Name: MLC Centre Company
Organisation: MLC Centre (Development Manager)

Martin Place, NSW
2000

Content:
Dear Sir or Madame,

Please find attached our submission with regards to Application Number: SSI 15_7400.

Regards,

Colin.

MLC CENTRE

24 June 2016

NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

By email: plan_comment@planning.nsw.gov.au

Attention: Director, Infrastructure Projects

Dear Sir or Madame,

Re: Application No: SSI 15_7400, Sydney Metro City & Southwest - Chatswood to Sydenham. Submission from the Joint Owners of the MLC Centre, 19-29 Martin Place, Sydney

The MLC Joint Owners, the GPT Group and QIC, are supportive of the NSW Government Sydney Metro initiative to provide better connectivity to the CBD, subject to due consideration being given to the issues raised in this submission. In particular, we support the works to improve connectivity to Martin Place, which we hope will provide an enhanced user experience for Sydney CBD workers and encourage increased pedestrian flow and engagement with the precinct.

The MLC Joint Owners are committed to improving the amenity on offer for the Martin Place user and are currently in the final approval stages for a significant Retail Redevelopment Project (DA Approved – D/2015/66) that would see a world class theatre, restaurants and luxury fashion retailers at the MLC Centre. It is the Joint Owners' ambition that together with the City of Sydney 2020 Plan for Martin Place and the new Sydney Metro Station, Martin Place will be repositioned as the cultural, food and business centre of Sydney CBD.

Based on the timelines presented in the Chatswood to Sydenham Environmental Impact Statement Summary and the development timeline for the MLC Centre (assuming key approval dates are met), it is highly likely that these two projects will be constructed concurrently. There are also inevitable interfaces between the Martin Place Station once completed, and the MLC Centre.

As such, to assist in coordinating the two developments, we believe it will be essential for our project managers (Compass Project Management) and the Sydney Metro Martin Place project managers to be fully cognisant of their counterpart's construction methodologies, sequencing, and timeframes in order to ensure prompt, efficient and timely delivery of each project and minimisation of impacts on pedestrian and traffic flows and on local amenity.

Due to the various interfaces with the Sydney Metro Project and the MLC Retail Redevelopment, during both the construction stage of the Sydney Metro at Martin Place, as well as the final design outcomes for the Martin Place Station, we would like to ensure that ongoing consultation with the MLC Centre is given to the following identified considerations and opportunities.

MLC CENTRE MANAGEMENT
Level 9, Suite 901, MLC Centre, 19 Martin Place, Sydney, NSW 2000
02 9224 8333 | mlccentre.com.au | GPT Property Management Pty Limited ABN 29 116 099 631

Construction Stage

A. The approved works to the podium and basement levels of the MLC Centre (D2015/66) have not been acknowledged in the cumulative impacts section of the EIS. The MLC Retail Redevelopment works may be undertaken concurrently with the Sydney Metro works at Martin Place, requiring detailed coordination between the two Projects.
B. Based on A above, MLC identify that there may be opportunities to share construction zones and potential road closures, in which we would welcome a further discussion.
C. Pedestrian ingress and egress to the MLC Centre, across Castlereagh Street and Martin Place will be constrained and disrupted during the construction of the Sydney Metro Project when Martin Place is temporarily closed. The MLC joint owners would like to discuss how these impacts will be managed and minimised for all parties.
D. Further to point C; dust, noise, construction traffic, pedestrian obstructions and temporary way finding associated with the construction of the Sydney Metro will impact upon the popularity, ambience and attractiveness of the bars, restaurants and cafes in the plaza (which all have outdoor seating areas) of the MLC. The MLC Food Court which utilises natural ventilation could also be affected as well as the Luxury Retail outlets along Castlereagh Street in the proximity of the Construction Zone. Consultation and collaboration on the Construction Management Plans would be welcomed by the MLC joint owners.
E. The MLC joint owners would like to further understand, when available, any potential impacts from some of the significant construction activities for the Sydney Metro works, including but not limited too;
    i. Site preparation, shaft and cavern excavation and spoil removal from both the Martin Place North and South work sites;
    ii. The tunnel excavation and construction;
    iii. Impacts associated with interruptions and diversions of services and communications;
    iv. Impacts from demolition and construction noise, vibration, dust and emissions from proposed post construction ventilation stacks (depending on where the stacks are to be located); and
    v. Vehicular movements into and out of the Sydney Metro Sites, particularly during key activities such as spoil removal.

Final Design Outcomes

A. The MLC joint owners request further consideration to be given to the proposed permanent closure of the direct pedestrian link from Martin Place Station to the MLC Centre, and note that we have not been consulted on this prior to the publication of the EIS. MLC wish to discuss opportunities to retain, modify or provide a new pedestrian connection directly from Martin Place Station to the MLC Centre.
B. The MLC joint owners would like to understand how potential impacts on pedestrian movements are being addressed, specifically relating too;
    i. The immediate locality as a result of the works in and below Martin Place, on the eastern side of Castlereagh Street and at 37-51 Martin Place;
    ii. General pedestrian movements towards the MLC Centre, especially if the underground connections to the existing Martin Place Station, to and from the MLC Centre are closed.

C. The MLC joint owners have concerns about the proposed main discharge of passengers from the station onto Castlereagh St. The current proposals appear to have circa 14,500 passengers discharging on to a 3m wide footpath (Castlereagh St). Those users then need to turn north to reach the pedestrian crossing, creating potential safety issues and 'bottle necks'. The MLC joint owners would like consideration given to extending the pedestrian crossing further south, and or discharging passengers onto the expanse of Martin Place, rather than the 3m wide Castlereagh Street footpath. Consideration on how any proposed discharge locations impact on the MLC Centre will need to be reviewed and discussed.
D. The MLC joint owners would like to ensure there is appropriate activation along the Castlereagh Street frontage that is commensurate with the current and proposed (as part of the MLC Retail Redevelopment) street environment. As one of Sydney's premier luxury shopping boulevards, MLC suggest that the current 'artistic impression' included within the EIS of the Martin Place Station provides for a quality of design commensurate with the Castlereagh Street and/or Martin Place precinct, and significantly limits activation at these locations.
E. The MLC joint owners would like to ensure due consideration is given to the potential adverse impacts associated with the location of ventilation shafts (the proposed location of which is currently not identifiable).
F. The MLC joint owners would request that adequate assurance is provided that no alteration to the existing solar access to the MLC Centre, particularly to the publicly accessible plaza areas. MLC request that due consideration is given to over station development in the location of the existing 39 Martin Place building and the setback of any future buildings is as per the site boundary of the existing building envelope.
G. The MLC joint owners note that this EIS does not cover over station development specifically, and understand that this will be addressed separately. MLC request being consulted with any proposals for the over station development as it progresses, ensuring appropriate consideration is given to how this impacts on and interfaces with both the MLC Centre, and the wider Martin Place and Castlereagh Street environments.

GPT and QIC note that, in the past both owners have worked closely with State Governments on major projects and have achieved excellent outcomes as a result of effective and continuous dialogue between the parties.

We look forward to ongoing consultation and communication with TfNSW and the MLC Centre regarding the Sydney Metro Project and its interface with the MLC Centre.

Yours Sincerely,

Colin Reay
Development Manager
For and on behalf of the MLC Joint Owners

MLC CENTRE MANAGEMENT
Level 9, Suite 901, MLC Centre, 19 Martin Place, Sydney, NSW 2000
02 9224 8333 | mlccentre.com.au | GPT Property Management Pty Limited ABN 29 116 099 631

Name: Paul Brasch
Organisation: NSW Masonic Club (General Manager)

Sydney , NSW
2000

Content:
Please see our support document attached, which is to be read in conjunction with our full submission, lodged on 27/6/16 on our behalf by Urbis Town Planning.

POSTAL: PO Box A1160
Sydney South, NSW 1235

NEW SOUTH WALES MASONIC CLUB
ABN 79 000 003 289
169 - 171 CASTLEREAGH STREET, SYDNEY 2000
Phone: (02) 9284 1000 Fax: (02) 9284 1999
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Paul Brasch
General Manager
NSW Masonic Club and
Castlereagh Boutique Hotel
Ph: (02) 9284 1012
Mob: 0411 484 484
E: gm@thecastlereagh.com.au

Monday 27 June 2016

Director, Transport Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY, NSW 2001

Attn: Director of Planning and Environment

To Whom it may concern

Reference: Submission from the NSW Masonic Club and Castlereagh Boutique Hotel to the Director of Transport Assessments, Department of Planning and Environment Regarding the Sydney Metro City & Southwest – Chatswood to Sydenham Environmental Impact Statement. Application number: (SSI 15_7400)

We write concerning the Chatswood to Sydenham Environmental Impact Statement and the **unreasonable and unacceptable impact** it will have on the NSW Masonic Club and Castlereagh Boutique Hotel, located at 169 Castlereagh Street, Sydney, if appropriate conditions and mitigation measures are not implemented.

This letter must be read in conjunction with our full submission made on 27/6/16 on our behalf by Urbis Town Planning.

Having a total of 83 accommodation rooms, Conference and hospitality, catering, commercial tenants and an educational facility within the building, we are very concerned about the impact the Sydney Metro will have on our tenants, members and hotel guests, as well as the following issues affecting our property and amenity;

Our main concerns are, but not limited to:

- The effects that construction will have on our fragile, heritage listed building.

- Noise, vibrations and damage during demolition, excavation and subsequent construction of the proposed tunnels, Metro Station and building above ground level.

- Various environmental impacts such as the spoils from the demolition, dust, potential disruption to power & services, construction traffic noise and the like.

- Loss of parking and access to the front of our premises.

- Loss of business reputation and trade as a result of neighbouring demolition and construction works.

- The close proximity of the proposed tunnel underneath our building and the subsequent weakening of rock potentially 12 metres from our basement level and footings.

- In-appropriate set back of the neighbouring building.

- That our building was classified in the EIS as "commercial" not residential.

- Lack of consultation in regards to changes in car parking, loss of utility services to the building, demolition of surrounding buildings etc.

- The short and long term effects that the power substation could have on existing Wifi, telephone and internet services through Electro-Magnetic Radiation.

We therefore make the following suggestions:

1. To openly discuss the impact that the demolition, tunnel boring, station construction and future building construction will have on our ability to trade.

2. To commence discussions on compensation based on calculations of reduced occupancy and trade.

3. Discuss double glazing of the Club's Southern and Eastern windows as a noise mitigation strategy.

4. To raise awareness of the fragile nature of our historic brick building which has lime mortar bonding.

5. A minimum of a two to three metre buffer zone as recommended by Douglas & Partners (Geotechnical Engineers) between the proposed excavation and the Club's foundations and the recommended use of deep vertical rock-saw cuts parallel to the site's southern boundary be done ahead of nearby rock-hammering so as to isolate rock-mass below the NSW Masonic Club and Castlereagh Boutique Hotel building from on-going vibrations.

6. We request to be involved immediately in the design process for the above ground development to our immediate south and to consider matters such as: a 6 meter setback as an acceptable minimum setback gazetted in the NSW Planning State Environmental Policy No 65 for light and ventilation for the following reasons:

    a. a 6 metre set back will improve ventilation
    b. a 6 metre set back will improve light to the Club building's upper floors and guest rooms

c. a 6 metre set back will improve the overall appearance of both the NSW Masonic Club heritage listed building and the above ground Metro development and facilitate heritage restoration work to the buildings southern wall
d. the setback will assist Sydney Metro's Heritage Impact Statement.

7. We would like to discuss the incorporation of parking into your new designs and possible opportunity of parking for the public and users of the hotel and club, which could be a financial asset to Sydney Metro.

8. We suggest that better parking and/or drop off areas for hotel guests, many of whom are international travellers and elderly.

9. A major re-assessment of air quality impacts be performed for this project.

10. We request a detailed dilapidation report be undertaken before any work commences, so that we both know the state of our building in order to establish and agree on any repairs that may be required resulting from the demolition, excavation and building works associated with the Sydney Metro proposal.

The NSW Masonic Club and Castlereagh Boutique Hotel urgently requests a meeting to discuss the above concerns to preserve this heritage listed building, Urbis Town Planning's submission sent on our behalf and to have an immediate input into the design of the above ground development.

Please contact myself to on the number below to arrange a suitable meeting time.

Yours Faithfully

Paul Brasch

General Manager
NSW Masonic Club &
Castlereagh Boutique Hotel
Ph: 02 9284 1012.

27 June 2016

Paul Brasch
General Manager
NSW Masonic Club and
Castlereagh Boutique Hotel
Ph: (02) 9284 1012
Mob: 0411 484 484
E: gm@thecastlereagh.com.au

Director, Transport Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Director, Transport Assessments

To whom it may concern,

Submission from NSW Masonic Club – Castlereagh Boutique Hotel to the Director of Transport Assessments, Department of Planning and Environment Regarding the Sydney Metro City & Southwest – Chatswood to Sydenham Environmental Impact Statement (SSI 15_7400)

We write further to the public exhibition of the Sydney Metro City & Southwest – Chatswood to Sydneham Environmental Impact Statement (SSI 15_7400) prepared by Transport for NSW and the Sydney Metro Delivery Office.

The proposed works associated with the Pitt Street Station component of the project will have potential for an **unreasonable and unacceptable impact** on the NSW Masonic Club and Castlereagh Boutique Hotel, located at 169 Castlereagh Street, Sydney, if appropriate conditions and mitigation measures are not implemented.

The attached report specifically addresses the impacts associated with the works proposed within Pitt Street Station Precinct, and potential conditions and mitigation measures. Any approval should acknowledge the specific impacts associated with the works proposed within Pitt Street Station Precinct, incorporate all recommendations identified in the attached report.

Our client would welcome the opportunity to discuss this submission with the Department and/or Transport for NSW in further detail, having particular regard to the importance of ongoing consultation prior to the commencement of the project and throughout the demolition, earthworks and construction phase. Please do not hesitate to contact Paul Brasch, General Manager of the NSW Masonic Club and Castlereagh Boutique Hotel, on (02) 9284 1012 to discuss.

Yours sincerely,

David Hoy
Regional Director

Paul Brasch
General Manager
NSW Masonic Club and
Castlereagh Boutique Hotel
Ph: (02) 9284 1012
Mob: 0411 484 484
E: gm@thecastlereagh.com.au

Submission from NSW Masonic Club – Castlereagh Boutique Hotel to Director, Transport Assessments, Department of Planning and Environment Regarding the Sydney Metro City & Southwest - Chatswood to Sydenham Environmental Impact Statement

(SSI 15_7400)

It is acknowledged that the Sydney Metro Chatswood to Sydenham Environment Impact Statement was prepared by Transport for NSW and Sydney Metro Delivery Office

Ground Floor, South Building
Giffnock Avenue
Macquarie Park NSW 2113

urbis

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	David Hoy
Consultant	Jocelyn McDowall
Job Code	SA6274
Report Number	Report
Prepared on behalf of	NSW Masonic Club and Castlereagh Boutique Hotel
Preferred Contact	Paul Brasch General Manager NSW Masonic Club and Castlereagh Boutique Hotel Ph: (02) 9284 1012 Mob: 0411 484 484 E: gm@thecastlereagh.com.au

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FIGURES:

1 Introduction

This report identifies the key impacts and implications associated with the proposed Sydney Metro project on the NSW Masonic Club, located at 169 Castlereagh Street, Sydney, incorporating the Castlereagh Boutique Hotel and other commercial and retail uses located on site.

This report specifically addresses the impacts associated with the works proposed within Pitt Street Station Precinct which adjoins 169 Castlereagh Street site. The following sections of the report provide:

- An overview of the NSW Masonic Club, focussing on the land use activities which may be affected by demolition, excavation and construction phases of the Sydney Metro;
- A brief description of the locational context of the proposed Pitt Street Station (and associated north construction site) having regard to the NSW Masonic Club and Castlereagh Boutique Hotel;
- Identification of key issues arising from the review of the Environmental Impact Statement (EIS), including recommended actions and/or conditions of development should the project be approved by the Minister of Planning.

It is noted that this report is supported by a number of independent assessments including:

- Acoustic and Vibration Assessment prepared by PKA Acoustic Consulting;
- Structure Assessment prepared by MPN Group;
- Traffic and Pedestrian Assessment prepared by The Transport Planning Partnership Pty Ltd;
- Geotechnical Peer Review prepared by Douglas and Partners; and
- Air Quality Report prepared by Northstar Air Quality Pty Ltd.

We would welcome the opportunity to discuss this submission with the Department and/or Transport for NSW in further detail, having particular regard to the importance of ongoing consultation prior to the commencement of the project and throughout the demolition, earthworks and construction phases.

Critically, this project must only proceed on the basis that the on-going viability of the operation of the Club and the Hotel is not compromised.

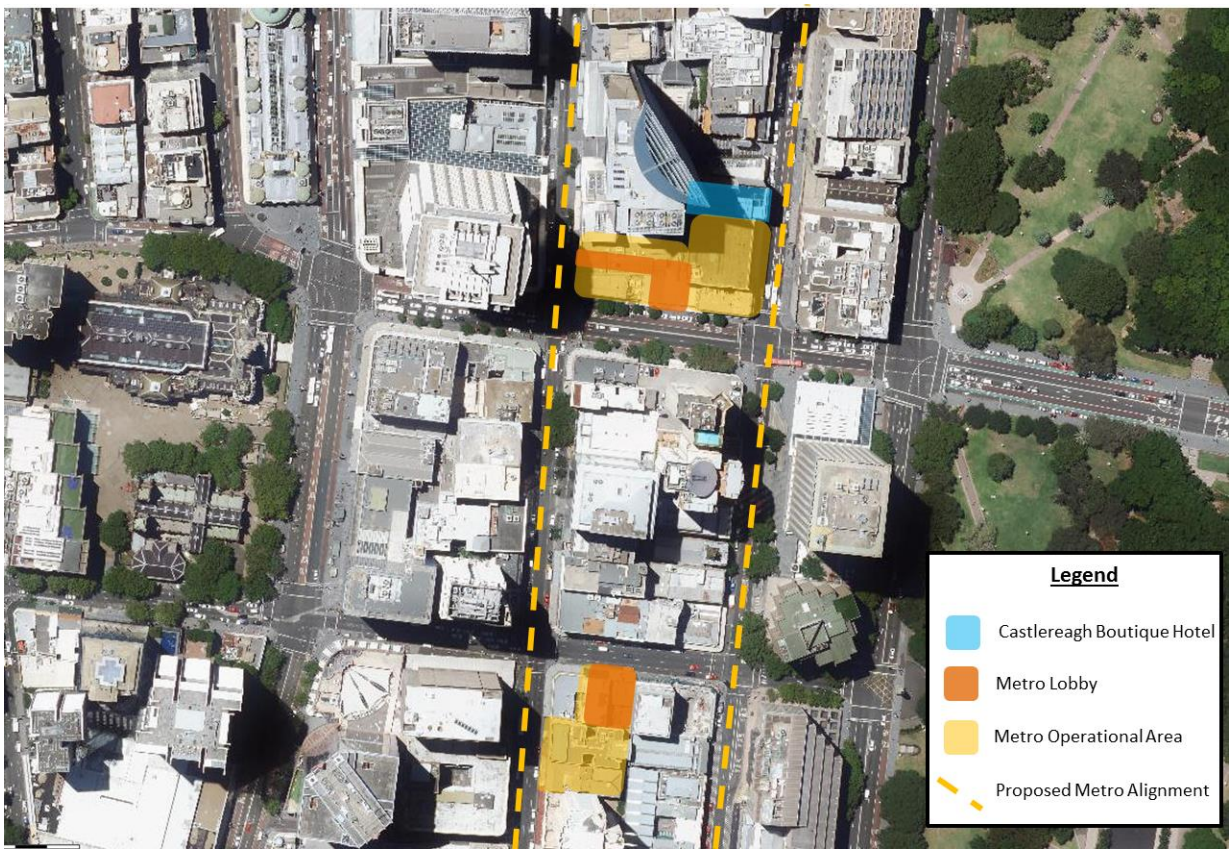
2 Description of NSW Masonic Club Site

2.1 CONTEXT

The NSW Masonic Club and Castlereagh Boutique Hotel building is a heritage listed building of extensive sandstone construction. It is understood that the Hotel recently experienced the effects of adjacent construction (ANZ Tower – Pitt Street) and, as a consequence, has a well-informed perspective of likely consequences of the proposed Metro project.

The NSW Masonic Club land holding is a rectangular shaped lot that fronts Castlereagh Street, between Park and Market Street, and is formally described as Lot 1 on DP68635 (refer to Figure 1). The building was developed in 1925, and is identified as a locally listed heritage item by the City of Sydney.

FIGURE 1 – SITE CONTEXT (SOURCE: NEAR MAP)



The land comprises four key uses, being:

- NSW Masonic Club;
- Castlereagh Boutique Hotel;
- Hotel and Club entrance, and two ground floor retail tenancies, currently occupied by a food and beverage outlet, and a jewellery retailer;
- Commercial office and education tenancies on Levels 3 and 5.

Across the site, the uses provide employment to more than 70 persons; facilitate short-term visitor accommodation as well as retail and food and beverage, and hosts general passive social events and gathering.

The Hotel includes 83 rooms/suits with associated dining and lounging facilities that are frequently used by guests and for functions. The Hotel operates a 24 hour reception, with food and beverage offerings trading daily between 7:00am to 9:00pm for on-site offerings, and 5:00am to 10:00pm for takeaway offerings.

Given the nature and myriad of uses on site, regular deliveries include:

- Garbage – once per day;
- Kitchen Deliveries – twice per day;
- Beverage Delivery – once per day;
- Contactors for maintenance/building works (e.g. air conditioning, plumbing, electrical) – up to 4 per day; and
- Other deliveries (chemicals for laundry etc.) – once per day.

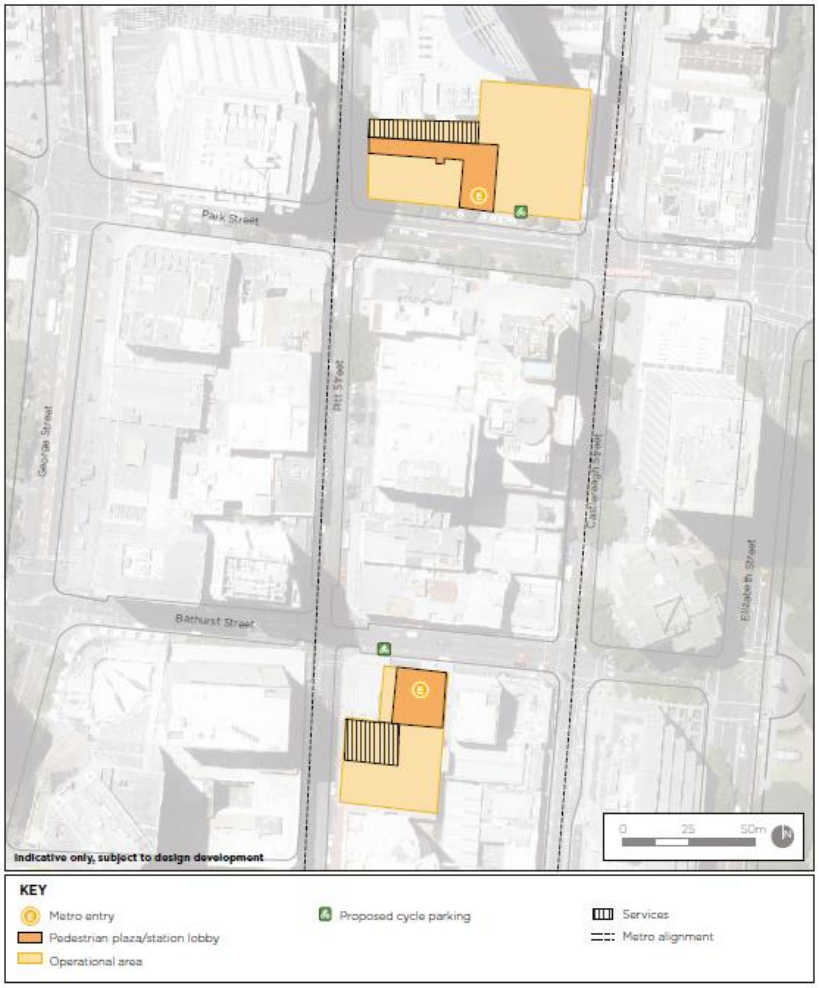
The Hotel generally has an occupancy rate of 80% with an average of 20,000 night stays per annum in the 2015/16 financial year.

2.2 RELATIONSHIP OF METRO PROJECT SITE TO 169 CASTLEREAGH STREET

The NSW Masonic Club and Castlereagh Boutique Hotel is located immediately to the north of 175 Castlereagh Street which forms part of the project site for both construction and on-going operations of the Sydney Metro, in particular the Pitt Street Station.

The Pitt Street Station would be located between Pitt and Castlereagh streets, north of the Park Street intersection and south of the Bathurst Street intersection (refer to Figure 2). The station at Pitt Street will service the residential catchment within the southern Sydney CBD, as well as benefit from a strategic location within the midtown retail precinct and mixed employment, residential, entertainment, cultural and events based activities in the southern Sydney CBD and Chinatown. This will include station portals requiring acquisition of surface properties including the site immediately to the south of the NSW Masonic Club and Castlereagh Boutique Hotel.

FIGURE 2 – PITT STREET STATION LOCATION AND INDICATIVE LAYOUT



3 Proposed Project Works

3.1 CONSTRUCTION PHASE

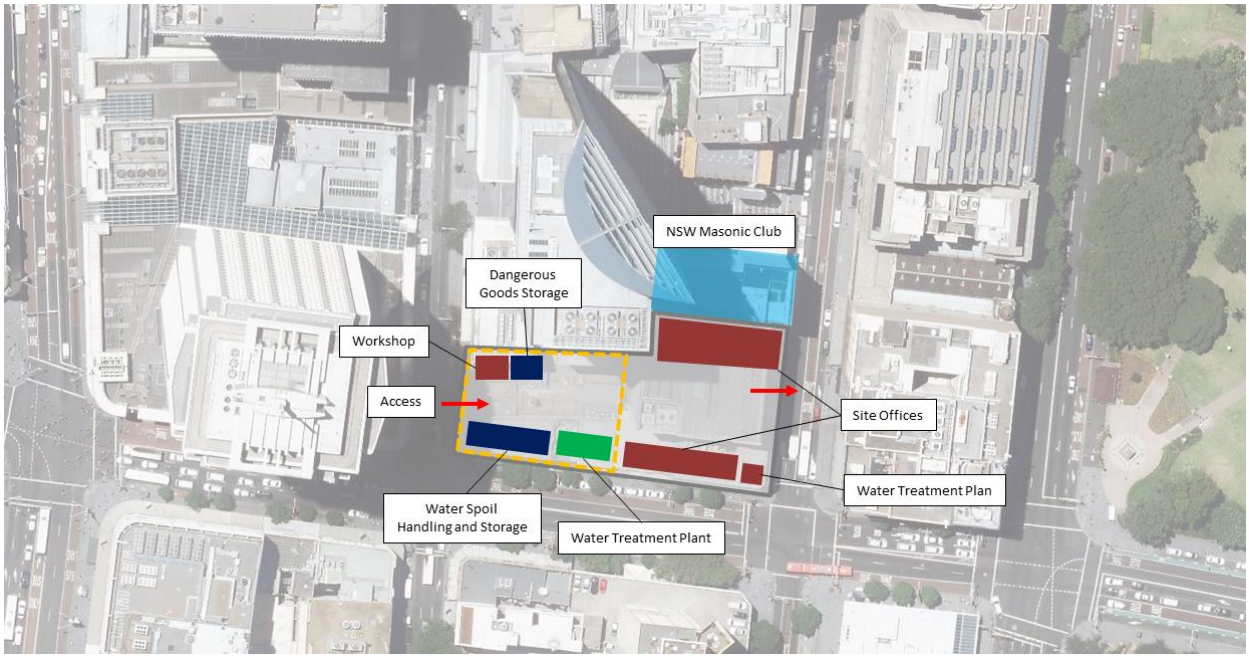
The level of information provided with the EIS to describe the construction process is very preliminary and schematic and inadequate to properly assess the implications of the project.

It is understood that the construction program would commence in 2017 and likely extend to 2024. Given the identified staging of construction, the NSW Masonic Club and Castlereagh Boutique Hotel would be most significantly impacted between 2018 to 2022, as tunnel construction, station demolition, excavation and structural works, station construction and fit out occurs. In other words some 4 years of construction impacts.

The EIS identifies that the Pitt Street north site would cover about 3,100sqm. The station could be constructed using a mined technique, with shafts excavated within the two sites to provide the future station entry and vertical transportation. It is estimated that approximately 160,000 cubic metres of spoil would be removed for the construction of the Pitt Street Station.

The proposed uses are illustrated in the following figure.

FIGURE 3 – RELATIONSHIP OF THE METRO PROJECT SITE TO THE CASTLEREAGH BOUTIQUE HOTEL



3.2 OPERATIONAL PHASE

The level of information provided with the EIS to describe the operation of the metro and the Pitt Street Station is very preliminary and schematic and inadequate to properly assess the implications of the project.

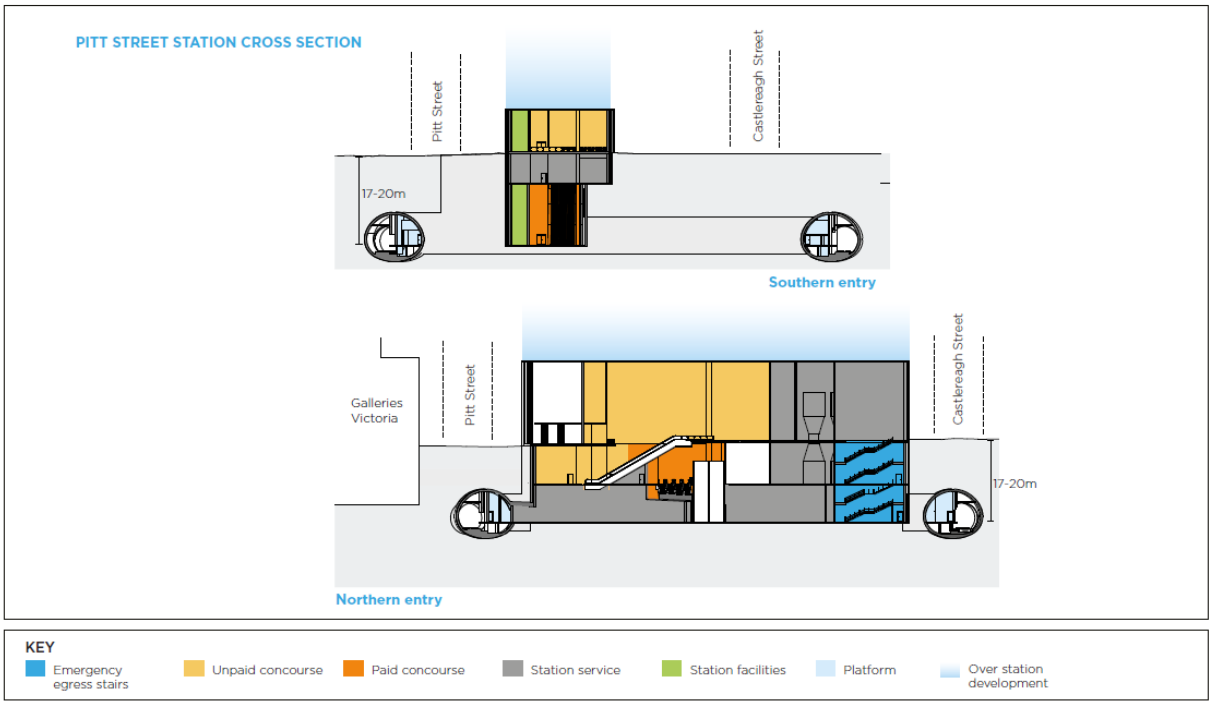
At the operational phase, it is understood that the following is proposed:

- A binocular cavern (mined) with two single side platforms;
- A northern entry via a pedestrian plaza opening to Pitt and Park Streets (with no design detail);
- A southern entry via a pedestrian plaza opening to Bathurst Street (with no design detail);

- A platform depth of approximately 17 metres at the northern end and 20 metres at the southern end;
- A platform length of approximately 170 metres and a width of 5 metres for each platform;
- New bike parking on Park and Bathurst Streets;
- Retention of existing bus stops close to Park and Castlereagh streets and existing taxi ranks.

A proposed cross section of the Pitt Street Stations is illustrated in Figure 4 below.

FIGURE 4 – PITT STREET STATION CROSS SECTION



It is understood that the proposed service frequency at the time of opening would be:

- Weekday morning and evening peaks – a six car train at least every four minutes (20 trains per hour)
- Weekday daytime off-peak – a six car train every five minutes through the Sydney CBD (12 trains per hour)
- Weekday early mornings, late at night and on weekends – a six car train every ten minutes with options to increase based on level of demand (six trains per hour).

4 Key Issues and Recommended Actions

The proximity of the proposed Pitt Street Metro Station to the NSW Masonic Club and Castlereagh Boutique Hotel is of particular concern for the owners of the building having specific regard to the following matters:

- Demolition, earthworks, construction and operation phases of the development, especially the duration of the proposed works and their adverse commercial impacts to the tenants and visitors to the NSW Masonic Club and guests of the Castlereagh Boutique Hotel.

- Built form and scale of the potential future above-station development at the northern entry to Pitt Street Station.

It is acknowledged that the future above-station development does not form part of the EIS and will be subject to further development consent. **It is recommended that a 6 metre setback is required of any above-ground development associated with Pitt Street Station (north).** Such a setback would enable the preservation and enhancement of the heritage listed building and facilitate increased ventilation and amenity. **The NSW Masonic Club and Castlereagh Boutique Hotel would seek to be involved in community consultation processes associated with the design and assessment of the Pitt Street Station (north) development.**

The following section of this submission provides detailed discussion regarding the particular area of concern with regard to the demolition, earthworks and construction phases of the Sydney Metro project.

4.1 ACOUSTIC AND VIBRATION

An Acoustic and Vibration Assessment was prepared by PKA Acoustic Consulting to identify the potential impacts of the Sydney Metro – Chatswood to Sydenham project to the NSW Masonic Club and Castlereagh Boutique Hotel and is included in **Appendix A**.

The assessment identified a number of key impacts associated with the proposed Metro, particularly pertaining to the Pitt Street Station and surrounding Metro tunnels. These include:

- Incorrect designation of subject site's use and consequential application of incorrect standards;

- Impact of the proposed construction hours, including out of hours works;

- Lack of evidence and management of consequential sound and vibration transmissions;

- Lack of evidence and management of consequential airborne noise sources; and

- Vibration impacts of Metro operation.

For the purposes of construction, the EIS identifies and classifies each of the uses surrounding the proposed construction works. **The subject site is inaccurately classified as commercial receiver, rather than a residential receiver (refer to Figure 5). As such the assessment of predicted noise and vibration impacts and exceedance of appropriate standards is inaccurate.** It is important that all future assessments and management plans identify the NSW Masonic Club and Castlereagh Boutique Hotel as a residential receiver, and therefore apply the relevant sensitive receiver requirements.

FIGURE 5 – PITT STREET STATION CONSTRUCTION SITE AND RECEIVER AREAS

The EIS suggests that out of hours works will be required for a number of significant development scenarios, including excavation of station shafts, excavation of station caverns, operation of tunnel boring machines and spoil removal and transportation from site. Given the proposed nature of works and uses to be located in the Pitt Street Station (north) site, out of hours works will be required and likely adversely impact acoustically and vibrationally the NSW Masonic Club. Further information is required to demonstrate the ability of the proposed works to comply with the *Interim Construction Noise Guidelines* that recommends maximum internal noise levels for a Hotel of 50dBA for bars and lounges in the daytime and evening, and 40dBA for sleeping areas at night-time.

The NSW Masonic Club has concerns regarding the proposed management of vibration noise sources. Further information is required to demonstrate that ability of the proposed works to not exceed the maximum noise management level of 40dBA on all Hotel floors, particularly those including components of accommodation and not exceed maximum perceived levels of noise and vibration.

The EIS identifies a number of trucks will be servicing the Pitt Street Station (north) site. Further information is required to demonstrate that appropriate noise protection is implemented to ensure compliance with the maximum noise management level of 40dBA for the hotel as a sensitive receiver.

The EIS identified that during construction, generators will be located adjoining the boundary of the NSW Masonic Club and Castlereagh Boutique Hotel. It is requested that the acoustic impacts to Club members and Hotel guests are appropriately addressed by detailed construction management plans. The Club and Hotel must be consulted during preparation and approval of more detailed design and management plans to ensure all off-site acoustic impacts as a result of the Sydney Metro are mitigated.

Given the structural interface of the hotel and proposed station, the Hotel use is not isolated and therefore is increasingly susceptible to ongoing vibration impacts associated with the operation of the station and

metro. **It is recommended that the proposed rail track bed is isolated from the station to ensure compliance with Australian Standard AS/NZS 2107.**

It is also noted that construction noise and vibration is expected to increase as a result of the cumulative noise and vibration from the Sydney Metro Chatswood to Sydenham over station development, the CBD and South East Light Rail and the 115-119 Bathurst Street redevelopment. **It is recommended that all NSW Masonic Club and Castlereagh Hotel southern and eastern windows are double glazed to assist in the mitigation of the projected acoustic impacts**.

4.2 STRUCTURAL ENGINEERING

A Structural Engineering Assessment was prepared by MPN Consulting Engineers to identify the potential impacts of construction and operation of the Sydney Metro – Chatswood to Sydenham project to the NSW Masonic Club and Castlereagh Boutique Hotel (Refer to **Appendix B**). The assessment identified that the proposed demolition, excavations and construction activities of the Pitt Street Station (North) will directly impact the Castlereagh Boutique Hotel.

The assessment identified that in accordance with the EIS guidelines, the subject site is a sensitive receiver. The site is sensitive both in terms of structural integrity and operation as a Hotel. Given the structural nature of the building, it is considered to be very susceptible to both movements and vibration transmission. Although the nominated vibration limit of 7.5mm/sec for a sensitive receiver is structurally appropriate to the NSW Masonic Club and Castlereagh Boutique Hotel , the high level of vibration will potentially significantly exceed the acceptable perceived vibration for guests.

MPN Consulting Engineers identified that the most significant structural impact to the NSW Masonic Club and Castlereagh Boutique Hotel will occur during the demolition phase of the proposed Sydney Metro works. Likely adverse impacts include

- Excessive vibration from continuous rock-hammering;
- Excessive vibration from isolated rock blasting;
- Foundation movements from stress-relief of large and deep excavations; and
- Underpinning and or shoring works to retain the NSW Masonic Club site's footings and basement floor-slab.

MPN identified the potential for concussive impact on the southern wall of the NSW Masonic Club and Castlereagh Boutique Hotel site is very high, and the demolisher's Work Plan must state particular attention to this aspect, of ensuring appropriate separation of the two buildings at all times. It is understood that this may require careful manual demolition at specific times of the demolition work.

The subject site is currently well maintained and in good condition. The exterior and interior condition of the building fabric should be comprehensively recorded in dilapidation survey reports to be undertaken at various stages of construction and operation of the metro. **It is recommended that dilapidation surveys be completed at the following stages:**

- **Prior to any works commencing (just before demolition works commence);**
- **After demolition, but prior to excavation and commencement**
- **Prior to commencement of the station construction; and completion of the works and opening of the Pitt Street Station (north).**

The dilapidation surveys should be complemented by concurrent noise and vibration assessment to measure the direct impact to the building. It is also **recommended that the use of deep vertical rock-saw cuts parallel to the site's southern boundary be done ahead of nearby rock-hammering so as to isolate rock-mass below the NSW Masonic Club and Castlereagh Boutique Hotel building from on-going vibration**.

Given the projected accumulation of acoustic, geotechnical and vibrational impacts, it is likely that structural impacts may impose irreversible damage to the heritage listed structure, detrimentally impacting the significant internal and external fabric of the building.

4.3 TRAFFIC AND PEDESTRIAN MANAGEMENT

A Traffic and Pedestrian Assessment was prepared by The Transport Planning Partnership Pty Ltd to identify the potential impacts of construction and operation of the Sydney Metro – Chatswood to Sydenham project to the NSW Masonic Club and Castlereagh Boutique Hotel . This assessment is included within **Appendix C**.

The primary traffic and pedestrian management concerns for the Masonic Club include:

- There is only a single access to the Hotel and Club, available from the Castlereagh Street frontage. No alternative access/loading points exist nor can any be implemented;

- It is indicated in the EIS that road network closures may be required to facilitate construction. The Pitt Street station is identified for full or partial temporary closure at night time only. Given the range of commercial, retail and residential (tourist accommodation) uses located on a site, requiring 24/7 access via a single access fronting Castlereagh Street, it is essential the pedestrian and vehicular traffic on Castlereagh Street is not temporarily or permanently closed at any time;

Accordingly, **the following recommendations are made:**

- **The retention of existing loading facilities and taxi zones located on the site's street frontage should be incorporated into the detailed construction traffic management plan, as these facilities are fundamental to the continued operation of the Hotel;**

- **The Hotel should be consulted prior to any changes either temporary or permanent being made to the existing parking, drop-off and loading zone;**

- **Construction traffic, particularly traffic that employs the secondary traffic route identified along Castlereagh Street, should be managed to ensure only low levels of light vehicles use this route to limit the commercial impact of all uses on the NSW Masonic Club site; and**

- **It is noted in the EIS that construction vehicles will load and unload inside the construction site to minimise impacts to bus travel times along Elizabeth, Castlereagh and Park streets. It should be conditioned that no construction trucks and vehicles park on-street along Castlereagh Street**.

4.4 GEOTECHNICAL

A Geotechnical Desktop Assessment was prepared by Douglas and Partners to identify the potential impacts of construction and operation of the Sydney Metro – Chatswood to Sydenham project to the NSW Masonic Club and Castlereagh Boutique Hotel (refer to **Appendix D**). The assessment identified that the primary impacts of the proposed excavation would be twofold, including:

- If the proposed excavation is brought up to the NSW Masonic Club's southern boundary, and the Hotel is not founded on consistent medium strength rock (as expected by Douglas and Partners records), it will be necessary for the relevant Metro contractors to progressively and carefully underpin the Hotel; and

- Significant excavation to the station platform will allow the adjacent intact rock to stress relieve and move inwards towards the excavation. The potential impact of this movement is that the building will stretch, giving rise to cracking within the structure. This potential impact reinforces the recommendations of MPN made earlier above concerning dilapidation surveys.

As a result, it should be conditioned that a two to three metre buffer zone is required between the proposed excavation and the Hotel foundations.

4.5 AIR QUALITY

An Air Quality Peer Review was prepared by Northstar Air Quality Pty Ltd to identify the potential impacts of construction and operation of the Sydney Metro – Chatswood to Sydenham project to the NSW Masonic Club and Castlereagh Boutique Hotel (refer to **Appendix E**).

The peer review identified that the Air Quality Assessment and Construction Environmental Management Plan that informed the EIS are highly inadequate. The detailed discussion of the potential impacts to be experienced at each work site is not provided within the air quality assessment and in the case of the Pitt Street Station, no discussion of the demolition works and potential for contamination from this demolition is provided.

The EIS does not provide any level of certainty that:

- The activities to be performed at any location have been fully characterised;
- The impacts which may arise as a result of those activities have been appropriately considered; and
- The level of management, mitigation and monitoring are sufficient to manage those impacts.

Northstar Air Quality Pty Ltd strongly advocates that a major re-assessment of air quality impacts be performed for this project in accordance with the recommendations included in the Peer Review. Upon completion of this re-assessment, opportunities for public consultation should occur to ensure that submissions can be made regarding direct impacts projected for land uses such as the NSW Masonic Club and Castlereagh Boutique Hotel.

4.6 OPERATIONAL IMPACTS TO NSW MASONIC CLUB

The aforementioned acoustic, vibration, structural engineering, traffic and pedestrian, geotechnical and air quality impacts have the potential to both individually and cumulatively significantly impact the commercial operation of the NSW Masonic Club and Castlereagh Boutique Hotel. The Club and Hotel has been part of Sydney's CBD fabric and character for nearly 100 years and this contribution should not be lost or "glossed over" despite the broader public benefit arguments for such a significant piece of new infrastructure as a metro system. Unless potential impacts identified in this submission are addressed, the real risk is that the Club and Hotel will be lost.

For this reason, it is disappointing that the EIS fails to truly analyse economic costs and benefits at a granular scale to give our client any comfort that their use can viably continue. The EIS lacks sufficient detail to qualify or quantify the commercial impact to the NSW Masonic Club and Castlereagh Boutique Hotel. Our analysis highlights that the Masonic Club and Castlereagh Boutique Hotel is itself an already highly constrained property and therefore has little tolerance to any significant disturbance to its physical neighbourhood. These issues must be properly managed and in our opinion, the EIS does not provide any comfort that these issues can be effectively managed without affecting the ongoing viability of the Masonic Club and Castlereagh Boutique Hotel.

The NSW Masonic Club and Castlereagh Boutique Hotel has recently experienced the unfavourable commercial impacts of demolition and construction phases associated with an adjoining site, the ANZ Tower. During the redevelopment of the adjoining site, the Castlereagh Boutique Hotel on the upper 6 floors of the NSW Masonic Club, **experienced a 20% decline in patronage, due to guest's exposure to adverse impacts associated with accessibility, noise, vibration, air quality and amenity**. Although these impacts were considered compliant by relevant approval conditions and standards, Castlereagh Hotel guests perceived these impacts as adverse to the functionality of the building and significantly diminishing the quality of the Castlereagh Hotel experience. This resulted in a significant impact to the commerciality of the Hotel, questioning its ability to adequately function in similar circumstances in the future.

It is important to note that since that redevelopment, guest experiences are increasingly shared and distributed on social media networks such as TripAdvisor. Should the projected unacceptable impacts of the construction and operation of the Sydney Metro hinder the guest experience, it is likely that the commercial viability of both the NSW Masonic Club and Castlereagh Boutique Hotel will be threatened.

The aforementioned key issues highlight that the proposed construction and operational works associated with the Metro, and particularly the Pitt Street Station (north), will have a significant impact on the southern façade of the NSW Masonic Club. **With more than 40 habitable rooms directly adjoining the southern façade, and a potential for 34 rooms (at the existing 80% occupancy rate) to be directly impacted by the proposed works, this will have a significant impact on the commercial viability of these rooms and therefore the entire hotel function.**

Therefore it is necessary that appropriate mitigation measures be imposed to all works associated with the Chatswood to Sydenham Metro that could constrain the current functionality of the NSW Masonic Club, and all associated uses.

Moreover, the NSW Masonic Club is already limited to a single pedestrian entrance via Castlereagh Street. Given the nature and myriad of uses currently accommodated on site, **it is a critical for business viability that existing access for both pedestrian and vehicular deliveries is retained as accessible 24/7.**

4.7 OTHER ISSUES

The EIS identifies that the Pitt Street (north) station will include a power substation that will be used for future Metro lines. **It is recommended that potential impacts, particularly off-site impacts, and appropriate mitigation measures are assessed and identified in detail. The facilities provided in the club, including telephone, internet and WiFi should not be adversely impacted by Electro-Magnetic Radiation generated by the construction or future operation of such a substation**.

5 Conclusion

This submission has identified genuine and significant impacts on the NSW Masonic Club and Castlereagh Boutique Hotel as a result of the proposed Sydney Metro Project.

The proposed works associated with the Pitt Street Station component of the project will have potential for an **unreasonable and unacceptable impact** on the NSW Masonic Club and Castlereagh Boutique Hotel if appropriate conditions and mitigation measures are not implemented. Therefore any approval should incorporate all recommendations identified in the specialist assessments included in this submission.

We submit that this impact will be most effectively mitigated by implementing a number of the identified recommendations for the relevant detailed design, construction and operation phases. If this cannot be achieved, then the following outcomes are expected:

- The commercial viability of the NSW Masonic Club, including the existing retail and education tenancies and Castlereagh Boutique Hotel will be significantly adversely impacted, rendering the existing uses unviable for the duration of the major construction works, estimated at a minimum to last 3-4 years; and

- The cumulative vibrational, geotechnical and structural impacts projected during the duration of the major construction works will potentially render the entire NSW Masonic Club and Castlereagh Boutique Hotel uninhabitable and impose irreversible damage to the heritage significance of the existing building.

The NSW Masonic Club and Castlereagh Boutique Hotel would welcome the opportunity to further outline and discuss the important concerns and details of this submission and be involved in future discussions to inform more detailed design and management of the Chatswood to Sydenham Metro.

Disclaimer

This report is dated 27 June 2016 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of NSW Masonic Club (**Instructing Party**) for the purpose of Public Submission (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

In preparing this report, Urbis may rely on or refer to documents in a language other than English, which Urbis may arrange to be translated. Urbis is not responsible for the accuracy or completeness of such translations and disclaims any liability for any statement or opinion made in this report being inaccurate or incomplete arising from such translations.

Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

Appendix A Acoustic and Vibration Assessment

ASSESSMENT OF THE ACOUSTIC EFFECTS OF

THE PROPOSED CONSTRUCTION OF THE

SYDNEY METRO CHATSWOOD TO

SYDENHAM LINE ON THE CASTLEREAGH

BOUTIQUE HOTEL

Project 216 088

23 June 2016

Prepared For:
Paul Brasch

169 Castlereagh St
Sydney NSW 2000

Email: gm@thecastlereagh.com.au

File: 216 088 R01

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CONTENTS

1.0 INTRODUCTION

As requested by our client the NSW Masonic Club incorporating Castlereagh Boutique Hotel of 169 Castlereagh St, Sydney, we have looked at the impact in both cases of noise transmission and structural borne vibration transmission would have on the day to day operation of the NSW Masonic Club incorporating Castlereagh Boutique Hotel.

In coming to this assessment we have looked at the Environmental Impact Statement (EIS) for this project together with Report No 610.14213-R3 prepared by SLR Consulting. In addition we have drawn on our vast experience of isolating buildings over the Sydney rail loop together with extensive vibration measurements of a number of buildings that are located over the existing Sydney rail loop. This also includes our experience with isolating the rail line under The Theatre Royal, Sydney.

2.0 EXECUTIVE SUMMARY

In the EIS the premises at 169 Castlereagh Street is shown as a **Commercial** building whereas it must be considered as a **Residential** building as it provides accommodation on a 24 / 7 basis. In my opinion this is a serious error on the part of the EIS. I have noted that the Sheraton On The Park Hotel is listed as **Residential** in the EIS therefore the premises at 169 Castlereagh Street must be considered as a Residential classification.

The noise and vibration criteria given in both the EIS and the SLR report is appropriate for this project. In particular Australian Standard AS / NZS 2107 is used for determining appropriate target levels due to the operation during the construction phase and the ongoing operating phase. In the case of AS/ NZS 2107 this was my original concept and I wrote the draft version of what was to become an Australian Standard therefore I consider this the appropriate Standard to protect against noise intrusion. In addition the NSW Department of Planning's *Development Near Rail Corridors and Busy Roads – Interim Guidelines* is an industry standard in terms of noise goals.

Despite the appropriate noise and vibration criteria being recommended in the EIS, I strongly doubt that they will be able to comply with these conditions for the NSW Masonic Club incorporating Castlereagh Boutique Hotel during the construction phase. Whilst it is possible for the Metro Construction Authority to provide double glazing to the Castlereagh Street façade and the southern façade to ensure that the designed maximum noise targets for airborne sound listed in the EIS are achieved, the possibility of structural borne noise from the adjacent construction together with the perceptible vibration most likely will not meet the established targets.

The acoustic criteria for sleep disturbance is consistent with our own office standard.

The ongoing protection from rail generated noise after the project becomes operational is of concern. Whilst I assume that the rail line will be vibration isolated my experience with The Theatre Royal, Sydney with the problem of corrugation of the rail line with wear, together with the inability to grind the rail line, makes me concerned for the ongoing acoustic protection of the NSW Masonic Club incorporating Castlereagh Boutique Hotel.

3.0 ACOUSTIC PROTECTION OF EASTERN AND SOUTHERN FACADES

The increased traffic due to spoils being removed from the station site together with eventually construction materials will cause an increase in the noise level on both the eastern and southern facades that will undesirably effect the amenity of the hotel. It is my opinion that the construction authority will need to provide appropriate double glazing to the eastern and southern facades to provide compliance with their own noise criteria nominated in the EIS.

This is important as the hotel section of the development is internationally recognised and therefore people may be arriving by overseas flights and looking to rest during the daytime. Therefore it is imperative that the acoustic protection is on a 24 hour basis.

4.0 ESTABLISHING THE EXISTING NOISE AMENITY

It is my opinion that the existing noise amenity enjoyed in the accommodation areas should be established. It is noted in the EIS that they talk of establishing the noise amenity on likely affected buildings. However I think it is important that the noise amenity enjoyed by 169 Castlereagh Street is established independently of the Construction Authority.

5.0 NOISE AND VIBRATION MONITORING

During the construction phase it is recommended that noise and vibration monitoring be carried out within a selected room of the 169 Castlereagh Street to ensure that the nominated noise targets contained within the EIS for the project together with those nominated in the SLR Report No 610.14312-R3 are not exceeded.

6.0 ONGOING NOISE GENERATION BY THE OPERATION OF THE CHATSWOOD TO SYDENHAM METRO

The ongoing operation of the Metro after the construction period is also a concern. The Hotel building is not isolated in terms of vibration therefore it will be necessary to isolate the rail track bed. The isolation technology used must not only provide compliance with Section 3.6.2 of the NSW Department of Planning's *Development Near Rail Corridors and Busy Roads – Interim Guidelines* when first installed but must be able to provide compliance on an ongoing basis. This may prove difficult to achieve due to the problem of maintaining rail lines within tunnels.

Appendix B Structural Engineering Assessment

MPN GROUP
CONSULTING ENGINEERS
STRUCTURAL AND CIVIL

VKM:RS
10846-VKM02

22 June 2016

Masonic Club (NSW) and Castlereagh Boutique Hotel
169 Castlereagh Street,
SYDNEY NSW 2000

Attention: Mr Paul Brasch – General Manager | E: gm@thecastlereagh.com.au

Dear Sir,

RE: CLUB AND HOTEL PREMISES AT 169 CASTLEREAGH STREET - SYDNEY,
AND: NEIGHBOURING PROPOSED SYDNEY METRO STATION AT PITT STREET (NORTH)

INTRODUCTION

MPN Group Pty Ltd, Civil-Structural Consulting Engineers, confirm you have engaged us to offer our advice and recommendations in relation to the proposed creation of a new underground metro station as part of Transport NSW's Sydney Metro – Chatswood to Sydenham, namely Pitt Street (North) station, and how it will affect your Club and Hotel facilities.

The proposed site of the Pitt Street North station abuts your building's southern boundary, and requires, amongst others, the demolition of the commercial office building at 175 Castlereagh Street. We note that the concrete façade of 175 Castlereagh Street is immediately in contact with the stone and brick façade of 169 Castlereagh Street. There will also be substantial excavations, tunnelling and construction of a new station and ancillary facilities.

It is our opinion that your Club and Hotel building at 169 Castlereagh Street will be directly impacted by the proposed demolitions, excavations and construction activities leading to the new metro station at Pitt Street (North).

CLUB & HOTEL AT 169 CASTLEREAGH ST – DESCRIPTION

A full description of the historic Masonic Club (NSW) is available in the Conservation Management Plan undertaken in 1999. The Club has one basement level, six levels of Club facilities, and the upper six levels operate as a commercial hotel for travelling guests (inter-state and international).

The original architectural drawings (dated 1924), indicate that this very early high-rise building, has isolated pad-footings down to a stratum approximately 2 metres below the basement level. The building frame-system appears to be a rectangular grid of columns and beams employing site-mixed concrete encasement of rolled and/or plated steel members. There are no identifiable shear walls beyond the infill brickwork around the lift and stair shafts, and those forming room partitions. In our opinion the building would classified as a braced sway-frame, however the bracing is via non-ductile brickwork. That is, the building in our opinion would be quite susceptible to both movements and vibration transmission.

It is our opinion that the Masonic Club (NSW) and Castlereagh Boutique Hotel at 169 Castlereagh Street be identified as a Sensitive Receiver in accordance with assessment guidelines noted in the Sydney Metro EIS at section 10.2. It is Sensitive both in the Structural sense, and in the Operational sense, particularly your hotel component.

CLUB & HOTEL AT 169 CASTLEREAGH ST – CONDITION

The club and hotel is well maintained and in very good condition, particularly given its age (90+ years). The condition of the building fabric (exterior and interior) ought to be recorded in Dilapidation Survey reports, to be undertaken at various stages of the adjoining project. We recommend Dilapidation Survey reports to be undertaken at:

i. Prior to any works commencing (just before demolition works commence),
ii. After demolition, but prior to excavation commencement,
iii. Prior to commencement of the station construction,
iv. Completion of the works and opening of the Pitt Street metro station.

Vibration and noise monitoring and their assessments will span these phases too, we presume, as will be advised by other consultants.

These monitoring works will allow a comprehensive picture of cause and effect of any damages sustained by the Club and Hotel to be established.

SYDNEY METRO IMPACTS ON YOUR CLUB & HOTEL – DEMOLITION WORKS

In our opinion, the greatest potential for serious impact to your building and guests will be during the demolition phase of the metro works.

The existing building immediately to your south, 175 Castlereagh St, which is to be demolished, is a large, concrete commercial office building (constructed c. 1970s), of a similar height to your building, but of greater width.

All demolition works must be done in compliance with A.S. 2601-2001 "The demolition of structures". We note that demolition is not dealt with in the same level of detail as other construction and operational aspects of the Sydney Metro project. (ref. Cl. 7.11.4 – one page!). We therefore high-light the following specific major aspects of the Demolition code which must be complied with by Sydney Metro contractors:

a) A hazardous substance audit needs to be undertaken (cl 1.6.1 of AS 2601) and submitted for review;
b) The protection of adjoining buildings must be considered in a Safe Work Method Statement, in relation to safe access/egress, damage to structural integrity, vibration and concussion, weather-proofing (of newly exposed surfaces), smoke control, dust control, noise control, and maintenance of common/public services (section. 1.7 of AS 2601),
c) Investigation of the structure to be demolished and its environment to be considered (cl. 2.2.2 and 2.2.3) , but in particular whether the structure to be demolished has post-tensioning, or pre-cast elements which may have significant bearing on the appropriate demolition technique and safety measures,
d) A Work Plan is to be prepared (cl. 2.3 of AS 2601) , and we suggest should be submitted for review and agreement,
e) Prohibition of loading (rubble and debris) against walls (cl. 3.1.4 of AS 2601) – this is of particular concern as the demolition will be immediately abutting your southern wall, and the potential risk of significant damage to your building is high.

The potential for concussive impact onto your southern wall is very high, and the demolisher's Work Plan must state particular attention to this aspect, of ensuring separation of the two buildings at all times. This may require careful manual demolition at specific times of the demolition work.

The nominated vibration limit of 7.5mm/sec for sensitive buildings like yours as referenced in the Sydney Metro EIS is in our opinion appropriate for the demolition phase in relation to your structure. (However, this level of vibration may significantly exceed the acceptable perceived vibration for your guests).

SYDNEY METRO IMPACTS ON YOUR CLUB & HOTEL – EXCAVATION WORKS

The general site excavation extents and depths of the Pitt Street (North) metro station are not clear in the EIS. However, there is a reasonably clear indication that the metro tunnel under Castlereagh Street will come within 17m of the ground surface, which suggests the tunnel may

come as close as 12m from the underside of your building's footings (allowing a 3m basement + 2m deep footings).

The likely adverse impacts upon your building from the potential excavations as described in the EIS are as follows:

a) Excessive vibration from continuous rock-hammering;
b) Excessive vibration from isolated rock blasting;
c) Foundation movements from stress-relief of large and deep excavations;
d) Underpinning and or shoring works to retain your footings and basement floor-slab.

If the vibrations at items a) and b) at retained to a maximum of the 7.5mm/sec level previously mentioned, then damages to your building's structural fabric are quite unlikely. The Sydney Metro EIS is rather vague on noise and vibration control of blasting in particular. On-going recorded noise and vibration monitoring at various locations of your building can act as an effective control, and would help mitigate concerns from these excavation activities.

We would suggest the use of deep vertical rock-saw cuts along/ parallel to your southern boundary be done ahead of nearby rock-hammering so as to isolate the rock-mass below your building from on-going vibrations.

If the general site for the new Pitt Street station to your south (bound by Park, Castlereagh and Pitt Streets) is to be excavated, the removal of this large rock-mass could induce substantial movements in the remaining sandstone rock-mass at the base and periphery of the hole. Such movements could be of the order of 5-10mm we understand. While such movement would affect probably only the basement level and ground floor, the non-ductile nature of your building means that such foundation movements may create one of two very large cracks (as opposed to what may happen in a modern, ductile structure, where such degree of movement could be accommodated by an accumulation of dozens of very fine to hair-line cracks). That is, the creation of large (potentially alarming) cracks in your building due to such stress-relief foundation movements is quite probable. *We would suggest that the new station's design cater for a shelf of restraining rock at least 2-3 meters wide adjoining your building be kept at or above your footing level, to minimise such movements*.

Notwithstanding the depth of excavation, any adjoining excavation to your boundary would likely necessitate some amount of underpinning or shoring.

SYDNEY METRO IMPACTS ON YOUR CLUB & HOTEL – CONSTRUCTION WORKS

The construction phase of the metro station, would be, in our opinion, the least likely to cause impacts upon your building in a structural sense.

However, there are a host of considerations in relation to crane-swings, hoist operations, concrete placement, percussive tools, removal (dropping) of form-work, etc., which may impact upon your building, and more particularly upon your guests.

We trust the foregoing will assist you in your overall response to the Sydney Metro EIS. If you have any questions with the contents, please contact the writer.

Yours faithfully
MPN GROUP PTY LIMITED

VIKTOR MATEFFY
Director
BE(Hons), MEngSc, MIE(Aust),
CPEng, NER(17240)

Appendix C Traffic and Pedestrian Management Assessment

Our Ref: 16104

June 24, 2016

Castlereagh Boutique Hotel & NSW Masonic Club
169 Castlereagh Street
Sydney NSW 2000

For the attention of Paul Brasch (General Manager)

Dear Paul,

RE: 169 Castlereagh Street - Traffic/Transport Implications of Proposed Sydney Metro

I have prepared this report for submission to Transport for New South Wales on behalf of The Castlereagh Boutique Hotel and NSW Masonic Club to ensure that their interests are protected during the construction of Sydney Metro and in particular the construction of the Pitt Street Station. The main concerns for the hotel are as follows.

1. There is only one access to the hotel which is from the Castlereagh Street frontage. There are no alternative access/loading points that can be implemented.
2. Consequently, existing loading facilities and areas for taxi drop off outside the hotel site need to be accommodated in the eventual construction traffic management.
3. The Hotel should be consulted prior to any changes either temporary or permanent being made to the existing parking, drop off and loading zones.
4. Construction traffic (particularly the secondary traffic route identified along Castlereagh Street) should be managed such that only low levels of light vehicles such that it should not affect the operation of the businesses along Castlereagh Street.

These concerns are explained in more detail below.

The Transport Planning Partnership Pty Ltd
ACN 607 079 005
Suite 4, 22 Atchison Street
ST LEONARDS NSW 2065
Tel: 02 8437 7800
Email: ken.hollyoak@ttpp.net.au

The Castlereagh Boutique Hotel

The hotel is a heritage site property located at 169-171 Castlereagh Street. The NSW Masonic Club was established in 1893 and the building commenced in 1925. It has 83 rooms/suites with associated dining and lounge facilities (i.e. Cello's Grand Dining Room, the Reagh Bar and the Castlereagh Lounge). These facilities are used for a number of functions.

At ground level, the hotel site contains 3 tenancies two of which are occupied by 'Pie Face' and the other by a jeweller. There are also 3 education leases on one of the commercial levels.

There is no parking provided for residents or employees on site, although there is a commercial arrangement by which guests can pay to use the Hilton Hotel Secure parking.

At present, there are no loading facilities on site with all deliveries made on the Castlereagh Street frontage with supplies / deliveries wheeled in through the main lobby or via a small access door located around 5m to the north of the main lobby.

The deliveries that regularly visit the Hotel at the moment are

- Garbage – once per day
- Kitchen Deliveries – twice per day
- Beverage Delivery – once per day
- Contactors for maintenance/building works (e.g. air conditioning, plumbing, electrical) – up to 4 per day
- Other deliveries (chemicals for laundry etc.) – once per day

These deliveries all take place on Castlereagh Street in existing loading zones/restricted parking areas located directly outside the site.

In addition, there are around 2000 members of the Masonic Club who also often use the hotel. Many of the Masonic Club members, and hotel users, are elderly and therefore require access to the front door which results in significant taxi activity along the site frontage. Indeed, the Hotel had been speaking to City of Sydney about replacing the no parking on the adjacent kerbside to the south of the hotel to 5 minute drop off / pick up. The hotel is generally around 80% full, representing around 19200 night stays per annum.

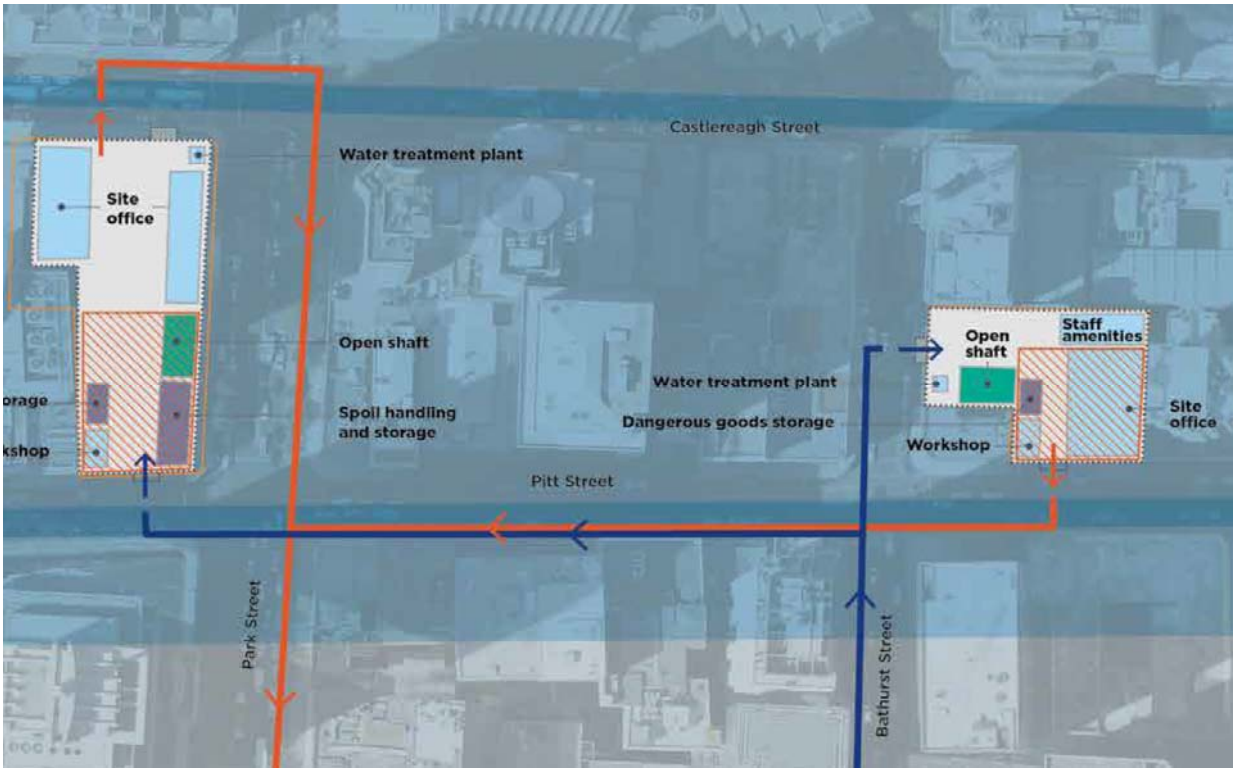
In summary, therefore, the protection of the loading / drop off facilities on Castlereagh Street are of fundamental importance to the continuing operation of the hotel.

Sydney Metro

The project involves the construction and operation of a metro rail line, around 16.5 kilometres in length, between Chatswood and Sydenham.

New metro stations would be developed at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street and Waterloo, as well as new underground platforms at Central Station.

The planned Pitt Street station is proposed to include 2 construction sites as shown below

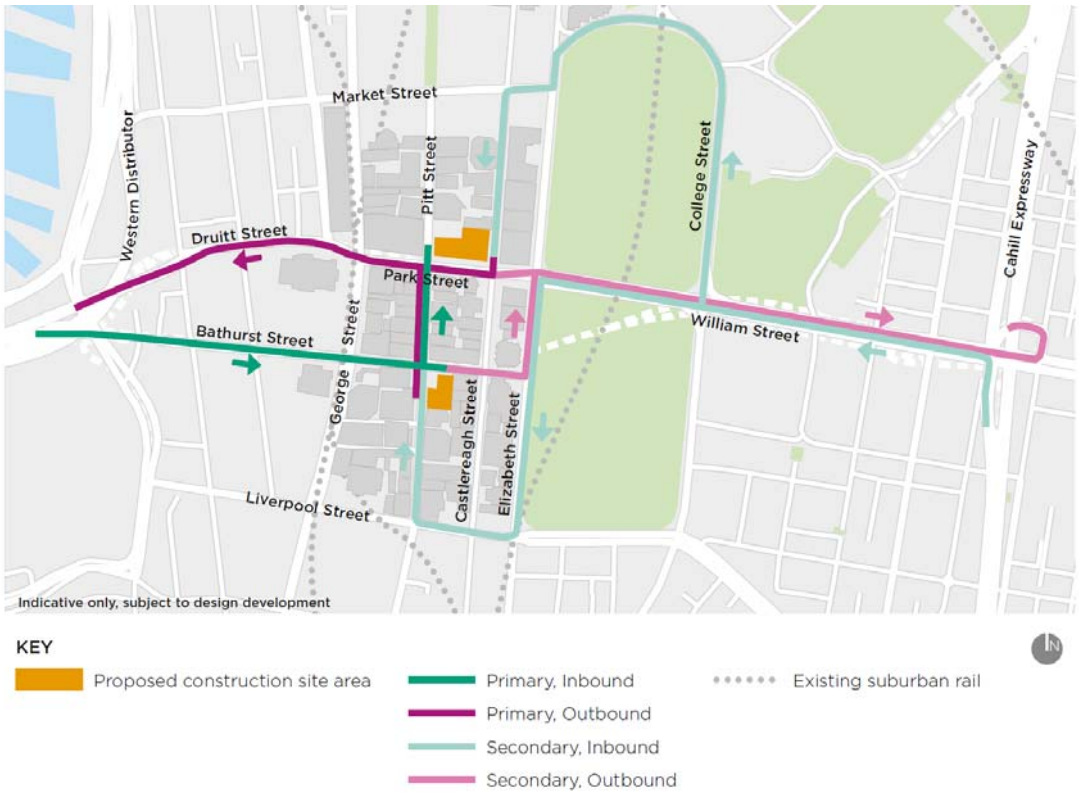


The Castlereagh Hotel is located directly adjacent to the northern Pitt Street as shown outlined in red below.

It is proposed that access into the construction site adjacent to the hotel is primarily achieved by a right turn in from Pitt Street (as shown in blue) and exit is achieved by a right turn out into Castlereagh Street as shown in orange.

It is assumed therefore, although it is not explicit in the EIS, that construction traffic passes through the construction site as shown below. This would mean that the primary construction traffic on my assumed yellow route would not pass the hotel site.

However, it is noted that in other plans, Castlereagh Street is proposed as a secondary route for construction traffic. This would mean that the secondary construction traffic would pass the hotel site.



Construction Traffic Volumes

It is anticipated that there will be following number of construction vehicles: -

- Demolition: Trucks 96 per day and light vehicles 78 per day
- Excavation: Trucks 234 per day and light vehicles 104 per day
- Station fit out: Trucks 202 per day and light vehicles 104 per day

Although the Environmental Impact Assessment is not specific about this, it is presumed that this is the estimated construction traffic likely to be using BOTH Pitt Street sites. Again, it is not stated whether the estimated construction vehicle truck numbers would travel along the primary or secondary routes. I have assumed that trucks would travel along the primary routes although some of the light vehicles might use the secondary routes.

The figure of 234 excavation trucks would over a typical working day of, say 10 hours, would equate to around 3 trucks per minute which if split equally between the two sites would mean one truck leaving the site adjacent to hotel every 6 minutes throughout the working day.

The volume of construction traffic throughout a typical day is shown graphically below.

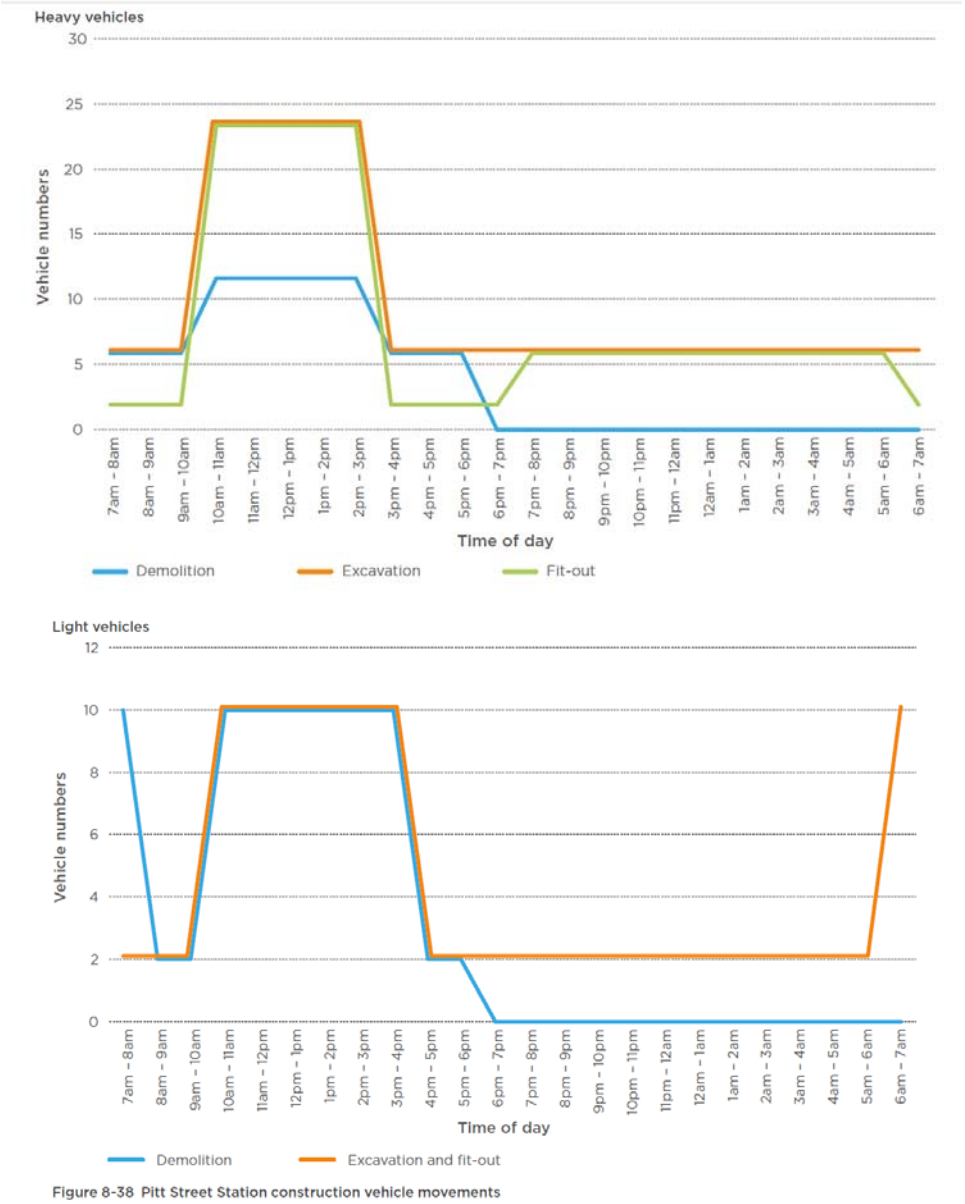


Figure 8-38 Pitt Street Station construction vehicle movements

It is noted that construction vehicles will load and unload inside the construction site to minimise impacts to bus travel times along Elizabeth, Castlereagh and Park streets so there will be **no construction trucks parked on-street along Castlereagh Street.**

Parking

It is noted that the EIA states that will be **nil street parking changes** resulting from the proposal in the vicinity of the Pitt Street station construction. Furthermore, the existing taxi bays in the vicinity of the proposed stations on Castlereagh and Pitt streets will be retained.

It is also noted that four to 10 parking spaces for use by engineers and other management staff **will be provided on site** although generally contractors, other than those workers arriving using public transport, are likely to consider 'park and shuttle' services to transfer the majority of workers to this site

Operational Traffic Impacts

It is noted that in terms of operational impacts resulting from the new station following completion of the project, it is anticipated that there will be no change to the Level of Service experienced by traffic locally on the road network.

	Without construction			With construction		
Peak period	Average delay (second per vehicle)	Level of Service	Degree of saturation	Average delay (second per vehicle)	Level of Service	Degree of saturation
Park Street / Castlereagh Street						
AM	23	B	0.67	23	B	0.67
PM	30	C	0.72	30	C	0.72

Finally, it is also noted that in order to enable cycle interchange with the station, cycle parking would be provided at the northern station entrance near the Park Street / Castlereagh Street intersection

Summary

I would submit therefore that TfNSW need to ensure that the following critical matters be accommodated within the proposed construction traffic management plan.

5. There is only one access to the hotel which is from the Castlereagh Street frontage. There are no alternative access/loading points that can be implemented.
6. Consequently, existing loading facilities and areas for taxi drop off outside the hotel site need to be accommodated in the eventual construction traffic management. The Hotel should be consulted prior to any changes either temporary or permanent being made to the existing parking, drop off and loading zones.
7. Construction traffic (particularly the secondary traffic route identified along Castlereagh Street) should be managed such that only low levels of light vehicles such that it should not affect the operation of the businesses along Castlereagh Street.

If you require anything further, please feel free to call me at this office

Yours sincerely,

Ken Hollyoak
Director

Appendix D Geotechnical Assessment

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Masonic Club & Castlereagh Boutique Hotel
169 Castlereagh Street
Sydney NSW 2000

Project 85527.00
24 June 2016
85527.00.R.001.Rev1
JCB:mm

Attention: Mr Paul Brasch - General Manager

Email: gm@thecastlereagh.com.au

Dear Sirs

Likely Effects of Proposed Pitt Street Metro Station on Club and Hotel at 169 Castlereagh Street, Sydney

1. Introduction

Douglas Partners Pty Ltd (DP), Geotechnical Consultants, were retained by yourselves to review the Environmental Impact Statement (EIS) for the Chatswood to Sydenham section of the proposed Sydney Metro, City and Southwest particularly in relation to the likely effects of the Pitt Street Station and tunnels, on the NSW Masonic Club and Castlereagh Boutique hotel, located at 169 Castlereagh Street Sydney..

The proposed site of the Pitt Street station abuts the southern boundary of 169 Castlereagh Street. The adjacent building, 175 Castlereagh Street, is to be demolished followed by substantial excavations for entries into the proposed underground station.

2. Excavation Effects

Apart from noise and vibration, which have been addressed by others, the other main effects of a significant excavation down to station level and the tunnel excavation will be:

- It is understood that the Hotel building has one basement level. Based on DP records of drilling adjacent to the Hotel, it appears that consistently medium strength rock is not present until a depth of approximately 6 m. Hence, if the proposed excavation is to be brought up to the Hotel's southern boundary and if the Hotel is not founded on consistent medium strength rock, it will be necessary for the Metro Contractors to progressively and carefully, underpin the Hotel;
- A significant excavation down to station platform level will allow the adjacent intact rock to stress relieve and move inwards towards the excavation. The movement will "raft" any adjacent building or infrastructure towards the excavation while the differential movement back from the excavation will stretch the building, giving rise to cracking within the structure. The greatest

movement will be at points approximately half-way along all excavation faces. This means that the southwest corner of the Hotel building, which will be at about the midpoint of an excavation, may move in the order of 5 -10 mm in a south-westerly direction, giving rise to diagonal cracks, at least within the basement and depending on how brittle the building is, possibly in some of the floors above; and,

- Excavation of the platform/tunnel will induce settlement of the overlying strata. From our experience on similar projects, settlement in the order of 2 to 5 mm might be expected. This may give rise to some cracking in the building above. Numerical modelling would be required to properly assess the amount of settlement. It would be important to assess the degree of differential settlement between footings along the alignment of the platform and tunnel.

3. Potential Mitigating Measures

Both the above effects could be mitigated or reduced by leaving a buffer zone between the proposed excavation and the hotel foundations. The wider the zone, the less the stress relief effects will be experienced.

We would suggest that to negate the requirement for underpinning the buffer zone should be at least 2 - 3 m wide, though such a width would probably only reduce the stress relief movement at the southwest corner of the Hotel by 2 - 3 mm.

In summary, the proposed Pitt Street Station excavation will give rise to a number of potentially adverse effects to the Club and Hotel at 169 Castlereagh Street, Sydney.

Please contact the undersigned if you have any questions on this matter.

Yours faithfully
Douglas Partners Pty Ltd

Reviewed by

John Braybrooke
Principal

Hugh Burbidge
Senior Associate

Attachments About this Report

About this Report

Douglas Partners

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

Appendix E Air Quality Assessment

Peer Review

Date: Friday, 24 June 2016

Castlereagh Boutique Hotel & NSW Masonic Club
169 Castlereagh St, SYDNEY NSW 2000

FAO: David Hoy (Urbis)

Project Name:	**Independent Peer Review – Sydney Metro EIS – Air Quality**
Reference:	**16.1031.L1V1**

Please find detailed overleaf the findings of the requested peer review of the Sydney Metro Environmental Impact Statement (EIS) (Chatswood to Sydenham) which outlines our findings and recommendations.

Please note that the observations presented in this letter are offered without conflict of interest or prejudice.

If you require any further information or clarification, please do not hesitate to contact the undersigned at your convenience.

For and on behalf of
Northstar Air Quality Pty Ltd

Dr Martin Doyle
Director & Principal Air Quality Scientist

Gary Graham
Director & Principal Air Quality Scientist

Reviewed by: Gary Graham / Martin Doyle

1. Summary

The air quality assessment and construction environmental management plan are considered to be highly inadequate for the purposes of such a major infrastructure project. Locations of work sites within densely populated urban environments and the scale of works proposed clearly warrant a more detailed air quality assessment to be provided. The level of assessment provided is cursory at best and is broad brush in its application. Detailed discussion of the potential impacts to be experienced at each work site is not provided within the air quality assessment and in the case of the Pitt St Station, no discussion of the demolition works and potential for contamination from this demolition is provided.

Given that the Secretary's Environmental Assessment Requirements (SEARs) require an assessment of air quality to be performed (not identified within the EIS), the level of assessment performed is not sufficient.

It is strongly advocated that a major re-assessment of air quality impacts be performed for this project. The air quality assessment and construction environmental management framework should include (as a minimum and specific to each location):

- A discussion of the relevant air quality standards.
- A detailed outline of the existing air quality likely to be experienced (without the impact of the project) surrounding each construction / operational activity.
- A detailed discussion of the activities to be performed at each construction / operational site including information on:
  - the activities to be performed at each location; and
  - the quantities of material to be excavated, stored, transported.
- the potential for off-site air quality impacts to occur.
- the potential emission control measures which may be employed to mitigate/minimise any impacts. These should be specific and take into account the potential high risk activities to occur at each location.
- a detailed plan of how the control measures would be employed, managed and audited in reference to minimising off-site impacts.
- a detailed and site specific method for assessing potential off-site impacts (specific to activity where required). This should not rely solely on visual inspections.
- a detailed plan of back-up measures or activity modification should off-site impacts be identified;

At present, the air quality assessment and environmental management framework do not provide any level of certainty that:

1) the activities to be performed at any location have been fully characterised;
2) the impacts which may arise as a result of those activities have been appropriately considered; and
3) the level of management, mitigation and monitoring are sufficient to manage those impacts.

Once the air quality assessment has been re-performed, it is recommended that a further round of review be performed to ensure that the potential impacts and management measures are appropriate for each location. Given the major inadequacies in the assessment, the following review is necessarily broad.

2. Introduction

Castlereagh Boutique Hotel & NSW Masonic Club (the Hotel & Club) has requested an independent peer review of the Sydney Metro City & Southwest, Chatswood to Sydenham Environmental Impact Statement and specifically those chapters which relate to air quality impacts. The Castlereagh Boutique Hotel & NSW Masonic Club is located at 169 Castlereagh St, Sydney and is located immediately north of works proposed as part of the Pitt St Station construction. This review is primarily concerned with those issues identified within the EIS which have the potential to impact upon the Hotel & Club although many of the issues identified are common across all locations. This review does not seek to identify and discuss issues as they relate to every geographical location but where possible, focus on the construction of the Pitt St Station and specifically the activities proposed to the immediate south of the Hotel & Club is provided.

The review does not seek to identify minor typographical errors but identifies broader issues of relevance

3. Review

The peer review contained within this document relates to the Sydney Metro City & Southwest, Chatswood to Sydenham Environmental Impact Statement (hereafter, 'the EIS'). The main volume of the EIS contains a number of chapters which have been reviewed in detail:

- Chapter 1 – Introduction and Appendix A (Secretary's Environmental Assessment Requirements).
- Chapter 2 – Planning and assessment process (adopted legislation).
- Chapters 6 & 7 – Project description operation and construction.
- Chapters 8 & 9 – Operational and construction traffic and transport.
- Chapter 18 – Soils, contamination and water quality.
- Chapter 22 – Air quality.
- Chapter 24 – Waste management.
- Chapter 27 – Consolidated environmental mitigation measures.
- Chapter 28 – Environmental risk analysis.
- Appendix D – Construction environmental management framework; Chapter 16 – Air quality.

Although chapter 22 provides assessment specifically related to issues of air quality, the additional chapters reviewed provide background and information which is pertinent to the likely impacts on air quality (e.g. spoil volumes moved, traffic generation and demolition schedules).

The peer review has considered the following:

- Adoption of relevant/appropriate criteria/guidelines and standards.
- The methodology adopted in performing the assessment.

- The appropriateness of the data obtained to inform the assessment.
- The suitability of the analysis performed.

The review also provides recommendations where applicable.

The review has highlighted a number of matters that should be addressed. The aim of this peer review is not to provide a value judgement on the quality of the work performed, but identify matters that may be regarded as a risk to the conclusions drawn from the report. The observations have been categorised as:

Significance	Description
Comment only	Observation only
Low	Issues identified are not likely to change the conclusions of the report
Medium	Issues identified may have the potential to change the conclusions of the report
High	Issues identified have the potential to change the conclusions of the report

A tabulated summary of identified issues is provided overleaf.

Comment	Section	Comment	Significance
1	Chapter 22 (Section 22.1) – SEARS Appendix A (Page A-11, Point 16)	Chapter 22 (Air quality), section 22.1 states that: "*There are no Secretary's environmental assessment requirements that relate specifically to this chapter*". The Secretary's Environmental Assessment Requirements (Appendix A) does in fact contain a requirement for assessment of dust (SEAR 16 [waste]) which states that (our emphasis): "*The Proponent must assess potential environmental impacts from the excavation, handling, storage on site and transport of the waste particularly with relation to sediment/ leachate control, noise and dust.*" A review of chapter 24 (Waste management), section 24.1 (Secretary's environmental assessment requirements) states the relevant SEAR [16] but indicates that "*Dust is addressed in Chapter 22 (Air quality).*" The relevant SEAR [16] as it relates to air quality does not seem to have been addressed in the detail required in the chapters of the EIS relating to either air quality or waste.	High
2	Chapter 2 – Planning and assessment process	The SEARS require an assessment of dust, yet no specific assessment requirements related to air quality are provided within the SEARS. Mention is made of air quality criteria within Table 22-1 of the air quality chapter (22) although only in relation to background (i.e. existing) air quality. How these criteria relate to the Project itself is not discussed. It would be usual for the SEARS to require assessment of air quality in accordance with the NSW DEC "*Approved Methods for the Modelling and Assessment of Air Quality in NSW*" (NSW DEC, 2005). Specific criteria related to air quality are included within the Approved Methods document which also relate in-part to the National Environmental Protection Measure (NEPM) for Ambient Air Quality.	Medium

Comment	Section	Comment	Significance
3	Chapter 22 – Air quality General comments	In general terms, the air quality chapter is very broad in scope and does not address any specific impacts upon specific receptor locations nor does it identify any site specific management or mitigation measures. The potential air quality impacts identified and discussed at each proposed construction / operation site (11 in total) are highly limited and in the case of the Pitt St Station are limited to one sentence (Table 22-3): "*During handling and management of spoil, dust impacts could arise under any wind conditions owing to the proximity of receivers around the construction site.*" Although this statement is not questioned, the failure to discuss potential impacts associated with demolition, potentially contaminated material and, most significantly, the failure to provide any clear and specific management or mitigation measures to control these specific impacts is of concern. Further discussion of management and mitigation measures is provided in comment # 6.	High
4	Chapter 22 – Air quality General comments	The qualitative nature of the assessment is not appropriately justified. Given that the SEARS require an assessment of potential air quality impacts to be performed, and given the identified sensitivity and proximity of receptor locations to emission sources, the provision of a broad, generic and qualitative air quality assessment is inadequate.	High

Comment	Section	Comment	Significance
5	Chapter 22 – Air quality Specific comments Section 22.4 – Potential impacts - construction	This section of the air quality assessment identifies a number of activities which have the potential to result in particulate ('dust') emissions. The section correctly states that: "*without the implementation of adequate mitigation measures, dust emissions from those activities could result in reduced local air quality….at the nearest potentially affected receivers due to the small distance between these receivers and the construction sites*". This is especially true in the case of the Hotel & Club given the close proximity to demolition and construction activities. However, notwithstanding that there are no site specific mitigation measures proposed, there is seemingly a disconnect between this statement and Chapter 28 (Environmental risk analysis) which identifies the unmitigated consequence of construction activities on air quality as *minor* and provides an unmitigated risk rating of *medium*. The definition of '*minor*' risk consequence in Chapter 28 is: *"Short-term (less than 1 month), reversible or minor impacts that are within environmental regulatory limits and within site boundaries.* *Minor or short-term impacts to stakeholder(s) or customers."* Given that enabling works and site establishment and station excavation (assuming to include demolition) at Pitt St Station is to be performed between Q3 2017 and Q3 2019 (Table 7-14) (a period of 27 months), these impacts cannot justifiably be termed "*short-term (less than 1-month)*". Furthermore, given that the air quality assessment has identified that dust emissions may result in reduced air quality at the nearest receptors, these impacts cannot justifiably be described as "*minor or short-term impacts to stakeholders(s) or customers*".	High

Comment	Section	Comment	Significance
6	Chapter 22 – Air quality, Specific comments Section 22.6 – Mitigation measures	Chapter 22 includes a description of eight general mitigation measures which are applicable to air quality. Appendix D, Chapter 16 (Construction environmental management framework) also provides 'examples' of air quality mitigation. Chapter 28 (Environmental risk analysis) considers these mitigation measures and provides an assessment of residual risk (following mitigation measure employment). The determined residual risk rating as it relates to air quality has been determined to be *low*. Given the lack of site specific mitigation measures provided in both the air quality assessment and construction environmental management framework (which runs to a total of two pages), it is questioned how the residual risk rating can be justifiably and transparently determined to be *low*. The identification of specific mitigation measures should be determined from the risks evaluated for each specific location, and clearly defined mitigation measures identified to manage those risks, rather than mitigation suggested in a generalised way. Further information regarding the risks to construction dust specific to each location is required, and justification for the determined risks should be provided. This needs to determine the specific mitigation measures required for each site.	High

Comment	Section	Comment	Significance
7	Chapter 22 – Air quality, Specific comments Section 22.6 – Mitigation measures Appendix D – Construction environmental management framework	Air quality mitigation measures provided in both the air quality assessment and the construction environmental management framework are highly generic and do not consider the particular issues at each location. Discussion of how these management measures will be implemented at each site is not provided and therefore the efficacy of each of these measures in reducing or managing the (non-quantified) impacts on air quality is highly questionable and non-quantifiable. Wording of the mitigation/management measures is very loose including wording such as "*consider*", "*regularly*", "*will be managed*" and "*as appropriate*". No discussion of the particular impacts and associated mitigation measures required at each site is provided. In the case of the Pitt St Station for example, it can be determined from the EIS that the total quantity of spoil to be removed as part of the construction is of the order of 160,000 m^3 (Chapter 7.11.1), with 12 commercial buildings to be demolished (Chapter 7.11.4) with demolition of these buildings resulting in a potential contamination source (Chapter 18). No discussion of mitigation measures specific to the control of emissions during building demolition is provided in the air quality assessment (Chapter 22) or in the construction environmental management framework (Appendix D). Given the close proximity of the Hotel & Club to the demolition and excavation activities proposed to occur as part of the Pitt St Station development, it would be expected that specific assessment of the potential impacts and specific consideration of the mitigation and management measures to be employed to minimise those impacts would be provided, for example. Given the potential significance of the impacts and proximity to receptors a more detailed assessment should be provided.	High
8	Chapter 22 – Air quality Specific comments Section 22.5 – Potential impacts - operation	Potential impacts during operation are discussed in Section 22.5 of the air quality assessment. A broad discussion of the ventilation system and emissions potentially emitted during operation is provided although no specific information relating to the ventilation system at each station (e.g. locations of emission points or information relating to the likely composition of emissions) is provided. If would be expected that details of the ventilation system would be available within the EIS, or at the very least discussion of how these emission points would be located to ensure minimal impacts upon surrounding properties.	High

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Name: Peter Egan
Organisation: Artarmon Progress Association (Executive member)

Artarmon, NSW
2064

Content:
APA submission attached.

Sydney Metro Chatswood to Sydenham
Environmental Impact Statement June 2016
Application Number SSI 15_7400

Attention: Director, Infrastructure Projects
Posted at: http://majorprojects.planning.nsw.gov.au/page/development-categories/transport--communications--energy---water/rail---related-facilities/?action=view_job&job_id=7400

CCs: Gladys Berejiklian MP; Anthony Roberts MP; Andrew Constance, Minister for Transport and Infrastructure; Gail Giles-Gidney, WCC Mayor; Willoughby councillors; Debra Just, WCC general manager; Peter Conroy, WCC director planning and infrastructure; David Sung, WCC design services manager; Rob Coote, Secretary WFPA,

Artarmon Progress Association Inc
PO Box 540 Artarmon, NSW 1570
Email: pres@artarmonprogress.org.au

27 June 2016

Who we are

The Artarmon Progress Association (APA) was founded in 1906 as a not-for-profit group and our objectives are to promote the welfare, physical and intellectual advancement of the suburb of Artarmon and the City of Willoughby, to protect the interests of the residents, and to encourage a keener spirit of citizenship and mutual help amongst residents.

Our newsletter the Artarmon Gazette, is distributed to over 5,000 homes and businesses in Artarmon.

We regularly communicate with residents and act as a conduit between local residents and elected representatives on matters concerning our local community.

Summary

The Association supports this project which will deliver an accessible, high quality public transport service.

The Association requests a number of conditions of approval to enhance its utility and other conditions of approval to improve its interface with local infrastructure and reduce its environmental and social impact.

The Association supports the measures proposed by Willoughby City Council to ensure the environmental impact of the project is minimised and heritage items are protected.

The APA requests the following conditions of approval. Explanations for the requests are given in the main body of this submission.

1. Enhancing the utility of Sydney Metro by making provision for a station in the Artarmon Industrial Area

The APA requests a condition of approval to require infrastructure to enable a Metro station in the Artarmon Industrial Area, with the station either constructed with the project, or at a later date.

2. Locating the Artarmon substation in an area with compatible land use zoning

The APA requests a condition of approval to require the Artarmon Substation to be built in the industrial area.

3. Protection and enhancement of Mowbray House within the Mowbray Road heritage precinct

The APA requests a condition of approval to require site access and construction activities, as distinct from management activities, not infringe the 10 metre curtilage of Mowbray House to protect it and its palm tree garden from damage.

The APA requests a condition of approval to require an urban design treatment for the precinct in accordance with its heritage.

4. Upgrade of the Pacific Hwy-Mowbray Road intersection

The APA requests a condition of approval to require upgrade of the Pacific Hwy-Mowbray Rd intersection to provide a dedicated right turn lane for eastbound traffic on Mowbray Road West to turn southbound on to the Pacific Highway.

The APA requests a condition of approval to require provision for short- and long-term improved access to Chatswood from the Pacific Hwy via Mowbray Road, and vice versa, due to the loss of access via Nelson St. The opportunity should be taken to make long term real improvements to the traffic flows through the Pacific Hwy-Mowbray Road intersection and Artarmon/Chatswood generally. The changes proposed by Sydney Metro will only make traffic flows through the area worse.

The APA requests a condition of approval to require analysis of the level of service improvement to be obtained at the Pacific Hwy-Mowbray Road intersection with it possessing: two dedicated right turn lanes for Pacific Hwy northbound and southbound; Mowbray Road West with dedicated left and right turn lanes; Mowbray Road East with two dedicated right turn lanes and a dedicated left turn lane; and a 100 metre long right turn bay for Mowbray Road eastbound traffic to turn right into Hampden Road.

The APA requests a condition of approval to require the signalisation of the Nelson St/Pacific Hwy intersection, for the life of the metro project, to enable light and heavy vehicles to access and egress the site via the current Ausgrid site entrance 40 metres east of the Pacific Hwy.

The APA requests a condition of approval to require the 300 car spaces needed for site workers be provided on-site even if it requires a multi-storey parking structure.

The APA requests a condition of approval to require the return to the footpath, on the south-east corner of the Pacific Hwy-Mowbray Road intersection, of the $5,000 plaque commemorating the heritage of Reservoirs 1 & 2 built in the centennial year of 1888 (the plaque was not replaced following the recent pinch point works).

5. Chatswood site access

The APA requests a condition of approval to require a site access regime as follows:
--- left-in/left-out at the western Ausgrid entrance on Mowbray Rd;
--- right-in/left out at the western Ausgrid entrance on Nelson St with two-phase traffic lights at Nelson St/Pac Hwy;
--- left-in/left-out for light vehicles at Bryson St.

The APA requests a condition of approval to require contractors to encourage workers to access work sites via public transport.

6. Frank Channon Walk extension

The APA requests a condition of approval to require provision for an extension of Frank Channon Walk from nelson St to Mowbray Road post construction.

7. Height of noise barriers and consultation with neighbours

The APA requests a condition of approval to require Sydney Metro to agree barrier heights and materials with the immediate neighbours who could lose sunlight and views.

8. Brand St site access

The APA requests a condition of approval to require the replacement of the steel bridge with a low-noise (concrete) bridge that spans the full width of Brand St.

The APA requests a condition of approval to require heavy vehicle access to the Brand St rail corridor path via Hampden Road and not via Elizabeth/Brand.

9. Community Consultative Committee

The APA requests a condition of approval require a Community Consultative Committee be formed for the works in the Chatswood-Artarmon area.

Requested conditions of approval

1. Enhancing the utility of Sydney Metro by making provision for a station in the Artarmon Industrial Area

The City of Lower North Shore will shortly be formed with a spine of CBDs – Milson's Point, North Sydney, Crows Nest-St Leonards, Artarmon Industrial Area (AIA) and Chatswood. The AIA is undergoing a change in use. Many low-tech activities are being replaced by high-tech activities such as data centres, a public broadcaster (SBS), media businesses, public and private hospitals and medical research facilities. The AIA is large and capable of also sustaining higher density commercial and residential development. The APA supports rezoning for this purpose.

The AIA is thus well placed to support state and federal innovation agendas. In the future, its size could lead to a workforce on par with any other on the North Shore – but only if a Metro station is built.

Carparking in the AIA is saturated on weekdays and spilling into surrounding residential areas. Thus, a station cannot induce park-and-ride traffic unless parking is specifically provided.

The APA requests a condition of approval to require infrastructure to enable a Metro station in the Artarmon Industrial Area, with the station either constructed with the project, or at a later date.

2. Locating the Artarmon substation in an area with compatible land use zoning

Metro substations have been co-located with Metro stations with the exception of the Artarmon substation. It's placing, at a location zoned R3 residential, appears to have been made on the basis it is controlled by TfNSW.

The site is leased by the Department of Education until 1 September 2018 with an option for an extension to 1 September 2020 should the Department require it.

Use of this site for metro infrastructure has the potential to cause significant disruption to the education of hundreds of students.

The 3,500 m^2 site is six times the size of that required for similar substations at North Chatswood (~500 m^2) and Lindfield (~600 m^2 and presently under construction as part of the Metro North West project).

Traction substations produce continual noise and may be accessed at any time of the day or night for urgent maintenance.

The EIS advises the works include a water treatment plant, dangerous goods storage and a workshop. These, also, are not activities compatible with residential zoning.

Landscaping is not an adequate treatment to bed an industrial building, its vehicle parking spaces, and access ways into a residential area.

The substation site has a value of around $15 million based on its present zoning. Suitable land can be obtained in the industrial area, most of which can be resold post construction for a significant cost saving to government.

The APA requests a condition of approval to require the Artarmon Substation to be built in the industrial area.

3. Protection and enhancement of Mowbray House within the Mowbray Road heritage precinct

The Mowbray Road heritage precinct contains the heritage listed:
--- Mowbray House School (local significance) which is directly opposite Ausgrid Chatswood Substation (local);
--- The former Chatswood South Uniting Church (state significance) which is directly opposite the Great Northern Hotel (local);
--- The council-owned Cemetery formally part of the church grounds (state);
--- Chatswood Reservoirs 1 and 2 (state);
--- 2 Orchard Road (local).

There are three heritage properties on the north side of Mowbray Road and four on the south in a 430 metre strip between Bowen St and Orchard Rd/Elizabeth St.

Mowbray House sits partially across the Mowbray-Hampden T - junction. Its Palm Tree garden sits within the designated 10 metre curtilage of the heritage declaration and across the rest of the junction.

The EIS advises 520,000 m^3 of spoil will be moved off site - about 1.3 million tonnes - about 30,000 'truck-&-dog' loads. Another 20,000 loads are expected to arrive at/depart the site with materials, including thousands of loads of demolition material and tunnel lining elements manufactured at Marrickville dive site – easily 100,000 truck movements over the course of the project. The EIS indicates that these vehicle movements will largely occur with the 10 metres curtilage of Mowbray House in order to access the Mowbray Road-Hampden Rd intersection.

The APA requests a condition of approval to require site access and construction activities, as distinct from management activities, not infringe the 10 metre curtilage of Mowbray House to protect it and its palm tree garden from damage.

The APA requests a condition of approval to require an urban design treatment for the precinct in accordance with its heritage.

4. Upgrade of the Pacific Hwy-Mowbray Road intersection

The EIS advises the Nelson St rail bridge will be demolished (eliminating a 'G' turn) prior to Metro works commencing. The turn will be substituted by an upgrade of the Pacific Hwy-Mowbray Road intersection, including a Pacific Hwy southbound right-turn movement to Mowbray Road West, before the works commence. The APA supports a two-lane right turn movement.

The EIS advises the level of service of the Pacific Hwy-Mowbray Road intersection is rated 'F' - traffic in excess of capacity during morning and afternoon peak hours. The EIS advises it will remain rated 'F' after the addition of the right turn lanes.

The lack of a right turn for eastbound traffic on Mowbray Road West to turn southbound on to the Pacific Highway is forcing traffic to use Hampden Rd to reach St Leonards, North Sydney, the Northern Beaches and the Motorway. Hampden Rd, a district road through Artarmon village, is being treated as extra lanes for the Pacific Hwy. The lack of this right turn accounts for half, or more the southbound traffic on Hampden Rd which, as a result, is subject to peak hour traffic restrictions, loss of parking, and loss of business for the Artarmon shops.

A dedicated right turn lane for eastbound traffic on Mowbray Road West to access the Pacific Hwy southbound is of high importance to Artarmon. Lane Cove Council has been advocating for this right turn for the benefit of its residents. The APA supports RMS taking thin slices of adjacent property, if needed, for an additional lane.

The APA supports a second right turn lane for eastbound traffic on Mowbray Road East to access the Pacific Hwy.

The APA supports retention of the dedicated left-hand turn lanes on Mowbray Road to access the Pacific Hwy – both east- and west-bound.

The APA suggests the present 100 metres long right turn bay for eastbound traffic on Mowbray to access Hampden Road needs to be retained.

In practice, an upgrade to the Pacific Hwy-Mowbray Road intersection may presents as 8 lanes on three approaches and 6 lanes on the fourth (Mowbray Road West).

If the poor level of service at this intersection continues it will add significantly to the costs to the logistics heavy Metro project, the local community, and the wider north shore community more generally.

The EIS advises RMS Pinch Point funds may be available to assist with the intersection upgrade.

Long traffic queues generally develop on Mowbray Road in the afternoons. Locating the prime site exit at the Mowbray Road-Hampden Rd intersection will attempt to pour construction vehicles into traffic that is often not moving. A site exit at this intersection has potential to cause serious disruption to construction and increase project costs.

The eastern end of the dive site is close to residential properties in Nelson St, Mowbray Rd, Orchard Road and Hampden Rd. The western side of the site only has residential neighbours on the far side of the Pacific Hwy arterial road. Exiting the site via Bryson St and Nelson St (west end) has the least impact on residential neighbours.

The EIS advises the main construction site entry will be at the Mowbray Rd-Hampden Rd intersection which would be signalised for the purpose. This proposal heavily conflicts with the need to preserve the locally heritage listed Mowbray House and its 10 metre curtilage.

The EIS suggests signals would improve performance of the Mowbray Rd-Hampden Rd intersection. The intersection can be signalised irrespective of where the site entry is.

The Mowbray Rd-Hampden Rd intersection works have the capacity to radically alter the traffic calming scheme in both east and west Artarmon which is maintained by traffic calming measures, the no-right-turn from Hampden Rd to Mowbray Road and the no-right-turn into Elizabeth Street for traffic going east on Mowbray Road. Traffic must go via Elizabeth St to access Chatswood.

The loss of the left turn from Pacific Highway into Nelson Street and right turn into Orchard Road and then crossing into Elizabeth Street will also have material impact on traffic flows through Artarmon generally.

The EIS advises that the Mowbray Road rail bridge piers will need to be strengthened due to the closeness of the dive structure to the piers - this has implications for future road widening. The loss of the Nelson St rail bridge reduces the number of traffic lanes crossing the North Shore line between Chatswood and the orbital motorway from 12 to 10. The loss places greater pressure on access to Chatswood via the Mowbray Road rail bridge and Orchard Road.

The loss of the Nelson St rail bridge will force traffic bound for Elizabeth St Artarmon, south Chatswood, Willoughby and suburbs further east to use the Pacific Hwy intersection.

A significant portion of traffic eastbound on Mowbray Road is seeking to access Chatswood via Orchard Road.

The water valve and electrical chambers outside the heritage listed reservoir and substation properties of Mowbray Rd make it difficult to widen on the south side between Hampden and Pacific Hwy.

Future development of the site will likely be considered during the course of the project. Development will make it difficult to improve intersection capacity for Mowbray Road traffic if provision for lane-widening on the north side of Mowbray Road is not made part of this intersection upgrade.

Future lane widening should add an extra lane on both the north and south sides of Mowbray Road rail bridge to minimise the land required from the heritage property 2 Orchard Road.

The Pacific Hwy south of Mowbray Road was recently upgraded. The new works will however, take a thin slice of land from the Reservoir site, on its Pac Hwy frontage, well away from the reservoirs.

The APA notes the RMS has yet to return the $5,000 footpath plaque commemorating the heritage of Reservoirs 1 & 2 built in the centennial year of 1888. The plaque was removed from the footpath of the south-east corner of the Pacific Hwy-Mowbray Road intersection, during the pinch point works and not reinstated.

The APA requests a condition of approval to require upgrade of the Pacific Hwy-Mowbray Rd intersection to provide a dedicated right turn lane for eastbound traffic on Mowbray Road West to turn southbound on to the Pacific Highway.

The APA requests a condition of approval to require provision for short- and long-term improved access to Chatswood from the Pacific Hwy via Mowbray Road, and vice versa, due to the loss of access via Nelson St. The opportunity should be taken to make long term real improvements to the traffic flows through the Pacific Hwy-Mowbray Road intersection and Artarmon/Chatswood generally. The changes proposed by Sydney Metro will only make traffic flows through the area worse.

The APA requests a condition of approval to require analysis of the level of service improvement to be obtained at the Pacific Hwy-Mowbray Road intersection with it possessing: two dedicated right turn lanes for Pacific Hwy northbound and southbound; Mowbray Road West with dedicated left and right turn lanes; Mowbray Road East with two dedicated right turn lanes and a dedicated left turn lane; and a 100 metre long right turn bay for Mowbray Road eastbound traffic to turn right into Hampden Road.

The APA requests a condition of approval to require the signalisation of the Nelson St/Pacific Hwy intersection, for the life of the Metro project, to enable light and heavy vehicles to access and egress the site via the current Ausgrid site entrance 40 metres east of the Pacific Hwy.

The APA requests a condition of approval to require the 300 car spaces needed for site workers be provided on-site even if it requires a multi-storey parking structure.

The APA requests a condition of approval to require the return to the footpath, on the south-east corner of the Pacific Hwy-Mowbray Road intersection, of the $5,000 plaque commemorating the heritage of Reservoirs 1 & 2 built in the centennial year of 1888 (the plaque was not replaced following the recent pinch point works).

5. Chatswood site access

520,000 m^3 of spoil will be moved off site - about 1.3 million tonnes - about 30,000 'truck-&-dog' loads. Another 20,000 loads will arrive at/depart the site with materials, including thousands of loads of demolition material, tunnel lining elements manufactured at Marrickville dive site, concrete and rail systems – easily 100,000 truck movements over the course of the project.

Construction vehicle movements on the Pacific Hwy are equally likely in both directions.

It's not conceivable that a construction contractor would readily hinder their works by having the 100,000 heavy vehicle movements and 1,000,000 light vehicle movements access/egress the site right beside the main work face. ((The Marrickville dive site has two access points well away from the workface.))

The Ausgrid site presently has 5 active entrances - 2 in Nelson St, 2 in Mowbray Rd and 1 in Bryson St. The 2 eastern entrances will be obliterated by the dive structure.

Of the three remaining entrances, the Mowbray Rd entrance is about 60 metres from Pacific Hwy. The Nelson St entrance is 40 metres from the Pac Hwy. Bryson St, used as an access way, opens directly onto the Pacific Hwy. These are acceptable distances from the arterial road for construction vehicle queueing. Site access at these locations should be allowed to continue on the basis of their minimal traffic and environmental impact.

Traffic lights at the Nelson St-Pacific Hwy intersection, an intersection bounded by commercial properties, for the life of the project will permit good site access/departure with minimal traffic, social and environmental impact.

The most benign construction access regime for the site is:
--- left-in/left-out at the western Ausgrid entrance on Mowbray Rd,
--- right-in/left out at the western Ausgrid entrance on Nelson St with two-phase traffic lights at Nelson St/Pac Hwy.
--- left-in/left-out for light vehicles at Bryson St.

The EIS advises 300 car spaces are needed for site workers. The APA prefers these be provided on-site to reduce the instance of workers parking in surrounding residential streets. Workers cannot be forced to use a remote parking facility.

The 300 onsite parking places require about 6,600 square metres – equivalent to the Pacific Hwy frontage to a width of 50 metres deep. The sensible approach is a 2- or 3-storey parking structure to reduce the area required. Access via a park-and-ride facility elsewhere would just encourage workers to park in residential streets and walk to the site.

The site is within 600 metres of both Chatswood and Artarmon stations and the Chatswood bus interchange.

The APA requests a condition of approval to require a site access regime as follows:
--- left-in/left-out at the western Ausgrid entrance on Mowbray Rd;
--- right-in/left out at the western Ausgrid entrance on Nelson St with two-phase traffic lights at Nelson St/Pac Hwy;
--- left-in/left-out for light vehicles at Bryson St.

The APA requests a condition of approval to require contractors to encourage workers to access work sites via public transport.

6. Frank Channon Walk extension

The extension of the Walk to Mowbray Road is the last essential work towards significantly improved pedestrian and cycle links between Chatswood, Artarmon and St Leonards. For this purpose, Council obtained a strip of land alongside the North Shore rail corridor. This land will be resumed for the Metro dive structure.

Post construction, the Walk can be extended south to Mowbray Rd alongside the tunnel dive. It should not be necessary to remove the palm tree garden of Mowbray House for this purpose.

The APA requests a condition of approval to require provision for an extension of Frank Channon Walk from Nelson St to Mowbray Road post construction.

7. Height of noise barriers and consultation with neighbours

North Shore line noise barriers will be raised and new barriers added.

The APA requests a condition of approval to require Sydney Metro to agree barrier heights and materials with the immediate neighbours who could lose sunlight and views.

8. Brand St site access

The EIS advises a Brand St rail corridor entry is required for the preliminary works to the North Shore line and future North Shore line maintenance.

The Brand St access point is between the Brand St roundabout and the abutment of the rail bridge. Site access is normally left-in/left in this circumstance. Redundant bridge abutments obscure vision and narrow the road. The road, at the rail bridge, needs to be the full street width (likely 20.1 metres) of Brand St to improve vision for traffic.

Local residents have long requested that the current steel rail bridge be replaced by a structure that generates less noise. Replacing the rail bridge will also allow grade improvements to the relocated North Shore line.

The APA requests a condition of approval to require heavy vehicle access to the Brand St rail corridor path via Hampden Road and not via Elizabeth/Brand.

The APA requests a condition of approval to require the replacement of the steel bridge with a low-noise (concrete) bridge that spans the full width of Brand St.

9. Community Consultative Committee

As plans for the works in the North Shore line corridor are, at best, only at the preliminary stage, the APA requests a condition of approval require a Community Consultative Committee be formed for the works in the Chatswood-Artarmon area.

As evidence for the need for the committee and issues it would address we present the concerns of long term Raleigh St Artarmon resident:

Noise mitigation and consultation with T1 alignment neighbours

While I have various concerns about the project, by far my major concern is noise.

As my Raleigh St home is adjacent to the North Shore line, which is to be re-aligned to accommodate the Metro dive, and only one block from the dive site, I am concerned as to the effects on both my property and my health, and that of my neighbours, of noise, dust and long-term vibration from demolition, excavation, tunnelling and vehicle movements to and from the dive site.

Additionally, I am concerned about the more immediate impact, on myself and neighbours in Drake, Hawkins and Brand Sts and Hampden Rd of noise, dust and vibration from track re-alignment works between Brand Street and Mowbray Rd.

After living in close proximity to the railway line for over 30 years, I am well aware of the disruption and sleep deprivation that can occur with extended works on the line and hope my observations below may be able to inform your work practices design.

Noise can be virtually non-stop, day and night, with work hours and practices not conducive to allowing sleep, either during the night or day, due to such activities as:

Day time noise – between ~6am and 4pm:

--- Construction of local depot facilities at Drake St; delivery and unloading of plant, equipment and materials by trucks to the trackside depot at Drake St.

--- Distribution of plant, equipment and materials to track location by driving in one direction then, rather than turning around and driving back, reversing back to the depot (often up to half a kilometre), with reversing beepers blaring - sufficiently piercing to be heard by workmen in acoustic headphones.

--- Periodic explosions of detonators along the line to warn workmen of approaching trains, plus approaching trains sounding horns.

Night time noise – between ~7pm and 4am:

--- During night time rail shut down: movement of truck and plant along track, reversing beepers, engine noise, jack-hammering, excavation, grinding and cutting metal, heavy plant dumping blue metal, installing sleepers and tracks, and lifting, levelling and re-driving pins into rail tracks.

--- Generators on the track outside my house, running all night. Most frustratingly, often left idling all night even though not actually in use.

My experience has been that there is nowhere in my home that I can escape the noise. If I have been kept awake most or all of the night, I am not even able to make up sleep during the day, because of day-shift activities and loud noise. Continuous work over several days becomes intolerable due to lack of sleep and the stress of unremitting noise.

Is it possible to employ some kind of visual warning system of approaching trains, rather than detonators and horns? Can night work, if necessary, be scheduled to NOT mean practically continuous 24/7 noise and activity inflicted on neighbours?

I request that noise mitigation measures and work practices be utilised to prevent long-term exposure of residents to prolonged and stressful levels of noise.

I also request that Sydney Metro consult with affected residents, both adjacent to and within close proximity to (say, up to one block away from) the dive site and rail corridor regarding double glazing, barrier heights and materials and involve residents in a community consultative committee for the duration of the works and the beginning of the operational period.

Name: Ray Rice
Organisation: Bicycle NSW (CEO)

Concord West, NSW
2138

Content:
Please see attached the submission from Bicycle NSW.

Creating a better environment for cycling

27 June, 2016

Department Planning & Environment

GPO Box 39
Sydney NSW 2001

Sydney Metro, City & Southwest - EIS

Thank you for the opportunity to comment on the EIS for the Sydney Metro, City & Southwest. Bicycle NSW has been the peak bicycle advocacy group now in NSW for forty years, and has over 30 affiliated local Bicycle User Groups.

In looking at Active Transport (ie walking and cycling) it is worthwhile considering some facts from TfNSW and other NSW Government publications:

- About 70% of people in NSW or would like to ride more regularly for transport if it were made safer and more convenient.
- There has been a 50% increase in riding to work in metropolitan Sydney since 2006. This would be indicative across the State.
- Bicycle sales exceeded 1.4 million in 2012-13 and have outstripped car sales for over a decade.
- The NSW Government has an aim of reducing cycling fatalities and injuries by at least 30% by 2021. Cycling infrastructure is a proven method of reducing cycling fatalities and injuries.
- The net economic benefit has been calculated as $1.43 for every kilometre ridden.
- The NSW Government also has an objective of **doubling** the mode share of active transport to 5% by 2016.
- A primary method of achieving this aim is to consider cycling safety in **every infrastructure project.** This strategy is included in the Government's policies.

  *"To improve the bike network by making comprehensive provision for bicycles on **all new major** road infrastructure projects with a strong preference for off-road cycling."*

Bicycle NSW strongly recommends the following items be included in the Project:

1. Each station must have an integrated Local Active Transport Plan. This Local Plan must detail how people will use walking and cycling to travel to the station, and how this will be encouraged via local infrastructure and at the station itself. A radius of 15 to 20 minutes walking or cycling should be used. This local infrastructure must also link to regional walking and cycling routes.

2. Adequate bicycle parking should be provided at each station as part of the overall station planning. Bicycle parking should not be considered a "tack on" located inconveniently away from entrances. The number of bicycle parking spots should be expandable to cater for future demand. The parking should be under cover and secure. TfNSW is current undertaking a

T (02) 9704 0800 F (02) 9746 2600 bicyclensw.org.au
Bicentennial Drive, Bicentennial Park, Sydney Olympic Park NSW 2138
PO Box 293 Concord West NSW 2138
ABN 26 511 801 801

construction program of “bike sheds” at existing stations – and this is to be commended. However, the new Metro Stations should have these facilities integrated from inception.

3. The rolling stock should cater for bicycles to be safely and conveniently carried on the trains, and then exit the stations. The needs of commuters who wish to cycle **from** their destination station to their workplace must be considered.

4. Alongside the above ground rail sections, a parallel Active Transport Link should also be included. Rail corridors provide an excellent opportunity for Active Transport away from roads and intersections. These links can be integrated with both regional and local routes. There is a huge, untapped potential for Active Transport in these corridors which can be unleashed while the Metro works are undertaken.

Yours faithfully,

Ray Rice
Chief Executive Officer

C.P.Eng. F.I.E.Aust.

Bicycle NSW

T (02) 9704 0800 **F** (02) 9746 2600 **bicyclensw.org.au**
Bicentennial Drive, Bicentennial Park, Sydney Olympic Park NSW 2138
PO Box 293 Concord West NSW 2138
ABN 26 511 801 801

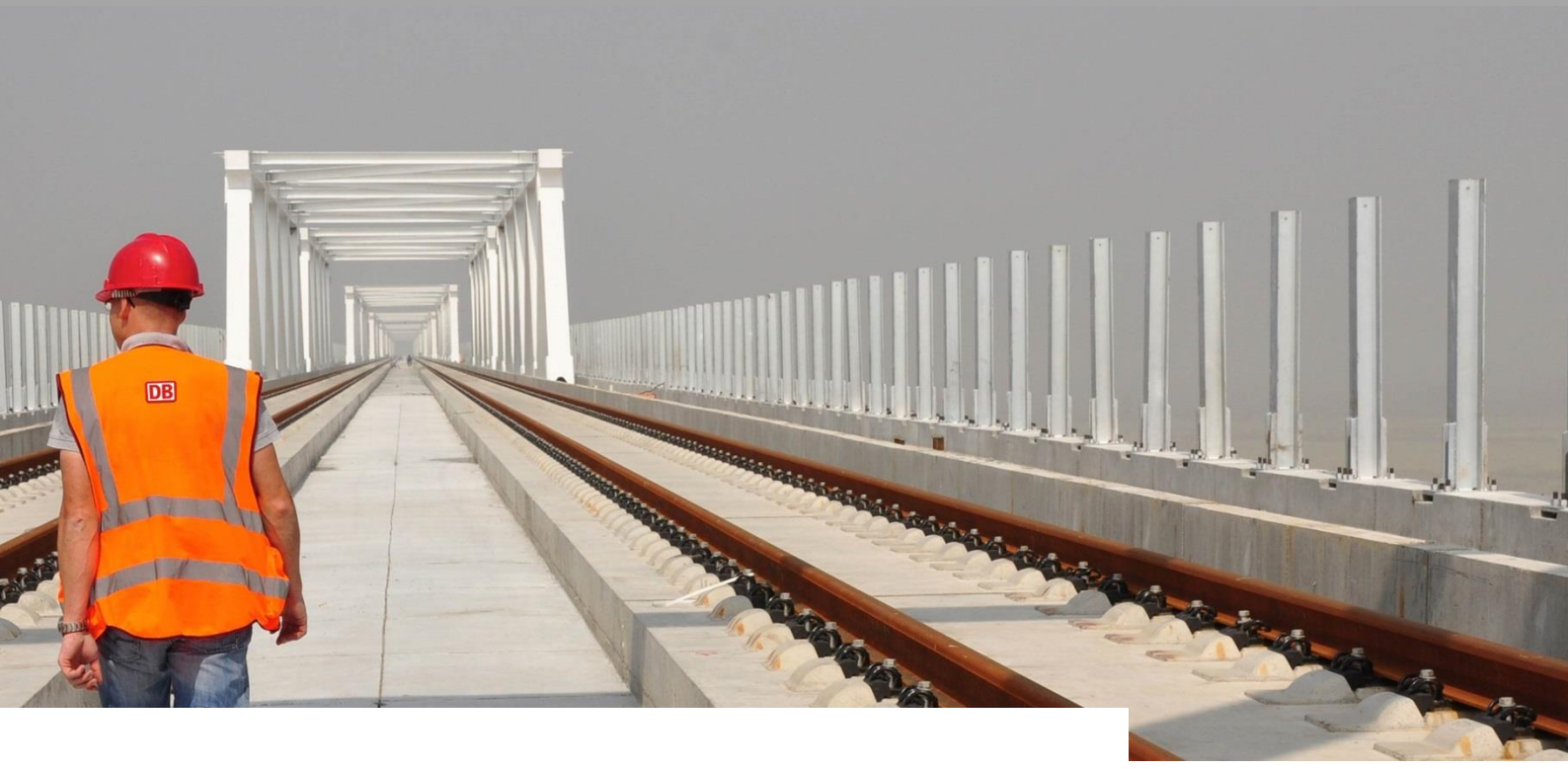
Name: Robert Wagner
Organisation: Deutsche Bahn (DB) Engineering & Consulting (Branch Manager Autralia)

North Sydney, NSW
2060

Content:
Kindly refer to the attachment below.

SYDNEY METRO CITY & SOUTHWEST

Another Step Closer



DB Engineering & Consulting

Level 40, Northpoint Tower, 100 Miller Street
North Sydney NSW 2060, Australia
http://www.db-engineering-consulting.de

Tel: +61 (0)2 99316861

1. A line overview (both, topological map and topographical map) outlining the current and future network as well as development areas will give a better imagination of the network planning.

2. The new line from Chatswood to Sydenham aligns more or less in parallel to the existing T1 Northshore Line. Considering a catchment area of 500m to 1000m radius around each station the new line will align through new living areas and destress the existing Chatswood to CBD section.

3. The existing line Sydenham to Bankstown will be integrated into the new City –Southwest line. A new alignment may be taken into consideration using the parameters as mentioned under item 2 to destress the existing line from Sydenham to Bankstown. Integrating the existing line Sydenham to Bankstown will cause a shutdown of the crowded section for some month for the upgrade.

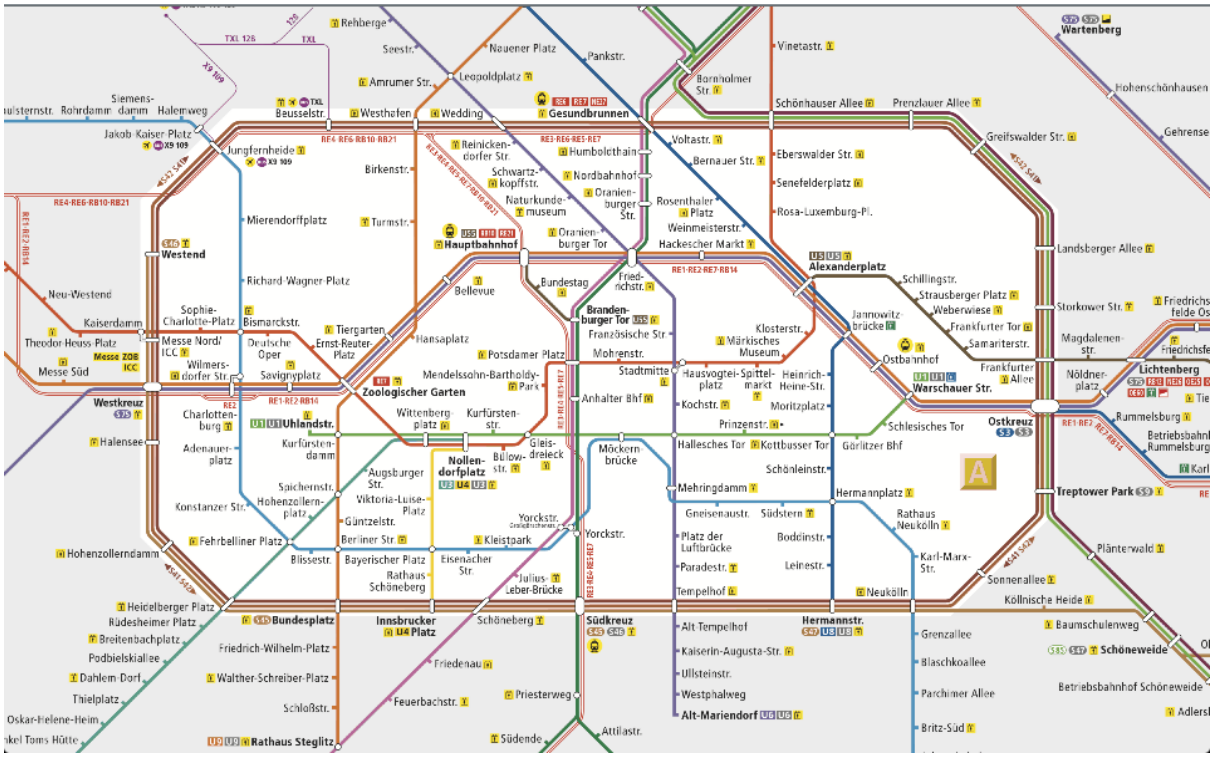
4. Trains on the section from Sydenham to Bankstown may be downgraded from double deck trains to single deck trains. This will be a decrease in capacity compensated by a shorter headway of 2 minutes. Considering a new alignment will result a real increase of capacity. An upgrade of the existing signalling system on the section Sydenham to Bankstown to a shorter headway will further increase the capacity of that section.

5. The information provided contains no details concerning the depot, stabling or maintenance facilities.

6. Both stages afford an opportunity for Sydney's future rail network to close the gap between the North West Growth Centre (Rouse Hill, Riverstone and Schofields) and the South West Growth Centre (Leppington, Austral, Oran Park) and to operate a circle line. Such concepts have been successfully implemented in fast growing cities such as Berlin/Germany (DB's S-Bahn Ringbahn (Circle Line)).

http://www.bahnbilder.de/bild/Deutschland~S-Bahnen+und+Regionalstadtbahnen~S-Bahn+Berlin/229010/berlin-26092008-s42-ringbahn-entgegen-der.html

Map of Berlin Circle Line & S-Bahn



https://en.wikipedia.org/wiki/Berlin_Ringbahn

Name: Roger Promnitz
Organisation: Naremburn Progress Association (Secretary)

St Leonards, NSW
1590

Content:
The Naremburn Progress Association is broadly supportive of the Sydney Metro - Chatswood to Sydenham project as it represents the State Government's commitment to provision of a major public transport system that will serve the community well into the future, but sadly is long overdue.
Provision of the detail provided within the EIS documentation is appreciated, and goes to answering many of the questions being posed by the community as they come to understand the complexities of this mammoth project. We commend the work completed so far, and look forward to receiving further updates as they come to hand.
Residents of Naremburn will be adversely affected by construction activities during the tunnelling and station construction/fitout phases, but it is acknowledged that these adverse effects should be less than to our colleagues living & working closer to the dive sites, in our case particularly around the Chatswood dive site. The degree to which people living and working adjacent to such sites will be adversely affected is anticipated to be very significant, so every effort should be made to minimise these effects in both time and severity.
With particular reference to Naremburn, the TBMs will pass quite close to the southwest corner of the Naremburn Heritage Conservation Area with its multitude of beautifully restored single fronted Federation-style brick workers cottages, so every effort will be required to ensure no damage to these cottages from ground vibration during tunnelling/blasting/demolition etc. Condition reports should be undertaken both before and after works are completed to identify and rectify any damage attributable to these activities.

Name: Robin Schuck
Organisation: Sydney Airport (Manager, Government Relations and Major Projects)

Sydney International Airport, NSW
2020

Content:
Please find attached Sydney Airport's submission in response to the Sydney Metro (Chatswood to Sydenham) Environmental Impact Statement.

We would be pleased to discuss any issue contained in this submission in greater detail.

Sydney Airport

23 June 2016

The Project Manager
Sydney Metro City and Southwest
PO Box K659
Haymarket NSW 1240

Via email: sydneymetro@transport.nsw.gov.au

Dear Sir/ Madam,

Re: Response to Sydney Metro Environmental Impact Statement

Thank you for the opportunity to comment on the Environmental Impact Statement (EIS) regarding the Chatswood to Sydenham component of the Sydney Metro City and Southwest project.

Sydney Airport welcomes the development of the Sydney Metro as a means to improve public transport connectivity throughout large parts of Sydney. A new metro system will support passengers and employees travelling to the airport faster, will help reduce road traffic congestion, and will make it easier for tourists and other visitors to move around Sydney.

The urban renewal projects made possible by the metro are also supported, as they increase the quantity and diversity of housing close to the city, while growing the number of job opportunities in Sydney. We see these projects as serving to further enhance Sydney as a great place to live, work and visit, by providing new public spaces for the community to enjoy, with increased access to education, transport and cultural activities.

While beyond the scope of this EIS, we note that consideration is being given to extending the metro beyond Bankstown to connect with Liverpool, and then possibly with the future Western Sydney Airport (WSA). Connectivity with the new airport by rail is critical to ensuring its success.

We are keen to ensure that aviation related issues are considered early in the planning process rather than, as sometimes occurs, at the very end of the process after decisions have been made and important elements of the project have been finalised. Once that occurs, the landowners' expectations concerning development potential are often already set.

Prescribed Airspace

In particular, as we have raised in a number of previous submissions to the State Government, it is of vital importance that new developments around the proposed new stations, particularly at Waterloo and Sydenham, do not compromise aviation safety or reduce the efficiency of Sydney Airport by intruding into its prescribed airspace.

Given the location of the land in question relative to Sydney Airport, it would appear that the Obstacle Limitation Surface (OLS), the Procedures for Air Navigation Services – Aircraft

Operations (PANS-OPS) surfaces and the Precision Approach Path Indicator (PAPI) system surfaces are the relevant components of Sydney Airport's prescribed airspace. Airlines may also have developed what are called "engine out (emergency) procedures" that may also be relevant and would also need to be taken into account.

The charts that collectively comprise Sydney Airport's prescribed airspace can be found at: https://www.sydneyairport.com.au/corporate/community-environment-and-planning/planning/airspace-protection.aspx.

While the future development of land around new stations in general would need to have regard to airspace-related issues, the redevelopment of the area around the proposed Waterloo Station in particular is very likely to be affected. Consideration should also be given to the temporary impact on prescribed airspace of cranes and other construction equipment at the Waterloo Station and around the Marrickville dive site.

At the site around the proposed Waterloo Station, the OLS varies between 60 and 70 metres above sea level (AHD), while the PAPI and PANS-OPS surfaces are located at or around 125 metres. Therefore if the buildings constructed as part of the urban redevelopment of this area are built to this maximum height, they may penetrate the OLS.

We also note that at the Marrickville dive site, which is much closer to the airport, the OLS varies between 30 and 50 metres AHD, with the PAPI and PANS-OPS surfaces located at around 40 to 50 metres AHD. This same issue would apply to any construction equipment, such as a crane that could potentially intrude into this protected airspace, even if only temporarily. In the case of the Marrickville dive site, this issue is especially vital, as the proposed works site is located under the extended centre line of Sydney Airport's main north south runway (ie. directly in line with the runway on final approach for aircraft landing from the north or aircraft taking off to the north.)

While a structure (including a building or crane) that penetrates the OLS is not automatically prohibited, approval from the Department of Infrastructure and Regional Development is required. However, permanent intrusions of PANS-OPS are prohibited by Commonwealth law. Sydney Airport's website outlines the assessment process in more detail

We would be pleased to provide you with more definitive advice in the future concerning these proposed building height limits, and work with you to reach a positive resolution to the benefit of this proposal.

Future Employment Lands

Another issue of importance when considering the development of land around stations is the protection of employment lands.

As Sydney Airport and Port Botany both continue to grow, an adequate supply of industrially zoned employment lands in close proximity to the airport and port will be vital to ensuring the full economic and employment benefits of such developments are realised. This will rely on zoning determinations, and particularly the maintenance of existing industrial zoned lands.

While we acknowledge the importance of boosting Sydney's housing supply, it is important that the rezoning of industrially-zoned land in close proximity to the airport, and in particular to the north of the airport, be undertaken in a coordinated manner with proper regard to the strategic planning implications. To this end, we have urged the Greater Sydney Commission to

recognise within relevant district plans that an adequate stock of appropriately zoned employment lands in the vicinity of Sydney Airport must be protected to facilitate the airport's ongoing operation and long term growth.

Traffic Impact of Construction

The EIS discusses the impact of increased construction vehicles upon local traffic at each of the work sites. Of particular interest to us are the Waterloo Station and Marrickville dive sites, which are sufficiently close to the airport that the increased traffic for each could impact on traffic heading to the airport.

In particular, we note that the southern haul route from the Waterloo Station site follows Botany Road and passes through the interchange with Mill Pond Road, Southern Cross Drive and General Holmes Drive. As you would be aware, this is a critical intersection for traffic approaching the airport. While the modelling in the EIS suggests that the impact on traffic could be minimal or even beneficial, there will nevertheless be an increase in the number of heavy vehicles on these roads at a time that coincides with the morning peak of traffic heading to the airport.

Therefore, Sydney Airport would like to request that project managers and representatives of the Roads and Maritime Services (RMS) liaise closely with the Ground Transport team at the airport throughout construction of the metro to ensure these impacts are minimised and can be well communicated to stakeholders.

Notwithstanding the modelling included in the EIS, we nevertheless place great priority on our passengers and employees being able to get to the airport quickly and efficiently. With the Sydney Gateway component of the WestConnex project at the planning phase, and current works either underway or in planning to upgrade roads around the airport, it is vitally important that access to the airport is not adversely impacted by this project. We are hopeful that this can be mitigated with careful planning and communication.

Thank you once again for the opportunity to comment on the EIS for this component of the Sydney Metro. If you would like further information, please feel free to contact Sydney Airport's Manager, Government Relations and Major Projects, Mr Robin Schuck, on (02) 9667 9288.

Yours sincerely

Kerrie Mather
Managing Director and Chief Executive Officer

Name: Ryan Smith
Organisation: Commonwealth Bank of Australia (Retail Leasing Manager)

Sydney , NSW
2000

Content:
The Commonwealth Bank of Australia (CBA) is a tenant of the ground floor and lower ground floor areas of 48 Martin Place Sydney. The CBA was made aware of the planning exhibition today and will review the documentation and provide comments as soon as possible.

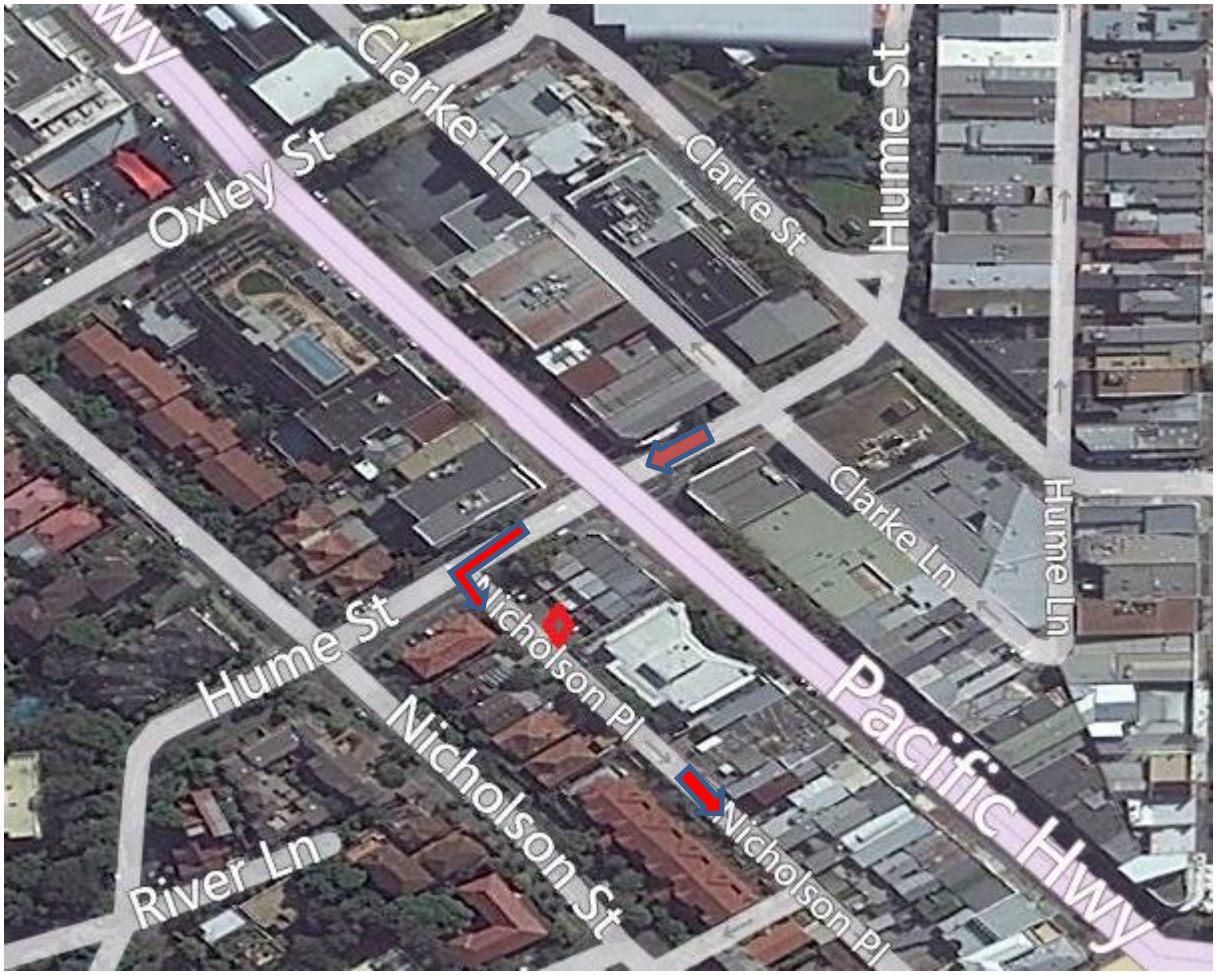
Name: Sayed Ahmed
Organisation: Comfort and Fit (Sales & Operations Manager)

Crows Nest, NSW
2065

Content:
Hi There,

Comfort and fit store at 372 pacific hwy has parking at the back on Nicholson Pl to Shirely rad which is one way road. Currently customers need to come via hume street crossing the pacific hwy to enter to the car park. The pacific hwy doesn't have right turn on hume street currently. So it isn't convenient at all if the hume street is closed or right turn isn't allowed from pacific hwy onto hume street to enter into Nicholson PL.

We appreciate your consideration to take necessary actions for resolving this issue with the development plan.



Current traffic directions to get to the car park behind the shop allocated for this current shop location.

Name: The Great Synagogue Company
Organisation: The Great Synagogue (General Manager)

Sydney, NSW
2000

Content:
To Whom It May Concern

Re application no: SSI 15_7400

The Board of The Great Synagogue has concerns about the noise impact that the construction works may have on during the Sabbath period.

So as not to disturb the Sabbath Services, The Board requests that at all construction work be halted during the hours of 6 - 7pm on Fridays and 8.30am - 12.30pm on Saturdays.

Kind regards

Linny Gompes
General Manager
The Great Synagogue
P. 9019 0305 F. 9264 8871

Name: Terry Fogarty
Organisation: Chatswood West Ward Progress Association Inc (Secretary)

Chatswood, NSW
2067

Content:
Attached

The Chatswood West Ward Progress Association members have expressed qualified acceptance of the project, however, as outlined in our attached submission we have a number of concerns that we like to see addressed by Conditions of Approval.

SUBMISSION

METRO SOUTWEST

CHATSWOOD TO SYDENHAM

ENVIRONMENTAL IMPACT STATEMENT

7 JUNE 2016

By

Chatswood West Ward Progress Association Inc.

Application Number SSI 15_7400

This submission is made on behalf of the Chatswood West Ward Progress Association Inc.

by Terry Fogarty
Secretary, Chatswood West Ward Progress Association Inc.
c/ 73 Greville Street Chatswood, NSW 2067

Attention: Director, Infrastructure Projects

Email: plan_comment@planning.nsw.gov.au

CHATSWOOD WEST WARD PROGRESS ASSOCIATION INC.

The Chatswood West Ward Progress Association was established in 1929 to protect the living amenity of persons living within the West Ward of Willoughby Council. The West Ward of Willoughby extends generally from Epping Rd in the west; Archer St in the east; Mowbray Rd/Mowbray Rd West in the south and Boundary St/Blue Gum Creek to the north. As such our comments relate primarily to the Chatswood Dive site and tunnel area.

HANDLING INCONSISTENCIES

We have observed a number of inconsistences between the Project SUMMARY and the Technical Appendices. Given that the Summary was written after the collation of the technical information, we have relied on propositions in the Summary in formulating our responses.

POSITION ON SYDNEY METRO

In general, our members have expressed qualified acceptance of the Sydney Metro. However, there a number of current concerns both with the construction phase as well as the operational phase of the project.

ISSUE PRIORITIES

The issues are presented generally in the order of the EIS. The order does not imply relevance or seriousness.

COMMUNITY CONSULTATION

There are two distinct communities of interest that require appropriate consultation. During the strategic planning phase the wider community requires information about the project (as has attempted to be supplied). However, in addition, the wider community request that there be at least one **PUBLIC MEETING** where METRO representative are available to present the proposal and answer question.

In addition, from an operational perspective (both during construction and with a view to acceptable long term operations of the network) local residents must be involved in the process.

- **we request as a CONDITION OF APPROVAL that at least one Community Consultative Group be established (comprising representative of nearby residence, Willoughby Council and the proponents and other state agencies such as RMS (as required).**

INTEGRATING THE METRO INTO SYDNEY'S TRANSPORT NETWORK

For many years, Sydney's transport network consisted predominately of heavy rail trains and buses. Even then, achieving effective interchanges between the two modes was difficult. Now, in addition, we have the Sydney Light Rail and the new Metro network. This increases the complexity of interchanges.

- ***We request that as a CONDITION OF APPROVAL the new Metro be seamlessly integrated into Sydney's public transport network. In particular, of utmost importance is that minimum time is required when interchanging with other***

modes of public transport. Equally important is the need for appropriate integration of the OPAL system across all systems.

OVERSTATION DEVELOPMENT

The EIS proposes development above the new stations. However, Chatswood station is not mentioned (presumably as it is part of the METRO NORTH project. We understand that over station will be subject to a separate planning approval process, It is unclear how any future development of the Chatswood dive site may evolve. However, this is of considerable concern to our members.

- ***Due to the nearness of local heritage items and existing problems with traffic at the intersection of Mowbray Rd and the Pacific Highway, we are OPPOSED TO ANYTHING OTHER THAN LOW RISE REDEVELOPMENT OF THE DIVE/CONSTRUCTION SITE.***

POWERING THE METRO

We understand that the decision of where the new electricity cable to power the Metro should run is separate to issues canvassed in this EIS. However,

- ***WE ARE OPPOSED TO ANY PROPOSAL TO RUN THE POWER CABLES ALONG THE PACIFIC HIGHWAY.***

OPERATIONAL INGRESS/EGRESS ON THE SITE

"Access to the site will be from the centre of Nelson Street and Mowbray Rd. Egress will be from Mowbray Rd. Spoil haul trucks will need to turn right onto Mowbray Rd then right at the Pacific Highway. There will be a new set of traffic lights at the intersection of Hampden Rd and Mowbray Rd opposite the egress point to the site. This will facilitate the planned right-hand turns from the site onto Mowbray Rd."

We understand that operational access to the site will be from the southern side of Nelson Street and the northern side of Mowbray Rd.

- **Of particular concern is the impact of increased traffic in Nelson St. As such, we request that as a CONDITION OF APPROVAL there be no ingress/egress from the site via Nelson St and that a new access point be established on the eastern side of the Pacific Highway by way of a 'slip lane' in addition, that any egress/ingress to the site via Mowbray Rd be located such as to assure the integrity of the Mowbray House heritage item.**

- **We request that a CONDITION OF APPROVAL be that all ingress and egress from the site be via Mowbray Rd or the Pacific Highway.**

- **We request that as a CONDITION OF APPROVAL that no construction traffic (obviously including heavy vehicles) are to use local streets (such as Nelson St) during the construction period**

NELSON STREET BRIDGE

The removal of the Nelson Street bridge directly impacts a number of residents and others who use the current bridge to access Orchard Rd.

- **we request, as a CONDITION OF APPROVAL, that as a minimum the Nelson Street bridge be replaced or as a minimum with a pedestrian/cycle overpass either at Nelson street or at Gordon Avenue.**

- **we request, as a CONDITION OF APPROVAL, that consideration be given to replacing he Nelson Street bridge with a traffic bridge linking Gordon St to Orchard Road**

NELSON ST ACCESS

The removal of the Nelson St bridge dramatically reduces the opportunity for Nelson St residents to enter their properties. Currently, travelling northbound, a Nelson St resident can turn right off the Highway in Mowbray Rd, left into Orchard St and left into Nelson St. With the removal of the bridge this will no longer be possible.

- **We request as a CONDITION OF APPROVAL that a set of traffic lights with a right turn arrow northbound be installed on the Pacific Highway at Nelson St.**

With the loss of access to Orchard Rd, the only egress from Nelson St will be via a left turn onto the Pacific Highway southbound. The traffic 'tail' from Mowbray Rd often extends beyond Nelson St.

- **We request as a CONDITION OF APPROVAL that a "Do not queue across intersection (and supporting KEEP CLEAR and road hatching' be implemented at the intersection of Nelson and the Highway.**

Nelson St residents require unrestricted vehicle access to their property

- **We request as a CONDITION OF APPROVAL that Nelson St residents are assured of unrestricted vehicle access to their properties.**

No reduction of parking in Nelson Street?

- **We request as a CONDITION OF APPROVAL that the proponents be required to present a Traffic Control Plan to the 'Willoughby' Traffic Committee and that residents be invited to be present when the plan is being considered.**

Resident parking scheme in Nelson Street

- **We request as a CONDITION OF APPROVAL that a resident parking scheme be implemented in in Nelson St.**

Restricting trades vehicles

We request as a CONDITION OF APPROVAL we request that trades vehicles be restricted from parking in the vicinity of the site (on the basis that the proponent implement a 'park & ride' option from a remote location.

It is reported that contractors MAY CONSIDER' 'park & shuttle' services to transfer workers to and from the site. Problems (particularly parking) with site workers occur on every major construction site.

- **We request as a CONDITION OF APPROVAL that an off-site parking park & shuttle arrangement be required.**

MOWBRAY RD/PACIFIC HIGHWAYINTERSECTION

For critical parts of the day, this intersection is performing sub-optimally. In fact it is rated "F' which we assume also stand for an expletive. The construction of the dive site offers an unparalleled opportunity to address some of the more crucial issues of the site. As he Pacific Highway is no doubt afforded priority of movement, it is important that measures be introduced on Mowbray Rd and Mowbray Rd West to better manage traffic flow.

The westbound movement on Mowbray Rd West is particularly problematic. Since the opening of the high rise developments on the southern side of the road, the 'tail' regularly extends far beyond Beaconsfield Rd. However, the existence of the two heritage items (Church and Hotel) makes resolving this issue quite difficult. If it could be achieved, we would support the introduction of a right turn movement from Mowbray Rd West onto the Pacific Highway southbound.

In relation to the proposed right turn movement from the Pacific Highway eastbound onto Mowbray Rd West there is qualified support for a SINGLE LANE ONLY. Currently traffic from the north heading for Epping Rd/M2 currently use the right hand trun off the Highway onto Epping Rd or the Left in tunnel at this intersection. The fear of providing the right-hand turn onto Mowbray Rd West is that it will attract additional through traffic.

To relieve pressure back to Hampden Rd, it would seem to make sense to have two right turn lanes from Mowbray Rd westbound onto the Pacific Highway northbound. Similarly dual left-turn lanes from Mowbray Rd westbound into the Pacific Highway southbound would also be beneficial in clearing traffic swiftly. As there are only two westbound lanes on Mowbray Rd West there only needs to be two westbound lanes crossing the Highway from Mowbray Rd. This might mean the one of these lanes is a shared 'through/left turn' lane.

T1 TO BE USED FOR SPOIL REMOVAL

*"T1 used for spoil transport on this line would **more than likely** impact passenger rail operations"*

It is apparent from the above statement that only cursory consideration has been given to the use of the T1 permanent way for the removal of spoil and other construction needs.

- **We request as a CONDITION OF APPROVAL we request that a full analysis be undertaken on the use of the T1 line for the removal of soil and other construction matters.**

TRAFFIC MATTERS & HAUL ROUTES

New right-hand turn on Pacific Highway

Currently, traffic heading southbound on the Pacific Highway seeking to turn right onto Mowbray Rd West are directed to turn left onto Nelson Street, right onto Orchard Road then right onto Mowbray Rd to progress across the Pacific Highway onto Mowbray Rd West. The removal of the Nelson St Bridge will result in the need for right turn lanes (south-bound) for traffic needing to get onto Mowbray Rd West. Originally there was talk of two right turn lanes. The EIS mentions just a single lane.

The concern of providing a right-hand turn bay at this location is that it may attract traffic that currently progress to Epping to turn right off the Pacific Highway, thus putting more strain on an already choked Mowbray Rd West.

- **We request as a CONDITION OF APPROVAL that there a single right turn lane from the Pacific Highway southbound into Mowbray Rd West.**

Right turn land from Mowbray Rd West into Pacific Highway southbound

- **Based on the principle of regional traffic using regional roads we request as a CONDITION OF APPROVAL a nw right turn land from Mowbray Rd West into Pacific Highway southbound**

Gordon St Bridge?

An alternative to the right-turn bay on the Pacific Highway could be to replace the Nelson St Bridge with a bridge at Gordon Avenue.

Use of Albert Avenue for a 'hook turn'

Again as an alternative to Pacific Highway right-turn lanes could be a new 'hook turn' utilizing Albert Avenue and Orchard Rd.

Brand St site access

We support the following arrangements: Site access needs to be left-in/left out unless some radical works are undertaken. The old bridge abutments obscure vision and narrow the road. The road, at the rail bridge, needs to be the full street width (likely 1 chain = 20.11 metres). The steel bridge is very noisy. APA wants a low noise concrete bridge which has the benefit of allowing Sydney Trains better graded and curved tracks as part of the metro works.

NOISE AND VIBRATION

Ground and air compression vibration produced by rail transit systems can be annoying to nearby building occupants when they perceive some combination of feelable vibration, re-radiated sound, and vibration induced rattling of household paraphernalia.

We assume that main noise and sources would be:

- Interface between train tyres/wheels and rail track
- Carriage equipment such as: Axle brushes; Electric motors and motor blowers; Air-conditioning units and carriage compressors
- Interface between pantograph and electric power lines
- The “whoosh’ of air compressed between sound barriers as a train passes by
- Rattling within building produced largely by ground-borne vibration

We assume that the main sources of vibration are the ground-borne vibration from the interface between the tyre/wheel and track and air-borne compression from the passing train (whoosh).

We understand that existing noise barriers will be increased in height to about 4 metres Chapman Avenue/Nelson St, Frank Channon Walk, Nelson/Gordon Sts. A 2 metre barrier will also be built to the south of Mowbray Rd on the western side of the line.

- **We request as a CONDITION OF APPROVAL that noise barriers (including temporary barriers) be considered for all properties likely to be effected by noise both during construction and when operational.**

We understand that on the T1 rail bridge the upper parts of the rail carriage might extend 1 ½ metres above the noise barrier. There is potential for noise emanating from the interface of the power frame above the carriage and the overhead power cables.

- **We request as a CONDITION OF APPROVAL that noise barriers be implemented to ameliorate all nuisance noise associated with the operation of both the T1 and METRO systems.**

- **We request as a CONDITION OF APPROVAL that a sound proof barrier be erected on the northern side of Nelson st, at least for a ew meters from the current footpath**

To mitigate vibration we request as a CONDITION OF APPROVAL that dampers be used instead of concrete slabs under tracks. Dampers should be installed, between Albert Ave & Ausgrid dive site, to both the new Metro tracks and the slewed North Shore tracks, especially northbound: dampers should be installed when they're being moved 3m for rail-corridor widening.

- **We request as a CONDITION OF APPROVAL that the Metro pay for installation of soundproofing for windows & doors of nearby residences.**

- **We request as a CONDITION OF APPROVAL that all construction work and ongoing operation of the rail network are required to meet the relevant Industrial Noise Standard**

OPERATIONAL MATTERS

Demolition & excavation

The proposed hours of Monday to Friday 7AM to 6 PM & Saturday 8AM to 1 PM are not standard hours. All other work 24 hours a day.

- **We request as a CONDITION OF APPROVAL that worksite hours should be the standard 7AM to 5PM M-F and 8AM to 1PM Saturday.**

Truck movements

Planned truck movement re quite high (Demolition: 96 per day plus 78 light vehicles; Excavation: 234 per fay plus 248 light vehicles; Tunnel excavation: 286 per day and 248 light vehicle; Tunnel fit out: 254 per day and 248 light vehicles).

- **We request as a CONDITION OF APPROVAL that consideration be given to upgrading the T! line to freight capability to be used for spoil removal.**

HERITAGE ASSESSMENT & RESIDENTIAL BUILDINGS

The heritage-listed Mowbray House School site is shown (hatched) on the construction site diagram. It is proposed to retain the building. However, archival recording and reporting will be undertaken before works starts

Mowbray House*: Direct impact: Minor (physical impact). Potential direct impact: Minor (vibration) – the closest façade of this item would experience vibration above the 7.5mm/s screening level for cosmetic damage. Indirect impact: Minor (views and vistas)*

- **We request as a CONDITION OF APPROVAL that steps are undertaken to protect Mowbray House from potential vibration damage.**

- **We request as a CONDITION OF APPROVAL that dilapidation reports be prepared all Heritage items and residential building around the site.**

- **We request as a CONDITION OF APPROVAL that any building damaged during the construction of the project will be repaired to its prior condition.**

- **We request as a CONDITION OF APPROVAL that a copy of dilapidation reports on all Heritage items be given to the Willoughby/Lower North Shore Council and the Willoughby District Historical Society?**

OTHER MATTERS

Frank Channon Walk

It is proposed to extend Frank Channon Walk to Mowbray Road. During construction, there will be short-term (weekend closures).

Can this extension include a one-way traffic thoroughfare from Nelson St to Mowbray Rd?

It appears residents are looking for an alternate access to turn left onto Mowbray Rd rather than battle the traffic on the Highway. However, the primary purpose of support for the extension of Frank Channon walk has been as a pedestrian/cycle route.

- **We request as a CONDITION OF CONSENT that consideration be given to including a one-way eastbound car lane running parallel to the extended Frank Channon Walk between Nelson St and Mowbray Rd.**

Trees

Trees will be removed within the rail corridor between Nelson St and Mowbray Rd We understand that the proponent prefers to utilize an 'Offsets Program' rather than replacement of trees.

- **We request as a CONDITION OF APPROVAL that at least a 2 for 1 tree replacement program be required.**

- **We request as a CONDITION OF APPROVAL that no trees be removed from Nelson Street.**

- **We request as a CONDITION OF APPROVAL that a** landscape master plan be prepared for tree planting and gardening, to mark the formal entrance to Chatswood on completion of railway construction, and subsequent maintenance (weeding, and watering in dry spells) to create a "Garden Suburb" for arrivals by both train and car.

- **We request as a CONDITION OF APPROVAL that t**he Bowling and Croquet fields adjoining the site be protected from airborne damage during construction.

Footpaths

- **We request as a CONDITION OF APPROVAL that the foot paths on both sides must be preserved.**

Artarmon Substation

- **We support the proposal** that the substation be moved to the industrial area to preserve the current site with its residential R3 zoning.

Artarmon Industrial Area station

- **We support the proposal** that provision be made for a future station near Reserve Rd/Dickson Ave /Carlotta St. The industrial area is a key location where the federal governments innovation agenda can be implemented. The station would result in a major drop in traffic travelling to the industrial area which has a growing workforce in the medical and media industries.

Name: Tim Blythe
Organisation: Urbis (Director)

Sydney, NSW
2066

Content:
Please see attached submission prepared on behalf of Monte Sant' Angelo Mercy College

Sydney Metro Project Submission in respect to the Environmental Impact Statement

Prepared for Monte Sant' Angelo Mercy College

June 2016

urbis

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Tim Blythe
Job Code	SA6252
Report Number	Report_Final_24_06_16

URBIS
Australia Asia Middle East
urbis.com.au

TABLE OF CONTENTS

Executive Summary

This is a submission in respect to the proposed Sydney Metro project prepared on behalf of the Sisters of Mercy and Monte Sant' Angelo Mercy College, located in Miller Street, North Sydney otherwise referred to as the "Monte Campus".

The Victoria Cross Station and tunnel is proposed along the alignment of Miller Street directly adjacent to the Monte campus. While the underground station entry/exit will be from the southern end of the platform near the corner of Berry Street, the land to the immediate north of the School (194 Miller Street) has or will be acquired for the project. This site will operate as a construction site and tunnel access during the construction phase and then a services facility in the operational phase.

The proposed works associated with the Victoria Cross Station component of the project will have an **unreasonable and unacceptable impact** on the Sisters of Mercy and Monte Sant' Angelo Mercy College. This impact can be substantially attributed to the proposed location and construction of the northern services shaft at 194 Miller Street ("the northern site") which is immediately adjacent to the new performing arts centre of the Monte Campus as well as the convent buildings for the Sisters of Mercy.

Our submission has identified the following key impacts, **which we submit warrant the re-location of the northern construction site and future services building**. These impacts relate to:

- Airborne and ground borne construction noise that will have:
    - Severe impacts on the use of O'Regan Arts and Cultural Common (ACC) which includes a large theatre for the duration of the construction stage of the project.
    - Severe impacts on the Sisters of Mercy convent buildings located immediately adjacent to the tunnel shaft.
    - Adverse impacts on day to day use and operations of School in particular around important times of school examinations and the like.
- Impacts on school access, safety and security during the construction phase.
- Impacts at the operational phase of the project.
- The lack of information and detail in the EIS and the lack of adequate early consultation that has led to serious inadequacies in the environmental impact assessment.

While acknowledging the substantial scope of the Sydney Metro Project, the EIS fundamentally fails to properly and adequately identify and assess the impacts of the project on the Monte campus. It is our submission that a proper and thorough assessment of the site context would have at the outset identified the highly sensitive nature of the "northern site". This sensitivity is largely the result of the recently constructed performing arts centre immediately adjacent to the subject works, but equally the relationship between the construction site and the front door of the School to the immediate south which is a sensitive and highly pedestrianised environment.

To understand the likely severity of the impacts, the School has retained acoustic engineers Wilkinson Murray to undertake a technical review of the EIS and the supporting Technical Paper 2: Noise and Vibration prepared by SLR Consulting. This report is included as **Appendix 1** to this submission and substantiates the genuine concerns of the School in terms of airborne and ground borne construction impacts, which will reach unacceptable limits.

If pursued as proposed, the proposal will be manifestly unreasonable and result in material and substantial impacts on the Monte campus and the operational needs of the School.

1 Introduction

This report identifies the key implications associated with the proposed Sydney Metro project as it will impact on the Sisters of Mercy and Monte Sant' Angelo Mercy College, located in Miller Street, North Sydney otherwise referred to as the "Monte Campus".

The Victoria Cross Station and tunnel is proposed along the alignment of Miller Street directly adjacent to the Monte campus. While the underground station entry/exit will be from the southern end of the platform near the corner of Berry Street, the land to the immediate north of the School (194 Miller Street) has been acquired for the project. This site will operate as a construction site and tunnel access during the construction phase and then a services facility in the operational phase.

This report specifically addresses the impacts associated with the works proposed within the Victoria Cross Station Precinct which includes the 194 Miller Street site ("the northern site") as well as the main station portal site located at the intersection of Berry Street. This report is supported by an independent assessment of the acoustic implications prepared by Wilkinson Murray Acoustic Engineers.

FIGURE 1 – SITE CONTEXT (SOURCE EIS – AS AMENDED TO SHOW RELATIONSHIP WITH MONTE CAMPUS)

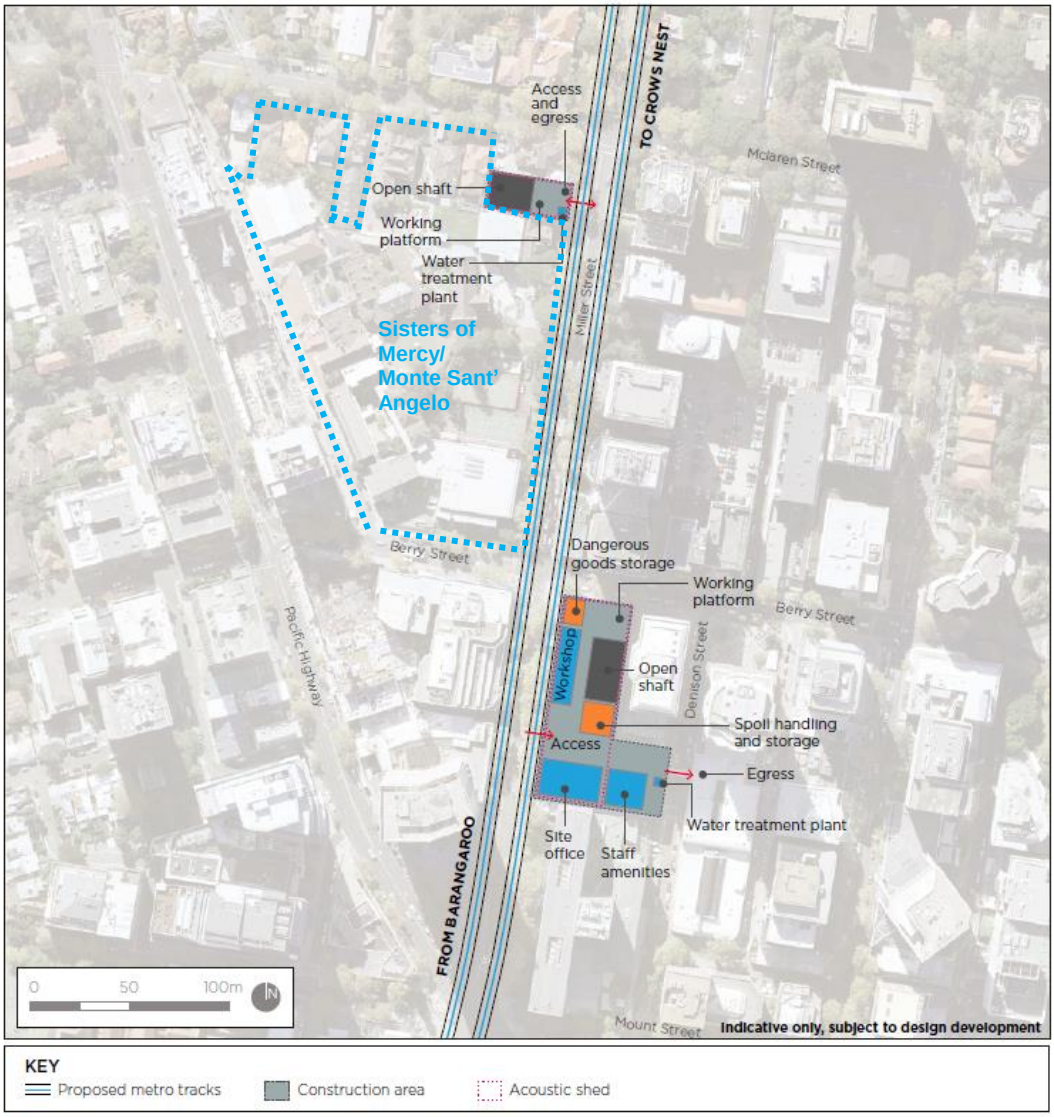


Figure 7-11 Victoria Cross Station construction site indicative layout

2 Description of the Monte Campus

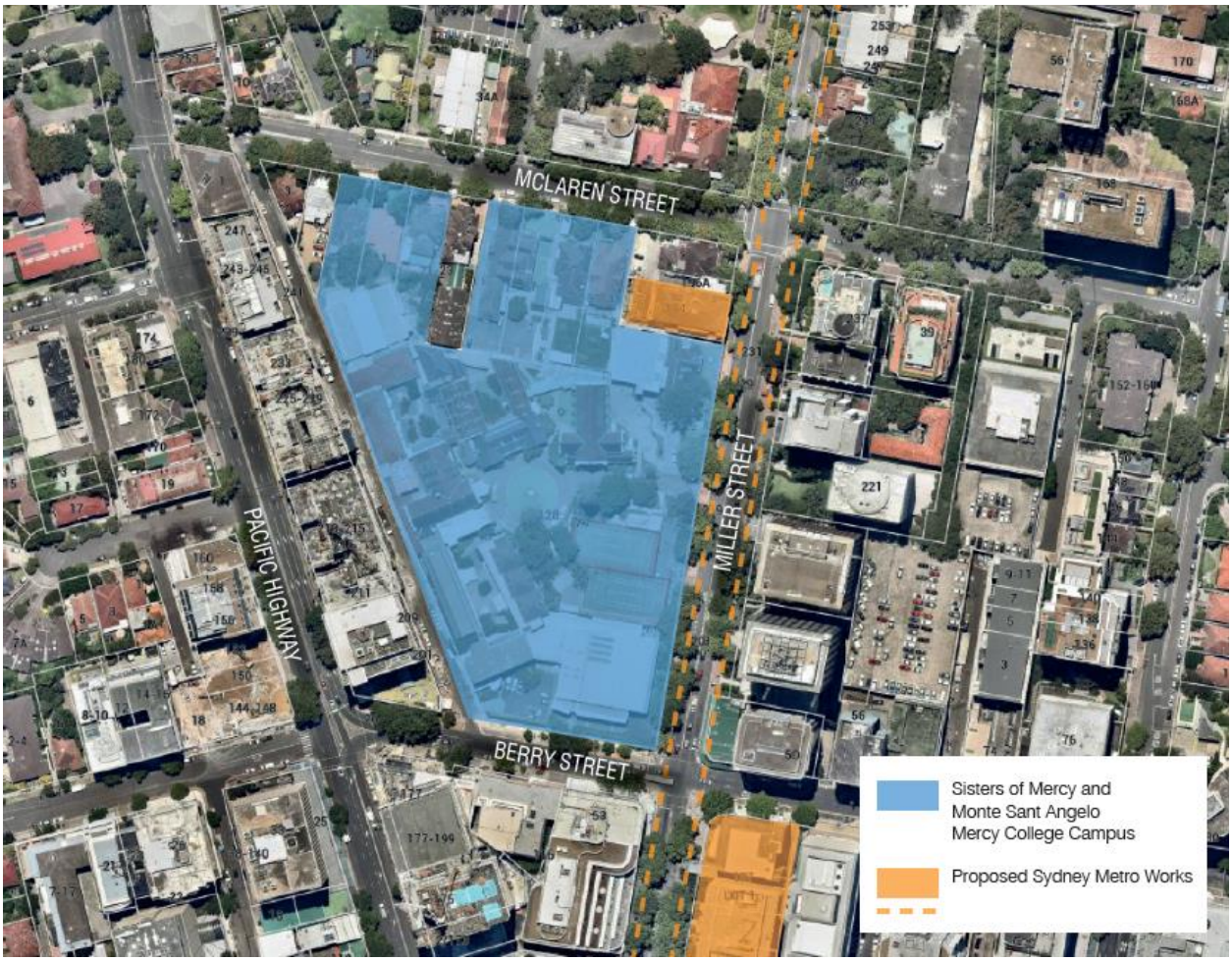
2.1 CONTEXT

The Sisters of Mercy land holding is an irregular shaped lot that occupies the majority of the street block, bordered by McLaren Street to the north, Miller Street to the east, Berry Street to the south and Angelo Lane to the west.

The land comprises two key components/uses being:

- The Monte Sant' Angelo Mercy College, which occupies the majority of the site, and
- The Congregational uses being the Sisters, which occupy the McLaren Street properties being Lots 5 to 8, 10 and 11 DP5030, otherwise referred to as the 'convent buildings'.

FIGURE 2 – SITE CONTEXT (SOURCE: NEAR MAP)



The main part of site is occupied by the Monte Sant' Angelo Mercy College, which is an independent Catholic secondary day school for girls in years 7-12. The College was founded in 1875 by the Sisters of Mercy under the aegis of Mother Ignatius McQuoin. The College continues a tradition of excellence and innovation in Catholic education in the Mercy tradition. Monte has a strong academic record; in 2007 it became the first Catholic girls' school in New South Wales to offer both the International Baccalaureate Middle Years and Diploma Programs. The College grounds are occupied by an assortment of education buildings, centred on a group of heritage listed buildings being Masalou, Mercy Hall, the Chapel and O'Regan House.

2.2 RELATIONSHIP OF THE METRO PROJECT SITE TO THE METRO CAMPUS

The Monte Campus is located immediately to the south and west of the 194 Miller Street site which forms part of the project site for both construction and on-going operations of the Sydney Metro.

FIGURE 3 – RELATIONSHIP OF THE METRO PROJECT SITE TO THE MONTE CAMPUS

2.2.1 NORTHERN INTERFACE

In October 2014, the new O'Regan Arts and Cultural Common (ACC) located in the north-eastern corner of the campus was formally opened. This new facility valued at approximately $20million is an integral component of the School's offering and curriculum for students. The new Arts and Cultural Common building comprises:

- A New multi-level space to connect classrooms, theatre, and the O'Regan building;
- 4 New music classrooms, and 8 small music studios over two levels;
- A 300 seat black box theatre space, with back of house facilities and technical teaching areas, and

- Large ensemble practice studio.

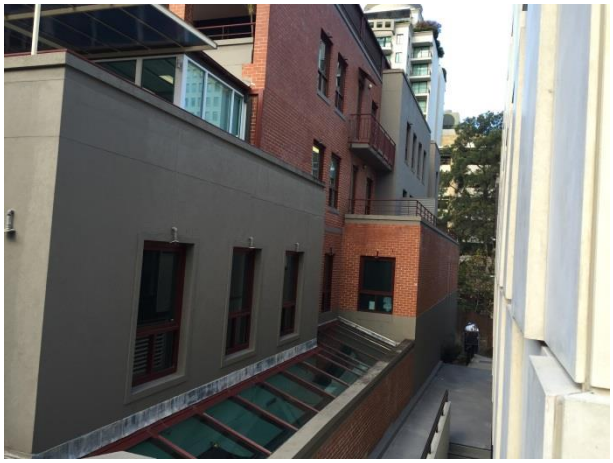
PICTURE 1 – O'REGAN ARTS AND CULTURAL COMMON (ACC)

PICTURE 2 – INTERFACE BETWEEN NORTHERN BOUNDARY OF MONTE (O'REGAN BUILDING) AND 194 MILLER STREET

PICTURE 3 – LOOKING TOWARDS THE NORTHERN BOUNDARY INTERFACE WITH 194 MILLER STREET FROM WITHIN THE MONTE CAMPUS

The theatre is significantly excavated into the natural ground level by up to 10 metres and is located within approximately 2 metres from the northern boundary adjacent to the 194 Miller Street site.

PICTURE 4 – EXISTING PERFORMANCE THEATRE LOCATED IMMEDIATELY ADJACENT TO THE BOUNDARY OF 194 MILLER STREET



PICTURE 5 – NORTHERN BOUNDARY INTERFACE

2.2.2 WESTERN BOUNDARY INTERFACE

The Sisters of Mercy Convent Buildings fronting McLaren Street exist along the northern boundary of the site which comprise:

- 27 McLaren – Stormanston House - used by the Sisters as their 'Home' for functions etc;
- 29 McLaren – Coolock House (formerly Fairhaven) - administrative headquarters of the Sisters of Mercy;
- 31-33 McLaren – Bermondsey Lodge – currently used as accommodation for the Sisters. This building is comprised of four separate dwellings.

PICTURE 6– VIEW OF COOLOCK HOUSE (ADMINISTRATIVE HEADQUARTERS FOR SISTERS OF MERCY AND BERMONDSEY LODGE USED AS ACCOMMODATION

PICTURE 7 – EAST BOUNDARY OF BERMONDSEY LODGE AND IMMEDIATE INTERFACE WITH PROPOSED SYDNEY METRO SHAFT EXCAVATION

3 Proposed Project Works

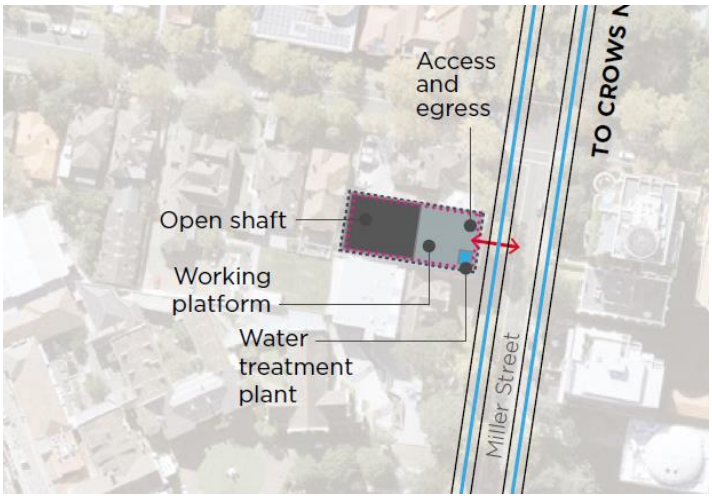
For the purposes of this submission, we have summarised the pertinent aspects of the project as it relates to the Victoria Cross Station components and the implications for the Monte campus. This is separated into construction and operational elements.

3.1 CONSTRUCTION PHASE

The level of information provided with the EIS to describe the construction process is very preliminary and schematic and inadequate to properly assess the implications of the project.

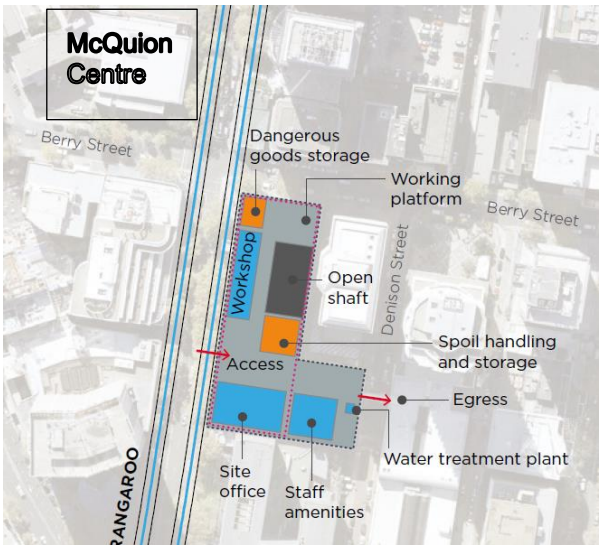
The primary element of interest is the construction site at 194 Miller Street which located immediately north of the Monte performing arts centre. As shown in the extract below from the EIS, the proposal involves the excavation of an open shaft within the western half of the site, with a working platform and water treatment plant to be provided within the eastern (Miller Street) portion of the site.

FIGURE 4 – PROPOSED CONSTRUCTION WORK AT 194 MILLER STREET (“NORTHERN SITE”) SOURCE: EXTRACT FROM EIS



To the south-east of the Monte Campus is the construction site for the station portal. This includes a further open shaft which is located within 70metres of the McQuion Centre, which is the main hall at Monte where important activities such as HSC exams are undertaken.

FIGURE 5 – TYPE FIGURE CAPTION HERE.



The pertinent aspects of the construction process include:

- The construction process is estimated to occur over a 5-6 year period commencing in around 2017.
- An estimated 175,000 cubic metres of spoil is proposed to be removed from this precinct (between both construction locations) in North Sydney. Spoil will be transported away from the site by tip truck. The EIS suggests 20-25 trucks per hour (or 1 truck each 2-3 minutes) during the period of 9am and 4pm.
- The construction process will essentially involve the following steps:
  - Demolition of the existing building;
  - Removal of any vegetation including some street trees;
  - Construction of hoardings;
  - Initial earthworks and piling;
  - Construction of an 'acoustic shed' over the site excavation;
  - Excavation will commence with rock hammers and excavators but progress to controlled blasting below a depth of 15 metres.
  - Construction of a working platform fronting Miller Street allowing trucks to be loaded for spoil removal;
  - Excavation of a shaft that will penetrate to the depth of the rail tunnel (circa 45metres below the current ground level.
  - On-site treatment of groundwater drawn from the tunnel excavations;
  - On completion of the tunnel works, construction of a services building on the site.

There is no construction detail or methodology outlined in the EIS. The process is only graphically described in what might be described as "info graphics" that depict the concept but without detail of matters such as:

- Location of piling.
- Excavation setbacks from boundaries.
- Design, height and setbacks of the proposed acoustic shed.
- Truck access design to Miller Street.

FIGURE 6 – DESCRIPTION OF TYPICAL CONSTRUCTION PROCESS (SOURCE:EIS)

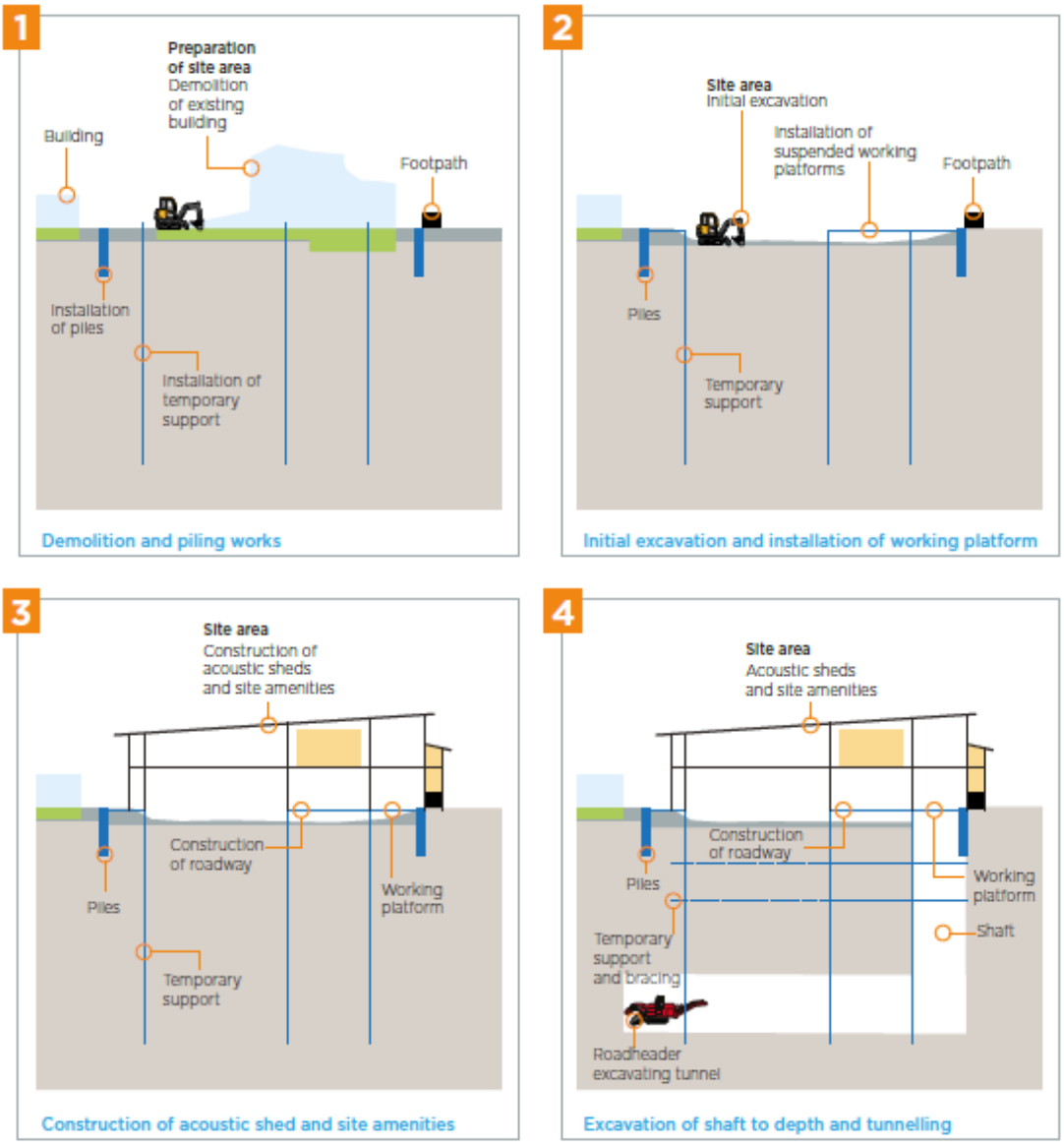


Figure 7-6 Typical mined station construction

3.2 OPERATIONAL PHASE

At the operational phase, the following is proposed:

- A services building (with no design detail) to be constructed on site.
- It is indicated that this building could be 10-12 metres high and setback in line with adjacent buildings, but there are no plans that support this proposition other than the cross section illustrated in Figure 7 below.
- The services building is described as being of utilitarian character as a service building noting that is sits within a heritage context, but there is no detail.
- A service building will provide for tunnel ventilation and smoke exhaust in the event of an incident

- During normal operations, tunnel ventilation would be provided by train movements and the operation of fans at the stations to exhaust air from the tunnels.
- Heat removal would typically occur via the tunnel exhaust; however, ventilation fans could also be operated to provide additional heat removal particularly in peak summer conditions

FIGURE 7 – CROSS SECTION OF VICTORIA CROSS STATION INCLUDING PROPOSED SERVICES BUILDING (SOURCE: EIS)

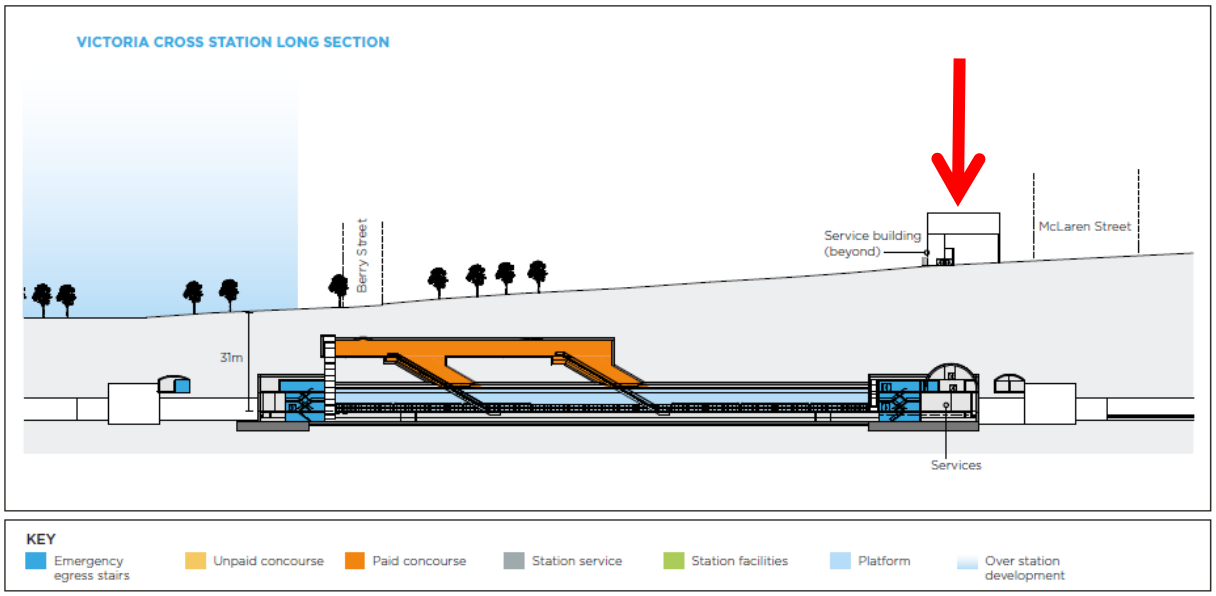


Figure 6-15 Victoria Cross Station – indicative cross-section and long section

4 Key Issues

4.1 OVERVIEW

The proposed works associated with the Victoria Cross Station component of the project will have an **unreasonable and unacceptable impact** on the Sisters of Mercy and Monte Sant' Angelo Mercy College. This impact can be substantially attributed to the proposed location and construction of the northern services shaft at 194 Miller Street ("the northern site") which is immediately adjacent to the new performing arts centre of the Monte Campus.

While acknowledging the substantial scope of the Sydney Metro Project, the EIS fundamentally fails to properly and adequately identify and assess the impacts of the project on the Monte campus. This is a significant shortcoming that we submit fails to meet the requirements of the *Environmental Planning & Assessment Act 1979* and the specific matters outlined in the Secretary's Environmental Assessment Requirements (SEAR's).

It is our submission that a proper and thorough assessment of the site context would have at the outset identified the highly sensitive nature of the "northern site". This sensitivity is largely the result of the recently constructed performing arts centre (ACC) immediately adjacent to the subject works, but equally the relationship between the construction site and the front door of the School to the immediate south which is a sensitive and highly pedestrianised environment.

Similarly, the EIS ignores the sensitive uses of the Sisters of Mercy. The Convent Buildings adjacent to the construction site will be significantly impacted both in terms of impacts on the residential and administrative functions. Coolock House for example is the headquarters of the Sisters of Mercy North Sydney and is frequented by many Sisters. It should be recognised that many of the Sisters are aged and with limited mobility. The significant disruption of the proposed works will therefore have a have substantial and long lasting impact on the Sisters.

To understand the likely severity of the impacts, the School has retained acoustic engineers Wilkinson Murray to undertake a technical review of the EIS and the supporting Technical Paper 2: Noise and Vibration prepared by SLR Consulting. This report is included as **Appendix 1** to this submission and substantiates the genuine concerns of the School in terms of airborne and ground borne construction impacts, which will reach unacceptable limits.

The ACC is now a centrepiece at the Monte campus will be rendered unusable for the duration of the major construction works. This is a period which is estimated at a minimum to last 3-4 years. In addition, the proposed works required to Miller Street and the location of major construction activities adjacent to a highly pedestrianised environment will create inevitable conflicts and safety risks that could be avoided if more suitable locations for this construction site is found.

If pursued as proposed, the proposal will be manifestly unreasonable and result in material and substantial impacts on the Monte campus and the operational needs of the School.

The EIS does not identify any alternative options to the location of the proposed shaft and services building, nor any substantive mitigating measures. Given the highly sensitive nature of the site selected, we submit that this is a major shortcoming in the assessment. On any reasonable assessment, the EIS should identify suitable alternative locations that are less environmentally sensitive but which can still achieve the operational needs of the Metro Project.

Our submission has identified the following key impacts, which we submit warrant the re-location of the northern construction site and future services building. These impacts relate to:

- Airborne and ground borne construction noise that will have:
    - Severe impacts on the use of the ACC for the duration of the construction stage of the project.
    - Severe impacts on the Sisters of Mercy residence and administration building located immediately adjacent to the tunnel shaft.

- Adverse impacts on day to day use and operations of School in particular around important times of school examinations and the like.

- Impacts on School access, safety and security during the construction phase.

- Impacts at the operational phase of the project.

- The lack of information and detail in the EIS and the lack of adequate early consultation that has led to serious inadequacies in the environmental impact assessment.

4.2 AIRBORNE AND GROUND BORNE CONSTRUCTION NOISE

Acoustic engineers Wilkinson Murray have been commissioned by the School to undertake a technical review of the EIS and the supporting Technical Paper 2: Noise and Vibration prepared by SLR Consulting. This report is included as **Appendix 1** to this submission.

Wilkinson Murray has identified some key shortcomings in the assessment as well as identified likely significant impacts associated with the project. In summary, the findings are as follows:

- *Ambient noise monitoring in the Noise Catchment Area covering Monte Sant Angelo College is not representative of the area. As a result construction noise management levels and operational noise criteria are at least 10 dBA too high. As a result the impacts from airborne construction noise are understated.*

- *The EIS fails to identify the specific uses of the College that have a higher acoustic sensitivity, such as the Theatre, Main Hall and Recording areas. Therefore impacts from airborne and ground borne noise are significantly underestimated.*

- *The EIS fails to identify the nearest residence to the northern access shaft and the impact construction noise and vibration on these residences which will be unacceptable.*

- *The EIS does not provide the confidence and commitments that noise and vibration from construction can be adequately managed to all the receivers associated with Monte Sant Angelo College, therefore the northern shaft site should be relocated away from the school and residences and reassessed.*

- *Operational assessment fails to take into account the Theatre which is 10 metres below the ground level whereby noise levels will be several decibels higher. Therefore the need for track isolation should be considered in light of the theatres' location and sensitivity to noise and vibration.*

- *Noise objectives for the operation of services plant associated with the Victoria Cross station should be revised to reflect representative noise levels of the area.*

In conclusion, their findings are that:

- *The impacts on the education components, particularly the entire Arts and Creativity Common, around the northern shaft will be significant and will **render these areas not fit for use.***

- *In the case of residences which are immediately to the west of the northern shaft the impacts at the two residential buildings, particularly at night **will render these buildings uninhabitable.***

4.2.1 SPECIFIC IMPLICATIONS FOR THE O'REGAN ARTS AND CULTURAL COMMON

As previously mentioned, an Arts and Creativity Common (ACC) has been recently constructed immediately adjacent to the northern construction site. This includes a theatre, recording facility, music practice and teaching facilities. The Theatre is located at a level 10 metres below the ground level and is used for recital, performance and recording. Typically this facility is used up to 9 pm in the evening.

This facility is located approximately 2-3 metres from the proposed Victoria Station northern access shaft.

Extracts from the approved plans of this development are provided in the following figures to illustrate the specific design of this building and its relationship with the proposed tunnel shaft to be located immediately adjacent.

FIGURE 8 – PLAN SHOWING RELATIONSHIP BETWEEN THE ARTS AND CULTURAL COMMON AND PROPOSED TUNNEL SHAFT

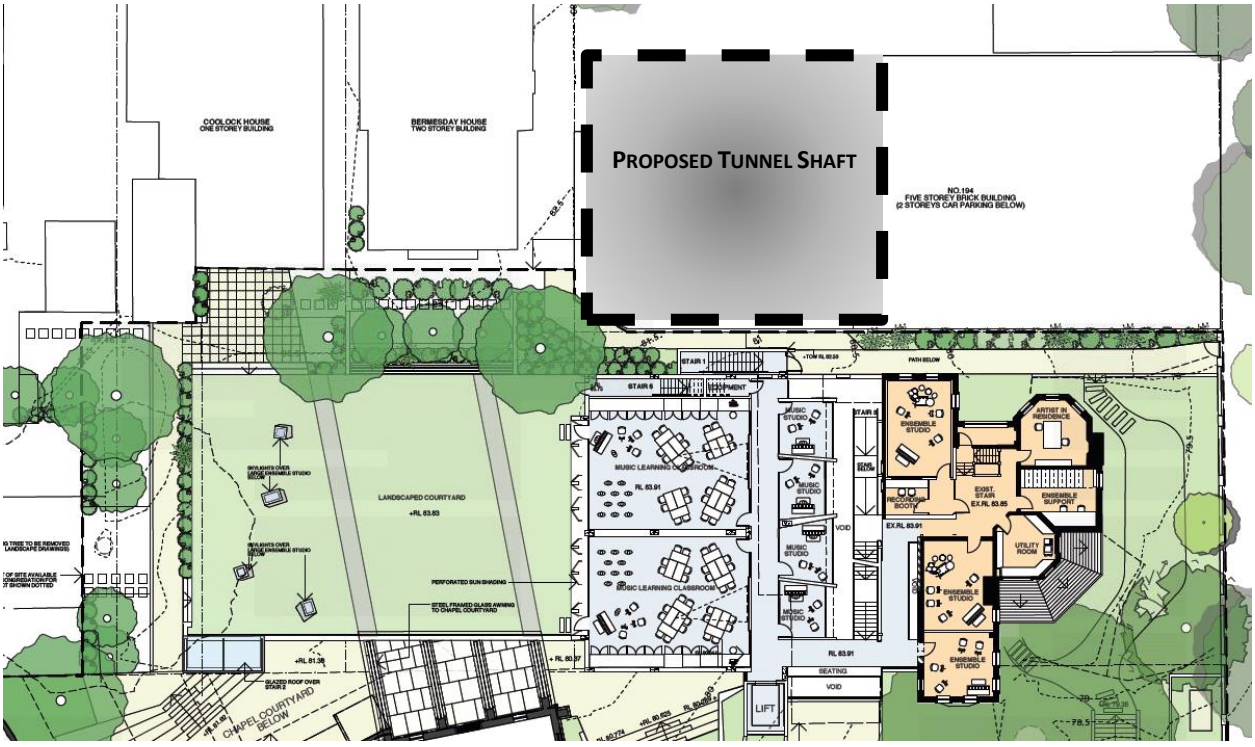


FIGURE 9 – PLAN SHOWING LOWER GROUND THEATRE LOCATED ADJACENT TO THE NORTHERN SIDE BOUNDARY

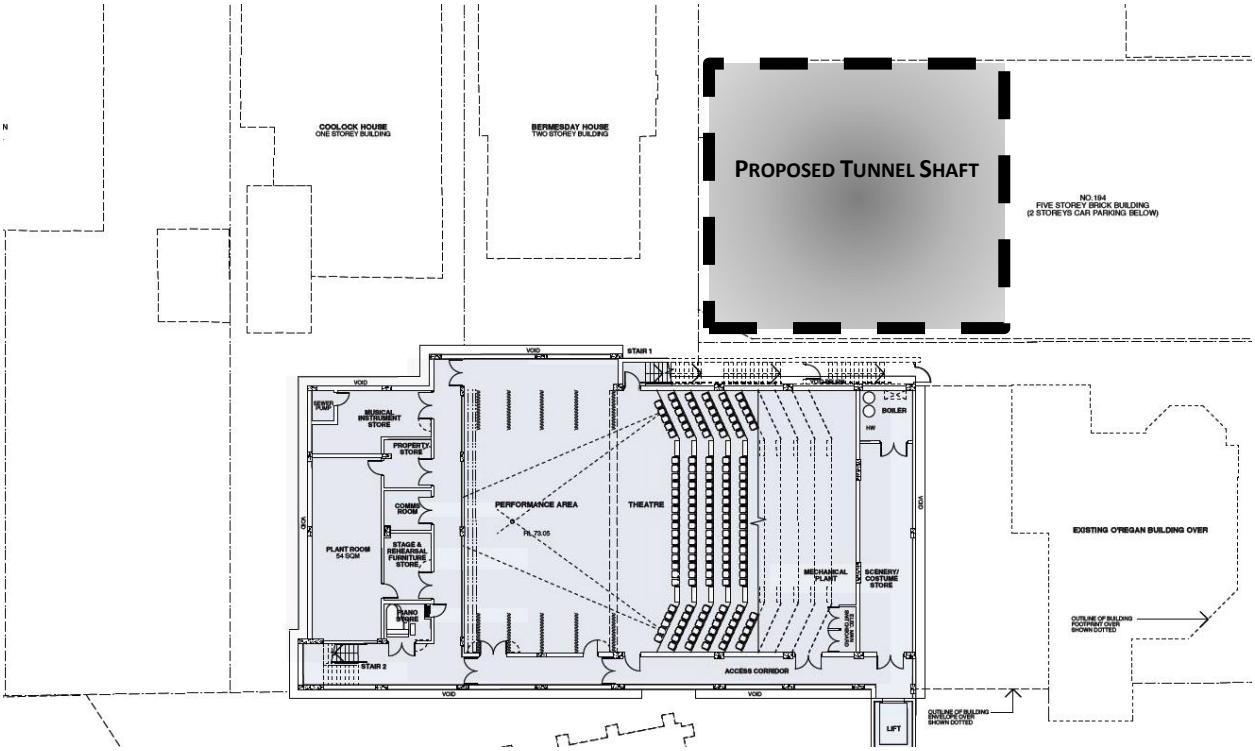


FIGURE 10 – CROSS SECTION OF THE ARTS AND CULTURAL COMMON BUILDING SHOWING THE DEPTH OF BELOW GROUND USE

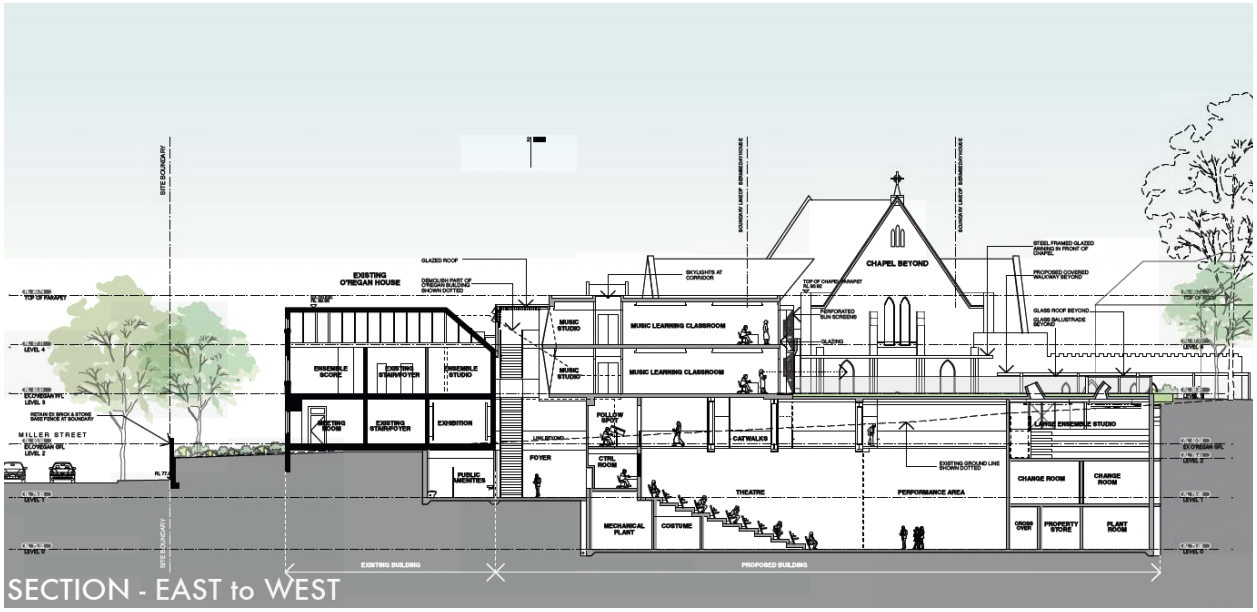


FIGURE 11 – SECTION SHOWING INDICATIVE RELATIONSHIP WITH PROPOSED TUNNEL SHAFT

These plans illustrate how close the proposed tunnel is to the existing arts and cultural common and the significant potential for impact.

Wilkinson Murray has identified the following key impacts for this building during the construction phase:

Airborne Noise

Airborne noise from construction works is predicted to be greater than 75 dBA at the Arts and Creativity Common. These noise levels will limit effective communication in areas in the northern outdoor areas of the school and outdoor areas rendering these areas unusable.

It is noted that these impacts are predicted with an acoustic shed over the site.

Ground Borne Noise

The greatest impacts are on the school is from ground borne noise associated with rock breakers and blasting. Noise from ground borne noise (due to rock breakers) is predicted to be up to 75 dBA in the Arts and Creativity Common, Theatre and adjacent residences. In the case of the Theatre, which is below ground level, this will be the dominant noise source from construction.

Advice from Wilkinson Murray is that vibration from these activities is also likely to be perceptible and cause cosmetic damage to buildings around the northern access shaft.

In respect to the Arts and Cultural Common, Wilkinson Murray conclude as follows:

> *The impacts on the education components, particularly the entire Arts and Creativity Common, around the northern shaft will be significant and will render these areas not fit for use.*
>
> *The only mitigation is proposed by way of using medium rock breakers and blasting however the resultant noise levels have not been quantified. No consideration of rock saws or reduced hours of operation have been considered.*
>
> *Based on these facts and findings it is considered that there will be significant noise and vibration impact at the school that provide no confidence that these noise and vibration impacts can be adequately managed. All that is presented are significant exceedances.*
>
> ***Therefore it is considered that the location of the northern shaft should be reconsidered and relocated away from the school site. In addition alternative excavation techniques, such as rock sawing should also be considered as a reasonable and feasible method of excavation. (our emphasis).***

To further emphasise the importance of this facility and the impacts of excessive construction noise, the Monte is “IB” (International Baccalaureate) School with many of the exams and student activities recorded and sent overseas for marking. These recordings need absolute silence and crystal quality which will not be achievable with the proposed location of the tunnel shaft.

4.2.2 SPECIFIC IMPACTS ON THE SISTERS OF MERCY CONVENT BUILDINGS

Similar to the above concerns, the proposed works will have a significant detrimental impact upon the Sisters of Mercy convent buildings located immediately adjacent to the west of the proposed tunnel shaft.

The Technical Acoustic Report accompanying the EIS fails to identify that 31-33 McLaren Road is a residential premises and incorrectly classifies this property as a commercial receiver. Wilkinson Murray has advised that in respect to this residence, the proposed works, particularly at night will render this building uninhabitable. In this case, the only mitigation measure would be to provide alternative accommodation to occupants of this residence.

In summary, the acoustic report supporting the EIS fails to identify this sensitive receiver and as such no suitable mitigation measures have been proposed. As advised by Wilkinson Murray, the proposed methodology and duration of works is likely to render this property uninhabitable and require relocation of occupants for an extended duration.

4.2.3 GENERAL IMPACTS ON SCHOOL ACTIVITIES

While concerns have been raised in respect to specific buildings, more broadly, significant concern exists in terms of the long duration of the construction works (projected over a 5-6 year duration) and the implications that this will have on the operation of the School and the health and well-being of students, staff and the broader School community.

The duration of the construction process essentially relates to the duration of a student’s senior school experience at Monte. While the initial years of excavation will see construction activities at its most disruptive, the duration of the works and the extent of impact cannot be under estimated.

Student well-being is of critical importance and the exposure to persistent very loud construction noise throughout the day is of major concern and represents a genuine health risk. Students are outside before school (pre 8:20am), recess (10:30am to 10:50am and lunch (12:45pm to 1:30pm) and this is important for student wellbeing. Noise during these times would be a major impact.

There is no consideration of such likely effects, nor are any tangible mitigation measures proposed such as:

- Respite periods;
- Ceasing of construction during exam periods and other critical school activities.

It is our submission that this impact can be ameliorated by relocating the northern construction site elsewhere. Anything less in terms of mitigation will only have limited benefit and will not address the substantive concerns.

This photograph below illustrates a class activity at the rear of the arts and creative common immediately adjacent to the construction site. Such activities would be impossible if construction was to occur as proposed.

PICTURE 8 – CLASSROOM ACTIVITY IN THE ARTS AND CULTURAL COMMON

4.3 IMPACTS ON STUDENT SAFETY, ACCESS AND AMENITY

The Monte school community is very familiar with the inevitable impacts that arise during building construction. The School has recently been through its own major project construction with the arts and cultural common building as well as current residential projects well under construction to the west on the opposite of Angelo Lane. What is however different with the current Metro project is the significant and long term impacts on the operations of the School which centre around:

- The volume of truck movements during the core school hours and which will cause major conflicts at the end of the school day where there is a major student outflow directly into Miller Street.
- The reduction in the width of the Miller Street footpath, which is already at full capacity in accommodating student pedestrian traffic at peak times.
- The loss of a bus stop immediately north of the school campus on Miller Street.
- The potential hazards to student pedestrians required to travel north of McLaren Street.

4.3.1 TRUCK MOVEMENTS

Truck movement will be a noticeable impact in both Miller and McLaren Street and is concentrated during School operating hours as is shown in the figure below sourced from the EIS.

Section 8.4.9 of the EIS states:

> *This graph shows that the peak heavy vehicle movements in the AM peak period (7am to 10am) would be six heavy vehicles per hour during the demolition and excavation phases.*

What is not however clearly explained in the EIS is the projected heavy vehicle movements of approximately 23 per hour between the times of 9am to 4pm.

While undoubtedly the concentration of trucks during these hours is designed to avoid the traditional peak hour periods (7am-9am and 5pm-7pm), this approach ignores the significant early peak generated by the school. This school peak occurs from around 3pm Monday to Friday.

FIGURE 12 – PROJECTED TRUCK MOVEMENTS (SOURCE: EIS)

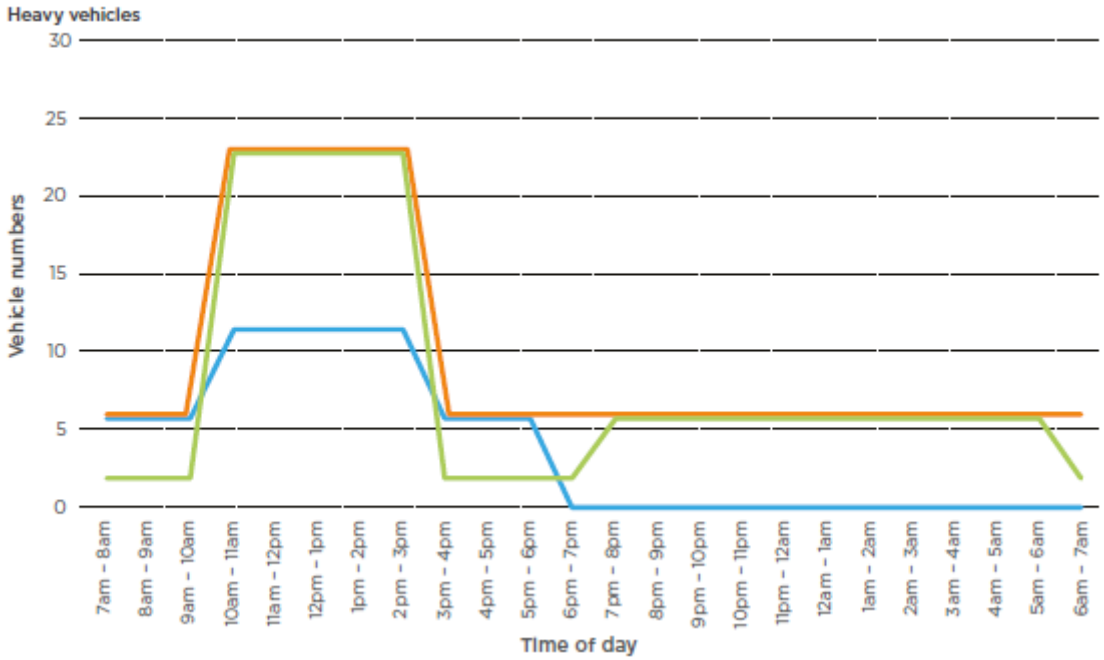


FIGURE 13 – PROPOSED HEAVY TRUCK ACCESS MOVEMENTS (SOURCE: EIS)

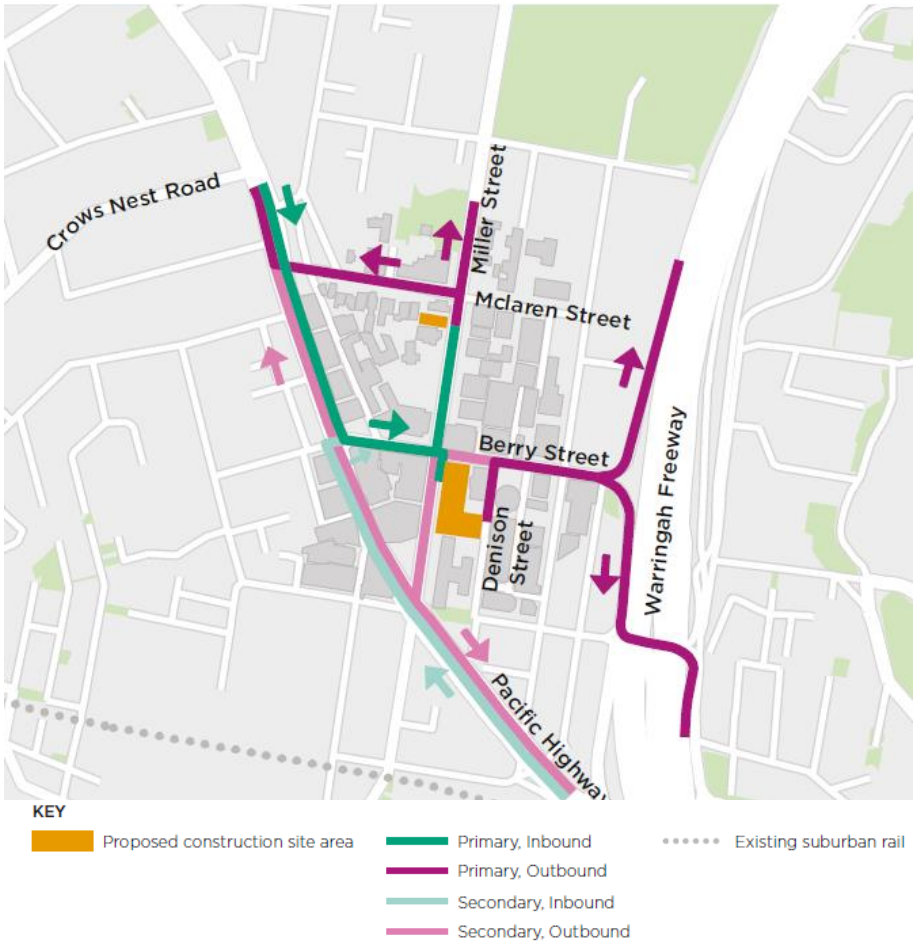


Figure 8-24 Victoria Cross Station construction site haul routes

The proposed haulage route for the northern construction site proposes heavy truck movements along:

- Miller Street frontage of the School;
- MacLaren Street which is a local residential street

The proposed heavy truck access route for the northern construction site further re-inforces our submission that the proposed northern construction site is not appropriate and should not be pursued in its current location. This impact has the potential to be further exacerbated by the statement in the EIS (page 218) that this northern construction site will be used for the delivery of materials as per the following statement:

> *"Shafts would also be excavated from the Victoria Cross north site to the underground station cavern. The Victoria Cross north site would become a future service facility. This shaft may also be used throughout the construction period for the delivery of materials." (our emphasis)*

The proposed construction access from the main station site to the south on the corner of Berry Street allows heavy truck access to the major roads being Pacific Highway, Berry Street and Warringah Freeway. This route avoids the sensitive interfaces of the School and residential properties and is far more appropriate and sensitive to the local environment.

In summary, we submit that the northern construction site is unsuitable and will have significant adverse impacts on the immediate environment which is exacerbated by the heavy truck movements that will be generated on a consistent basis throughout the daytime period both for the removal of spoil and the delivery of materials. Conversely, limiting heavy construction access to the main site at the intersection of Berry Street would alleviate this impact and should be further investigated.

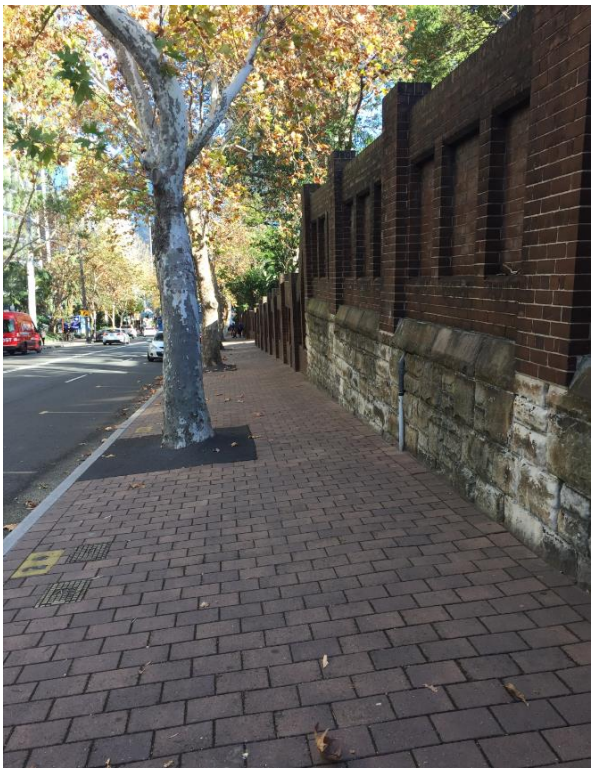
4.3.2 REDUCTION IN WIDTH OF MILLER STREET FOOTPATH

The proposed construction traffic and transport section of the EIS (page 314) states:

> *Pedestrian footpaths on Miller Street in the vicinity of each of the construction sites would be reduced in width by around 600 millimetres during the construction works."*

While it is asserted that a minimum footpath width of 2.4 metres will be retained in order to meet the Ausroad guidelines, the implications of this footpath reduction will be significant. The impacts include:

- The loss of significant street trees along the Miller Street frontage to the School as shown in Picture 9;
- The loss of footpath capacity along the footpath for students and the general public;
- The loss of an existing bus stop on Miller Street;



PICTURE 9 – EXISTING MILLER STREET FOOTPATH AND EXISTING STREET TREES TO BE LOST WITH PROPOSED 600MM FOOTPATH REDUCTION

The primary concern with the narrowing of the footpath on Miller Street is the impact on accessibility and safety of the School community. Miller Street is the main entry to the School and the front gates are used by the majority of students and all visitors to the campus.

While the typical school times are 8:20am to 3:20pm Monday to Friday, like many other Schools, the front gates are generally open between 6:30am to 6:30pm. In addition to this, there is generally some form of activity every night on the campus which includes debating, music performances, academic meeting and information nights, exhibitions etc.

From a recent survey undertaken by the School, 70% (or over 800 students) travel home by bus and therefore utilise Miller Street at that time. This is most acutely felt at the afternoon at the end of normal classes (around 3.20pm) when there is a large exodus of students within a short period of time. This is illustrated in Pictures 10 and 11 which highlight the large number of students that are either leaving or congregating at the entrance of the School.

It is our submission that any reduction in the width of the footpath along the Miller Street frontage is not sustainable based on this pedestrian volume.

PICTURE 10 & 11 – STUDENTS LEAVING THE SCHOOL IN THE AFTERNOON AFTER THE END OF SCHEDULED CLASSES

4.3.3 LOSS OF BUS STOP

The EIS recognises the loss of an existing bus stop located immediately within the frontage of the northern construction site. As illustrated in Pictures 12 and 13, this is an important bus stop to service the school population. There is no indication as to the potential alternative locations for the bus stop, but one would presume that it would need to be located further to the north in Miller Street, north of McLaren Street. While inconvenient, this will also increase the level of pedestrian movement across the frontage of the construction site which is undesirable from a safety and security perspective.

PICTURE 12 – EXISTING BUS STOP IN THE FRONTAGE OF THE NORTHERN CONSTRUCTION SITE

PICTURE 13 – STUDENTS ACCESSING THE BUS STOP DURING THE AFTERNOON PEAK PERIOD

4.3.4 SAFETY AND SECURITY OF STUDENTS AND PEDESTRIANS

Chapter 19 of the EIS addresses the issues of social impacts and community infrastructure. On page 791 of the EIS, the following statement is made:

> *Temporary changes may be required to public places and pedestrian routes near the construction sites on Miller Street. These changes may result in reduced sight lines, opportunities for casual surveillance and levels of activity in public spaces, potentially impacting people's perceptions of safety. This impact would be managed through the application of Crime Prevention through Environmental Design principles. The needs of people with mobility difficulties, including children, elderly people and people with disability would also be considered in the design of temporary pedestrian routes. This would be particularly important on Miller Street, which is a key pedestrian access to community facilities such as schools, childcare centres, churches, medical centres and council offices. Where possible, traffic controllers would be used to ensure safety for pedestrians and cyclists, such as at access points to construction sites.*

Given the volume of movements in and out of the northern construction site, the proposed strategy to mitigate risks to the School and broader community is manifestly inadequate. The footpath access north along Miller Street is an important access point for students and there are no measures or commitments proposed to manage safety and security. This re-inforces our submission that the location of a major construction site directly adjacent to the School and a highly trafficked footpath is ill-conceived and alterative locations need to be considered for the project.

4.4 OPERATIONAL IMPACTS

While the primary focus of this submission concerns the impacts during construction, the operational impacts associated with the future services building and the rail tunnel below are of strong interest and concern to the School.

The main concerns from an operational perspective include:

- Noise from rail operations;
- The visual impact of the future services building;
- Air quality and acoustic impacts from the services building.

4.4.1 NOISE FROM RAIL OPERATIONS

Wilkinson Murray has identified in its assessment that no track vibration treatment is proposed in the vicinity of the school. This is a result of the failure of the proponents to have identified the sensitivity of the Arts and Creativity Common, including the Theatre and recording facilities.

As a result a higher noise criterion of 40 – 45 dBA has been adopted for a standard school. A lower noise criterion is warranted for these areas consistent with Sound Recording Studios in Table 83 of the technical report.

In addition noise predictions of train noise are based on buildings at ground level. As the performance space is located 10 metres below the ground the resultant noise levels can be expected to be several decibels higher than those presented in the EIS.

Given these two factors, a lower applicable criterion and higher resultant rail noise level in the theatre, it is our submission that track vibration treatment should be considered in the tunnel near the northern end of the school.

4.4.2 VISUAL IMPACT

The SEAR's require the following analysis to be provided as part of the EIS:

> *The Proponent must assess the visual impact of the project and any ancillary infrastructure on: (a) views and vistas; (b) streetscapes, key sites and buildings; and (c) the local community. 2.*

The Proponent must provide artist impressions and perspective drawings of the project to illustrate how the project has responded to the visual impact through urban design and landscaping.

While a broad visual impact assessment has been undertaken of the precinct as part of the EIS, there is no design detail of the proposed services building to be located on the northern site. It is therefore impossible to assess the likely impact of the future development when no design detail or indeed key principles are articulated. The need for such detail is heightened given the location of this site amongst heritage listed buildings.

We submit that there is insufficient design detail to satisfy the SEAR's and to have any certainty regarding the design quality and visual impact of the future development.

4.4.3 AIR QUALITY AND ACOUSTIC IMPACTS

Consistent with the concerns expressed previously in this submission, there are inadequacies in the acoustic assessment undertaken to date which will have implications on the future school operations and the adjacent residence.

The northern site will house mechanical plant, such as fans, when operational. These will need to incorporate noise controls to protect the acoustic amenity of residences to the west of the site. Currently a night time noise criterion of 56 dBA at nearby residences is presented in the EIS. This is based on incorrect noise monitoring as previously detailed. If applied noise from plant would be 16 dBA above background noise levels at these residences. This would represent an unacceptable impact on these residences where a criterion of 45 dBA is appropriate.

In addition, air quality impacts associated with tunnel ventilation and the adjacency of the school grounds and the residence is of concern and requires further details to be provided.

4.5 INADEQUACIES OF THE EIS & CONSULTATION

4.5.1 INADEQUACIES OF THE EIS

The EIS is required to be prepared and documented in accordance with the Secretary's Environmental Assessment Requirements (SEAR's). The SEAR's require among a range of matters, the following action:

The Proponent must assess impacts from construction and operation on potentially affected properties, approved development applications, businesses, public open space, recreational users and land and water users (for example, recreational and commercial fishers, oyster farmers), including property acquisitions/adjustments, access, amenity and relevant statutory rights. (our emphasis).

In response to this requirement, the proponent states that:

- Property impacts are addressed in Chapter12;
- Business impacts are addressed in Chapter 13;
- Social impacts are addressed in Chapter 19

From our review of the EIS, the specific responses to the likely impacts on the Monte Campus are simply glossed over or not even fully understood. We submit that the EIS fails to meet the requirements of the SEAR's and needs to be completely reviewed and updated.

We have identified the following examples of where the assessment of impact is completely inadequate given the likely severity of impact.

Chapter 12 – Property Impacts

Section 12.5.4 of the EIS provides an assessment of the direct impacts on existing land uses surrounding the Victoria Cross Station. The EIS states:

> *The direct impact on land use at this site would be a change in land use from commerical core / mixed use to transport infrastructure. Given the small scale of the change, the land use impacts would be minor. This minor impact may be mitigated by the replacement and / or expansion of areas of mixed use land associated with potential over station development.*

This assessment completely ignores impacts associated with land uses adjacent to the northern services building.

Chapter 19 – Social Impacts

Chapter 19 recognises that if unmanaged, noise, light spill, dust and vibration from construction activities may impact on the health and wellbeing of some residents and occupants of buildings nearest to construction sites.

The EIS states that:

> *Potential impacts on amenity may be experienced by users of community facilities due to noise and dust from surface work associated with excavation of the station shaft and ground-borne noise and vibration from excavation of the station cavern and tunnelling. Increased construction traffic, including heavy vehicles, removing spoil and delivering materials, may also impact on amenity at these facilities.*

Despite recognition of the potential for impact, there is little or no analysis of specific impact assessment or detail of effective mitigation measures. The EIS states:

> *The implementation of mitigation measures, in conjunction with ongoing consultation and communication with local communities, would help to manage potential impacts on community health (refer to Chapter 10 (Construction noise and vibration).*

In the absence of real and effective mitigation measures, we submit that consultation and communication is of no assistance or purpose. The Wilkinson Murray review of the acoustic report identifies that there are very limited measures capable of mitigating the expected significant impacts during the construction phase. Wilkinson Murray identify that the key uses immediately surrounding the northern construction site (the Arts and Cultural Common and the Sisters of Mercy residence) will be rendered unusable for the duration of what is a lengthy construction phase.

The only effective mitigation measure is for alternative locations to be investigated for the construction site and future services building if indeed such facility is actually required to support the Victoria Cross Station.

Lack of Design Detail

The proposal involves a significant shaft excavation immediately adjacent to the Monte Campus. Notwithstanding the significance of these works, there is scant detail on:

- The size and setbacks of the tunnel;
- Detail on the method of construction;
- Design and scale of the future services building.

Given the sensitive interfaces and the precinct generally (being surrounded by heritage items), a far more substantive level of design detail is required to properly assess the impacts of the proposed works.

4.5.2 INEFFECTIVE CONSULTATION

Monte Sant' Angelo Mercy College was consulted in the lead up to the preparation of the EIS, however in our submission this consultation has not satisfied the requirements of the SEAR's, in particular that:

> *The project must be informed by consultation, including with relevant government agencies, infrastructure and service providers, special interest groups, affected landowners, businesses and the community. (source: pg 91 EIS).*

It is our submission that the EIS has not been properly informed by this consultation noting the significant omissions and the lack of understanding of the sensitivities and specific uses on the Monte campus. As evidenced from the Wilkinson Murray report, the acoustic analysis has incorrectly and inadequately assessed the site interfaces and also overestimated the background noise levels. As a result, the impacts on the Monte Campus are completely understated.

Therefore, while the EIS as evidenced in the following statement recognises some potential impacts, this is very much a generalisation of likely impact without the required supporting detailed technical investigations and analysis to support such assertions.

> *Potential impacts on Monte Sant' Angelo Mercy College and the Sisters of Mercy North Sydney accommodation would generally relate to noise and dust from surface work associated with the excavation of the station shafts, ground-borne noise and vibration from station excavation and use of McLaren, Miller and Berry streets for hauling spoil, materials and equipment. The Sisters of Mercy North Sydney accommodation would also experience some night time noise impacts during the construction phase.*
>
> *Effects would be more noticeable in outdoor teaching and recreation areas. Potential disruption to students during school examination periods from construction activities was identified as a concern during early consultation for the project. Consultation would be carried out with the College during construction to assist in managing potential impacts. (our emphasis)*

We submit that the statement in the EIS that consultation with the School can assist to manage potential impacts completely mis-represents the severity of impacts expected. We re-iterate that the only effective means to mitigate these impacts is to re-locate the northern construction site to a less sensitive location.

5 Conclusion

This submission has identified genuine and significant impacts on the Monte Campus as a result of the proposed Sydney Metro Project.

The proposed works associated with the Victoria Cross Station component of the project will have an **unreasonable and unacceptable impact** on the Sisters of Mercy and Monte Sant' Angelo Mercy College. This impact can be substantially attributed to the proposed location and construction of the northern services shaft at 194 Miller Street ("the northern site") which is immediately adjacent to the new performing arts centre of the Monte Campus as well as the convent buildings for the Sisters of Mercy.

We submit that this impact will be most effectively mitigated by relocating the proposed northern construction site at 194 Miller Street to an alternative location. If this cannot be achieved then the following outcomes are expected:

- The performing arts centre now a centrepiece at the Monte campus will be rendered unusable for the duration of the major construction works, estimated at a minimum to last 3-4 years.
- The Sisters of Mercy convent buildings will be rendered uninhabitable during construction works.
- The proposed works required to Miller Street and the location of major construction activities adjacent to a highly pedestrianised environment at the front door of the School will create serious conflicts and safety risks.

The School would welcome the opportunity to further outline and discuss the important concerns and details of this submission.

Urbis

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

Appendix A

Acoustic Report Peer Review by Wilkinson Murray

ACOUSTICS AND AIR

MONTE SANT ANGELO MERCY COLLEGE

SYDNEY METRO EIS IMPACT REVIEW

REPORT NO. 16200
VERSION A

JUNE 2016

PREPARED FOR

MONTE SANT ANGELO MERCY COLLEGE
C/- URBIS
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WILKINSON MURRAY

DOCUMENT CONTROL

Version	Status	Date	Prepared By	Reviewed By
A	Final	15 June 2016	Brian Clarke	--

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Wilkinson Murray is an independent firm established 50 years ago originally as Carr & Wilkinson. In 1976 Barry Murray joined founding partner Roger Wilkinson and the firm adopted the name which remains today. From a successful operation in Australia, Wilkinson Murray expanded its reach into Asia by opening a Hong Kong office early in 2006. 2010 saw the introduction of our Queensland office and 2011 the introduction of our Orange office to service a growing client base in these regions. From these offices, Wilkinson Murray services the entire Asia-Pacific region.

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EXECTUTIVE SUMMARY

A review of the Sydney Metro EIS with respect to noise and vibration impact on the Monte Sant Angelo College and associated residences indicates that there will be a significant impact associated with airborne and ground borne noise on college operations. The following issues have been identified:

- Ambient noise monitoring in the Noise Catchment Area covering Monte Sant Angelo College is not representative of the area. As a result construction noise management levels and operational noise criteria are at least 10 dBA too high. As a result the impacts from airborne construction noise are understated.
- The EIS fails to identify the specific uses of the College that have a higher acoustic sensitivity, such as the Theatre, Main Hall and Recording areas. Therefore impacts from airborne and ground borne noise are significantly underestimated.
- The EIS fails to identify the nearest residence to the northern access shaft and the impact construction noise and vibration on this residences which will be unacceptable.
- The EIS does not provide the confidence and commitments that noise and vibration from construction can be adequately managed to all the receivers associated with Monte Sant Angelo College, therefore the northern shaft site should be relocated away from the school and residences and reassessed.
- Operational assessment fails to take into account the Theatre which is 10 metres below the ground level whereby noise levels will be several decibels higher. Therefore the need for track isolation should be considered in light of the theatres' location and sensitivity to noise and vibration.
- Noise objectives for the operation of services plant associated with the Victoria Cross station should be revised to reflect representative noise levels of the area.

1 INTRODUCTION

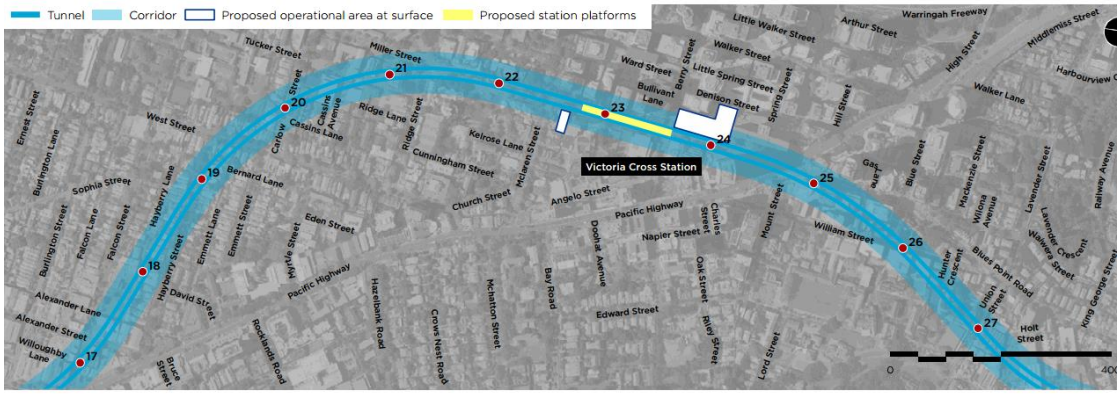
Wilkinson Murray has been engaged by Monte Sant Angelo College North Sydney to conduct a technical review of the Sydney Metro Chatswood to Sydenham Environmental Impact Statement dated 3 May 2016.

The purpose of the review is to determine the adequacy of the assessment with respect to construction and operational noise and vibration impacts on the school, its operations and associated residential accommodation. The review has relied on information presented in the main report of the EIS and the Technical Paper 2: Noise and Vibration prepared by SLR Consulting.

2 DESCRIPTION OF SCHOOL AND RESIDENTIAL PREMISES WITH RESPECT TO THE PROPOSED METRO

Figure 2-1, extracted from the EIS, shows the alignment of the proposed Sydney Metro and associated infrastructure which is near Monte Sant Angelo College.

Figure 2-1 Metro Alignment and Proposed Victoria Cross Station at North Sydney



The Monte Sant Angelo precinct consists of education facilities and residences which include:

- **An Arts and Creativity Common** which includes a Theatre, Recording Facility, Music Practice and Teaching Facilities. The Theatre is located at a level 10 metres below the ground level and is used for recital, performance and recording. Typically this facility is used up to 9 pm in the evening.

  This facility is located approximately 2-3 meters from the Victoria Station northern access shaft.

- **Main Hall** used for sports, assemblies and exams including the HSC.

- **Testing rooms for International Baccalaureate** which are recorded for examinations that are sent overseas.

- **Residences** on McLaren Street immediately to the west of the northern shaft.

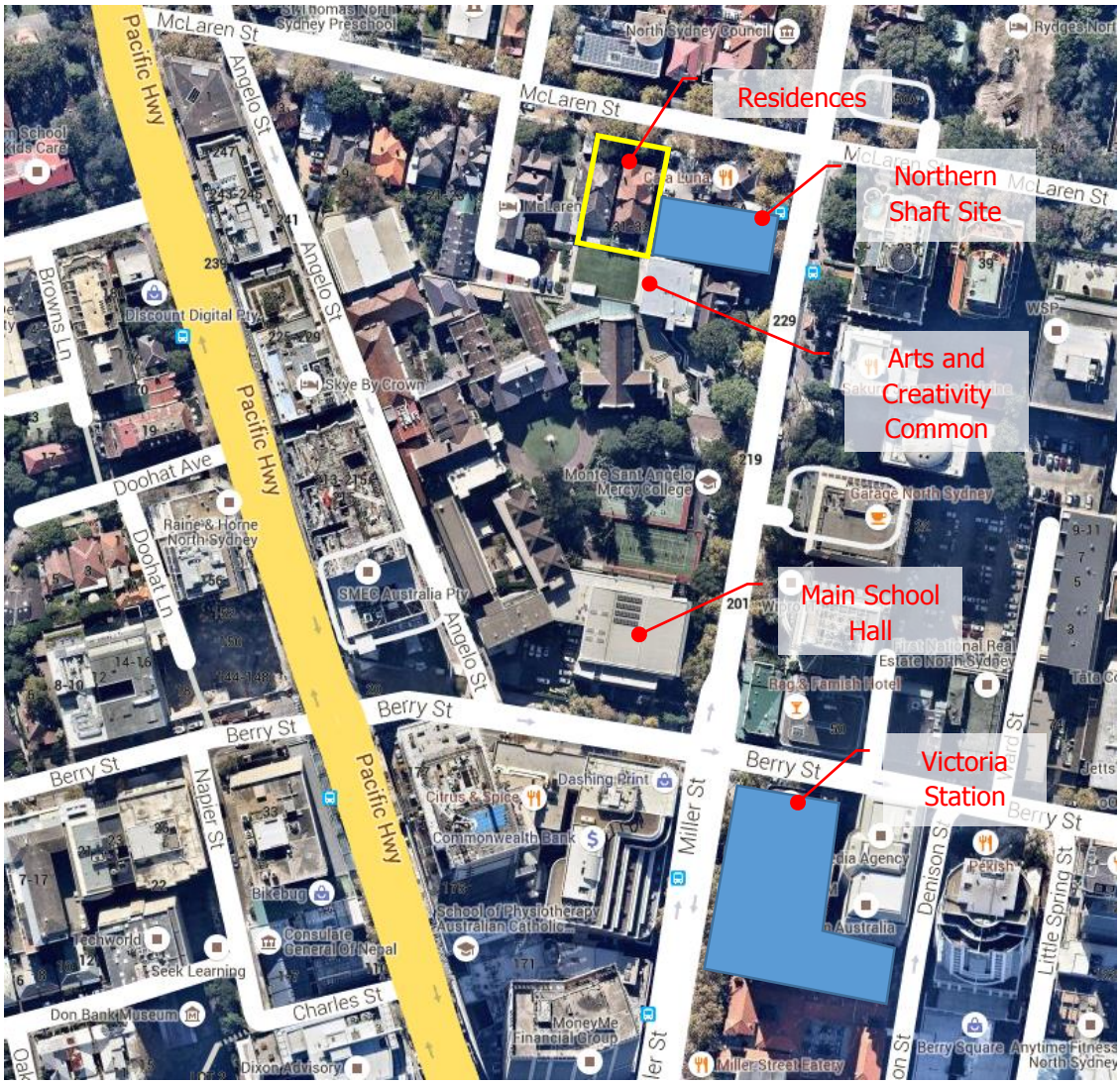
It is noted that the EIS classifies all of the school as general educational receivers and fails to identify the above uses and therefore recognise the acoustic sensitivity of these areas.

In addition there are two residences immediately to the west of the proposed Northern Access shaft at numbers 29 and 31-33 McLaren Street which are part of the Monte School. The EIS fails to identify that 31-33 McLaren Road is a residential premises and incorrectly classifies this property as a commercial receiver.

The close proximity of the **Arts and Creativity Common and residences** to the northern shaft is not reflected in **Table 34** of the technical report.

Figure 2-2 shows these areas with respect to construction and facilities associated with Victoria Cross Station.

Figure 2-2 Aerial of Monte Sant Angelo and Proposed Sydney Metro Construction Sites



3 AMBINET NOISE LEVELS IN NCA13

Ambient noise monitoring has been conducted along the Sydney Metro route to determine existing ambient noise levels. These noise levels have been used to determine site specific construction noise management levels (NML) and operational noise criteria for ancillary services associated with the metro operation.

It is noted that Location B.18 – (237 Miller Street North Sydney) has been used for Noise Catchment Area 13 (NCA 13) which covers all of Monte Sant Angelo College and the associated residential accommodation. This monitoring location is on Miller Street and presents very high Rating Background Levels (RBL's) upon which site specific construction noise management levels and operational noise criteria are based.

These noise levels are compared to ambient noise measurements that were conducted by Wilkinson Murray in this area in Table 3-1, being:

- Rear of 31 – 33 McLaren Street North Sydney (May 2012), and;
- Side of 265 Miller Street (February 2015)

Table 3-1 Measured Rating Background Noise Levels (RBLs)

Time Period	RBL (dBA)		
	Location B.18	Rear of 31-33 McLaren Street	265 Miller Street
Daytime	65	50	54
Evening	57	44	47
Night Time	51	40	40

A review of the above indicates that noise levels at Location B.18 are at least 10 dBA, if not more, higher than ambient noise levels that have been measured in other location in the NCA13 area. Therefore the presented levels at Location B.18 are not considered representative of receivers in NCA13 and are therefore not suitable for use in determining construction noise management levels or operational noise criteria at receivers around ancillary facilities.

It can be concluded that:

- Construction noise impacts based on Location B.18 NML's will be significantly understated.
- Operational noise criteria would result in plant noise at nearby receivers that is at least 10 dBA higher than acceptable levels.

3-1 Construction Noise Management Levels

The noise management levels established for the Monte Sant Angelo School fail to recognise the uses in the school and the hours of operation. In particular the following uses warrant lower noise management levels for airborne and ground borne noise.

- Main Hall HSC studies
- Arts and Creativity Common Drama / Recital / Recording Facilities
- International Baccalaureate Recording Rooms

Further, these uses can extend up to 9 pm in the evening warranting assessment against evening noise management levels.

In the case of residential properties construction noise management levels are too high due to incorrect ambient noise monitoring, as discussed in the previous section.

4 CONTRUCTION NOISE IMPACTS

Noise impacts from construction will consist of airborne and regenerated noise from shaft and station excavation along with noise from tunnel excavation.

It would appear from the EIS that all works will be conducted on a 24 hours / 7 day a week basis and will include:

- Rock breakers,
- Blasting,
- Road headers, and;
- Tunnel Boring Machines

Of these sources it is the use of rock breakers and blasting of shafts at station and access areas that will have the greatest impact on the school and residences. Whilst tunnel boring activities will be audible in school and residential areas it is noted that the duration of this activity with be of a relatively short duration and therefore the impact from tunnel boring is likely to be acceptable.

The following conclusions can be drawn from the EIS.

4.1 Airborne Construction Noise

Airborne noise from construction works is predicted to be greater than 75 dBA for several months at the Arts and Creativity Common, Main Hall and residences. These noise levels will:

- Limit effective communication in areas in the northern outdoor areas of the school and outdoor areas of residences on McLaren Street main, rendering these areas unusable.
- Require windows of the Arts and Creativity Common, residences, Main Hall and Northern school areas to be closed during construction.
- Severely impact on the residential areas to the west of the Northern Shaft.

It is noted that these impacts are predicted with an acoustic shed over the site.

4.2 Ground borne Construction Noise and Vibration

The greatest impacts are on the school and residences is from ground borne noise associated with rock breakers and blasting which is presented in Appendix F of the report.

Noise from ground borne noise (due to rock breakers) is predicted to be up to 75 dBA in the Arts and Creativity Common, Theatre and adjacent residences. In the case of the Theatre, which has no windows and is below ground level, this will be the dominant noise source from construction.

Noise level in the Great Hall can be expected to be up to 45 dBA which would be likely to affect any exams or sensitive activities in this building.

Vibration from these activities is also likely to be perceptible and cause cosmetic damage to buildings around the northern access shaft.

4.3 Construction Noise and Vibration Management Strategy.

It is noted that the significant exceedances detailed in the EIS are based on noise controls being implemented. In addition a project Construction Noise and Vibration Management Strategy is included in the EIS which proposes to address noise and vibration from construction. It is stated that General and Location Specific Construction Noise and Vibration Impact Statements (CNIS) are to be prepared for work components. However, apart from offering relocation for residences, there is little clarity on how the proponent is going to manage the identified impacts.

Much of the strategy is aimed at assessment, prediction, notification and monitoring which in themselves will do nothing to reduce noise and vibration impacts.

We would expect that the areas around Monte Sant Angelo College would be the subject to a Location Specific Construction Noise and Vibration Impact Statements however given the magnitude of reported exceedances there is no confidence in the strategy that noise and vibration can be adequately managed in this area.

4.4 Discussion of Construction Noise and Vibration Impacts

Based on a review of the EIS and technical paper it is clear that there will be significant noise and vibration impacts associated with the construction of the Victoria Cross Station and Northern Access shaft. The impacts on the education components, particular around the northern shaft will be significant and will render these areas not fit for use.

In the case of residences which are immediately to the west of the northern shaft the impacts at the two residential buildings, particularly at night will render these buildings uninhabitable. The only mitigation measure would be to provide alterative accommodation to occupants of these residences.

The only mitigation is proposed by way of using medium rock breakers and blasting however the resultant noise levels have not been quantified. No consideration of rock saws or reduced hours of operation have been considered.

Based on these facts and findings it is considered that there will be significant noise and vibration impact at the school that provide no confidence that these noise and vibration impacts can be adequately managed. All that is presented are significant exceedances.

Therefore it is considered that the location of the northern shaft should be reconsidered and relocated away from the school site. In addition alternative excavation techniques, such as rock sawing should also be considered as a reasonable and feasible method of excavation.

5 OPERATIONAL IMPACTS

5.1 Noise from Rail Operations

No track vibration treatment is proposed in the vicinity of the school as the proponents have failed to identify the sensitivity of the Arts and Creativity Common, including the Theatre and recording facilities. As a result a higher noise criterion of 40 – 45 dBA has been adopted for a standard school. A lower noise criterion is warranted for these areas consistent with Sound Recording Studios in Table 83 of the technical report.

In addition noise predictions of train noise are based on buildings at ground level. As the performance space is located 10 metres below the ground the resultant noise levels can be expected to be several decibels higher than those presented in the EIS.

Given these two factors, a lower applicable criterion and higher resultant rail noise level in the theatre, track vibration should be considered near the northern end of the school.

5.2 Noise from Services

The northern access site will house mechanical plant, such as fans, when operational. These will need to incorporate noise controls to protect the acoustic amenity of residences to the west of the site.

Currently a night time noise criterion of 56 dBA at nearby residences is presented in the EIS. This is based on incorrect noise monitoring as detailed in Section

If applied noise from plant would be 16 dBA above background noise levels at these residences. This would represent an unacceptable impact on these residences where a criterion of 45 dBA is appropriate.

6 CONCLUSION

A review of the Sydney Metro EIS with respect to noise and vibration impact on the Monte Sant Angelo College indicates that there will be significant impact on college operations associated with construction airborne and ground borne noise.

The EIS fails to identify site specific uses in the college which have a higher sensitivity to noise and vibration. As a result the potential impacts to these areas in underestimated. Given these findings, there is no confidence that these issues can be adequately managed at construction stage therefore the location of the northern access shaft should be relocated away from the site.

Any new site should be assessed with respect to appropriate noise management levels based on representative background noise levels of the area identified uses and sensitivity of specific areas in the school. Appropriate measures such as respite and rock saws should be considered at any revised site.

In the case of residences the proposed methodology and duration of works is likely to render these properties and uninhabitable and require relocation of occupants for an extended duration

In the case of the operational impacts of the metro a revised assessment is require to determine if track isolation is require to protect the acoustic amenity of the Theatre which is below ground levels.

Further noise criteria for services associated with the station should be revised to reflect representative ambient noise levels in the vicinity of the residences on McLaren Street.

APPENDIX A

EXTRACTS FROM EIS

7.7 Stations

Seven stations are proposed along the tunnel alignment. This section provides an overview of the station excavation and structural work, aboveground building and fit-out.

7.7.1 Station excavation and structural work

Excavation method

Traditionally, excavation of the stations would be carried out through the use of excavators and rock hammers. Due to the anticipated magnitude and duration of impacts associated with this excavation method, a number of contemporary alternatives were explored. This includes blasting, track sawing, wire cutting, rock bursting / splitting and penetrative cone fracture; or a combination of methods.

Based on the preliminary construction planning carried out for the project, it is unlikely that track sawing, wire cutting, rock bursting / splitting or penetrative cone fracture would not be able to achieve the necessary excavation rates in isolation. However, there is potential they could be used to supplement other excavation methods in order to reduce overall construction timeframes.

Blasting is likely to result in an overall reduced duration of excavation, and associated impacts, of rock hammering. In order to achieve compliance with the relevant criteria for blasting, the use of rock hammers would still be necessary until appropriate offset depths are reached.

Based on the above analysis, the preferred excavation method for the stations is a combination of rock hammers, use of excavators and blasting. Due to the location of the metro platforms at Central Station, there are limited residential and commercial receivers which could be impacted by rock hammering works. Additionally, the site is located within a busy transport interchange and heritage precinct. As a result, the preferred excavation method is the traditional use of rock hammers and excavators for this station site.

Preferred excavation method

Initial excavation at each station site would involve the use of rock hammers and excavators until appropriate offset depths are reached in order to achieve compliance with the relevant blasting criteria. Based on the anticipated ground conditions, the depth at which blasting could commence at each site is provided in Table 7-5.

The initial charge size at these depths would be a maximum instantaneous charge on one kilogram or smaller. As the excavation progresses (and the offset distances to receivers increases), charge sizes would be increased while still meeting the relevant criteria. Further details regarding blasting are provided in Chapter 10 (Construction noise and vibration).

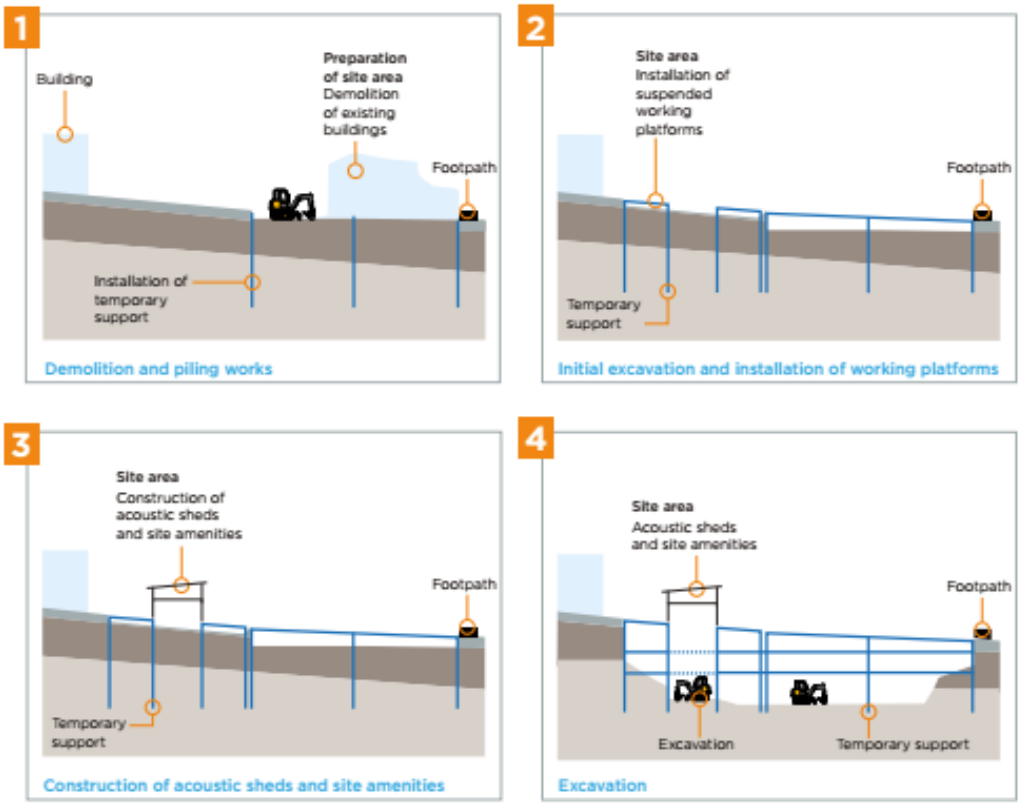


Figure 7-5 Typical cut-and-cover station construction

Mined stations

The stations at Victoria Cross, Martin Place and Pitt Street would be mined. A typical construction method for mined station excavation is shown in Figure 7 6. Acoustic sheds are proposed at the mined stations, although alternative means of achieving the same noise outcome, such as acoustic panels over the shaft excavations, may be adopted. The specific noise mitigation measures would be determined during detailed construction planning taking into account construction program, construction working hours and construction traffic management in accordance with the *Construction Noise and Vibration Strategy* (Appendix E).

For mined stations, the station entry and vertical transport would be typically offset from the station platforms. Shafts would be progressively excavated from the surface within the footprint of the future vertical transport to an intermediate floor level. Roadheaders and other excavation equipment would then be lowered through the shaft to excavate the underground station and pedestrian connections. Spoil would be moved to the shafts, transferred to the surface and then removed from site.

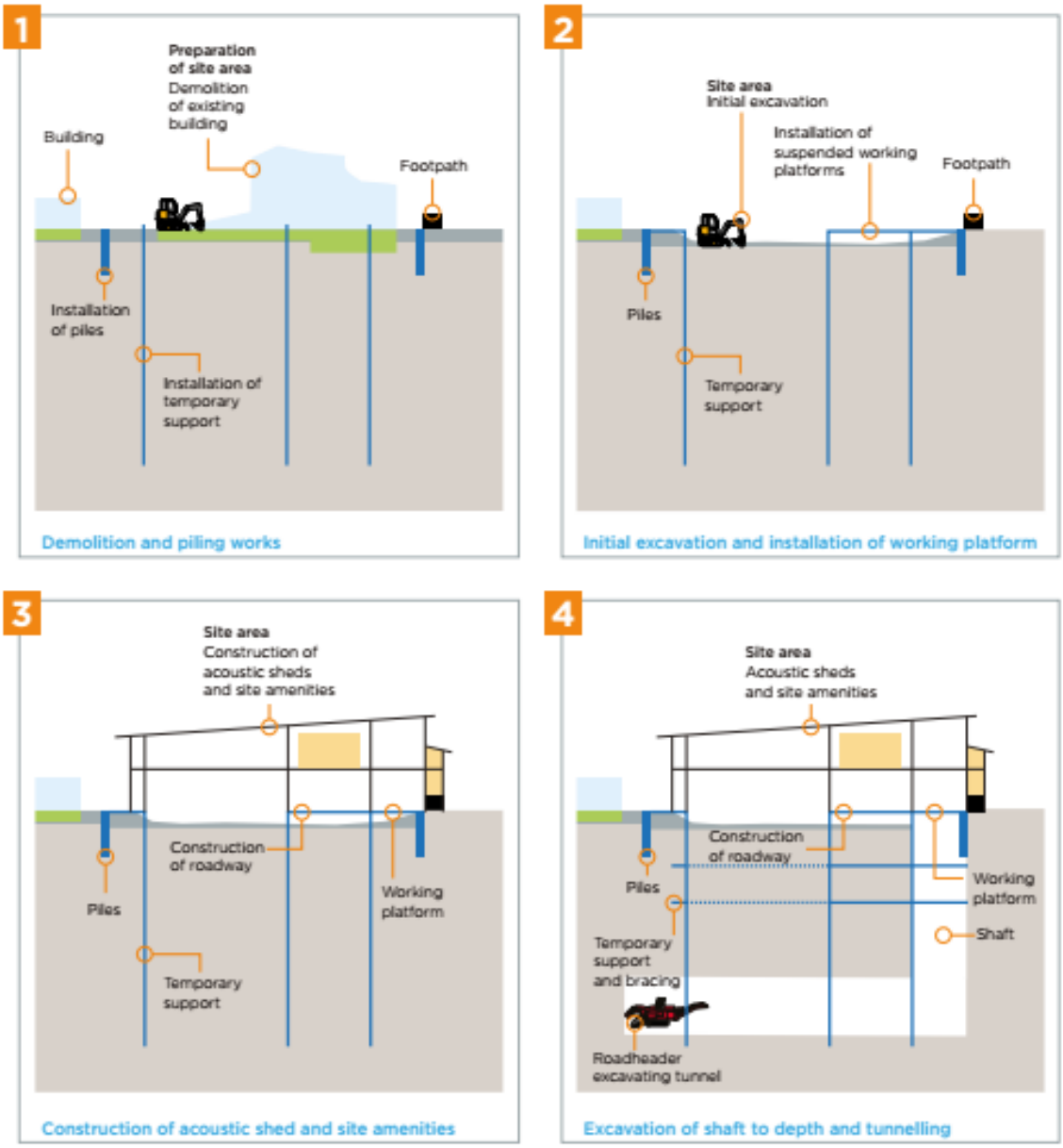


Figure 7-6 Typical mined station construction

7.10.4 Victoria Cross Station construction sites

Construction of Victoria Cross Station would require two sites:

- The Victoria Cross north site would cover about 700 square metres on the western side of Miller Street, towards the northern extent of the station. This site currently contains one commercial building
- The Victoria Cross south site would cover about 4,700 square metres on the south east corner of Berry and Miller streets. The site currently contains commercial buildings.

The station would be constructed using a mined technique. A shaft would be excavated within the Victoria Cross south site adjacent to the proposed station cavern. This shaft would be used to provide the future station entry and vertical transport. The station cavern, located under Miller Street, would then be excavated from the shaft.

Shafts would also be excavated from the Victoria Cross north site to the underground station cavern. The Victoria Cross north site would become a future service facility. This shaft may also be used throughout the construction period for the delivery of materials.

About 175,000 cubic metres of spoil would be removed to construct the station.

It is also likely that roadheaders would be established from this site to excavate stub tunnels located to the north of Victoria Cross Station. These stub tunnels would enable a future expansion of the metro network.

Access to and egress from the Victoria Cross south site would be left-in via Miller Street and left-out to Denison Street. Access and egress to and from the Victoria Cross north site would be left-in and left-out via Miller Street.

Street level working platforms would be required over the shaft excavations at both sites. The platforms would house support services including office, amenities, spoil handling and storage, and workshops.

The location and indicative layout of the Victoria Cross Station construction site, including vehicle access and egress, are illustrated in Figure 7-11. The indicative construction program is outlined in Table 7-10.

Table 7-10 Victoria Cross Station indicative construction program

Construction activity	Indicative construction timeframe																											
	2017				2018				2019				2020				2021				2022				2023				2024			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Enabling works and site establishment																																
Station excavation																																
TBM pass through station																																
Station structural works																																
Station fit out																																
Station testing and commissioning																																

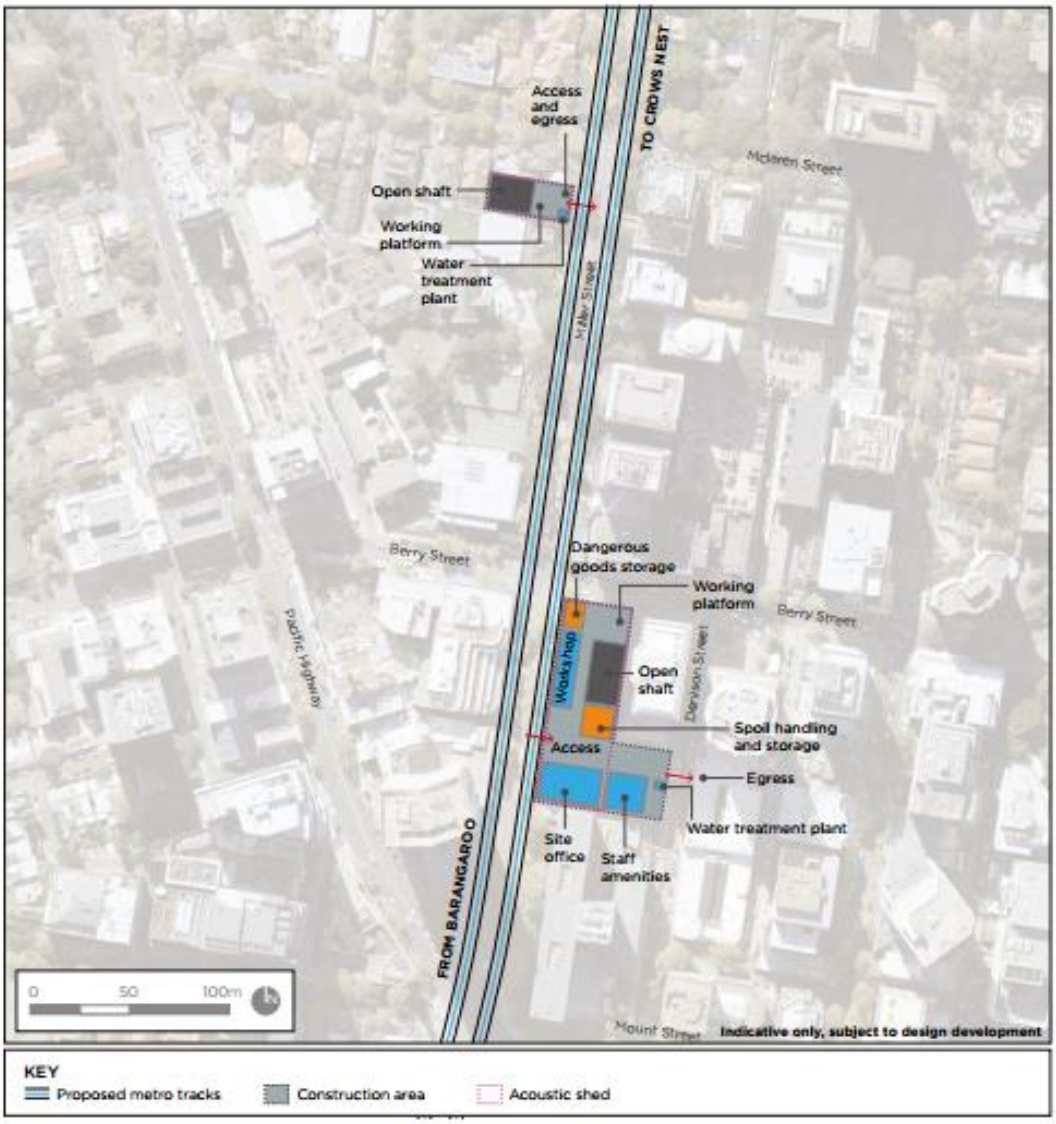


Figure 7-11 Victoria Cross Station construction site indicative layout

Sydney
Tower 2, Level 23, Darling Park
201 Sussex Street Sydney, NSW 2000
t +02 8233 9900
f +02 8233 9966

Brisbane
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To:

Major Projects Assessment

NSW Department of Planning and Environment

Attention: Director Infrastructure Projects

From:

Laura Tilsed Secretary, Jacqui Cannon Treasurer & John Meadows Chair

Holtermann Precinct Committee

124 Atchison Street

Crows Nest 2065

25 June 2016

Dear Sir/Madam

This is a submission regarding the EIS for the Sydney Metro City & Southwest:

Chatswood to Sydneham Project.

The Holtermann Precinct is part of North Sydney Council's Precinct Network set up to facilitate public consultation. Our Precinct includes that part of St. Leonards within North Sydney Council LGA and Crows Nest. The Crows Nest Metro Station is located within the Holtermann Precinct.

Our submission:

- **Identifies errors in the EIS;**
- **Strongly supports consultation with North Sydney Council particularly with regard to the careful and detailed planning strategies for the area set out in the St. Leonards/Crows Nest Precinct Studies 2012 – 2015 (Vol. 1B at 506), together with the Council-approved Hume Street Park Study and the on-going careful and detailed Study for Precinct 4. These Studies, which provide for increased open space, improved connectivity and street level amenity, and high quality urban**

design and built form, have received strong community support from the business as well as the residential sector;

- Strongly supports proposals in the EIS for improved pedestrian and cycling facilities to access the Metro Station;
- Strongly supports the " no provision for private motor vehicle parking near the Station" policy for Metro users;
- Strongly supports the maintenance and improvement of access to the station by bus. We strongly support Council's strategic objectives of promoting public transport, walking and cycling and reducing reliance on the private motor vehicle;
- Strongly supports the proposed taxi rank and kiss-and-ride facilities on Clarke Street for improved access to the Metro;
- Noting that the EIS recognises that the Hume Street Park is the only green space (Vol.1B at 627) and the most significant open space in the area (Vol. 2D at 53) and that it is presently an awkward park to access due to the mound next to the Indoor Sports Centre and the location of the childcare centre (Kelly's Place); noting also that one of the objectives of locating a Metro Station at Crows Nest is to enable more jobs and dwellings to be created in the area, a policy which will clearly increase pressure on the park; and noting further that providing better pedestrian links to Willoughby Road would facilitate pedestrian traffic through the park to and from the Clarke/Hume Street Metro access portal, we request that the NSW DOPE consider making a contribution to improving pedestrian access through the Park;
- Regarding the significant impact with respect to vibration, noise and dust caused by excavation, the various phases of construction, the power supply upgrade, haulage of spoil and delivery of supplies, traffic changes and detrimental visual amenity to the building (retail/commercial and residential) at 22-26 Clarke Street, immediately to the east, between Clarke Street and Clarke Lane, and noting with concern that work may proceed 24/7 for possibly 72 months and noting further that building in the over-~~space~~ station may be sequential rather than concurrent, prolonging adverse amenity impacts, we request careful planning, on-going monitoring and all necessary mitigation measures to protect owners and occupiers at this vulnerable site.
- Regarding the heritage listed buildings in the vicinity, and particularly 28-34 Clarke Street (the St. Leonards Centre) we request all necessary mitigation measures to prevent damage whether cosmetic or structural;
- Regarding the childcare centre Kelly's Place) we request particular care regarding additional traffic stemming from the site on Clarke Street, including haulage trucks and light vehicles, and dust from the construction site which may detrimentally affect children with asthma.

Errors in the EIS documents.

1. At several points, particularly in Vol.2D, the Hume Street Park is incorrectly called the Clarke Place Park (e.g. pages 6, 53, 54, 57, 58, 59 and 67).
2. In Vol.2D at 53, It is stated that the St. Leonards/Crows Nest Planning Study 2011-2014 (referred to in Vol.1B at 506 as the 2012-2015 Studies) identifies the St. Leonards Centre (28-34 Clarke Street) as a potential location for new open space, expanding the Hume Street Park (incorrectly throughout Voll.2D called the Clarke Place Park). The St. Leonards Centre is a heritage listed building. To our knowledge, North Sydney Council has not envisaged demolishing it. The author may have confused the St. Leonards Centre with the North Sydney Indoor Sports Centre. This building is located at the northern end of Hume Park and Council has approved concept plans to expand the Park by demolishing the Sports Centre and the Hume Street Car Park and relocating them underground. On page 60, the St. Leonards Centre is correctly identified as heritage listed, and further down the page, correctly distinguished from the North Sydney Indoor Sports Centre which is described as shed-like, with an above-ground car park.
3. We note that former TAFE campuses in Crows Nest are now high schools.
4. We note that in the A3 EIS Summary at 52 the relevant Council for consultation regarding further investigation of enhancement of pedestrian facilities around the Crows Nest Metro Station is stated incorrectly to be Willoughby Council. It should be North Sydney Council

Improved pedestrian facilities.

We strongly support a new signalised pedestrian crossing on the northern side of the Pacific Highway/Oxley Street intersection.

We strongly support new pedestrian crossings on Clarke, Hume and Oxley Streets.

We strongly support investigation of further enhancement of pedestrian infrastructure around the station in consultation with the RMS and North Sydney Council.

Improved Cycling Facilities.

We strongly support new bicycle/bike parking on Hume and Oxley Streets, near the Metro access portals.

We strongly support the new on-road marked cycle link on Hume Street between Clarke Street and Nicholson Street.

Support for public transport.

We strongly support maintaining existing bus stops on the Pacific Highway close to the Metro Station.

We strongly support new kiss-and-ride and taxi bays on Clarke Street.

Noise, dust, vibration and light spill mitigation.

We strongly request all necessary mitigation measures to protect residential and business amenity.

Traffic management.

We strongly request careful planning and on-going monitoring to ensure that the amenity of residents, visitors and workers is not adversely affected by 24/7 vehicle traffic associated with the project and that access to off-street parking is maintained.

Yours sincerely

Laura Tilsed, Jacqui Cannon and John Meadows.

Dr Mehreen Faruqi
Greens Member of the NSW Legislative Council

SUBMISSION TO THE ENVIRONMENTAL IMPACT STATEMENT
SYDNEY METRO STAGE 2 (CHATSWOOD-SYDENHAM)

27 June 2016

To the Planner,

I provide the following submission to the Environmental Impact Statement (EIS) of Sydney Metro City & Southwest (Chatswood-Sydenham component) in my capacity as the Greens NSW spokesperson for Transport. Jenny Leong, Greens MP for Newtown, has provided a separate submission outlining her own concerns about the project in relation to her electorate.

While the Greens are strong supporters of public transport and world-class urban rail services, we remain highly concerned about the justification for, and the transport impacts of, the Sydney Metro project. This submission will highlight our broad concerns with the project. We acknowledge that as the project progresses, we may have further comments on specific aspects of the rollout.

I note the relatively short period of time allowed to provide submissions to the EIS. The 1,369 page Main Volume and related documents comprise a significant amount of information on this major $12 billion project. The EIS was released on 11 May 2016, with submissions due on 27 June 2016 – less than seven weeks later. We request that in the future, more time is given for public comment on significant projects of this nature.

General concerns and transport project prioritisation

In total, the Sydney Metro Northwest and Sydney Metro City & Southwest projects will cost around $20 billion. Regardless of whether these projects are worthwhile or not, this is a once-in-a-generation public transport investment. It is alarming to see such a huge allocation of state money spent on a transport project that will not address the limiting 'radial' design of the Sydney rail network, instead opting for a solution that (with the exception of the extension out to the north west area) largely duplicates and builds over existing lines that go into and out of the Central Business District.

While a $20 billion public transport investment will inevitably lead to some improvement in access for a portion of the population in Sydney, we must put this in perspective given the sheer quantity of resources dedicated to this single project. We must question the value for money.

The 2016-17 Budget allocates a further $6.2 billion to the Sydney Metro City & Southwest over the forward estimates period.[1] I note that despite a significant budgetary commitment, the project continues to lack both a public business case and a cost-benefit analysis. The EIS allocates a total of three pages out of 1,369

[1] NSW Budget Papers, Infrastructure Statement 2016-17, p. 1-5.

p (02) 9230 2625 f (02) 9230 3032 e mehreen.faruqi@parliament.nsw.gov.au
w mehreenfaruqi.org.au t @mehreenfaruqi f mehreenfaruqi
Mehreen Faruqi MLC, Parliament House, Macquarie St, Sydney, NSW 2000

to a discussion of the rail network alternatives to the Sydney Metro. Therefore, the release of the business case and cost-benefit analysis that assess the various alternatives is now urgent.

Sydney Metro City & Southwest (Chatswood to Bankstown) will cost approximately $12 billion. It is therefore concerning that as part of this project, Sydney public transport users will have access to only five new train stations: Crows Nest, Victoria Cross, Barangaroo, Pitt Street, and Waterloo. This averages to $2.4 billion per new station, which is more than the entire cost of the last major train expansion (the $2.3 billion Chatswood to Epping line, completed in 2009), which was at that point the most expensive rail line built in the history of New South Wales and had three new stations.

The other 14 stations included in Sydney Metro City & Southwest already exist – Chatswood (connects with Sydney Metro Northwest), Martin Place, Central, Sydenham, Marrickville, Dulwich Hill, Hurlstone Park, Canterbury, Campsie, Belmore, Lakemba, Wiley Park, Punchbowl, and Bankstown – and will either be expanded to encompass metro services or, for the most part, replaced with infrastructure that is compatible with the metro. It is misleading for the government to claim it will deliver "31 metro stations" through Sydney Metro Northwest and City & Southwest when a majority of these stations are simply expanded or converted existing stations.[2]

We do not deny the costs of building underground twin tunnels, including underneath Sydney Harbour, but it must be acknowledged that if our end goal for developing the rail network is to expand access to as many people as possible, the $12 billion Sydney Metro City & Southwest is a questionable investment, made even more dubious since no detailed analysis has been presented.

Development and transport planning

The failure of Sydney Metro to expand rail access to new parts of the city leads to the question of what agendas are driving its construction. Plans for high-density development around Sydney Metro stations have been the source of ongoing community and professional planning concern. Certainly, rail lines should be built to maximise patronage and along corridors of high populations. However, the desire for more and denser urban development opportunities and increasing population densities should not drive transport planning.

The decision not to build a station in Artarmon Industrial Area between Chatswood and Crows Nest, for instance, must be critiqued. There is currently an exceptionally long distance between Chatswood and Crows Nest metro stations. It would make sense to build in the Artarmon Industrial Area and further expand transport access, though the EIS admits that "the benefits … are dependent on the realization of urban renewal opportunities in the area. However, consultation with major stakeholders indicated that there was limited support for such a major land use change."[3] In other words, the limited capacity for development around the station prevented the station from being pursued, even though it would have improved access for the many people who work in this area.

In December 2015, it was announced that the government would build a metro station at Waterloo rather than at Sydney University. While there was much more capacity for patronage at Sydney University, Waterloo was reportedly chosen due to it offering the opportunity to build thousands of new apartments in

[2] EIS Summary, page 6.
[3] EIS, page 67.

that area.[4] As part of these plans, public housing will be converted to mixed-housing with many public housing tenants forced to relocate while construction is ongoing. The justification for how these crucial transport decisions were made must be made public.

Transport integration

The Greens also have ongoing concerns about the impact of the separation of the Sydney Metro network from the Sydney Trains network on the long term integration of public transport in the city.

The Environmental Impact Statement views this separation as a positive – pointing to its status as a "stand-alone line operating independently of the existing rail network, not subject to wider suburban delays".[5] However, this ignores that if problems do occur on the metro, its isolation from the Sydney Trains network may prove to be a hindrance. The metro is, by the government's own admission, a line, not a network.

When the metro is completed, 31 stations, from Cudgegong Road to Bankstown, will serve the single-deck metro network, while the rest continue to serve double-deck Sydney Trains rolling stock. Moreover, the networks will be run by different operators, with the Sydney Metro to be privately operated by MTR Corporation.

I have been advised by the government that the $276 million Sydney Trains Rail Operations Centre at Green Square, due to be opened in 2018, will not operate services on Sydney Metro Northwest. Nor, presumably, will it operate services on the entire Sydney Metro. The metro operator is instead building a centralised operations control centre for the overall management, control and monitoring of operations in Rouse Hill.[6]

The government must justify this lack of integration, particularly given that the reasoning for the new Green Square centre is to ensure that "all facets of the train network are controlled from a single location, with new technology to manage train movements and customer safety."[7] While the tracks are separated, metro and double-deck trains will share some of the same stations and infrastructure, meaning that integration of controls is desirable from both safety and efficiency perspectives.

Is the end goal of this separation to break off and privatise parts of the network? A freedom of information request found 97 documents relating to the privatisation of Sydney trains and buses that were refused to be released. The government must be open and transparent about its future plans for ownership and operation of public transport in New South Wales.

Environmental and community impacts

Constructing the line from Chatswood to Sydenham, including twin tunnels underneath Sydney Harbour, will inevitably have environmental impacts. I note that local environments and residences will be affected by construction works in areas such as Blues Point, Chatswood and Marrickville, including through compulsory

[4] Jacob Saulwick, "Revealed: how and why housing at Waterloo beat Sydney Uni for a rail station" (29 January 2016) http://www.smh.com.au/nsw/revealed-how-and-why-housing-at-waterloo-beat-sydney-uni-for-a-rail-station-20160128-gmgl8x.html
[5] EIS Summary, page 6.
[6] Question on Notice, 'Transport Management Centre' (26 April 2016) https://www.parliament.nsw.gov.au/lc/papers/pages/qanda-tracking-details.aspx?pk=232252
[7] Media Release, 'New nerve centre to reduce train commuter delays (2 March 2016) http://www.transport.nsw.gov.au/media-releases/new-nerve-centre-reduce-train-commuter-delays

property acquisitions. I encourage the government to plan this in the most environmentally sensitive way possible, and listen to residents about their needs and concerns. The current government has a poor track record in managing both environmental impacts and community consultation in respect of projects such as WestConnex and the CBD and South East Light Rail.

For instance, the EIS notes that the Blues Point temporary site will be established within approximately 2,100 square metres of Blues Point Reserve, and indicates that the space will be required for Sydney Metro works for over two years. Shaft excavation alone will evidently take up the entirety of 2019.[8] It is somewhat alarming that a full six months have been dedicated to rehabilitation for the reserve land after work is completed.

The Reserve is a treasured part of Sydney, providing prime waterfront public space for the people of the city to enjoy. The government must explore other options for the establishment of a construction site for the metro. Regardless of where this construction site is, planning and construction should be undertaken to minimise any environmental damage.

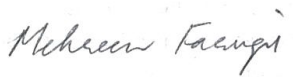
Conclusions

New South Wales currently has the opportunity to invest in public transport projects that expand access for people and improve the quality of everyone's lives. I am not convinced that Sydney Metro will achieve these ends.

The Greens support public transport projects that are driven by the desire to make transport more equitable, sustainable, and community-focused. Instead, the Sydney Metro appears to be driven by privatisation, overdevelopment, and undercutting the organised workforce of the Sydney rail network.

I am deeply concerned about the value and long-term impact of this $12 billion investment.

Thank you for the opportunity to provide this submission.



Dr Mehreen Faruqi MLC
Greens NSW Transport spokesperson

[8] EIS, page 220.

Please find enclosed my submission.

Kind regards,

John Hancox
4/56 Shirley Road
Wollstonecraft NSW 2065

E: johnhancox@me.com
M: 0417 260 620

Attention: Director, Infrastructure Projects

Chatswood to Sydenham Metro Project
Application number SSI 15_7400

Submission on
Environmental Impact Statement

from
John Hancox
4/56 Shirley Road Wollstonecraft NSW 2065

I have followed this project since it was first made public and am in full support. My reasons for support are briefly outlined below:

- It is a brilliant solution to the requirement to drastically increase and cater for a growing city. The second harbour crossing allows a true Metro line to bypass the existing choke point through the CBD and eliminate crossings with the Sydney Trains system. It will however have the potential for interchanges with the heavy rail system at other locations in addition to Chatswood and Central – such as North Sydney and St. Leonards with the new Crows Nest station.

- I particularly like the fact that it will be completely separate from Sydney Trains and thus freed from the many infrastructure and operational issues which combine to make that system one of the most complex in the world. Its many features such as straight platforms all at the same level with a secure passenger barrier will mirror world best practice. I like the single deck passenger car trains that will allow short dwell times at stops and what appears to be good ingress/egress from the stations.

- Conversion of the Epping to Chatswood line and the Sydenham to Bankstown line will offer passengers a first class Metro that will be equal to other major cities in Asia, Europe and the UK.

- I find no objections to the proposal which I am sure with proper planning and consultation with stakeholders whose interests are important will deliver a world class Metro line.

The following comments relate to some of the specific features of the project in regard to my current residency location – Crows Nest and Victoria Cross:

- The Crows Nest station construction plan shows that the Post Office will have to be relocated or it will be a casualty altogether. It is important that in the process of negotiation with the Commonwealth that there will continue to be a permanent Post Office at Crows Nest even if in temporary accommodation during construction.

- The plan shows a new pedestrian crossing on the Pacific Highway at Oxley Street. The graphic is not clear that this crossing must have traffic lights.

- The space left after construction that envisages over station development will be an eyesore if development does not proceed as soon as possible. Every effort should be made to secure development interest and cooperation with the North Sydney Council so that these areas are not left derelict.

- Underground access between the services building/development sites should be seriously considered as there is much traffic along Hume Street. Close cooperation with RMS will be required to improve the crossing with the Pacific Highway.

- At Victoria Cross station, serious consideration should be given to underground access with North Sydney Station which currently has an exit to Miller Street. This is a no-brainer.

- Construction of the harbor tunnel will result in huge volumes of rock and spoil to be disposed of. Movement of trucks through Milsons Point and surrounding areas would be a disaster. Disposal by barge would be a far less disturbing alternative and worth extra cost.

I thank you for the opportunity to comment and look forward to a successful project with the minimum of environmental impact and maximum benefit for the taxpayer.

Regards,

John Hancox
27 June 2016

The Hon. Gladys Berejiklian MP
Member for Willoughby

30 May 2016 Our Ref 16/2-1567

The Hon Andrew Constance MP
Minister for Transport and Infrastructure
GPO Box 5341
SYDNEY NSW 2001

Dear Minister, Andrew,

I am writing on behalf of my constituent, Ms Ursulla Dewar of SP65120 at 2/9 Nelson Street, Chatswood, regarding her concerns with the Chatswood Metro dive site layout Environmental Impact Statement (EIS).

I have enclosed a copy of the relevant correspondence from my constituent for your information.

I would appreciate your consideration of the matter raised and look forward to your response at your earliest convenience.

Yours faithfully,

Gladys Berejiklian MP
Member for Willoughby
NSW Treasurer

Enc

Working for Willoughby

Phone: (02) 9439 4199 **Fax:** (02) 9439 9299 **Mail:** PO Box 311, Willoughby NSW 2068
Electorate Office: 280 Willoughby Road, Naremburn NSW 2065
Email: willoughby@parliament.nsw.gov.au **Web:** www.gladys.com.au

COPY

ElectorateOffice Willoughby

From: Dewar <ursulladewar@optusnet.com.au>
Sent: Monday, 30 May 2016 4:35 PM
To: ElectorateOffice Willoughby
Subject: Sydney Metro EIS submissions & recommendations due June 27th
Attachments: Chatswood Metro dive EIS issues & recommendations to Member for Willoughby 30.5.2016.pdf; Chatswood dive site layout EIS p214 Ch7.pdf; Trackworks Nelson St to Chatswood CBD.pdf; Nelson Street rail-bridge visual EIS p44 Summary.pdf; Photos ECRL 2007-8 and Nelson St Gordon Ave residences.pdf

The Hon. Gladys Berejiklian MP
Member for Willoughby and NSW Treasurer

Dear Ms Berejiklian

Further to my phone call this morning, I'm sending issues and my proposals in response to the Metro EIS of May 11th, before I forward them to the Director of Transport Assessments by the deadline of June 27th.

Sincerely
Ms Ursulla Dewar
SP65120
Unit 2, 9 Nelson Street, Chatswood 2067
94123418 (11am-10pm)

Attachments (5)

The Hon. Gladys Berejiklian MP
Member for Willoughby and NSW Treasurer
willoughby@parliament.nsw.gov.au

Dear Ms Berejiklian

Re: Sydney Metro EIS submissions & recommendations due June 27th

Further to my phone call this morning, I'm writing to you in response to the EIS of May 11th regarding local issues and my proposed solutions, before I forward them to the Director of Transport Assessments by the deadline of June 27th.

I request for representations to be made to the Director on my behalf.

PROPERTIES AFFECTED:

For the second time within the last decade, I will be seeing a major infrastructure project at my doorstep.[1] I live facing the railway line, within SP65120 bounded by 9 Nelson Street, 2 Gordon Avenue, the North Shore Line and Frank Channon Walkway. This is the residential block which is most affected by the Chatswood Metro dive via the Ausgrid site (opposite 9 Nelson Street).

ISSUES AND RECOMMENDATIONS PROPOSED:

1/ ISSUE: Metro advertising and community action.

Residents are concerned that there has not been sufficient community action to the information on the Metro since the Metro Forum mid-2015 at the Dougherty Centre.

This is due to local residents not being well-informed before the 2015 Metro Forum: most of the 45 residents/owners in my block were unaware of the 2015 Metro Forums and that a decision about the "dive" location would be made before November 2015. I had a knock on my door by a Metro representative last November asking whether I've heard about the Metro decision.

Metro has not properly communicated information about "dive" locations at initial meetings: St Leonards versus Chatswood.

SOLUTION: Keeping the public well-informed is an essential responsibility of government.

2.1/ ISSUE: Increased noise pollution from rail-corridor:

Issue is noise during Metro construction & operational noise when Metro is running: current noise levels are excessive and noise will increase due to:

*EIS proposes for Metro tracks to be on concrete slabs between Albert Ave & Ausgrid site opposite 9 Nelson Street (EIS Ch.6, p135).

*2 additional tracks (Metro) between Albert Ave & Ausgrid site, located between the two existing North Shore lines, for "high frequency trains" providing fast high capacity services.

*Tracks will be moved west by 3m @ Gordon Ave/Nelson St: closer to our Strata. Metro considers moving northbound T1 track west by 3m to be necessary because excavation for Metro (between 2 North Shore tracks) will start at the Bowling Club & continue to the Ausgrid site opposite my residence at 9 Nelson Street.

(Contd.)

[1] See photos attached of ECRL at Chatswood South.

2.1/ ISSUE: Increased noise pollution from rail-corridor (contd.):

SOLUTIONS:

*To mitigate noise, I recommend using dampers instead of concrete slabs under tracks, although they're more expensive.[2]

*Metro should pay for installation of soundproofing for windows & doors of sp65120.

*New noise attenuation measures need to be adopted now to reduce current train noise which transfers as airborne noise as well as via underground vibration from the train-tracks.

*New noise studies are currently under way by SLR: these should consider not only the average noise of all trains, but also noise adjoining my residence at 2 Gordon Ave/9Nelson St.

2.2/ ISSUE: Increased noise pollution from Nelson St truck movements & Ausgrid dive site.

Truck movements during "dive" construction are expected to be:

Demolition: 96 per day plus 78 light vehicles
Excavation: 234 per day plus 248 light vehicles
Tunnel excavation: 286 per day and 248 light vehicles
Tunnel fit out: 254 per day and 248 light vehicles..."

SOLUTION: Metro should not be allowed to use Nelson Street: Metro truck & vehicle access only from Mowbray Road, and not via Nelson Street.

3/ ISSUE: Traffic congestion & increased travelling time:

Due to EIS proposal for Nelson St Bridge to be closed permanently.

Decommissioning of Nelson St Bridge will have an impact on our residents that has been understated by Metro.

SOLUTIONS:

*Nelson Street Bridge should be retained: not demolished permanently.

*Signalization (traffic lights) at junction of Nelson St & Pacific Hwy. Otherwise, residents/tradesmen travelling north along Pacific Hwy would need to travel a circular loop through Chatswood CBD (Albert Ave), along narrow congested Orchard Road, to get to Nelson Street: no right-hand turns along Albert Avenue past Orchard Road.

*To recommend "keep clear" signs to allow exit of Nelson St residents into Pacific Hwy: this exit is usually blocked when lights at Pacific Hwy are either red or green: congested cars won't allow exit to Pacific Hwy.

*To send recommendation for shared walkway & vehicle access along proposed extension of Frank Channon Walkway from Nelson St to Mowbray Rd: being considered by Metro.

*"Residents Parking Scheme" for Nelson Street & Gordon Avenue, with "Mobility" (disability) parking provided. I have a "Mobility" parking permit.

4/ ISSUE: De-stabilisation of our foundations.

*Whether the drilling of extra piles & retaining walls between Nelson St & Gordon Ave will de-stabilise our foundations. Drilling will be very noisy for long periods and its vibrations harmful: causing cracks in our building.

*Whether the extra piles & retaining walls will safeguard our Strata's foundations, since the retailing walls will be only about 8m from our Strata (EIS Ch.7, p208).

*Rail-corridor will be widened near Nelson Street (although the Frank Channon Walkway will be retained between my residence & the rail-corridor.)

SOLUTION: to build Metro dive elsewhere & not at Ausgrid site opposite 9 Nelson Street.

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[2] On 23 October 2008, the *Sydney Morning Herald* wrote about ECRL noise levels: "It is believed the noise problems are a result of the tunnel's design. Instead of sleepers and ballast under the tracks, the rails are laid on a concrete slab in the centre of a smooth concrete cylinder."

5/ ISSUE: cross-over of Metro & North Shore Northbound T1 tracks are at wrong place.

Issues listed above arise because either:

*The cross-over is at the wrong place.

*Metro tracks should not be separated by the two North Shore tracks.

*The Chatswood Metro dive site is short-sighted: this should have been evaluated during the planning and implementation of the ECRL 2003-2007.[3]

*You don't have the space that's available for the Metro Northwest to Rouse Hill.
*See attachments.

SOLUTION: to separate Metro & North Shore tracks at/near Chatswood train interchange or elsewhere, and not build cross-over at Nelson Street/ Gordon Avenue, adjoining Ausgrid site: avoiding the permanent removal of Nelson Street Bridge.

6/ ISSUE: Increased visual pollution.

*The Metro reps last Saturday said: 1.5m trains will be visible above "noise wall".
The maximum height of the proposed rail-bridge (for northbound track T1) will be at Nelson Street, with 100-300 meters long grade ether side.

*Please see attachment.

*The North Shore T1 northbound track is located adjacent to the Frank Channon Walkway, and is proposed to be located only 8m from no.1 Gordon Avenue (strata opposite our block).
Before the ECRL was completed in 2007, T1 was located 14m from no.1 Gordon Avenue.

*Height of our "noise wall" will be increased: obstructs sea-breeze from the east/coast.

*It's taken years for vegetation to grow up the "noise wall".

SOLUTIONS:

*Rail-bridge should not be built over Nelson St, and both Metro tracks should be located together from Albert Avenue rather than in between the 2 North Shore Line tracks.

*Nelson Street Bridge should not be permanently closed.

*To build Metro dive elsewhere and not at Ausgrid site opposite 9 Nelson Street.

Looking forward to hearing from you.
Sincerely
Ms Ursulla Dewar
Unit 2, 9 Nelson Street, Chatswood 2067
94123418 (11am-10pm)

30.5.2016

ATTACHMENTS (4)

[3] For the ECRL construction, the dive was built under the Lane Cove River without a rail-bridge over the Lane Cove River: thanks to the nearby residents' action. The Ryde Member (for Lane Cove) at the time held the seat by a narrow margin.

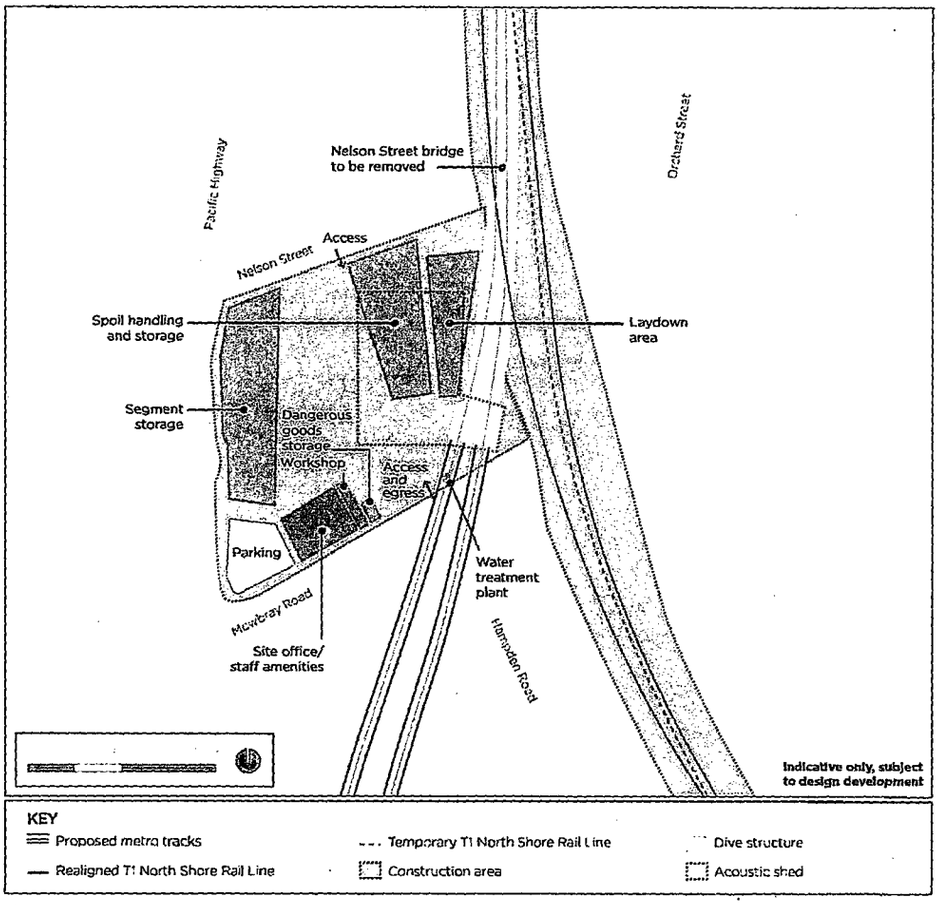


Figure 7-8 Chatswood dive site (northern) indicative layout

7.10.2 Artarmon substation construction site

The Artarmon substation construction site would cover about 3,500 square metres beside the Gore Hill Freeway in Artarmon.

The site would be used to construct the Artarmon traction substation (described in Section 7.9.1). This would involve the excavation of a shaft (about three metres in diameter) to reticulate electrical cables to the tunnel below (resulting in the removal of about 2,000 cubic metres of spoil) and construction of an aboveground building that would be fitted out with electrical equipment.

Access to and egress from the site would be via Barton Road.

Access to carry out this work would be primarily through the Chatswood dive site although access may also be gained from other points along the rail corridor including the existing access points at Hopetoun Avenue, Chatswood and Drake Street, Artarmon; and from a new access point at Brand Street, Artarmon.

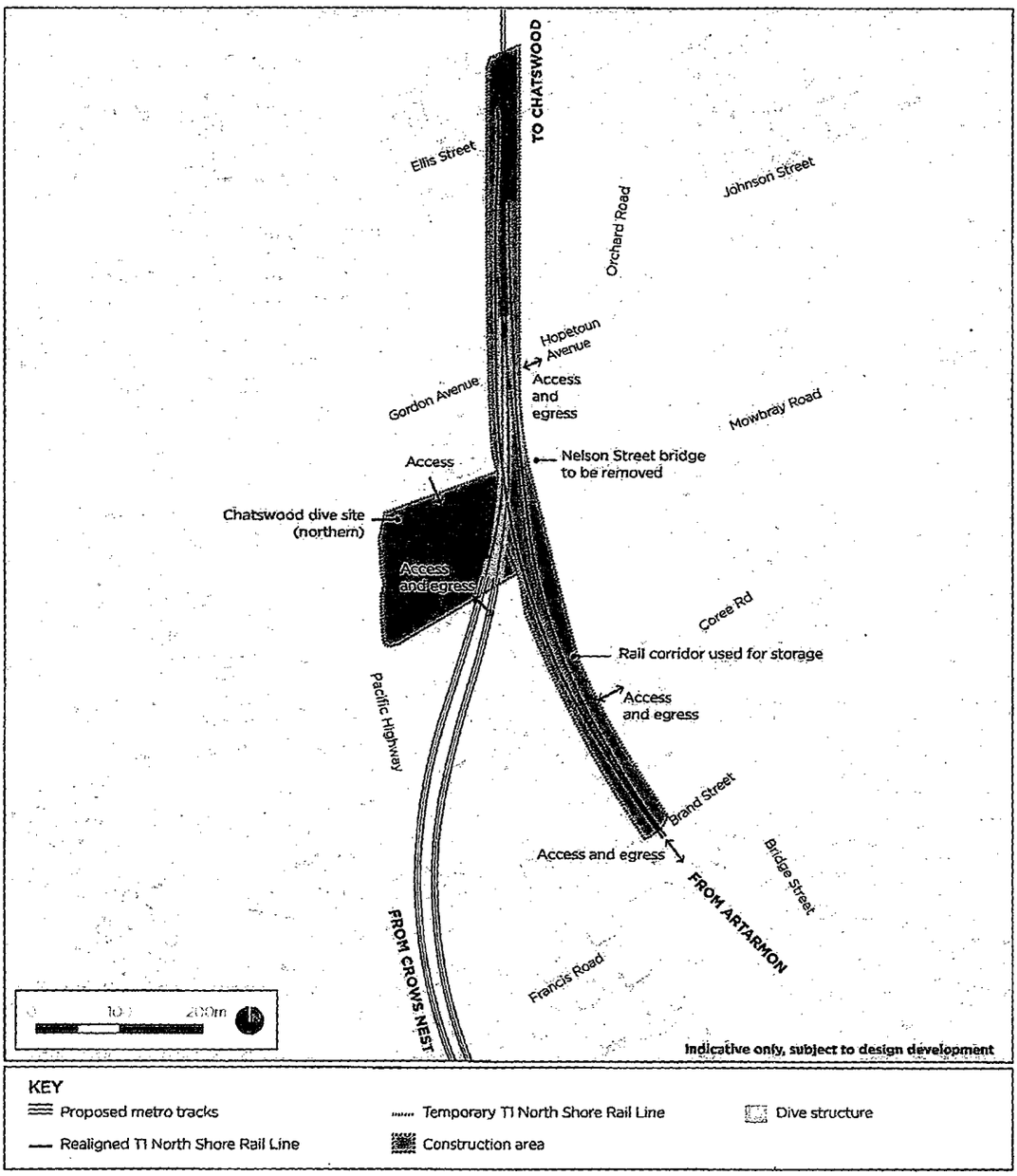


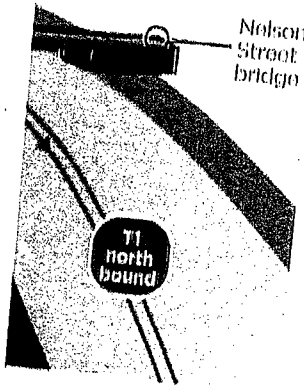
Figure 7-7 Northern surface track works

...aboveground metro tracks

...tunnel portal will involve construction techniques outlined

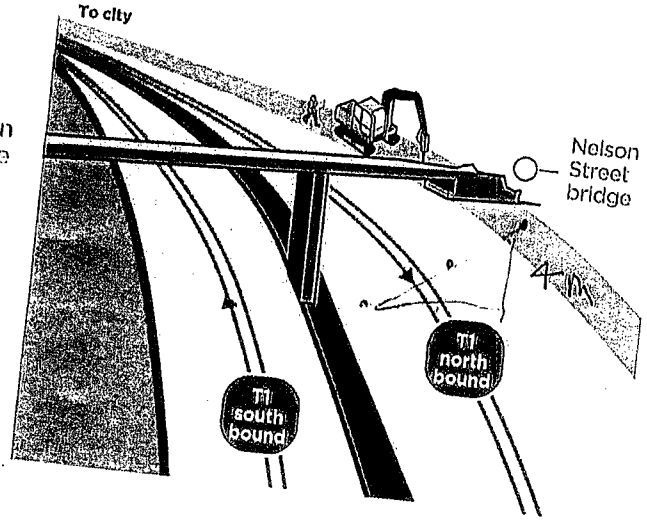
...temporary rail replacement bus services will be provided

To make room for this work, the Nelson Street bridge will be permanently removed. The Nelson Street bridge allowed motorists travelling south on the Pacific Highway to access Mowbray Road westbound via Orchard Road. A new right turn from the Pacific Highway to Mowbray Road westbound will be built before the Nelson Street bridge is demolished.



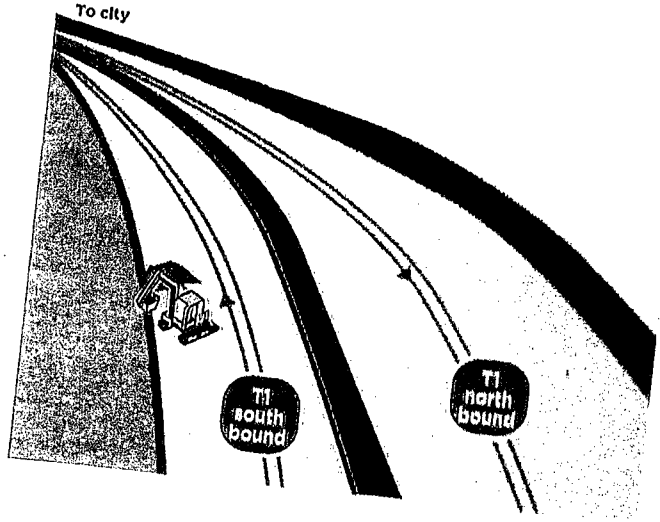
2

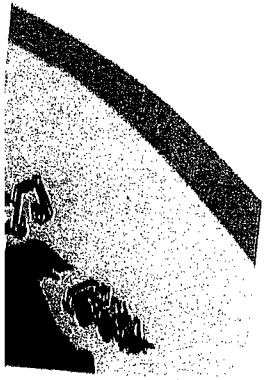
Demolition of the Nelson Street bridge



3

Excavation within the existing corridor





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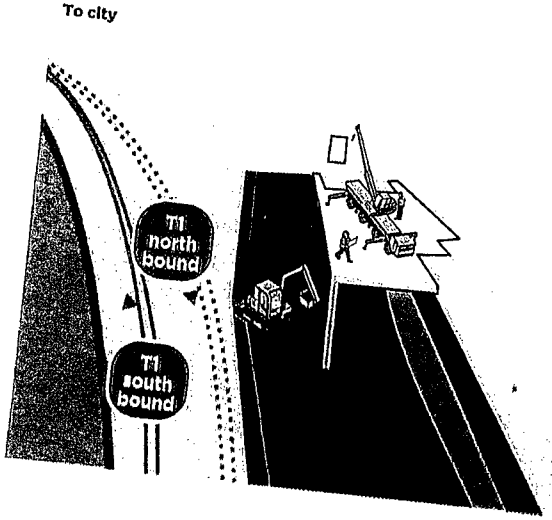
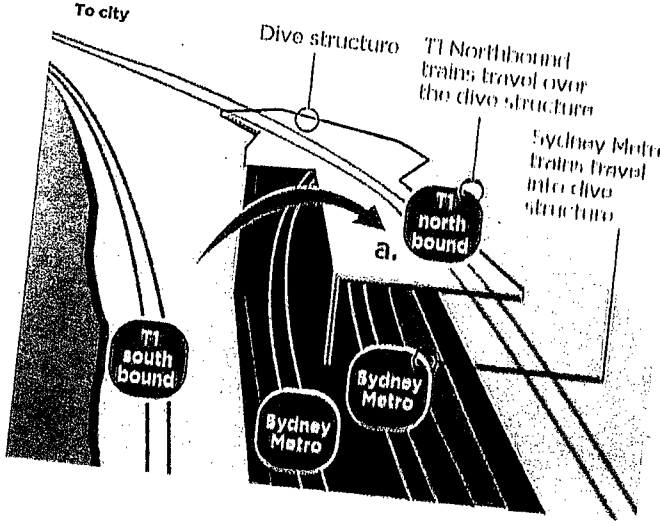
Build the dive structure



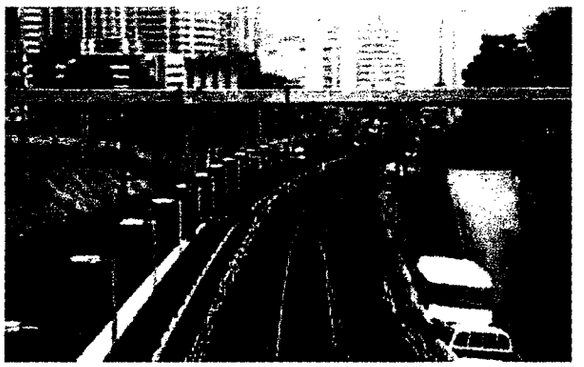
6

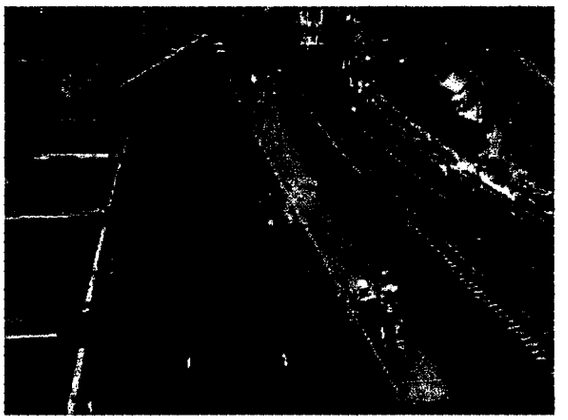
a. T1 northbound moved to its new permanent position over the dive structure

b. Build the Metro tracks



Row 1: Chatswood South ECRL trackwork February 2008
Row 2: Chatswood South ECRL track subgrade reconstruction January 2007





9 Nelson Street thru to 2 Gordon Ave & Frank Channon Walkway/rail-corridor

Attn: The Director, Transport Assessments

RE: Project Number SSI 15_7400 Sydney Metro

Objection to the Blues Point Retrieval Site 23 June 2016

Dear Director

As a local resident living close to Blues Point Road and a frequent user of its facilities, I write to strongly OBJECT to the proposal to excavate Blues Point Reserve for a Metro Retrieval Site.

I believe the impacts on the quality of life of the local residents will be considerable, and urge your organisation to find an alternative (see below).

The impacts include the following:

- A devastating impact on Blues Point Reserve. This park is used throughout the year by visitors from all over Sydney, as well as local residents.
- People living close around the Reserve will be impacted hugely by noise, sound and atmospheric pollution, causing a sudden and catastrophic drop in their quality of life.
- The proposed removal of waste material from the excavation site and the delivery of concrete will result in frequent and persistent truck movements, which, I believe, the EIS has quantified. This will not only dramatically and catastrophically impact Blues Point Road, including local residents, shop owners, businesses, restaurants and diners, but will spread right into the heart of North Sydney, which already has a significant amount of weekday traffic. Trucks will bank up, tying up the road, making access to homes on and off Blues Point Road almost impossible. In fact, it would be hard to dream up a worse idea.
- Other impacts from the truck movements include: noise and vibration (causing much potential damage to surrounding heritage protected buildings and homes), pedestrian safety (especially for children and the elderly), general road safety, extended delays, and a significant amount of pollution heralding many potential poor health consequences.
- Removal of local parking (also impacting local business).
- All severely impacting a key historic area of Sydney.

There must be a better alternative than this. Surely it's within your department's capabilities to come up with a better plan?

For example, since a huge amount of work is going to be done at Barangaroo (where nobody lives) and Victoria Cross Station. Surely the boring heads and dirt/concrete exchange can happen there?

Or perhaps use barges from the harbor site instead of trucks?

I urge a rethink of this proposed retrieval site, as it has significant and catastrophic shortcomings.

Yours sincerely

Jeremy Rabie

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E jerrab@bigpond.net.au

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www.ku.com.au

Children's Services
Since 1895

NSW Department of Planning and Environment
Director Infrastructure Projects

15 June 2016

RE: Application SSI 15_7400 Sydney Metro: Chatswood to Sydenham EIS

Dear Sir/Madam,

I write to express my concerns regarding the proposed Sydney Metro Project: Chatswood to Sydenham section.

KU Children's Services is one of Australia's largest not-for-profit providers of early education and care for children. We operate a 39 place child-care facility, KU Lance Children's Centre (KU Lance), 37 High Street, MILLERS POINT NSW 2000. The service operates 7:30am – 6:00pm, five days a week.

The proposed Barangaroo Metro Station site is located immediately adjacent to KU Lance. The Barangaroo Station site will also be the main construction access route for the tunnel project, and is approximately 50 metres from KU Lance.

KU Lance is the most sensitive receiver in the Barangaroo precinct. It is the only education and care service in the whole area, and will be directly affected for the duration of the project, approximately 4-5 years, perhaps longer. We hold considerable concerns regarding the impact of the works on the children and families who attend KU Lance, and outline our concerns below.

Noise
The EIS identifies that KU Lance will be exposed to excessive and unsafe levels of noise for the duration of the project, levels well in excess of acceptable community standards. These excessive levels will continue not just for a few days and weeks, but for years.

We draw your attention to the detrimental impact this noise will have on the development and safety of children attending this service. Elevated noise levels are known to create stress, and stimulate aggression and other anti-social behaviours in children, with toddlers and babies particularly vulnerable.

The levels predicted in the EIS will make it difficult for children to hear speech from educators, from their peers, and from themselves. The first five years of life are critical for the acquisition and development of language skills. The ability to hear from others or yourself is essential for development of speech, and constant and excessive noise can have devastating, life-long impacts of affected children.

The unpredictable nature of the noise, for example from piling, blasting and traffic movements will add additional strain to the children and staff at this centre.

Unfortunately KU Lance has already experienced several years' of construction related noise from the site remediation works and the development of the Barangaroo Headland Park. Our concerns are based on first-hand experience of construction noise. KU Lance is surrounded by rock, and we expect the reflected noise from the cliff wall behind the centre will accentuate the noise problem. The information you have supplied, indicates this new construction will experience even higher noise levels than previous works.

The teaching program at KU Lance includes music and storytelling as essential elements. Both of these experiences will be affected by noise disturbance. The children at KU Lance play and eat lunch outdoors. With the change in conditions to the environment, these experiences may not even be possible.

Language and social interactions go hand in hand. If children are having difficulty hearing and being heard, social interactions may be impaired, as children find it difficult to engage in conversations with each other or with staff.

General child wellbeing may also be affected by the unpredictable noises causing interruption to concentration and heightened anxiety particularly in our babies.

Sleep
Unexpected noises are known to interrupt sleep patterns. The babies at KU Lance sleep at times throughout the day. While babies will sleep through background noises, the unexpected noises caused by trucks being filled with waste, metal on metal, or blasting is a concern for the child's wellbeing.

We know that tired children are not happy children, and a child or baby being woken from deep sleep, changes their whole routine.

We expect all our rooms, but especially our nursery, will require upgrades to the air conditioning unit, or additional air purifiers to create background noise to mask the unwanted external noise and increase sleep quality.

Dust
We expect dust and perhaps other airborne problems will change the environment at KU Lance. We are very concerned about the impact of dust and any other airborne particles on our children and staff. We have many children with respiratory conditions, including asthma, and are concerned that the increase in dust and other contaminates in the environment will impact on the ability of the children to use the outdoor play spaces.

The nature of known contaminants on the Barangaroo site, including asbestos, heavy metals, PCBs and other toxins that will be disturbed during the construction phase, is of great concern to us.

Increased traffic and impacts on parking access
We expect that traffic around KU Lance will increase dramatically. Our concerns are for the safety of children being dropped off and collected.

Suggested solutions

- Noise/sound abatement measures at the site of construction
- Acoustic shielding and vibration controls on all preparatory work
- Increased sound insulation in the building
- Green zones, and/or vertical gardens at the front and back of the building to assist with noise and airborne contaminant control
- Internal curtains to assist with noise control
- Air purifiers
- Upgraded air conditioner
- Additional parking required for the safe drop off and collection of children.
- Compensation for extra cleaning costs – to reduce dust and airborne contaminates that cause respiratory problems
- Measures to absorb dust – possibly including the installation of screens

We appreciate your consideration of these concerns, and welcome the opportunity to work alongside the Department to ensure that appropriate measures are put in place to mitigate these issues.

Yours sincerely,

Christine Legg
Chief Executive Officer

CASA DEL
ABN 50 127 620 339
CASA DEL AUSTRALIA PTY LTD
PO BOX 3182, MARRICKVILLE 2204
Unit 8, 102-112 Edingburgh Road
MARRICKVILLE NSW 2204
Phone: 02 9550 5982
Fax: 02 9550 6663
Email: info@casadel.com.au

16th June 2016

ATT: Director,
Infrastructure Projects
Email: plan_comment@planning.nsw.gov.au

Major Projects Assessment
Department of Planning and Environment
GPO Box 39,
SYDNEY NSW 2001

RE: SYDNEY METRO DEVELOPMENT PROPOSAL AT MARRICKVILLE
Application # SS1 15_7400

We OBJECT and have major concerns about the development being held across the road from our factory doors at the elbow of Murray St, Marrickville, which is detrimental to our everyday operations of our business.

We are a highly sensitive FOOD manufacturing company (www.casadel.com.au) which has been established over 26 years at this position and location. We manufacture highly sensitive bakery items such as fresh cream cakes, biscuits, mousses, wedding cakes and gelato which our driver's personally deliver to our customers' on a daily basis.

Our delivery vehicles, our supplier's goods and vehicles, our staff, customer and supplier's parking, the air quality, the quality of our food, safety of our customers are all affected by the current proposal.

Parking & Traffic:
I understand from the proposal that the elbow end of Murray St will be closed off and your proposed main entry will be accessed through there.

This is opposite our drive way which means it will interfere with our trucks delivering goods to our customers, unloading shipping containers, receiving goods from our suppliers and our garbage trucks accessing our bins; staff parking as we are already limited, all of which is vital to our daily operations of the business.

(Proposed street closure at elbow of Murray St, Marrickville)

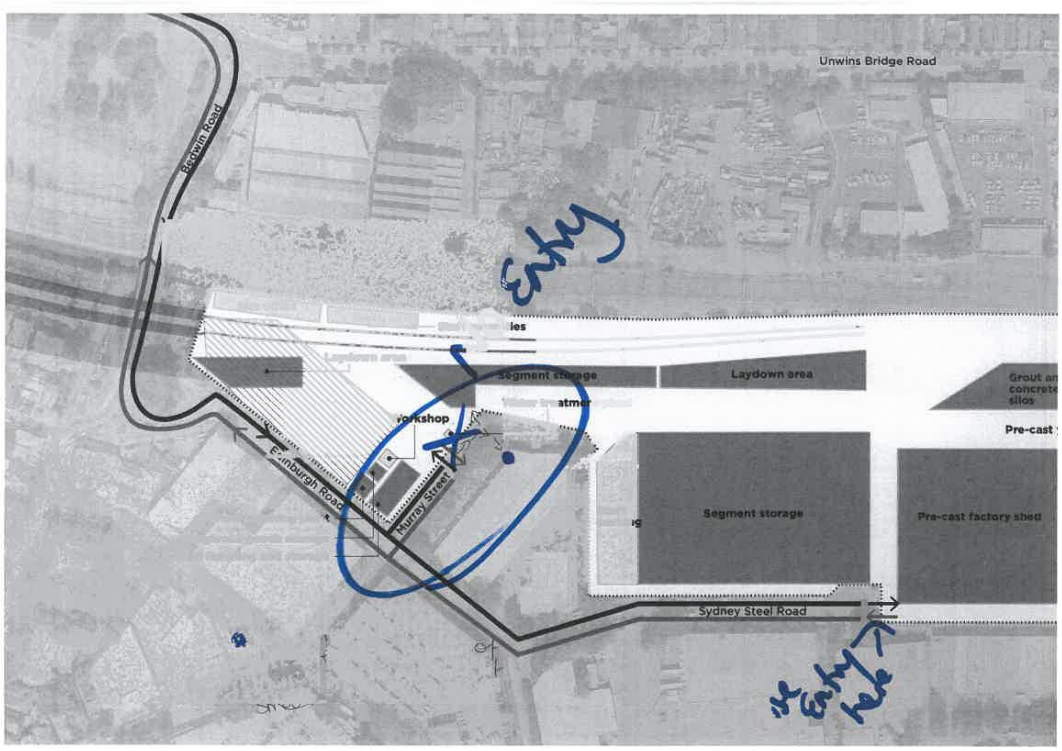
Staff's Car Parking will be impacted with the proposal of closing the elbow end of Murray Street because it will take 50% of the spaces available on Murray Street. Will there be extra parking available for our staff during the development?

Another issue is the trucks that access our premises are quite large; 40 foot semi-trailers that cannot simply fit into our driveway, they use the elbow end of Murray Street to turn around/reverse and drive back to the street to exit at Edinburgh Rd. Therefore the proposal of closing the elbow end of Murray Street is not acceptable and is a huge detriment to our business's daily operations and you will need to look for an alternative entry.

(our driveway, you can see they can only enter into driveway to do delivery and reverse back into Murray st, to exit at Edinburgh Rd)

If anything I would request that you DO NOT make the entry to your development in Murray St and instead use entry at Sydney Steel Road, Marrickville to access your site and also DO NOT close off the street at end of Murray St.

In the past, there have been numerous occasions where the trucks have been stuck at the end of our driveway for several hours, and a tow truck had to be called to assist in moving them, this affected the roads which meant no one could come in or go out.
If this is to happen again it will cause major chaos for everyone including your site.

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SITA
13 13 35
SCANIA

You also need to consider the current roundabout at end of Murray St & Edinburgh Rd as this area is a major hazard and this is without the additional large trucks the proposal will bring onto the site.

Normal light vehicles do not have enough room already to go around the roundabout without traveling over it, so I would suggest a set of traffic lights be erected for safety and for traffic to flow easily considering the problems that exist now and the extra traffic that will be there once the proposal commences.

(Round about at end of Murray St, Marrickville very dangerous and should have traffic lights)

Flooding:
I would also like to bring to your attention that Murray Street is a high risk flooding area. During heavy rain periods, flooding occurs occasionally at the end of our driveway on Murray Street. It's flooded severely where cars have been found floating on the streets. This is a major concern especially if the proposed site has mud and bacteria that can spread and worsen the already existing problem. It is important that your company address this issue, ensure there in extra drainage in the area and advise of a procedure.

Air quality:
Regarding Air quality, this is another major concern to our operation during demolition and earth works. We are a highly sensitive food manufacturing factory which must meet certain legal requirements and standards.

We are governed by stringent food guidelines enforced by NSW FOOD AUTHORITY and Food standards Australia. Therefore our products must meet a certain standard.
We have stringent microbiological testing for our products especially if anything is airborne, NSW FOOD AUTHORITY can order us to shut down until rectified.

This includes avoiding having dusts in our trucks and factory or surrounding environment due to the sensitivity of our products such as our cakes, wedding cakes which can be fatal if dust is found in our products and consumed.

Our trucks which we use to deliver our goods on a daily basis are parked outside and it is crucial to the business and crucial to NSW FOOD AUTHORITY to maintain the quality assurance of our goods and this involves ensuring that there is no dust inside these trucks.

We also have suppliers who deliver our ingredients which contain raw products with large 40 foot semi-trailers that you have not considered at all. We would like to know how we can manage the dust when we have to open our roller door to accept our raw material deliveries and stop the dust from going onto all our stocked raw materials.

We do understand that you will take every precaution for the dust to be controlled but I don't think you can guarantee this will not happen, especially in the event of a dust storm.

We don't think you have given any special consideration to the sensitivity of our food production plants when putting these plans into place and we request that you revisit these plans and analyse this situation immediately. We are situated right in the middle of your developments which makes the air quality a high risk to our business and its operations.

We would like an undertaking if anything goes wrong.

Will the builder supply some type of protection to cover the products from the extra dust sitting on our ingredients, unused cartons or the machinery in our factory? We would like to know what will be implemented on an ongoing basis to dialog dust management and mitigation measures you have taken to ensure this doesn't affect us. What will they do if and when it's windy or storms occur, how quickly can they react to ensure are products are not damaged?

We think the Dust containment system is something that will have to be considered to protect and aid us in keeping up with Occupational Health and Safety requirements as well as ensuring maintenance of quality assurance.

UTILITIES: POWER/WATER/PHONE

Another major concern is utilities which is vital to the operations of our business.
Our business and its operating system are highly reliant on power, water and our phone lines. The power and water is what we use to produce our freshly baked products and our phone lines are used to ensure we can communicate with our customer's for their next day orders.

We have a power sensitive business with no back up of power to our site and have high power consumption. We are truly concerned as we only have a 4 hour gap after we lose our perishable stock which is costly, but more importantly our goods will not be delivered to our customers.

If there is any power failure, we will not be able to use our ovens, dishwashers, cool rooms or freezers to complete our daily productions for the next day delivery to our customers; this again is vital to the financial income of the business.

The running of water to our premises without interruption is of the utmost importance. We cannot wash the utensils that we use in production for our freshly baked goods if there is no access to water.

Our gelato machines which are another huge contributor to the running our business has water running through them 24/7, and if the water supply was to stop because a disruption caused by the proposal's development, the motor of the machine will cease. This will be a financial burden on the business as it is quite costly to replace and repair.

Our phone lines again are a crucial part of our daily operations as our customer's call daily to place their orders through the office which is our only source of income; our whole business depends on this entirely. So if our phone lines were ever to be interrupted due to a disruption caused by the proposed plans and site, the development site is then again liable for the costs of fixing the issue and is to ensure they rectify the issue immediately.

We want to be assured that during the whole period of the development and construction of the site, there is a procedure in place to deal with any loss of business due to unforeseen incidents or crisis that have not been thought about.

We need the peace of mind to know something is in place by the contractors and that their effective communication and a great understanding of our business needs can ensure we resolve all issues immediately.

If anything causes us to lose any income or affects our business in any way we would like to advise you that our business does not have any cash flow to deal with these losses and has serious implications which could lead the business to suffer severely.

I ask that you consider our concerns and recommendations regarding the proposed Development at Marrickville and appreciate if you contact us personally with the changes you will make to so we can run our daily operations as normal.

Looking forward to hearing from you soon.

Yours Sincerely
Casa Del Australia Pty Ltd

Jose Mendonca
Director

Project SSI 15_7400

Submission

I do not approve of the planned project and seek minor modifications to protect local residents and visitors from danger, noise and dust.

I have no political donations to disclose.

Submission

I write to request that the proposed project be modified. Specifically, the manner of movement of spoil and attenuation of noise and dust which will have a large impact on the residents adjacent to the Retrieval Site in Blues Point.

I urge the project applicant and government not to proceed with removing spoil and returning it again to the Blues Point retrieval site using trucks. The Blues Point site couldn't be better located for water borne transport. The site is within 50m of an existing road and concrete wharf infrastructure that could be adapted to allow barges to load and unload saving literally years of heavy truck movements with associated noise from braking and revving to accommodate the incline of Blues Point Road, damage to the pavement and environment and safety issues. Trucks will have to move through narrow streets which are often crowded with people including children crossing the road to attend schools, creating significant safety issues. The truck movements will disrupt the small businesses that front Blues Point Road, and the crowds of café and pub patrons. Furthermore, the movement of the cutting heads will be extremely difficult through the narrow streets of McMahons Point. Barging them directly to Barrangaroo would appear easier and quicker.

Barging will significantly reduce the need for heavy truck movements. It will save residents and visitors the danger, disruption and noise which would come from heavy trucks, and the Council and government the cost of pavement repair and modification, and the associated significant public relations problems from their use.

Secondly, the Blues Point Retrieval site must have an acoustic shed cover of the type being proposed for all the other excavation sites in this project. This excavation work will negatively impact many people. The site is surrounded by high density residential housing on three sides. Over 200 residences with more than 500 people are directly adjacent to the site. Over 120 residences with approx 250 residents have windows and balconies overlooking the site. Many of these people are at home during the day (during construction hours as proposed in the EIS) as they are retired or run small businesses from home. Because the site is surrounded by apartment towers, any noise from the works will effect vastly more residents than in a low rise neighbourhood and the suggested 'hoardings' will be of minimal value in attenuating the noise and dust.

Additionally, the predominate wind direction at this site during construction hours is from the water towards the residential apartments. This will accentuate the noise levels and carry dust and dirt into residences.

Please ensure that the excavation site will have its machinery sited with exhausts and vents placed to discharge fumes and noise away from the residential buildings (ie out into the harbour) as well as an Acoustic Shed erected to minimise noise and dust pollution which will otherwise seriously impact the lives of the surrounding residences over a 12-24 month period.

Thank you

Athol Yeomans

Athol Yeomans
25/30 Blues Point Rd
McMahons Point NSW 2060

Ph: (02) 9955 8632

58 Burlington Street

CROWS NEST

Sydney Metro development proposal

The NSW Government plan to build a metro station in Crows Nest is good. It must not be a reason for big, ugly buildings to go from St Leonards all the way down the highway to North Sydney.

I request the government to keep Crows Nest as a suburban shopping area and not allow big buildings as part of the reconstruction after the metro is built

S Jones

29/6/16

To whom it may concern
Dear Sir/Madam

Re: Rail Tunnell under Blues Point

I am a resident and owner of a property in Mitchell Street, McMahons Point.

I would like to submit a request for the route of the tunnel to be moved to the east so that it does not run directly under residential properties in Mitchell Street.

This would place it under commercial building at the highest point of Mitchell Street and under a small park between Mitchell and Victoria Street and then run under commercial buildings in Victoria Street rather the homes in Chuter Street.
It would then run under a few houses in Union Street, but they are on much higher ground and therefore the tunnel would be further down.
It would then run under Shore School where noone lives.

I would like to be informed where the sites are planned to be to bring rock waste to the surface in Blues Point and North Sydney. You may respond to my e-mail.

Yours faithfully

THE FOLLOWING IF NOT FOR PUBLICATION ON YOUR WEBSITE

Malcolm Sainty
PO Box 795
NORTH SYDNEY 2059
malsainty@bigpond.com

20 June 2016

Map Nominees Pty Ltd
Apartment One
5 Towns Place
MILLERS POINT NSW 2000

Postal Address:
PO Box 112
SOUTH PERTH WA 6951

Director
Transport Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

20th June, 2016

Dear Director,

CHATSWOOD-SYDENHAM METRO: SS15 7400 (the Proposal)

1. MAP Nominees Pty Ltd is the owner of Apartment One, 5 Towns Place, Millers Point NSW 2000. DIRECTORS ARE Mr RSP Farris and Mrs JE Farris.
2. We have not made any political donations (reportable or otherwise) in the last two years.
3. We both strongly object to the implementation of the Proposal, the most serious relating to notice and vibration issues adversely impacting residents and businesses, and to the due process available to objectors which impacts on the nature and detail of those objectives.

SUBSTANTIVE OBJECTIONS

Position of Tunnels

4. It appears from the current plans/diagrams that the eastern tunnel may pass beneath, or very close to, the north western corner of the Dalgety Road building of the owners Corporation at a (stated) depth of 35 metres. Given that the EIS Summary notes that the current plans/diagrams are indicative only (as well as containing a 30 metre tolerance for the tunnels' final position), this objection is based on the assumption that it is intended that the tunnel is in fact due to be located in the position described.

5. The technicians present at the explanatory meeting were not aware that the building had a 6 level carpark below ground to a depth of approximately 20 metres and that, if the tunnel depths were maintained at 35 metres, as indicated on the current plans/diagrams, the buffer between the eastern tunnel and bottom level of the carpark would, at most, by only about 10 metres.

Noise / Vibration abatement measures

6. The proposal indicates that the Metro's tracks will be of steel, as will the wheels of the rolling stock. The reason expressed for this choice at the explanatory meeting on 25th May, 2016 is that it needs to be consistent with other tracks/rolling stock in the system.
7. Best modern practice for this type of rapid transport system is for the rolling stock to have rubber wheels running on rubber tracks. This makes its operation virtually silent. This is evidenced by the Paris Metro and other lines in Montreal, Kobe and Mexico City.
8. Attenuation is proposed for other parts of the line but not between the harbour and Barangaroo metro station. Without resiling from the principal submission that 21st century best practice dictates a rubber wheel/track system be installed, all of this track should have high quality attenuation measures installed. Particularly that part from the harbour to Barangaroo metro station.

Conclusion

We both totally object concerning the tunnel depth and location, it is obvious your plans do not take residents in to consideration.

Your documentation of the project must be changed and take into consideration all aspects that will occur.

RSP FARRIS
DIRECTOR
Mobile 0411137788

Annika Broadbent

205/26 Clarke St

Crows Nest

NSW 2065

Major Projects Assessment

Department of Planning and Environment

GPO Box 39

Sydney NSW 2001

Website: www.majorprojects.planning.nsw.gov.au

Attention: Director, Infrastructure Projects

Metro Station Development at Crows Nest, Application number: SSI 15_7400

The following outlines my **strong objection** to the construction of the proposed Metro line and station at Crows Nest (Clarke Lane/Oxley St/Pacific Highway/Hume St). I appreciate the need for transport infrastructure, but it is imperative that the concerns of those immediately affected are addressed as much as possible.

The current proposal and environmental impact study has not adequately addressed the impact of the construction, and ongoing operation of the metro, on the residents of the Lyall Building at 22-26 Clarke St Crows Nest. The Lyall is a mixed-use Strata with 30 apartments, housing over 60 residents and 4 businesses. Over 90% of bedrooms located in this building overlook Clarke Lane and will back directly onto the construction site. Four years of constant construction, 24 hours a day, means it will be impossible for us to live in our apartment with our baby daughter and, in all probability impossible to let the apartment. We face severe financial hardship and serious emotional challenges. This could be somewhat addressed by the provision of double glazing for our windows, the installation of rubber under the tracks and station, the continuance of Clarke Lane as a one way thoroughfare, and a reduction in the construction timeframe.

The reasons for my objection, which are outlined in more detail below, are the following:

a) Inadequate protection for residents with regards to night works
b) The difficulties and danger of creating a two way thoroughfare in Clarke Lane for construction traffic
c) The extensive period of construction
d) The effect of construction on our building's stability
e) The ongoing impact of increased noise and disruption from train and station operations

A) Inadequate protection for residents with regards to night works

Current plans to carry out construction and excavation work 24 hours a day demonstrates complete disregard for the residents of 22-26 Clarke St. The planned construction work will be less than 5 metres away from 90% of the bedrooms in the building. The environmental impact statement itself documents the acceptable noise levels for a bedroom as 30 decibels, yet the NSW Government and State Transit will carry out construction and excavation work through the night with operational noise levels of 90 decibels. The proposition that an acoustic shed will address this is duplicitous. The acoustic shed will not be built until after the initial excavation. This excavation will be through blasting, the noise impact of which will not be at all deadened. Further, this shed will barely cover the width of our residential building and have massive openings at either end. Residents are, therefore, expected to be able to sleep through an additional 60 decibels of noise for up to four years. For our family, getting a baby to sleep through that noise until she is over 4 years of age will be impossible.

B) Impact of construction traffic

Planned construction traffic movements provide for Clarke Lane to become two way with the south end of the lane blocked off at Hume St. This is distressing for a number of reasons:

- Clarke lane is very narrow, we experience traffic issues when the commercial lots on the Pacific Highway receive deliveries. The coming and going of over 200 trucks per day will make entering and exiting via our driveway incredibly difficult as a construction truck would effectively block the lane for both vehicles and pedestrians.
- Making the laneway, two way will also make it dangerous for exiting residents as our driveway does not have clear visibility of traffic entering Clarke Lane via Oxley St.
- Council has already received numerous complaints from residents with regards to the noise created by early morning rubbish collection. Blocking off of Clarke Lane and making it two way will subject residents to the rubbish truck passing under their bedroom windows twice, or as is more likely, its beeping as the truck attempts to reverse out of the laneway.
- Further, heavy trucks utilised for the construction will also increase the noise levels. Rather than the trucks passing once, we will be subjected to the noise of them attempting to turn in an incredibly narrow lane or reversing back down the lane way.

C) Extended period of construction noise

The environmental impact assessment provides for four years of construction noise and traffic for 24 hours a day. The predicted airborne noise levels (Table 10-12) for Crows Nest Station indicate that our building will in most cases have airborne noise exceeding what is considered normal and is for some undefined period of construction predicted to be High. These statistics focus in on Clarke St, yet over 90% of bedrooms in our building face Clarke Lane which is only the width of the lane away from the construction site and thus will be subjected to even higher impacts.

Further residents will be subjected to ongoing building vibration for four years. Again here the impact on Clarke Lane is not mentioned, however, it is stated that *"During excavation, vibration levels are anticipated to exceed the cosmetic damage vibration screening criteria at three buildings adjacent to the site (one building located to the east on Clarke Street and two building located to the south of the Pacific Highway)."*If it is to exceed the cosmetic damage vibration screening criteria at those distances away from the construction site, the impact to those directly adjacent will be exponential.

D) Building stability and resident's safety

The impact of tunnel blasting on the stability of surrounding buildings has not been addressed. Construction of the tunnel is to be through blasting with a tunnel corridor at least 30 metres either side of the tunnel centre line and around all stations. The proposed Crows Nest station and metro tunnel will be positioned across a very narrow Clarke Lane. Our building's garage runs underneath the footpath of Clarke Lane. There is insufficient space to ensure ongoing building stability with a 30 metre tunnel corridor. Indeed, the 30 metre tunnel corridor will encroach on the existing garage.

In addition, the establishment of storage for dangerous goods within one building's width of our residential block places us all in danger.

E) Ongoing impact on quality of residents' lives

The peaceful enjoyment of our property will be impacted in an ongoing manner due to the following:

- We will be subjected to ongoing vibration noise from train operation. *"Sydney Metro* plans to *keep stations as shallow as possible to minimise customer travel time from the street to the platform".* In the case of the Crows Nest station it is planned to be a mere 25 metres below the ground thus providing very little distance for the ongoing vibrations from train operations to be deadened.

Further, whilst rubber is to be laid underneath the track at tunnel exit points such as Chatswood it is not planned to be laid to insulate the noise of train operations to surrounding residential buildings.

- Increased traffic and reduced street parking with kiss and ride and taxi bays placed outside our building on Clarke St
- Noise from increased pedestrian/commuter traffic

It is clear from the above that continuing to live in our apartment with our baby will be impossible. Given the extended period of construction it is also highly unlikely that we will be able to rent our unit or sell it and recoup our purchase price. As residents of the one residential building directly affected by the Crows Nest Metro we have not been consulted, nor has any effort been made to compensate us. We believe that other potential sites would have had a lesser impact on local residents as the surrounds would have been primarily commercial.

At the very least we request that:

- Double glazing be provided for all our windows
- Rubber be installed under the tracks
- The depth of the station be increased
- Construction duration be clearly specified and reduced.

Regards,

Annika Broadbent
Ph: 0415 245 443