

State Significant Development Application SSD 15_6957

Visual and View Impact Assessment Report



Crown Sydney Hotel Resort

Barangaroo South

Submitted to Department of Planning & Environment
On Behalf of Crown Resorts Limited

June 2015 ■ 13351

Reproduction of this document or any part thereof is not permitted without prior written permission of JBA Urban Planning Consultants Pty Ltd.

JBA operates under a Quality Management System that has been certified as complying with ISO 9001:2008. This report has been prepared and reviewed in accordance with that system. If the report is not signed below, it is a preliminary draft.

This report has been prepared by:



Double click to insert signature
Benjamin Craig

19/06/2015

This report has been reviewed by:



Double click to insert signature
Lesley Bull

19/06/2015

Contents

1.0	Introduction	1
1.1	The Site	3
1.2	Methodology	4
2.0	Visual Analysis – Public Domain Views	8
3.0	Visual Analysis – Private Domain Views	18
3.1	Views from Key Residential Apartment Buildings	18
3.2	Observatory Tower	21
3.3	Westpac Place	21
3.4	King Street Wharf	21
4.0	Conclusion	22

Figures

1	Barangaroo site locational context and precincts	3
2	Crown Sydney Hotel Resort site plan	4
3	External site views	5
4	External site views (cont.)	6
5	Locations of key buildings	7

Tables

1	Visual impact matrix	9
2	View angles under Concept Plan Mod 8	19

Under Separate Cover

Visual Impact Photomontage Report

Virtual Ideas

(Appendix E of Architectural Design Statement)

1.0 Introduction

This report provides a Visual and View Impact Analysis in support of a State Significant Development (SSD) application for the construction and use of the Crown Sydney Hotel Resort, at Barangaroo South, comprising a hotel, VIP gaming facilities and residential apartment building with associated retail and restaurant uses and a basement car park. Specifically the State Significant Development Application seeks approval for the following development:

- construction, fit out and use of a hotel, VIP gaming facilities and residential apartment building with associated retail and restaurant uses and a basement car park to accommodate parking and servicing allocated to the proposed uses within the development, comprising a total Gross Floor Area of approximately 77,500m² and a maximum building height of approximately 271 metres (RL 275);
- associated building signage; and
- provision of services and utilities required to service the building.

The analysis is made in comparison to those impacts previously analysed as part of the Barangaroo Concept Plan Modification 8 (Concept Plan Mod 8).

The Director Secretary Environmental Assessment Requirements (SEARs) dated 2 April 2015 for the project require that consideration be given to views and vistas and also that a Visual and View Impact assessment be undertaken (Item 5). Specifically, the SEARs require that the following be addressed with respect to views and visual impacts:

Visual Impact Assessment

The Visual Impact Assessment, including focal lengths, must be done in accordance with Land and Environment Court requirements.

Visual Assessment Methodology

The consultant's methodology should be explicit. This may include a flow chart indicating how the methodology is to be undertaken, or a narrative description of the proposed sequence of activities.

As part of the methodology, the consultant should provide, and explain, criteria for assessment relevant to the site, local context and proposed built form and public domain outcomes. A rationale should be provided for the choice of criteria. Criteria must include reference to the planning framework.

Visual catchment should be defined and explained (see below).

An assessment matrix should be produced including number of viewers, period of view, distance of view, location of viewer to determine potential visual impact – i.e high, medium or low.

Visual Catchment

Potential visual catchments and view locations, including contours (areas from which the development is visible) should be identified. This must include, but is not limited to Hickson Road, Kent Street, Shelley Street, Lime Street, Gas Lane, High Street, Sydney Observatory, Sydney Observatory Park, Clyne Reserve, Munn Reserve, Sydney Harbour Bridge, Pyrmont Bridge, Ballarat Park Darling Island, Jones Bay Wharf Pyrmont, East Balmain, Darling Harbour, Blues Point, Millers Point, Sydney Opera House, Cremorne Point, Watsons Bay and the Gladesville Bridge.

Categories of views (eg from the water, from public open space, from key streets, from main buildings and from key heritage items) should be defined.

Photos are required for representative view categories, plotted on a map.

Visual Material

- *Reference to be made to site analysis.*
- *Provide key plan indicating where viewpoints are located and narrative explaining why these have been selected.*
- *The built form should be illustrated in the context of the visual catchment to enable assessment of the visual impact.*
- *The location of cross-sections should be clearly shown on a key plan and the choice of positions explained. The cross sections should be shown in the context of the visual catchment.*
- *Vertical exaggeration should provide an accurate rather than 'flattened' impression of buildings in the context of the visual catchment.*
- *A key plan must be provided for photomontages. In addition, the choice of locations should be explained. Photomontages should be provided for close as well as distant views.*
- *Assessment must benchmark against the existing situation with the proposed plans.*
- *Photomontages to be provided for key viewpoints from all directions, and from several positions within the visual catchment.*
- *As above, support visual evidence such as cross sections to be drawn to realistic scales and shown in context.*

A comparison of 'before', 'approved' and 'proposed' is fundamental to a visual impact assessment, therefore the visual impact assessment (A3 in size) should be undertaken using human eye focal lengths (50mm at 35mm FX format and 46° angle of view) from long range, medium range and short range positions so that they can be assessed with respect to visibility, visual absorption capacity and visual impact rating.

With respect to the SEARs, the Land and Environment Court of NSW (LEC) has published requirements for photomontages that are proposed to be relied on as or as part of expert evidence in Class 1 appeals. In summary, the published LEC photomontage policy requires that any photomontage to be relied upon in an expert report is to be accompanied by:

- An existing photograph showing the current, unchanged view of the location depicted in the photomontage from the same viewing point as that of the photomontage (the existing photograph);
- A copy of the existing photograph with the wire frame lines depicted so as to demonstrate the data from which the photomontage has been constructed; and
- A 2D plan showing the location of the camera and target point that corresponds to the same location the existing photograph was taken.

This report analyses the visual and view impacts in relation to the SEARs. It is based upon and should be read in conjunction with the following documentation:

- Visual Impact Photomontage Report prepared by Virtual Ideas and dated 17 October 2014.

This report should also be read in conjunction with the Visual and View Impact Analysis material that was prepared and approved as part of Concept Plan Mod 8 which establishes the benchmark for consideration of the detailed proposal for the CSHR (the subject of the Environmental Impact Statement to which this report is an appendix) against the existing approval in relation to visual and view impacts as required by the SEARs.

1.1 The Site

Barangaroo is located on the north western edge of the Sydney Central Business District (CBD), bounded by Sydney Harbour to the west and north, the historic precinct of Millers Point (for the northern half), The Rocks and the Sydney Harbour Bridge approach to the east and a range of new development dominated by large CBD commercial tenants to the south.

The 22 ha Barangaroo site is generally rectangular in shape and has a 1.4 kilometre harbour foreshore frontage, with an eastern street frontage to Hickson Road. The site has been divided into three distinct redevelopment areas (from north to south) – the Headland Park, Barangaroo Central and Barangaroo South – and has been subject to multiple investigations that detail the physical and natural characteristics of the site. The locational context of the Barangaroo site and its distinct precincts are shown in **Figure 1** below.



Figure 1 – Barangaroo site locational context and precincts

The CSHR is located on land in the north west corner of Barangaroo South. With reference to the Barangaroo 'development blocks', as identified within the approved Concept Plan Urban Design Controls (MP06_0162 Mod 4), the CSHR

site is located to the west of Blocks 4A, 4B and 4C and to the north of Globe Harbour, and referred to by Concept Plan (Mod 8) as Block Y. The CSHR building has a site area of 6,204m², with another 6,447m² subject to public domain and a basement car park that will sit below ground level. This area is herein referred to as 'the site'. A site plan is provided at **Figure 2** below.

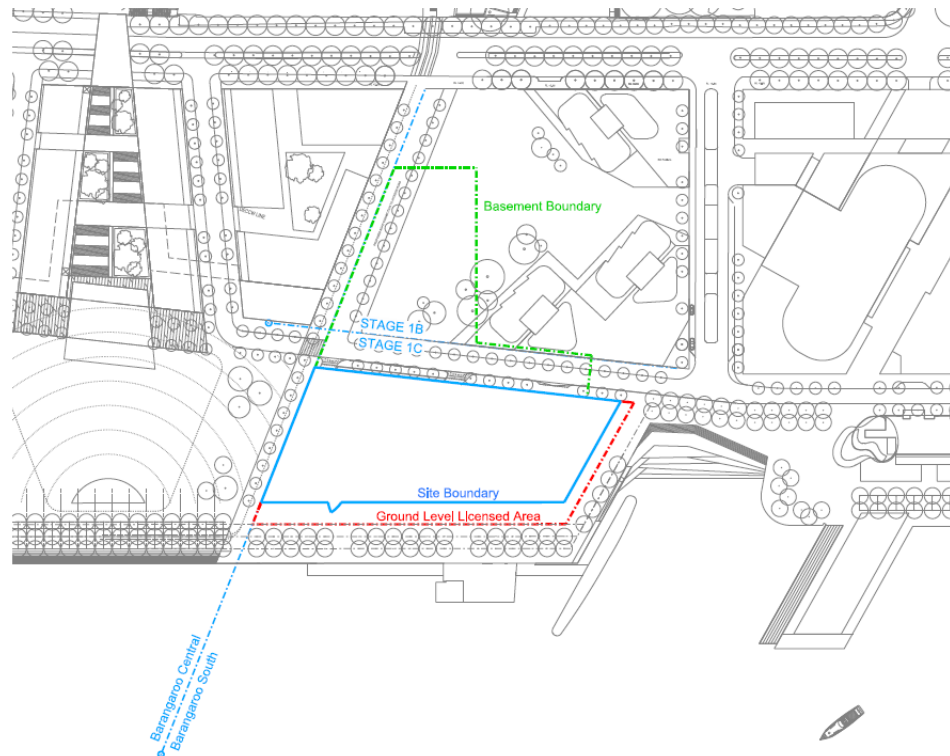


Figure 2 – Crown Sydney Hotel Resort site plan

1.2 Methodology

1.2.1 Visual Analysis

To support the visual analysis, the relevant visual catchment of the Barangaroo site has been defined and key public domain views, view corridors and public vantage points within and surrounding the site have been identified.

Barangaroo is visible from a wide catchment within Sydney. From a large number of initial views and vistas identified, the key public domain views were determined based on a series of inspections of the site and its surrounds and also having regard to the visual catchment and the identification of important views and vistas as established by the State government at the time of the original East Darling Harbour Competition and subsequent Concept Plan approval. The selection of vantage points has also had regard to the location of existing heritage items in the vicinity of the site that are visible from the public domain.

The key public domain views generally accord with the public domain views that were selected and analysed as part of Concept Plan Mod 8.

The key public domain views are also in accordance with the potential visual catchment and view locations identified in the SEARs which specify that the visual catchment must include Hickson Road, Kent Street, Shelley Street, Lime Street, High Street, Gas Lane, Millers Point, Clyne Reserve, Munn Reserve,

Sydney Harbour Bridge, Pyrmont Bridge, Ballaarat Park, Pyrmont Park Pier, Balmain East, Darling Harbour, Blues Point, Opera House Western Forecourt, Cremorne Point, Gladesville Bridge and Watsons Bay.

Photomontages of the proposed development have been prepared for a total of 20 public domain views and vantage points. The locations of the photomontage images and direction of view are shown in **Figures 3** and **4** below.

The public domain vantage points selected for analysis provide representative views for three categories of views as follows:

- **From the water:** vantage points 11 Darling Harbour (Pyrmont Bridge), 12 Ballaarat Park, 13 Pyrmont Park Pier (Jones Bay Wharf), 14 Balmain East, 15 Darling Harbour, 16 Blues Point, 17 Opera House Western Forecourt, 18 Cremorne Point;
- **From public open space:** as above, and in addition, vantage points 7 Millers Point (Observatory Hill), 8 Clyne Reserve, 9 Munn Reserve, 20 Watsons Bay; and
- **From key streets:** vantage points 1 Hickson Road, 2 Kent Street, 3 Shelly Street (from King Street Bridge), 4 Lime Street, 5 High Street, 6 Gas Lane, 10 Sydney Harbour Bridge, 11 Darling Harbour (Pyrmont Bridge), 19 Gladesville Bridge.

The vantage points selected for analysis in each of the categories of views provide representative views from all relevant directions, and from several positions within the visual catchment in relation to each category of view. They also provide for close as well as distant views.

Views from main buildings have been separately analysed as part of the view analysis (see **Section 3** below).



Figure 3 – External site views
Source: *Virtual Ideas*

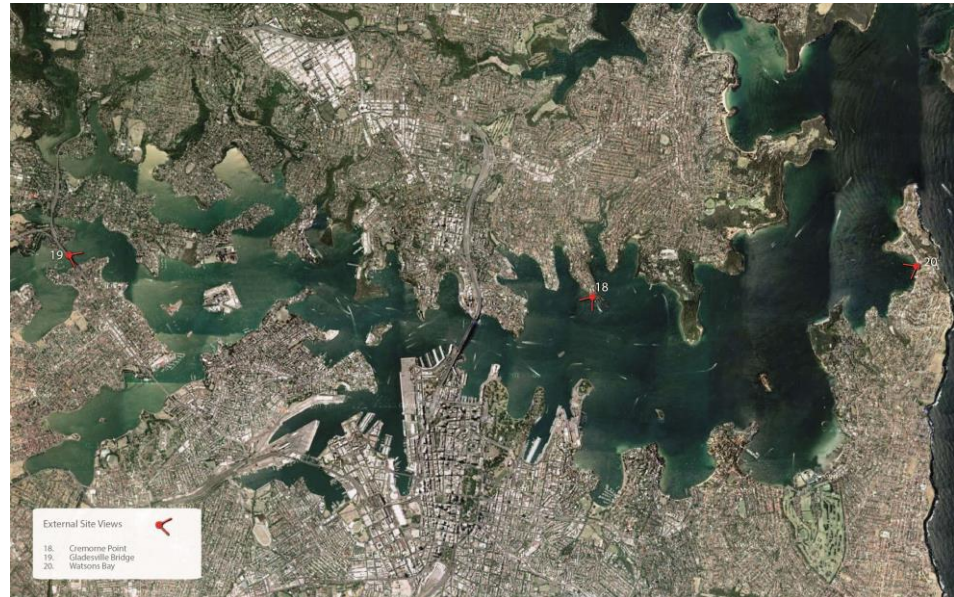


Figure 4 – External site views (cont.)

Source: *Virtual Ideas*

The photomontage images for each of the identified public domain views were taken at ground level (pedestrian eye level) to indicate what a pedestrian will see when travelling through or within the general vicinity of the site.

Photomontage images have been produced using a range of lens sizes between 17mm and 40mm. Overlays (crop markers) showing longer lenses (35mm and 50mm) have been included for each photomontage image to illustrate the effect of a longer lens. Using a 50mm lens as stated in the SEARs has the same effect as cropping the image presented using the selected lens.

It is noted that it is not effective to use 50mm lenses in all circumstances as this would not produce a result where the buildings can be evaluated in respect to their surroundings. Further, in most cases it has not been possible to take medium range and long range options for each view given the topography, vegetation and surrounding built form.

A Visual Impact Photomontage Report has been prepared by Virtual Ideas for the CSHR and is provided under separate cover within Appendix E of the Architectural Design Statement. The analysis concludes that the methodology adopted during the preparation of the exhibited photomontages is considered acceptable practice and is consistent with the methodology used in the visual impact photomontage images which were prepared and approved as part of Concept Plan Mod 8.

1.2.2 View Analysis

Four key buildings in the vicinity of the site have been identified as being impacted or potentially impacted on by the proposal in terms of private views. The key residential buildings are: Highgate, Georgia, Stamford Marquee, and Stamford on Kent. Their locations are shown in **Figure 5** below.



Figure 5 – Locations of key buildings

The key buildings have been selected based on the sensitivity of land use, and on the basis of both proximity to the site and the extent to which existing views, vistas and outlook are likely to be affected by the proposal. The analytical process in selecting the key buildings took into account the height and orientation of the existing buildings, their location and available view corridors down streets and/or across the top of other foreground development towards the Sydney CBD, Darling Harbour or Sydney Harbour.

The four selected residential buildings are the same four residential buildings for which a detailed view impact analysis was undertaken as part of Concept Plan Mod 8. No new residential buildings that have not been previously assessed will be impacted upon by the proposal.

The analysis of private domain views considers the detailed proposal for the CSHR against those impacts identified in Concept Plan Mod 8 as shown in the Rogers Stirk Harbour + Partners View Analysis.

The Rogers Stirk Harbour + Partners View Analysis quantified orthogonal and oblique view impacts on the Kent Street residential buildings based on an angle that matched the view angle of the approved Concept Plan (as modified), which ensured a reasonable level of uninterrupted views and no loss of amenity, this being 54° or greater. The analysis also used two heights as a source for views from each of the residential buildings at levels of RL59 and RL90.

2.0 Visual Analysis – Public Domain Views

The location of the photomontage images for each of the identified key ground level public domain views, view corridors and vantage points as shown in **Figures 3 and 4** are:

- Hickson Road;
- Kent Street;
- Shelley Street;
- Lime Street;
- High Street;
- Gas Lane;
- Millers Point (Observatory Hill);
- Clyne Reserve;
- Munn Reserve;
- Sydney Harbour Bridge;
- Darling Harbour (Pyrmont Bridge);
- Ballaarat Park;
- Pyrmont Park Pier (Jones Bay Wharf);
- Balmain East;
- Darling Harbour;
- Blues Point;
- Opera House Western Forecourt;
- Cremorne Point;
- Gladesville Bridge; and
- Watsons Bay.

The following section provides a visual analysis of each of these key vantage points in relation to the proposal. A full set of photomontages has been prepared by Virtual Ideas and is provided under separate cover within Appendix E of the Architectural Design Statement.

The photomontage images show the current/ existing view, the alignment of the 3D model, the massing of the approved Concept Plan Mod 8, and the indicative design of the proposal.

2.1.1 Visual Impact Assessment Matrix

Table 1 below summarises the distance of view, extent of view, number of viewers and period of view to assist in determination of the potential visual impact i.e. high, medium or low. All views selected are public domain locations. It is noted that potential visual impacts arising from change to an existing view may be both positive and negative. With the redevelopment of a vacant urban renewal site a high degree of change to view is inevitable. The construction of high quality new buildings to create a new waterfront CBD precinct can make a positive contribution to the city edge and sky line.

It is noted that **Table 1** was prepared to assess the development proposed to be modified as part of Concept Plan Mod 8. While Mod 8 showed only the building envelope / massing of the CSHR, given the detailed proposal falls within this envelope the assessment is considered to be relevant.

Table 1 – Visual impact matrix

Reference	Public Domain View	Distance	Extent of View	Number of Viewers	Period of View	Potential Visual Impact
1	Hickson Road	H	H	H	M	H
2	Kent Street	M	H	H	L	M
3	Shelly Street	L	L	M-H	L	L
4	Lime Street	L	L	M-H	L	L
5	High Street	M	H	L	H	M-H
6	Gas Lane	M	H	M	L	M
7	Millers Point (Observatory Hill)	M	H	M	H	H
8	Clyne Reserve	M	M	L	H	M
9	Munn Reserve	M	M	L	H	M
10	Sydney Harbour Bridge	M	M	H	L	M
11	Darling Harbour (Pyrmont Bridge)	M	M	H	M	M
12	Ballaarat Park	M	M	M	H	M
13	Pyrmont Park Pier	M	M	M	H	M
14	Balmain East	M	M	M	H	M
15	Darling Harbour	M	M	H	H	M-H
16	Blues Point	L	M	M	H	M
17	Opera House Western Forecourt	L	M	H	M	M
18	Cremorne Point	L	M	M	H	M
19	Gladesville Bridge	L	M	H	L	L
20	Watsons Bay	L	M	H	M	L

Key to Analysis

Distance:

Within 100 m – high

Within 500 m – medium

Over 500 m - low

Extent of view:

Direct view – high

Direct view within a panoramic view – medium

An oblique or filtered view - low

Number of viewers

More than 500 daily - high

More than 100 daily - medium

Less than 100 daily – low

Period of view

Long term (static) - High

Short term - Medium

Fleeting – Low

Potential visual impact – high, medium or low

2.1.2 Hickson Road

The photomontage image of the approved and proposed development from Hickson Road is taken at **Vantage Point 1** at a camera RL of 17.5m using a 24 mm lens. This is the view seen by a pedestrian standing on the overhead bridge.

Existing views along Hickson Road are presently framed to the east by the sandstone cutting at and along the High Street alignment and a generally continuous wall or urban form along Kent Street or lower-rise developments along the eastern edge of Hickson Road. The western edge is an open view only in part obstructed by various permanent and temporary structures and plantings. The existing trees along the western edge of Hickson Road block most views towards the water for pedestrians and motorists alike.

Currently, Hickson Road is not a major pedestrian thoroughfare. Public domain views across the Barangaroo site for pedestrians are therefore limited. Views across the site for drivers are equally limited in duration and extent.

The CSHR proposal at the northern end of Barangaroo South will alter the at-grade views from this part of Hickson Road, and will terminate the view from Hickson Road, through Hickson Park towards the harbour. However, the separation of the CSHR from the southern end of Barangaroo Central provides a view corridor for views from Hickson Road west and north-west towards the public open space of Barangaroo Central and the harbour beyond. Views along Hickson Road through to the southern end of the CBD and Darling Park, which terminates this view, will be retained.

It is considered that while the CSHR will contribute to the creation of a new, dense western edge to the CBD, the visual impact of the proposal when viewed from Hickson Road is consistent with that of Concept Plan Mod 8.

2.1.3 Kent Street

The photomontage image of the approved and proposed development from Kent Street (corner of Margaret Street) is taken at **Vantage Point 2** at a camera RL of 17.9m using a 20mm lens.

There are currently only limited views to or over the Barangaroo site from Kent Street given the existing form of development along its western edge, and the limited openings created by streets intersecting it at a perpendicular angle. The most significant views to or through Barangaroo South occur at Margaret Street and Gas Lane. This section addresses the Margaret Street view while Gas Lane is addressed at **Section 2.1.6** below.

The existing view westwards at the intersection of Kent Street and Margaret Street is one dominated by the Western Distributor viaduct which sits high within the view corridor. The experience of a sky view is cluttered and partially framed only by development both beneath and surrounding the viaduct. There are no major existing views of any significance to water or nearby foreshores from this location. There are some wider views to the ridgelines of Pyrmont and Balmain.

The CSHR proposal, at the northern end of Barangaroo South, can be seen on the far right-hand side of the view corridor. However, given the trees in the foreground and surrounding existing development, which already partially blocks views westwards, the CSHR is considered to have minimal impact on the view corridor. It is considered that the CSHR proposal has little impact when compared to the approved (and under construction) Commercial Buildings C3, C4 and C5 which dominate the view corridor and act to terminate the present view westwards from Kent Street.

It is considered that the visual impact of the CSHR proposal when viewed from Kent Street is consistent with that of Concept Plan Mod 8.

2.1.4 Shelley Street and Lime Street

The photomontage image of the approved and proposed development from Shelly Street (from King Street bridge) is taken at **Vantage Point 3** at a camera RL of 11.8m using a 20mm lens. The Lime Street view is taken at **Vantage Point 4** at a camera RL of 6.7m using a 22mm lens.

Shelley and Lime Streets are both located within the King Street Wharf precinct and principally run parallel in a north-south direction. At present these streets both allow for framed or open views to the north across the Barangaroo site.

The Shelley Street view corridor is framed and generally aligned to a direct view to the Sydney Ports Harbour Control tower. The approved (and under construction) C5 commercial tower dominates the view corridor and acts to terminate the present view northwards from Shelley Street. The CSHR proposal, at the northern end of Barangaroo South, sits entirely behind the tower resulting in no change to this view corridor.

The CSHR proposal will be visible within the Lime Street view corridor as seen from Lime Street looking northwards, terminating views northwards to Barangaroo Central and the Headland Park. The view, which also includes the C5 commercial tower to the right-hand side, will comprise an iconic building, representative of a design excellence process that has delivered world-class benchmarks in urban design, public domain and sustainability, in accordance with the goals of the Barangaroo redevelopment. The addition of the CSHR to the view corridor along Lime Street is considered to be a positive visual impact, given views will be provided to a new significant building in the streetscape.

It is considered that the visual impact of the CSHR proposal when viewed from Shelley and Lime Streets is consistent with that of Concept Plan Mod 8.

2.1.5 High Street

The photomontage image of the approved and proposed development from High Street is taken at **Vantage Point 5** at a camera RL of 16.0m using a 25mm lens.

Views along High Street are presently framed only to the east by low-rise residential development. The western edge is an open view across the Barangaroo site towards the south and west, only in part obstructed by fencing and plantings. The waterway adjacent to the Barangaroo site is visible.

The CSHR proposal will be highly visible in the foreground but well separated in terms of massing from the adjacent towers of Barangaroo South, providing a key view corridor through and across the site. The articulation of the CSHR's built form, particularly above the podium level, will allow for sky views, and view corridors will be maintained to the west and north-west towards the harbour and to Pyrmont and Balmain East beyond.

It is considered that the visual impact of the CSHR proposal when viewed from High Street is consistent with that of Concept Plan Mod 8.

2.1.6 Gas Lane

The photomontage image of the approved and proposed development from Gas Lane is taken at **Vantage Point 6** at a camera RL of 21.17m using a 17mm lens.

Gas Lane is a local street that runs in a north-westerly direction from Kent Street and which terminates at its lower level T-junction with Jenkins Street. The views

enjoyed at Gas Lane change dependent upon the viewer's location. At its high point at the junction with Kent Street, existing views are framed by buildings and are generally across the harbour's waters towards White Bay, Jones Bay Wharf at Pyrmont, and distant views through to Rozelle. There is also a high degree of sky view. There is no view to the Barangaroo site's foreshore.

Views at the lane's termination are reduced as the lane descends. At Jenkins Street, as a result of existing development enveloping the viewer, a sky view is largely what remains. There are no existing available vistas through development through to the foreshore or the water.

The CSHR proposal can be seen central to the view corridor, terminating views along the length of Gas Lane with an iconic built form element. The distant view through to Rozelle will be maintained to the right-hand side of the view corridor, and sky views will be provided between the CSHR and the adjacent towers of Barangaroo South as a result of the articulation of the built form, in particular the distinction between the podium and tower of the CSHR.

It is considered that the visual impact of the CSHR proposal when viewed from Gas Lane is consistent with that of Concept Plan Mod 8.

2.1.7 Millers Point (Observatory Hill)

The photomontage image of the approved and proposed development from Millers Point (Observatory Hill) is taken at **Vantage Point 7** at a camera RL of 43.2m using a 40mm lens.

At present, the best views and vistas enjoyed at Millers Point are those from Observatory Hill Park. The park's size and height allows for panoramic views to the south-west, from Pyrmont and White Bay around to East Balmain, Goat Island, and to the northern shores of Sydney Harbour. Much of this view includes water views, particularly from White Bay and to the north. There are only extremely minor glimpses to water in the vicinity of Pyrmont, where these views are dominated by that peninsula's new built form. Significant water views, and views from White Bay around to the north, will not be altered by the CSHR proposal.

The CSHR proposal will be a significant built form element in the foreground of views looking back across the Barangaroo site to the south west. However, the separation of the CSHR from the adjacent towers and the articulation of the built form, particularly the podium, will achieve sky views between the buildings and break up the massing of development when viewed from this location.

Importantly, the view corridor from Observatory Hill to the south-west will now comprise an iconic building, representative of world class benchmarks in urban design, public domain and sustainability, in accordance with the goals of the Barangaroo redevelopment. It is considered that the CSHR proposal within this view corridor will become a landmark, providing a marker to the southern end of Barangaroo, and distinguishing Barangaroo South from Barangaroo Central and the Headland Park, views to which will not be impacted by the proposal.

It is considered that the visual impact of the CSHR proposal when viewed from Millers Point is consistent with that of Concept Plan Mod 8.

2.1.8 Clyne Reserve

The photomontage image of the approved and proposed development from Clyne Reserve is taken at **Vantage Point 8** at a camera RL of 20.78m using a 25mm lens.

Views south from Clyne Reserve are presently sky views only, framed on the east by low-rise residential development and on the west by chain-link fencing. Plantings of various sizes can be seen on both sides. However, views are dominated by the communications tower located on the western side of Merriman Street.

The CSHR proposal is visible from Clyne Reserve, however the building's tall and slender form establishes a transition in height between the communications tower, which is dominate in views to the south, and adjacent towers of Barangaroo South. Furthermore, the articulation of the built form, particularly the podium, ensures sky views are provided between the CSHR and the adjacent towers of Barangaroo South.

Given the scale and dominance of the exiting communications tower in views to the south, the CSHR proposal, which can be seen from Clyne Reserve, does not appear out of scale. It is considered that the visual impact of the CSHR proposal when viewed from Clyne Reserve is consistent with that of Concept Plan Mod 8.

2.1.9 Munn Reserve

The photomontage image of the approved and proposed development from Munn Reserve is taken at **Vantage Point 9** at a camera RL of 18.12m using a 25mm lens.

Views south from Munn Reserve are presently of development to the south including the western edge of the CBD, and Darling Harbour and Pyrmont. Sky views are also provided. Views are framed on the east by a generally continuous wall of urban form along Kent Street and lower-rise residential development along the eastern edge of High Street. On the west views are framed in the foreground by the heritage-listed Dalgety Bond Store, which has been converted into commercial offices. Views from Munn Reserve are in part obstructed by fencing and plantings.

The CSHR proposal is clearly visible in the foreground view from Munn Reserve, however the articulation of the built form, particularly the podium, ensures sky views are provided between this building and the adjacent towers of Barangaroo South. It is considered that the visual impact of the CSHR proposal when viewed from Munn Reserve is consistent with that of Concept Plan Mod 8.

2.1.10 Sydney Harbour Bridge

The photomontage image of the approved and proposed development from the Sydney Harbour Bridge is taken at **Vantage Point 10** at a camera RL of 47.63m using a 25mm lens.

Views south from the Sydney Harbour Bridge typically take in the existing Kent Street commercial and residential buildings, Observatory Hill, and panoramic sky and water views from Pyrmont and White Bay to East Balmain, Goat Island, and the northern shores of Sydney Harbour.

Views south from the Sydney Harbour Bridge will include the CSHR proposal which will bookend the tower buildings of Barangaroo South and the Kent Street commercial and residential buildings, which increase in height from Kent Street in the east to Barangaroo South in the west, to a maximum height set by the CSHR.

The CSHR proposal will not impact on views to and of Observatory Hill or on the panoramic sky and water views to the south and south west. It is considered that the visual impact of the CSHR proposal when viewed from the Sydney Harbour Bridge is consistent with that of Concept Plan Mod 8.

2.1.11 Darling Harbour and Pyrmont Bridge

The photomontage image of the approved and proposed development from Pyrmont Bridge is taken at **Vantage Point 11** at a camera RL of 13.6m using a 22mm lens. The photomontage image of the approved and proposed development from Darling Harbour is taken at **Vantage Point 15** at a camera RL of 1.93m using a 22mm lens.

Views from Darling Harbour and Pyrmont Bridge can vary greatly depending on the viewer's location. As an example, northerly and north-eastern views from Pyrmont Bridge are presently framed and dominated by developments in the CBD and cultural buildings at Pyrmont's foreshore. The CBD generally steps to the foreshore with its topography when viewed from certain locations. In part the view highlights a wall-like form to the CBD and amplifies underdeveloped reclaimed land as a key opportunity. Views may in part also be enjoyed through to the northern shore of Sydney Harbour and its silhouette and markers, such as North Sydney and Royal North Shore Hospital.

In views from the south-west the CSHR proposal serves as a marker, signifying the extent of high-rise development to the north. Views to the north shore remain, while the articulation of the built form above the podium level, allows for sky views between the CSHR and the commercial towers to the east.

It is considered that the visual impact of the CSHR proposal when viewed from Darling Harbour and Pyrmont Bridge is consistent with that of Concept Plan Mod 8.

2.1.12 Ballaarat Park, Pyrmont Park Pier (Jones Bay Wharf) and Balmain East

The photomontage image of the approved and proposed development from Ballaarat Park is taken at **Vantage Point 12** at a camera RL of 3.9m using a 17mm lens. The photomontage image of the approved and proposed development from Pyrmont Park Pier (Jones Bay Wharf) is taken at **Vantage Point 13** at a camera RL of 4.2m using a 14mm lens. The photomontage image of the approved and proposed development from Balmain East is taken at **Vantage Point 14** at a camera RL of 11.6m using a 17mm lens.

When viewed from Ballaarat Park, Pyrmont Park Pier and Balmain East, the existing Barangaroo site presently sits as a partially vacant construction site on the foreshore of the western CBD. The Kent Street tower buildings are a significant wall to the north-western edge of the CBD with few discernable gaps. Some views of Observatory Hill Park and the terraces at Millers Point are available.

The approved Barangaroo South development will significantly change this existing view, creating an entirely new western edge to the CBD on the water's edge. The CSHR will contribute to this new western edge by establishing a tall and slender building form at the northern end of Barangaroo South. The future residential buildings will provide a gradation in height from the approved commercial towers in the south to the CSHR, and will complete this view which presents to the water.

The arrangement and composition of the massing of Barangaroo South continues to provide for view corridors through the site to the remainder of the CBD. Specifically, the fanning of the built form creates visual access through the site, and provides relief from a potential wall-like appearance of development. The CSHR bookends the group of buildings which increase in height from south to north while simultaneously standing alone as an icon of modern architecture.

It is considered that the visual impact of the CSHR proposal when viewed from Ballaarat Park, Pyrmont Park Pier and Balmain East, is consistent with that of Concept Plan Mod 8.

2.1.13 Blues Point

The photomontage image of the approved and proposed development from Blues Point is taken at **Vantage Point 16** at a camera RL of 14.5m using a 21mm lens.

The views presently enjoyed from Blues Point towards the site are generally the reciprocal of those from Darling Harbour, albeit the significant views of Walsh Bay and Observatory Hill are available, where they are presently only partially discernable or blocked from the south and south-west by existing development.

The effect of the CSHR proposal from Blues Point is solely to complete the east-west silhouette of the CBD. The proposal will not impact upon any views to (or the quality of those views) Millers Point, Walsh Bay or Observatory Hill. At present these landmarks and locations are already nestled into the form and fabric of the existing CBD silhouette. The proposal will complete the CBD's form, which is presently sharply punctuated by the row of towers along the northern end of Kent Street. The CSHR, which once built will be one of the tallest and most westerly buildings of the CBD, signifies the extent of high-rise development to the west.

It is considered that the visual impact of the CSHR proposal when viewed from Blues Point is consistent with that of Concept Plan Mod 8.

2.1.14 Opera House Western Forecourt

The photomontage image of the approved and proposed development from the Opera House Western Forecourt is taken at **Vantage Point 17** at a camera RL of 4.68m using a 25mm lens.

From the Opera House Western Forecourt Circular Quay buildings such as the AMP building, Goldfields House and Grosvenor Place dominate views to the south and west. The low scale Rocks area and Harbour Bridge approach provide expansive sky views. The CSHR proposal will not significantly affect this view and instead will read as a continuation of the existing CBD's western edge. In particular the CSHR bookends the buildings at the western end of the CBD in much the same way as the AMP building does at the eastern end.

The CSHR proposal represents the northern extent of high-rise development at Barangaroo South, which protects the heritage listed Rocks and ensures development at Barangaroo South does not detract from the Sydney Harbour Bridge's southern approach.

It is considered that the visual impact of the CSHR proposal when viewed from the Opera House Forecourt is consistent with that of Concept Plan Mod 8.

2.1.15 Cremorne Point

The photomontage image of the approved and proposed development from Cremorne Point is taken at **Vantage Point 18** at a camera RL of 6.5m using a 40mm lens.

The views presently enjoyed from Cremorne Point towards the site are generally panoramic, encompassing the Sydney CBD (from east to west), Sydney Tower, the Opera House, and further west, the Sydney Harbour Bridge and North Shore.

The effect of the CSHR proposal from Cremorne Point is solely to complete the east-west silhouette of the CBD. The proposal will not impact upon any views to (or the quality of those views) the Opera House and Sydney Harbour Bridge, which sit in the foreground of these views. Albeit, views of Sydney Harbour Bridge are in part obscured by residential development of the North Shore. Rather, the proposal will act to complete the CBD's form, which is presently sharply punctuated by the row of towers along the northern end of Kent Street.

The CSHR, which once complete will be one of the tallest and most westerly buildings of the CBD, signifies the extent of high-rise development to the west and will have no impact on views from Cremorne Point, which take in Sydney's iconic landmarks. It is considered that the visual impact of the CSHR proposal when viewed from Cremorne Point is consistent with that of Concept Plan Mod 8.

2.1.16 Gladesville Bridge

The photomontage image of the approved and proposed development from Gladesville Bridge is taken at **Vantage Point 19** at a camera RL of 41.57m using a 40mm lens.

The views presently enjoyed from Gladesville Bridge towards the site are generally panoramic, encompassing the North Shore, Sydney Harbour Bridge, the Sydney CBD (from north to south), Sydney Tower and ANZAC Bridge. In the foreground the view is dominated by local residential development of low and medium scale.

Given the distance of views from Gladesville Bridge to the site, the effect of the CSHR proposal is solely to increase the perceived density of the CBD. Importantly, the proposal will not impact upon any views to (or the quality of those views) the Sydney Harbour Bridge in the north, Sydney Tower or ANZAC Bridge in the south.

The location of the CSHR to the northern end of Barangaroo South as well as its height and the articulation of the built form, provide Sydney with a new landmark, one that is partially discernible in views from Gladesville Bridge, creating a positive visual impact.

It is considered that the visual impact of the CSHR proposal when viewed from Gladesville Bridge is consistent with that of Concept Plan Mod 8.

2.1.17 Watsons Bay

The photomontage image of the approved and proposed development from Watsons Bay is taken at **Vantage Point 20** at a camera RL of 1.85m using a 40mm lens.

The views presently enjoyed from Watsons Bay to the west are generally panoramic, framed by the southern and northern headlands. The Sydney CBD, including Sydney Tower, is located to the centre of the view, and the top of the Sydney Harbour Bridge is visible over the northern headland. In the foreground the view is dominated by the waters of Watsons Bay.

Given the distance of views from Watsons Bay to the site, the effect of the CSHR proposal is solely to increase the perceived density of the northern end of the CBD. From this view, the CSHR is behind the CBD, and as a result the proposal will not impact upon any views to (or the quality of those views) Sydney Tower. The existing, partial views of the Sydney Harbour Bridge, to the right of the field of view, will not be altered in any way as a result of the proposal.

The location of the CSHR to the northern end of Barangaroo South as well as its height and the articulation of the built form, provide Sydney with a new

landmark, one that is partially discernible in views from Watsons Bay, creating a positive visual impact.

It is considered that the visual impact of the CSHR proposal when viewed from Watsons Bay is consistent with that of Concept Plan Mod 8.

3.0 Visual Analysis – Private Domain Views

The locations of the key buildings that are impacted or potentially impacted by the proposal in terms of private views are shown in **Figure 5**. The buildings are:

- Highgate (127 Kent Street);
- Georgia at (155 Kent Street);
- Stamford Marque (161 Kent Street); and
- Stamford on Kent (187 Kent Street).

There are a range of other buildings on Kent Street, and within the King Street Wharf and Shelley Street / Lime Street precincts, that will also be impacted in terms of views and outlook.

The Rogers Stirk Harbour + Partners View Analysis that accompanied Concept Plan Mod 8, determined the extent of the view impact to the four Kent Street residential buildings (as listed above), and demonstrated the change in views, the retention of views and the gain in views of Concept Plan Mod 8 compared to the previous approval. In particular, the analysis demonstrated that view sharing will be achieved from the majority of levels of the adjacent residential buildings rather than maximising views from the upper levels.

Previous view studies (prepared in support of the Concept Plan and its subsequent modifications) have addressed impacts upon private views, view sharing and outlook. These have focused on the most significant and most-densely occupied buildings along Kent Street which presently enjoy largely unobstructed views. A review of anticipated impacts upon these buildings from the CSHR proposal is addressed below, with reference to Concept Plan Mod 8.

3.1 Views from Key Residential Apartment Buildings

The Rogers Stirk Harbour + Partners View Analysis that accompanied Concept Plan Mod 8 included an assessment of the impacts of the CSHR building envelope and location on views from residential units on Kent Street.

The visual analysis consisted of the CSHR building envelope / massing being orthogonally projected onto the residential elevation of four apartment buildings on Kent Street (Highgate, Georgia, Stamford Marque and Stamford on Kent) to assess the visual impact of the proposal. For Highgate, Stamford Marque and Georgia apartments are impacted across all levels, while for Stamford on Kent there is no impact to orthogonal views as a result of the proposal (albeit there are oblique view impacts to Stamford on Kent). However, this approach does not assess oblique views, and so disregards view sharing outcomes achieved by the proposal and its location relative to other buildings within Barangaroo South. As such, an oblique view analysis has also been undertaken from the residential units on Kent Street.

The oblique view analysis demonstrates that view sharing will be achieved under Concept Plan Mod 8 by having tall buildings (including the CSHR) with large spaces between them, thereby enabling generous oblique views and view corridors. These views are also enhanced by the significant distances between the proposed buildings and the residential units on Kent Street, including the CSHR which is some 192m to the west. **Table 2** below shows the total view angle that will be achieved under Concept Plan Mod 8.

It is noted that **Table 2** was prepared to assess the development proposed to be modified as part of Concept Plan Mod 8. While Mod 8 showed only the building envelope / massing of the CSHR, given the detailed proposal falls within this envelope the assessment is considered to be relevant.

Table 2 – View angles under Concept Plan Mod 8

Level	Highgate	Georgia	Stamford Marque	Stamford on Kent
Lower Levels – Level 15 (RL 59.699)				
Total View Angle under Concept Plan Mod 8	91°	85°	79°	67°
Upper Levels – Level 25 (RL 90.187)				
Total View Angle under Concept Plan Mod 8	91°	85°	79°	67°

The original Concept Plan established a benchmark viewing angle that was considered to offer a reasonable level of uninterrupted views with no loss of amenity, in particular consideration of the most impacted building, the Stamford Marque. The angle was 54° and as demonstrated in **Table 2** all buildings have view angles greater than the benchmark viewing angle. It is considered that the impact of the CSHR proposal on oblique views from the residential units on Kent Street is consistent with that of Concept Plan Mod 8. The view impact on each of the apartment buildings is described in detail below.

3.1.1 Highgate

- The zone of potential view impact from Highgate at 127 Kent Street principally affects the west facing elevation of that building only, relating solely to views to the west. Views to the north, east, south and south-west from Highgate will be unaffected by the CSHR proposal.
- **Table 2** shows that the total view angles for Highgate, the most northerly building, are greater than the 54° benchmark viewing angle by some 37°.
- Views to the west will encompass the CSHR, however its tall and slender built form, combined with that of the adjacent towers, provides view corridors between the buildings to the west and south-west offering some sky and water views.
- Significant northerly views from both the lower and upper levels of Highgate will not be impacted by the CSHR given its location to the west, and that development on Barangaroo Central is restricted to a maximum height of between RL29 and RL34.
- It is noted that there is significant public open space / parkland to the east of the CSHR proposal which will increase the separation between Highgate and the proposal and provide a pleasant foreground outlook from all levels of the building.
- It is considered that the visual impact of the CSHR proposal when viewed from Highgate is consistent with that of Concept Plan Mod 8.

3.1.2 Georgia

- The zone of potential view impact from Georgia at 155 Kent Street principally affects the west facing elevation of that building only, and is related solely to views to the west. Views to the north, east and south and south-west from Georgia will be unaffected by the CSHR proposal.
- **Table 2** shows that the total view angles for Georgia are greater than the 54° benchmark viewing angle by some 31°.

- Views to the west will encompass the CSHR, however its tall and slender built form, combined with that of the adjacent towers, provides view corridors between the buildings to the west and south-west offering some sky and water views.
- Significant northerly views from both the lower and upper levels of Georgia will not be impacted by the CSHR given its location to the west, and that development on Barangaroo Central is restricted to a maximum height of between RL29 and RL34.
- It is noted that there is significant public open space / parkland to the east of the CSHR proposal which will increase the separation between Georgia and the proposal and provide a pleasant foreground outlook from all levels of the building.
- It is considered that the visual impact of the CSHR proposal when viewed from Georgia is consistent with that of Concept Plan Mod 8.

3.1.3 Stamford Marque

- The zone of potential view impact from Stamford Marque at 161 Kent Street affects the west facing elevations of that building, with the principal impact being to the western façade. Views to the north, east and south will be unaffected by the CSHR proposal.
- **Table 2** shows that the total view angles for Stamford Marque are greater than the 54° benchmark viewing angle by some 25°.
- Views to the west will encompass the CSHR, however its tall and slender built form, combined with that of the adjacent towers, provides view corridors between the buildings to the west and south-west offering some sky and water views.
- Significant northerly views from both the lower and upper levels of Stamford Marque will not be impacted by the CSHR given its location to the west, and that development on Barangaroo Central is restricted to a maximum height of between RL29 and RL34.
- It is noted that there is significant public open space / parkland to the east of the CSHR proposal which will increase the separation between Stamford Marque and the proposal and provide a pleasant foreground outlook from all levels of the building.
- It is considered that the visual impact of the CSHR proposal when viewed from Stamford Marque is consistent with that of Concept Plan Mod 8.

3.1.4 Stamford on Kent

- The zone of potential view impact from Stamford on Kent at 187 Kent Street affects the north, south and west facing elevations of that building, with the principal impact being to the western façade. Views to the north, east and south will be unaffected by the CSHR proposal.
- **Table 2** shows that the total view angles for Stamford on Kent are greater than the 54° benchmark viewing angle by some 13°.
- Views north-west from the western elevation of Stamford on Kent across the Barangaroo site towards Darling Harbour will encompass the CSHR proposal. However, Stamford on Kent is understood to have a maximum height of RL102, and its elevated position means that views from the mid and upper levels in this direction, including views to the harbour's edge to the north-west, will remain substantially unaffected across the top of new buildings within Barangaroo Central which are restricted to a maximum height of between RL29 and RL34.

- It is noted that there is significant public open space / parkland to the east of the CSHR proposal which will open up views from Stamford on Kent to the north-west and provide a pleasant foreground outlook from all levels of the building.
- It is considered that the visual impact of the CSHR proposal when viewed from Stamford on Kent is consistent with that of Concept Plan Mod 8.

3.2 Observatory Tower

- The zone of potential view impact from Observatory Tower at 168 Kent Street is restricted to the north-west and south-west facing elevations of that building only, and to views from those elevations to the west and south-west only. Views to the north-west, north, east and south will be unaffected by the CSHR proposal.
- While views from the south-western elevation of Observatory Tower towards Darling Harbour will be impacted by the CSHR proposal, these views are already interrupted by the existing development along Kent Street and Jenkins Street, including Highgate and Stamford on Kent. Further south, these views are interrupted by the Maritime Trade buildings, and high rise development along the western edge of the CBD.
- Given the significant distance between the built form of the western edge of the CBD and the CSHR proposal, Observatory Tower benefits from a wide field of view from its north-western and south-western elevations.
- It is considered that the visual impact of the CSHR proposal when viewed from Observatory Tower is consistent with that of Concept Plan Mod 8.

3.3 Westpac Place

- The zone of potential view impact from Westpac Place principally affects the north facing elevations of that building only, relating to views to the north-west. Views to the north, east, west and south from Westpac Place will be unaffected by the CSHR proposal. In particular Westpac Place will continue to enjoy significant westerly views across Darling Harbour.
- It is considered that the CSHR proposal has little impact when compared to the approved (and under construction) Commercial Buildings C3, C4 and C5 which dominate views from Westpac Place to the north-west.

3.4 King Street Wharf

- The zone of potential private view impacts to existing buildings within the King Street Wharf precinct principally affects the north facing elevations of those buildings only, relating to views to the north and partially to the north-west. Views to the east, west and south from King Street Wharf will be unaffected by the CSHR proposal.
- Given King Street Wharf's location to the immediate south of Barangaroo, the development of the site, including the CSHR proposal, to achieve significant urban renewal consistent with its global CBD context, will result in a loss of northerly views from King Street Wharf. However, the CSHR proposal will not impact on water views to the immediate north and north-west.
- It is considered that the visual impact of the CSHR proposal when viewed from King Street Wharf is consistent with that of Concept Plan Mod 8.

4.0 Conclusion

The CSHR is located at the northern end of Barangaroo South and is one of a number of tall, slender towers that comprise the built form of this precinct. While the CSHR will have a distinctive architectural aesthetic its scale is generally compatible with the adjacent buildings.

The CSHR will be visible in views from key public domain locations, and will be clearly apparent in many of these. However, the CSHR will be a landmark, providing a marker to the southern end of Barangaroo and distinguishing Barangaroo South from Barangaroo Central and the Headland Park. It will also bookend the tower buildings of this precinct. Given its iconic architecture and water's edge location, the CSHR will result in a generally positive view impact.

The CSHR will also be visible in views from key residential apartment buildings, particularly those on Kent Street. However, the CSHR is located at a significant distance from these buildings which achieves a wide field of view. The field of view is also enhanced by the open space / parklands to the east of the CSHR. While the CSHR will have some impact on west and north-west views, view corridors towards the harbour's waters are still provided and total view angles are greater than the benchmark viewing angle previously approved.

Overall, the CSHR will not affect the relevant and appropriate view, vista, outlook and visual impact objectives previously approved, and this analysis shows that the impacts of the CSHR proposal are consistent with those identified in Concept Plan Mod 8.