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REVIEW OF ACOUSTIC PLANNING ISSUES
SYDNEY METRO NORTHWEST
RAPID TRANSIT RAIL FACILITY

Atkins Acoustics was engaged by Tony and Vilma Concato to review acoustic planning matters with respect to land zoning proposed in the vicinity of the Sydney Metro Northwest Rapid Transit Rail Facility (RTRF). Specifically land located to the north and east of the proposed RTRF and the property identified as 87 Tallawong Road (Concato). We were advised that the property identified as 87 Tallawong Road has been identified by NSW Department of Planning & Infrastructure for zoning to accommodate 'playing fields' and provide a 'noise buffer' for noise emitted from the RTRF.

Referring to the Transport NSW the RTRF site is approximately 36 hectares in area and bound by Tallawong Road, Schofields Road, First Ponds Crook and Oak Street. Trains would be stored in the stabling facility outside peak periods, between the last service and first service the next day. The stabling area would accommodate upto 20 trains and operate 24 hours per day, 7 days a week.

The property identified as 87 Tallawong Road is located approximately 200m to the north of the RTRF and zoned for 'playing fields'. The playing fields shown on the Department of Planning Indicative Land Planning Map (ILP) are identified with marked fields for 'active playing areas'. Land located between the 'Playing Fields' and the RTRF is shown as 'Local Park'. Land immediate to the east and north of the RTRF is zoned for residential use. It is noted that these residential areas are located closer to the RTRF than the property at 87 Tallawong Road. In acoustic terms, if noise impacts from the RTRF are controlled to satisfy the NSW Industrial Noise Policy (INP) noise criteria for the immediate residential properties to the east and north, noise at 87 Tallawong Road would be controlled to satisfy the same noise requirements.

We now focus on two (2) reports prepared to support the RTRF, EIS and Riverstone East Precinct Land Rezoning.

- North West Rail Link Rapid Transit Rail Facility -Noise Assessment - SLR Consulting Australia Pty Ltd dated 20 June 2013.
- Riverstone East Precinct Noise and Odour Assessment - Renzo Tonin and Associates dated 24 March 2015

Further information relating to the RTRF is found on the Transport NSW web site at - Sydney Metro Northwest.

To assist with understanding the RTRF proposal *Figures 1-3* provide an indicative site layout and northern perspective views.

Figure 1. Indicative RTRF Site Layout



Figure 2. Indicative RTRF Perspective (North View Point)



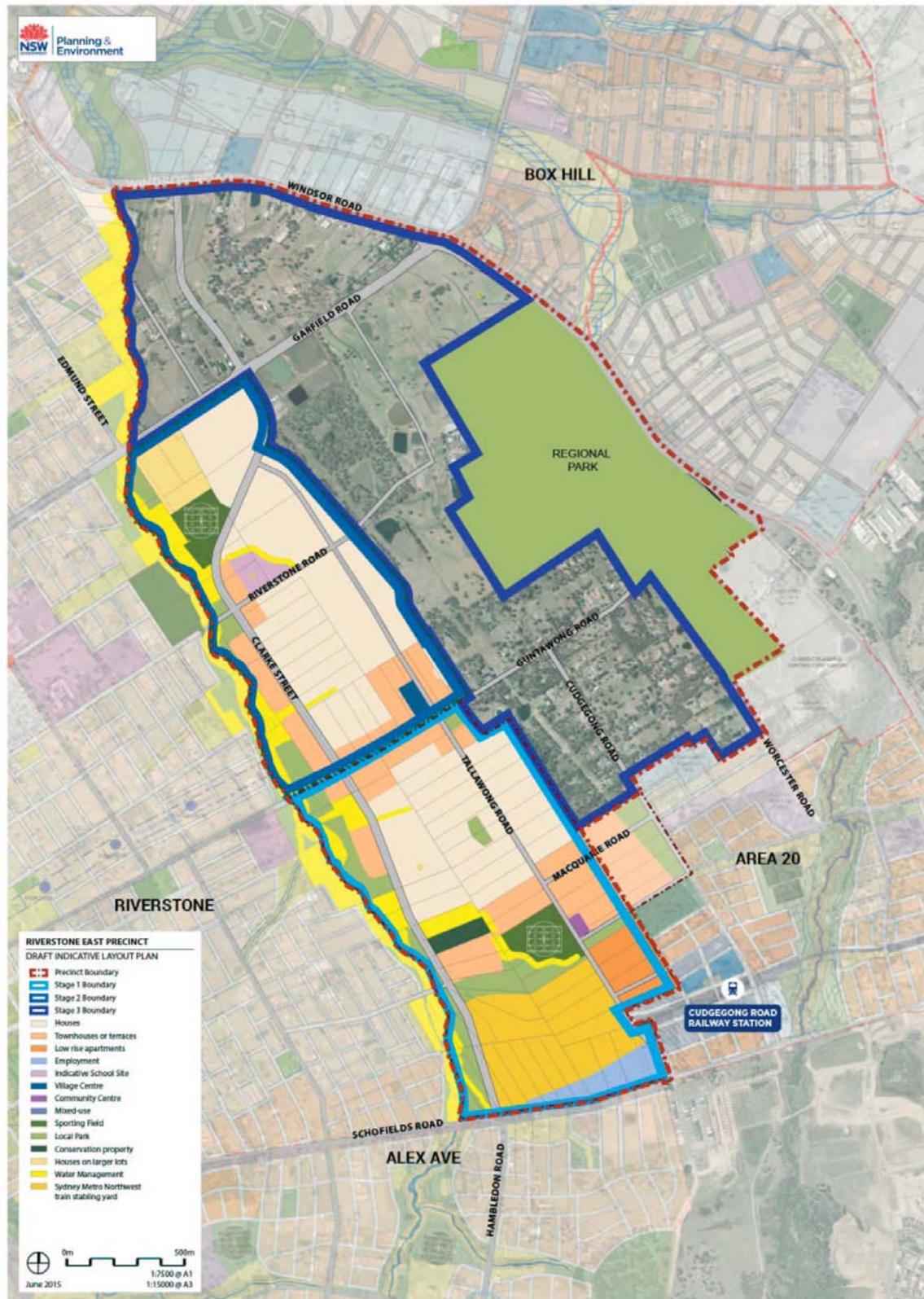
Figure 3. Indicative RTRF Perspective (North-West View Point)



Referring to the Executive Summary of the SLR Noise Assessment 'Operation Noise', the RTRF is considered to be a fixed facility and noise impacts are assessed in accordance with the NSW 'Industrial Noise Policy'. The SLR identifies that future land use surrounding the proposed RTRF was still being determined at the time of preparing the report and recommended that immediate area boarding the RTRF is re-zoned for commercial or light industrial use. This would provide a buffer (and noise shielding) between the RTRF, residential or other sensitive land uses.

The Renzo Tonin Report dated 24 March 2015 (Tonin) was prepared to address noise impacts referenced to an Indicative Layout Plan (ILP) for the Riverstone East Precinct. It is reported that the ILP was prepared with consideration of the potential noise impacts resulting from the proposed land use changes. *Figure 4* provides a copy of the ILP. Tonin reports that the aim of the noise assessment was to identify any potential constraints on future development resulting from existing land uses and surrounding the Precinct, as well as provide recommendations and controls for future development. It is reported that the noise assessment was carried out in accordance with relevant NSW EPA policies and referenced standards including consideration of vibration. Tonin reports that where relevant, guidance is provided with regard to necessary controls including buffer distances, physical mitigation measures or suitable adjacent land uses.

Figure 4. Indicative Land Planning Map for Riverstone East



Tonin (Section 3) refers to the latest ILP (Figure 4) and reports that it has resulted in a reduction of potential land use conflicts, in particular through effective use of open

space buffers and reduction of residential development interfacing with noise sources. Tonin further reports that where conflicts cannot be overcome through reconfiguration of land uses, other noise mitigation measures may be considered during the detailed planning stages of the specific development, such as lot configuration, hours of operation and physical noise controls.

With respect to the RTRF, Tonin presents a summary of findings and recommendations;

- in line with the recommendations of the EIS, zoning immediate surrounding the RTRF should consider less noise sensitive development such as commercial and light industrial zones; *NSW DoP has not adopted this recommendation in the ILP.*
- land to the south of the RTRF is zoned as a business park;
- land to the north and north-east does include residential development; *NSW DoP has in part adopted this recommendation in the ILP*
- it is noted that Conditions of Approval for the RTRF requires that all future land uses be considered in the assessment of operational noise from the fixed facilities; *Specific Noise Criteria is not referenced in Tonin or the specific residential land uses identified for its application.*
- notwithstanding, Tonin recommends that consultation occur between the NSW DoP and NWRL consortium in order to establish the extent of noise emission from the RTRF following implementation of all reasonable and feasible mitigation measures; *This is open ended and of no assistance for the future residential land developers, and*
- that it may be appropriate to require residential development constructed in proximity to the RTRF to consider implementation of acoustic design measures so as to minimise potential adverse impacts. *This also is open ended and of no assistance for the future residential land developers.*

With respect to the Concato property (87 Tallawong) if it is appropriate to require other residential development in close proximity to the RTRF to consider the implementation of acoustic design measures so as to minimise potential noise impacts, it is then appropriate for the same option to be applied to 87 Tallawong Road.

A review of the ILP identifies that the land immediate to the north of the RTRF is zoned 'local park', land further to the north is zoned 'sporting fields' and 'low rise apartment', the land to the east 'town houses and terraces'. From an acoustic view point, if noise impacts from the RTRF are to satisfy INP criteria for residential use at the 'town house and terraces' to the north and 'low rise apartments' to the east, noise at the Concato property (87 Tallawood Road) would satisfy the INP noise criteria for residential use, as it is located further away.

Table 1 provides a summary of the reference off-set distances from the RTRF to the boundaries of the closer properties and 87 Tallawong Road. The off-set distance shown in *Table 1* confirms that the Concato property (87 Tallawong Road) is set back further from the RTNF compared to the townhouses and terrances (north) and low rise apartments (east) and is not reliant on the offset distance to provide an 'acoustic buffer zone' referenced to the rail facility. In terms of distance attenuation ($20 \log r$) reference to a point noise source at the RTNF boundary, the predicted level at the southern

boundary of Concato (87 Tallawong) is 16dB lower than the land zoned for low rise apartments (east) and 6dB lower than the land zoned for townhouses or terraces (north).

Table 1. Summary of Off-set Distances and Noise Attenuation

RTRF Noise Source Location	Townhouses or Terraces (north) (m)	Concato 87 Tallawong Rd (north) (m)	Low Rise Apartments (east) (m)
Boundary	100 (40dB)	200 (46dB)	30 (30dB)
Centre RTRF	375	450	310

() predicted noise attenuation from RTNF boundary

In addition to acoustic planning issues in our opinion no consideration has been given to noise impacts from the proposed 'sporting field' (*Figure 4*). A responsible planning issue that should be addressed is the envisaged activities, number of participants, number of spectators (supporter), hours of use, parking arrangement, etc and associated noise impacts.

From our investigations and review of the ILP, if land zoned for residential use is located closer to the RTRF than the property at 87 Tallawong Road, and noise at these properties is controlled to satisfy the requirements of the NSW INP, the land at 87 Tallawong Road is not required to provide a 'noise buffer zone' for nearby residential development and it would be suitable for residential development.

Please do not hesitate to contact our office if further information or clarification is required.

Yours sincerely,

ATKINS ACOUSTICS & ASSOCIATES PTY LTD.



Graham Atkins