph B** is taken from Burfitt Road looking north within the northern third of the Precinct. There are views towards the mature tree copse that flank Eastern Creek behind Neville Road which dominates the horizon and prevents views further north. The land is low lying and flat predominately used for agricultural production. Typically, single storey houses on large lots are evident with agricultural machinery and shipping containers stored across the landscape.

**Site Appraisal Photograph C** is taken from South Street looking west towards the rising land at Richmond Road. Road widening works are currently underway as part of the overall North West Growth Centre development. Looking in the right of the photograph, the Grange Avenue Reserve, a former landfill site can be seen through the road side planting along the north side of South Street. The canopies of the mature trees along Bells Creek are evident in the middle ground. In the left of the photograph, a single storey brick house is just discernible through residential amenity plantings.

**Site Appraisal Photograph D** is taken from South Street looking north towards the start of the gently rising land that continues south towards Townson Road. In the right half of the photograph, houses on small rural lots with sheds and agricultural machinery can be seen amongst canopy trees. Furthermore, the mature tree copse that border Eastern Creek line the horizon which is evident at the end of South Street. The Grange Avenue Reserve is seen in the left hand side of the photograph with its perimeter planting and gently rising topography preventing views further west.

**Site Appraisal Photograph E** is taken from the corner of Angus and Carnarvon Roads looking south-west towards the Boral CSR Bricks site. Houses on small rural lots with sheds can be seen amongst canopy trees. The land is low lying and flat used for grazing and agricultural production. The tree belt that lines the southern border of the Boral CSR Bricks site can be seen in the left side of the photograph. There are glimpses through the trees to the rising land of the central ridgeline.

**Site Appraisal Photograph F** is taken near the intersection of Durham and Meadows Roads looking north-west. To the left of the photograph the land gently rises towards the Boral CSR Bricks site. The tree belt that lines the southern border of the brick site can be seen and there are glimpses through the trees to the rising land of the central ridgeline which currently comprises of stacked bricks. High voltage powerlines are just visible above the mature tree copse that lies in the centre of the photograph. The land is used for both grazing and agricultural production. Typically, single storey houses on small rural lots are evident with sheds and polyhouses across the landscape.

**Site Appraisal Photograph G** is taken from Durham Road looking south-east towards the land owned by Boral CSR Bricks, which lies to the south-east of Meadow Road. The tops of the canopies from within this area can be seen in the centre of the photograph. The gradual rise of the land is evident with the topography gradually rising from left to right in the photograph. In the left-hand side of the photograph, the rising land of Quakers Hill and associated housing is just discernible. Typically, single storey houses on small rural lots are evident with sheds located across the landscape.

**Site Appraisal Photograph H** is taken from Kerry Road looking south-west across the southern half of the Precinct towards the southern central ridgeline. In the left of the photograph, the canopies of the mature trees along Eastern Creek are visible with the housing in Stonecutters Ridge are just discernible. Likewise, the tops of the canopies from the land owned by Boral CSR Bricks, which lies to the south-east of Meadow Road, can be seen to the left of the southern border of the operating brick site. High voltage powerlines are just visible above a mature tree copse in the right of the photograph. Typically, single storey houses on small rural lots are evident with sheds located across the landscape.

Based on this landscape appraisal of the Precinct it is evident that, the mature tree copses particularly adjoining the Bells and Eastern creeklines, and the numerous tree belts, woodlands and scattering of mature trees across the Precinct are significant landscape features. The vegetation along Bells Creek corridor is protected under the BLEP (2015). These tree belts and copses provide enclosure and containment from within and to the Precinct.

## 5. LANDSCAPE CHARACTER ASSESSMENT

Landscape character is the relationship between geology, topography, vegetation, waterbodies and other natural features, combined with the effects of land use and built development. Assessing the landscape character of an area provides the basis for understanding the features and views that are important, and how different types of development sit within the landscape.


Landscape character is assessed at different scales from national and regional down to local and site specific. The assessment of landscape character is an important part of the landscape appraisal process and helps to ensure that key issues are addressed including the:


- understanding of how and why landscapes are important;
- promotion and appreciation of landscape issues and a thorough understanding of the local landscape context;
- successful accommodation of new development within the landscape including the capabilities of the landscape to absorb change; and
- establishment of landscape enhancements and management principles aimed at reinforcing landscape character.


### 5.1.1. Landscape character of the Precinct



A site-specific landscape character assessment was undertaken through a process of desktop studies and fieldwork. The principal landscape character units of the study area are indicated in **Figure 8: Landscape Character Unit Plan** and described below in **Table 1**. The sensitivity of the landscape to change has also been assessed based on the level of existing policy designation, the inherent quality and condition of the landscape character and individual features, and the ability of the landscape character unit to absorb the proposal within the existing landscape setting.



Table 1 – Landscape character units

Unit 1 – Boral CSR Bricks Site	Key features
	<ul style="list-style-type: none"> <li>• Flat ridgeline, due to landfill activities, that extends through this unit making it the highest topographic point for the precinct. This ridgeline affords long distance views to the surrounding national parks.</li> <li>• Mature vegetation exists on the boundaries of the unit enclosing the area from the local landscape. The remainder of the area is cleared of vegetation.</li> <li>• Site used for brick quarrying and manufacturing.</li> <li>• High voltage powerline easement traverses the northern part of the area.</li> </ul>
	<p><b>Sensitivity to Change</b></p>
	<p>Highly modified site.</p> <p>Absence of any landscape features.</p> <p>This unit is not visible in the local landscape due to the surrounding vegetation.</p> <p><b>Rating:</b> Low</p>

<p><b>Unit 2 – Boral CSR Bricks Woodland Land</b></p>	<p><b>Key features</b></p>
	<ul style="list-style-type: none"> <li>• High biodiversity values comprising riparian woodland that covers approximately 80% of the area.</li> <li>• Undeveloped area where no dwellings or permanent structures are visible.</li> <li>• Visually contained by the presence of in situ canopy trees.</li> </ul> <p><b>Sensitivity to Change</b></p> <p>Undeveloped area.</p> <p>Presence of high quality biodiversity values.</p> <p>This unit is not visible in the local landscape due to the vegetation across the area.</p> <p><b>Rating:</b> Moderate to high</p>

<p><b>Unit 3 – Settlement Areas</b></p>	<p><b>Key features</b></p>
<p><b>Area A</b></p> 	<ul style="list-style-type: none"> <li>• Large, predominately small rural residential lots creating an open, pastoral character.</li> <li>• Land predominately cleared with little vegetation along paddocks or roadsides.</li> <li>• Land gradually rises westward with a backdrop of the Eastern Creek mature vegetation which creates a sense of enclosure.</li> <li>• Adjoins Bells and Eastern creeks riparian zones.</li> <li>• Comprises Aboriginal heritage values.</li> </ul> <p><b>Sensitivity to Change</b></p> <p>Highly modified landscape due to human settlement with extensive land clearing and rural residential living.</p> <p>Absence of any high-quality biodiversity features.</p> <p>Comprises a potential area of moderate to high archaeological significance.</p> <p><b>Rating:</b> Moderate</p>

Unit 3 – Settlement Areas	Key features
<p data-bbox="165 226 272 259"><b>Area B</b></p> 	<p data-bbox="925 159 1121 192"><b>Key features</b></p> <ul data-bbox="925 297 1452 723" style="list-style-type: none"> <li>• Large, predominately open allotments dominated by small rural residential lots creating an open, pastoral character.</li> <li>• Land predominately cleared with little vegetation along paddocks or roadsides.</li> <li>• Backdrop of the Eastern Creek mature vegetation which creates a sense of enclosure.</li> <li>• Adjoins Bells and Eastern creeks riparian zones.</li> </ul> <p data-bbox="925 754 1254 788"><b>Sensitivity to Change</b></p> <p data-bbox="925 815 1452 904">This landscape is highly modified by human settlement with extensive land clearing and rural residential living.</p> <p data-bbox="925 927 1391 987">Absence of any high-quality landscape features.</p> <p data-bbox="925 1014 1075 1048"><b>Rating: Low</b></p>
<p data-bbox="177 1077 284 1111"><b>Area C</b></p> 	<ul data-bbox="925 1149 1452 1417" style="list-style-type: none"> <li>• Small residential blocks influenced by the retail shopping strip in Riverstone and Riverstone Park.</li> <li>• Land cleared of any remnant vegetation with residential and recreational amenity plantings present on the edges of property boundaries and the reserve.</li> </ul> <p data-bbox="925 1449 1254 1482"><b>Sensitivity to Change</b></p> <p data-bbox="925 1518 1452 1608">This landscape is highly modified by human settlement with extensive land clearing and urban residential living.</p> <p data-bbox="925 1630 1391 1691">Absence of any high quality landscape features.</p> <p data-bbox="925 1718 1075 1751"><b>Rating: Low</b></p>

Unit 3 – Settlement Areas	Key features
<p data-bbox="164 230 272 264"><b>Area D</b></p> 	<ul data-bbox="930 300 1452 672" style="list-style-type: none"> <li>• Medium sized allotments dominated by small rural residential lots with farming infrastructure amongst copses and scatterings of mature vegetation.</li> <li>• A range of building styles set close to the roads.</li> <li>• Topography gradually rises in a north-south direction preventing views to the landscape beyond.</li> </ul> <p data-bbox="930 703 1257 741"><b>Sensitivity to Change</b></p> <p data-bbox="930 763 1452 857">This landscape is highly modified by human settlement with extensive land clearing and rural residential living.</p> <p data-bbox="930 878 1401 909">Limited high quality landscape features.</p> <p data-bbox="930 934 1078 965"><b>Rating:</b> Low</p>
<p data-bbox="177 996 285 1030"><b>Area E</b></p> 	<ul data-bbox="930 1066 1441 1518" style="list-style-type: none"> <li>• Medium sized allotments dominated by small rural residential lots set amongst mature vegetation.</li> <li>• Predominately pastoral land used for grazing such as cattle.</li> <li>• Low lying topography within floodplain.</li> <li>• Adjoins Bells Creek creating a riparian rural setting.</li> <li>• Views to the east are curtailed by the rising land of Grange Avenue Reserve.</li> </ul> <p data-bbox="930 1547 1254 1585"><b>Sensitivity to Change</b></p> <p data-bbox="930 1617 1471 1760">This is a moderately sensitive landscape. The retention of mature vegetation has given this character area a forested rural residential setting.</p> <p data-bbox="930 1780 1425 1843">Presence of some high-quality landscape features.</p> <p data-bbox="930 1868 1230 1899"><b>Rating:</b> Low to moderate.</p>

## Unit 4 – Grange Avenue Reserve



### Key features

- Former landfill site currently under rehabilitation.
- The land lies significantly higher than the surrounding landscape at around 30 metres AHD.
- Land predominately cleared of any remnant vegetation with some vegetation on the boundary of the area.

### Sensitivity to Change

This landscape is highly modified by human activities with extensive land clearing.

Absence of any high quality landscape features.

**Rating:** Low

## Unit 5 – Creek Woodland



### Key features

- Comprise a high coverage of Shale Plains and Alluvial woodlands along Eastern and Bells creeks. These woodlands are listed under the *BC Act 2016*.
- The area supports significant remnant vegetation and wildlife habitat that contributes to the conservation and recreation value of the wider study area.
- Within the southern area of the Precinct, there are areas of archaeological potential within 200 metres of Eastern and Bells creeks. Within the north, archaeological sites are also likely to be present along the riparian corridors.




### Sensitivity to Change



This is a highly sensitive landscape. Threats include clearing for settlement including creation of access roads and creation of paddocks for grazing, rubbish dumping, domestic animals and weeds.

Presence of high quality biodiversity values which are listed under the *BC Act 2016*.

Potential to contain areas of moderate to high archaeological significance.

**Rating:** High

<p><b>Unit 6 – Riverstone Park</b></p> 	<p><b>Key features</b></p> <ul style="list-style-type: none"> <li>• Public open space with recreational fields with clubrooms, lighting and car park.</li> <li>• Managed exotic grass with mature vegetation on the boundaries.</li> </ul> <p><b>Sensitivity to Change</b></p> <p>This is a relatively sensitive landscape due to its land use as public open space.</p> <p>Absence of any high quality landscape features.</p> <p><b>Rating:</b> Low to moderate</p>
<p><b>Unit 7 – Riverstone Trotting Track</b></p> 	<p><b>Key features</b></p> <ul style="list-style-type: none"> <li>• Public open space with trotting field and a facility building fronting the road.</li> <li>• Land predominately cleared with vegetation along the south-western edge</li> </ul> <p><b>Sensitivity to change</b></p> <p>This is a relatively sensitive landscape due to its land use as public open space.</p> <p>Absence of any high quality landscape features.</p> <p><b>Rating:</b> Low to moderate</p>
<p><b>Unit 8 – Electricity Easement</b></p> 	<p><b>Key features</b></p> <ul style="list-style-type: none"> <li>• Cleared rectangular strip managed as cut grass bordered by mature vegetation.</li> </ul> <p><b>Sensitivity to change</b></p> <p>This landscape is highly modified by human settlement with extensive land clearing and rural residential living.</p> <p>Absence of any high-quality landscape features.</p> <p><b>Rating:</b> Low</p>

<p><b>Unit 9 – Agricultural Land</b></p> 	<p><b>Key features</b></p> <ul style="list-style-type: none"> <li>• Large open allotments dominated by rural uses that include productive agricultural land.</li> <li>• Backdrop of the Eastern Creek mature vegetation to the east that creates a sense of enclosure.</li> <li>• Adjoins the Bells Creek riparian zone.</li> <li>• Land predominately cleared with little vegetation along paddocks or roadsides.</li> <li>• Most of the area lies within the PMF floodplain.</li> </ul> <p><b>Sensitivity to change</b></p> <p>This landscape is highly modified by human activity and rural residential development. Any development would unlikely be visible from the local setting.</p> <p>Absence of any high quality landscape features.</p> <p><b>Rating:</b> Low</p>
<p><b>Unit 10 – Townson Road Precinct</b></p> 	<p><b>Key features</b></p> <ul style="list-style-type: none"> <li>• Comprise a high coverage of Shale Plains and Alluvial woodlands along Eastern and Bells creeks. These woodlands are listed under the <i>BC Act 2016</i>.</li> <li>• The area supports significant remnant vegetation and wildlife habitat that contributes to the conservation and recreation value of the wider study area</li> </ul> <p><b>Future development</b></p> <ul style="list-style-type: none"> <li>• Low density residential.</li> <li>• Conservation area adjoining Bells Creek.</li> <li>• Central open space area.</li> </ul>

### 5.1.2. Summary of the landscape character

There are ten landscape character units that have been identified across the Precinct.

Landscape Character Unit 5, Creek Woodland, has been assessed as being highly sensitive to change due to the coverage of Shale Plains Woodland and Alluvial Woodland which form the creeklines of Eastern and Bells creeks. These areas support significant remnant vegetation and wildlife habitat that contributes to the

conservation and recreation value of the wider study area. Additionally, there are areas of archaeological potential within the riparian corridors that are considered to be of moderate to high archaeological significance.

Landscape Character Unit 2, Boral CSR Bricks Woodland Land, has a moderate to high sensitivity to change as it is an undeveloped landscape with the presence of high quality landscape features.

The landscape character unit 3A, Settlement Areas, has been assessed as having a moderate sensitivity to change due to the presence of an Aboriginal heritage site.

The remaining landscape character units have a low to moderate or low sensitivity to change due to the absence of any high-quality landscape features or designations. Most of these landscape character units are relatively isolated and it is unlikely that they would be frequently viewed from the surrounding landscape.

## 6. VISUAL APPRAISAL

A visual appraisal was undertaken from the area surrounding the Precinct to determine the approximate extent of the area from which the Precinct is visible from the eye of a person standing on the ground. The approximate visual envelope of the Precinct was based on consideration of factors such as topography and existing vegetation, from a desk-top study then confirmed in the field from publicly accessible viewpoints within the surrounding landscape such as from roads, footpaths and public open spaces. This appraisal indicated that the Precinct is only visible from a limited number of local viewpoints and from a limited area at a greater distance to the Precinct due to the screening provided by intervening vegetation and topography that curtail views towards the Precinct.

A series of Site Context Photographs were taken from points of public access and are illustrated on **Figure 9: Visual Appraisal Plan** and are described as **Site Context Photographs 1-5** below.

There is, in any visual appraisal, a continuity of degrees of visibility ranging from no view of the Precinct to full, open views. To indicate the degree of visibility of the Precinct from roads, footpaths and public open spaces, four categories of visibility have been used which are listed in **Table 2**.

Table 2 – Degree of visibility

Degrees of visibility	Description
No view	Views towards the Precinct are curtailed by visual barriers such as vegetation and/or built form.
Partial view	A view of part of the Precinct, or a filtered view of the Precinct, or a distant view where the Precinct is perceived as a small part of the view.
Transient view / glimpsed view	A quickly passing view of part of the Precinct, or a fleeting view of the Precinct when passing the Precinct at a speed, either from vehicle, public transport, or when walking/cycling.
Open view	A clear view of a significant proportion of the Precinct within the wider landscape.

Views of the Precinct from publicly accessible places are described and appraised in the following sections, and consist of near, middle and long distance views which are defined in **Table 3**:

Table 3 – Distance of views

Distance	Description
Near distance views	Immediately surround the Precinct up to 300 metres.
Middle distance views	Views from between 300 and 600 metres.
Long distance views	Views in excess of 600 metres.

### 6.1. NEAR DISTANCE VIEWS

As illustrated with reference to **Site Context Photograph 1** there are partial, transient views of the Precinct from the intersection of Fermoy Road and Vine Street West. From this viewpoint, there are views towards the slight rise that forms the northern end of the central ridgeline. The vegetation community along the riparian corridor of Bells Creek can be seen in the middle ground of the photograph which forms part of the western boundary of the Precinct. Residences set amongst mature trees are evident in both sides of the photograph. Collectively the topography and the vegetation prevent views to the houses and paddocks beyond.

There are partial, transient views towards the northern section of the Precinct obtained from Bells Creek cross-over along Carnarvon Road. **Site Context Photograph 2** which is taken looking north-west illustrates the gradual rising land and, the roadside and paddock boundary vegetation that prevent views to the land beyond. To the left and right of the photograph, the treed creek corridor of Bells Creek can be clearly seen further curtailing views to the surrounding area.

Near distance, partial views of the northern section of the Precinct are obtained from the junction of Riverstone Parade and Garfield Road East. **Site Context Photograph 3** is taken looking north-west illustrates the gradual sloping land towards the Eastern Creek. In the centre of the photograph the mature trees within The Pub @ Rivo and built form prevent views to the land beyond.

As demonstrated in the Precinct **Appraisal Photograph F** (see Section 4), there are glimpsed views through a tree belt into the Boral CSR Bricks site and the rising land of the ridgeline from the eastern land within the southern half of the Precinct.

## 6.2. MIDDLE DISTANCE VIEWS

As illustrated with reference to **Site Context Photograph 4** the rising topography towards the central ridgeline and the vegetation along Bells Creek inhibit views to the Precinct and the landscape beyond. High voltage electrical transmission lines can be seen traversing the landscape.

## 6.3. LONG DISTANCE VIEWS

There are partial, transient views towards the western boundary of the Precinct from South Street. As illustrated with reference to **Site Context Photograph 5**, the canopies of the vegetation along Bells Creek are evident in the middle ground which curtails views into the Precinct. In the centre of the photograph, there are long distance views towards Berowra Valley National Park.

As demonstrated in the Precinct Appraisal Photographs in Section 4, the eastern land within the southern half of the Precinct affords long distance views towards the surrounding landscape to the east and the south. There are partial, long distance views towards the rising land and housing in Schofields and Quakers Hill to the east (**Site Appraisal Photograph G**) and houses in Stonecutters Ridge to the south (**Site Appraisal Photograph H**).

## 6.4. SUMMARY OF VISUAL APPRAISAL

The riparian vegetation along the east and west creeklines along with the large mature tree copses and tree belts along paddock boundaries predominately inhibit views towards the Precinct.

The visual appraisal demonstrates that there are limited partial views towards the northern and western boundary and limited partial, long distant views towards the eastern land within the southern half of the Precinct from Quakers Hill and Schofields to the east. In views to the west, there are limited partial and transient views towards the Precinct from South Street, Grange, Avenue Vine Street West and Carnarvon Road. There are limited partial, long distant views from Stonecutters Ridge to the south with the rising topography and the mature vegetation along the southern boundary predominately precluding views.

As the Precinct is well integrated into the landscape, proposed development would have a limited impact on views towards the Precinct from the surrounding landscape due to the undulating landform and intervening vegetation. Furthermore, it would be seen in the context of the existing built up edge of Riverstone to the north and Colebee to the south.

## 7. THE DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS

The development opportunities for the Precinct are illustrated on **Figure 10: Landscape and Visual Opportunities and Constraints Plan**. The landscape and visual constraints correspond to the visual and landscape appraisal outlined in Sections 4 and 5 above and, the summary of recommendations comprises:

- the retention, protection and enhancement of significant landscape features including good quality substantial riparian woodlands and tree belts;
- physical sensitive treatment of the interface between significant landscapes such as the Eastern and Bells creeks and any proposed development edge such as a minimum 10 metre vegetated buffer zone and appropriately sited crossing points to minimise disturbance;
- visually sensitive treatment of development on the flat ridgeline within the southern half of the Precinct such as appropriately sited street trees to break views of built form from the surrounding landscape to the east;
- the strengthening of the Precinct boundaries and provision of appropriate edges that protects significant landscape features that adjoin future adjoining land use as part of the NWGA; and
- maintenance of positive long distance views from the southern half of the Precinct to the surrounding national parks to the north.

The most suitable land for development would be the area above the PMF. The southern half of this area, has the greatest potential to absorb development. The eastern slope of this land off the flat ridgeline would require sensitive design and mitigation to absorb development, and improve views afforded from Quakers Hill and Schofields. Any proposed development, however, would be seen in context with the future adjoining land use as part of the NWGA and should be designed as an integral part of an iterative process of precinct planning.

The area of land within the PMF to the 100 year ARI flood level, may be suitable for development if appropriate flood protection and mitigation controls are implemented. There are no significant landscape features and the area is visually contained. The proposed development would need to incorporate effective landscape mitigation measures at the interface with Bells Creek.

Within the eastern area of the Precinct within the 100 year ARI, there are areas of high cultural and biodiversity significance that are recommended to be retained and protected. In particular, the riparian corridor of Eastern Creek. The majority of this eastern area, however, contains low landscape constraints and a high degree of visual containment, and is most suitable to be retained as primary production with small lots due to the flooding constrictions and interface with Eastern Creek

The western area of the Precinct within the 100 year ARI contains high landscape constraints and a high degree of visual containment, and is most suitable to be retained, protected and enhanced as Zone E2.

The area along the south-eastern boundary of the Precinct (Boral CSR Bricks Woodland Land, Landscape Character Unit 2) contains high biodiversity values. This land, however, is certified land. The protection of non-certified land on riparian corridors on the eastern and western boundaries of the Precinct takes precedence over certified land as outlined within the Biodiversity Certification Order. As such, it is recommended to retain and protect this area along the south-eastern boundary of the Precinct where possible.

The area south of Townson Road (Townson Road Precinct Landscape Character Unity 10) contains high biodiversity values, however it has been rezoned for development. As such, it is recommended to retain and protect vegetation within this area, where possible, within the future development.

In summary, developing the area above the PMF and providing a substantial landscape edge treatment to Bells Creek would be respectful of the biodiversity and cultural values along the creekline, and would present no visual intrusion into the existing or future landscape character. The existing mature trees within and on the borders of the Precinct would provide a landscape setting to the proposed development and with additional vegetation and open spaces included within the design, would assist in assimilating housing and provide a sensitive edge transition between the riparian corridors and the built form.

## 8. CONCLUSIONS

The Precinct is approximately 576 hectares and is roughly an irregular rectangular shape. The Precinct immediately adjoins the suburbs of Riverstone to the north, Schofields to the east, Colebee to the south and Marsden Park to the west.

The eastern boundary adjoins the Richmond railway line and Eastern Creek. The southern area is defined by the Stonecutters Ridge Golf Course and Townson Road. The western boundary predominately traverses Bells Creek with a small section to the north that adjoins Garfield Road West.

The landscape in the vicinity of the Precinct is undulating in character with three ridgelines crossing the landscape setting. The northern area of Marsden Park lies at a low-lying elevation of 10 metres AHD rising to between 50 to 60 metres AHD at Bidwill and Glendenning to the south of the Precinct. The land falls to meet the valley of Eastern Creek and rises again to 90 metres AHD at Kings Park. These local ridgelines separate the current and future surrounding settlements physically and visually. The town of Riverstone located to the north of the Precinct is very low lying at elevations of approximately 10 metres AHD.

The Precinct itself lies at an elevation of between 40 to 4 metres AHD rising in a southerly direction. A central ridgeline traverses the southern half of the Precinct causing the land to fall north-west and east towards Bells Creek and Eastern Creek respectively to elevations of approximately 4 metres AHD. This low-lying topography illustrates that the Precinct is predominantly positioned within the Hawkesbury Nepean floodplain.

Based on the landscape appraisal of the Precinct it is evident that, the mature tree copses particularly adjoining the Bells and Eastern creeklines, and the numerous tree belts, groups and scattering of mature trees across the Precinct are significant landscape features.

The dominant vegetation community along the riparian corridor of the creeklines is Shale Plains Woodland which is listed as a critically endangered ecological community under the *NSW BC Act (2016)*. Alluvial Woodland, listed as an endangered ecological community under the *NSW BC Act (2016)*, can be found on the bank of the creeklines.

The visual appraisal demonstrates that there are limited partial views towards the northern and western boundary and limited partial, long distant views towards the eastern land within the southern half of the Precinct from Quakers Hill and Schofields to the east. In views to the west, there are limited partial and transient views towards the Precinct from South Street, Grange Avenue, Vine Street West and Carnarvon Road. There are limited partial, long distant views from Stonecutters Ridge to the south with the rising topography and the mature vegetation along the southern boundary predominately precluding views.

The most suitable land for development would be the area outside of the PMF. The southern half of this area, has the greatest potential to absorb development. The eastern slope of this land off the flat ridgeline requires sensitive design and mitigation to absorb development and improve views afforded from Quakers Hill and Schofields. Any proposed development, however, would be seen in context with the future adjoining land use as part of the NWGA and should be designed as an integral part of an iterative process of precinct planning.

In summary, developing the area above the PMF and providing a substantial landscape edge treatment to Bells and Eastern creeks would be respectful of the cultural and biodiversity values along the creekline, and would present no visual intrusion into the existing or future landscape character. The retention of the existing mature trees within and on the borders of the Precinct would provide a sensitive edge transition between the riparian corridors and the built form, and would provide a sensitive landscape setting to the proposed development. Such a mitigation measure would assist in satisfying the applicable landscape planning legislation and policies to protect and enhance riparian corridors and areas of significant native vegetation. With additional vegetation and open spaces included within the design, a suitable 'environmental fit' can be achieved.

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