

TWEED VALLEY HOSPITAL – MAIN WORKS CONSTRUCTION NOISE & VIBRATION MANAGEMENT SUB PLAN

7/09/2020 | Revision No: 4.0



Sub- Plan Revision Status				
Date	Revision (in numbers)	Purpose and Summary of Amendments	Reviewed by	Approved by
30/11/16	2	General update including LLB GMR and legislative amendments.	Tracey Wallbridge	Brian Falls
09/07/2019	2.1	Project Specific – Preliminary	Luis Biaggini	Luis Biaggini
12/07/2019	2.2	SSD Requirements Added	AW	Luis Biaggini
05/09/2019	2.3	Updated Introduction	AW	Luis Biaggini
14/08/2020	3.0	Updated to include new SSD 10353 Conditions	Monique Windley	Geoff Barrow
7/09/2020	4.0	Updated to Include Client Feedback	Monique Windley	Geoff Barrow

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1. OVERVIEW

The Tweed Valley Hospital Project broadly consists of:

- Construction of a new Level 5 major regional referral hospital to provide the health services required to meet the needs of the growing population of the Tweed-Byron region (in conjunction with the other hospitals and community health facilities across the region);
- Delivery of the supporting infrastructure required for the Tweed Valley Hospital, including green space and other amenities, roads and car parking, external road upgrades and connections, utilities connections, and other supporting infrastructure.

1.1.1 Stage 2 Hospital Main Works and Operation

The Stage 2 SSD component is for the Main Works and Operation of the Tweed Valley Hospital, including:

- **Construction of Main Hospital Building**
 - Main entry and retail area
 - Administration
 - Community health
 - In-Patient units
 - Outpatient clinics and day only units
 - Child and Adolescent Services
 - Intensive Care Unit
 - Mental Health Unit
 - Maternity Unit and Birthing Suites
 - Renal Dialysis
 - Pathology
 - Pharmacy
 - Radiation Oncology as part of integrated Cancer Care
 - Emergency Department
 - Perioperative Services
 - Interventional Cardiology
 - Medical Imaging
 - Mortuary
 - Education, Training, Research
- Back of House services
- Rooftop Helipad
- **Construction of Support Buildings, referred to as the ‘Health Hub’, containing:**
 - Oral Health
 - Community Health
 - Aboriginal Health
 - Administration
 - Education, Training and Research
- **Internal Roads and carparking, including multi-deck parking for staff, patients and visitors;**
- **Construction of a temporary building for the ‘Tweed Valley Skills Centre’**
- **External road infrastructure upgrades and main site access**
- **Environmental and wetland rehabilitation, including rehabilitation of existing farm dam as outlined in the Biodiversity Development Assessment Report (BDAR) prepared for the Concept Proposal and Stage 1 works**
- **Site landscaping**
- **Signage**
- **Utility and service works**

The works outlined above comprise five key components, which are subject to various funding allocations and may be delivered independently to each other. Stage 2 has therefore been defined in the following sub-stages:

Stage 2A – Main Hospital Building complete with supporting roads, services infrastructure and landscaping

Stage 2B – Main Hospital Building incremental expansion areas

Stage 2C – Health Hub

Stage 2D – Tweed Valley Skills Centre

Stage 2E – Multi-deck car park.

Refer to the Staging Report for details of staging.

2. SSD REQUIREMENTS

State Significant Development Conditions	
Name of this Plan (as per SSD Conditions): Construction Noise and Vibration Management Sub-Plan (CNVMSP)	
B16. The Construction Noise and Vibration Management Sub-Plan (CNVMSP) must address, but not be limited to, the following:	
(a) be prepared by a suitably qualified and experienced noise expert;	Refer to Section 3: Scope of Project and Sub plan, Item: Preparation of Sub Plan
(b) provide details of construction noise management procedures within the Site, Cudgen Road signalised intersection and the Tweed Coast Road / Cudgen Road intersection upgrade site;	<p>As per the Staging Report developed in response to Condition A11, this plan has only been developed to cover activities falling under the first stage of the Main Works Scope.</p> <p>There is no external roadworks being performed under this first stage, and as such a subsequent revision of this plan will be developed to capture the mitigation measures required for those works. This will be once a subcontractor is re engaged to control and managed noise and vibration generating activities. Details of other mitigation measures are listed in 'Section 3: Implementation of the Sub Plan'.</p>
(c) provide details of all the residential and non-residential receivers in Catchments A, B and C, the Kingscliff TAFE and Kingscliff High School as identified in the Noise and Vibration Impact Assessment for SSDA Tweed Valley Hospital Stage 2' by JHA dated 19 September 2019;	<p>Refer to Section 2: Scope of Project and Sub Plan</p> <p>Subheading: Key Issues and Risks</p>
(d) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) and the relevant provisions of Australian Standard 2436 - 2010 Guide to Noise Control on Construction and Maintenance and Sites, at all identified receivers;	Refer to Section 3: Implementation of the Sub Plan
(e) incorporate all reasonable and feasible noise mitigation measures and construction methods (where feasible) during the proposed construction works so that the project specific construction noise management levels (NMLs) at all the identified receivers (B16(c)), for standard construction hours (airborne) as identified in Section 6.5.2 of the Noise and Vibration Impact Assessment for SSDA Tweed Valley Hospital Stage 2' by JHA dated 19 September 2019, be maintained;	Refer to Section 3: Implementation of the Sub Plan
(f) identify the construction activities (including works within the Tweed Coast Road / Cudgen Road intersection upgrade site) with the associated predicted construction noise levels, that would exceed the NMLs and reach or exceed the Highly Affected Noise Level of 75dB(A) LAeq(15min), at the identified the residential and non-residential receivers in Catchments A / B / C, Kingscliff TAFE and Kingscliff High School;	Refer to Appendix C: Typical Noise Levels of Major Plant and Instances where receptors will experience noise greater than 75dB
(g) describe the management and mitigation measures to be implemented when the predicted construction noise levels for the above construction activities (exceed 5dB(A)	Refer to Section 2 and 3.

<p>LAeq(15min) at the residential and non-residential receivers in Catchments A / B / C, Kingscliff TAFE and Kingscliff High School, including (but not limited to):</p> <ul style="list-style-type: none"> i. proposing suitable location of the noise generating equipment so that the predicted construction noise levels at the residential and non-residential receivers in Catchments A / B / C can be lowered; ii. intra-day respite periods (such as one hour of respite every three hours or exclusion of such works on the Saturdays); iii. scheduling of the noisy activities outside the sensitive times of the day and specific periods of the year; iv. equipment-specific temporary screening for noisy equipment or use of noise control measures in AS-2436; and v. use of noise shields where feasible; 	
<p>(h) include details of noise monitoring procedures and the location of the loggers on the eastern and southern boundaries of the Site, and at the Tweed Coast / Cudgen Road intersection, facing the sensitive receiving catchments, to record the noise levels generated by the construction activities, and to ensure that appropriate notification occurs in the event that the construction noise level exceeds 75dB(A) LAeq(15min) at a receiver, so that mitigation measures can be incorporated on the Site at that time;</p>	<p>Refer to Appendix B: Location of Noise and Vibration Monitors</p> <p>The site plan does not reflect the location of monitoring equipment for Tweed Coast & Cudgen Road intersection as this plan has only been developed for the Stage 1 scope in line with the staging report. Prior to commencement of the stage containing the road works the site plan showing receiver placement will be updated to reflect the new locations. This will follow consultation with the subcontractors performing the scope to once methodologies are understood to implement better mitigations measures.</p>
<p>(i) provide details of the surveys of each of the key vibration generating activity / equipment and the predicted vibration levels of the equipment;</p>	<p>Refer to Section 3: Implementation of the Sub Plan and, Refer to Appendix G: Expected Vibration Levels at Receivers (Extracted from Acoustic Report)</p>
<p>(j) include details of vibration monitoring techniques to be implemented when vibration levels exceed the prescribed criteria identified in the Noise and Vibration Impact Assessment for SSDA Tweed Valley Hospital Stage 2' by JHA dated 19 September 2019;</p>	<p>Refer to Section 2: Scope of Project and Sub Plan Subheading: Summary of Site Controls</p>
<p>(k) include strategies that have been developed with the community (specifically residents in Catchments A and B), Kingscliff TAFE and Kingscliff High School for managing high noise and vibration generating works, especially during the Tweed Coast Road / Cudgen Road intersection upgrade works;</p>	<p>To be updated after consultation with community (specifically residents in Catchments A and B), Kingscliff TAFE and Kingscliff High School.</p>
<p>(l) describe the community consultation undertaken to develop the strategies in condition B16(g); and</p>	<p>Refer to the Community Consultation Management Plan.</p>
<p>(m) include details of a complaints management system that would be implemented for the duration of the construction.</p>	<p>Refer to the Community Consultation Management Plan.</p>
<p>B25: Environmental Management Plan Requirements - Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</p>	

(a) detailed baseline data;	Location of Data: Noise and Vibration Impact Assessment for State Significant Development (SSD) - Appendix B Prepared By: Acoustic Studios
(b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	i) Refer to Section 2: Scope of Project and Sub Plan. Subheading: Legislation, Approval and Guidelines ii) Refer to Appendix E: Project Specific Noise Management Levels iii) Monitoring Data from Noise and Vibration Monitors and 3 nominated location in Appendix B: Location of Noise and Vibration Monitors
(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Refer to Section 3: Implementation of the Sub Plan
(d) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (c) above.	Plan to be prepared by subcontractor which will set out frequency of reports. Monitoring data is to be recorded for all construction working hours.
(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	1. Stop noise generating work 2. Implement Respite Periods 3. Incorporate Additional Noise and Vibration minimisation measures (i.e. acoustic barriers).
(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Quarterly review of NVMS, review of monitoring data, or as needed depending on work activity.
(g) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and (iv) a protocol for periodic review / update of the incidents or matters of non-compliance.	Refer to Community Consultation Strategy prepared by HI.

3. SCOPE OF PROJECT AND SUB PLAN

Project Details	
Scope of the Sub Plan	<p>This Noise and Vibration Management Sub Plan provides strategies and measures to minimise and control the generation of noise and vibration. It outlines the measures used to ensure that the identification of noise and vibration is managed appropriately during the construction phase, including the site establishment, construction, fit out and commissioning, of a project. It describes measures to be implemented during relevant construction activities, which enables control of the impacts of construction activities on potentially affected receivers, and contingency measures that may be implemented if complaints are received or measured limits exceeded.</p> <p>Refer to Section 1.1 and 3.1 of the Project EHS Management Plan for clarification on how the EHS Sub Plans form part of the Lendlease Building (LLB) EHS management system.</p>
Preparation of Sub Plan	<p>Lendlease Building Australia has a project Environment, Health & Safety Management Plan. This plan forms an integral part of the Lendlease Building Environment, Health and Safety Management System and includes input from the following:</p> <ul style="list-style-type: none"> • Global Minimum Requirements Environment, Health and Safety • Workplace Delivery Code • Legal & Compliance Legislation, Standards and Codes • Impacts & Hazards Risk Assessment Specific to the Workplace <p>One of the sub-plans have this EHS plan is the Noise and Vibration Management Sub Plan (relabelled to satisfy the SSD 10353 requirements to be the 'Construction Noise and Vibration Management and Dust Management Sub-Plan'). This plan has been developed by Lendlease's Environment Manager from our National EHS Team Tracey Wallbridge, and review by Ross Trethewry the Head of Environment, Health & Safety for Lendlease Building Australia.</p> <p>This project has since been refined to be project specific for Tweed Valley Hospital Stage 2 scope, by Monique Windley – Lendlease Building Site Environmental Engineer and reviewed by Senior Site Manager Geoff Barrow to include comments made from JHA's Noise and Vibration Impact Assessment for SSDA Tweed Valley Hospital Stage 2 developed for SSD 10353. This report has also been reviewed by the Acoustic Consultant on the project – refer to Appendix H.</p>
Objectives of the Sub Plan	<ul style="list-style-type: none"> • To achieve compliance with regulatory requirements and standards for noise and vibration management. • To avoid excessive noise and vibration generation through site planning and the adoption of appropriate work methods and site management practices. • To prevent or minimise to the greatest extent, the impact of construction noise and vibration on neighbours and the community. • To establish and maintain positive relationships with project stakeholders.

Project Details	
	<ul style="list-style-type: none"> To establish noise and vibration measures raised in the Biodiversity Management Plan (refer Appendix U of the EIS) to reduce impact on local fauna and flora. Adopt measures recommended in the Noise and Vibration Impact Assessment (refer Appendix O of the EIS).
Scope of Works	<p>This Sub Plan has been prepared based on consideration of the following scope of works:</p> <ul style="list-style-type: none"> Site establishment including ATF, fixed temporary fence and hoarding installation, office and compound setup; Internal Civil Works, including carparks and roads External Civil Works, including the installation of a new site access and widening of Cudgen Road HV Works Monitoring and maintenance of existing Sedimentation Basins; Construction of the multi-level Main Works Stage. This new build will include a new emergency department, helipad, IPU, ICU, MAU, expanded rehab and ambulatory care facilities and operating theatres Landscaping
Key Issues and Risks	<p>The works described above have the potential to generate noise and vibration at levels, or at times, that may affect nearby residents, businesses and other community facilities. The closest sensitive receivers to the site have been identified as:</p> <p>Construction works noise impacts will be greatest at Residential Catchment B and the educational receiver (TAFE) is the next most sensitive / noise impacted receiver. Refer to Appendix A for location of catchment areas and to Appendix C for expected noise levels at these receivers.</p> <p><u>Catchment Area A</u></p> <ul style="list-style-type: none"> Residential (440m from Building Footprint) Educational (560m from Building Footprint) <ul style="list-style-type: none"> Kingscliff High School to the southeast (closest and most affected educational receiver) Kingscliff Library to the northeast Passive Recreation Area - Jack Julius Park (750m from Building Footprint) Commercial including (530m from Building Footprint) <ul style="list-style-type: none"> Kingscliff Community Health Centre Civic Swimming Pool

Project Details

- Life Bridge Australia

Catchment Area B

- Residential (140m from Building Footprint)
- Educational – North Coast TAFE Kingscliff Campus (TAFE) (180m from Building Footprint)
- Agricultural / Commercial (160m from Building Footprint)

Catchment Area C

- Residential (440m from Building Footprint)
- Agricultural (85m from Building Footprint)

The activities with the greatest potential to create noise and/or vibration include:

- The transport of materials to and from site on local roads;
- Servicing of waste management and storage areas;
- The use of hand tools, small generators and compressors;
- Concreting works; and
- Out of hour works

High or prolonged levels of construction noise and vibration can cause annoyance to local receivers and damage to adjacent structures. The main risks associated with the works that will be conducted on this site are identified as:

- Noise affecting residents' use of their property or causing annoyance and resulting in complaints and negative comment;
- Noise disrupting local events, the use of public facilities or educational programs and exams;
- Noise affecting local businesses including cafes with outdoor areas;
- Noise occurring outside of normal or approved construction hours;
- Vibration affecting structures or causing concerns/fright within the community.

A noise/acoustic assessment including background noise monitoring has been prepared for this project. The assessment concluded that:

- Noise associated with the main works activities is expected to have an impact on the surrounding areas and the recommendations of the assessment have been addressed in this Sub Plan;

Project Details	
	The implementation of the control measures identified in the EHS Plan and this Sub Plan are intended to mitigate the risks and any potential impacts of noise and vibration on the environment and local community.
Legislation, Approval and Guidelines	<p>Federal/National:</p> <p>ANZECC Guidelines Technical Basis for Guidelines to minimise Annoyance due to Blasting Over pressure and Ground Vibration</p> <p>Australian Standard AS2436 (1981) Guide to Noise Control on Construction, Maintenance and Demolition Sites</p> <p>Australian Standard AS2601 (1991) Demolition of Structures.</p> <p>AS 1055.1-1997 Acoustics – Description and measurement of environmental noise – General Procedures</p> <p>AS 1055.2-1997 Acoustics – Description and measurement of environmental noise – Application to specific situations</p> <p>State:</p> <p>NSW Environmental Protection Authority (EPA) Noise Policy for Industry (NSW NPI) 2017.</p> <p>NSW EPA Interim Construction Noise Guideline 2009.</p> <p>NSW EPA Assessing Vibration: A Technical Guideline 2006.</p> <p>Local:</p> <p>Local Government Act 1993</p> <p>Lendlease Requirements:</p> <ul style="list-style-type: none"> • 4.13 Degradation or Pollution of the Environment • 4.15 Uncontrolled Release of Stored Energy (non-electrical)) • Lendlease Building Workplace Delivery Code (WDC)
Summary of Site Controls	<p>This Sub Plan must be read in conjunction with the Lendlease GMRs, Project Environmental Impacts and Hazards Assessment (IHRA), the Project EHS Plan, and the Lendlease Building WDC. These documents detail Lendlease's approach and commitment to pro-active and responsible site management.</p> <p>Site specific controls, monitoring, reporting and performance measurements have been identified in this Sub Plan to minimise and where possible prevent, the impacts of construction noise and vibration on the environment and community. These include but are not limited to:</p> <ul style="list-style-type: none"> ○ Performing and monitoring works in accordance with the project approval; ○ Restricting works to approved construction hours;

Project Details	
	<ul style="list-style-type: none"> ○ Assessing the potential impact of works that may be required or extend outside of approved construction hours (e.g. delivery of plant, large concrete pour) and seeking approval; ○ Selecting appropriately sized plant, equipment and tools; ○ Retrofitting plant with noise silencing devices; ○ Substituting noisy processes or plant with less noisy options; ○ Restricting the times and/or duration of noisy works; ○ Communicating with project neighbours on a regular basis and providing advanced notification of noisy works; and ○ Installing acoustic barriers or enclosures where they are deemed to be feasible and effective. <p>Vibration:</p> <p>The project will make all practical efforts to protect vibration sensitive buildings and the amenity of the occupiers of the buildings.</p> <p>The project will apply a practical and economical combination of vibration control measures to manage vibration impacts such as:</p> <ul style="list-style-type: none"> • Substitution by an alternative process • Restricting times when work is carried out • Screening or enclosures • Consultation with affected residents. <p>During leisure hours, vibration disturbance from construction operation must be kept to a minimum.</p> <p>The basis for this vibration management strategy will be to limit the times that certain vibration producing activities may be carried out.</p> <p>Generally, this will be accomplished by performing such work during (nominate daylight or after hours)</p> <p>No construction or demolition works is permitted within 50m vicinity of any heritage listed items or features of cultural significance.</p> <p>Any activities potentially resulting in vibrations should be at greater distances to avoid disturbance of these protected items, feature (nominate particulars) located on the site.</p> <p>Construction stage noise and vibration minimisation and monitoring requirements will be included in relevant specifications, contract agreements, plant supply agreements, quality assurance documents, and subcontractor work method statements.</p> <p>Site inspections, monitoring and reporting will be undertaken by Lendlease and subcontractors as detailed in the following implementation table.</p>
Stakeholder Management	Refer to Community Consultation Management Plan

Project Details	
and Complaints Handling	
Construction Methodology to mitigate Noise and Vibration	<p>During the tender process and scope of works preparation for trade works, mitigation and methodology is to consider and implement, if feasible, activities that will minimise noise and vibration emissions.</p> <p>i.e. rock ripping using large plant</p> <p>Mitigation measures agreed in the tender and confirmed in scope of works are to be included within subcontractor's Safety Plan and SWMS.</p>
Mitigation measures for Noise Generated during Roadworks, Intersection Upgrades and Vehicular Access Points	<ul style="list-style-type: none"> • Maintaining Standard Work Hours • Limiting more intensive works, such as excavator hammering to the least sensitive times of the day (i.e. avoid early morning, early evening where practical) • Including Respite Periods where activities are found to exceed the 75 dB(A) Highly Affected Noise Level at receivers. • Consideration of localised screening or barriers for high noise level / isolated works. • Unnecessary idling of vehicles and equipment is to be avoided. • Adopt quieter methodologies. For example, where possible, use concrete sawing and removal of sections as opposed to jackhammering.

4. IMPLEMENTATION OF THE SUB PLAN

Control Measure	Timing	Methodology	Responsibility	Monitoring and Reporting	Performance Measurement
Planning and Site Establishment					
Undertake dilapidation surveys of nominated properties, utilities and structures.	Completed prior to commencement of early works	Appoint a consultant to undertake dilapidation surveys pre- and post-construction and review findings.	CM/SM	Surveys reviewed and works planned with consideration of the findings (as relevant).	No damage to properties or buildings.
Address noise minimisation, management, plant noise monitoring and maintenance as part of risk assessments and work planning.	Prior to commencing works	WMSs prepared by major subcontractors to identify high noise and vibration generating activities, compliance with approved work hours, the duration of works, and the selection, substitution and use of appropriate plant.	SM	Discussion in planning sessions. Addressed in IHRA and WMS. Inspection of work activities. Noise monitoring results. Complaints.	No complaints from the community. No work outside of hours without approval.
Prepare a Noise and Vibration Impact and Monitoring Environmental Management Diagram (EMD) identifying the location of potentially affected receivers, monitoring locations and work areas where noise will be generated.	Prior to works commencing	Prepare EMD. Plan works with consideration to the location of sensitive receivers. Position noisy plant and equipment away from sensitive receivers and as far apart as practicable. Assess whether altering the orientation and/or location of the plant will reduce noise impacts.	PM/CM	Diagram prepared and communicated.	Sensitive receptors identified so that communication can be maintained.

Include information in the Site Induction about noise and vibration minimisation, management and monitoring.	Prior to works commencing	Revise Lendlease induction package to include site specific risks and information. Deliver induction material.	CM/SM	WMSs prepared by subcontractor's address noise and vibration minimisation, work hours, duration and the selection and use of plant.	Site induction delivered to all workers on site.
Install a noise barrier/hoarding along project boundaries (as feasible).	Prior to works commencing	Identify the location of project neighbours and assess the feasibility and benefits of installing a barriers/hoarding to reduce noise transmission.	CM/SM	Noise monitoring results. Number of complaints.	No complaints. No exceedances of predicted levels.
Design the site entry and internal roads to minimise and regulate truck movements and ensure vehicles enter and exit in a forward direction (to reduce beeper noise).	Prior to works commencing	Address in site setup design. Include this requirement in the Traffic Management Plan.	CM/SM	Continuous monitoring of traffic movements during construction.	No complaints from adjoining residents or authorities.
Provide advanced notification of the commencement of work.	Prior to works commencing	Establish a list of project stakeholders including potentially affected neighbours, community, health and business facilities Prepare appropriate information and distribute to the community.	CM/SM	List established and maintained. Feedback recorded.	No community complaints. Positive relationship established with project neighbours.
Issue appropriate PPE for use on site where noise exceeds 75dB(A).	Prior to commencing and at all times	Identify areas of the site where PPE is required. Install appropriate signage. Monitor compliance.	SM	Daily surveillance. Weekly inspection checklist.	PPE consistently worn.
Establish a Plant & Equipment Register with details of approved equipment, noise compliance certificates and relevant restrictions/conditions of use (if any) if applicable.	Prior construction	Subcontractor to address in WMS and submit Plant & Equipment Register or service records.	GF	Included in subcontractor work method statements. Sub-contractor audit.	All operators licensed. No inappropriate use of plant or equipment.

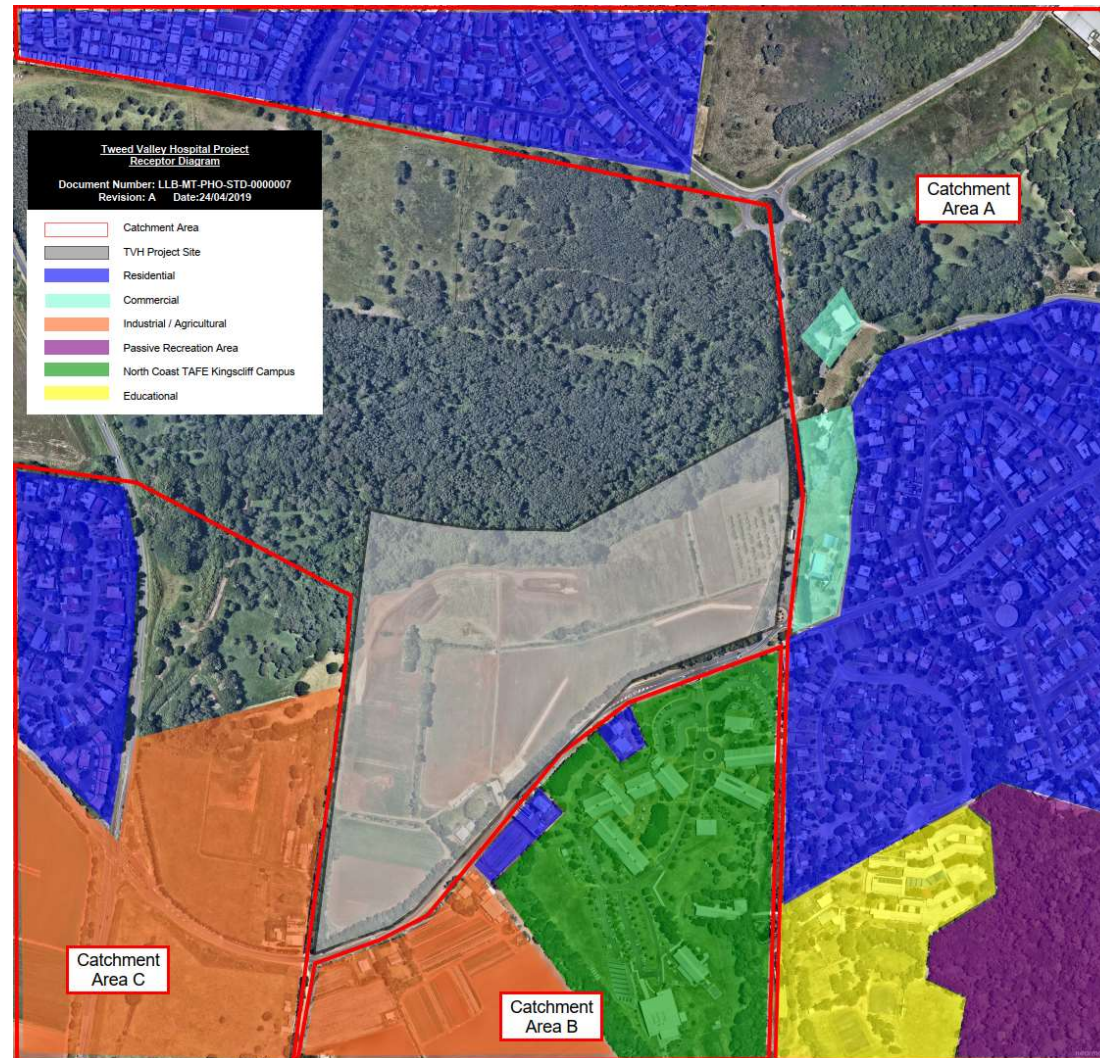
If applicable, high noise or vibration works should be performed further away from the perimeter boundary and native fauna areas (i.e. koala habitat).	At all times	Identify the location of project neighbours and assess the feasibility and benefits of locating works away from receptors.	CM/SM	Noise monitoring results. Number of complaints.	No complaints. No exceedances of predicted levels.
Implement community consultation or notification measures	For expected high dB works.	Review expected dB levels to determine whether additional mitigation measures are required.	CM/SM	Notice Contacted Receivers	complaints.
Work Hours					
Comply with approved work hours. Monday to Friday 7:00 am to 6:00 pm; Saturday: 8:00 am to 1:00 pm	At all times	Identify and communicate approved work hours/days. Plan works and complete within approved hours. Provide notification to the community.	CM/SM	Documented approval received for work outside of approved hours. Monitoring of work outside of approved hours.	Timely approval of work outside of hours. No complaints. No work outside of approved hours without prior impact assessment and approval from the relevant regulatory authority. No fines.
If work needs to be performed due to unforeseen circumstances (e.g. concrete pour) outside the hours nominated, consent from the Department of Planning must be obtained.	At all times	Prior notice and approval from the Department of Planning must be sought.	GF	Continuous as required.	No complaints from public or adjoining residents or authorities.
Provide advanced notification to potentially affected community stakeholders of out of hour's work/deliveries and high noise or vibration activities.	Prior to works commencing	Prepare appropriate information and distribute to the community at least 3 days prior to the works occurring.	CM/SM	Feedback recorded.	No community complaints. Positive relationship established with project neighbours.
Where applicable if work activities involve noisy works, controls measure MUST be detailed as part of the Work Method Statement	Prior to works commencing	In accordance with the Noise and Vibration Management Plan.	Contractor	Continuous	Work Method Statement to contain details of schedule of work and equipment being used.

Where applicable, activities that are found to exceed the 75dB (highly affected noise level) at receivers, respite periods (such as three hours on and 1 hour off).	During noisy works.	Regular monitoring to be undertaken and controls addressed during pre-starts and tool box talks if required,	CM/SM	Noise monitoring results. Number of complaints.	No complaints. No exceedances of predicted levels.
Where feasibly noise activities are to be scheduled to fewer sensitive times to minimise potential noise impacts – Refer to Appendix E for noise management levels.	At all times.	Project coordinate meetings and site safety walks.	CM/SM	Noise monitoring results. Number of complaints.	No complaints. No exceedances of predicted levels.
Noise and Vibration Minimisation – Plant and Equipment					
Ensure that public address systems are not used (except in emergencies)	During construction	Orientate speakers away from sensitive receivers.	SM	Monthly inspection. Review of effectiveness during emergency drills.	No complaints.
Operate plant and equipment in a proper and efficient manner and avoid unnecessary idling or engine noise.	At all times	WMS prepared by subcontractor to address proper operation of plant and equipment and education of operators.	SM Sub-contractor	Ongoing inspection of operators and operations.	All operators are licensed. No inappropriate use of plant or equipment.
Ensure plant is fitted with silencers, acoustical enclosures or other noise attenuation measures.	At all times	Subcontractor to address the risk-based selection of appropriate plant and equipment in WMS. Include requirement in subcontracts. Subcontractor to submit Plant & Equipment Register or service records.	SM/ Foreman	Ongoing inspection of operators, activities and plant. Daily surveillance of noise levels.	All operators are licensed. No inappropriate use of plant or equipment.
Avoid rock-hammering where feasible and use alternative methods such as rock-saws and rippers where possible.	At all times	Subcontractor to address in WMS. If the use of rock-hammers is unavoidable, use smaller rock	SM/ Foreman	Detailed SWMS prepared and communicated.	All operators are licensed. No inappropriate use of plant or equipment.

		breakers with quiet 'city hammers'.		Ongoing inspection of operators, activities and plant. Weekly inspection checklist	
Consider the merits of different construction activities (e.g. piling techniques) in relation to noise and vibration impacts.	At all times	Subcontractor to address in WMS and submit Plant & Equipment Register or service records. E.g. Use non-percussive piling techniques where practicable. If impact piling is required, consider hours of operation, lowering hammer height, shielding with equipment or using acoustic shrouding and resilient dollies.	SM/ Foreman	Detailed SWMS prepared and communicated. Ongoing inspection of operators, activities and plant. Weekly inspection checklist.	All operators are licensed. No inappropriate use of plant or equipment.
Ensure that vibratory compactors are not used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with specified criteria.	At all times	Included in subcontractor tenders. Subcontractor to submit Plant & Equipment Register or service records. 'Buffer zones' clearly marked out to prevent entry of plant.	SM/ Foreman	Ongoing surveillance.	All operators licensed. No inappropriate use of plant or equipment.
Turn off vehicles and plant when not in use and avoid queuing and idling outside the site, particularly prior to the construction start time.	At all times	Address in site induction. Subcontractors to address in WMS and communicate to all personnel.	SM/ Foreman	Daily surveillance Weekly inspection checklist.	No complaints from local community.
Where possible, limit the number of trucks and heavy vehicles on site at any given time (through scheduling deliveries at different times).	At all times	Discuss in planning of deliveries.	SM/ Foreman	Delivery Schedule	Control of plant No complaints.

Traffic routes are to be prepared to minimise the noise impact on the community.	Prior to commencement.	Address in site setup design. Include this requirement in the Traffic Management Plan.	CM/SM	Continuous monitoring of traffic movements during construction.	No complaints from adjoining residents or authorities.
Vibration Survey to be performed prior to vibratory activities.	At all time	Prior to activities that generate vibration, assess the influence zone of vibration and implement relevant controls as list in the table above.	CM/SM	Vibration Assessment	No exceedance of vibration limits at receivers.

APPENDIX A: Noise Receptors of the Site



APPENDIX B: Location of Noise and Vibration Monitors



** Note: Plan to be updated prior to commencing works associated with the Cudgen Road Widening.

APPENDIX C: Typical Noise Levels of Major Plant and Instances where receptors will experience noise greater than 75dB

Item	Typical Plant or Equipment	Max Noise Level (at 7 metres)	Activities Performed along Site Boundary that will Exceed 75dB	Activities Performed within 25m of Site Boundary that will Exceed 75dB	Activities Performed within 50m of Site Boundary that will Exceed 75dB	Activities Performed within Building Footprint that will Exceed 75dB
Rock Breaker	Hydraulic on Kato 750	97				
Air Track Drill	800 CFM Compressor	96				
Dump Trucks	35 Tonne	96				
Bulldozer	Caterpillar D10	93				
Piling Hammer	For piles and casing	93				
Compactor	Vibrating Plate	92				
Asphalt Truck		92				
Front End Loader	Wheeled	90				
Scraper	Caterpillar 631	89				
Vibratory Roller	10-12 Tonne	89				
Asphalt Paver		89				
Bulldozer	Caterpillar D7, D9	88				
Water Cart		88				
Backhoe		88				
Excavator	Kato 750	86				
Jack Hammers	With silencing bags	85				
Scraper	Caterpillar 651	85				
Grader	Caterpillar 16	85				
Compactor	Caterpillar 825	85				
Crane	Truck Mounted	85				
Drill	Air	85				
Drill	Pneumatic	85				
Welders		85				
Concrete Pump		84				
Tip Truck		83				

Mechanical Broom		83				
Concrete truck		83				
Truck		80				
Compressor	1500 CFM	80				
Concrete Vibrators		80				
Generator	Diesel	79				
Compressor	600 CFM	75				
Spraying Machine		75				
Spreader	Asphalt, concrete	70				

APPENDIX D: Guideline for Roller Use near Structures

Roller Class & Weight Range	Centrifugal Force Range	Example of Rollers	Distance from Building A B		Remarks
Very Light Less than 1.25 tonnes	10-20kN	Coates 32RD tandem Davleco 32CR tandem	3m	--	Maintenance and patching rollers. Generally, not restricted for normal
Light 1 to 2 tonnes	20-50kN	Coates 42RD tandem Pannell 54T drawn	5m	--	Generally, not restricted for normal road use.
Medium 2 to 4 tonnes	50-100kN	Coates 66Tdrawn Davleco 66 drawn	6m	12m	
Medium-Heavy 4 to 6 tonnes	100-200kN	Coates 72Tdrawn Davleco 72 drawn Pacific V12 drawn Raypo Rascal 400	12m	24m	Not advised for city and suburban streets.
Heavy 7 to 11 tonnes	200-300kN	Coates 78Tdrawn Pacific V24D drawn Raypo Rascal 600	25m	50m	Restricted. Not advised built-up areas.
Very Heavy 12 tonnes and over	Over 300kN	Coates 96Tdrawn Pacific V36D drawn	25m	50m	Restricted to major construction areas away from structures and buildings.

APPENDIX E: Project Specific Noise Management Levels (Extracted from Acoustic Report)

Location	Period	Rating Background Level RBL, dB(A)	Noise Management Level Leq (15 min) dB(A)
Residential (Catchment A)	Monday to Friday	45	55
	Recommended Standard Hours	7am to 6pm	RBL + 10
	Saturday	45	55
	8am to 1pm		
	Outside Recommended Standard Hours ³	Monday to Friday	38
	6am to 7am		RBL + 5
Residential (Catchment B)	Saturday	45	50
	1pm to 6pm		
	Monday to Friday	47	57
	Recommended Standard Hours	7am to 6pm	RBL + 10
	Saturday	47	57
	8am to 1pm		
	Outside Recommended Standard Hours	Monday to Friday	34
	6am to 7am		RBL + 5
	Saturday	47	52
	1pm to 6pm		

Table 5: Project Specific residential construction Noise Management Levels for **airborne** noise

Time of Day	Noise Management level LAeq (15 min)
Evening (6pm to 10pm)	40 dB(A) - Internal
Night (10pm to 7am)	35 dB(A) - Internal

Table 6: Residential construction Noise Management Levels for **ground-borne** noise

Occupancy	Management level LAeq (15 min)
Industrial / Agricultural ⁴ premises	75 dB(A) - External
Offices, retail outlets	70 dB(A) - External
Classrooms at schools and other educational institutions	45 dB(A) - Internal / 55 dB(A) - External ⁵
Passive recreation areas	60 dB(A) - External

Table 7: Industrial, commercial, educational and hospital construction Noise Management Levels for **airborne** noise

APPENDIX F: Expected Noise Levels at Receivers (Extracted from Acoustic Report)

Location and Construction Activity	Predicted equipment noise levels at surrounding community receivers, in dBL _{Aeq,15min}						
	Residential		Commercial	Agricultural	Passive Recreation Area	Educational	
						TAFE	KHS
	Catchment						
	A	B	A	B	A	B	A
	Noise Management Level, dB(A)						
	50 ¹⁷ / 55 ¹⁸	52 ¹⁷ / 57 ¹⁸	70	75	60	55	55
Trucks ¹⁹	52-61	63-77	51-59	58-77	47-49	59-66	50-52
Concrete Mixer Truck	50-59	61-75	48-56	56-75	45-47	57-64	48-50
Compactor	51-60	64-76	49-57	57-76	46-48	58-65	49-51
Grader / Roller	48-57	61-73	46-54	54-73	43-45	57-64	46-48
Excavator with Hammer / Saw	60-69	71-85	59-67	66-85	55-57	67-74	58-60
Excavator with bucket / Backhoe / Front loader	54-64	68-80	52-60	60-79	49-51	61-68	52-53
Bobcat	51-60	64-76	49-57	57-76	46-48	58-65	49-51
Concrete Pump	51-60	64-76	49-57	57-76	46-48	58-65	49-51
Mobile Crane	52-61	63-77	51-59	58-77	47-49	59-66	50-52
Jackhammer	51-60	64-76	49-57	57-76	46-48	58-65	49-51
Piling Rig	54-63	67-78	52-60	59-78	49-51	60-67	52-54
Rock Crushing	60-69	71-85	59-67	66-85	55-57	67-74	58-60
Grinder	42-51	53-67	41-49	48-67	37-39	49-56	40-42
Hand Tools / Drills	45-54	56-70	44-52	51-70	40-42	52-59	43-45
Wood Chipper	60-69	71-85	59-67	66-85	55-57	67-74	58-60
Chain / Circular Saw	55-64	66-80	54-62	61-80	54-52	62-69	53-55
Forklift	45-54	56-70	44-52	51-70	40-42	52-59	43-45

APPENDIX G: Expected Vibration Levels at Receivers (Extracted from Acoustic Report)

Plant item	Rating / description	Safe Working Distance – metres (m)	
		Cosmetic Damage (BS 7385)	Human Response (BS 6472)
Vibratory roller (<i>vibration source</i>)	< 50 kN (Typically 1-2 tonnes)	5 m	15 m to 20 m
	< 100 kN (Typically 2-4 tonnes)	6 m	20 m
	< 200 kN (Typically 4-6 tonnes)	12 m	40 m
	< 300 kN (Typically 7-13 tonnes)	15 m	100 m
	> 300 kN (Typically 13-18 tonnes)	20 m	100 m
	> 300 kN (Typically >18 tonnes)	25 m	100 m
Small Hydraulic Hammer	(300 kg – 5 to 12t excavator)	2 m	7 m
Medium Hydraulic Hammer	(900 kg – 12 to 18t excavator)	7 m	23 m
Large Hydraulic Hammer	(1600 kg – 18 to 34t excavator)	22 m	73 m
Piling rig (vibratory)	Sheet piles	2m	20m
Piling rig (bored)	<= 800 mm	2m (nominal)	N/A
Piling rig (hammer)	12 tonne down force	15m	50m
Jack Hammer (<i>also attracts 5dB impulsive noise penalty</i>)	Hand held	1m (nominal)	Avoid contact with structure

Table 1: Recommended safe work distances for vibration-intensive plant and activities, from TfNSW I&S CNVS (2018)

APPENDIX H: Peer Review by JHA – Acoustic Engineer

Windley, Monique

From: Mathew McGrory <Mathew.McGrory@jhaengineers.com.au>
Sent: Friday, 21 June 2019 10:53 AM
To: Windley, Monique
Subject: RE: [EXT]:RE: 190208-TVH-Management Plan - Noise and Vibration (2).docx

Hi Monique,

Just confirming we are happy with the noise management plan and willing to endorse it.

Thanks

Mathew McGrory

Acoustics Group Manager



Level 23, 101 Miller Street, North Sydney, NSW 2060

PO Box 3, North Sydney, NSW 2059

T 02 9437 1000 M 0477 885 361 E Mathew.Mcgrory@jhaengineers.com.au

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From: Windley, Monique [mailto:Monique.Windley@lendlease.com]
Sent: Wednesday, 19 June 2019 12:07 PM
To: Mathew McGrory <Mathew.McGrory@jhaengineers.com.au>
Subject: RE: [EXT]:RE: 190208-TVH-Management Plan - Noise and Vibration (2).docx

Hi Matthew,

Not a problem, see attached.

Kind Regards

Monique Windley

Site Engineer, New Tweed Valley Hospital Project

Brisbane Office: Level 3, Kings Gate, 2 King Street, Bowen Hills, 4006 QLD Australia

Tweed Office: Suite B, Level 2, 21 Bretts Street, Tweed Heads, 2485 NSW Australia

M +61 437 137 210

monique.windley@lendlease.com | www.lendlease.com

lendlease



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From: Mathew McGrory <Mathew.McGrory@jhaengineers.com.au>
Sent: Wednesday, 19 June 2019 11:46 AM

To: Windley, Monique <Monique.Windley@lendlease.com>

Subject: RE: [EXT]:RE: 190208-TVH-Management Plan - Noise and Vibration (2).docx

Hi Monique,

Would you mind just sending me across the final version of the sub plan just for me to quickly skim my eyes over again?

Thanks

Mathew McGrory

Acoustics Group Manager



Level 23, 101 Miller Street, North Sydney, NSW 2060

PO Box 3, North Sydney, NSW 2059

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From: Windley, Monique [<mailto:Monique.Windley@lendlease.com>]

Sent: Wednesday, 19 June 2019 11:38 AM

To: Mathew McGrory <Mathew.McGrory@jhaengineers.com.au>

Subject: RE: [EXT]:RE: 190208-TVH-Management Plan - Noise and Vibration (2).docx

Hi Mathew,

Just wanting to follow up on this item from yesterday's discussions. Thanks.

Kind Regards

Monique Windley

Site Engineer, New Tweed Valley Hospital Project

Brisbane Office: Level 3, Kings Gate, 2 King Street, Bowen Hills, 4006 QLD Australia

Tweed Office: Suite B, Level 2, 21 Bretts Street, Tweed Heads, 2485 NSW Australia

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From: Windley, Monique

Sent: Tuesday, 18 June 2019 10:32 AM

To: 'Mathew.Mcgrory@jhaengineers.com.au' <Mathew.Mcgrory@jhaengineers.com.au>

Subject: RE: [EXT]:RE: 190208-TVH-Management Plan - Noise and Vibration (2).docx

Hi Mathew,

I will call to discuss the below with you.

Kind Regards

Monique Windley

Site Engineer, New Tweed Valley Hospital Project

Brisbane Office: Level 3, Kings Gate, 2 King Street, Bowen Hills, 4006 QLD Australia

Tweed Office: Suite B, Level 2, 21 Bretts Street, Tweed Heads, 2485 NSW Australia

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From: Mathew McGrory [<mailto:Mathew.McGrory@jhaengineers.com.au>]

Sent: Tuesday, 30 April 2019 7:57 PM

To: Miller, Devin <Devin.Miller@lendlease.com>; Tian Song <Tian.Song@jhaengineers.com.au>

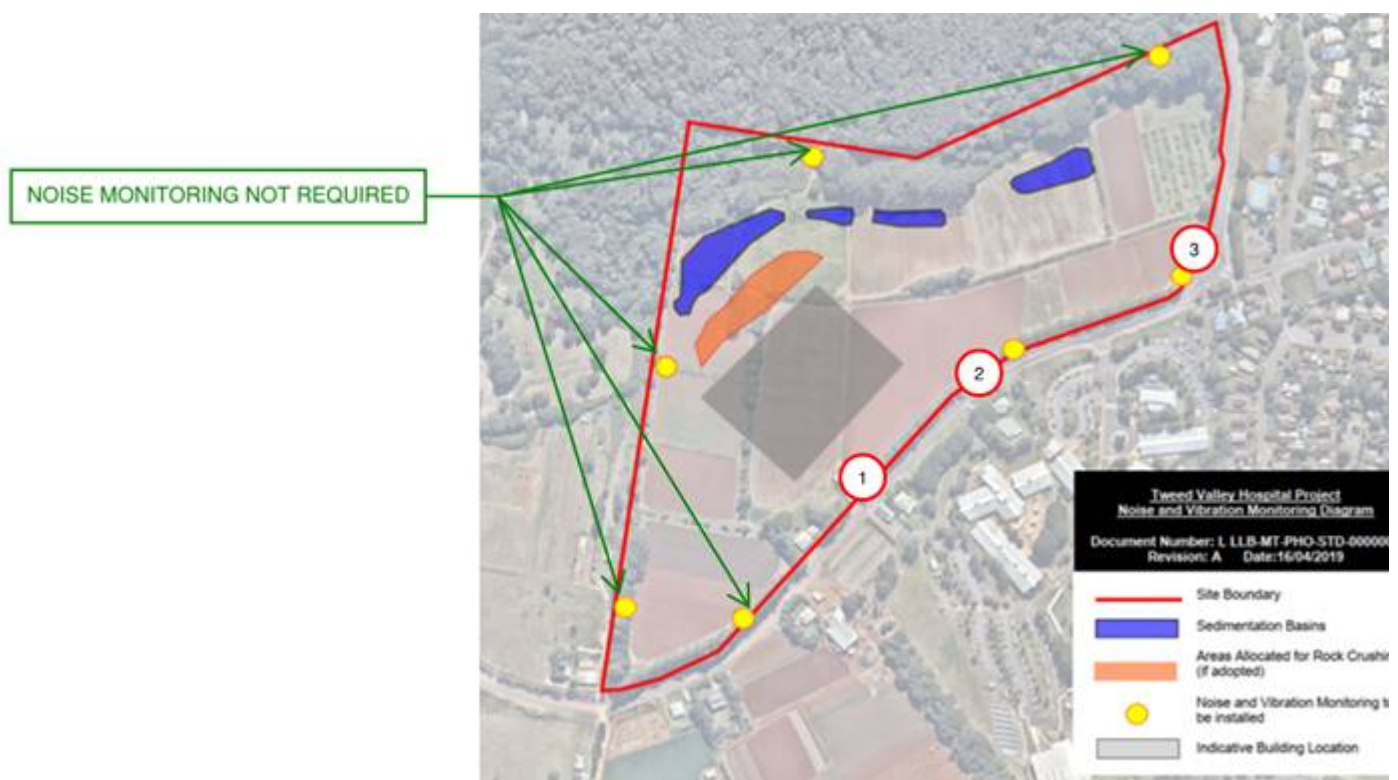
Cc: Lobdell, Geoffrey <Geoffrey.Lobdell@lendlease.com>; Chow, Darren <Darren.Chow@lendlease.com>; Radich, Natalie <Natalie.Radich@lendlease.com>

Subject: [EXT]:RE: 190208-TVH-Management Plan - Noise and Vibration (2).docx

Hi Devin,

Is there something triggering the requirement to have noise monitors installed to the Western & Northern boundaries of the site?

My interpretation of the SSDA Conditions and acoustic report is that noise monitoring is only required in the locations identified below.



Thanks

Mathew McGrory

Acoustics Group Manager



Level 23, 101 Miller Street, North Sydney, NSW 2060

PO Box 3, North Sydney, NSW 2059

T 02 9437 1000 M 0477 885 361 E Mathew.McGrory@jhaengineers.com.au

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-----Original Message-----

From: Miller, Devin [<mailto:Devin.Miller@lendlease.com>]

Sent: Monday, 29 April 2019 2:30 PM

To: Tian Song <Tian.Song@jhaengineers.com.au>; Mathew McGrory <Mathew.McGrory@jhaengineers.com.au>

Cc: Lobdell, Geoffrey <Geoffrey.Lobdell@lendlease.com>; Chow, Darren <Darren.Chow@lendlease.com>; Radich, Natalie <Natalie.Radich@lendlease.com>

Subject: 190208-TVH-Management Plan - Noise and Vibration (2).docx

G'day Tian/Matthew

As discussed,

See attached the LL Noise and Vibration management plan for your review

Regards

Devin

-----Original Message-----

From: Lobdell, Geoffrey

Sent: Monday, 29 April 2019 2:22 PM

To: Miller, Devin <Devin.Miller@lendlease.com>

Subject: Emailing: 1. 190208-TVH-Management Plan - Noise and Vibration (2).docx

Your message is ready to be sent with the following file or link attachments:

1. 190208-TVH-Management Plan - Noise and Vibration (2).docx

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APPENDIX I: Community Consultation (Residents and Tafe)

	Date	Team	Address	Spoke with	Not home	Visual impact	Notes
001	19-Jun-19	Emily and Sarah	10 Bellbird Place		X	X	Information and calling card left
002	19-Jun-19	Emily and Sarah	12 Bellbird Place		X	X	Information and calling card left
003	19-Jun-19	Emily and Sarah	14 Bellbird Place		X	X	Information and calling card left
004	19-Jun-19	Emily and Sarah	16 Bellbird Place		X	X	Information and calling card left
005	19-Jun-19	Emily and Sarah	20 Bellbird Place	X		X	Happy to receive information. Interested in road upgrades. Has requested a visual impact assessment. Neville Dunn. 02 66 742 412 (no working email)
006	19-Jun-19	Emily and Sarah	17 Bellbird Place	X		X	Received information. Indicated she was unhappy about the approval. Advised her how to get in touch with us with concerns. Will consider Visual Impact Assessment
007	19-Jun-19	Emily and Sarah	22 Bellbird Place		X	X	Information and calling card left
008	19-Jun-19	Emily and Sarah	15 Bellbird Place		X	X	Information and calling card left
009	19-Jun-19	Emily and Sarah	49 Kingfisher Circuit		X	X	Information and calling card left
010	19-Jun-19	Emily and Sarah	47 Kingfisher Circuit		X	X	Information and calling card left
011	19-Jun-19	Emily and Sarah	45 Kingfisher Circuit		X	X	Information and calling card left
012	19-Jun-19	Emily and Sarah	43 Kingfisher Circuit		X	X	Information and calling card left
013	19-Jun-19	Emily and Sarah	41 Kingfisher Circuit		X	X	Information and calling card left
014	19-Jun-19	Emily and Sarah	39 Kingfisher Circuit		X	X	Information and calling card left
015	19-Jun-19	Emily and Sarah	37 Kingfisher Circuit		X	X	Information and calling card left
016	19-Jun-19	Emily and Sarah	35 Kingfisher Circuit		X	X	Information and calling card left
017	19-Jun-19	Emily and Sarah	33 Kingfisher Circuit	X		X	Provided information pack and overview of project/early works
018	19-Jun-19	Emily and Sarah	31 Kingfisher Circuit		X	X	Information and calling card left
019	19-Jun-19	Emily and Sarah	29 Kingfisher Circuit		X	X	Information and calling card left
020	19-Jun-19	Emily and Sarah	27 Kingfisher Circuit		X	X	Information and calling card left
021	19-Jun-19	Emily and Sarah	25 Kingfisher Circuit		X	X	Information and calling card left
022	19-Jun-19	Emily and Sarah	23 Kingfisher Circuit		X	X	Information and calling card left
023	19-Jun-19	Emily and Sarah	21 Kingfisher Circuit	X		X	Provided information pack and overview of project/early works
024	19-Jun-19	Emily and Sarah	Noble Lakeside Kingscliff	X		X	Provided packs of information to be made available to residents in their common areas.
025	19-Jun-19	Emily and Sarah	58 Cudgen Road	X		X	Provided information pack and overview of project/early works
026	19-Jun-19	Emily and Sarah	56 Cudgen Road		X	X	Information and calling card left
027	19-Jun-19	Emily and Sarah	54 Cudgen Road	X		X	Information and calling card left. Resident home but didn't want conversation.
028	19-Jun-19	Emily and Sarah	52 Cudgen Road		X	X	Information and calling card left
029	19-Jun-19	Emily and Sarah	50 Cudgen Road		X	X	Information and calling card left
030	19-Jun-19	Emily and Sarah	48 Cudgen Road		X	X	Information and calling card left
031	19-Jun-19	Emily and Sarah	46 Cudgen Road	X		X	Provided information pack and overview of project/early works. Requested visual impact assessment.
032	19-Jun-19	Emily and Sarah	44 Cudgen Road		X	X	Information and calling card left
033	19-Jun-19	Emily and Sarah	42 Cudgen Road		X	X	Information and calling card left
034	19-Jun-19	Emily and Sarah	30 John Robb Way		X	X	Information and calling card left
035	19-Jun-19	Emily and Sarah	28 John Robb Way		X	X	Information and calling card left
036	19-Jun-19	Emily and Sarah	26 John Robb Way	X		X	Provided information pack and overview of project/early works.
037	19-Jun-19	Emily and Sarah	24 John Robb Way		X	X	Information and calling card left
038	19-Jun-19	Emily and Sarah	22 John Robb Way	X		X	Provided information pack and overview of project/early works.
039	19-Jun-19	Emily and Sarah	20 John Robb Way		X	X	Information and calling card left
040	19-Jun-19	Emily and Sarah	18 John Robb Way		X	X	Information and calling card left
041	19-Jun-19	Emily and Sarah	Unit 1, 16 John Robb Way		X	X	Information and calling card left
042	19-Jun-19	Emily and Sarah	Unit 2, 16 John Robb Way		X	X	Information and calling card left
043	19-Jun-19	Emily and Sarah	Unit 3, 16 John Robb Way		X	X	Information and calling card left
044	19-Jun-19	Emily and Sarah	Unit 1, 14 John Robb Way		X	X	Information and calling card left
045	19-Jun-19	Emily and Sarah	Unit 2, 14 John Robb Way		X	X	Information and calling card left
046	19-Jun-19	Emily and Sarah	Unit 9, 6 John Robb Way		X	X	Information and calling card left
047	19-Jun-19	Emily and Sarah	Unit 10, 6 John Robb Way	X		X	Provided information pack and overview of project/early works. Expressed they are unhappy. Traffic and noise a problem. Requested visual impact assessment. Eve Laurentiussen, 0401 321 875
048	19-Jun-19	Emily and Sarah	Unit 11, 6 John Robb Way		X	X	Information and calling card left
049	19-Jun-19	Emily and Sarah	Unit 12, 6 John Robb Way		X	X	Information and calling card left
050	19-Jun-19	Emily and Sarah	Unit 13, 6 John Robb Way	X		X	Provided information pack and overview of project/early works.
051	19-Jun-19	Emily and Sarah	Unit 14, 6 John Robb Way		X	X	Information and calling card left
052	19-Jun-19	Emily and Sarah	Unit 15, 6 John Robb Way		X	X	Information and calling card left
053	19-Jun-19	Emily and Sarah	Unit 16, 6 John Robb Way	X		X	Provided information pack and overview of project/early works. Expressed concern about traffic noise and lack of barrier fence between houses and Tweed Coast Road (not directed at hospital development)
054	19-Jun-19	Emily and Sarah	Unit 17, 6 John Robb Way	X		X	Provided information pack and overview of project/early works.
055	19-Jun-19	Emily and Sarah	Unit 18, 6 John Robb Way		X	X	Information and calling card left
056	20-Jun-19	Steve and Jacinta	2 Oceanview Crescent		X		Nothing left - property under construction
057	20-Jun-19	Sarah and Natanya	3 Oceanview Crescent	X			Provided information pack and overview of project/early works. Resident did not want to speak with us.
058	20-Jun-19	Steve and Jacinta	4 Oceanview Crescent		X		Information and calling card left. Resident was home but on the phone.
059	20-Jun-19	Sarah and Natanya	5 Oceanview Crescent		X		Information and calling card left
060	20-Jun-19	Steve and Jacinta	6 Oceanview Crescent	X			Provided information pack and overview of project/early works. Resident happy to receive the information.
061	20-Jun-19	Sarah and Natanya	7 Oceanview Crescent		X		Information and calling card left
062	20-Jun-19	Steve and Jacinta	8 Oceanview Crescent		X		Nothing left - property under construction
063	20-Jun-19	Sarah and Natanya	9 Oceanview Crescent		X		Information and calling card left
064	20-Jun-19	Steve and Jacinta	10 Oceanview Crescent	X			Provided information pack and overview of project/early works. Resident happy to receive the information.
065	20-Jun-19	Sarah and Natanya	11 Oceanview Crescent		X		Information and calling card left
066	20-Jun-19	Steve and Jacinta	12 Oceanview Crescent		X		Information and calling card left
067	20-Jun-19	Sarah and Natanya	13 Oceanview Crescent		X		Information and calling card left

068	20-Jun-19	Steve and Jacinta	14 Oceanview Cresent		X		Information and calling card left
069	20-Jun-19	Sarah and Natanya	15 Oceanview Cresent		X		Information and calling card left
070	20-Jun-19	Steve and Jacinta	16 Oceanview Cresent		X		Information and calling card left
071	20-Jun-19	Sarah and Natanya	17 Oceanview Cresent		X		Information and calling card left
072	20-Jun-19	Steve and Jacinta	18 Oceanview Cresent		X		Information and calling card left
073	20-Jun-19	Sarah and Natanya	19 Oceanview Cresent		X		Information and calling card left
074	20-Jun-19	Sarah and Natanya	20 Oceanview Cresent		X	X	Information and calling card left
075	20-Jun-19	Sarah and Natanya	21 Oceanview Cresent		X		Information and calling card left
076	20-Jun-19	Sarah and Natanya	22 Oceanview Cresent		X	X	Information and calling card left
077	20-Jun-19	Sarah and Natanya	23 Oceanview Cresent		X		Information and calling card left
078	20-Jun-19	Sarah and Natanya	24 Oceanview Cresent	X		X	Provided information pack and overview of project/early works. Resident was leaving and didn't have time to talk
079	20-Jun-19	Sarah and Natanya	25 Oceanview Cresent	X			Provided information pack and overview of project/early works.
080	20-Jun-19	Steve and Jacinta	26 Oceanview Cresent		X	X	Information and calling card left
081	20-Jun-19	Sarah and Natanya	27 Oceanview Cresent	X			Provided information pack and overview of project/early works.
082	20-Jun-19	Steve and Jacinta	28 Oceanview Cresent		X	X	Information and calling card left
083	20-Jun-19	Sarah and Natanya	29 Oceanview Cresent	X			Provided information pack and overview of project/early works.
084	20-Jun-19	Steve and Jacinta	30 Oceanview Cresent		X	X	Information and calling card left. Property for sale
085	20-Jun-19	Sarah and Natanya	31 Oceanview Cresent		X		Information and calling card left
086	20-Jun-19	Steve and Jacinta	32 Oceanview Cresent	X		X	Provided information pack and overview of project/early works. Resident raised concerns about parking on his street. Overall happy with the project.
087	20-Jun-19	Sarah and Natanya	33 Oceanview Cresent		X		Information and calling card left
088	20-Jun-19	Steve and Jacinta	34 Oceanview Cresent		X	X	Information and calling card left
089	20-Jun-19	Sarah and Natanya	35 Oceanview Cresent	X			Provided information pack and overview of project/early works.
090	20-Jun-19	Steve and Jacinta	36 Oceanview Cresent		X	X	Information and calling card left
091	20-Jun-19	Sarah and Natanya	37 Oceanview Cresent		X		Information and calling card left
092	20-Jun-19	Sarah and Natanya	41 Oceanview Cresent		X	X	
093	20-Jun-19	Sarah and Natanya	43 Oceanview Cresent		X	X	
094	20-Jun-19	Sarah and Natanya	45 Oceanview Cresent	X		X	Spoke with resident. Refused information and discussion. No information left.
095	20-Jun-19	Sarah and Natanya	47 Oceanview Cresent		X	X	
096	20-Jun-19	Sarah and Natanya	49 Oceanview Cresent		X	X	
097	20-Jun-19	Sarah and Natanya	53 Oceanview Cresent		X	X	Information and calling card left
098	20-Jun-19	Sarah and Natanya	9 McPhail Avenue		X		Information and calling card left
099	20-Jun-19	Sarah and Natanya	11 McPhail Avenue	X			Provided information pack and overview of project/early works. Resident was leaving property but happy to take information.
100	20-Jun-19	Sarah and Natanya	13 McPhail Avenue		X		Information and calling card left
101	20-Jun-19	Steve and Jacinta	14 McPhail Avenue		X		Information and calling card left
102	20-Jun-19	Sarah and Natanya	15 McPhail Avenue		X		Information and calling card left
103	20-Jun-19	Steve and Jacinta	16 McPhail Avenue	X			Provided information pack and overview of project/early works. Resident that commented that traffic won't be any worse than it is now. Happy to receive information pack.
104	20-Jun-19	Sarah and Natanya	17 McPhail Avenue	X			Provided information pack and overview of project/early works. Resident noted she was previously opposed but accepted the decision. Would like to be kept updated and subscribed to the newsletters.
105	20-Jun-19	Steve and Jacinta	18 McPhail Avenue		X		Information and calling card left
106	20-Jun-19	Sarah and Natanya	Unit 1, 21 McPhail Avenue	X			Provided information pack and overview of project/early works. Resident noted she was following the project closely.
107	20-Jun-19	Steve and Jacinta	20 McPhail Avenue	X			Provided information pack and overview of project/early works. Resident commented that they are glad the project is going ahead.
108	20-Jun-19	Sarah and Natanya	Unit 2, 21 McPhail Avenue		X		Information and calling card left (didn't knock, neighbour advised young baby)
109	20-Jun-19	Steve and Jacinta	22 McPhail Avenue		X		Information and calling card left
110	20-Jun-19	Sarah and Natanya	23 McPhail Avenue		X		Information and calling card left
111	20-Jun-19	Steve and Jacinta	24 McPhail Avenue		X		Information and calling card left
112	20-Jun-19	Sarah and Natanya	25 McPhail Avenue		X		Information and calling card left
113	20-Jun-19	Steve and Jacinta	26 McPhail Avenue		X		Information and calling card left
114	20-Jun-19	Sarah and Natanya	27 McPhail Avenue	X			Provided information pack and overview of project/early works. Resident did not want to engage.
115	20-Jun-19	Steve and Jacinta	28 McPhail Avenue	X			Provided information pack and overview of project/early works. Residents commented on speeding vehicles in the local area.
116	20-Jun-19	Sarah and Natanya	29 McPhail Avenue		X	X	Information and calling card left
117	20-Jun-19	Steve and Jacinta	30 McPhail Avenue	X			Residents not interested in receiving information pack.
118	20-Jun-19	Sarah and Natanya	52 McPhail Avenue		X	X	Information and calling card left
119	20-Jun-19	Sarah and Natanya	3 Knox Court		X		Information and calling card left
120	20-Jun-19	Sarah and Natanya	5 Knox Court		X		Information and calling card left
121	20-Jun-19		7 Knox Court	X			Provided information pack and overview of project/early works. Resident raised traffic concerns. Stated that these need to be addressed before the hospital is built. Also noted that McPhail has a 4 tonne truck limit. Resident worked with council for 15 years.
122	20-Jun-19	Emily and Cindy	37 McPhail Ave	X		X	(Owner) Concerns about property damage during construction. Alleged damage to property (ceramics, china etc) during pool construction.
123	20-Jun-19	Emily and Cindy	35 McPhail Ave		X	X	Information and calling card left
124	20-Jun-19	Emily and Cindy	33 McPhail Ave		X	X	Information and calling card left
125	20-Jun-19	Emily and Cindy	54 McPhail Ave	X		X	Provided information pack and overview of project/early works
126	20-Jun-19	Emily and Cindy	56 McPhail Ave		X	X	Information and calling card left
127	20-Jun-19	Emily and Cindy	58 McPhail Ave		X	X	Information and calling card left
128	20-Jun-19	Emily and Cindy	60 McPhail Ave		X	X	Information and calling card left
129	20-Jun-19	Emily and Cindy	62 McPhail Ave		X	X	Information and calling card left
130	20-Jun-19	Emily and Cindy	64 McPhail Ave		X	X	Information and calling card left
131	20-Jun-19	Emily and Cindy	66 McPhail Ave		X	X	Information and calling card left
132	20-Jun-18	Emily and Cindy	1/60 Oxford Street		X		Information and calling card left
133	20-Jun-19	Emily and Cindy	2 / 60 Oxford Street		X		Information and calling card left
134	20-Jun-19	Emily and Cindy	12 Yale Street		X		Information and calling card left
135	20-Jun-19	Emily and Cindy	62 Cudgen Road		X	X	Information and calling card left
136	20-Jun-19	Emily and Cindy	741 Cudgen Road		X	X	Hydroponics International. Information and calling card left
137	20-Jun-19	Emily and Cindy	738 - 740 Cudgen Road	X		X	Mrs Allen. Pleased a decision has been made.
138	20-Jun-19	Emily and Cindy	744 Cudgen Road	X		X	Spoke with tenant, Owner is Gareth - Cindy has been in touch.

139	20-Jun-19	Emily and Cindy	752 Cudgen Road	X		X	PH 0408026642, Appointment made for Thursday 27 June at 1:00 to visit. LL and HI reps Very unhappy about the project, location of the entrance opposite. Feels we have only consult once decisions have been made.
140	20-Jun-19	Emily and Cindy	764 Cudgen Road		X	X	Information and calling card left
141	20-Jun-19	Emily and Cindy	64 Cudgen Road	X		X	Provided information pack and overview of project/early works.
142	20-Jun-19	Emily and Cindy	40 Cudgen Road		X	X	Information and calling card left
143	20-Jun-19	Emily and Cindy	38 Cudgen Road	X		X	Concerned about property damage, Kingscliff Hill properties built on sand and concerned about vibration. Concerned about dust and noise. Very interested in the piling works, when, what and how ... Concerned about impact on local traffic. Highlighted how fast people drive down Cudgen Road and that the kids from St Anthony's Catholic School walk up the footpath to the swimming pool. Very concerned about work vehicles and heavy trucks using the road. Indicated that he thinks it is a stupid place for a hospital and that he would be selling as the area has changed.
144	20-Jun-19	Emily and Cindy	36 Cudgen Road	X			Declined information
145	20-Jun-19	Emily and Cindy	34 Cudgen Road		X	X	Information and calling card left
146	20-Jun-19	Emily and Cindy	32 Cudgen Road		X	X	Information and calling card left
147	20-Jun-19	Emily and Cindy	30 Cudgen Road		X	X	Information and calling card left
148	20-Jun-19	Emily and Cindy	28 Cudgen Road		X	X	Information and calling card left
149	20-Jun-19	Emily and Cindy	26 Cudgen Road		X	X	Information and calling card left
150	20-Jun-19	Emily and Cindy	24 Cudgen Road		X	X	Information and calling card left
151	20-Jun-19	Martin and Lee	24 Cambridge Crt	X			Spoke with woman who advised she was a friend visiting but would pass on the information
152	20-Jun-19	Martin and Lee	22 Cambridge Crt		X		Information and calling card left
153	20-Jun-19	Martin and Lee	20 Cambridge Crt		X		Information and calling card left
154	20-Jun-19	Martin and Lee	18 Cambridge Crt		X		Information and calling card left
155	20-Jun-19	Martin and Lee	16 Cambridge Crt		X		Do not knock. Information and calling card left
156	20-Jun-19	Martin and Lee	14 Cambridge Crt	X			Did not want information. 'I am a local. I know! Everything has gone to pat!'
157	20-Jun-19	Martin and Lee	12 Cambridge Crt	X			Provided information pack and overview of project/early works.
158	20-Jun-19	Martin and Lee	10 Cambridge Crt	X			Provided information pack and overview of project/early works.
159	20-Jun-19	Martin and Lee	8 Cambridge Crt	X			Provided information pack and overview of project/early works.
160	20-Jun-19	Martin and Lee	6 Cambridge Crt	X			Problem with traffic, getting out during peak times
161	20-Jun-19	Martin and Lee	4 Cambridge Crt		X		Do not knock. Information and calling card left
162	20-Jun-19	Martin and Lee	2 Cambridge Crt		X		Do not knock. Information and calling card left
163	20-Jun-19	Martin and Lee	1 Cambridge Crt	X			Resident did not open door but took package.
164	20-Jun-19	Martin and Lee	3 Cambridge Crt		X		Information and calling card left
165	20-Jun-19	Martin and Lee	22 Yale Street		X		Information and calling card left
166	20-Jun-19	Martin and Lee	20 Yale Street	X			Provided information pack and overview of project/early works.
167	20-Jun-19	Martin and Lee	18 Yale Street		X		Information and calling card left
168	20-Jun-19	Martin and Lee	16 Yale Street		X		Do not knock. Information and calling card left
169	20-Jun-19	Martin and Lee	14 Yale Street		X		Do not knock. Information and calling card left
170	20-Jun-19	Martin and Lee	12 Yale Street		X		Do not knock. Information and calling card left
171	20-Jun-19	Martin and Lee	10 Yale Street	X			I think it is great. Provided information pack and overview of project/early works.
172	20-Jun-19	Martin and Lee	8 Yale Street	X			Happy for information. Provided information pack and overview of project/early works.
173	20-Jun-19	Martin and Lee	6 Yale Street	X			Provided information pack and overview of project/early works.
174	20-Jun-19	Martin and Lee	4 Yale Street	X			It's great. Provided information pack and overview of project/early works.
175	20-Jun-19	Martin and Lee	6 Oxford Street	X			Sooner it starts the better. Provided information pack and overview of project/early works.
176	20-Jun-19	Martin and Lee	4 Oxford Street	X			Great! We can't wait for it. Provided information pack and overview of project/early works.
177	20-Jun-19	Martin and Lee	3 Yale Street		X		Do not knock. Information and calling card left
178	20-Jun-19	Martin and Lee	5 Yale Street		X		Do not knock. Information and calling card left
179	20-Jun-19	Martin and Lee	7 Yale Street		X		Do not knock. Information and calling card left
180	20-Jun-19	Martin and Lee	9 Yale Street		X		Do not knock. Information and calling card left
181	20-Jun-19	Martin and Lee	11 Yale Street		X		Do not knock. Information and calling card left
182	20-Jun-19	Martin and Lee	13 Yale Street		X		Information and calling card left
183	20-Jun-19	Martin and Lee	22 Oxford Street		X		Information and calling card left
184	20-Jun-19	Martin and Lee	20 Oxford Street		X		Do not knock. Information and calling card left
185	20-Jun-19	Martin and Lee	18 Oxford Street		X		Information and calling card left
186	20-Jun-19	Martin and Lee	16 Oxford Street		X		Information and calling card left
187	20-Jun-19	Martin and Lee	14 Oxford Street		X		Information and calling card left
188	20-Jun-19	Martin and Lee	12 Oxford Street		X		Information and calling card left
189	20-Jun-19	Martin and Lee	10 Oxford Street	X			Provided information pack and overview of project/early works.
190	20-Jun-19	Martin and Lee	8 Oxford Street	X			Asked about dust mitigation measures and the SG. Provided information pack and overview of project/early works.
191	20-Jun-19	Martin and Lee	2 / 15 Oxford Street	X			Happy project is starting. Keen to keep informed. Provided information pack and overview of project/early works.
192	20-Jun-19	Martin and Lee	17 Oxford Street		X		Information and calling card left
193	20-Jun-19	Martin and Lee	19 Oxford Street		X		Information and calling card left
194	20-Jun-19	Martin and Lee	21 Oxford Street		X		Information and calling card left
195	20-Jun-19	Martin and Lee	23 Oxford Street		X		Information and calling card left
196	20-Jun-19	Martin and Lee	25 Oxford Street	X			Awesome. Provided information pack and overview of project/early works.
197	20-Jun-19	Martin and Lee	24 Oxford Street		X		Information and calling card left
198	20-Jun-19	Martin and Lee	26 Oxford Street	X			All good. Might get a job up there. Provided information pack and overview of project/early works.
199	20-Jun-19	Martin and Lee	1 Oxford Street		X		Do not knock. Information and calling card left
200	20-Jun-19	Martin and Lee	3 Oxford Street		X		Do not knock. Information and calling card left
201	20-Jun-19	Martin and Lee	5 Oxford Street		X		Do not knock. Information and calling card left
202	20-Jun-19	Martin and Lee	7 Oxford Street		X		Do not knock. Information and calling card left
203	20-Jun-19	Martin and Lee	9 Oxford Street	X			No problem. Provided information pack and overview of project/early works.
204	20-Jun-19	Martin and Lee	11 Oxford Street		X		Information and calling card left
205	20-Jun-19	Martin and Lee	13 Oxford Street		X		Information and calling card left
206	20-Jun-19	Martin and Lee	1/15 Oxford Street		X		Information and calling card left
207	20-Jun-19	Steve and Jacinta	32 McPhail Ave		X		Information and calling card left