KUR-World

Air

Chapter 12.0

Environmental Impact Statement

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12.0 AIR

The purpose of this chapter is to:

- Describe the existing regulatory frameworks regarding the assessment of the project with respect to air quality
- Provide the findings of the survey work undertaken on the site
- Identify the impacts of the project on air quality
- Identify current regulatory management tools
- Provide mitigation and management measures to support those regulatory tools which will be applicable throughout the life of the project.

12.1 Statutory framework and standards

The air quality impacts from the KUR-World development are regulated by the Queensland *Environmental Protection Act 1994* (EP Act). The Queensland *Environmental Protection (Air) Policy 2008* (EPP(Air)) provides the framework for determining criteria to assess air impacts in accordance with the EP Act. The EPP(Air) provides objectives for air quality indicators, which were adopted to assess air quality impacts of the KUR-World development (Appendix 12: refer to Section 5.2, Section 5.3 and Section 5.4). Additional guidelines for assessing air quality impacts outside of the EPP (Air) were adopted where relevant, including the State Planning Regulation and Commonwealth Measures and Manuals

The Queensland Odour Impact Assessment Guideline (EHP 2013a) provides the relevant guideline for odour impacts. The criteria specified by this guideline were adopted to assess odour impacts of the KUR-World development (Appendix 12 refer to Section 5.1.2).

The Queensland Department of Environment and Heritage Protection (EHP) provides the relevant guideline for dust deposition (EHP 2013b). The criteria specified by this guideline were adopted to assess dust deposition impacts of the KUR-World development (Appendix 12: refer to Section 5.5).

12.1.1 Environmental values

The environmental values defined by the EPP(Air) to be enhanced or protected are:

(a) the qualities of the air environment that are conducive to protecting the health and biodiversity of ecosystems; and

(b) the qualities of the air environment that are conducive to human health and wellbeing; and

(c) the qualities of the air environment that are conducive to protecting the aesthetics of the environment, including the appearance of buildings, structures and other property; and

(d) the qualities of the air environment that are conducive to protecting agricultural use of the environment.

These values are protected by the standards as adopted for the KUR-World Air Quality Impact Assessment (Appendix 12).

12.2 Existing air environment

An air quality impact assessment was completed by ASK Consulting Engineers Pty Ltd (ASK). The results of the work completed by ASK inform this chapter of the EIS, and the ASK report (*i.e.* Appendix 12) is included in Appendix 12.

12.2.1 Existing air emission sources

The existing potential air quality impacting emission sources in the vicinity of the KUR-World development were identified by a field survey, and their possible emissions were considered. The existing emission sources were considered unlikely to impact on the KUR-World development due to adequate separation distance between sources and the KUR-World development and the existence of natural screening features (Appendix 12: refer to Section 2.3).

12.2.2 Sensitive receptors (existing and proposed)

The sensitive receptors relevant to air quality impact assessment were identified and reported in Appendix 12. Twenty-eight existing off-site sensitive receptors and eight proposed on-site sensitive receptors were identified for the KUR-World development (Appendix 12: refer to Table 2.1 and Table 3.3). An additional two sensitive receptors were identified for potential air quality impacts related to access road construction (Appendix 12: refer to Section 3.2.3). The list and location of sensitive receptors is presented in Table 12-1 and Figure 12-1 (sourced from ASK 2017a[1]).

Table 12-1: List of Sensitive Receptors with UTM Coordinates (WGS84 Z55)

ID	Address	Real Property Description	Indicative Distance and Direction from Proposed Description Developments	Easting (m)	Northing (m)
1	7 Hilltop Close	86/RP746616	300m to the south of the villas	351965	8138646
2	10 Hilltop Close	79/RP746616	"	352033	8138670
3	2 Warril Drive	76/RP742969	100m to the south of the villas	351995	8138883
4	4 Warril Drive	75/RP742969	"	352043	8138831
5	6 Warril Drive	74/RP742969	"	352102	8138776
6	8 Warril Drive	73/RP742969	"	352147	8138829
7	10 Warril Drive	72/RP742969	"	352184	8138865
8	1 Warril Drive	77/RP742969	"	352301	8138852
9	10 Punch Close	44/RP737515	300m to the east of the villas 5 star resort	352481	8139138
10	8 Punch Close	43/RP737515	"	352512	8139179
11	6 Punch Close	42/RP737515	"	352524	8139218
12	4 Punch Close	41/RP737515	"	352549	8139245
13	Punch Close	40/RP737515	"	352578	8139273
14	77 Barnwell Road	16/N157227	200m to the east of the equestrian centre	351384	8140301
15	78 Barnwell Road	1/RP735374	100m to the north-east of the farm accommodation	351275	8140479
16	62 Barnwell Road	2/SP218094	300m to the north of the farm accommodation	351272	8140708
17	2 Leilas Way	2/RP748612	300m to the north-east of the farm accommodation	351438	8140530
18	78 Monaro Close	8/RP737018	50m to the north of farm accommodation	350979	8140493
19	68 Monaro Close	9/RP737018	"	350920	8140523

[1] ASK 2017a is included as Appendix 12

ID	Address	Real Property Description	Indicative Distance and Direction from Proposed Description Developments	Easting (m)	Northing (m)
20	77 Monaro Close	7/RP737018	"	351055	8140569
21	64 High Chapparal Road	1/RP748876	500m to the north-west of the equestrian centre	350230	8140570
22	76 High Chapparal Road	3/RP748876	"	350351	8140363
23	73 High Chapparal Road	8/RP728075	"	350437	8140516
24	131 Boyles Road (Pet Resort)	4/RP749637	300m to the north-west of the villas	349941	8139832
25	165 Boyles Road	3/RP749637	600m to the west of the villas	349640	8139572
26	197 Boyles Road	1/RP866988	"	349449	8139375
27	265 Boyles Road	2/RP734821	700m to the south-west of the villas	349765	8138872
28	186 Mount Haren Road (Billabong tourist facility)	44/RP851441	100m to the south-east of the small education centre	351217	8137600

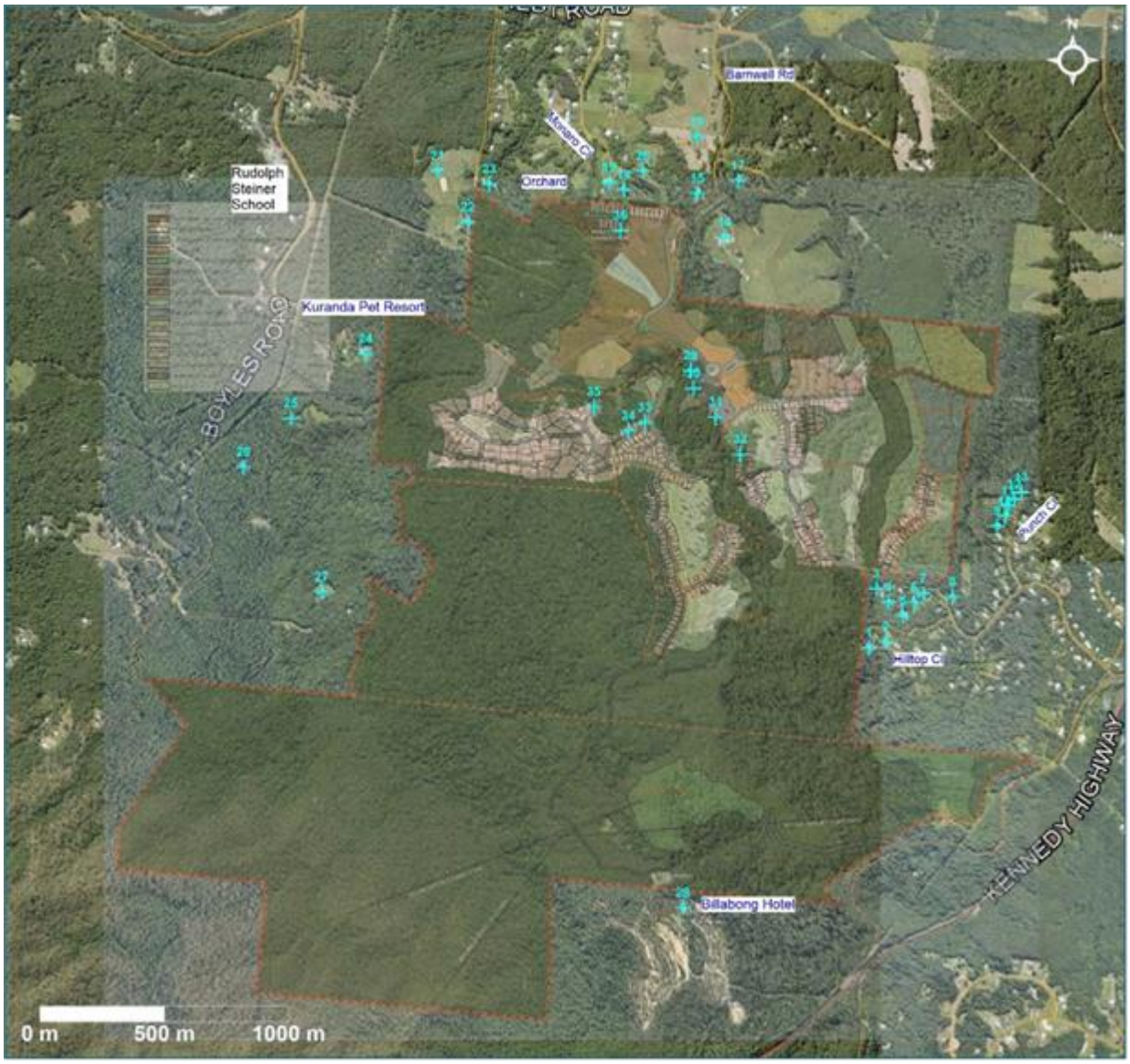

Figure 12-1: Location of site and sensitive receptors.
Note: Figure 1 sourced from Appendix 12 (refer to figure 2.2).

12.2.3 Summary of air quality values and criteria

Air quality attributes with specific standards nominated by either the State or Commonwealth, or in the absence of quantitative limits addressed in guidelines, that is dust, informed the impact assessment. Those criteria adopted for the assessment are summarised in Table 12-2 below.

Table 12-2 Adopted criteria for this Assessment.

Air Quality Indicator	Period	Criteria (µg/m^3)
Benzene	1 year	10
CO	8 hours	11,000[2]
Formaldehyde	1 day	54
NO_2	1 hour	250 [2]
	1 year	62
$PM_{2.5}$	1 day	25
	1 year	8
PM_{10}	1 day	50 [1]
TSP	1 year	90
Odour from fugitives	99.5% 1 hour	2.5 ou
Dust deposition	1 month	120mg/m^2/day

Notes:
[1] Five allowable exceedances are currently allowed although the intent of this was to cater for regional events.
[2] Allowance is made to exclude one day.

12.3 Surveys

The results of the desk-based review informed the design of the field surveys and predictions regarding air quality assessment. KUR-World Air Quality Impact Assessment (Appendix 12) documents a detailed description of the approach to the investigation with the following being a summary:

- The statutory information described earlier was used to inform the assessment of existing receptors that have the potential to be impacted by the proposed project. The receptors were selected based on the presence of a sensitive land use and the distance and direction of the receptor from parts of the proposed development site that may include air emission sources.
- A survey of potential air emission sources in the surrounding area was conducted on 22nd and 23rd February 2017.
- The meteorological component of The Air Pollution Model (TAPM) was used to provide wind fields over the region. The databases required to run TAPM are provided by CSIRO and include global and Australian terrain height data, vegetation and soil type datasets, sea surface temperature datasets and synoptic scale meteorological datasets. TAPM produces detailed fields of hourly estimated temperature, winds, pressure, turbulence, cloud cover and humidity at various levels in the atmosphere as well as surface solar radiation and rainfall. For the purpose of providing topographic data for the detailed modelling, the coordinates of a rectangular grid representative of the area around the proposed site were derived using WGS84 coordinates from Google Earth Professional.
- To predict what happens to pollutants after they are emitted to air, a mathematical model is used to simulate their dispersion and deposition. The associated uncertainties in models are addressed by using statistics over long simulation times, and deriving emission rates based on published

emission factors or data representing high emission conditions. Calpuff (Version 7.2.1) was chosen as the most appropriate model

12.4 Findings

12.4.1 Construction emission sources and air quality impacts

12.4.1.1 Construction emission sources

Construction activities on-site have potential to generate emissions of dust particles and combustion products. Typical plant equipment used for construction generates dust emissions from excavation, filling material handling, hauling on unsealed roads and wind erosion of unsealed surfaces. Emission of combustion by-products includes suspended particulates, NO_x, SO_2, CO and volatile organic compounds (VOC).

12.4.1.2 On-site construction emission impacts

The nearest existing off-site sensitive receptor from the northern portion of the KUR-World development is approximately 50 metres north of the proposed farm stay accommodation. The nearest downwind off-site sensitive receptor is 300 metres north-west of the proposed Stage 1B construction. All existing sensitive receptors are separated by dense trees with the exception of off-site receptors 18 and 19, which are partially screened by trees near the property boundaries (Figure 1). The vegetation separating sensitive receptors from the development site will act as a barrier and filter for on-site emissions and reduce impacts on air quality at the receptors. The off-site sensitive receptors most susceptible to impacted air quality are receptors 18 and 19 due to their proximity to the development site and the absence of dense vegetation separating them from the development site. However, the construction activity proposed near receptors 18 and 19 is relatively low scale (Appendix 12: refer to Section 4.2).

Construction activities in the southern portion of the KUR-World development will be minimal. The nearest existing off-site sensitive receptor is approximately 100 metres south-east of the site and surrounded by dense trees. Dominant winds are likely to blow the construction emissions away from this sensitive receptor, and it is unlikely that this receptor will be impacted by the construction activities in the vicinity.

It is considered that, for on-site construction, good practice control measures should be sufficient to prevent exceedance of air quality criteria. Air quality impacts can be mitigated by measures provided, and the construction activity does not require quantitative modelling (Appendix 12: refer to Section 4.2).

12.4.1.3 Off-site road construction emission impacts

Road construction activities off-site have potential to impact off-site sensitive receptors. Three access roads are proposed for the KUR-World development; however, the primary access road was considered to have the most potential to impact sensitive receptors (Appendix 12: refer to Section 3.2.3). Because of the identified potential to exceed air quality criteria, the air quality impacts of construction of the primary access road underwent detailed dispersion modelling (Appendix 12 refer to Section 1.6).

12.4.2 Operational emission sources and air quality impacts

Potential operational sources of emissions which can impact air quality for the KUR-World development were identified. The emission sources and their potential emissions are presented in Table 12-3 (sourced from Appendix 12: refer to Table 3.2) and outlined below.

Table 12-3 Potential operational air quality impacting emission sources.

Emission source	Potential emissions
Sewage treatment plant and sewage pump stations	Odour
Biosolid re-use	Odour
Irrigation of recycled water	Odour
Power generators	Combustion by-products (particulates, NO_X, SO_2, CO etc.)
Boilers	Combustion by-products (particulates, NO_X, SO_2, CO etc.)
Solid wastes	Odour
Composting	Dust and odour
Cooking exhausts	Odour, Combustion by-products (particulates, NO_X, SO_2, CO etc.)
Animal farm and stables	Dust and odour

Note: Table 12-2 sourced from Appendix 12 (refer to Table 3.2).

12.4.2.1 Sewage treatment plant

Operation of the sewage treatment plant (STP) was considered to have the greatest potential for emissions to impact air quality. The STP is proposed for the northern portion of the KUR-World development, with waste water from the southern zone pumped to the STP. Its location is distant from off-site sensitive receptors, and potential impacts are likely limited to the proposed on-site sensitive receptors. The air quality impacts of the STP underwent detailed dispersion modelling for impacts of odour emission.

12.4.2.2 Biosolids reuse

Biosolids generated from waste water treatment will be taken off-site by an external contractor. Odour may be emitted in the storage of the biosolids prior to removal from the site. However, with proper management, odour from the operation can be minimised and does not require quantitative modelling (Appendix 12 refer to Section 4.1).

12.4.2.3 Power generation and boilers

Boilers that will operate on-site will emit combustion by-products through stacks. It is anticipated that the boilers will be small and emissions will not cause air quality impacts beyond the immediate vicinity of the exhausts. Diesel generators will be operated on-site at the southern area of Stage 1B and, to a minor extent, Stage 1A. The Stage 1B generators will have a maximum anticipated demand of 270kVA. The distance of the proposed Stage 1B generators from all sensitive receptors, and the presence of dense vegetation providing separation from receptors, makes the generators unlikely to impact on air quality; therefore, the generators do not require quantitative modelling (Appendix 12: refer to Section 4.1). Measures have been recommended (Section 1.7) to ensure sensitive receptors in the southern area are not exposed to impacted air quality from the operation of the generators.

12.4.2.4 Solid wastes

Putrescible solid wastes generated will be stored on-site, and general waste and recycling bins will be located throughout the development. Waste will be internally collected and stored at the central waste and recycling storage facility prior to collection by the waste service provider. The location of the central waste and recycling storage facility is indicated in Appendix 12 (refer to Figure 3.6). The waste stored on-site will have potential to decay and cause odour; however, with proper management, odour from the waste storage can be prevented or minimised and does not require quantitative modelling (Appendix 12: refer to Section 4.1).

12.4.2.5 Composting

Organic green waste, animal manure and stable bedding material from the equestrian centre will be composted on-site. The composting location will be in the Farm Theme Park and Equestrian Centre as

indicated in Appendix 12 (refer to Figure 3.6). The composting is a potential dust and odour source. Odour and dust from the composting operation are considered consistent with existing activities at the site and sufficiently minor to not require quantitative modelling (Appendix 12: refer to Section 4.1).

12.4.2.6 Animal farm

The animal farm is a potential source of fugitive odour from spoilt animal feed and excreta. The unsealed roads and surfaces are also potential sources of fugitive dust. Odour and dust from the farm are considered consistent with existing activities at the site and sufficiently minor to not require quantitative modelling (Appendix 12: refer to Section 4.1).

12.5 Assessment of potential impacts

The construction of the primary access road and operation of the sewage treatment plant were determined to have the most potential to impact air quality for sensitive receptors. Detailed modelling was undertaken for these activities using the Calpuff (Version 7.2.1) model, which was determined to be the best suited model to the conditions of the KUR-World development site (Appendix 12 refer to Section 8.1). Meteorological conditions were incorporated into the model from the best available information (Appendix 12: refer to Section 6). For modelling air quality impacts of access road construction, the model was configured according to specifications for the construction of the primary access road (Appendix 12: refer to Section 8.4). Nitrogen dioxide emissions were calculated using the Ambient Ratio Method 2 (Appendix 12: refer to Section 8.5). For modelling air quality impacts of the STP, the model was configured according to specifications of a STP with the capacity assumed to be required for the KUR-World site (Appendix 12: refer to Section 8.3).

12.5.1 Road

12.5.1.1 Derivation of criteria and background values

Air quality values criteria were adopted to assess air quality impacts of the construction of the primary access road. These criteria were sourced from the EPP(Air), the Queensland Odour Impact Assessment Guideline (EHP 2013a) and the Department of Environment and Heritage Protection (EHP 2013b). The derivation of these criteria is presented in Appendix 12 (refer to Section 5). To assess the cumulative impacts of emissions from the development with existing air quality, the best available background air quality data were sourced from local and regional monitoring data. The sources for background data and background values adopted are provided in Appendix 12 (refer to Section 7.4).

12.5.1.2 Predicted impacts

Modelling of the emissions from construction of the primary access road predicts that air quality impacts from suspended particulates and gas emissions will be within the criteria (refer to Table 12-4 and Table 12-5).The modelling predicts dust deposition rates within the criteria if the water application rate is greater than 2L/m^2/h (refer to Table 12-6) Maintaining this water application rate, and ceasing operations when wind conditions cause dust to be blown towards the nearby sensitive receptors, will allow compliance with the criteria (Appendix 12 refer to Section 9.5).

Table 12-4 Predicted Suspended Particulate Concentrations.

Receptor ID#	Receptor Height (m)	Annual Average TSP (µg/m^3)	Maximum 24 h average PM_{10} (µg/m^3)	$PM_{2.5}$ (µg/m^3) Maximum 24h Average	$PM_{2.5}$ (µg/m^3) Annual Average
Criterion		90	50	25	8
Background		24	18	6.7	5.8
1	0	7	14	3.3	0.5

1	0.5	7	14	3.3	0.5
1	1.0	7	14	3.3	0.5
1	1.5	7	14	3.3	0.5
2	0	15	10	2.5	1.2
2	0.5	15	10	2.5	1.2
2	1.0	15	10	2.5	1.2
2	1.5	15	10	2.5	1.2

Table 12-5 Predicted Gaseous Concentrations.

Receptor ID#	Receptor Height (m)	Formaldehyde (µg/m^3)	Benzene (µg/m^3)	CO (µg/m^3)	NO_2 (µg/m^3)	
Averaging Period		24 Hours	1 Year	8 Hours	1 Hour (99.9th Percentile)	1 Year
Criterion		54	10	11,000	250	62
Receptor/Background						
1	0	1.0	0.003	23	68	4
1	0.5	1.0	0.003	23	68	4
1	1.0	1.0	0.003	23	68	4
1	1.5	1.0	0.003	22	68	4
2	0	0.7	0.007	14	68	9
2	0.5	0.7	0.007	14	68	9
2	1.0	0.7	0.007	14	68	9
2	1.5	0.7	0.007	14	68	9

Table 12-6 Predicted Dust Deposition Levels Not Including Background.

Receptor ID#	Annual Average Dust Deposition (mg/m^2/day)	Maximum monthly deposition (mg/m^2/day)	Maximum monthly deposition (mg/m^2/day) at 75% control efficiency
Averaging Period	Annual Average	30 days	30 days
Criterion		120	120
Receptor/Background		30	30
1	65	135	68
2	148	178	89

12.5.2 Sewage treatment plant

12.5.2.1 Derivation of criteria and background values

For assessment of potential impacts of odour from the sewage treatment plant, a criterion for odour emission impact on sensitive receptors was adopted as specified by the Queensland Odour Impact Assessment Guideline (EHP 2013a). The appropriate criterion is 2.5 odour units, and details of the derivation of this criterion are provided in Appendix 12 (refer to Section 5.1.2). For the purpose of comparison with the criterion, a background odour of zero odour units was adopted (Appendix 12: refer to Section 7.3).

12.5.2.2 Predicted impacts

The results of the modelling of odour from the operation of the proposed STP are illustrated in Figure 12-2 Modelling of the operation of the STP predicts that odour levels at all sensitive receptors will be within the criterion (refer to Table 12-7).

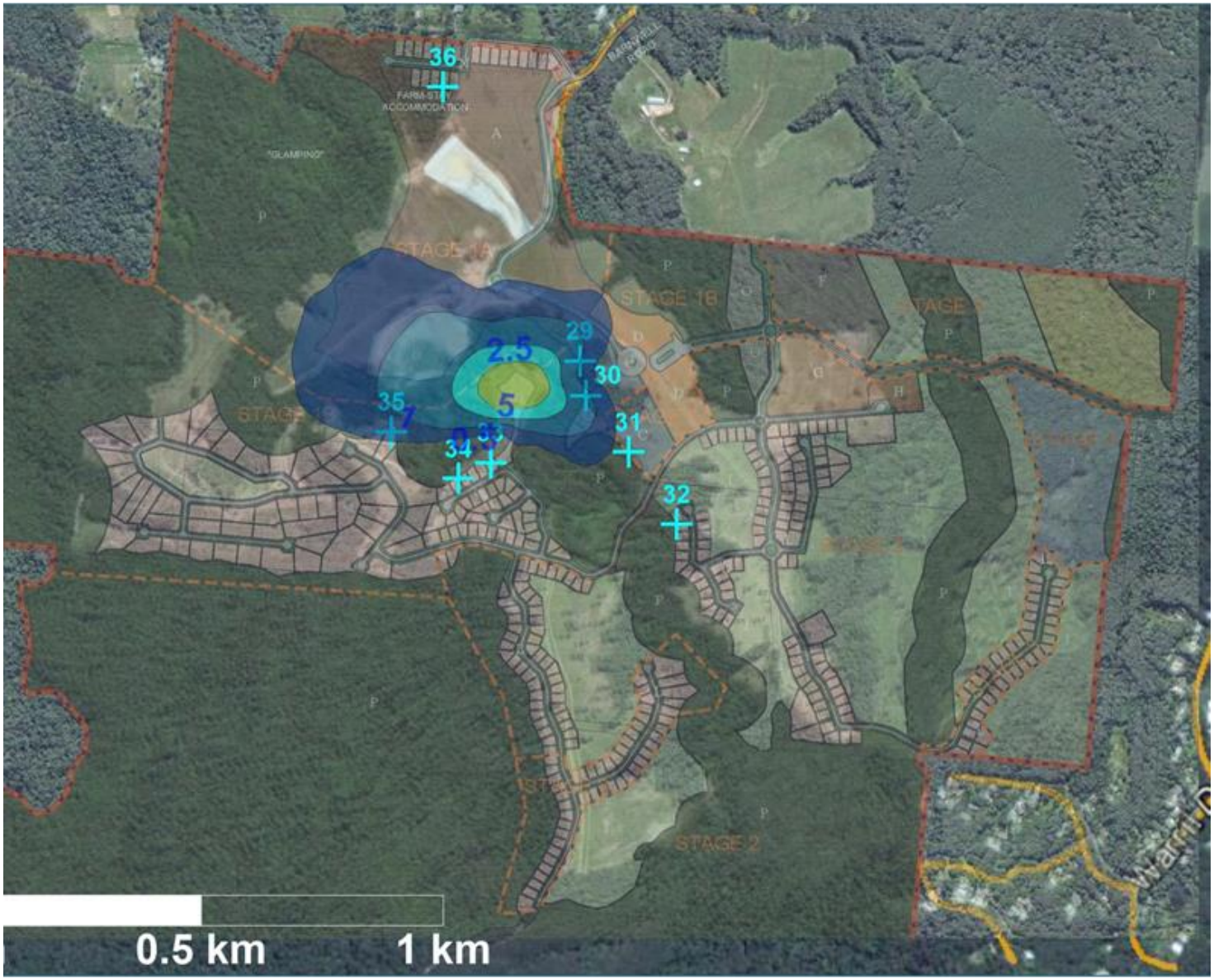

Figure 12-2 Predicted 99.5th Percentile Odour Concentrations Due to STP Operation.

Table 12-7 Predicted Odour Concentrations.

Receptor ID#	99.5th Percentile Odour Concentration (OU)
Criterion	2.5
Background	0.0
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.1
15	0.0
16	0.0
17	0.0
18	0.1
19	0.1
20	0.1
21	0.1
22	0.2
23	0.1
24	0.1
25	0.1
26	0.0
27	0.0
28	0.0
29	1.0
30	1.3
31	0.3
32	0.1
33	0.1
34	0.1
35	0.7
36	0.1

12.6 Management measures

12.6.1 Mitigation measures

Construction and operation of the KUR-World development is not predicted to exceed air quality impact criteria. However, management measures to minimise air quality impacts are provided in Table 12-8 (sourced from Appendix 12: refer to Table 10.2). These measures will be incorporated as relevant into the overarching Air Quality Environmental Management Plan that will include a Dust Management Plan during construction among other items (refer to Chapter 21).

Table 12-8 Management measures applicable to the project.

Source	Activities	Management Measures
Construction	Excavation and filling	Water with truck-mounted sprays (minimum 2L/m^2/h for off-site road construction).
	Material handling including loading and unloading of gravel and sand	Water prior to loading, minimise drop height, cease operation or minimise activity during dry, windy conditions
	Wheel-generated dust from hauling on unsealed road surfaces	Water with truck-mounted sprays (minimum 2L/m^2/h for off-site road construction).
	Wind erosion from stockpiles and unsealed roads	Water with sprays (minimum 2L/m^2/h for off-site road construction), create windbreaks using shade cloth on stockpiles or strategically locating stockpiles next to dense trees. Revegetate as soon as practical using hydraulic mulch seeding.
	Engine exhaust	Regularly maintain equipment. Turn-off engines when not in use.
	Monitoring	The construction site manager and relevant sub-contractors should undertake daily visual monitoring to identify if dust or exhaust plumes reach the site boundary, and initiate additional control measures if this occurs.
Sewage Treatment Plant	-	Prevent anaerobic conditions other than in the anaerobic and anoxic tanks by ensuring proper aeration and/or minimising detention times of waste water, minimise storage times of biosolids on-site.
Sewage Reticulation	-	Due to the large number of rising mains required, a vacuum system is preferred. Assessment should be undertaken to determine a suitable odour treatment of ventilation point(s), including analysis of detention times. A separation distance of at least 50 metres from vents to the sensitive receptors should be achieved unless: • odour filters are installed and 30 metres separation is provided • site-specific dispersion modelling demonstrates less is acceptable.
Storage and Handling of Biosolids	Handling and storage of biosolids	Locate biosolids storage and handling in an area at least 50 metres away from sensitive receptors.
Composting and application of composts	Composting of green wastes and manure	Ensure aerobic conditions are maintained, using an enclosed composter that has a mechanism to agitate the waste. Locate activity at least 50 metres away from sensitive receptors. Schedule processing and application of composts when wind conditions are favourable (i.e. non-calm conditions and no sensitive receptors downwind)
Irrigation of Recycled Water	Irrigation of treated water to golf course areas	Use high quality recycled water (Class A only) for irrigation, apply appropriate buffer distance recommended in Section 3.3.3 (of Appendix 12) and keep public off irrigated areas until the surface covering is dry.
Power Generator	-	Turn off equipment when not needed. Locate vents away from sensitive receptors.
Boilers	-	Vents should be located on rooftops.
Solid Wastes	Disposal and storage of solid wastes	Bins for wastes are to be placed in dispersed locations, bin contents are to be regularly emptied, big bins for storage of wastes prior to removal on-site are to be placed in locations at least 6 metres away from sensitive receptors. Ensure at least weekly removal of wastes on-site.

Source	Activities	Management Measures
Cooking Exhausts	-	Exhaust system should be designed such that exhausts are away from sensitive receptors if practicable and not blowing towards any windows or doors and located high enough for proper dispersion to occur before plume reaches any publicly accessible ground-level. A separation distance of 6 metres from sensitive uses should be adopted for the vents. In the absence of a guidance in the local planning scheme, this is based on requirement from Brisbane City Plan 2014 Centre or Mixed Use Development Code.
Animal Farm	-	Surface regular vehicle access points with bitumen, concrete or crushed rock. Keep paved areas clean of build-up of dirt or waste. Where practical, plant trees with interspersed shrubs to provide windbreaks and dust screens. Water unsealed surfaces as required to minimise dust emissions. If practical, use a mineral such as zeolite in stable floor cover to reduce odour. Remove manure, uneaten food and urine-affected bedding daily to a covered temporary manure storage facility located at least 50 metres away from residences. Ensure weekly removal of manure and disinfection of this storage area to appropriate composting/disposal facilities or for appropriate agricultural reuse. Regularly clean farm and farm animals. Investigate any complaints to determine likely causes. If complaints may be valid, prepare and implement an action plan to minimise the likelihood of reoccurrence of the cause.

Note: Table 12-7 sources from Appendix 5 (refer to Table 10.2 and Section 9.5)

12.6.2 Vegetation buffers

The proponent will have dense vegetation interspersed with the residential, recreational and auxiliary facilities/areas, and most surrounding properties also have dense vegetation. This vegetation will reduce dust and odour by increasing mixing and deposition onto vegetation surfaces.

12.6.3 Dust monitoring

Dust deposition monitoring is to be undertaken for at least three months (and preferably 12 months) prior to construction and also during construction at the following locations:

- At 78 Monaro Close or at the nearest site boundary during construction of Stage 1A.
- At 11 Myola Road and 27 Myola Road or on the site boundary in the vicinity during construction of the primary access road.
- At 2 Warril Drive or on the site boundary in the vicinity during construction of Stage 2 and the secondary access road.
- At 77 Barnwell Road or on the site boundary in the vicinity during construction of Stage 3.

12.6.4 Feedback and complaints register

Existing residents in proximity to the development site and clients of the resort will be encouraged to provide feedback to the resort by provision of a feedback and complaints hotline, email address and feedback forms. Feedback and complaints shall be recorded in a register. This would allow management of the resort to be aware of issues, provide solutions to address issues and track the effectiveness of the actions taken

12.7 Conclusions

The air quality impact of the KUR-World development is predicted will not cause or contribute to unacceptable ambient air quality levels in the vicinity. The dense vegetation at the site is important for controlling impacts of dust and odour emissions on the site. Mitigation measures including an Air Quality Environmental Management Plan have been proposed during the construction and operation phases of the development to reduce impacts on air quality and to ensure impacts are within relevant air quality criteria.

12.8 References

Application Requirements for Activities with Impacts to Air Guideline 1994. Environment Protection Agency.

ASK 2017a, *KUR-World Integrated Eco Resort Air Quality Impact Assessment*, prepared by ASK Consulting Engineers Pty Ltd for Reever and Ocean Pty Ltd, 26 October 2017 (Appendix 12).

EHP 2013a, *Guideline: Odour Impact Assessment from Developments*, Department of Environment and Heritage Protection.

EHP 2013b, *Guideline: Application requirements for activities with impacts to air*, Department of Environment and Heritage Protection.

Environment Protection (Air) Policy 2008

National Environmental Protection (Ambient Air Quality) Measure 1998

National Environmental Protection (Air Toxics) Measure 2004

National Environmental Protection (Diesel Vehicle Emissions) Measure 2001

State Planning Policy 2017. Department of Infrastructure Local Government and Planning.