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WA PREMIX
(WA LIMESTONE)

PROPOSED CONCRETE BATCH PLANT
277 - 279 COLLIER ROAD, BAYSWATER

ACOUSTIC ASSESSMENT

OCTOBER 2014

OUR REF: 18401-2-14165

DOCUMENT CONTROL PAGE

ACOUSTIC ASSESSMENT

BAYSWATER

Job No: 14165

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WA PREMIX

DOCUMENT INFORMATION			
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1	Alteration to plans	11/11/14	PLD	

DOCUMENT DISTRIBUTION

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1	1	Roger Stephens – WA Limestone		✓
1	2	Roger Stephens – WA Limestone		✓

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APPENDICIES

EXECUTIVE SUMMARY

Herring Storer Acoustics have been commissioned by WA Premix to carry out an acoustical assessment of noise emissions from a proposed concrete batching plant to be located at 277-279 Collier Road, Bayswater.

The plant is to be purchased new, hence is the most modern available. This batch plant varies from other forms of concrete plants, as it is a wet plant. Being a wet plant, it eliminates the need for slumping in the agitator trucks. It is generally quieter than traditional dry plant systems, with materials delivered to the batch plant via a conveyor system. The batching plant component is fully enclosed with 60mm insulation panels.

As the batching plant would operate before 07:00, noise emissions from this operating mode, excluding raw material deliveries, needs to comply with the assigned L_{A10} night period noise level at the critical neighbouring residence of 46 dB(A). However, the delivery of materials would be restricted to the day period only and noise emissions for full operations need to comply with the assigned L_{A10} day period noise level at the critical neighbouring residence of 56 dB(A).

We note that noise emissions from the batch plant are likely to be masked by noise emanating from either vehicles travelling along Tonkin Highway. Although this is the case, to provide a conservative assessment, the +5 dB(A) penalty for tonality has been included in the assessable noise level at the residence.

For regulatory periods, noise received at the neighbouring residential premises from the batch plant would comply with regulatory requirements, given the configuration of the new batching plant.

Noise levels at the western and eastern neighbouring industrial premises have been calculated to be 61 dB(A) (highest noise level) at the boundary location, therefore would be deemed to comply with the 65 dB(A) criteria. For other industrial boundaries, compliance is also achieved.

1. INTRODUCTION

Herring Storer Acoustics have been commissioned by WA Premix to carry out an acoustical assessment of noise emissions from a proposed concrete batching plant to be located at 277-279 Collier Road, Bayswater.

The objectives of the study were to:

- Determine, by modelling, noise propagation from the new batch plant.
- Assess the predicted noise levels received at the closest noise sensitive premises, for compliance with the *Environmental Protection (Noise) Regulations 1997*.
- If exceedances are predicted, investigate possible noise control options that will reduce noise emissions to achieve compliance with the regulations.

The site for the proposed batching plant is currently vacant. Products to be produced at the proposed site include concretes for both domestic and commercial projects.

The plant is to be purchased new, hence is the most modern available. This batch plant varies from other forms of concrete plants, as it is a wet plant. Being a wet plant, it eliminates the need for slumping in the agitator trucks. It is generally quieter than traditional dry plant systems, with materials delivered to the batch plant via a conveyor system. The batching plant component is fully enclosed with 60mm insulation panels.

The area for the proposed site is zoned General Industry. The surrounding industries are similar in nature to the proposed site. The nearest noise sensitive "residential" premise is located more than 300 metres from the batch plant (140m from the boundary of the site), towards the north.

FIGURE 1 – PROPOSED BATCHING PLANT SITE

2. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 & 8 stipulate maximum allowable external noise levels determined by the calculation of an influencing factor, which is then added to the base levels shown below. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern.

TABLE 1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day Period)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF
Industrial and Utility Premises	All Hours	65	80	90

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax\ Slow}$ is more than 15 dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

(a) is more than 3dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band;
(b) is present for more at least 10% of the representative assessment period; and
(c) is regular, cyclic and audible;

"tonality" means the presence in the noise emission of tonal characteristics where the difference between –

(a) the A-weighted sound pressure level in any one-third octave band; and
(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 2 below.

TABLE 2 - ADJUSTMENTS TO MEASURED LEVELS

Where **tonality** is present	Where **modulation** is present	Where **impulsiveness** is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

The influencing factor at the nearest residential locations have been assessed as 11 dB, with the calculation based on the following:

Major Roads within the outer circle;
Tonkin highway + 2 dB
Collier Road + 2 dB

Industrial Premises within inner circle;
40 % + 4 dB

Industrial Premises within outer circle
60 % + 3 dB

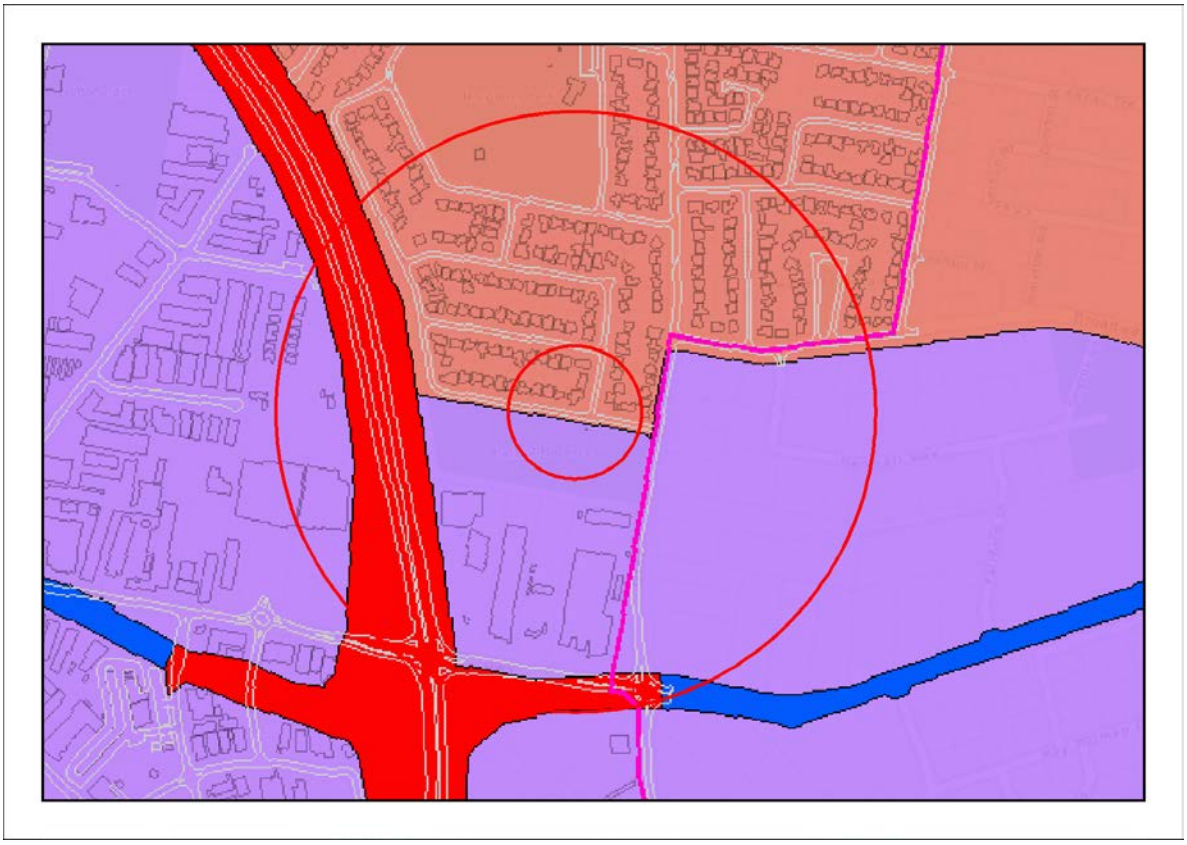


FIGURE 2 – INFLUENCING FACTOR AND ZONING MAP

Therefore, the assigned noise levels are as listed in Table 3.

TABLE 3 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises	0700 - 1900 hours Monday to Saturday	56	66	76
	0900 - 1900 hours Sunday and Public Holidays	51	61	76
	1900 - 2200 hours all days	51	61	66
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	46	56	66
Industrial and Utility Premises	All Hours	65	80	90

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

3. BATCH PLANT OPERATIONS

We understand that it is proposed that the batch plant will operate between 06:00 and 19:00 Monday to Friday and between 06:00 and 12:00 on a Saturday.

A site plan of the proposed batch plant is attached in Appendix A.

Raw material deliveries to site have been estimated at 40 per month during the day period on weekdays only (07:00 to 17:00). Material will be delivered using 55 tonne double semi-tippers hauled via a prime mover. Based on these estimates, allowance has been made in the assessment for two deliveries per day.

Concrete delivering agitator trucks (four trucks based at the site) have been estimated at 14 deliveries per day with 80% of the truck fills to occur each operating day between 07:00 to 11:00.

4. MEASURMENTS AND MANUFACTURER DATA

As this is a unique plant (only one other in WA), noise emissions have been based on data provided by the manufacturer, X-Tec$_{ag.}$

Additionally, noise level measurements of similar equipment, such as agitator trucks, prime movers and semi-trailers, have been conducted. These measured noise levels have formed the basis of sound power calculations presumed in the predictive noise modelling.

The short term hand held measurements conducted during the previous site visit are summarised in Table 4.

TABLE 4 – MEASURED NOISE LEVELS (NEAR FIELD) BATCH PLANT OPERATIONS, dB(A)

Emission Description	Measurement Distance Metres	Sound Pressure Noise Level dB(A)
Truck reversing into Slump Area	3	77
Loading into Hopper (Empty)	1	91
Loading into Hopper (Half Full)	1	86
Loading into Hopper (Full)	1	83
Plant Running *	50	48

* Provided by X-Tec$_{ag}$

5. MODELLING

Modelling of the noise emission propagation was carried out using "SoundPlan". Single point calculations were used to determine the noise level that would be received at noise sensitive premises and adjoining industry located around the proposed facility.

Single point calculations were carried out for all residences on Shalford Street, located to the north of the proposed batch plant. However, only noise levels received at the worst case location have been reported. Single point calculations were also conducted for the neighbouring industrial premises.

SoundPlan uses the theoretical sound power levels determined from measured sound pressure levels to calculate the noise level received at a specific location.

The calculations used the following input data:

a) Ground contours.

b) Sound power levels used in the model were from measured data as per section 4. The sound power data is summarised in Table 6.

c) Standard weather conditions.

d) Plant layout and configuration – Appendix B

Weather conditions for the modelling were as stipulated within the Environmental Protection Authority's "*Draft Guidance for Assessment of Environmental Factors No. 8 - Environmental Noise"* for the day and night periods as listed in Table 5.

TABLE 5 - WEATHER CONDITIONS

Condition	Day Period	Night Period
Temperature	20°C	15°C
Relative Humidity	50%	50%
Pasquill Stability Class	E	F
Wind Speed	4m/s*	3m/s*

* From sources, towards receivers.

TABLE 6 - SOUND POWER LEVELS, dB(A)

Item		Sound Power Level dB(A)
Truck reversing into Slump Area		95
Front End Loader		105
Truck Idling		94
Material Delivery Truck		102
Loading into Hopper (Empty)		105
Batching Plant (Enclosed)		90
Wash Pad	HP Washer	101
	Washer Lance (Tip)	84
Grounds Bin - Conveyor		93

Noise modelling has been carried out for the following scenario:

S1. Proposed new batching plant, all equipment operational including Front End Loader loading, batch plant operating and truck movements on site.

S2. Proposed new batching plant, operating and truck movements on site.

The above noise modelling scenario (proposed batch plant) includes the operation of the following equipment :

Scenario 1 - Day Operations

- 1 X Material Delivery Truck Moving;
- 1x Agitator Truck Loading at Batch Plant;
- 1 x Agitator Truck in Wash Bay
- 1 x Agitator Truck Moving
- 1 x Batch Plant Sources (Plant and Main Silos);
- 2 x Conveyor Systems (Feed Bins)
- 1x Hopper Loading (Empty);
- 1x Front End Loader; and
- 1x Washer (Motor and Lance).

Scenario 2 – Night (prior to 07:00) Operations

- 1x Agitator Truck Loading at Batch Plant;
- 1 x Agitator Truck Moving
- 1 x Agitator Truck in Wash Bay
- 1 x Batch Plant Sources (Plant and Main Silos); and
- 2 x Conveyor Systems (Feed Bins)

Also noted:

- All aggregate storage bins are of cast in situ concrete construction with side wall heights of 3m.

- Site is totally asphalted, ensuring limited “banging” noise from empty trucks traversing rough ground.

- Aggregate hoppers are to be vibration isolated and lined with sound and impact absorbing polyurethane.

- Batch ‘Gob’ hopper is to be lined with polyethylene to reduce noise, dust and wear.

- Main conveyor is to be covered with poly belt covers.

- Proprietary polyethylene idlers and skirting systems are to be used to minimise conveyor noise.

Based on the above operating scenarios, Figures 3 and 4 show the source locations.

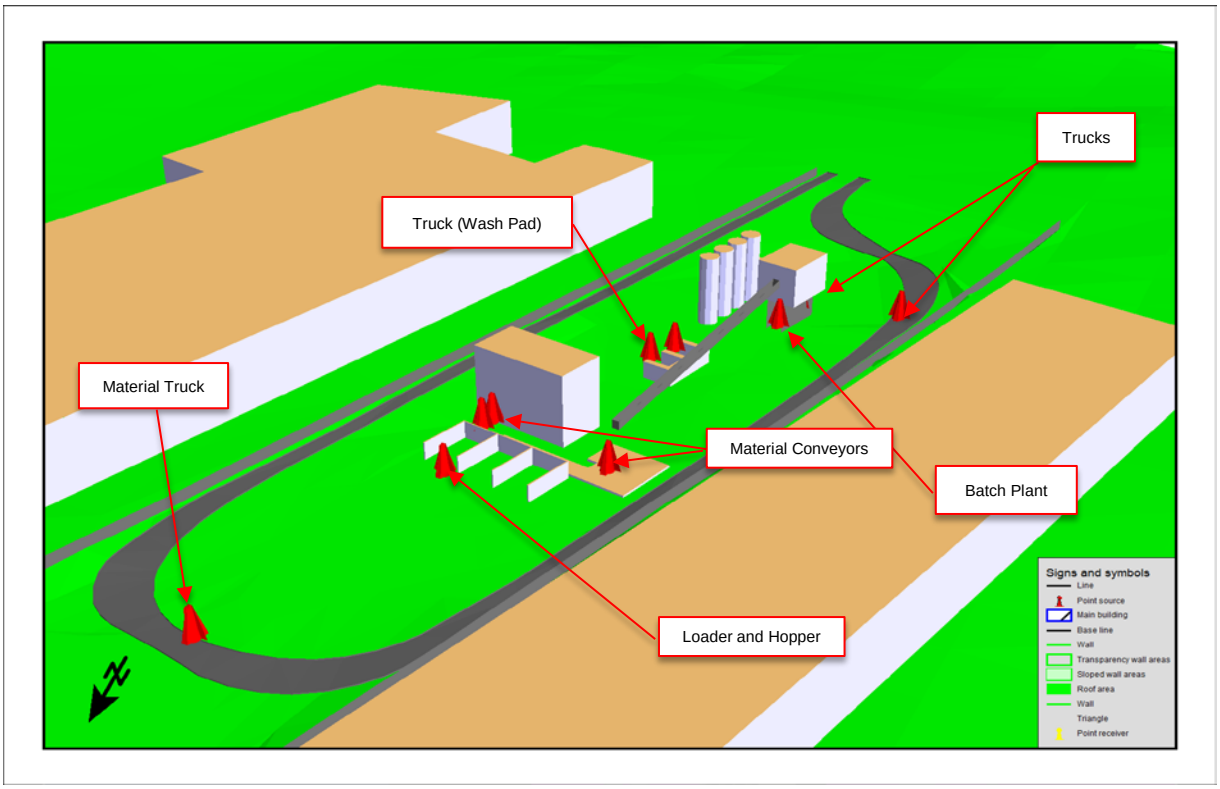


FIGURE 3 – SCENARIO 1 – DAY SOURCE LOCATION

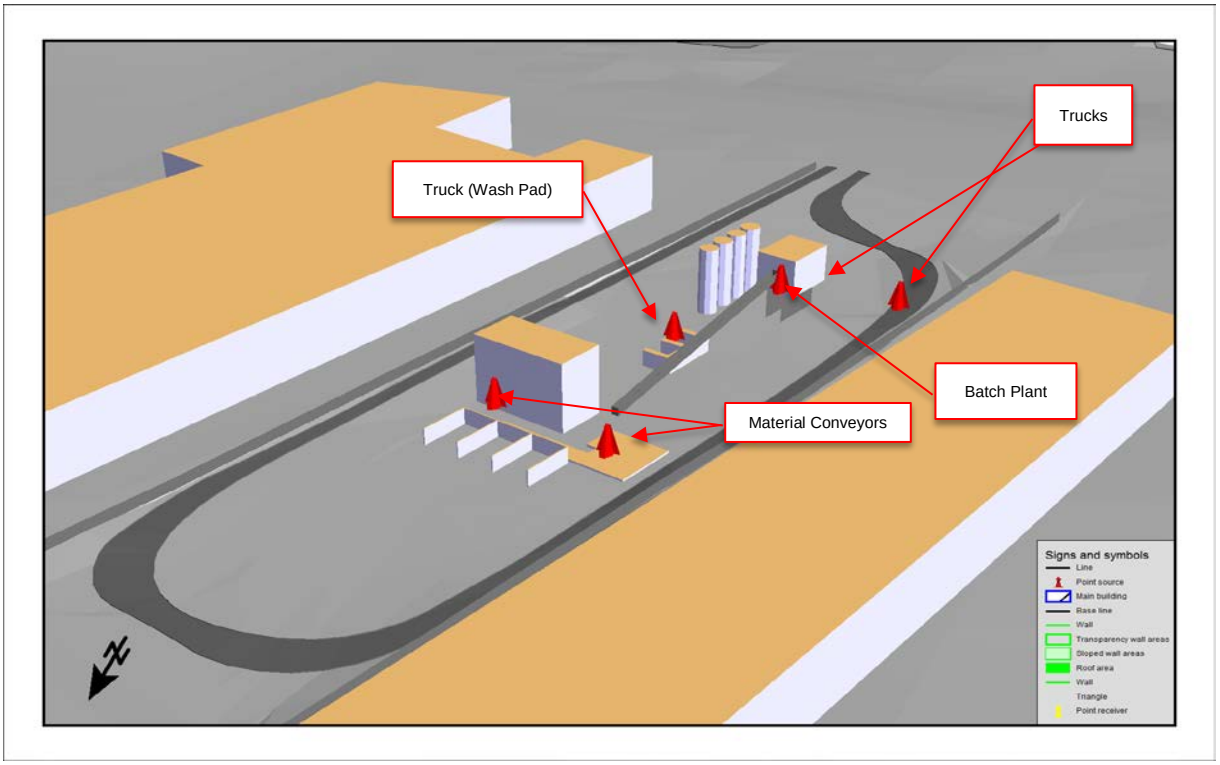


FIGURE 4 – SCENARIO 2 – NIGHT SOURCE LOCATION

6. RESULTS

The results of the single point calculations are listed in Table 7.

TABLE 7 - CALCULATED NOISE LEVELS

Location	Scenario 1 (Day) Calculated Noise Level dB(A)	Scenario 2 (Night) Calculated Noise Level dB(A)
Res 1	39 (44)	26 (31)
Res 2	40 (45)	26 (31)
Res 3	40 (45)	26 (31)
Res 4	45 (50)	25 (30)
Res 5	46 (51)	27 (32)
Res 6	46 (51)	32 (37)
Res 7	47 (52)	36 (41)
Res 8	47 (52)	37 (42)
Res 9	48 (53)	38 (43)
Res 10	48 (53)	38 (43)
Res 11	47 (52)	38 (43)
Res 12	47 (52)	37 (42)
Res 13	47 (52)	34 (39)
Res 14	41 (46)	27 (32)
Nearest Industrial Premises	51-61 (56-66)	49-57 (54-62)

Noise contour plots of the above scenarios are contained in Appendix C.

7. ASSESSMENT / DISCUSSION

As the batching plant would operate before 07:00 hours, noise emissions from this operating mode, excluding raw material deliveries, needs to comply with the assigned L_{A10} night period noise level at the critical neighbouring residence of 46 dB(A). However, the delivery of materials would be restricted to the day period only and noise emissions for full operations need to comply with the assigned L_{A10} day period noise level at the critical neighbouring residence of 56 dB(A).

The highest noise level predicted, including the +5 dB(A) penalty, at the neighbouring residential premises for the two operating scenarios are 53 and 43 dB(A) respectively.

We note that noise emissions from the batch plant are likely to be masked by noise emanating from either vehicles travelling along Tonkin Highway. Although this is the case, to provide a conservative assessment, the +5 dB(A) penalty for tonality has been included in the assessable noise level at the residence.

For the proposed operation, noise received at the neighbouring residential premises from the batch plant would comply with regulatory requirements, given the configuration of the new batching plant.

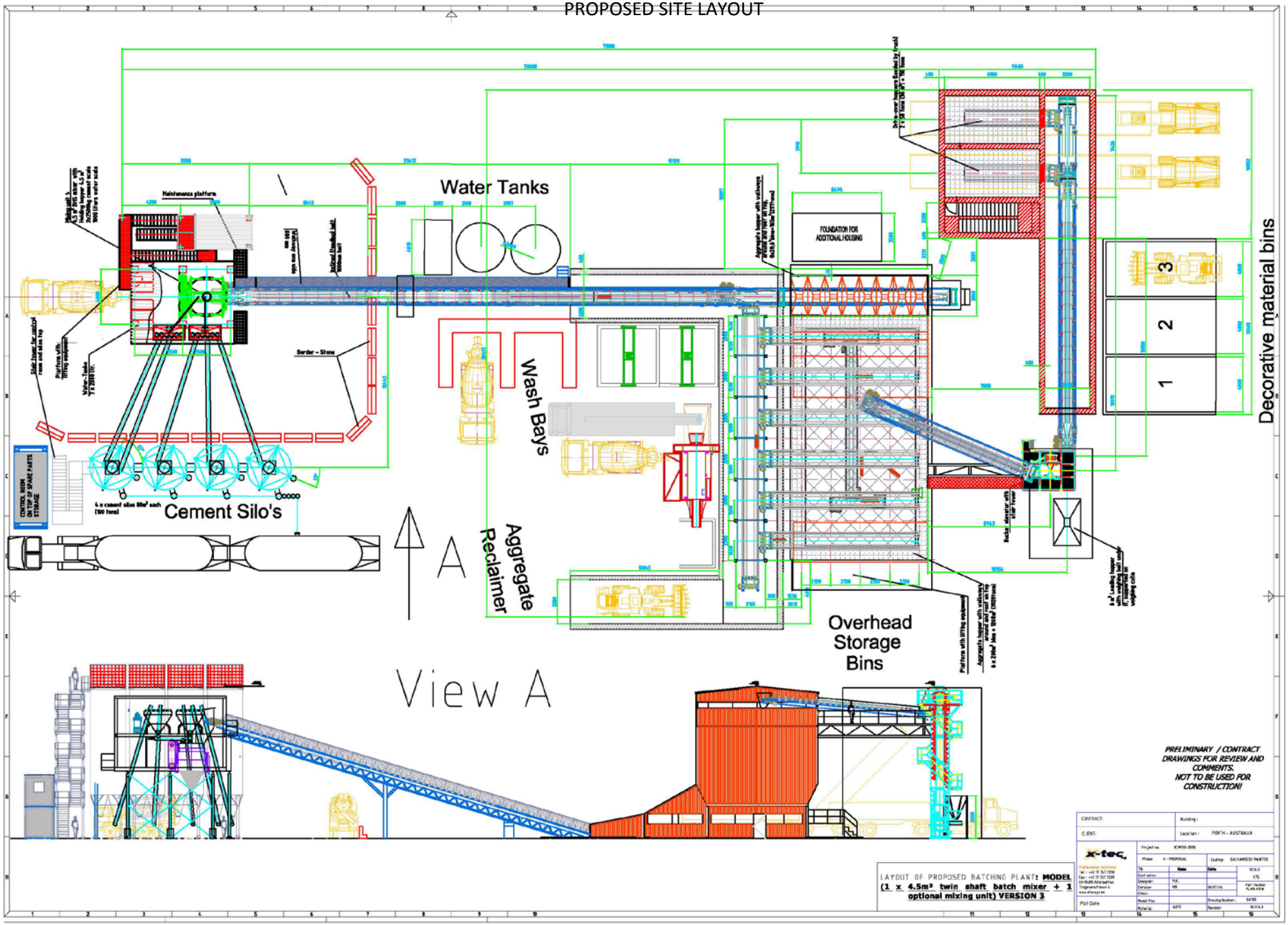
Noise levels at the western and eastern neighbouring industrial premises have been calculated to be 61 dB(A) (highest noise level) at the boundary location, therefore would be deemed to comply with the 65 dB(A) criteria. For other industrial boundaries, compliance is also achieved.

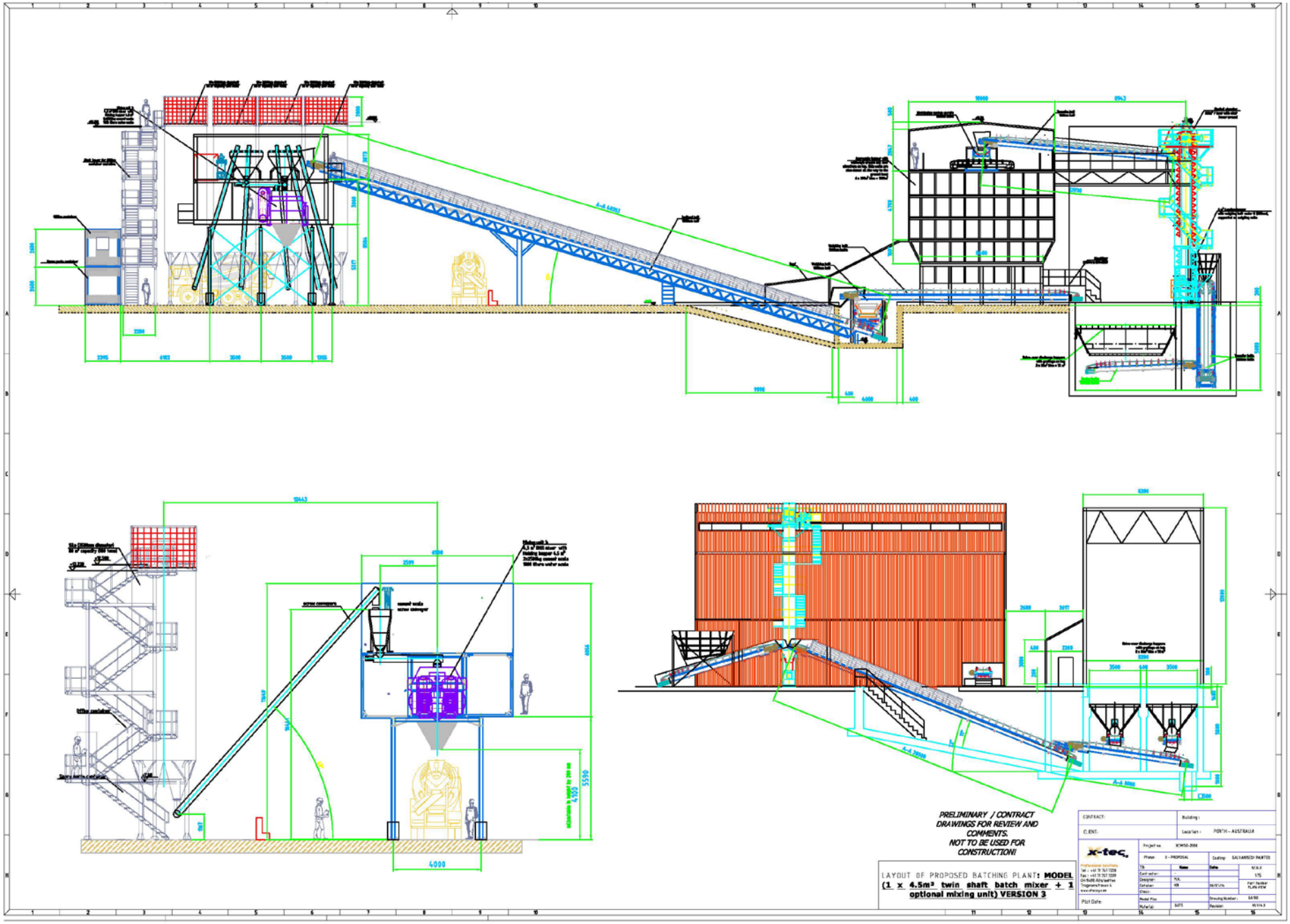
APPENDIX A

Location Plan


Proposed Batching Plant
Shalford St
Ray Williams Way
Grey St
Collier Rd
Tonkin Hwy
Jackson St
4
166 m
© 2014 Google
Google earth

PROPOSED SITE LAYOUT

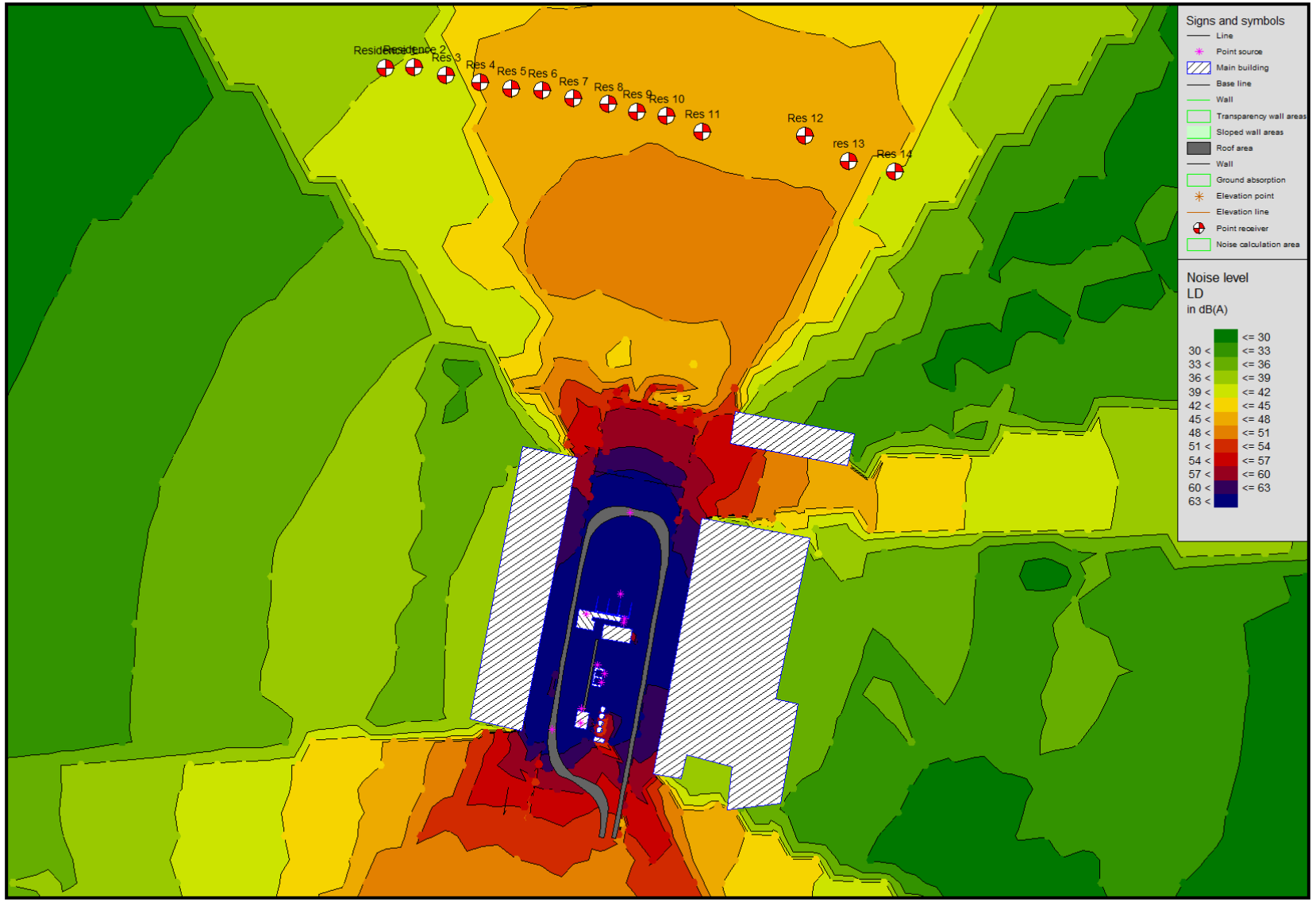



PRELIMINARY / CONTRACT DRAWINGS FOR REVIEW AND COMMENTS. NOT TO BE USED FOR CONSTRUCTION!
LAYOUT OF PROPOSED BATCHING PLANT: MODEL (1 x 4.5m³ twin shaft batch mixer + 1 optional mixing unit) VERSION 3
CONTRACT:
CLIENT:
PERTH - AUSTRALIA
SCALE
1:75
PART NUMBER
PLANS VIEW
DRAWING NUMBER:
REVISION:

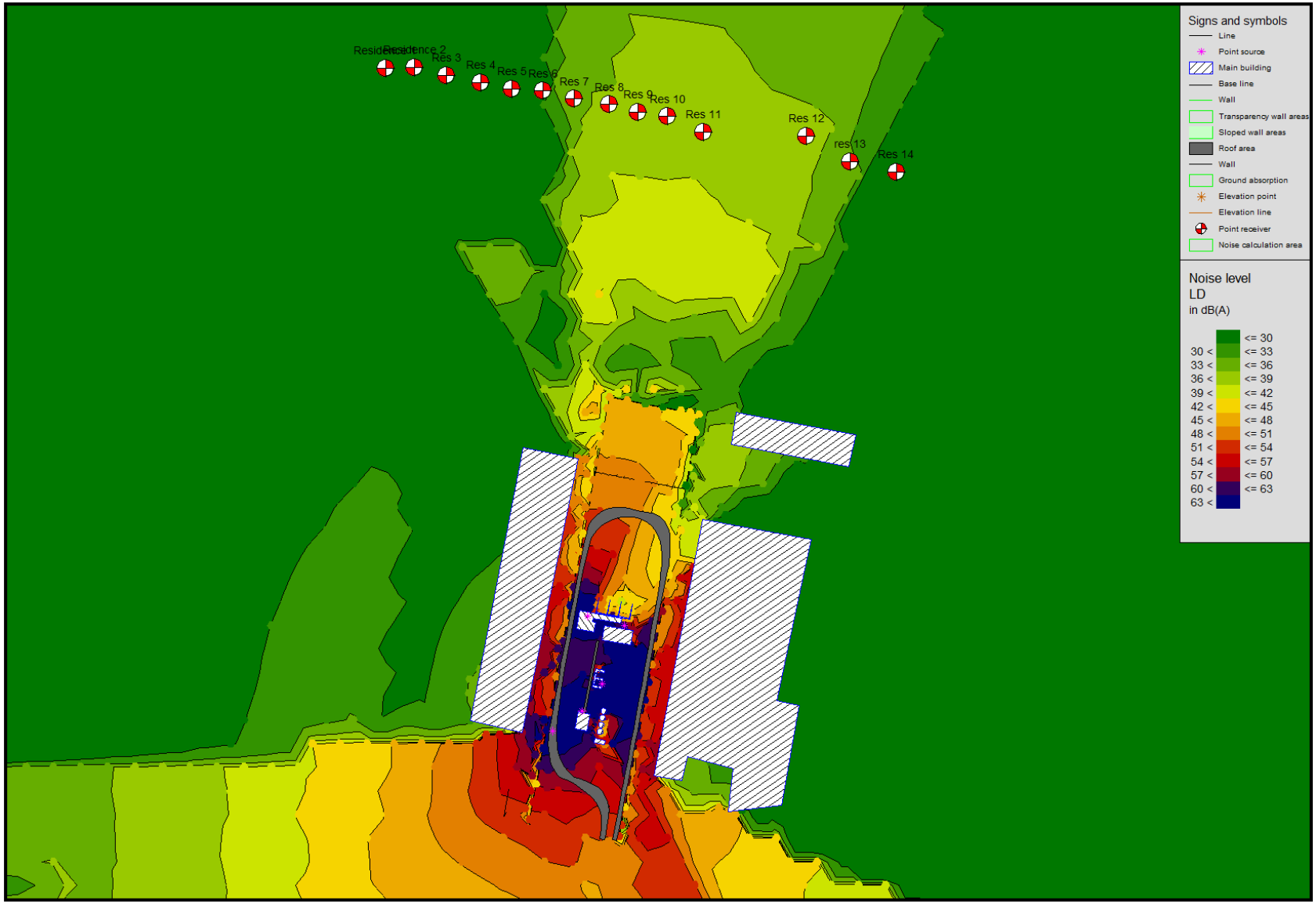
APPENDIX B

NOISE CONTOUR PLOT

Day Noise Levels



Night Noise Levels



Government of **Western Australia**
Department of **Environment and Conservation**

Your ref:
Our ref: DEC9114
Enquiries: Chek Wui Cher
Phone: (08) 9333 7598
Fax: (08) 9333 7575
Email: Wuichek.cher@dec.wa.gov.au

Roger Stephens
WA Premix
PO Box 1457
Bibra Lake WA 6965

Dear Mr Stephens,

Information Request – 277 Collier Road, Bayswater WA 6053

Thank you for your letter dated 27 April 2011, which was submitted to the Contaminated Sites Branch (CSB) of the Department of Environment and Conservation (DEC). The letter was received on 29 April 2011. The letter requests re-classification of the site and that DEC provide Ransberg Pty Ltd (Ransberg) with all relevant information pertaining to the site.

DEC understands that Ransberg is the registered owner of 277 Collier Road, Bayswater (the site) trading as WA Premix.

The site was first classified under the *Contaminated Sites Act 2003* as *possibly contaminated – investigation required* on 26 September 2008. The classification was updated on 26 July 2010 based on additional information submitted to DEC in July 2010. A Basic Summary of Records (BSR) is attached, which contains the updated reasons for classification (Attachment 1). Comments provided by Department of Health (DoH) regarding a health risk assessment, which DEC considered when updating the reasons for classification are also attached (refer Attachment 2).

Ransberg also seeks guidance on any actions required for re-classification of the site. DEC recommends further groundwater investigations are conducted at the site by a suitably qualified environmental consultant. The investigations should address the comments provided by DoH. Please see the attached Fact Sheet on how to hire a contaminated site consultant (Attachment 3).

Ransberg requests DEC re-classify the site as suitable for commercial/industrial use, as DEC understands that Ransberg is in the process of gaining approvals for the construction of a concrete batching plant. Based on the available information, the site appears suitable for continued commercial/industrial use, but may not be suitable for more sensitive land uses (e.g. residential housing, day car centres). If the relevant approval authority (e.g. local council, Western Australian Planning Commission) requests advice from DEC regarding the development application, DEC will respond to the relevant authority accordingly.

Ransberg requests all relevant information held by DEC pertaining to possible contamination of the site, including investigations and advice received from other authorities.

DEC advises that access to all reports on DEC's files will require an application for a Detailed Summary of Records (DSR) with a Form 2, which is attached. A payment of $300 applies to all DSR requests. For access to documents such as advice received from other authorities, a Freedom of Information (FOI) Act application can be submitted to DEC. For information about FOI fees and FOI Act applications, please refer to the following link: www.dec.wa.gov.au/content/view/3368/2046/ .

Please contact Chek Wui Cher, Environmental Officer of the Contaminated Sites Branch, on 9333 7598 if you wish to discuss the above.

Yours sincerely

Andrew Miller
A/MANAGER
CONTAMINATED SITES BRANCH
26 May 2011

Attachment 1 – Basic Summary of Records
Attachment 2 – Department of Health's comments regarding the health risk assessment
Attachment 3 – Fact Sheet 5 – How to hire a contaminated site consultant or an Accredited Auditor
Attachment 4 – Form 2 – Request for a summary of records in respect to land

Attachment 1

Department of Environment and Conservation
GOVERNMENT OF WESTERN AUSTRALIA

Contaminated Sites Act 2003
Basic Summary of Records Search Response

Report Generated at: 10:07:35AM, 20/05/2011

Receipt No. DEC778

Search Results

This response relates to a search request received for:

277 Collier Rd
Bayswater WA 6053

This parcel belongs to a site that contains 1 parcel(s).

According to Department of Environment and Conservation records, this land has been reported as a known or suspected contaminated site.

Address	277 Collier Rd Bayswater WA 6053
Lot on Plan Address	Lot 2 On Diagram 55129
Parcel Status	**Classification:** *26/07/2010 - Possibly contaminated - investigation required* **Nature and Extent of Contamination:** Groundwater beneath the site is impacted by total petroleum hydrocarbons. **Restrictions on Use:** Please refer to Reasons for Classification for further information on the contamination present at the site. **Reason for Classification:** This site was reported to the Department of Environment and Conservation (DEC) as per reporting obligations under section 11 of the 'Contaminated Sites Act 2003', which commenced on 1 December 2006. The site classification is based on information submitted to DEC by July 2010. This site was historically used as a fuel depot and service station, for approximately 32 years from the 1970s to 2007, a land use that has the potential to cause contamination, as specified in the guideline 'Potentially Contaminating Activities, Industries and Landuses' (Department of Environment, 2004). A series of soil and groundwater investigations have been carried out at the site between 2006 and 2009 as part of a divestment program. A soil investigation, undertaken in December 2007 and January 2008, after the removal of site infrastructure (e.g. under-ground storage tanks, fuel bowsers, triple interceptor traps), found hydrocarbons (such as from diesel and oil) present in soils at concentrations exceeding Ecological Investigation Levels and Health-based Investigation Levels for commercial and industrial sites. Remedial works comprising excavation, stockpiling, and off-site disposal to a licensed landfill facility were carried out on the soils of the site in February 2008, and all identified impacted soils have been successfully remediated.

Department of Environment and Conservation

GOVERNMENT OF WESTERN AUSTRALIA

Contaminated Sites Act 2003

Basic Summary of Records Search Response

Report Generated at: 10:07:35AM, 20/05/2011

Validated non-impacted soils from the excavations and imported fill have been used to backfill on-site excavations. The imported fill has been successfully validated.

A groundwater investigation, carried out in February 2008, found total petroleum hydrocarbons present in groundwater on-site at concentrations exceeding Groundwater Intervention Values (Netherlands Ministry for Housing, Spatial Planning and Environment, 2000). Total petroleum hydrocarbons were also detected east and south of the site, in off-site groundwater monitoring bores, however, at concentrations below Groundwater Intervention Levels.

A health risk assessment was undertaken on the site in 2009. Department of Health (DoH) has reviewed the information provided, and commented on some issues concerning the risk evaluation of the site. These include groundwater results showing that the limit of reporting for benzo(a)pyrene is set above the criteria published in 'Contaminated sites Reporting Guideline for Chemicals in Groundwater' (Department of Health, 2006) which is the relevant assessment level for the use of groundwater for garden irrigation and other non-potable uses.

As such, DoH and DEC is unable to determine the risk associated with benzo(a)pyrene present. DoH also noted that the presence of methyl tertiary butyl ether (MTBE) has not been determined as part of the groundwater monitoring program, and the risks associated with the presence of asbestos have not been adequately determined in the health risk assessment. DEC has no reason to dispute the comments of DoH.

As there are grounds to indicate possible contamination of the site and groundwater has not been fully investigated, and a risk assessment to determine the risk to human health, the environment, or any environmental value has not been carried out to the standard required by DoH, the site is classified as 'possibly contaminated - investigation required'.

DEC, in consultation with the DoH, has classified this site based on the information available to DEC at the time of classification. It is acknowledged that the contamination status of the site may have changed since the information was collated and/or submitted to DEC, and as such, the usefulness of this information may be limited.

In accordance with Department of Health advice, if groundwater is being or is proposed to be abstracted, DEC recommends that analytical testing should be carried out to determine whether the groundwater is suitable for its intended use.

Certificate of Title Memorial

Under the Contaminated Sites Act 2003, this Site has been classified as "possibly contaminated - investigation required". For further information on the contamination status of this Site, please contact the Contaminated Sites section of the Department of Environment & Conservation.

Current Regulatory Notice Issued

Type of Regulatory Notice: Nil

Date Issued: Nil

Department of Environment and Conservation
GOVERNMENT OF WESTERN AUSTRALIA

Contaminated Sites Act 2003

Basic Summary of Records Search Response

Report Generated at: 10:07:35AM, 20/05/2011

General

No other information relating to this parcel.

Attachment 2

DEC 9114
4314236
Cont Sites

Government of **Western Australia**
Department of **Health**
Environmental Health Directorate

Your Ref: DEC9937
Our Ref: EHB-02324
Enquiries: R Tan 9388 4977

Andrew Miller
A/Manager
Contaminated Sites Branch
Locked Bag 104
BENTLEY DELIVERY CENTRE, WA 6983

Dear Andrew

URS HEALTH RISK ASSESSMENT – FORMER SHELL BAYSWATER DEPOT – 277 COLLIER ROAD, BAYSWATER

Thank you for your correspondence of the 9 March 2010 and submission of the report titled *Human Health and Environmental Risk Assessment at the Former Shell Bayswater Depot* (URS, 2009), seeking comment on the adequacy of the Health Risk Assessment (HRA) from the Department of Health (DOH). Relevant officers of the Environmental Health Hazards Unit have reviewed the document pertaining to the site above and provide the following feedback.

Based on the information provided, DOH would like to highlight some issues concerning the risk evaluation of the site. Groundwater analysis of the site has been historically analysed for polycyclic aromatic hydrocarbons (PAH) however DOH would like to bring to your attention that the limit of reporting (LOR) for benzo(a)pyrene has been consistently set above the DOH Contaminated Sites Reporting Guideline (2006) for Chemicals in Groundwater. The DOH guideline for benzo(a)pyrene for non-potable use is set at 0.1 µg/L however the LOR has been set at 1 µg/L hence DOH is unable to assess if there is a potential health impact of the groundwater. DOH also noted the absence of PAH monitoring in URS most recent groundwater monitoring program and the lack of justification in the report to support this action. The presence of PAH such as benzo(a)pyrene in groundwater can impact on the risk characterisation of the site hence it is imperative that it is included as part of URS groundwater monitoring program at the appropriate level of reporting.

Further, DOH would like to draw DEC's attention to the potential issue of MTBE contamination given the site's historical use. DOH noted that MTBE has not been considered by URS as a potential issue and advise that the presence of MTBE be determined as part of URS groundwater monitoring program.

It should be noted that URS has not included the issue of asbestos in its HRA. As stated in the HRA document, "*Except as otherwise expressly stated in its report, URS makes no*

All Correspondence: PO Box 8172 Perth Business Centre WA 6849
Grace Vaughan House 227 Stubbs Terrace Shenton Park, WA 6008
Tel (08) 9388 4999 Fax (08) 9388 4955

warranty or representations as to the presence or otherwise of asbestos and/or asbestos containing materials (ACM) on the site." DOH is of the opinion that the relevance of ACM needs to be determined in order to establish whether ACM should be included in the HRA.

For information, URS should note that DOH considers the use of 10^{-6} for the assessment of incidental lifetime cancer risk (ILCR) as the more appropriate value in the derivation of health-based trigger levels.

If you require further information on this issue please contact the Toxicology Branch on 9388 4946.

Yours sincerely,

Martin Matisons
PRINCIPAL TOXICOLOGIST
29 June 2010

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