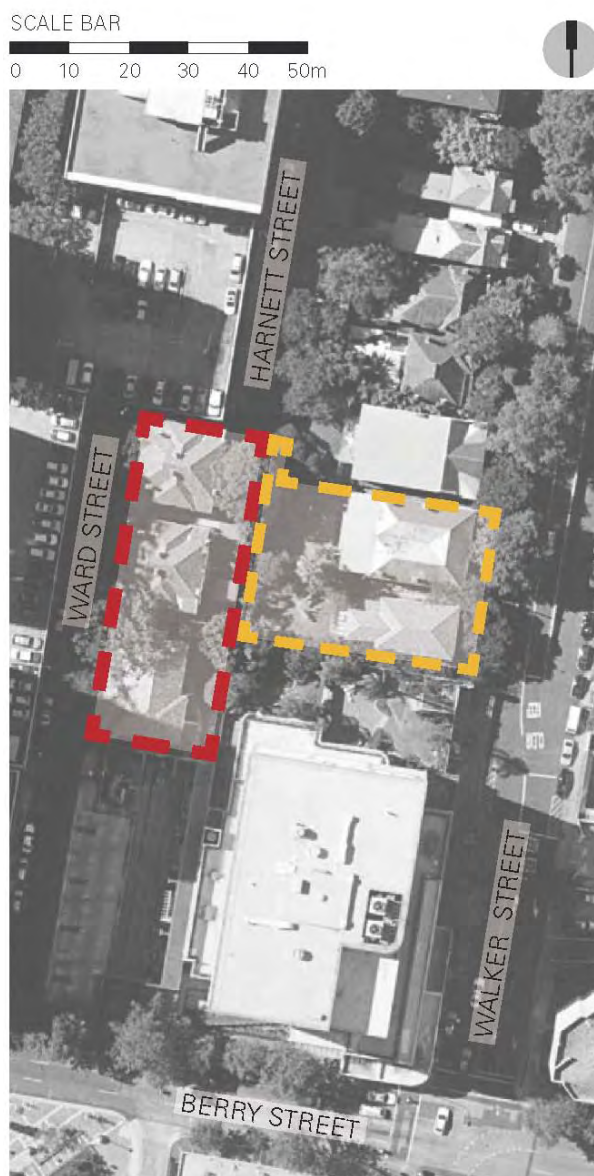


9 ASSESSMENT OF KEY ISSUES

9.1 Visual

A Visual Impact Assessment (VIA) for the project has been undertaken and is presented in Appendix D. A summary of the findings of the VIA is provided below. The VIA was prepared to address the DGRs and includes an assessment of the impact on the visual amenity of the area in the vicinity of the project site. The assessment addresses the visual impacts on existing neighbouring residential properties including an approved proposed mixed use development at 136-140 Walker Street (refer to Figure 9-1).

Figure 9-1 – Proposed Substation (Red) and Proposed Mixed Use Development at 136-140 Walker Street (Yellow)



Source: Google Maps, 2010



9.1.1 Existing Environment

The project site is located in a mixed use area and is surrounded by the existing substation to the south, Ward Street and a multi-level car park to the west, Harnett Street and a portion of the car park to the north, a ten storey commercial building to the south east (76 Berry Street), and residential properties to the east (on Walker Street). The site of the proposed substation has been cleared of all buildings and vegetation and has been excavated to an approximate depth of the proposed basement of the substation (as part of a separate approval).

Ward Street is a small cul-de-sac that is located along the entire western boundary of the project site. Ward Street is seen from Berry Street as a narrow, treeless laneway terminating at the Wilson Parking carpark building facade (refer to Figure 1.2.1 of the VIA in Appendix D). Large, red carpark signage dominates the view down Ward Street from Berry Street. The view at street level is characterised by an almost lack of fenestration and dull, muted colours.

The project site has a small frontage on Harnett Street on the northern boundary, which would be the main entrance to the proposed substation. Harnett Street is a small laneway that services a number of residential blocks of land and basement parking for a commercial development on the western side of the street. The view down Harnett Street from McLaren Street terminates at the project site, although direct views to the project site are partially screened by tree canopies from adjacent blocks (refer to Figure 1.1.2 of the VIA in Appendix D).

The *Ward Street Precinct Masterplan* (North Sydney Council, 2005) proposed a mixed use development that spans an area between Walker, McLaren, Berry and Miller Streets. The masterplan proposed a number of land uses for the area including potential buildings that could occupy properties such as the proposed substation site and 136-140 Walker Street. It proposed a public, undercover retail space that links Berry Street with Miller, McLaren and Walker Streets and Ward and Harnett Streets. These thoroughfares converged on a central courtyard space with a cafe on Harnett Street where the Wilson Parking carpark is currently located.

The masterplan was originally developed based on an assumption that the land included in the masterplan would be available for Council purchase or use. However, with the sale of the proposed substation site, and sale and subsequent approval for the development of 136-140 Walker Street, a secondary through site link proposed by the masterplan between these two parcels of land would not be achieved. As such, full realisation of the Ward Street Masterplan in its original form would not be possible (refer to Figure 9-2 and Figure 9-3).

Figure 9-2 – Ward Street Precinct Masterplan showing proposed through-site access from Berry Street to Miller, McLaren and Walker Streets



LEGEND

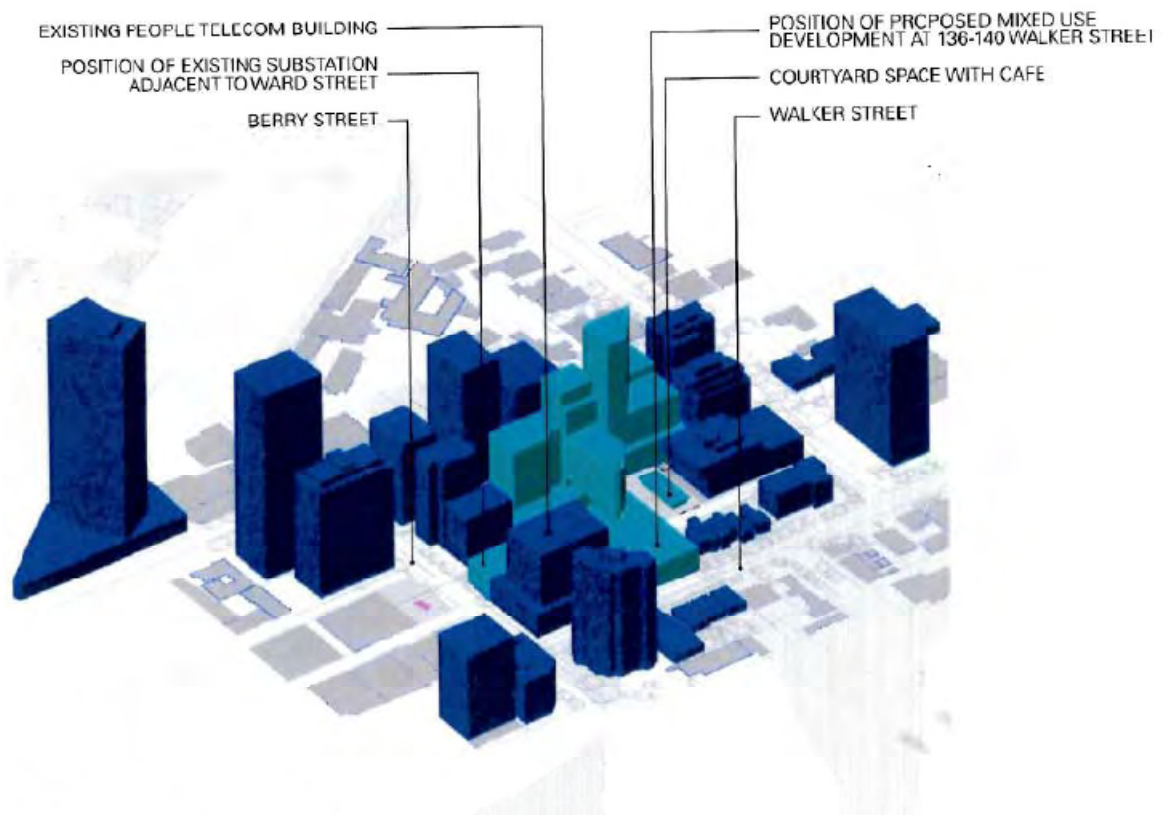
- WARD STREET PRECINCT MASTERPLAN - PROPOSED THROUGH SITE LINKAGES
- WARD STREET PRECINCT MASTERPLAN - PROPOSED COURTYARD

- PROPOSED SUBSTATION SITE
- SITE OF PROPOSED DEVELOPMENT AT 136-140 WALKER STREET

- EXISTING WILSON CAR PARK
 - SCALE BAR
- 0 10 20 30 40 50m

Excerpt from Ward Street Precinct Master Plan, North Sydney Council, 2005

Figure 9-3 – Massing diagram of proposed development of the Ward Street Precinct



Source: North Sydney Council, 2005

9.1.2 Methodology

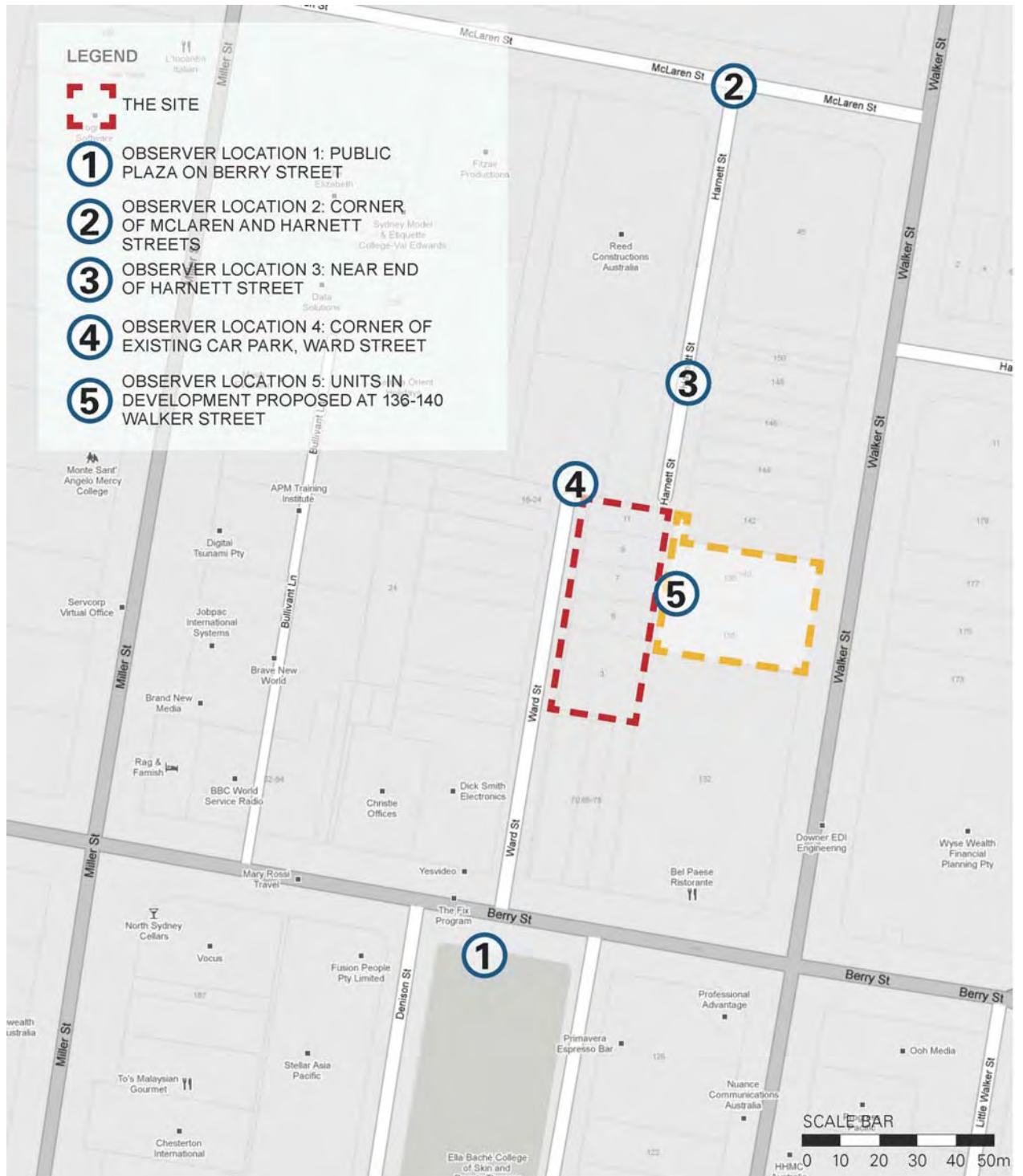
The methodology for the VIA comprised a site visit to assess the landscape character of the area from key publicly accessible locations. The context of the site, immediate setting, site elements and site character were documented during the site visit, including the relationship of the site with the adjacent existing developments and proposed approved developments.

A series of photomontages were developed to illustrate the visual impact associated with the substation redevelopment.

A series of shadow diagrams were also prepared to illustrate the effects of overshadowing at different times of the day and year by the proposed substation redevelopment on the current and proposed development immediately bordering the site, including the approved development at 136-140 Walker Street.

Five observer locations were selected and a range of criteria developed against which the relative importance of each observer location was assessed. The visual impact for each key observer location (Figure 9-4) was assessed.

Figure 9-4 – Map of proposed development site and surrounding locality, showing representative observer locations



Source: Google Maps, 2010

9.1.3 Potential Impacts

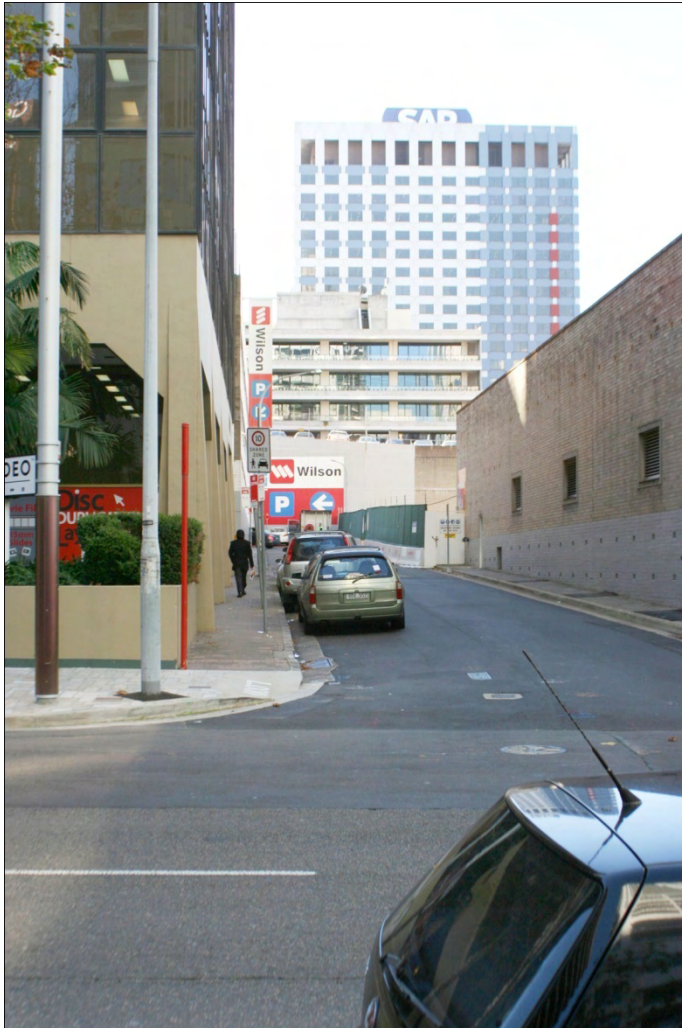
The visual impact of the proposed substation redevelopment from each of the five observer locations is outlined below.

Observer Location 1 – Public Plaza on Berry Street

Observer Location 1 is from the public plaza on Berry Street, located approximately 100 m from the middle of the proposed substation site (refer to Figure 9-5). The urban plaza is on the southern side of Berry Street, is fronted by two cafes and has formal public seating and two areas of turf. This location is subject to heavy foot traffic due to its proximity to cafes and a sunny aspect and link with North Sydney substation and retail precinct of North Sydney.

A narrow viewing window would be available at this point, framed between the high walls of the Switzerland Insurance building (66 Berry Street) and the existing substation.

Figure 9-5 – Photo view down Ward Street from Observer Location, Berry Street



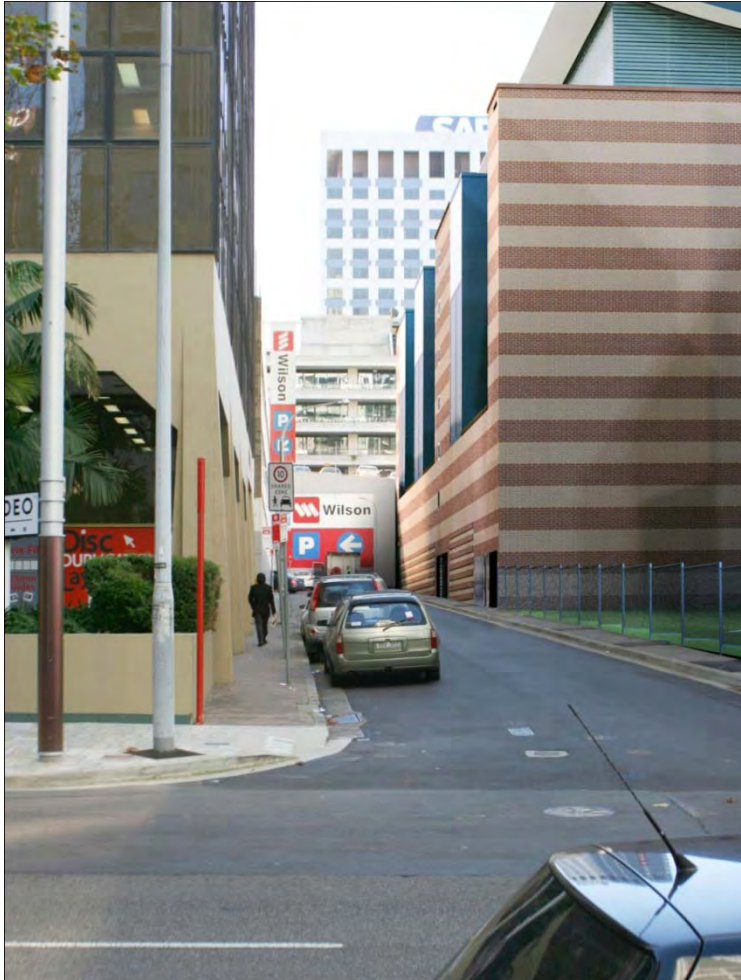
Source: Energy2U, 2010

Following the completion of construction of the proposed substation and prior to the demolition of the existing substation, it can be assumed that the proposed substation would be screened from Observer Location 1 by the existing substation.

The proposed substation building itself would provide a marked increase in the visual interest of Ward Street. It can be anticipated that for regular carpark users the proposed substation would quickly stop being a point of visual interest and would become part of the general streetscape.

As depicted in Figure 9-6, following the demolition of the existing substation, the proposed substation would provide a visually interesting composition of form, colour and materials and would be setback approximately 45 m from the Berry Street footpath.

Figure 9-6 – Photomontage of view down Ward Street from Observer Location, Berry Street, post demolition of the existing substation



Source: Kann Finch Group, 2010

It is therefore considered that the visual impact associated with the proposed redevelopment would be low when viewed from the public plaza for the following reasons:

- Prior to the demolition of the existing substation, the proposed substation would not be a prominent element of the visual landscape. This is due to it being located half way up a cul-de-sac that runs perpendicular to the main flow of pedestrian and vehicular traffic on Berry Street. This generally requires that pedestrians sharply turn their heads to see it.
- Although the proposed substation building would be visually prominent once the existing substation is demolished, it would be well set back from Berry Street and provide a visually interesting composition of form, colour and materials, with bulk and scale commensurate with that of the surrounding built environment.

- It is likely that users of this location would be predominantly focussed on the 'passing parade' of pedestrian and other user activity within their immediate vicinity, located on the sunlit side of the street and within the plaza space opposite Ward Street.
- The proposed building has been considered architecturally and comprises a visually well articulated form. It utilises an interesting palette of colours and materials, providing an increased level of architectural amenity to Ward Street over that currently existing.
- The likely provision of a new building on the site of the existing substation would provide a marked visual improvement to the local environs over the existing situation.

Observer Location 2 – Corner of McLaren and Harnett Streets

Observer Location 2 is approximately 100 m from the northern end of the proposed substation site, to the south of the intersection of Harnett and McLaren Streets (refer to Figure 9-7). Harnett Street acts as a vehicular access point and in some cases a primary building access point for dwellings fronting Walker Street. Observer Location 2 assumes that the existing residences at 136 and 138-140 Walker Street being retained.

The view down Harnett Street currently provides limited visual interest and is unlikely to attract significant pedestrian usage. The northern wall of the substation would be obscured by a large *Ficus benjamina* located on the western side of Harnett Street.

Figure 9-7 – Photo view down Harnett Street from McLaren Street



Source: Energy2U, 2010

Figure 9-8 – Photomontage of view down Harnett Street from McLaren Street with proposed substation



Source: Kann Finch Group, 2010

As seen in Figure 9-8, the visual impact would be low for the following reasons:

- The proposed development would be viewed by a relatively low number of observers and generally over a short duration.
- The building would comprise a well considered composition of form, colour and materials when viewed from the north.
- The visual scale of the building would be commensurate with other relatively low commercial buildings within the locality, including the commercial building on the corner of Harnett and McLaren Streets and that on the corner of Ward and Berry Streets.



Observer Location 3 – Middle of Harnett Street (existing residences retained)

Observer Location 3 is approximately 30 m from the northern facade of the proposed substation building and assumes that the existing residences at 136 and 138-140 Walker Street would be retained (refer to Figure 9-9). The proposed substation would be visible to existing residents of Harnett Street recreating in their rear gardens, driving into Harnett Street and accessing their homes from the rear lane (refer to Figure 9-10).

The rear wall of the proposed substation would stand approximately 24 m high above the garden within 76 Berry Street and approximately 27 m high above the rear gardens of numbers 136 to 142 Walker Street. However, the rear of 76 Berry Street and many of the residences backing onto Harnett Street have substantial existing tree cover within their rear gardens as shown in Figure 9-11 and Figure 9-12, which would screen much of the view of the site.

Overshadowing from the proposed substation and existing development would occur to the rear gardens of the existing residences at 136 and 138-140 Walker Street as shown in Figure 9-13.

Overshadowing impacts associated with the proposed substation on adjacent properties was undertaken between 9am and 3pm on both the winter and summer solstices. A summary of overshadowing impacts are outlined below.

Winter Solstice

- Shade starting to be cast across the rear gardens by 12pm
- Approximately 80 per cent of the rear garden of 136 Walker Street, 30 per cent of 138-140 Walker Street and 40 per cent of the garden of 76 Berry Street would be in shadow by 1pm.
- Entire rear garden of 136 Walker Street and almost the entire rear garden of 138-140 Walker Street would be in full shadow by 2pm.
- The entire rear gardens of 136 and 138-140 Walker Street would be in shadow by 3pm due to shadow cast by the northern end of the Wilson Parking carpark, and a tall building on Miller Street.

Summer Solstice

- No overshadowing of rear gardens by 12pm.
- No significant overshadowing of gardens by 1pm.
- Overshadowing of both 136 and 138-140 Walker Street to approximately 50 per cent by 2pm.
- Full overshadowing to the gardens of 136 and 138-140 Walker Street, 50 per cent overshadowing to the garden of 142 Walker Street and 30 per cent overshadowing to the garden of 76 Berry Street by 3pm.

The visual impact would be moderate to high for the following reasons:

- The extent of residences that would be likely to be adversely impacted by the proposed development is limited to 136, 138-140 and 142 Walker Street, comprising one freestanding and two multi-unit residential dwellings. However, for these residents, the visual impact of the proposed substation would be significant, with the combination of looking out onto an approximately 27 m high wall located on the site boundary and overshadowing impacts.
- The 76 Berry Street garden space is substantially overshadowed from 1pm and almost completely overshadowed by 2pm in winter, almost completely from the proposed development.

The potential impacts on the residences at 136, 138-140 and 142 Walker Street and the 76 Berry Street garden would be offset by a range of factors including:

- The most affected gardens receive north light up until midday.

- The visual scale of the proposed substation is commensurate with other relatively low commercial buildings within the locality.
- The proposed development maintains privacy for nearby residents as it has no windows.
- The proposed development provides a well considered architectural composition of form, colour and materials when viewing the northern facade, which would be the main focus of the building from most residences.
- The residences would generate a low number of observers, as well as a predominantly low duration of viewing.
- The residences at 136 and 138-140 retain sunlight in their rear gardens at the summer solstice up until 3pm.

The residual impacts to 136, 138-140 and 142 Walker Street and 76 Berry Street garden could be further minimised through the implementation of suitable planting to the rear gardens of these properties, which would act to screen the proposed substation from view.

Figure 9-9 – Photo view from middle of Harnett Street



Source: Energy2U, 2010

Figure 9-10 – Photomontage of view from middle of Harnett Street



Source: Kann Finch Group, 2010

Figure 9-11 – Panorama of the rear gardens on Harnett Street, taken from the roof of the adjacent carpark



Source: Energy2U, 2010

Figure 9-12 – Extent of vegetation of the rear gardens on Harnett Street and the People Telecom site



Source: Energy2U, 2010

Observer Location 4 – Ward Street entrance of Wilson Parking carpark

Observer Location 4 is approximately 8 m from the boundary of the site and relates to the proposed Ward Street Precinct Masterplan (refer to Figure 9-14). The location approximates the view that would be seen from the proposed internal courtyard, looking south along Ward Street.

The visual impact would be low for the following reasons:

- The Ward Street Precinct Masterplan did not make provision for securing the land necessary for its implementation and as such has already been compromised by the purchase of land (at 3-11 Ward Street) and approval of a development (at 136-140 Walker Street) within the footprint of the masterplan area, and will not proceed as originally proposed.
- By definition the masterplan process for the precinct is still fluid and can respond to the new element of the substation as part of that process.
- Substantial design effort has been applied to the facade of the substation, with regard to the form, materials, colour and patterning including the provision of brickwork relief at the pedestrian level.

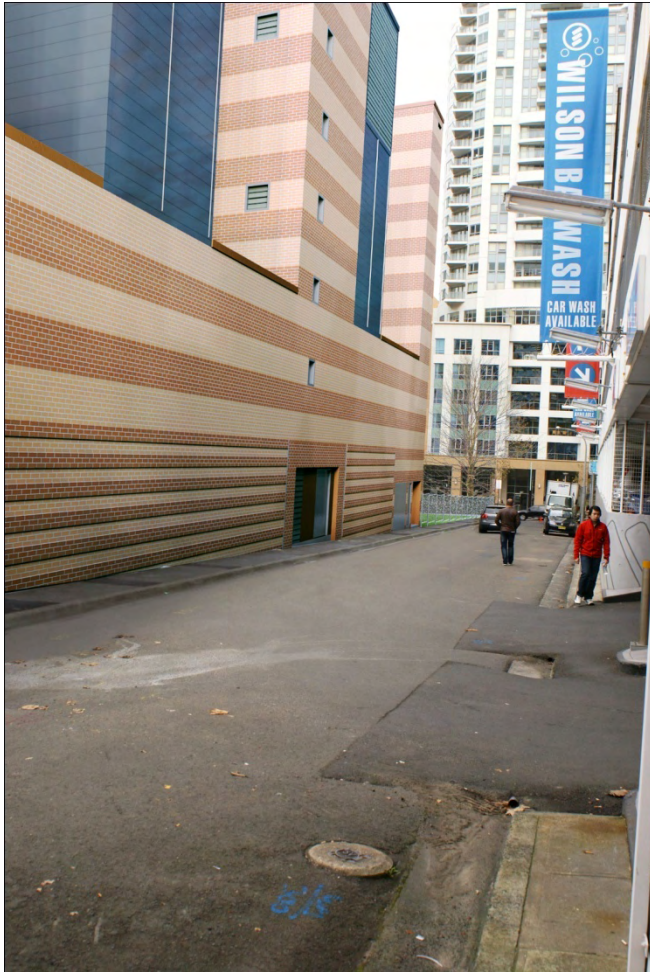
Nevertheless, the proposed substation would constitute a major component of the Ward Street facade and it would need to be addressed in conjunction with an ongoing masterplanning development process. If the existing Ward Street Precinct Masterplan were to proceed, it would be important to ensure that the design of the proposed substation provides a focus point to draw the attention of viewers to specific design elements, allowing the facade to act as a passive backdrop to the setting.

Figure 9-14 – Photo of view down Ward Street from the Ward Street entrance to the Wilson Parking carpark



Source: Energy2U, 2010

Figure 9-15 – Photomontage of view down Ward Street from the corner of the Wilson Parking carpark



Source: Kann Finch Group, 2010

Observer Location 5 – Units in Proposed Development at 136-140 Walker Street

Observer Location 5 is approximately 5 m from the northern boundary of the site and relates to the proposed mixed use development at 136-140 Walker Street, adjoining the site to the east. Levels 5 to 9 of the proposed development sit within close proximity to the eastern wall of the proposed substation building. Unit 3 on each of these floors faces the north and west and Unit 4 faces the west and south.

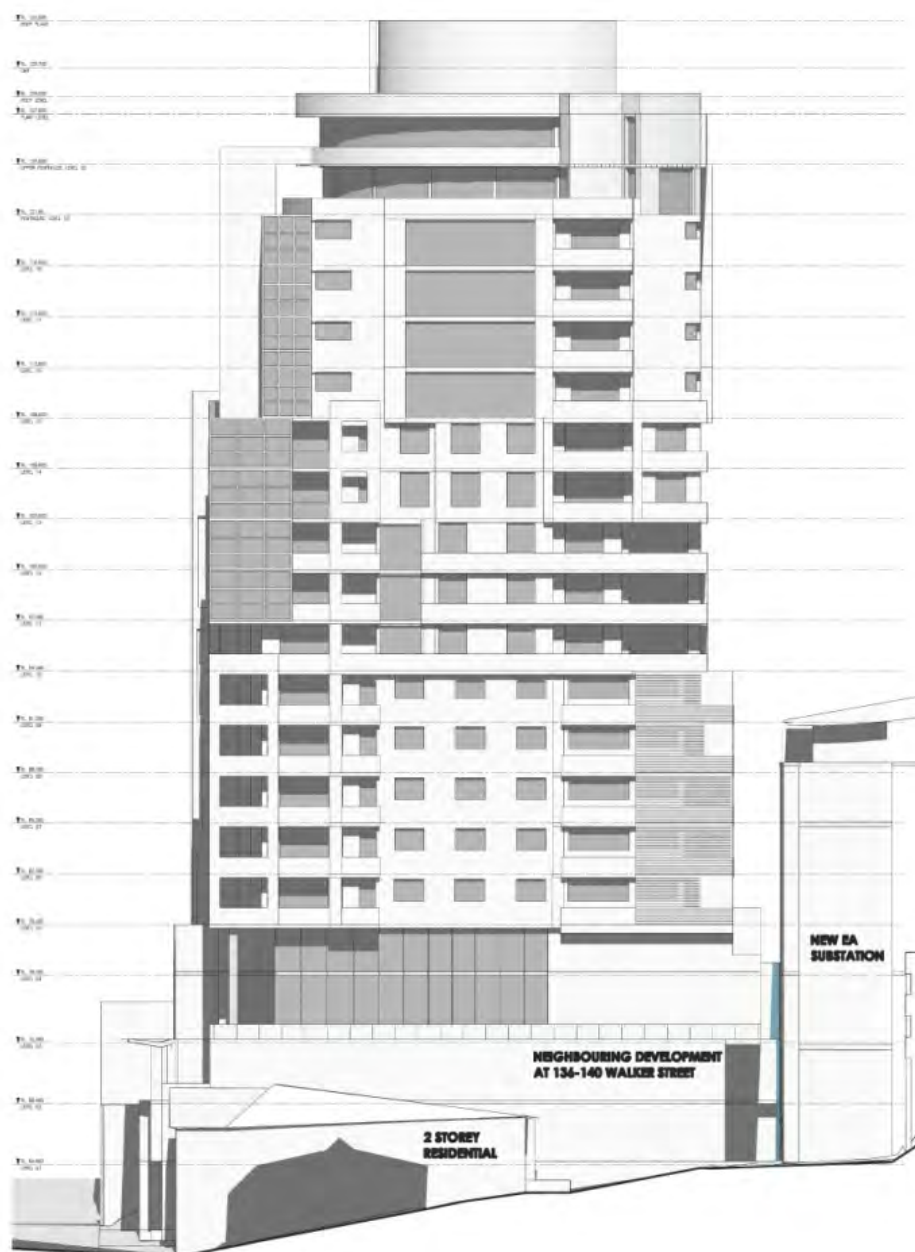
Overshadowing would occur from the proposed substation during the winter solstice (worst case) and summer solstice (best case) on 136-140 Walker Street as illustrated in Figures 3.5.3 to 3.5.6 in the VIA (refer to Appendix D) and discussed below.

Figure 9-16, Figure 9-17, and Figure 9-18 and Figure 9-19 show the daily range of impacts on the proposed development at 136-140 Walker Street during the winter solstice.

Figure 9-16 – Shadow Diagram for the Winter Solstice at 11:30am showing shadow affects on the Proposed 136-140 Walker Street Development (plan view)



Figure 9-17 – Shadow Diagram for the Winter Solstice at 11:30am on the Northern Elevation of the Proposed 136-140 Walker Street Development



Source: Kann Finch Group, 2010

Figure 9-18 – Shadow Diagram for the Winter Solstice at 5pm showing shadow affects on the Proposed 136-140 Walker Street Development (plan view)

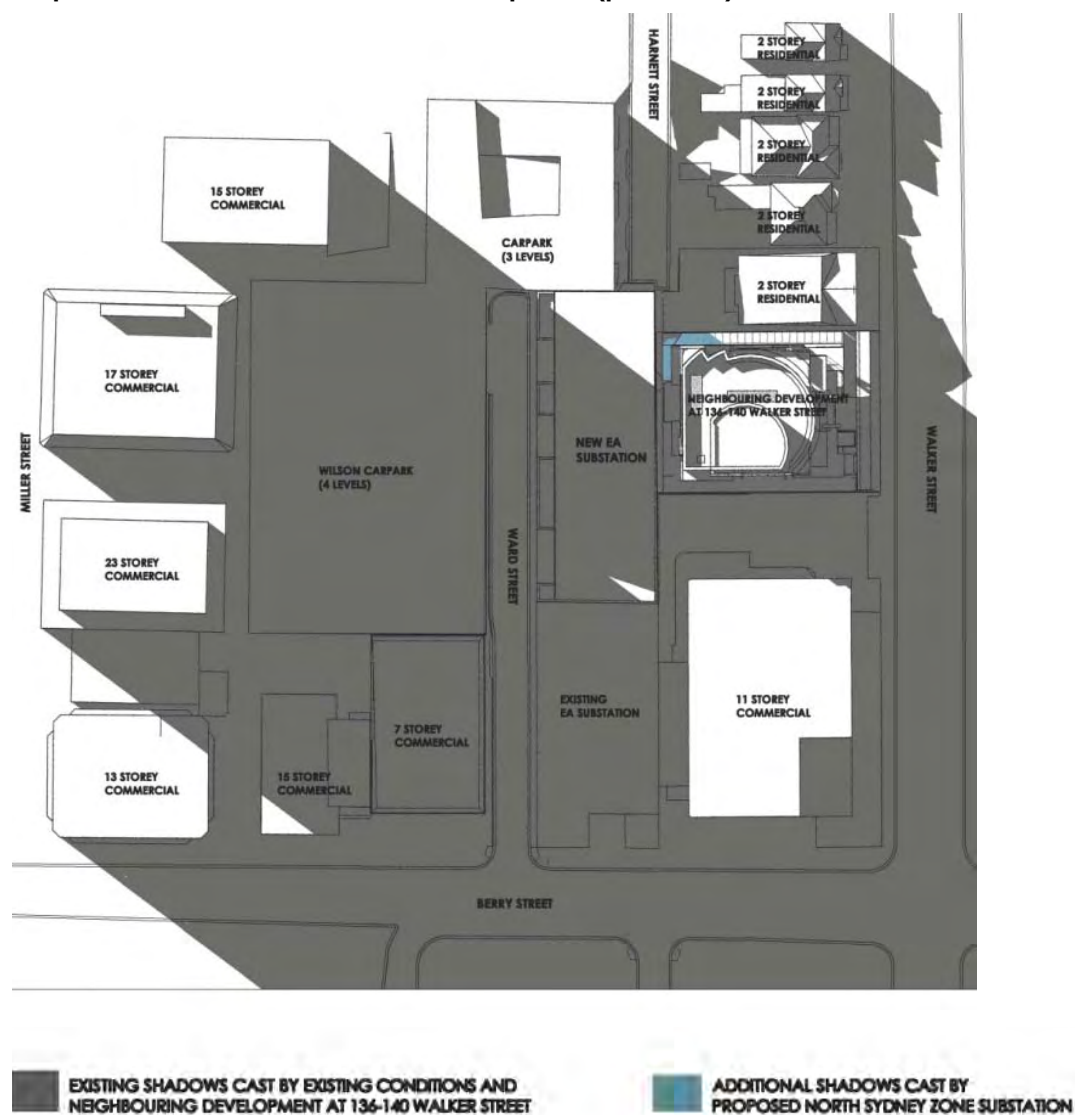
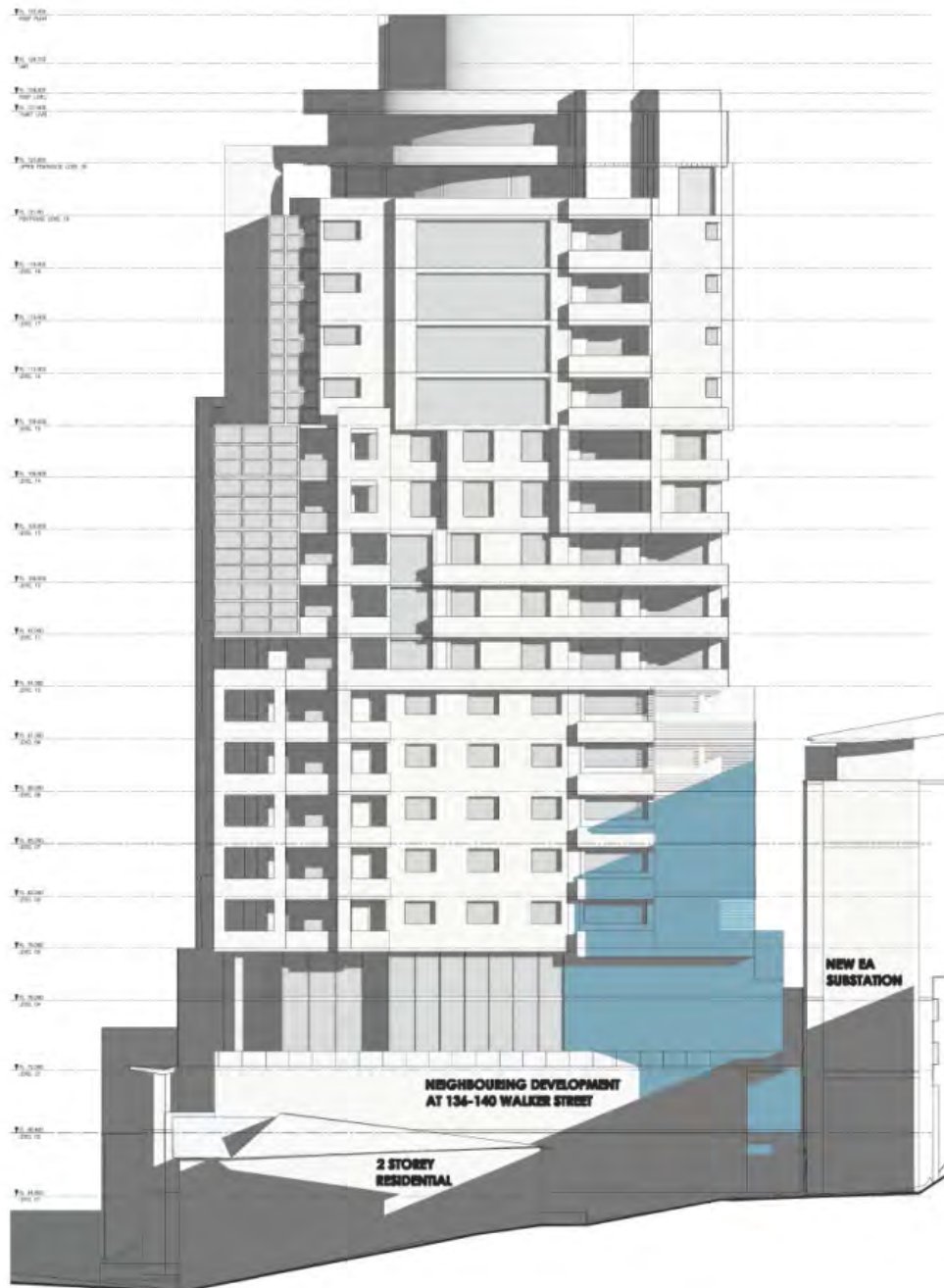


Figure 9-19 – Shadow Diagram for the Winter Solstice at 5pm on the Northern Elevation of the Proposed 136-140 Walker Street Development



Source: Kann Finch, 2010

A summary of overshadowing impacts resulting from the proposed substation on the proposed development at 136-140 Walker Street is outlined below:

Winter solstice - western elevation

- The western face of the building does not receive direct sunlight until after 11.30am.

- Glazing on commercial Levels 3 and 4 is in full shadow by 12pm which continues for the rest of the day.
- A full shadow is cast on Levels 5 and 6 and partially across Level 7 by 1pm.
- A full shadow is cast on Levels 5, 6 and 7 and on the Level 8 balcony walls by 2pm. This does not impact upon windows.
- A minor increase in the level of shadow on Unit 3 on Level 8 by 3pm.

In summary:

- Levels 5 and 6 would receive direct sunlight for approximately 1 hour.
- Level 7 would receive direct sunlight for approximately 1.5 hours.
- Level 8 would generally not be affected by overshadowing from the substation.
- Level 9 would not be affected by overshadowing from the substation.

Winter Solstice - northern elevation

- No overshadow until after 12pm.
- Shadow across face of balconies on Levels 5 to 7 for approximately 1.5 m by 1pm.
- Shadow across face of balconies on Levels 5 to 7 for approximately 5 m with decreasing level of impact as floor levels increase by 2pm.

In summary:

- Level 5 would be the most affected by overshadowing, with approximately 50 per cent of the living space being in shadow by 2pm and in full shadow by 3pm.
- Level 6 would have approximately 25 per cent of the living space in shadow by 2pm and 75 per cent in full shadow by 3pm.
- Level 7 would have approximately 50 per cent of the living space in shadow by 3pm.

Summer solstice - western elevation

- No overshadowing until after 11am.
- Shadow would be cast up to Level 2 of the commercial podium by 12pm.
- Shadow would be cast up to Level 4, including glazing to Levels 3 and 4 and the indoor pool by 1pm.
- The balconies of Levels 5 and 6 are in full shadow by 2pm.

Summer solstice - northern elevation

- No overshadowing until after 12pm.
- Minor shadow would be cast to the northern elevation of the podium by 1pm.
- Moderate overshadowing to the northern elevation of the podium and minor overshadowing to the north facing windows on Levels 5 and 6 by 2pm.

Refer to Figure 9-10 for a photomontage of the view down Harnett Street from McLaren Street with the proposed substation.

Summary of Visual Impacts

In general, the project would provide an increased level of architectural amenity over that currently experienced when viewed from Berry and Ward Streets and when looking down Harnett Street. The substation building would not be visually prominent from the areas of high pedestrian usage on Berry Street and the associated plaza at 77-81 Berry Street, except during the interim period between demolition and redevelopment of the site of the existing substation.



The bulk and scale of the proposed substation and overshadowing on the rear garden spaces of 136, 138-140 and 142 Walker Street would impact the limited number of residents that currently live there. However, if the existing residences were to be retained, a well considered planting approach would substantially mitigate this impact.

The proposed substation would be a high visual impact with regards to visual bulk and overshadowing on the lower levels of the proposed development at 136-140 Walker Street, particularly on the three units on the south-western corner of Levels 5 to 7. As such, the following impact levels have been predicted:

- Overshadowing for three units on the north-western corner – moderate to high.
- Overshadowing of three units on the south-western corner – very high.

The units on Levels 8 to 9 would be subject to considerably less of a visual impact than Levels 5 to 7. As such, the following impact levels have been predicted:

- North-western corner (Unit 4) – moderate.
- South-western corner – moderate to high.

The above levels of visual impact were determined for the following reasons:

- The units on Level 8 would be impacted by viewing directly into the setback, louvre-clad roof level wall of the proposed substation, which is set further back from the windows than that of the lower levels. These units would not be seriously impacted by overshadowing and would gain views beyond the roof to the North Sydney skyline.
- The units on Level 9 would not be impacted by overshadowing and would gain views beyond the roof of the north Sydney skyline.

Urban design measures have been incorporated into the design of the substation building in an effort to minimise these impacts. Additional mitigation measures are outlined below.

9.1.4 Mitigation Measures

The design of the proposed substation building is such that visual impacts on adjoining developments are minimised, specifically with regard to the proposed adjoining 136-140 Walker Street development. In consideration of the potential impact on 136-140 Walker Street from the proposal, the design has been subject to numerous design iterations, a series of discussions with the adjoining property owner and design input from North Sydney Council's Design Excellence Panel. The materials selection, proposed substation colour patterning and roof alignment have all been developed during this consultation process.

In addition, visual amenity and urban design impacts associated with the proposed substation redevelopment on surrounding properties would be further minimised by the following mitigation measures which would be undertaken in consultation with the adjacent property owners.

- Planting of a select suite of native tree and shrub species to the rear garden spaces of 136, 138-140, and 142 Walker Street (or 142 Walker Street only if the proposed development at 136-140 Walker Street proceeds).
- Providing replacement canopy cover within the 76 Berry Street garden suited to the increased level of overshadowing from the site.

Implementation of the planting to the rear gardens of 136 to 142 Walker Street would over time provide screening vegetation to form a significant level of mitigation of the visual impacts.