



The Ribbon

Extend Working Hours Application

Supplementary information – Revision 1

1 March 2018



Summary

Grocon, and its specialist consultant Acoustic Logic, have prepared appropriate site analysis relative to an application to the NSW Department of Planning & Environment for (MOD 7) Extended Working Hours.

Grocon previously submitted a modification to SSD7288 (MOD 4) which was approved by the Minister for Planning on 10/11/2017.

This current proposal (MOD 7) comprises an extension of the approved construction hours, in order to permit limited construction works between midnight and 6.00am, from Monday to Saturday. The proposed conditions have also been modified in order to enable the delivery of materials to the site during the night time period.

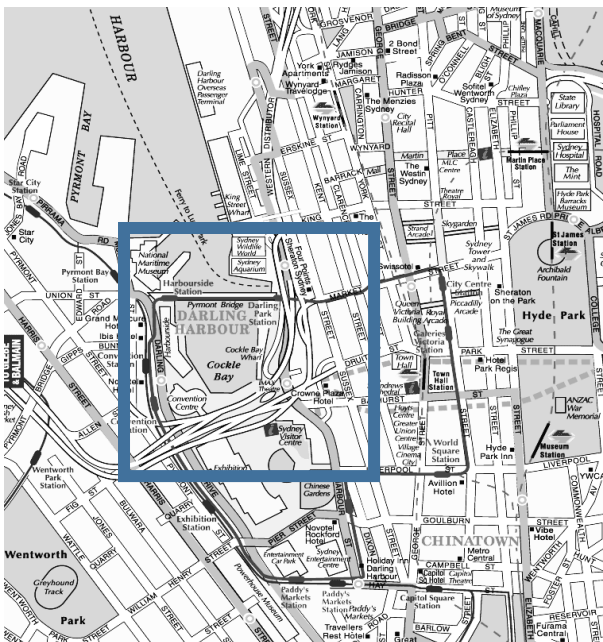
Grocon has prepared this updated response to further justify this application with specific regards to the infrastructure asset owners and broader community benefits derived from completing the works in the most time-efficient manner practicable and therefore enabling a faster overall completion of the development.

Assets within the zone of influence of The Ribbon project include:

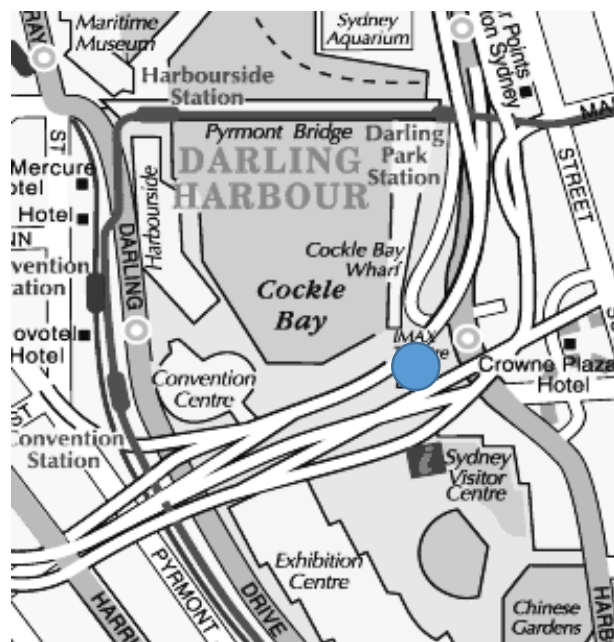
- RMS Assets
- Ausgrid Assets
- Cross City Tunnel (CCT) Assets
- Sydney Water Assets
- Property New South Wales (PNSW) Assets

Whilst reasonable mitigating measures will be considered and implemented the risk of adverse impacts upon these public infrastructure assets during Grocon's construction activities remains.

The ability of Grocon to utilise MOD 7 Extended Working Hours – with appropriate controls – will mitigate risk and better sustain the operation of infrastructure assets – a broad community benefit and is a strong justification for works outside of the standard hours, and those previously approved under MOD 4.



Location Plan



Location Plan illustrating overlay of RMS & PNSW Assets

Context

Infrastructure Assets

The Ribbon project is located within the Darling Harbour precinct directly adjacent to the western edge of the Sydney CBD.

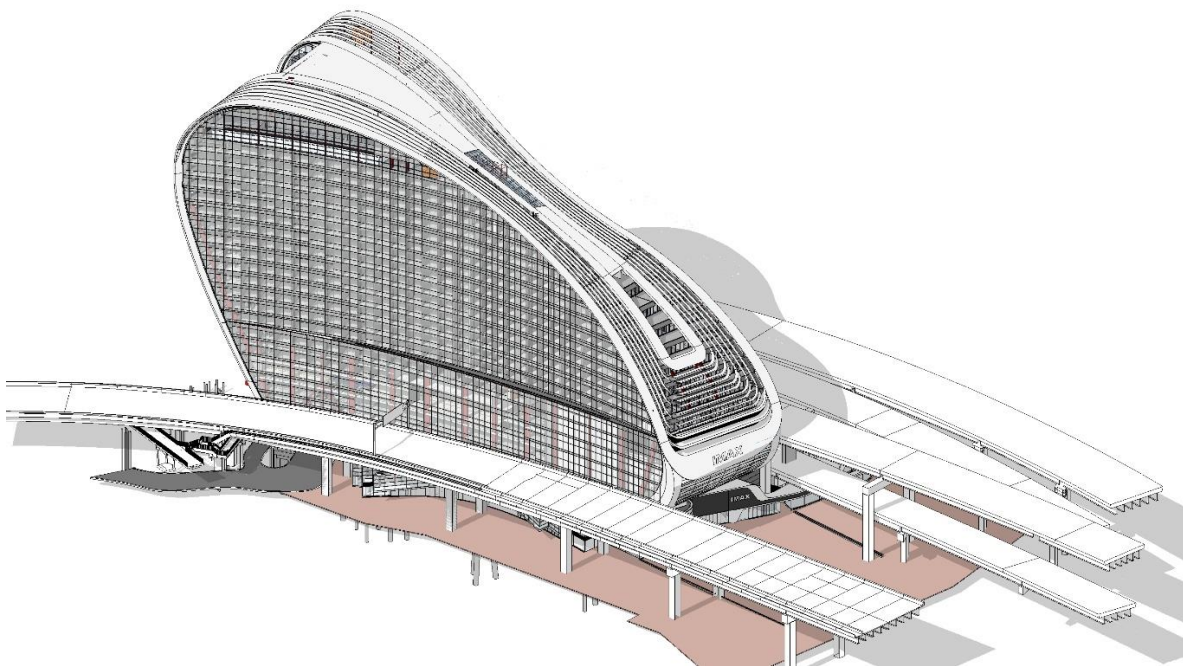
The site is bounded by, is adjacent to or affects significant infrastructure assets including:

- **RMS Assets**

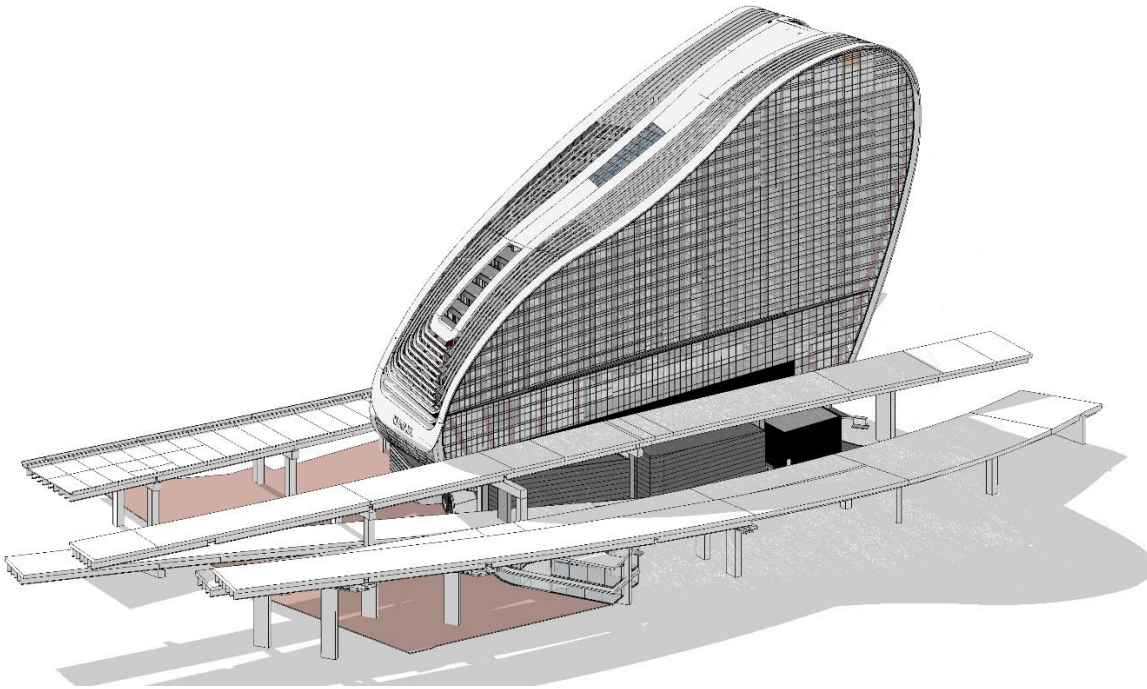
- The multi-laned, elevated components of the Western Distributor road network within 2 metres of the Northern and Southern elevations of The Ribbon with traffic volumes of 80,000vpd north of site and 110,000vpd west of site* (2016 volumes - source <http://www.rms.nsw.gov.au/about/corporate-publications/statistics/traffic-volumes/aadt-map>)

* Only eastbound provided (54,000vpd), doubled for two-way

- The multi-laned, on-grade Harbour Street to the East elevations of The Ribbon (the building cantilevers over part of this roadway) with traffic volumes of 26,000vpd (TfNSW email advice)
- Grocon has entered into a Works Access Deed (WAD) relative to working adjacent to these assets with obligations to mitigate risks that its works “*may potentially adversely affect the use and operation of the RMS Assets:*”



Aerial CGI view from Northwest



Aerial CGI view from Northwest

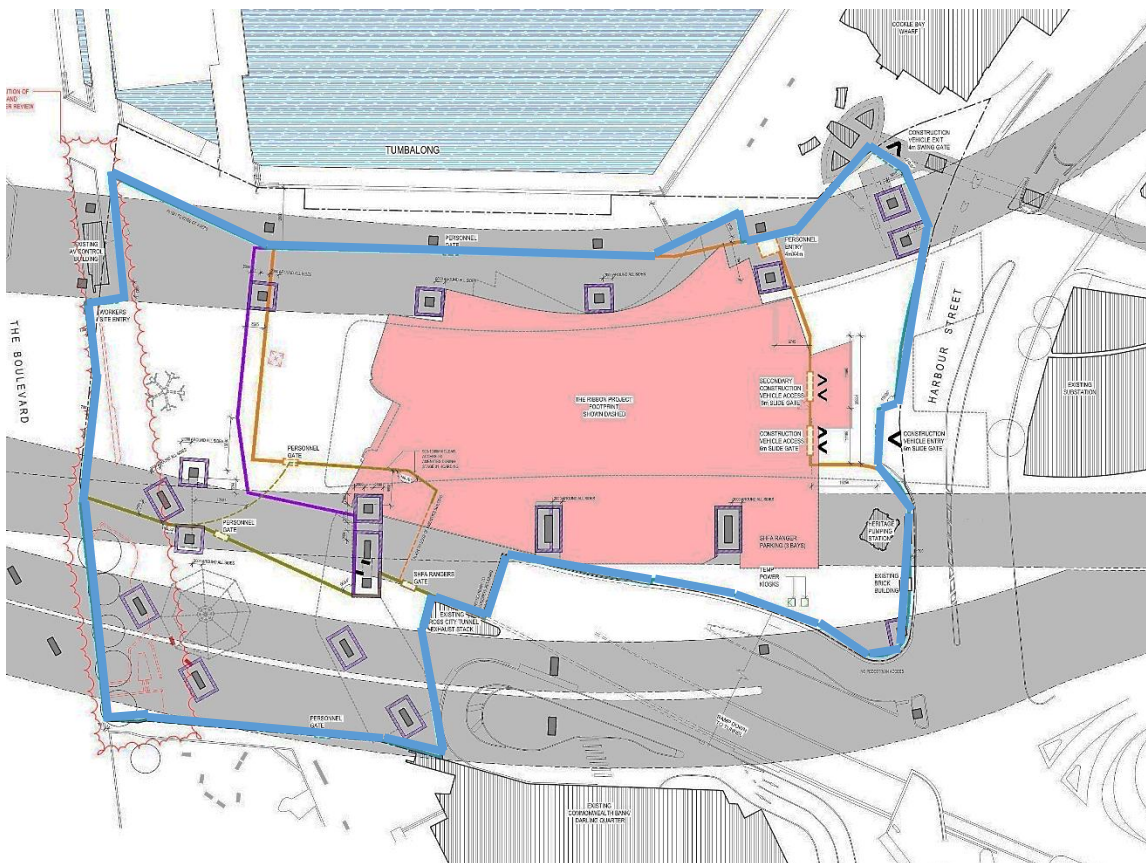
- **RMS Assets**
- **Ausgrid Assets**
 - City Central zone sub-station to the East of The Ribbon
 - Vault-0 substation to south of site
 - 11kV (+900 retail connected customers in CBD) and 33kV (serving Barangaroo) multi-cable ductwork pathways directly adjacent to and beneath elevations of The Ribbon
 - Ausgrid fibre communications and monitoring network
- **Cross City Tunnel (CCT) Assets**
 - Entry/exit portals and exhaust stacks to the East and South of The Ribbon with traffic volumes of 150,000 per year - TransUrban Historical Data FY17 <https://www.transurban.com/content/dam/investor-centre/excel/HistoricalData-FY17.xlsx>
- **Sydney Water Assets**
 - The Hay Lackey stormwater culvert (directly beneath The Ribbon)
 - 2 x 225mm diam. and 1 x 525mm diam. Sewer and 2 x 150mm diam. water mains (under the forecourt and eastern structure of The Ribbon)
 - 4 x channels for the Southern Outfall stormwater discharge (under the western public domain and eastern structure of The Ribbon)
 - 18m high sewer vents

- **Property New South Wales (PNSW) Assets**

- The Ribbon sits within and impacts upon the daily operation of the public domain assets of Darling Harbour (operated by Place Management NSW – PMNSW)
- Darling Harbour attracts 2.3m international and 1.9m domestic visitors (YE Dec 2016) - Darling Harbour visitors account for almost a third (33%) of total overnight visitors to Sydney Tourism Region

http://www.destinationnsw.com.au/wp-content/uploads/2013/01/Darling_Harbour_Visitor_Profile_YEDec_2016.pdf

- During construction:
 - Significant portions of the southern boardwalk will be constrained by hoardings and subject to construction noise during Normal Working Hours impacting amenity for tourist activities and southern
 - Southern connections between the site and the ICC towards Tumbalong Park will be constrained impacting amenity for tourist activities
 - Due to the available site area the Grocon works compound will significantly constrain the public domain to the west limiting capacity for major public events



Plan showing extent of permanent building (red) and construction zone impact on Darling Harbour precinct (blue)

Whilst reasonable mitigating measures will be considered and implemented the risk of adverse impacts upon these public infrastructure assets during Grocon’s construction activities remains.

The majority of these public assets have peak utilisation periods outside of which the potential risks may be significantly reduced. Therefore, the ability of Grocon to utilise the proposed MOD 7 Extended Working Hours – with appropriate controls – will mitigate risk and better sustain the operation of infrastructure assets – a broad community benefit. Grocon believes that risk mitigation is a strong justification for works outside of the standard hours, and those previously approved under MOD 4. Notwithstanding Grocon will apply all feasible and reasonable work practices to meet the noise criteria.

Site Context

Background Noise

The site location exposes it to significant background noise generation sources. Significantly the Western Distributor and associated road network carries high volumes of traffic during all times of the day and night. Acoustic Logic has established the background noise against which any assessment of construction generated noise is undertaken and assessed that the activities proposed (and the time periods) will not exceed recommended criteria

Steps in assessing noise

Acoustic Logic has, in preparing its analysis included:

- identification of nearby residences and other sensitive land uses
- description of approved hours of work and what work will be undertaken
- description of what work practices will be applied to minimise noise

Feasible

Grocon and Acoustic Logic have workshopped appropriate work practice or abatement measures to ensure that engineered all possible & practicable treatments and management controls are adopted including control of source activity noise, noise path control and/or management techniques.

Reasonable

Grocon and Acoustic Logic have workshopped appropriate reasonable measures making a judgment on overall noise benefits and adverse effect in establishing work practices for Normal, MOD 4 approved Working Hours and proposed MOD 7 Extended Working Hours:

- Noise level impacts
- Possible & practicable mitigations
- Cost effectiveness of noise mitigation
- Community views and consultation

Noise management plan

Acoustic Logic prepared a Noise Management Plan (as required under DA condition B5 for project approval SSWD 7388) and submitted to the project Principal Certifying Authority (PCA) as part for the first Construction certificate (CC). This will be amended to capture reasonable alternative work methods to minimise noise impacts should MOD 7 Extended Working Hours be applied.

Work Practices & Management Controls

Acoustic Logic has worked with Grocon on selecting work practices to minimise noise impacts to identified sensitive land uses to:

- Identify work practices likely to be major contributors to noise
- Select feasible and reasonable work practices relevant to the project
- Apply applicable universal work practices

Management Controls

Acoustic Logic has identified specific activities that it recommends are prohibited in order to mitigate risk of noise exceedance and resultant complaints. A register will be maintained and kept available on site should be kept on site.

- Construction activities conducted during extended hours are to exclude any hydraulic/pneumatic hammering, rock/concrete sawing or angle grinding.
- The proposed conditions have also been modified in order to enable the delivery of materials to the site during the night time period between midnight and 6am to minimise conflicting traffic flows.
- No radios (cars or otherwise) are to be played external to the building envelope
- Timeframes for activities to be undertaken

Further controls to be applied shall include:

Work Practices during Normal Working Hours

- Regularly train workers and contractors to use equipment in ways to minimise noise
- Ensure site managers address any noise problems that arise so that solutions can be quickly applied
- Include in project documentation clauses that require minimisation of noise and compliance with directions to minimise noise
- Avoid the overuse of public address systems
- Avoid shouting, and minimise talking loudly and slamming vehicle doors
- Keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practices
- Develop a one-page summary of approval or consent conditions that relate to relevant work practices, and pin it to a noticeboard so that all site operators can quickly reference noise information.
- Workers may at times need to discuss or negotiate practices with their managers.

Additional work practices outside Normal Working Hours

- Avoid the use of equipment which generates impulsive noise
- Minimise the need for reversing or movement alarms
- Avoid dropping materials from a height
- Avoid metal-to-metal contact on equipment
- Schedule truck movements to avoid residential streets if possible
- Avoid mobile plant clustering near sensitive land uses
- Ensure, where practicable, periods of respite are provided in the case of unavoidable maximum noise level events.

Consultation and notification

The original DA application (SSD7388) was publically exhibited by the Department of Planning & Environment - this offered stakeholders the opportunity to raise concerns regarding the proposal. Grocon was required to adequately consult and respond to matters raised.

The subsequent MOD 4 was referred by the Department of Planning & Environment to relevant authorities including the EPA, Sydney City Council and publicly exhibited.

This MOD 7 application for Extended Working Hours will similarly be notified through the Department of Planning processes and Grocon is obligated to adequately respond to submissions received.

Notification before and during construction

- Grocon is required under DA Conditions to provide notification of construction commencement to the Principal Certifying Authority (PCA) and Council. Site works commenced with the demolition of the existing IMAX building in October 2016.
- The PCA is provided periodically with programmed activities and all works activities are planned and undertaken in compliance with the Noise Management Plan
- As required by DA conditions a site information board has been installed at the front of the site with the name of the organisation responsible for the site and their contact details, hours of operation and regular information updates. This signage is clearly visible from the outside and include after-hours emergency contact details.
- Grocon established a project website in 2016 which is updated regularly to ensure that the public and stakeholders are kept up to date with all activities (See <http://theribbon.com.au/>). This includes information regarding the following aspects:
 - Overview
 - Timeline
 - Updates

- FAQ
- Contact Details
- The FAQ includes sections regarding the following aspects:
 - General – what is the project, benefits, works start & completion
 - Overview – what does the project involve, construction hours, construction traffic access and communication of construction milestone activities
 - Contact details – 24/7 construction hotline (1800 923 984) and contact email address (information@theribbon.com.au)
 - Traffic & Transport
 - Environmental measures
 - Sustainability
 - Wheat Road access changes

Complaints handling

- A 24 hour toll-free information and complaints line has been provided (1800 923 984)
- Grocon is also committed to:
 - Giving all complaints a fair hearing
 - Maintaining a documented complaints process
 - Providing a complaints escalation procedure
 - Calling back as soon as possible to inform complainants of actions being undertaken including outside of normal hours if requested
 - Providing prompt response to complaints by appropriately knowledgeable staff
 - Implementing all feasible and reasonable measures to address the source of complaint
 - Maintaining a detailed register of any complaints, responses and resolutions

Plant and equipment

Relative to the controls imposed under the current DA SSD7388 for Normal Working Hours Grocon has considered the selection of plant and working methods such that all works activities are planned and undertaken in compliance with the Acoustic Logic Noise Management Plan.

Relative to the proposed MOD 7 Extended Working Hours Grocon has considered the selection of plant and working methods proposed in the development of the defined a prohibitions on certain site activities together with additional controls (see **Work Practices** above).

Grocon will actively monitor equipment utilisation to ensure:

- Plant operation is undertaken in a quiet and efficient manner
- Inspection and maintenance of equipment in good working order at all times
- Minimisation of noise generation due to any form of deficiency

On site

The available working area of The Ribbon site is extremely limited due to existing site constraints (Western Distributors, Harbour Street, Convention Centre, Public Domain access to/from Tumbalong Park, Darling Harbour promenade etc.) therefore Grocon is extremely limited in its ability to implement mitigating strategies such as:

- Acoustic barriers
- Location of plant
- Restriction on operational areas for mobile plant
- Site vehicle entrances – limited to Harbour Street
- Noisy fabrication work will generally off-site
- Alternatives to reversing alarms (avoid reversing)
- Maximise shielding
- Reuse existing structures
- Use full enclosures for control noise from night-time work

- Use temporary site buildings and materials stockpiles as noise barriers
- Use natural landform as a noise barrier

Work scheduling

Grocon has proposed prohibition in its works activities during the proposed Extended Working Hours to reduce potential noise impact

Grocon has and will continue to schedule work activities to minimise noise impacts by:

- Organising work to be undertaken during Normal Working Hours where feasible
- Schedule work to avoid times when there are special events – this is a key stakeholder issue with PMNSW at Darling Harbour
- MOD 7 Extended Working Hours proposed excluded Sundays or public holidays
- Care will be taken to minimise noise from any refuelling at night (refuelling is generally limited to mobile plant as cranes and hoists are electric)

Deliveries and access

- Off-site truck parking areas have been identified, away from residences, for trucks arriving ahead of scheduled on-site delivery times
- Amalgamated loads will be utilised where feasible to optimise vehicle movements
- Access routes to site have been designated to avoid residential areas
- No on-site parking is provided
- Deliveries, where feasible, will be scheduled to nominated hours only

Transmission path

Due to the proximity of the RMS road network assets and other site constraints Grocon is unable to utilise physical methods to reduce the transmission of noise between the construction works and sensitive land uses. However, the activity prohibitions and management controls proposed ensure that generated construction noise does not exceed appropriate criteria. It should be noted that the site perimeter is enclosed by a temporary plywood hoarding and there are no high-rise dwellings adjoining the construction site.

Temporary relocation and architectural treatments

The proposed works activities prohibitions and management controls maintain construction noise within appropriate limits such that is unnecessary to relocate any residents within the catchment area or apply acoustic treatments.

Proposed Amended DA Condition D2

(A2) The applicant shall carry out the project generally in accordance with the:

h) Section 4.55(2) modification application (SSD7388 MOD 7), prepared by Ethos Urban and dated 5 March 2018.

(D1) All work, including demolition, excavation and building work, and activities in the vicinity of the site generating noise associated with preparation for the commencement of work (eg. loading and unloading of goods, transferring of tools, etc) in connection with the proposed development must only be carried out:

vi) works are carried out during the period of 12 midnight and 6:00am, Monday to Saturday ('the further extended hours of construction') subject to the requirements of Condition D1C.

(D1B) If investigation of complaint(s), through appropriate noise testing, establishes that offensive noise has occurred or works have been carried out during the extended construction hours outlined in Condition D1(d)(v) or Condition D1(d)(vi) in breach of the conditions of approval, and the complaint is justified, then the Department may require by notice to the Applicant, owner or developer, that the construction hours be restricted or revert to the approved construction hours of the original consent.

(D1C) During the further extended hours of construction outlined in Condition D1(d)(vi), the following requirements must be met:

a) works shall be undertaken in accordance with the Acoustic Assessment prepared by Acoustic Logic, titled Extended Hours Construction Noise Assessment (midnight to 6am) and dated 23 November 2017

b) construction works shall exclude the use of high noise generating appliances, including the following tools:

i) hydraulic hammers

ii) piling

iii) rock sawing

iv) use of earth moving equipment

v) any other tools that generate a noise level equal to, or louder than, any of the above listed tools

c) all workers are to be appraised of the following requirements, and the builder is to ensure the following practices are adhered to:

i) access to the site during the extended hours is restricted to the site personnel, or deliveries / waste removal specific to the development only

ii) workers entering the site during the extended hours are to take care not to speak in raised voices, talk on mobile phones, use any radio including car radio, cause noise disturbance through the transportation of tools or other activity

d) all construction works shall be carried out in accordance with the requirements of Conditions C5, C6, D20 to D25