7 ASSESSMENT OF IMPACT

7.1 OVERVIEW

The undertaking of the landscape character and visual impact assessment and the finalisation of the concept design has been an iterative process which has enabled the concepts to be refined as they were developed, thereby reducing and mitigating the potential visual impact wherever possible.

The method used to undertake this study follows 'Guidelines for Landscape Character and Visual Impact Assessment' (RMS, 2009) and is summarised as follows:

- Undertaking an initial site visit and field investigation, reviewing relevant literature, analysing aerial photographs, topographic maps to understand the study area;
- Reviewing the engineering and urban design and landscape concept designs on a regular basis, and other supporting material to gain an appreciation of the project;
- Defining landscape character through a study area analysis, including a detailed site investigation;
- Identifying and describing landscape character zones and evaluating the proposal's impact on them;
- Evaluating the impact of the project on these landscape character zones by combining the sensitivity of the zone and the magnitude of the works to provide an overall impact rating as indicated by the Impact Assessment Grading Matrix (Table 7.1).
- Identifying the visual catchment of the proposed works for the visual impact assessment;
- Selecting viewpoints within the visual catchment representing a range of different land uses;
- Evaluating the visual impact of the project by comparing the sensitivity of viewpoints and the magnitude of the impact of the project upon them to provide an overall impact rating as indicated by the Impact Assessment Grading Matrix (Table 7.1); and
- Identifying further urban design and landscape opportunities and methods of mitigating adverse visual impacts, both within and outside of the project scope, for consideration in the detail design phase of the project.

The method used to assess the landscape character and visual impact of the project is described on the following pages.

SENSITIVITY \ MAGNITUDE	High	High to Moderate	Moderate	Moderate to Low	Low	Negligible
High	High impact	High impact	High to Moderate	High to Moderate	Moderate impact	Negligible
High to Moderate	High impact	High to Moderate	High to Moderate	Moderate impact	Moderate impact	Negligible
Moderate	High to Moderate	High to Moderate	Moderate impact	Moderate impact	Moderate to Low	Negligible
Moderate to Low	High to Moderate	Moderate impact	Moderate impact	Moderate to Low	Moderate to Low	Negligible
Low	Moderate impact	Moderate impact	Moderate to Low	Moderate to Low	Low impact	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

Table 7.1: IMPACT ASSESSMENT GRADING MATRIX.

7.2 LANDSCAPE CHARACTER IMPACT

INTRODUCTION

RMS's 'Guidelines for Landscape Character and Visual Impact Assessment' (RMS, 2009) provides the following definition of landscape character:

'Landscape character is the aggregate of built, natural and cultural aspects that make up an area and provide its unique sense of place. Landscape in this context is taken to include all aspects of a tract of land - the built, planted and natural topographical and ecological features.'

Applying this definition to the specific conditions within the study area, and the features of the Windsor bridge replacement project, the landscape character assessment also considers how the area is used and how it functions as a part of Windsor

LANDSCAPE CHARACTER ZONES

The study area has been divided into three Landscape Character Zones (LCZ) as illustrated in Figure 7.1. The zones correspond to landscape character types in the area and allow for a more detailed discussion of the character of each zone, the project and the likely impact on the landscape character to be experienced as a result of the project. Each zone has been defined through the development of an understanding of urban form, topography, and vegetation in combination with other factors, such as land use activities.

The three Landscape Character Zones, listed from south to north, are:

- LCZ1 - Thompson Square
- LCZ2 - Hawkesbury River & river banks
- LCZ3 - Wilberforce and Freemans Reach Road intersection.

In general, the existing landscape character to the south of the river is dominated by the enclosed parkland of Thompson Square and the eastern edge of the Windsor retail and commercial area which is located on the central ridge, on which Windsor township sits. The Hawkesbury River and foreshore have their own distinct character based around the riverine environment comprising a broad reach of water fringed by dense tree and shrub vegetation. To the north, the generally flat to undulating floodplain, contains various agricultural uses which sharply contrasts with the more natural and informal character of the river and the urban character of the southern bank.

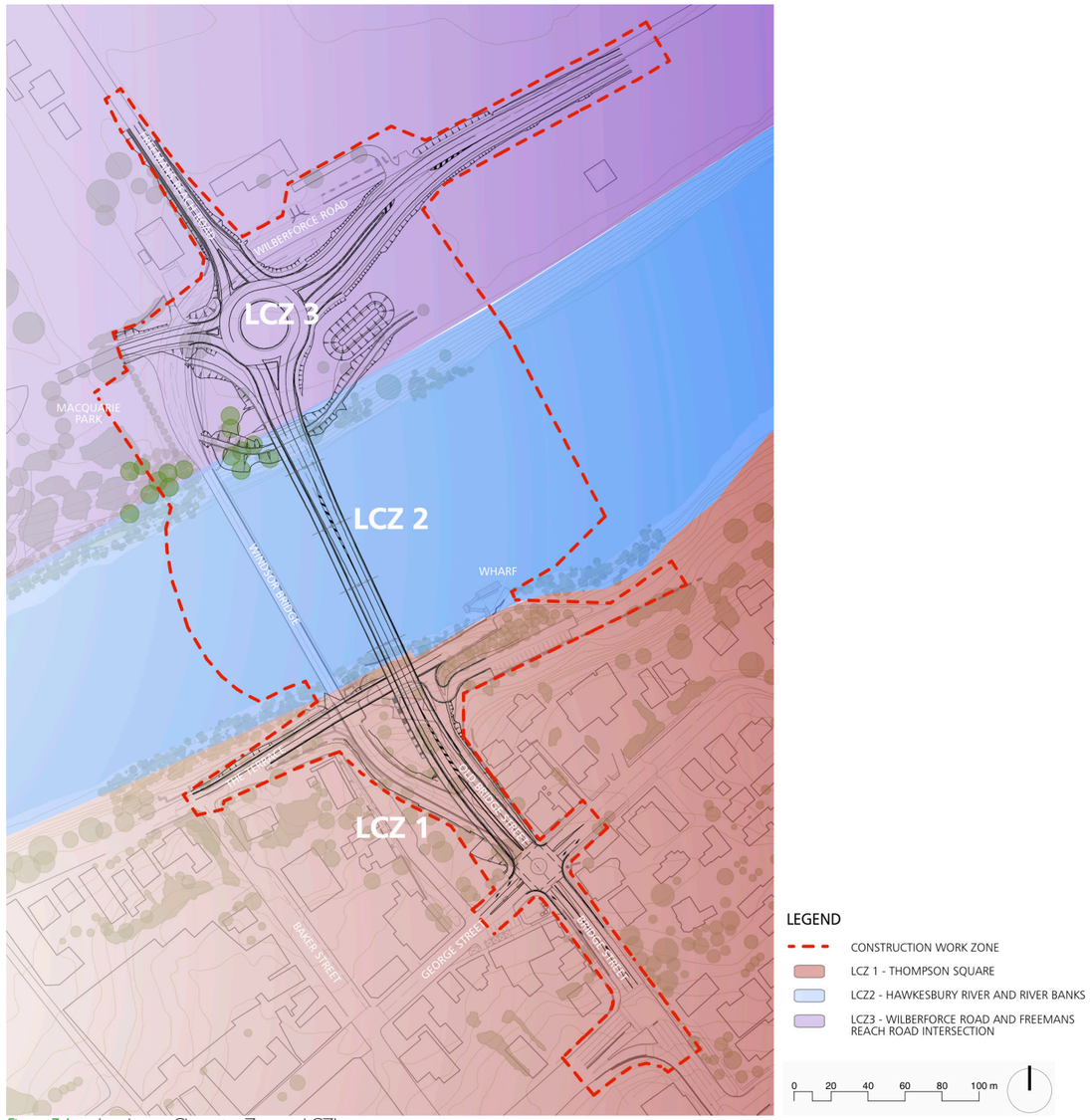


Figure 7.1: Landscape Character Zones - LCZ's.

LANDSCAPE CHARACTER ASSESSMENT

The landscape character zones facilitate detailed assessment of the character of the study area, of the project within it, and of the magnitude, sensitivity and impact likely on the landscape character of each zone to be experienced as a result of these proposed works.

Magnitude

In landscape character assessment, magnitude refers to the type of project and its compatibility with the existing landscape character. All anticipated elements of the project, including the bridge, alignment, road infrastructure, shared paths, planting, lighting, etc, are considered. The scale of the element (height, length), as well as its location or setting (on floodplain, near the town), all have a bearing on the magnitude of the physical presence of the works.

A high magnitude results if the project is a major development or piece of road infrastructure and contrasts highly with the surrounding landscape, or entails heavy modification of the existing landscape, for example, the large scale removal of existing vegetation. A moderate magnitude rating would result if the project is moderately integrated into the landscape. A low magnitude rating would occur if the project is of a small scale and integrates well into the landscape.

The magnitude impact rating also considers whether the project has a positive or negative impact on the landscape character of the zone. For example, a project may be of a large scale but may provide beneficial outcomes such as increased open space, enhancement of the areas 'sense of place', and better connectivity.

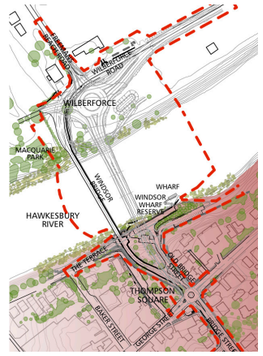
Sensitivity

Sensitivity is assessed on the perceived value of the existing landscape character. A judgement has been made as to the quality of the landscape, its cultural and historical importance to the community, scenic quality, and overall composition of the place and its inhabitants. The following sensitivity judgements have been used as the basis for this assessment:

- Places with high social, recreational, and historical significance to local residents have higher sensitivity.
- Generally, water and natural environments are more highly valued than modified areas.
- Areas of unique scenic quality have higher sensitivity.
- A pristine environment would have greater sensitivity with less ability to absorb new elements in the landscape than modified landscapes or those areas with contrast and variety of landscape types.
- The number and frequency of viewers effects sensitivity, with retail, residential and open space.

Impact

Impact is the combination of the magnitude and sensitivity rating in accordance with the Impact Assessment Grading Matrix (refer to Table 7.1).



LCZ 1 KEY PLAN

LCZ 1: THOMPSON SQUARE

EXISTING LANDSCAPE CHARACTER

The landscape character of LCZ 1 is dominated by the parkland of Thompson Square. The attributes that make up its character are described below.

Built Form and Heritage

Thompson Square sits on the north western edge of the ridge on which the Windsor township is located. It is bounded by formed roadways on all four sides. George Street forms its south eastern boundary; Old Bridge Street, its north eastern boundary; Thompson Square road which is adjacent to the Macquarie Arms Hotel forms the south western boundary leading down to the Doctor's House; and The Terrace which runs parallel to the River foreshore, forms the north western boundary.

The parkland is diagonally dissected from east to west by Bridge Street, providing vehicular access to the bridge, and its deep cutting, physically and visually separating the space into two distinct open space areas.

The buildings surrounding Thompson Square comprise of one and two storey colonial buildings and are set around three sides of the park. The recently restored buildings provide a strong physical edge and sense of containment to the square, as well as a unified heritage quality, which together form the Thompson Square Conservation Area.

Connectivity and Access

Pedestrian access to the river, wharf and bridge is currently limited to the footpath along Old Bridge Street and the Thompson Square road. Access via Old Bridge Street requires people to cross at the Bridge Street intersection, which is made difficult by poor sight lines, vehicle speed, and the multiple direction of traffic entering the roundabout intersection. The steep grades are also unsuitable for access by people with disabilities.

Access along the Thompson Square road is safer and more suitable for people with disabilities until the intersection with Bridge Street, where access along the riverfront or across the bridge is only available via a set of timber steps under Bridge Street, or directly across Bridge Street, which is an inherently dangerous movement due to vehicle speed and poor sightlines to vehicles approaching the bridge.

Public Domain

The upper area of Thompson Square offers the best amenity with easy access to the adjoining retail outlets on George Street. The upper area consists of a generally level open grassed area with a number of mature trees planted informally around the space, providing an attractive, enclosed parkland setting. Park furniture is scattered around this area providing picnic facilities for casual use. The Memorial and white rail on edge fencing add a civic quality to the area. The cutting provides a degree of visual separation from Bridge Street and its constant traffic.

The lower area is of low landscape amenity. Pedestrian access is poor due to the steeper grades and road infrastructure, including a small carpark, and it is disconnected from the life of George Street. The topography has been artificially mounded, forming a small promontory that offers views out towards the river and opposing riverbank and provides the only usable green space. The physical relationship of this area is poor due to the utiliatarian character of the space.

Key Activity Areas

As described above, the upper area of Thompson Square is the dominant green recreation space within the centre of Windsor, which is, in part, complemented by its relationship with the variety of food and beverage outlets, and the architecture of the buildings along George Street. This area can perform a range of activities, functioning as a civic square, to providing a quiet location for a picnic.

Plate 7.2: Thompson Square and Memorial on the edge of George Street.

Plate 7.1: Retail businesses on George Street overlooking Thompson Square.

Plate 7.3: The Doctor's House with the retaining wall which separates Bridge Street from Thompson Square road.

Plate 7.4: The Bridge Street cutting in Thompson Square looking towards the river.

Plate 7.5: The lower parkland area in Thompson Square looking towards the river.

PROPOSED LANDSCAPE CHARACTER

Landscape character changes and affects to LCZ 1 that would result from the project are described below.

Built Form and Heritage

The existing Bridge Street road pavement would be removed, with the cutting filled or partially filled, regraded and landscaped. Old Bridge Street would become the alignment for the new approach road to the replacement bridge. It would remain at the same level and gradient as the adjacent parkland and buildings at the southern end of Thompson Square, before transitioning to the abutments which would match the approximate height of the existing retaining wall on the western side of Thompson Square. The overall footprint and scale of the new road infrastructure will be more physically and visually apparent than the existing road, despite the removal of other road infrastructure such as the small carpark. The increased width of the new approach road would further separate the buildings on Old Bridge Street from the parkland.

Connectivity and Access

Public access for pedestrians and cyclists through and around Thompson Square would be improved. A new shared path would be constructed on the north eastern side of Thompson Square, linking to the replacement bridge and Macquarie Park on the northern foreshore. Access across Bridge Street and George Street would be made safer through the provision of a signalised intersection. New stairs adjacent to the bridge abutment and the Thompson Square road would also improve access to the lower parkland area and river.

Public Domain

The reunification of Thompson Square would create a continuous, evenly graded, green open space from George Street to The Terrace, providing improved amenity for users and potentially an increased range and frequency of use. A number of existing trees would be removed within Thompson Square.

The elevated approach road abutment, and bridge over The Terrace would present a large physical and visual barrier between Thompson Square and the parkland adjacent to the wharf. The movement of traffic along the approach road and replacement bridge would be a dominant physical presence particularly during the morning and afternoon peak periods

Key Activity Areas

While the upper parkland area would remain the major recreation area of Thompson Square, the removal of the existing Bridge Street would allow easier access to the lower parkland area and river.

Construction Activities

During construction, the two Council carparks would be used as construction and compound sites. These sites would be surrounded by temporary fencing and consist of storage facilities, stockpile areas, site buildings, and other facilities. Following construction, or progressively during the works where possible, these sites would be dismantled, and the larger carpark restored to its pre-construction state. The smaller carpark would be incorporated into the consolidated Thompson Square parkland.

LANDSCAPE CHARACTER ASSESSMENT

Sensitivity

The Thompson Square area has **High** sensitivity due primarily to its heritage values, but also the social, cultural and recreational values placed on it by the local community. Its location, close to a number of retail outlets, quality of open space, and high number and frequency users within the zone, reinforce this rating.

Magnitude

The works raise the height of the approach road to the replacement bridge through the construction of abutment walls and physically and visually separate the lower section of Thompson Square and Windsor Wharf. The overall footprint and scale of the new approach road and its height at the abutment is out of scale with the adjoining roads, and existing bridge, considerably changing the character of the zone. The improvements to public amenity through the consolidation of the Thompson Square parkland, and improved pedestrian access through and around Thompson Square, help to mitigate some the impact of the physical manifestation of the project.

Overall, the qualitative assessment indicates that the magnitude of the project would be **High to Moderate** due to the proposed changes taking place.

Landscape Character Impact

The qualitative assessment indicates that the landscape character impact of the project in this zone is likely to be **High.**

Sensitivity	High
Magnitude	High to Moderate
Landscape Character Impact	High