ROCKHAMPTON MOTORSPORT PRECINCT

Preliminary Technical Assessment

Doc Ref: L095-1-ROK-9002

*Version E – **FINAL***

2nd December 2020

Prepared by Driven International Ltd

on behalf of Rockhampton Regional Council (RRC)

1. DOCUMENT INFORMATION

1.1 DOCUMENT CONTROL

Project Title: Motorsport Precinct

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E	FINAL	R.Darghouth	B.Willshire	B.Willshire	02 December 2020

1.2 DISCLAIMER

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Driving in excess of normal highway speeds is dangerous. The risks posed to drivers, passengers, staff, public and any other persons affected by the operation of private motorsport facilities is influenced by many different factors including but not limited to weather, visibility, time of day, condition of the driving surface and vehicles, number and competence of the users and staff of the facility, operations and maintenance procedures, to name but a few.

Any designs, specifications, simulation data, or any other advice, either implied or expressly provided, will not eliminate all these risks. Driven International Ltd use simulation tools and industry best practice to minimise the risks as far as reasonably practicable in the design of the course. Any design, video, sketch, simulation or advice that shows or implies a vehicle will come to a stop before impacting a barrier or other hazard situation does not imply or suggest that an impact is not possible. Such calculations, simulations and presentations thereof are simply a measurement of risk which has applied published guidance by international governing bodies for motoring venue design.

1.3 CONTENTS

2. INTRODUCTION

2.1 BACKGROUND INFORMATION

Rockhampton Regional Council (RRC) have engaged Driven International (Driven) to prepare a masterplan for the Motorsport Precinct (the Project), including desktop technical assessments to evaluate the opportunities, constraints and impacts of the Project. Specifically, Driven were engaged to undertake an initial desktop review of the following aspects:

- Infrastructure and utility services, including:
  - Transport and access
  - Current and future utility service requirements
- Flooding and stormwater management plan
- Environmental assessment: flora, fauna and waterways
- Bushfire hazard assessment and management measures
- Cultural Assessment (desktop analysis identifying areas of significance)
- Air quality
- Noise / acoustic assessment and mitigation measures
- Geotechnical investigations already carried out at the Project site.

2.2 PURPOSE OF REPORT

The technical assessments contained herein provide a preliminary assessment (comprising a strategic level assessment or statements) derived from desktop studies of the baseline conditions and are based upon the current draft masterplan design. The outcome from this technical assessment report and recommendations contained herein will be used as the basis for the continuing development of the masterplan, due for finalisation in December 2020.

2.3 SCOPE OF THIS DOCUMENT

Driven undertook the following scope of works in the development of this report:

- Flooding and stormwater
  - Review and establish the baseline flooding and stormwater conditions and flood risk
  - Determination of outline drainage strategy

  - Development of essential flooding and stormwater design aspects for the masterplan
  - Definition of further investigations and next steps
- Transport and access
  - Review and establish the baseline transport and access conditions
  - Determination of potential transport impacts
  - Development of essential transport and access design aspects for the masterplan
  - Definition of further investigations and next steps
- Utilities
  - Review and establish the baseline utilities condition
  - Determination of project requirements with regard to utilities
  - Establishment of strategic utilities phasing
  - Definition of further investigations and next steps
- Environment (Flora, Fauna, Waterways)
  - Desktop assessment and searches of Commonwealth, State and Local Government environmental planning considerations
  - Identification of potential impacts of the proposed development
  - Determination of design mitigation and additional assessments required in response to the constraints identified.
- Bushfire
  - Desktop assessment and searches for mapped bushfire zones
  - Identification of potential impacts of the proposed development
  - Determination of design mitigations and additional assessments recommended to address the specific requirements of the development
- Noise
  - Recommendations for baseline noise survey receptor locations and process
  - Determination of potential noise impacts via scenario simulations
  - Suggested noise control and mitigation measures
- Air Quality
  - Desktop assessment of air quality planning regulations or restrictions
  - Identification of potential development impacts
  - Determination of design and operational mitigation measures that should be considered later in response to the impacts and constraints identified.

- Geotechnical
    - Desktop review of preliminary interpretative borehole assessment
    - Preparation of indicative road cross sections
    - Recommendations for next steps and assessments

2.4 STATEMENT OF LIMITATIONS

The technical studies are provided to align with the level of detail required for Strategic Assessments stage. These are not sufficient for full development application purposes, which will require further investigation upon completion of the master planning phase.

Rockhampton Regional Council is seeking identify and develop early strategies to eliminate any major technical issues prior to the project progressing into detailed design, hence the enclosed desktop studies will be sufficient for this purpose. The level of detail and extent of technical studies are desktop reviews of existing site data, supported with preliminary design, operational and mitigation strategies to be adopted within the project.

The intent is to provide a risk based approach that can inform feasibility assessments, identify cost contingency, and highlight any further full technical investigations to be conducted in the Detailed Design & Business Case stages.

The team at Driven International have led the delivery of the technical assessment, with input from Turner & Townsend and other further specialist gaps were undertaken by local contractors to provide input to our assessments.

3. BACKGROUND

3.1 SITE LOCATION

The Project is located at 53199 Burnett Highway, Bouldercombe, and is more properly described as Lot 713 on LIV40180. The project is located on a 100 hectare section of the property, fronting onto the Burnett Highway For the purposes of this report, Lot 713 LIV40180 will be re erred to as the **Site**' while the **Development Area**' re ers only to the eastern portion ronting the Burnett ighway and **Proposed Development**' re ers to the physical Motor Sports Master Plan footprint (L095-1-ROK-1001-SitePlan-G shown in **Attachment A1**).

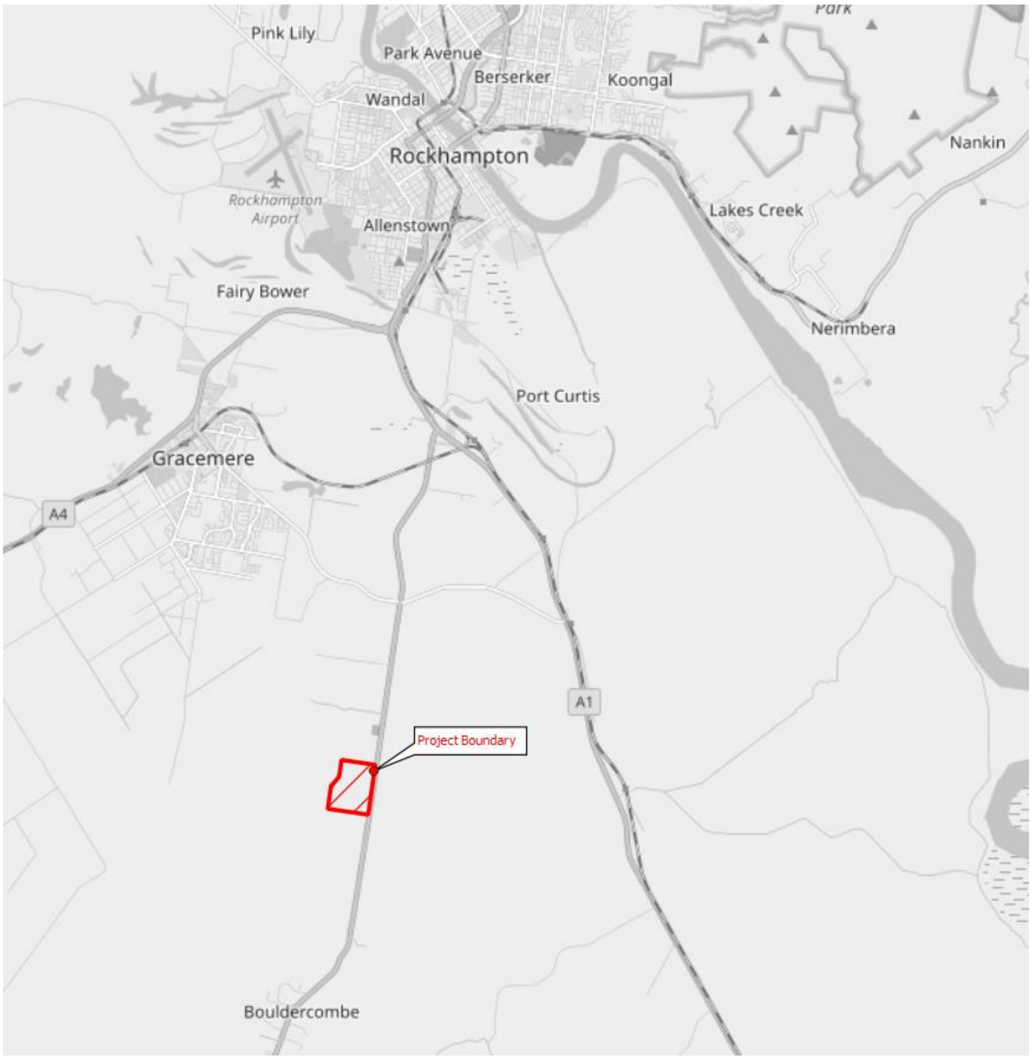

Figure 1 – Project Location

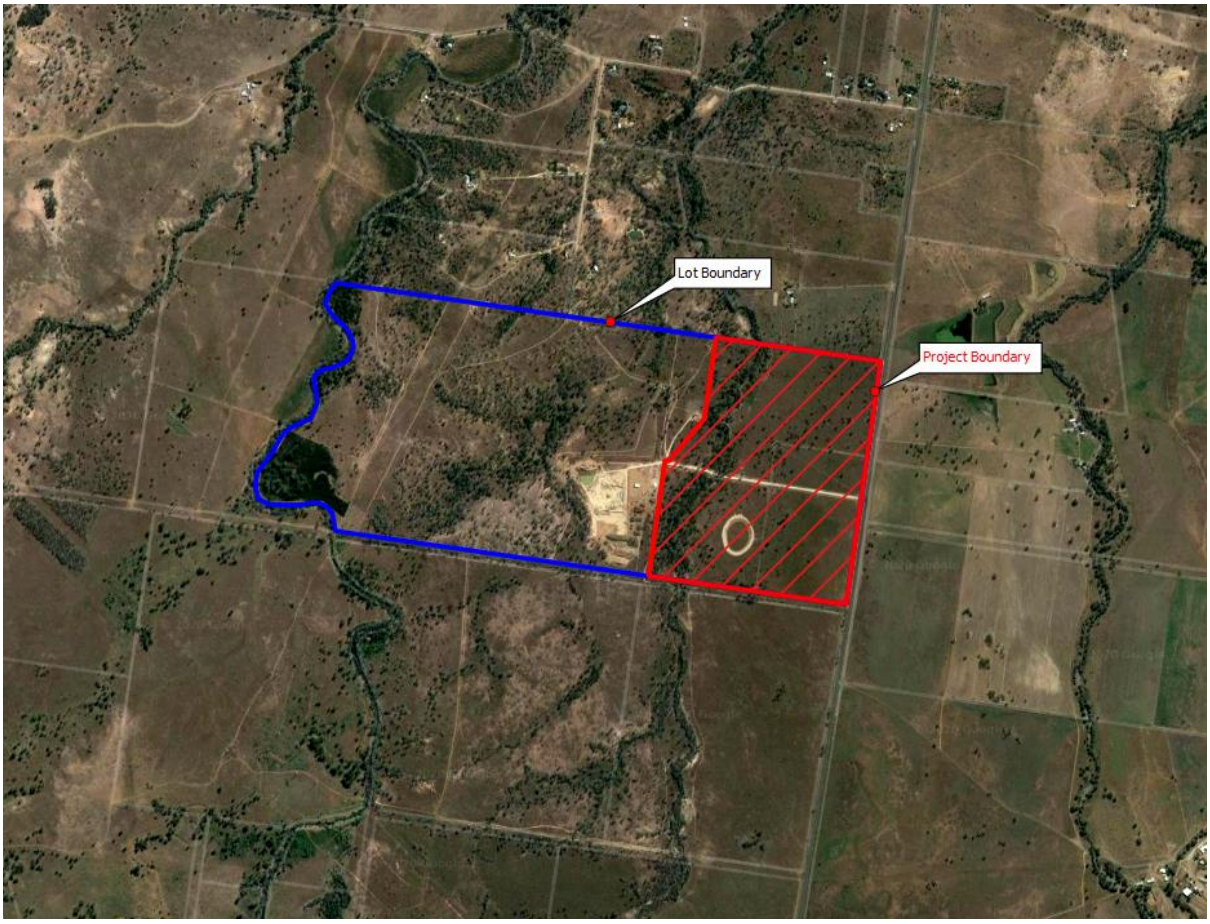

Figure 2 - Site Boundary

Figure 3 - Existing site entrance and access road to quarry

3.2 EXISTING CONDITION

Figure 4 - The Project Site and existing site entrance

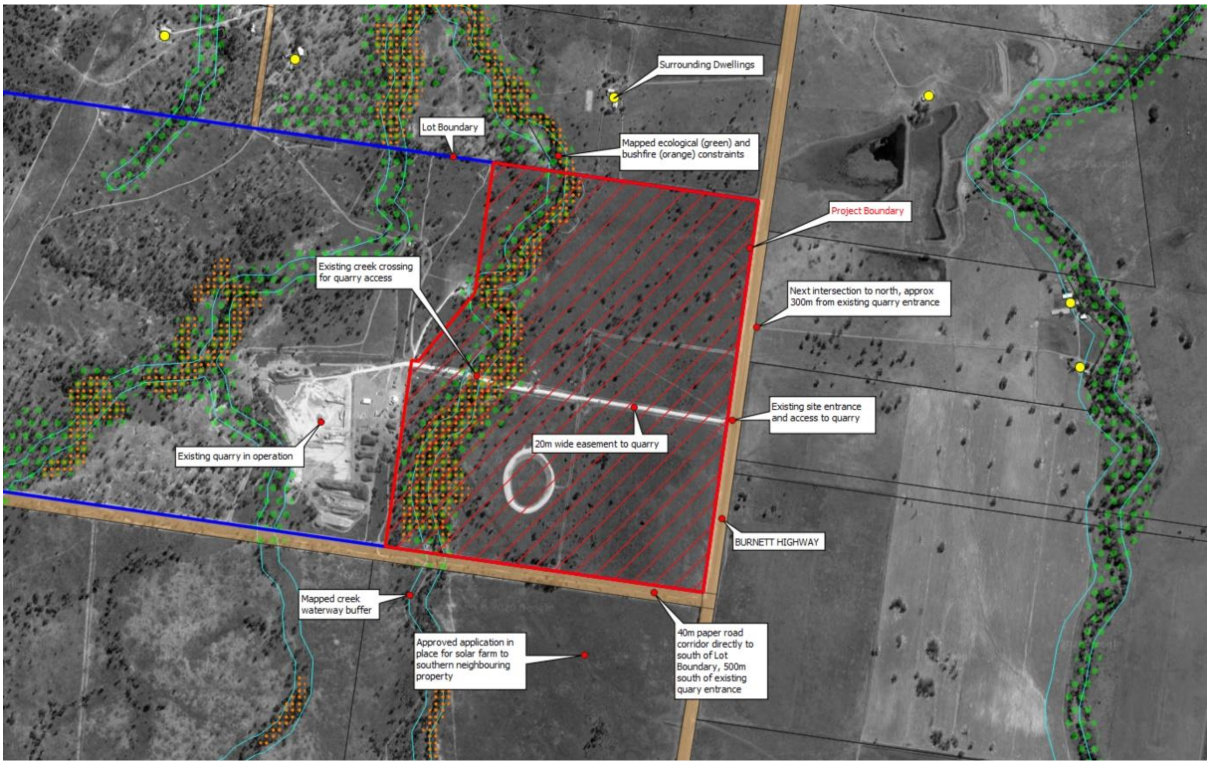

Figure 5 – Site Constraints Plan

Figure 5 shows a summary of the general site constraints for the Project site:

- The project site is a relatively flat plot with low height, low density vegetation, with the exception of the mapped creek which follows the western boundary, which is clanked by riparian vegetation consisting of mature trees and shrubs.
- The gradient of the site falls gently from highest point in the south to the north-east and the creek at between 0.5-2%.
- Within the vicinity of the creek, there are mapped regions of bushfire hazard (medium) and ecological zones (MSES category R and C vegetation).
- Access to the site is provided via an existing entrance mid-way along the eastern boundary of the site. A 20m easement (see Figure 4) runs between the entrance to the site and the exit into the adjoining quarry to the west of the creek, accessible via an established culvert crossing.

Figure 6 - Existing culvert crossing for quarry access

- To the south of the Project site, an existing 40m road corridor (undeveloped) borders the length of the Lot, which could be considered for future implementation, providing additional opportunities for access to the site along the southern border.
- The nearest access to other properties from Burnett Highway is approximately 300m to the north of the existing entrance on the southbound side, and another over 800m to the south.

- The site is located within an undeveloped and largely cleared rural environment. The topography of the land around the site is also predominantly flat.
- There are a number of residential dwellings within this rural landscape, including some to the immediate north and south of the site.

Figure 7 – Northbound at intersection of future road corridor and Burnett Highway to south east of Project.

3.3 PROPOSED CONDITION

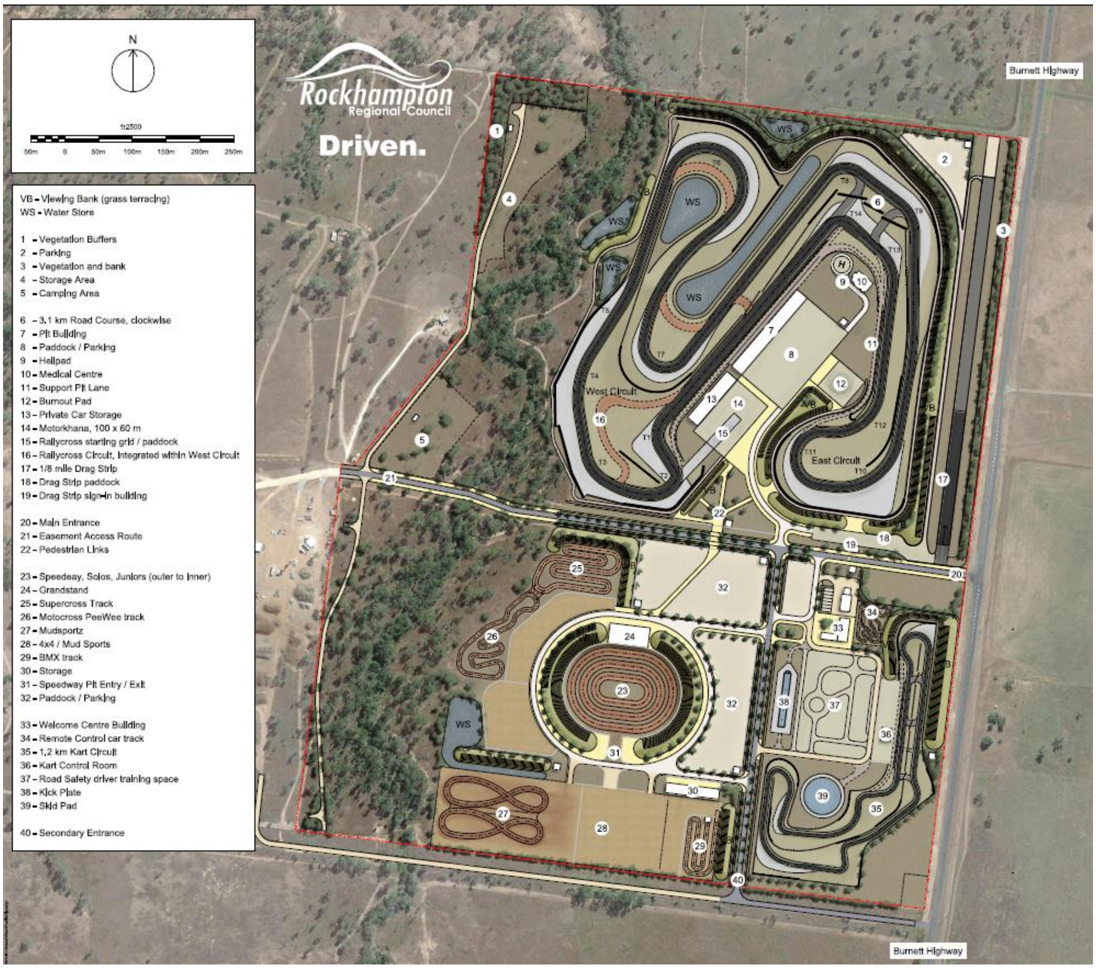

Figure 8 – Proposed Site Plan

This report pertains to the development of a motorsport precinct, comprising several tracks and facilities. The Proposed Development plan is illustrated in Attachment A. The proposed developed is broadly divided into 3 main sectors, within which a number of individual facilities are planned, as well as general infrastructure serving all facilities. Further description of the planned uses, and the form and materials proposed for each facility are outlined below and referenced through the remainder of this document.

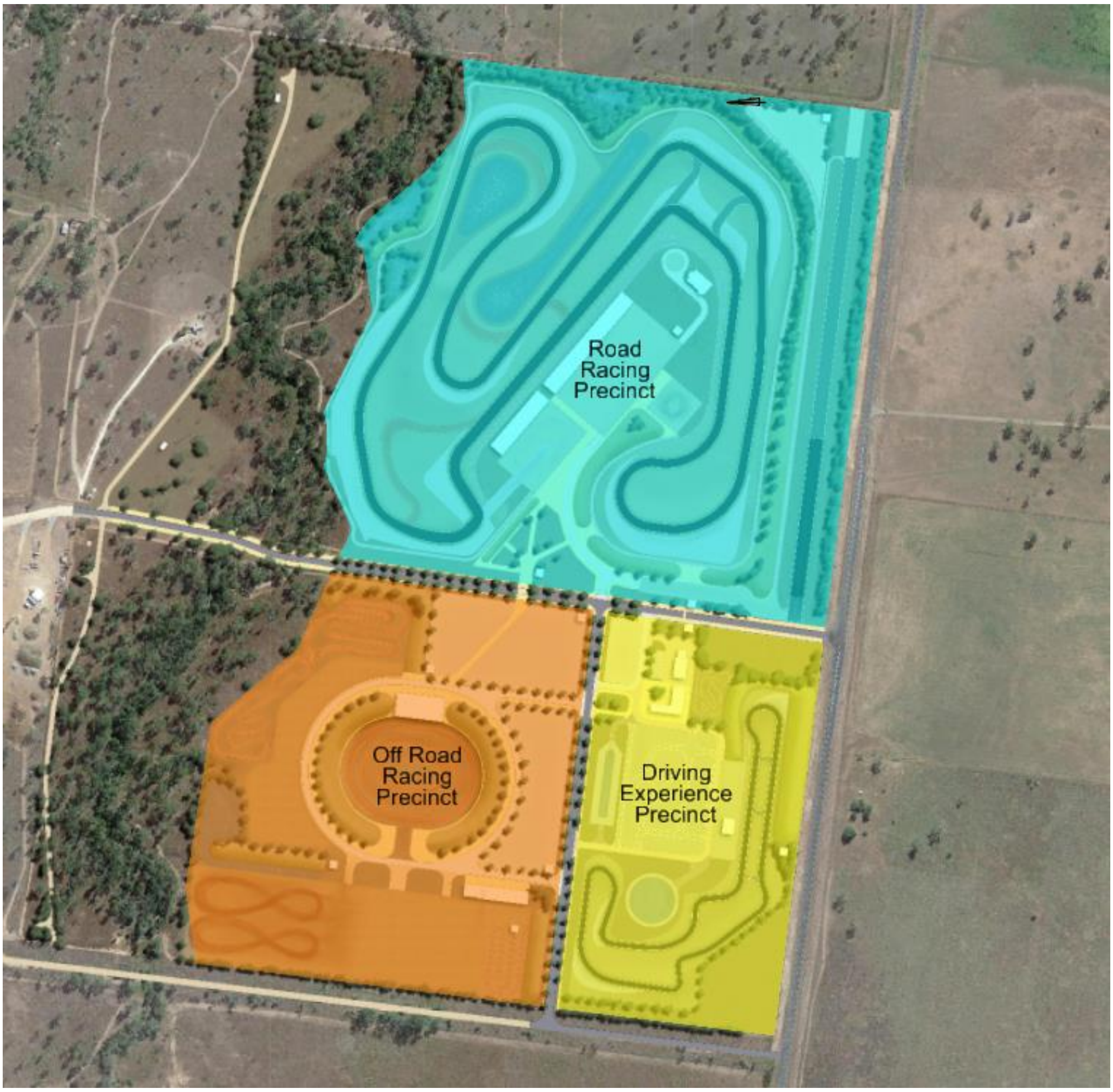

Figure 9 – Site Development Sectors

(i) Off Road Racing Precinct (orange) (ii) Road Racing Precinct (blue)
(iii) Driver Experience Precinct (yellow)

3.3.1 Off-Road Racing Precinct

Figure 10 - Speedway and Mudsoprts Sector

3.3.1.1 Speedway Oval (23)

The core attraction within the Off Road Racing Zone is the 450m Speedway Oval catering for Speedway, Solos and Juniors. The dirt tracks comprised of surface dressing (dirt, shale, gravel) laid over the base ground, which is regularly graded and wetted to ensure evenness and dust suppression. This track facility is aimed to replace and provide and enhanced version of the existing Rockhampton showground track.

Figure 11 - Speedway Riding

3.3.1.2 Concourse (24)

Retail and concessions concourse underneath the grandstand providing access to food and beverage and comfort facilities for event spectators and visitors.

3.3.1.3 Grandstand (24)

Tiered concrete terracing and plastic seating for paying spectators to view the speedway track. Overhang to provide shading or protection in inclement weather, with internal lighting. Access to the Concourse will be via stairwells where food vending and WC facilities would be provided.

3.3.1.4 Supercross (25)

Dirt track arena with temporary tracks comprising ramps, jumps and whoops formed from dirt, clay or other malleable material constructed for each event and regularly regrading or reconstructed between events. Drainage at low points between ramps to avoid local pooling of water.

Figure 12 - Supercross

3.3.1.5 Pee Wee Motocross (26)

Natural dirt track carved into existing natural terrain for kids or novices riding pee wee motocross bikes or pit dirt bikes. Generally flat track, with some smaller jumps, obstacles and ban ed corners suited to train youngsters and novices’ riders. rac edges delineated by rope and wooden post and rail fencing.

Figure 13 - Pee Wee Motorcross

3.3.1.6 Twin Mudsports Loops (27)

Twin Mudsports tracks carved into the existing natural terrain (irrigated mud tracks) for off road time trial racing. Laid out in figure of eight orientation to accommodate CQ Mudsportz event format.

3.3.1.7 4x4 / Mudsports Area (28)

Natural grassed or dirt paddock area, serving as a pit / paddock area for the Twin Mudsports Loops during competitive events, and also serves as the base for other activities such as 4x4 trails or off-road demonstrations.

3.3.1.8 Speedway Paddock (28)

Primarily laid to a mix of grass and hardstanding, this area will accommodate competitor's carrying out of vehicle preparation (refuelling, servicing, repairs) before and during events. This area may also serve as parking areas for public or to serve day to day access to speedway or other mudsports facilities when not in use as a speedway pit.

3.3.1.9 BMX Track (29)

Sealed or stabilised track (using bitumen / dirt glue or polymer aggregate coating) for smooth weatherproof hard wearing surface. Track is formed of a raised start ramp, with jumps and obstacle throughout the course. Spectator viewing bank next to the track on vegetated earth banks, and small storage building for track equipment.

Figure 14 - BMX Track

3.3.1.10 Clubhouse / Storage (30)

Two storey building providing a shared social environment for the motorsport club members and officials. The ground floor will include garage or warehouse storage for storage of motorsport club related support vehicles, maintenance plant and equipment, fire-fighting and track marshalling equipment, accompanied by changing facilities, locker rooms, WC. To the first floor, a viewing terrace or suite overlooking nearby Speedway paddocks, typically used during and post events by the clubs. Use to be coordinated with an events calendar to avoid over-capacity on a single day.

3.3.2 Road Racing Precinct

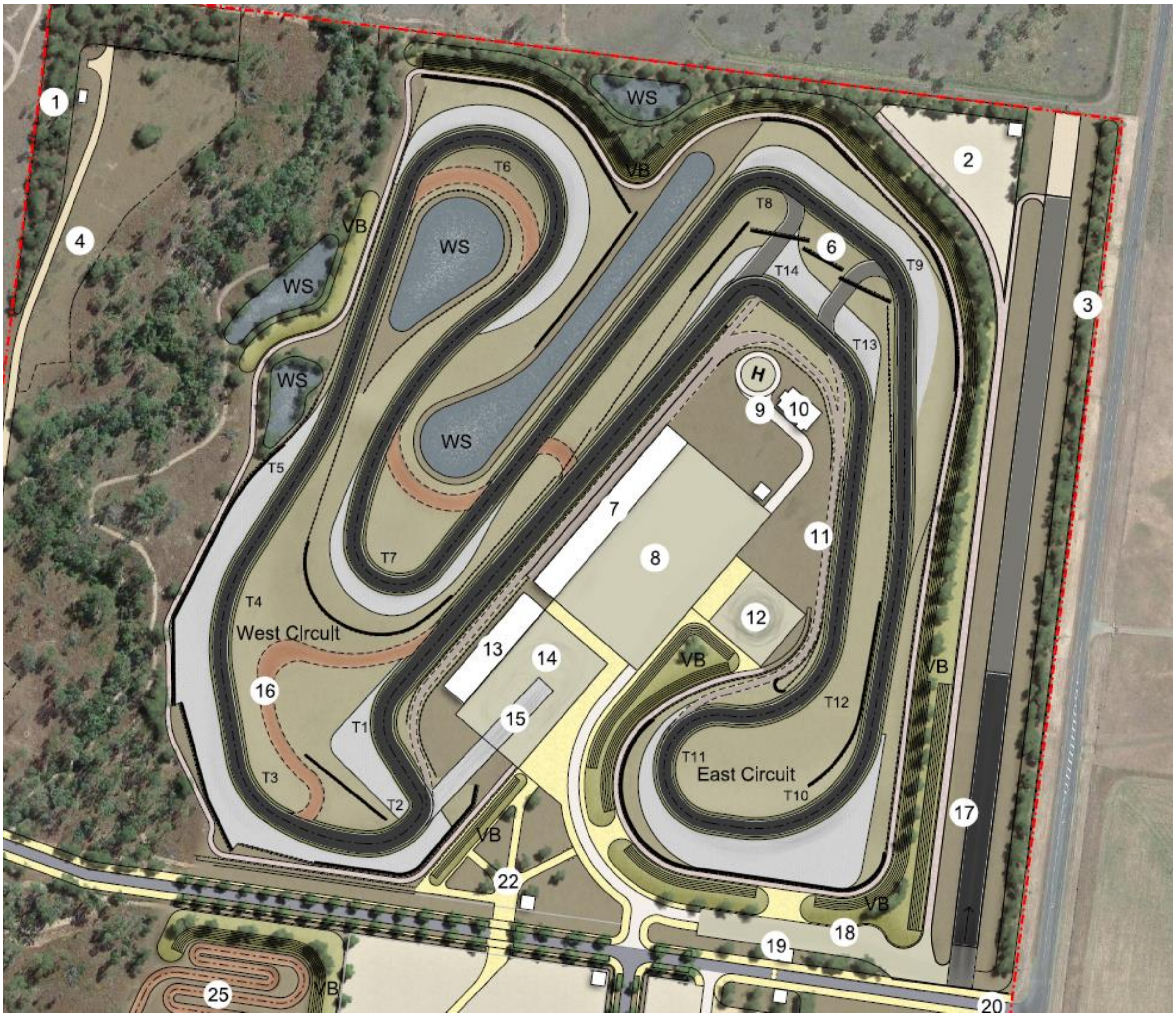

Figure 15 – Road Racing Sector

3.3.2.1 FIA Race Circuit (6)

An FIA Grade 3[1] approved 3.1km, 12m wide, sealed asphalt road course suitable for competitive events, public track days or other non-competitive driving uses. Asphalt and grassed runoff areas, pit lane and integrated drainage collection system, bordered by safety barriers and safety fencing for the protection of participants and spectators. unsealed service road where possible. Shares sections of track with integrated rallycross. Designed to operate in a clockwise direction.

[1] Minimum FIA Grade 3 with the potential for FIA Grade 2 subject to the size of the amenities provided (pit garages, race control, medical facilities). The requirements of the higher grade (grade 2) pertain to large facilities for larger events, more powerful cars using the track and therefore increased runoff and safety features included in the design. The length of the circuit, runoff areas and general physical design of the circuit and site are compatible with FIA Grade 2 requirements.

3.3.2.2 FIA Pit Building (7)

Main operations building for the FIA Race Circuit comprising control rooms, offices, and pit garages. Typically constructed over 2 storeys (up to 10m approx), providing multiple enclosed garage bays for vehicle preparation, track control offices and race administration facilities, comfort and catering facilities for visitors.

3.3.2.3 FIA Paddock / Parking (8)

Sealed paved area with integrated drainage system and regular connection points (power/water) for heavy goods vehicle access and event staging. Potential uses include team par ing (G ’s vans ’s trailers) vehicle preparation, public circulation, concessions / stalls / temporary facilities for major events. Outside of major events, FIA paddock can serve as parking for other day-to-day activities or nearby events.

Figure 16 - Paddock & Parking

3.3.2.4 FIA Medical Centre (10) & Helipad (9)

Single storey medical facility providing basic first aid, resuscitation, and emergency medical evacuation support, with dedicated ambulance bay and helipad. Mandatory for FIA licensing.

Figure 17 - Helipad

3.3.2.5 Burnout Pad (12)

Flat and level paved area designated for burnout activities and events, with optional parking bay markings to allow it to double up as additional event parking.

3.3.2.6 Private Car Storage (13)

Single storey storage units for the storage and light maintenance of automobiles.

3.3.2.7 Motorkhana Area (14)

Open sealed pavement area available for Motorkhana events, doubling up as additional parking during major events in Road Racing or Off Road Racing Precincts.

3.3.2.8 Integrated rallycross (RX) track (15, 16)

Stabilised dirt sections (16) integrated into FIA Main Circuit for use by rally cars in rallycross event format (~65% sealed / ~35% dirt track race). Integrated drainage to avoid pooling of water and degradation of stabilised surface. Sealed starting area (15) shared with Motorkhana area.

Figure 18 - Sealed & Unsealed Rallycross Track

3.3.2.9 Drag Strip (1/8 mile) (17)

Sealed paved drag strip (straight line track) with integrated drainage, bordered by concrete walls along both sides and safety fencing for the protection of participants and spectators. Includes dedicated return road and connection to adjoining Drag / RX paddock. The drag strip is positioned to enable potential future expansion to a ¼ mile course to the north, should the demand and circumstances to permit it arise.

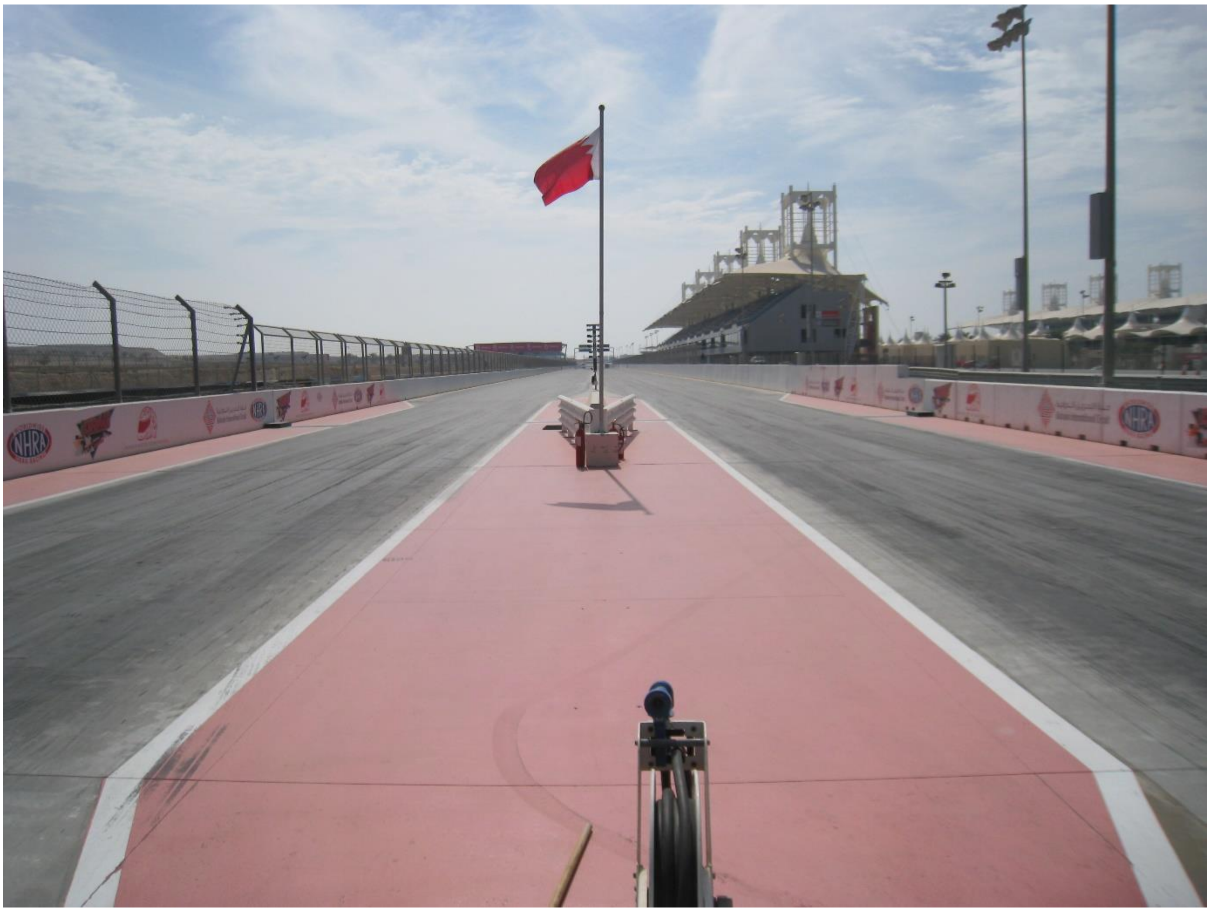

Figure 19 - Drag Strip Start Line

3.3.2.10 Drag / RX Paddock (18)

Sealed paved area for the preparation of Drag or RX vehicles, including provisions for power and water connection for competitors and concession stands.

3.3.3 Driving Experience Precinct

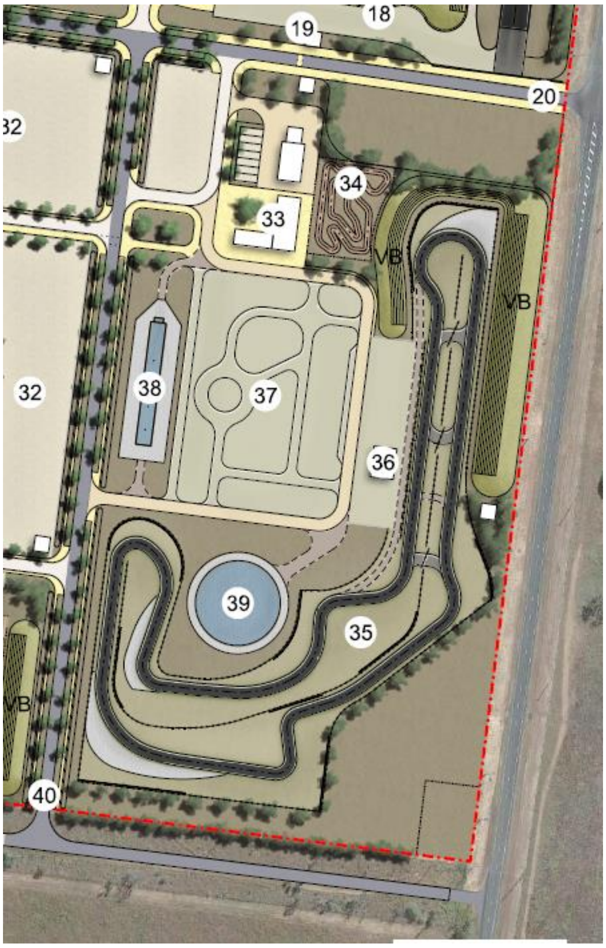

Figure 20 – Karting & Driving Experience Sector

3.3.3.1 Welcome and Service Centre (33)

Located midway along the main entrance road, this building serves as a single storey structure that provides a day to day common meeting point or reception for the site. The building is supported by external parking areas. Internally the building will likely include a coffee shop or basic café servery, with breakout meeting space, open seating space and some basic entertainment such as TV screens, simulators, merchandising or virtual story boards about the precinct history, events and offering. It will also serve as the customer entry point for the Road Safety Training Space.

This plot is also intended to function as a service station accessible to drivers on the Burnett Highway with space available to provide rest facilities and future services such as a fuelling station.

Figure 21 - Example of Welcome Centre, Karting & RC Track Venue

3.3.3.2 RC Car Track (34)

Miniature racing track purposed constructed for use by Remote Control cars. These tracks can vary in design from sealed circuits to off road courses. For the Site, we propose a dirt track, with miniature jumps. A raised platform will be provided next to the track for RC competitors/operatives and spectator viewing. The layout of the RC track could be a miniature replica of the main circuit to emphasize the character of the Motorsports Precinct.

3.3.3.3 Kart Circuit (35)

1.2km, 8m wide sealed asphalt course specifically designed for karting. Designed as an anticlockwise layout and able to host competitive events, public track days or other non-competitive driving uses. Asphalt and grassed runoff areas, pit lane and integrated drainage collection system, bordered by safety barriers and safety fencing for the protection of participants and spectators.

3.3.3.4 Karting Reception Building (36)

Main operations building for the Kart Circuit comprising control rooms, offices and guest facilities (WC and catering) at 1st floor level, and workshop areas and kart storage at ground floor level.

3.3.3.5 Kart Paddock (near 36)

Sealed paved area with integrated drainage system and regular connection points (power/water) for heavy goods vehicle access and event staging. Potential uses include team par ing (G ’s vans ’s trailers) vehicle preparation, public circulation, concessions / stalls / temporary facilities for major events. Outside of major events, the area can serve as parking for other day-to-day activities or nearby events.

3.3.3.6 Road Safety Training Space (37)

A purpose built paved area designed to facilitate driver safety tuition or vehicle demonstration, which can also alternatively provide supplementary parking or event space for larger precinct events.

Figure 22 - Road Safety Training

3.3.3.7 Kick plate (38) & Skid Pad (39)

Low friction driving modules for entertainment and driver education purposes. The skid pad provides a low friction circle surface for practising car control (understeer and oversteer). The klick plate also includes a low friction surface but includes the installation of a mechanised moving plate, which forces the vehicle into a skid to stimulate the loss of control of a vehicle to enable drivers to practice reacting to sudden changes in grip in a controlled training environment.

3.3.4 Enabling Infrastructure

3.3.4.1 Main Entrance

The main entrance to the site is via the existing turning from Burnett Highway. It is proposed to convert the existing road that leads to the adjacent working Quarry to a sealed entrance road.

3.3.4.2 Secondary entrance

To the south of the property, provisions are made for a secondary entrance to the facility (sealed road) that could come into effect once alternative access to the Quarry site is approved. This road could also become the primary access to the solar farm to the South.

3.3.4.3 Viewing Greens

Grassed and vegetated areas to provide flexible outdoor viewing, parking or event space. These areas can be used as space for concessions / food stalls during major events.

3.3.4.4 Viewing Banks

Landscaped and shaded embankments to provide flexible viewing opportunities for spectators during major events. Viewing banks are generally situated around the main racing facilities such as the on Road course, drag strip and karting. These banks also perform an important contribution to noise mitigation. The physical mass of the bank generally targets a height of three metres high, formed by a 1 in 4 slope in areas for spectators (either mown grass or tiered seating), and steeper in areas not for spectators that face the site boundaries (planted and not regularly maintained).

Figure 23 - Example of grass viewing banks around track

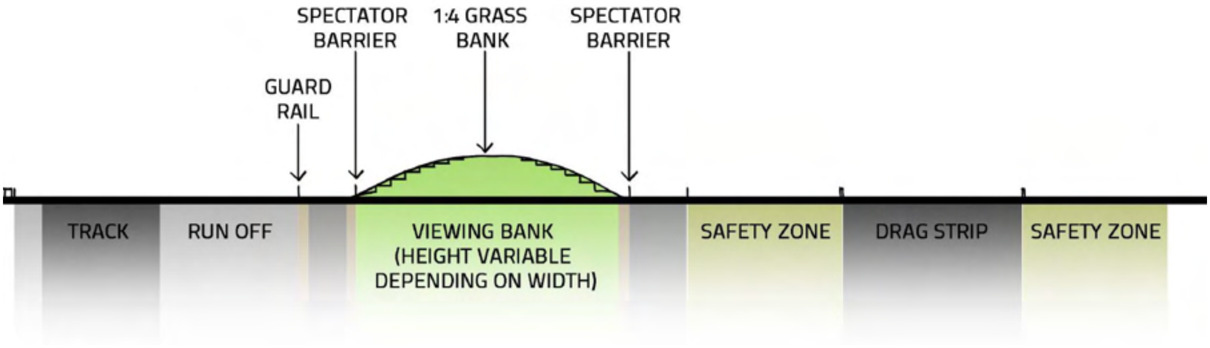

Figure 24 Viewing Bank Schematic (between FIA Circuit and Drag Strip)

3.3.4.5 Water Storage Ponds

Infiltration basis for storage and silt management from surface water runoff. Storage ponds also have a dual purpose in providing water to be extracted by off road activities for dust suppression.

3.3.4.6 Camping Area

Existing natural open spaces providing areas for camping or RV facilities, including WC and potable water facilities, with an adequate separation from the mapped associated ecological and bushfire constraint zones.

4. FLOODING AND STORMWATER MANAGEMENT

4.1 PLANNING AND REGULATORY

State Planning Policy

Queensland State Planning Policy requires that the planning, design, construction and operation of developments be conducted in a way that protects environmental values and maintains water quality. A number of issues and desired outcomes are therefore applicable in each of the following areas:

- Drainage control (flows)
- Erosion Control
- Sediment control
- Letter, hydrocarbons, and other contaminants
- Waterway stability and flood flow management

To satisfy these objectives at the application stage, a full assessment of flooding and stormwater management for the site will need to be produced and submitted, demonstrating compliance with the planning policies and objectives. Within this section of the technical assessments we have undertaken a review of the information available to ensure the site layout is compatible with a future detailed drainage design, focusing on the ability to achieve drainage connections across the site and areas for attenuation.

4.2 BASELINE CONDITION

The site is an approximately 840m x 1150m parcel of land, split into four sections by a central access road running east/west and a creek running in the north south direction. The total site area is approximately 100 hectares, with a net development area closer to 80 hectares when excluding the creek corridor

The creek running through the site is located near to the western boundary of the site, therefore for the majority of the precinct is treated as the western boundary, with the exception of proposed camping areas. There is a single existing crossing point, constructed by the adjacent landowner, for access to a quarry.

The bed level of the creek varies from 28.5m (AHD) at the southern boundary of the site to 24m (AHD) when it exits the site, as measured from QLD 50cm LIDAR dataset. The cross section of the creek varies through the site with a typical top of bank approximately 2m above the bed which ranges in width between 4-9m. The entire site drains naturally overland towards the creek. Typically gradients on site are in the region of 0.5 – 2%.

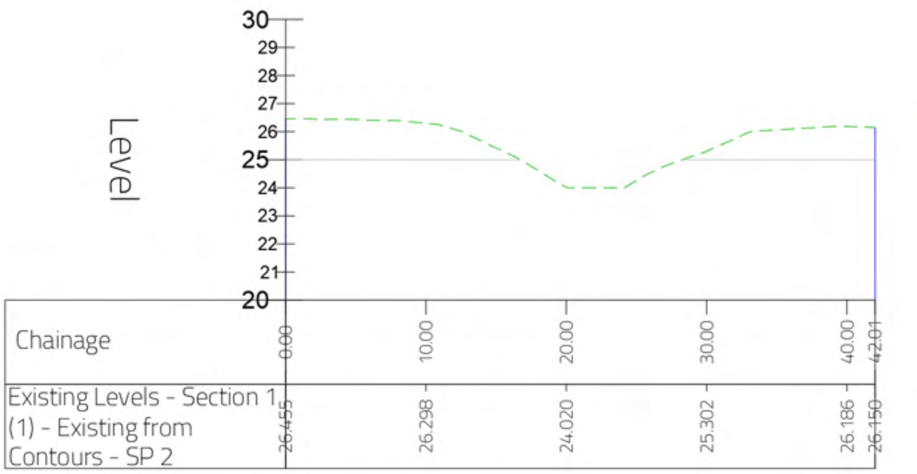

Figure 25 Typical Creek Section 2x Vertical Exaggeration

Approximately 500m north of the southern site boundary the existing quarry access road crosses the creek. Figure 26 shows the existing culvert beneath the road which represents a flow restriction to the channel. In the event of a large storm, water will back up due to this restriction point if the flow rates exceeds the capacity of the culvert.

Currently the road level over the culvert is lower than the surrounding land which would allow large flows of water to overtop the road, prior to flooding the adjacent land, if the pipe capacity is exceeded.

Refer to Attachment A4 for Sections and Drainage Strategy Plan. Sections through the site are presented, based on Queensland 50cm data, showing that the ground on the site all naturally falls towards the creek and that a gravity drainage connection can be made to the proposed attenuation areas. There is therefore a suitable outfall point available for surface water on site.

Refer to Attachment A4 for drainage strategy drawings and existing ground sections showing the profile of the lad

Figure 26 Quarry Access Road, Four Mile Creek Culvert

4.3 FLOOD RISK

The site is in an area not highlighted as being at flood risk by the Rockhampton Region Planning Scheme mapping, therefore this mapping does not constitute a trigger under the planning scheme.. The high level Queensland mapping flood check information does indicate that the 1% AEP (Annual Exceedance Probability') event does have some chance of occurring (refer to Figure 27). This mapping combined with the presence of evidence of historic overland flow (for example soil records in geological investigations and anecdotal evidence), it is recommended the detailed design of the precinct takes into account stormwater flows exceeding the creek, as well as overland flow originating offsite.

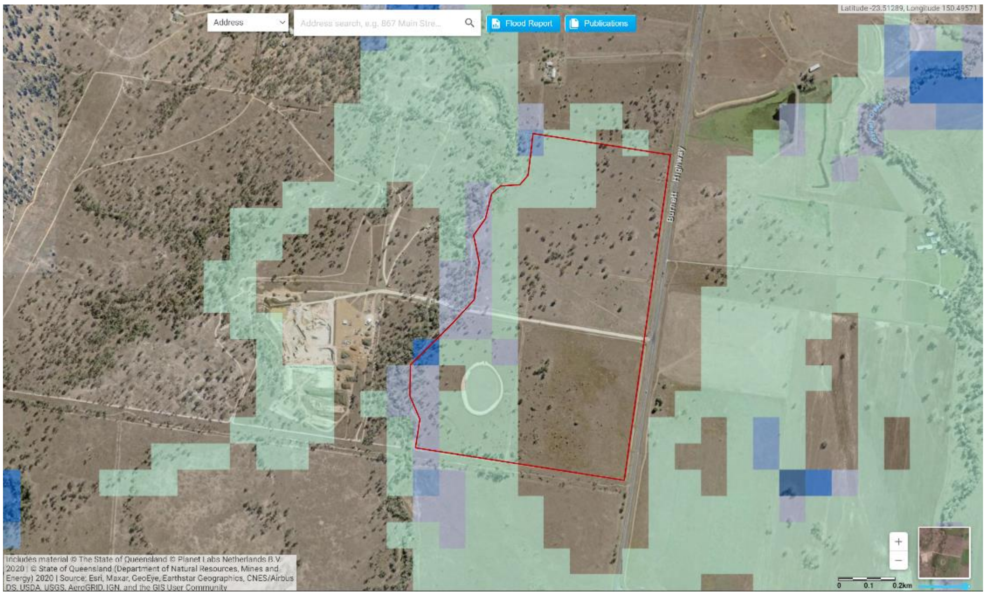

Figure 27 - Basin 1% AEP Overlay (Source: DNRME Floodcheck Queensland)

Changes to ground levels in this area need to consider the impact on flood water storage and overland flow, and a buffer to the creek established for the purpose of overland flow.

As is described later in this document, the route of the creek is also covered by ecological and bush fire management constraints, therefore a buffer to the creek is built into the design.

Throughout the remainder of the Site, the tolerance to flooding should consider the needs of the project versus the potential impact of flooding events. It is recommended that as design progresses the predicted water level in the 1% AEP storm is set as the minimum level for unbound tracks to avoid damage to these facilities.

Siting the unbound tracks in the area near the creek is considered the best location as they provide a more soft transition between the natural environment of the creek and the paved areas of the Driver Experiences Zone. Locating the Off Road Racing Zone on the lower side of the site is also preferred due to the ability to site ponds nearby to collect and store water for irrigation.

In addition, measures to consider are:

- Buildings/storage facilities in this area to be flood resilient, for example by ensuring an elevated finished floor level of 0-1m above existing ground, and appropriate internal measures such as high placement of electrical infrastructure if they cannot be located outside the 1% flood extent.

- The paved tracks can tolerate a degree of heavy rainfall and flooding (they are not relied upon as a public highway would be). However, the degree of tolerance is a commercial decision for the project owners as closure of the tracks due to a major storm or flooding event will likely impact on operational capacity and event planning.
- Upgrading the culvert under the quarry access road should be considered if detailed modelling shows that the restriction to flow causes an unacceptable water level upstream of the road with the risk of inundation of the of road area. LIDAR data shows that the road level at this crossing point is approximately 0.5m lower than the surrounding terrain implying that the road will overtop prior to the flooding the dirt tracks. It is also recommended to consider the resilience of dirt tracks in proximity the edge of the buffer zone higher. Being formed primarily of unbound material, they are potentially more at risk of damage during flooding but on balance it is understood that most of the dirt tracks require frequent regrading and maintenance. This can be mitigated by ensuring overland flow paths around the track zones are provided to direct water away from tracks and setting track levels above the maximum water level. In addition, the developing plans for the solar farm on the southern boundary may provide additional mitigation and should be reviewed as design progresses.

4.3.1 Offsite Flooding

The eastern edge of the site is bordered by the Burnett Highway which acts as a barrier to overland flow entering the site with land east of the site generally draining eastwards away from the precinct. Despite this, there is one catchment identified south east of the site which drains through the proposed precinct. The total area of this catchment is approximately 166 hectares which drains onto the site via a culvert under the A3 Burnett Highway and overland across the solar farm site. There is no defined flow channel through the site but based on existing levels this water flows across the location of the twin figure 8 paddock area. To prevent this overland flow from reaching the dirt tracks a drainage ditch/swale diversion should be provided to route this flow to the creek, avoiding the track areas.

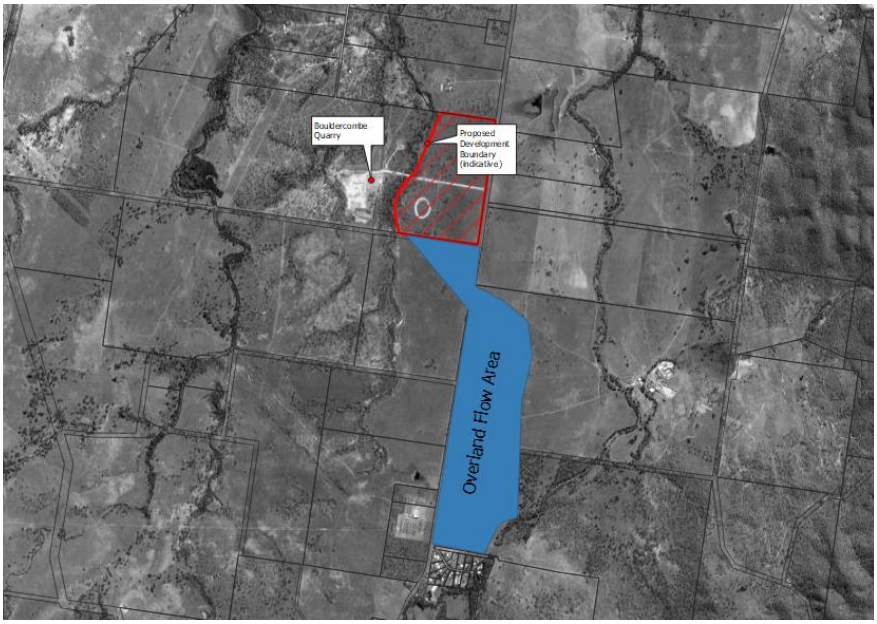

Figure 28 Overland Flow Area Affecting Dirt Tracks

The creek running through the site is a tributary creek with a catchment area entering the channel upstream of the site of approximately 455 hectares (separate from the overland flow area which enters the creek from within the site). Within the site an additional catchment area of 271 Hectares drains into the creek (made up of the overland flow area and the onsite catchment) totalling 726 hectares. The spatial extent of this is shown in Figure 29.

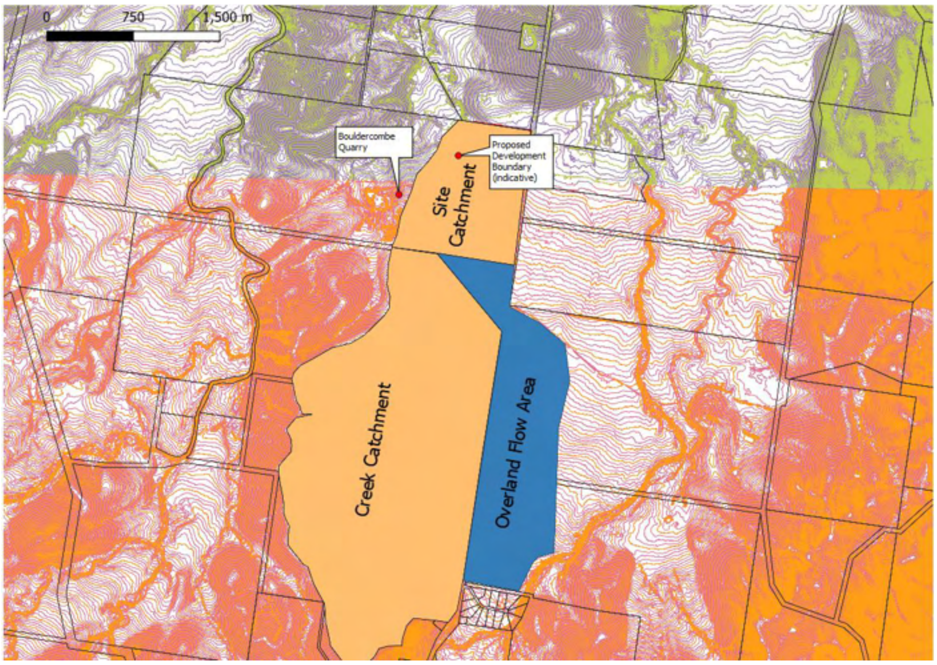

Figure 29 Creek Catchments

4.4 DRAINAGE STRATEGY

The Motorsports Precinct requires careful design of the site to ensure the viability of the development and meets statutory requirements. The Masterplan has been developed to allow space for water to be managed on site, including a focus on reuse for building services and treatment trains for pollution control.

An outline drainage strategy has been prepared for the concept masterplan, showing a schematic drainage network and stormwater management locations. This is shown in Figure 30 below (full size plan contained within attachment A4). The key aims of the strategy are to demonstrate a gravity based network could be feasible based on existing ground levels with to distinct parts, allowing for separation between the Off Road Racing Zone and the bound tracks and highways. The focus of the drainage networks in the Off Road Zone is to mitigate the increase in silt generated by loss of vegetation cover and to attenuate the increase in runoff rate and volume generated by compacted dirt surfaces. These features also have scope to provide removal of other pollutants. Drainage routes associated with the asphalted areas of the precinct perform the function of conveyance, attenuation and pollution removal. These facilities will also be available to roof drainage if required.

Figure 30 Drainage Strategy (refer to Attachment A4)

To minimise rainwater outfall and mains water consumption within buildings, it is proposed to fit each with rain water harvesting to catch, filter and reuse within the buildings (overflowing to the stormwater network when needed).

For the paved tracks (FIA Main track, Drag Strip, Karting and Driving Academy, Burn Out Pad), each will have their own integrated drainage system, where possible using filter drains and swales in grassed collection areas to direct their flow to natural storage basins and bio retention areas which will have partially lined sections for water storage and additional benches/stages to provide infiltration of excess water and to encourage slow release into the creek or ground.

For the unpaved tracks (Off Road Racing Zone), it is proposed that swales are positioned around the perimeter of each zone in order to promote a low velocity flow towards the natural storage basins and bio retention areas, which will be lined with water sensitive vegetation and grass cover. This combination will allow the treatment of runoff and the importantly the collection of silt. Whilst the proposed strategy is cognisant of the provisions for irrigation that may be necessary to support the vegetated and grassed areas that are a core part of the strategy, it has benefits with regard to silt reduction and erosion control. The planting across the site, and its irrigation, are key to the stormwater management proposals for the site through their role in preventing erosion of the unpaved areas and preventing silt migrating towards the creek.

4.5 SITE SPECIFIC CONSIDERATIONS

4.5.1 Waterway barrier works

The masterplan proposes sympathetic treatment of the watercourse with limited work within the watercourse zone. The main tracks do not cross the designated watercourse for the purpose of referral on barrier works.

Any outfalls into the waterway will be constructed such that they do not trigger the requirement for waterway barrier works predominantly by not obstructing the channel.

4.5.2 Pollution Management

The layout of the masterplan has been designed to allow space to manage water on site with the aim to control the impacts of rainfall on the site. The management of pollution focuses on the removal of silt, hydrocarbons and other pollutants to prevent them being released into the environment outside the site. Interceptors are proposed as described later in this report.

The size of the tracks and their safety run off areas make the overall development percentage of the site lower than most domestic and commercial developments. As a result, making space for water management tends to be less of an issue than other developments.

4.5.3 Off Road Racing Zone paddocks and pits

The areas where vehicles are refilled and repaired tend to be the areas where spill of hydrocarbons is most likely. For paved tracks, this is more easily managed by the fact that the paddock and pit areas will also be paved. In contrast, the speedway and other off road facilities do not require such extensive paved pit and paddock facilities.

To prevent pollution from fuel or oil spills in the speedway and off road sector, it is proposed that dedicated hard standing areas will be provided for the use of participants. These hard standing areas can then be connected to their own dedicated drainage systems to allow for treatment before discharge into the wider site network. This will also allow for the additional containment controls (e.g. blocking of chambers or closing all valves) to prevent a spill from reaching outside of a controlled area.

4.5.4 Spill management

In the venue management plan and in any governance documents that are prepared for the organisations running the facilities, provisions for spill management should be included. The advantage of motorsports events (compared to normal roads) is that events are overseen by event staff and officials, therefore the use of spill kits in the event of an incident is easier to enact. Event staff can be trained to use kits to prevent spills thereby minimising pollution.

4.5.5 Silt and erosion control.

Tracks within the Off Road Racing sector are key areas for the management of silt as the running surfaces and supporting areas are unbound and generally unvegetated. These areas should be contained by measures to prevent the migration of silt either towards the creek or into the drainage system. Key to preventing silt reaching the creek is the provision of low water velocity areas where suspended particles can drop out of the storm water. Stormwater management ponds are proposed to provide space for water to dissipate kinetic energy to facilitate silt drop out.

For the road racing sector, the paved tracks and runoff areas have the potential to generate large volumes of silt during rainfall events. The quantity of silt leaving these landscape areas can be managed by the planting of vegetation such as grass. This vegetation may necessitate irrigation, but the need for irrigation and the demands on the water supply can be managed by providing storage within the stormwater management ponds and also through the selection drought resistant planting or grasses.

An example of this, is the run off areas for the main track which won't need to have a grass surface that is pleasant to sit on so the species of grass can be selected purely for its ability to with stand periods of low watering. During the detailed design of the precinct, potential watering needs should be calculated to see if they can be provided within the basins without compromising the volume of water needed for irrigating the off road area.

Street sweeping may also be considered as part of the overall maintenance regime for the precinct to avoid the tracking of dirt around the site and onto the public highway, thereby minimalizing the amount of sediment reaching the highway drainage network.

4.5.6 Wheel Washing

Wheel washing facilities should be considered in multiple locations within the Off Road Racing Zone to reduce the tracking of sediment onto the precinct internal roads and further onto the state highway network.

4.5.7 Pollution Interception

Interception of oil and other pollutants in rainfall runoff at commercial venues is key to the success of the stormwater management system. This can be achieved by either the provision of hard engineered systems such as oil interceptors or separators or alternatively a Suds system can be put in place that uses softer systems and techniques to remove and treat pollutants.

Generally, the design of oil inceptors is related to the drained area which in the case of race tracks tends to be very large. This results in large below ground oil inceptors that have to be maintained and do not add to the overall landscape value of the site. For this Motorsports Precinct the paved bound tracks should look to maximise the use of surface level drainage features such as swales and bio retention areas to carry out the required pollution removal. It is recommended that traditional separators are still considered in high risk areas such as places where vehicles may be being dismantled or refilled, like the paddock and pitlane. Limiting the interceptors to targeted areas such as this allows for the provision of smaller inceptors lowering maintenance costs whilst providing well measured treatment to high risk areas.

For the main track areas the drainage system should be designed using a treatment design method whereby the pollutant removal capability of the system is calculated and matched to the predicted run off and the requirements to discharge to the Creek or ground. Also known as a SUDS treatment train.

Note that where washing facilities are available for vehicles the performance of oil separators and interceptors is often reduced due to the emulsifying properties of soap used in the vehicle wash. The detailed design of the site should make consideration as to whether vehicle washing should be allowed on site particularly with the use of detergents.

4.5.8 Attenuation Basins / Stormwater Management Ponds

A total of 23,550m² of attenuation basins are proposed to serve the stormwater needs of the development as well as providing a dual use for the storage of irrigation water. Assuming a 1.0m depth available for attenuation this equates to around 23000m3 of storage available. Based on site levels there is additional depth available for pollution treatment of low flows also. This can be achieved through the use of partially lined basins, creating different benches as follows:

Lower bench – Bed to Level 1

Lined bioretention style basin designed to have a permanent water level. This serves the purpose of treatment of the water, as well as providing a minimum level of water for nature (accepting that it may evaporate during a drought). No outflow pipes or any collection of water for irrigation from this level.

Irrigation Storage Bench - Level 1 – level 2

Impermeable liner continued for this level to store stormwater runoff for the purpose of reuse on site irrigation, sized based on irrigation requirements. The base of this level is the lowest point that water can be e tracted to by pump or tan er.   he option e ists to use smart’ technology through connected pumps to empty this portion of the basin prior to large forecast storms thus providing additional stormwater storage.

Infiltration and Attenuation Bench – Level 2 – Level 3

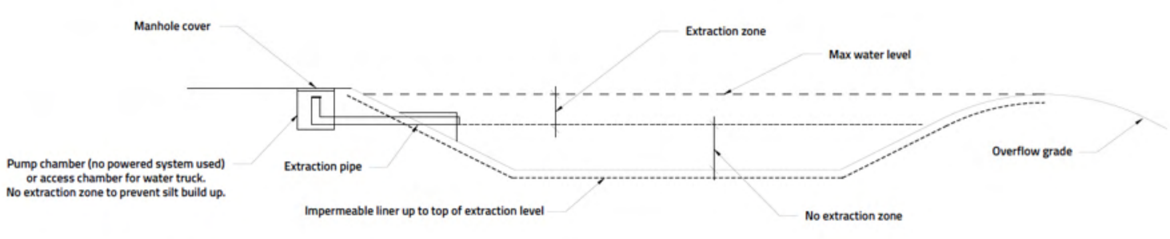

Figure 31 - Attenuation Basin Schematic

Bench for the attenuation of stormwater flows to control discharge from the site to the undeveloped state up to the 1% AEP event. This layer does not need an impermeable layer for storage reasons, therefore if permissible can infiltrate into the ground in combination with overflow into the creek.

The attenuation basins can be landscaped to appear to blend with the natural landscape of the site, or could be designed to provide useful public spaces that have an architectural association to the rest of the site, as shown below, by incorporating the concept of the amphitheatre which will be used on the spectator banks around the motorsports facilities.

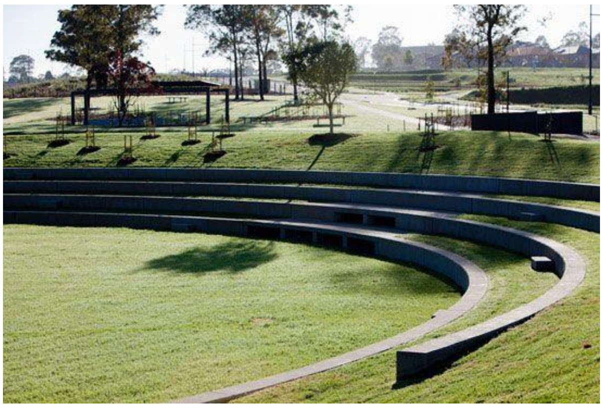

Figure 32 - Landscaped Detention Basin

4.5.9 Connecting swales

To connect the attenuation basins, open swales may be designed to provide additional catchment capacity, while offering a low cost, low impact and low maintenance solution. These provide the ability to also connect to a filtration drain system as required. It is worth noting that the installation of such filtration systems should only be considered in areas of lower risk impact of spillages such as adjacent to general circulation roads or car parks rather than in pit areas.

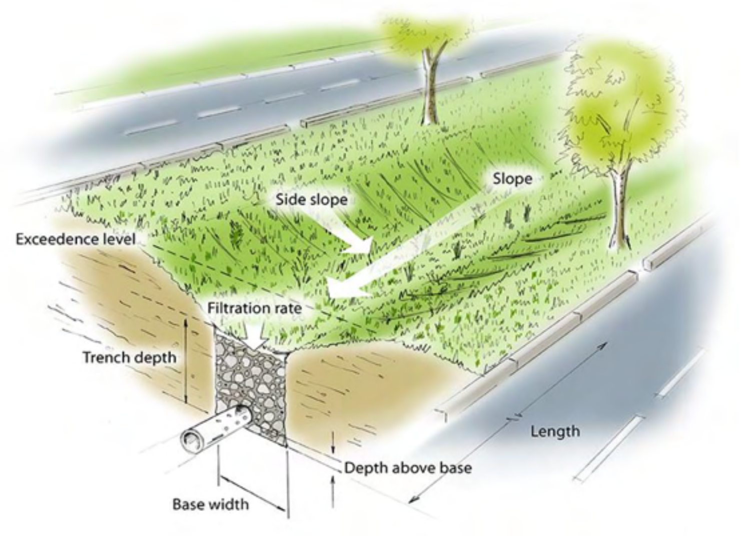

Figure 33 - Drainage Swales

4.5.10 Rooftop Rainwater Reuse

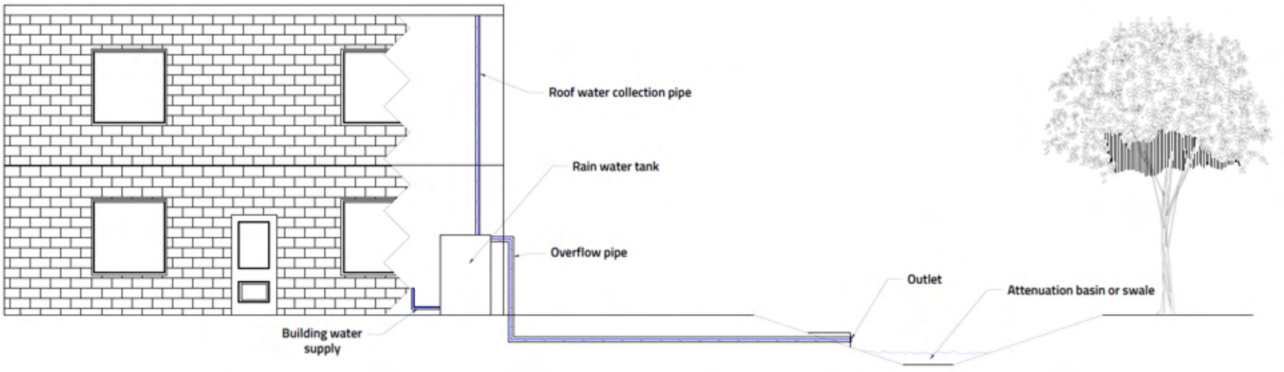

Figure 34 - Rooftop Rainwater Reuse diagram

All buildings for the precinct should be connected to rainwater harvesting systems to reduce the demand on imported water. Roof water is preferred for internal reuse and selected outdoor re use due to lower quantities of silt and other pollutants which need to be removed before use.

4.5.11 Infiltration and Groundwater Recharge

Throughout the site the installation of basins and other SUDS features generates the opportunity to retain rainwater on site and gradually return it to the ground through infiltration instead of allowing all runoff to leave the area overland via the creek. Providing the seasonal high groundwater level is sufficiently below the drainage ponds with sufficient infiltration testing, some infiltration can be promoted on site to return water to the ground, and to counteract runoff volume increase caused by the construction of impermeable areas.

Figure 35 Suds Infiltration Cycle - typical (SUSDrain)

4.5.12 Car Park drainage

The precinct has large open spaces dedicated to car parking, of which some of the spaces will be subject to frequent use therefore suited to bound construction. Other areas of limited anticipated use (e.g. overflow or major event parking) are likely to be unbound and only sparsely vegetated, which may result in stormwater runoff increase.

Car park drainage options:

Traditional: System of kerbs and surface collection gullies with below ground silt and petrol interceptors discharging to below ground drainage network

SUDs: Over-the-edge drainage using grass filter strips and swales / rain gardens.

It is recommended the car parks should look to use features such as rain gardens and vegetated swales to intercept the flow of water and provide treatment for silt and pollutant removal as part of the overall stormwater management system.

4.5.13 Asphalt Track Drainage

Track drainage systems generally use features borrowed from highways and airports, such as high capacity slot drainage and high strength covers. For example, traditional highway gratings can be integrated into the drainage system for a drag strip by positioning outside of the running area.

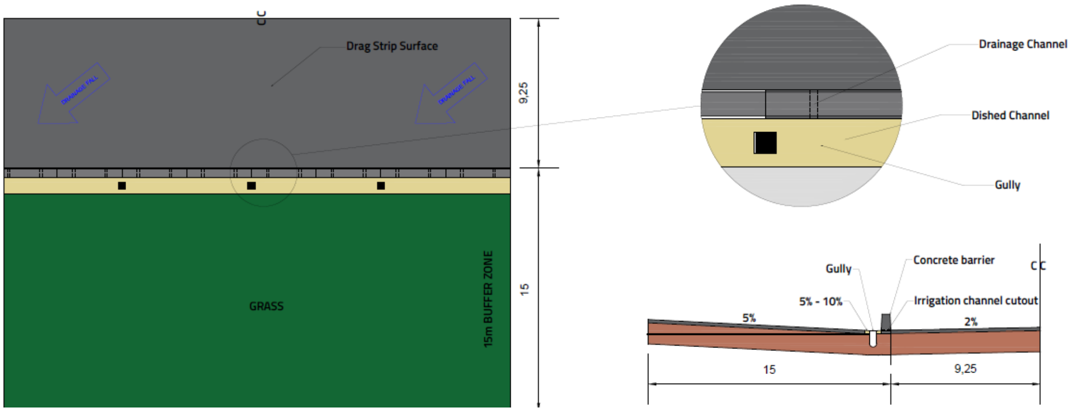

Figure 36 - Trackside Drainage Schematic (Drag strip)

Alternatively, (applicable to all asphalt tracks) is the use of slot drainage, such as shown in Figure 37 where the drainage channel has been integrated into the track edge. The cost estimates for the site make an allowance for slot drainage and filter drains to be used in combination. As the design of tracks progress it is recommended that the proposed collection methods should be reviewed against the requirements of each relevant motorsport governing body and regional organisations to implement best practice suitable to each use.

Figure 37 Slot drainage integrated into track edge (mid construction)

4.6 SUMMARY AND RECOMMENDATIONS

- The entire site drains naturally overland towards the creek.
- The site is in an area not highlighted as being at flood risk by the Rockhampton Region Planning Scheme mapping, therefore does not trigger the relevant overlay. The Queensland Government mapping flood check information does indicate that the 1% AEP (Annual Exceedance Probability') event does have some chance of occurring over the site.
- The south west corner of the site is subject to overland flow through emerging from the south west which should be sympathetically routed around the twin figure 8 tracks during design of this area to avoid overtopping the track.
- Consider levelling of the site with regarding existing vs future flood storage (buildings to be raised by maximum 1m).

- Track operator input should be sought during detailed design to determine the level of commercial risk willing to be taken with regards to track flooding and a target level for the final track design can then be determined. This risk is generally deemed low.
- Maximise area of stormwater basins – target 5% of site area, supplemented by open swales being designed around the site.
- Wheel washing in the dirt sport zones is encouraged to prevent silts entering the drainage system unnecessary. Interceptors are to located in specific locations such as pitlane and paddock zones where vehicle maintenance is more likely to occur.
- Sustainable methods of collecting and storage/re-use of rain water is encouraged to complement the basin strategy, namely roof-top water harvesting. This should be implemented within the detailed design programme.
- A detailed assessment will be required for full development approval based on the final masterplan and a further stage of schematic design for the stormwater systems.

5. TRANSPORT AND ACCESS

This section provides a description of the existing site, a preliminary overview of constraints and discussion on high level features included in the masterplan to support the future development of a full suite of assessments for transport and access for the site. The proposed next steps to move the project towards full development application are provided.

As the design of the precinct evolves the potential benefits and impacts are likely to change as the capability to host different events and activities is adjusted. As a result, this section considers high level impacts of the masterplan and provides an overview of the mitigations and measures that are possible within the constraints of the baseline conditions and proposed design.

5.1 BASELINE CONDITION

The site is situated on the A3 Burnett Highway outside Rockhampton, approximately 9km South of its intersection with the Bruce Highway and 16km from Central Rockhampton. The Burnett highway is a single carriage way state controlled road linking Rockhampton with Mount Morgan and beyond. The speed limit on the highway is 100 kilometres per hour and the road is predominantly straight.

The Average Annual Daily Traffic, according the Traffic Census of Queensland state declared road network for 2019, was 2492 vehicles of which 8% were class as heavy vehicles. Data contained within the Traffic Report published in 2013 in relation to the development of the Bouldercombe quarry contain 12-hour counts for the Burnett Highway/Gavial Gracemere Road intersection from 2010, showing comparable figures as well as peak hour volumes split between northbound and southbound volumes. Refer to Table 1.

Year		**2010**	**2011**	**2019**	**2020**	**2030**	**2040**
AADT	Vehicles per day (HV)		3004(233)	2492(199)	*2616(209)*	*4261(340)*	*6940(555)*
Peak hour volumes (HV)[2]	Nthbnd	229(12)	240	*355(28)*	*373(29)*	*607(49)*	*989(79)*
	Sthbnd	125(14)	130	*192(15)*	*201(16)*	*329(26)*	*535(43)*
Estimated AADT by direction[3]	Nthbnd	*64%*	-	-	*1674(134)*	*2727(218)*	*4441(355)*
	Sthbnd	*36%*	-	-	*941(75)*	*1553(124)*	*2498(200)*

Table 1 - Burnett Highway (Bouldercombe) Existing Traffic Estimates, Projections (in orange italics) based on 5% annual growth rate

There is an existing access intersection into the site, serving the quarry which is located West of the Development Area. South of the existing site access there is a road reserve corridor, which could become a secondary access to the site. This is located approximately 500 metres South of the existing access. Approximately 300 metres North of the existing access on the opposite side of the road there is an access to another property.

Figure 38 - Access to nearby property approx 300m north of the existing quarry access (showing start of right hand lane) viewed from the north

[2] Based on 2010 DMRT 12 hour count data, then projected at 5% annual growth rate
[3] Northbound and southbound estimates based on 64%/36% split in peak hour counts.

In recent years, the site has benefited from the construction of a right-hand turn lane to serve the Bouldercombe quarry. This quarry is accessed through the centre of the proposed motor sport precinct site. The right hand turn lane into the site has been constructed to provide a deceleration and queuing lane of approximately 180 metres.

Figure 39 - Existing access to quarry (view facing South)

Figure 40 - Primary (existing) access junction

According to the 2013 Traffic Impact Report for the quarry, approximately 8 heavy vehicles per day are expected to access the quarry by 2023 for 49 weeks of the year. Operating hours are between 06:00 -18:00 from Monday to Friday and 07:00-17:00 on Saturdays, equating to 1-2 movements per hour. The report assumes that the vehicles used to access the quarry are 40 tonne capacity truck and dogs. The vehicles are assumed to be 19.0m in length, as indicated by the National Heavy Vehicle Regulator[4].

[4] https://www.nhvr.gov.au/files/201607-0116-mass-and-dimension-limits.pdf

Figure 41 - Existing quarry access junction, viewed from the south

5.2 PROPOSED SITE CONDITION

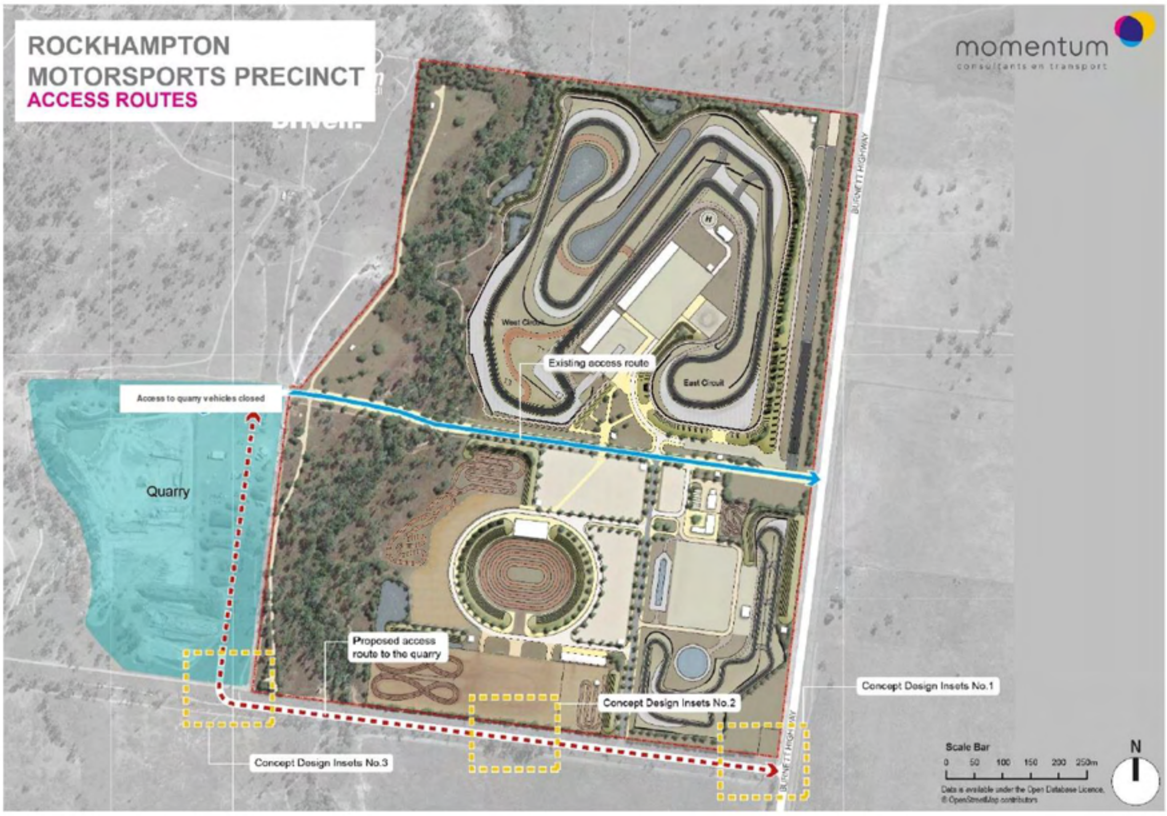

Figure 42 - Proposed Site Access Routes

5.2.1 Main Access

The current masterplan proposals aim to make use of the existing access as the main access into the site, pending the confirmation of detailed transport assessment requirements and approvals thereof. Initial consultation with local public bodies has not raised any objections to this approach.

For initial phases of the development utilising the existing access will allow the establishment of motorsports activities at the site and begin to achieve Council's ob ectives, with no changes to the current property access point. A trigger point assessment could be used to identify the precise scope of development that could be accommodated by the existing main access, and to determine any obligatory improvements that would be necessary as the development of facilities increases.

The potential for the existing access to be retained for all phases should also be explored in the same detailed transport assessment, remembering that major events are an infrequent occurrence at the property. However, during major events the following aspects should be considered and if possible mitigated for in the design or operational event plans:

- Potential for delays in accessing the quarry due to queueing
- The requirement for security and pay lines around the site to manage admissions may affect quarry traffic
- Safety risk of heavy vehicles mixing in the same area as public vehicles and pedestrians.

The majority of the day to day visitors to the site will be coming from the Rockhampton area although this will be analysed and evidenced in future detailed transport assessments. If this is the case the majority of the vehicles accessing the site will be turning right into the property entrance, and therefore having to cross the northbound traffic highway traffic potentially causing an issue during medium to large scale events. This could be mitigated by providing improvements to the main access such as increasing the length of the right turn lane and/or temporary traffic management during the largest events. Additionally a secondary access would increase vehicle flow into the site, helping to reduce risks of stacking cars onto the highway during major events.

5.2.2 Secondary access

The potential for a secondary at the southern edge of the site has been discussed with Rockhampton Regional Council and in a high-level discussion with representatives from the Department of Transport and Main Roads. Initial feedback on using a secondary access was that there was not an objection to the principle of this location based on its separation from the main access.

The immediate neighbouring property to the south of the Site, there are approved plans for a solar farm, whose development may impact on the timing and nature of the secondary access point. Implementing an access route that supports heavy vehicles could be beneficial for both sites.

It is recommended that this new access route to the quarry is implemented around the southern boundary of the site to mitigate the issues of heavy vehicles using the existing access route through the site. This proposed arrangement is shown in Figure 42.

The existing intersection at the Burnett Highway and the existing east-west access route to the quarry has been designed to accommodate the 40 tonne truck and dog vehicles that access the site. It is unclear from background research why specifically a right-turn lane of over 150m in length was implemented, as the 2013 Traffic Impact Report did not indicate this provision would be required. Note that the queuing lane is beneficial to the precinct to enable major event access, as set out in Section 5.3. However, it is still recommended that a new intersection at the Burnett Highway and the proposed southern access route duplicates the layout of the existing access route to ensure the access requirements of the quarry vehicles continues to be satisfied.

Conceptual design layouts of the proposed southern access route, accommodating simultaneous passing movements of 19.0m truck and dog vehicles are shown in Appendix A3.

The layouts demonstrate the indicative dimensions required at an intersection with the Burnett Highway, a straight section of the access route and a turning corner. Note that these design layouts are indicative only. Should a southern access route be supported, detailed design with topographical surveys would be required.

5.2.3 Onsite Roads

The main circulating network for the site should be designed to allow for efficient removal of vehicles from the Burnett Highway to avoid traffic backing up to the main road. This should be achieved through the use of:

- Clear Signage
- Direct routes
- Avoiding multiple crossing points on the main spine roads.
- Longer right hand staging lane, if needed
- Temporary traffic management systems for major events

5.2.4 Major events

It is understood that the Proposed Development aims to host a number of events that will be scheduled in such a way that large events on any individual track will make use of the internal site parking as well as potentially adjacent or communal facilities such as parking, public transport drop offs, and public circulation areas. The following list shows some of the largest events each individual track is anticipated to accommodate, as established during the consultation with local motorsports clubs:

- Circuit Racing 20,000-30,000 spectators, 2 day event 6 events per year

• Speedway Oval	3,000-4,000 spectators, 1 day event	8 events per year
• Pee-Wee / Supercross	2,000-3,000 spectators, 2 day event	12 events per year
• Kart Racing	1,000-2,000 spectators, 2 day event	12 events per year
• Drag racing	1,000-2,000 spectators, 2 day event	12 events per year
• RC Racing	300-400 attendance, 1 day event	12 events per year
• Mud Sports	200-300 spectators, 2 day event	12 events per year

Based on these figures, and an assumed average of 2 persons per car, the maximum number of cars expected to require parking for a major event would be 10,000 to 15,000 vehicles. This assumes all visitors travel by car and does not account for increased car sharing or park and ride schemes. It is expected that somewhere between 150 and 200 of these vehicles would be part of the campsite, and therefore could be campervans / caravans each occupying an 8mx8m pitch. We estimate 166 camping pitches would be available on this basis.

5.2.5 Day to Day Operation

It is worth noting that the event estimates provide an infrequent peak in the parking and traffic impacts of the proposals, however these must of course be accommodated within the master planning strategy – some of which may be acceptable to implement using temporary event solutions such as event parking stewards, temporary one way systems and shuttle rides.

A more realistic picture of the day-day figures can be provided below, assuming non-event weekends or mid-week activity of the tracks when used as corporate or public entertainment, testing or training track facilities.

• Circuit Racing	20-200 persons, per day event	Daily
• Speedway Oval	5-100 persons per day event	Daily
• Pee-Wee / Supercross	5-100 persons per day event	Daily
• Kart Racing	20-200 persons per day event	Daily
• Drag racing	5-20 persons per day event	Daily
• RC Racing	5-20 persons per day event	Daily
• Mud Sports	5-50 persons per day event	Daily
• Driver Experience	50-100 persons per day event	Daily

Based on these figures, a maximum of circa 800 persons are predicted to be on site per day. This assumes the concurrent activity of all tracks for either a corporate function or private practice/testing days. Assuming 1 person per car, a day-day parking capacity of 800 vehicles should be accommodated within the masterplan, which can be easily accommodated on site. These figures also include allowances for day to day track staff even if a particular track is not in use i.e 5 maintenance or event preparation staff at the Speedway track during non-operations.

5.2.6 Parking

The rate of 25sqm per vehicle is a commonly used rate for calculation car parking capacity of reasonably square contiguous areas typically associated with large outdoor sporting events. It includes for the area of the parking bays along with a typical allowance for access and circulation roads. Taking into account Australia Standard AS 2890.1-1993, a prototype arrangement as shown by Figure 43 indicates that a typical equivalent rate based the standard is in the region of approx. 24.5 sqm per vehicle, inclusive of circulation and access provisions. As such throughout this section, an allowance of 25 sqm per vehicle shall be assumed.

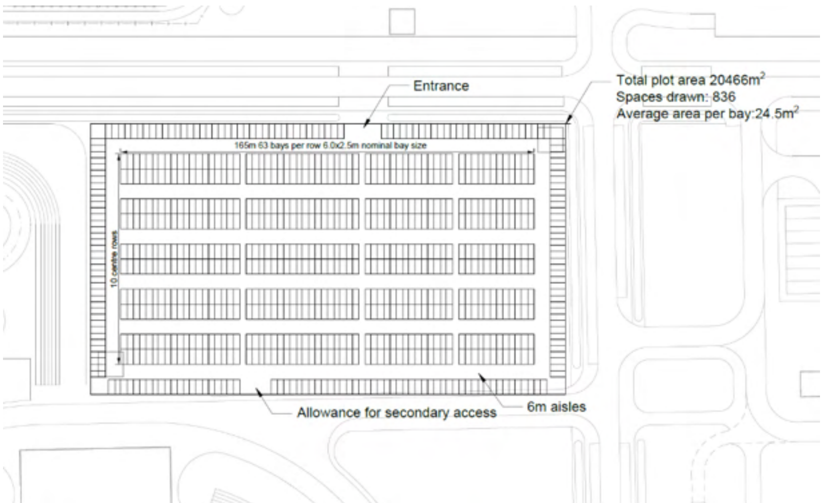

Figure 43 - Estimation of parking capacity per sqm as per AS 2890.1-1993 standard parking dimensions (based on 2.5 x 6m bay sizes)

The parking capacity of the venue is dependent on the event to which the parking capacity relates. Table 2 provides a summary of the parking areas available, currently based on the allowance of 25sqm per vehicle inclusive of circulation roads across the site for major events on the speedway and main FIA circuit, which are likely to be the largest single venue events that are operated at the new precinct.

Area Parking	Parking area SQM	Capacity Spaces	Speedway event capacity	FIA Circuit event capacity
Speedway	69,150	2,766	777 (partial use)	2,766
Karting & Driver Training	25,922	1,036	1,036	1,036
Motorkhana	6,000	240	240	0 (is use as spectator area)
Circuit (Paddock + Burnout)	22,650	906	906	0 (in use as paddock)
Drag Strip	12,456	498	498	498
Campsite	25,722	1,028	1,028	0 (in use as campsite)
TOTAL			**4,485**	**4,300**

Table 2 - Proposed parking areas under Speedway and FIA Event Scenarios

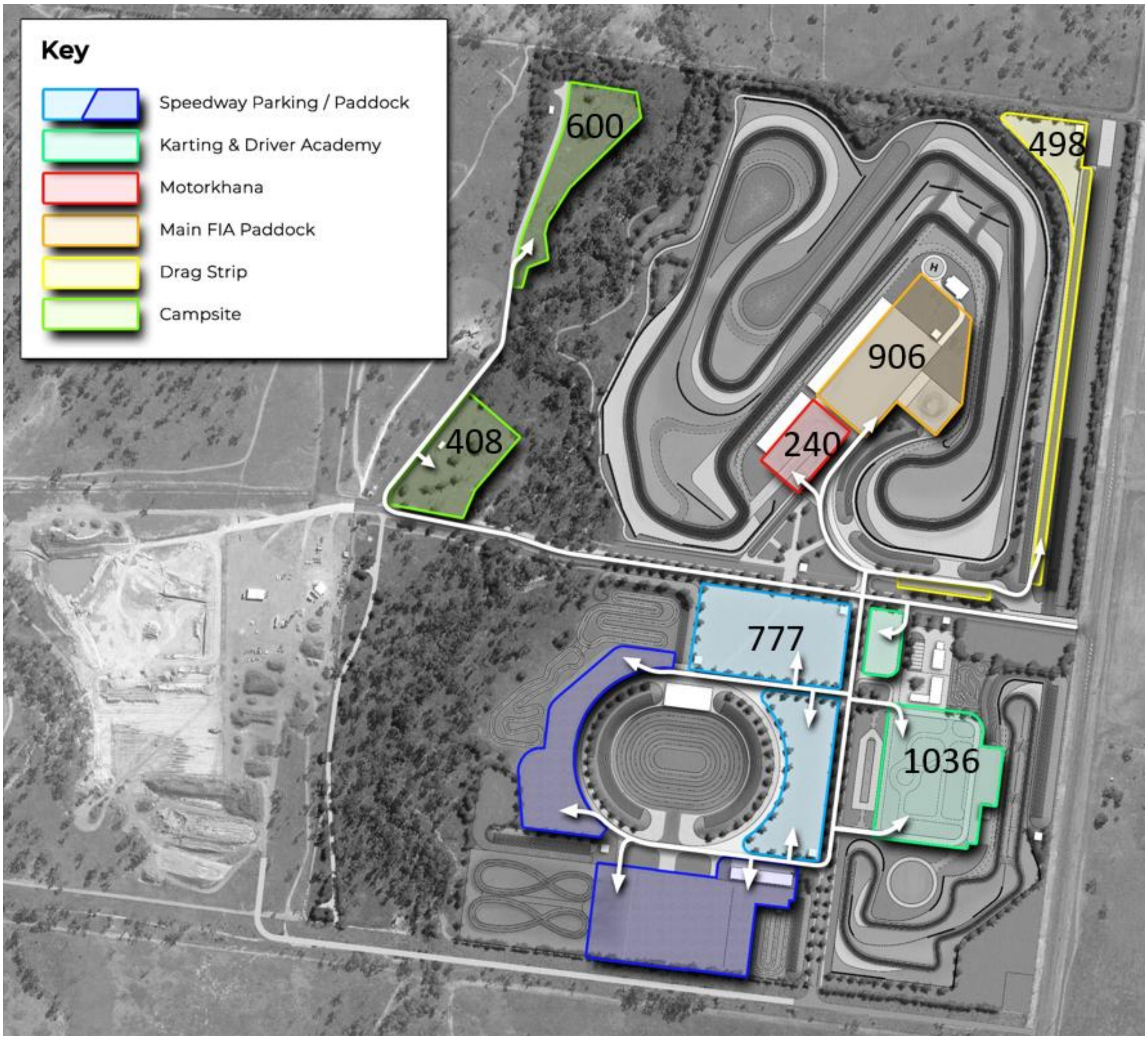

Figure 44 Major speedway event parking and vehicle circulation

Each track within the precinct will have day to day access to parking facilities close to their centre of operations. For larger events, parking facilities across the precinct may be repurposed to serve as temporary parking to accommodate the larger event attendances as illustrated in highlighted in Section 5.2.4.

Additional offsite temporary parking facilities or alternative park and ride options are likely to be required to support larger events that exceed the capacity of the venue. Potential areas of the quarry land or approved solar farm could be used to accommodate this subject to agreement with the land owners. This will only be the case for one-off major racing circuit events when a maximum capacity of 10,000 -15,000 vehicles is required. All other major events, including speedway event parking, can be accommodated within onsite parking. The impacts of range of scenarios are discussed in more detail in Section 5.3.

For major events it is recommended that only ticket holders are permitted to park on-site to assist with coordinating accessibility. Security lines will need to be implemented to check vehicles accessing either the entire precinct or specific parking areas. This is further discussed in Section 5.2.8.

5.2.7 Potential for temporary traffic management (TTM).

Day to day use of the motorsports precinct is unlikely to generate close to the potential volume of visitors that large events bring. It is often not feasible to design the access to cater for the largest peak event, instead a temporary traffic management system could be put in place to cater for these events. Any temporary arrangements affecting the State controlled highway would need to be agreed.

Typical features of TTM for large events can include:

- Temporary Traffic lights
- Temporary road and site marshalling
- Pre booked arrival times
- Park and ride shuttles with allocated pick and drop off zones
- Tidal use of lanes within the site – e.g. entry only for both on site road lanes during peak arrival times.

This is further discussed in Section 5.2.8.

5.2.8 Potential Impacts

The site will generate the potential for traffic and transport impacts during construction and operational phases. These potential impacts are identified below such that mitigation can be designed into the project from an early stage.

The assessment and design of access points into the site, as well as internal layout for the site, will take place with the aim to reduce or eliminate potential impacts such as:

- Reduced performance of the local highway network due to day to day use.
- Increased traffic
- High visitor numbers during large events.
- Impacts with the operation of the quarry and associated mining vehicles.

Multiple scenarios are considered to explore the impacts on the precinct in different modes of operation, which are explored in Section 5.3.

5.3 PRELIMINARY IMPACT ASSESSMENT

5.3.1 Overview

The proposed Motorsports Precinct would consist of numerous facilities accommodating different motorsports. All facilities are expected to be operational and accessible to the public on most days throughout the year.

However, major events of varying scales are planned to occur on weekends throughout the year, which may require the closure of some facilities to accommodate the required access arrangements and car parking.

The largest events, for racing at the FIA Circuit, are forecasted to occur bi-monthly and attract up to 30,000 attendants over a weekend or 15,000 per day. When these events occur, all other racing facilities would need to be closed to enable the entire precinct to be secured specifically for the major event and accommodate the exceptional accessibility demands.

Several other facilities are proposed to host major events on weekends throughout the year on a fortnightly or monthly basis. Since the forecasted attendances are much lower than for the major events at the FIA Circuit, It is likely that multiple events could be hosted simultaneously without an adverse impact on accessibility.

It is acknowledged that numerous scenarios are possible with a combination of different major events hosted and that maximum operational flexibility is desirable. For assessment purposes only, the scenarios summarised below have been assumed to identify and discuss potential transport considerations for accessing the site when different events are occurring.

The scenarios being investigated which are further described below are as follows:

- Scenario 1 – FIA Circuit Major Event, 15,000 attendance per day
- Scenario 2 – Speedway, Drag Racing & RC Racing Events 3,150 attendance per day
- Scenario 3 – Supercross, Kart Racing & Mudsports Events 2,700 attendance per day
- Scenario 4 – Day to day, All Tracks, 700 attendance per day

5.3.2 Scenario 1 - Major FIA Circuit Event

For the purposes of assessment, the worst case scenario and most acute transport impact is assumed to be a major FIA Main Circuit event, with a projected attendance of 30,000 visitors or 15,000 per day for two days.

The entire precinct would need to be secure for the major event, with public access to facilities not in use prevented. This would be required to maximise the car parking availability (as described in Table 2) for attendees to the major event, mitigate capacity constraints a the access intersections and enforce security by allowing access only to ticketholders.

he site's remote location would mean that accessibility is only realistically possible by car par n' ride solutions or chartered shuttle bus services. al ing cycling and public transport services are not currently feasible, although future alternatives are explored in Section 5.5.

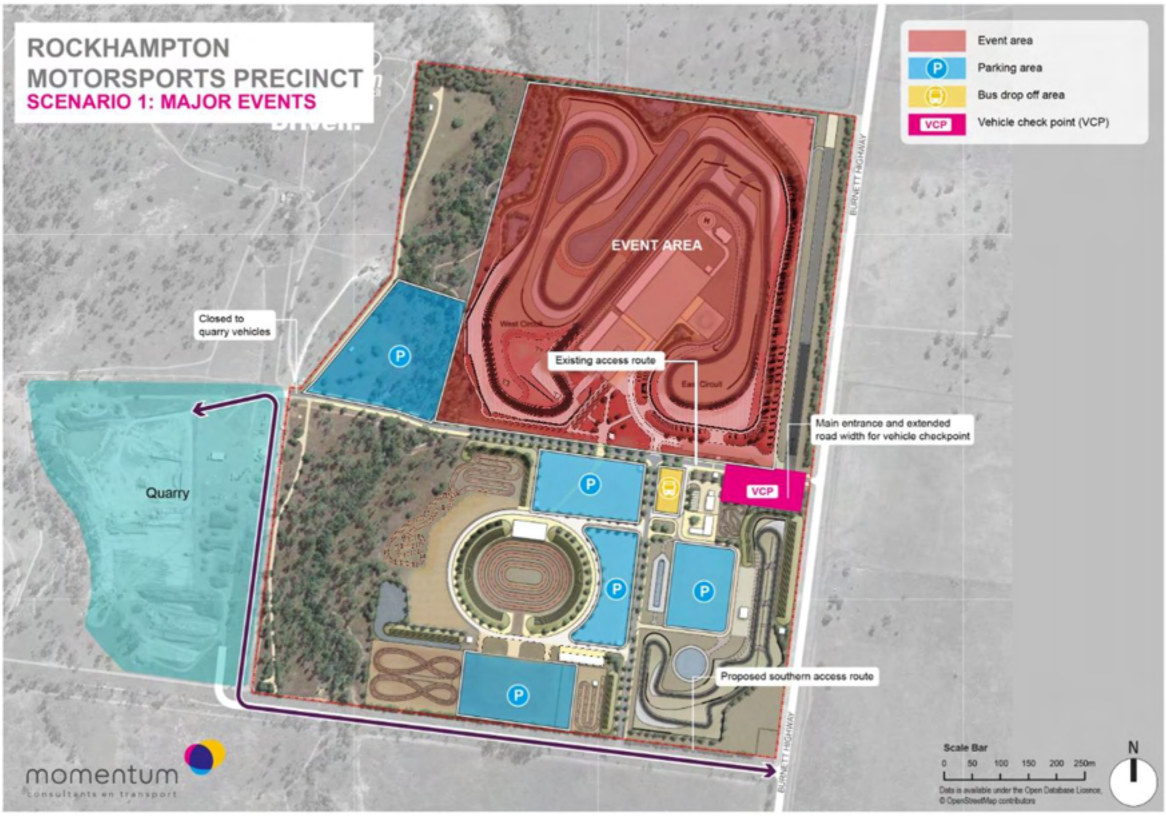

Figure 45 - Major FIA Circuit Event Overlay

An overview of the proposed accessibility arrangements for Scenario 1 is shown in Figure 45.

Car Parking Capacity

- From Table 2, it is assumed that 4565 cars could be accommodated on site.
- Assuming a capacity of 2.5 people per vehicle, then a maximum of 11,412 people could access the site by car.
- Consequently, at least 3,587 people would therefor need to access the site by alternative means.

Capacity Assessment of Main Entrance

A capacity assessment was conducted using Junction 8[5] to ascertain how many vehicles could turn-right without affecting through traffic on the Burnett Highway:

- The background traffic was estimated according to AADT data shown in Table 1.
- It is assumed that Saturday morning traffic per hour is approximately 5% of AADT, which would coincide with the most likely peak arrival time at the precinct.
- Assuming northbound and southbound vehicles are equal, the through traffic was estimated to be 66 movements in each direction., with 8% constituting heavy vehicles.
- The model identified that a maximum of 610 right-turning vehicles per hour could be accommodated adequately by the intersection and right-turning lane's storage length without adversely impacting through traffic. Average delays of 37 seconds for the right-turning vehicles are forecasted, but this is considered acceptable for traffic associated with visits to the precinct.
- Capacity of this intersection could be increased by extending the storage of the right turn lane further north. However this would impact on the access to a site located to the north on the eastern side of the Burnett Highway and the design would need to accommodate continual access for right-turning movements from and to this site. Additionally, while extended delays from queuing to enter the precinct are acceptable for this type of trip purpose, at some point delays become too excessive. The strategy and design for potentially upgrading this intersection would need to consider these factors.
- It is recommended that the layout arrangement for the existing intersection is duplicated at the proposed southern access route, although it is noted that there is

[5] An industry-standard package for modelling roundabouts, priority junctions and simple signalised junctions published by Transport Research Laboratory (TRL Limited, www.TRLSoftware.co.uk)

scope to implement a longer right-turning lane without impeding on other access points. Assuming an identical layout is implemented, then 1,220 vehicles per hour in total could utilise the two intersections providing access to the site.

- Assuming arrivals occur uniformly over a three hour period for a major event, then approximately 3,660 vehicles could utilising the two intersections providing access to the site, under the total parking capacity.
- However arrivals to the site are unlikely to be evenly distributed over a 3 hour period and that a majority are likely to be concentrated to the hour preceding the event. But temporary traffic management measures (messaging, traffic marshals, signage) could be used to manage short term peaks in incoming traffic and to efficiently optimise the use of all available entrances and parking capacity within the precinct.

Security Checkpoints

When vehicles enter the precinct on the existing access route, it is recommended that they pass through a checkpoint where security can identify whether the driver and passengers are ticketholders or not.

It is recommended that this arrangement consists of 4 lanes with two booths in between, allowing 4 vehicles to be processed simultaneously. With a maximum of 610 vehicles arriving per hour and approximately 10 per minute, this arrangement would mean that 2.5 vehicles would need to be process each minute per lane. This arrangement is considered to be acceptable and facilitates contingency when checks are delayed or entry is denied.

The design of this arrangement would need to factor in sufficient area for vehicles denied entry to turn around and depart the precinct.

n i e

Par n' ides are identi ied in the oc hampton Event ransport Strategic Assessment as an effective mechanism to allow spectators to access sites where car dependency is high and car parking constrained.

Optimally par n' ride facilities should be located 5-10 minutes from the subject site. In this context, that would require negotiations with nearby landowners located on the Burnett Highway north of the site (towards Rockhampton) to utilise their land for major event car parking. This would require further analysis and design of access points.

It is recommended that a par n' ride service is implemented within 5-10 minutes of the site, to allow sufficient time for buses to perform multiple trips.

Assuming each shuttle bus has a capacity of 50 passengers and 3 round trips are possible per hour, then each bus could transport 150 passengers to the site per hour.

It is recommended that par n' ride services are ree o charge to encourage their use and dissuade every vehicle attempting to access the on-site car parking.

Event Shuttle Bus Services

Event shuttles are discussed in the Rockhampton Event Transport Strategic Assessment as a service that can connect a venue with key nodes, such as the town centre or airport of Rockhampton. These services would particularly be useful for people that have travelled to Rockhampton to attend an event.

It is recommended that shuttle bus services are used to connect key origins in Rockhampton with the precinct to provide a model of public transport.

Assuming a loop trip o 45 minutes (accounting or travel time pic up and drop) then each bus could complete 2 trips in a 1.5 hour window. This would equate to 100 passengers per bus in a 1.5 hour period.

n i e n ent S tt e Strategy

While the arrival profile to a major event like this might be staggered, departures times are likely to be more concentrated. Consequently, it is recommended that the access strategy is designed to ensure all passengers utilising par n' ride or shuttle bus services can access a bus within 1 hour of an event concluding.

For assessment purposes, it is assumed that just over 3,500 attendants access the site by bus. It is further assumed that 50 utilise par n' ride services and 50 utilise event shuttle buses.

As described previously, i a par n' ride is located within 5-10 minutes from the site, it could provide access for 150 passengers over three departures from the precinct in the hour. With 1,750 passengers using par n' ride that would e uate to approximately 12 buses required.

If the par n' ride is located urther away (such as within oc hampton) than less trips per hour could be conducted and more buses would be required.

If event shuttle buses operate to key destinations within Rockhampton, two departures from the precinct per hour would be possible with 45 minute loops. With 1,750 passengers using par n' ride that would e uate to appro imately 18 buses re uired.

It is recommended that a designated bus parking area is implemented within the precinct and relatively close to the core attraction. Figure 45 shows a potential location for a bus parking area. In this arrangement, buses would use the southern access route to access and depart the site.

A bus parking area would require approximately 3,000 – 4,000 sqm to accommodate 30 – 40 bus bays, platforms for pedestrians and a circulation road to access the bays. The detailed design of the bus parking area should be further designed to refine the space required, operational efficiency and comfort for pedestrians.

Summary

Multiple options would exist to ensure all 15,000 spectators can access the site.

One option would be to allow cars to access the precinct through the existing access point, allowing the southern access route to be used only by shuttle buses and quarry vehicles. This would improve travel times for shuttle buses and the potential number of trips each bus could conduct per hour, which would increase capacity and reduce the number of attendants that need to travel to the precinct by car. It would also improve safety by separating cars from heavy vehicles. However, it would necessitate the existing right-turn lane to be extended significantly further north, impacting the adjacent site, and result in significant arrival delays.

Another option would be to allow for cars to use both access points and mix with buses and heavy vehicles on the proposed southern access route. The intersections would have the capacity to accommodate the volume of vehicles distributed over a three-hour period evenly without requiring a longer right-turning lane at the existing access route. This option would result in delays to buses accessing the precinct, although not excessive.

5.3.3 Scenario 2 and Scenario 3 – Major Events

Scenarios 2 and 3 assess the potential for a combination of some of the smaller major events to occur on the same day.

The events assessed in Scenario 2 occur at the speedway, drag racing and RC racing facility, which are forecasted to attract 3,150 spectators combined on a major event day.

The events assessed in Scenario 3 occur at the supercross, kart racing and mud sports facilities, which are forecasted to attract 2,700 spectators combined on a major event day.

Unlike in Scenario 1, it would not be expected that the entire precinct would need to be secured for Scenarios 2 and 3 and public access to the internal roads and facilities not hosting major events could be maintained.

Car Parking Capacity

In Scenarios 2 and 3, unlike in Scenario 1, car parking adjacent to the drag strip and within the FIA circuit would be accessible. Even if the temporary car parking in the mudsports area is possible and discounted from the camping area, the net quantum of car parking would be expected to be comparable to Scenario 1.

Assuming an occupancy rate of 2.5 passengers per vehicle, a maximum of approximately 1,260 cars for Scenario 2 and 1,080 cars for Scenario 3 could be expected to travel to the precinct, which would be easily accommodated by the quantum of car parking available.

hile providing par n’ ride would be redundant the provision o some event shuttle bus services would improve inclusion with a public transport option. However, this would not be necessary from a capacity perspective.

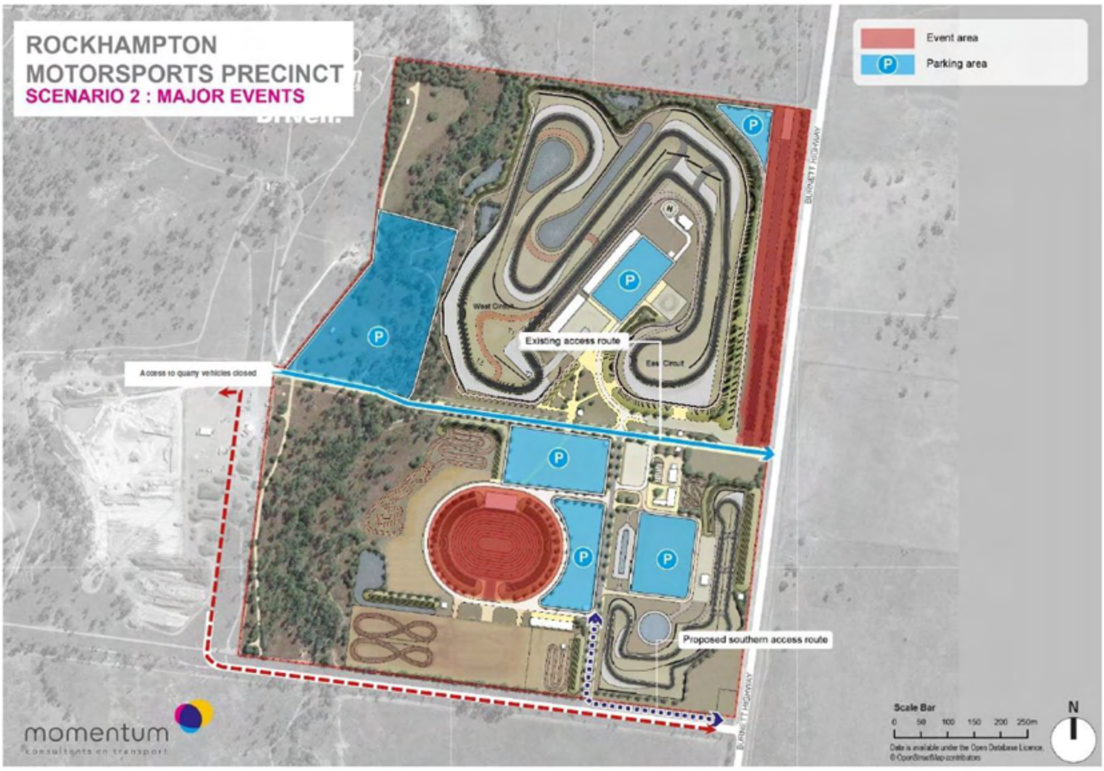

Figure 46 Scenario 2 - Major Event Overlay

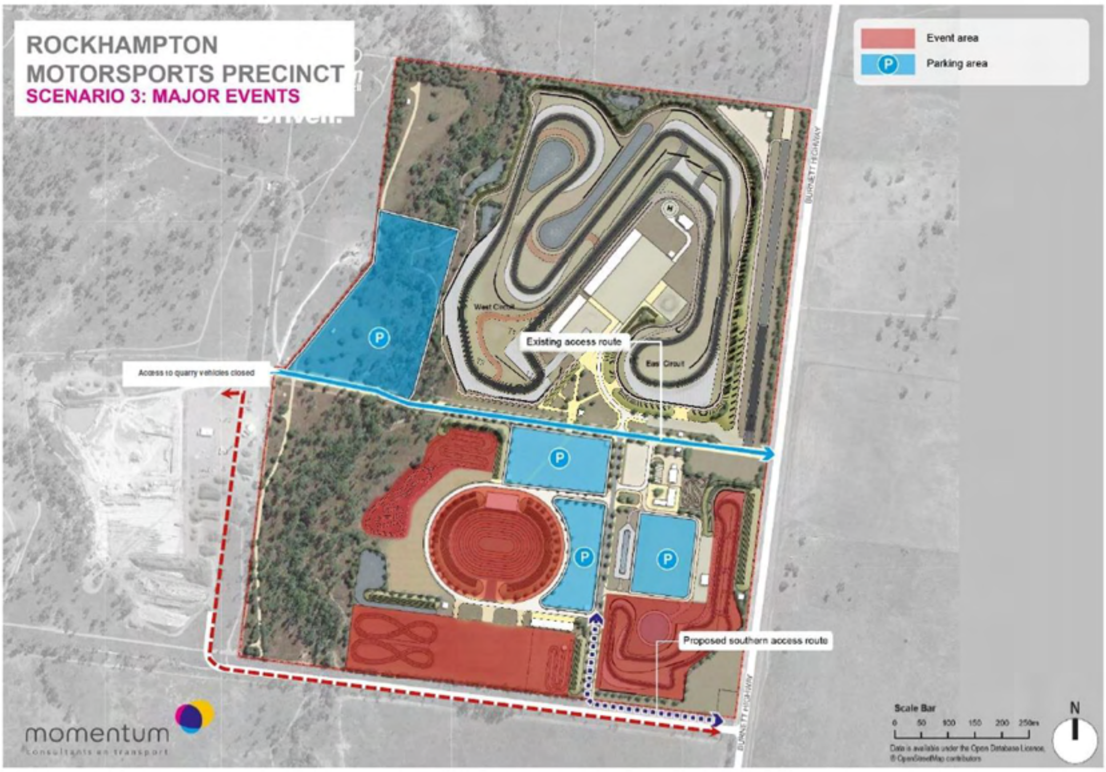

Figure 47 - Scenario 3 - Major Event Overlay

Capacity Assessment of Main Entrance

Since the intersection of the existing access route and the Burnett Highway can accommodate 610 vehicles per hour turning-right, this access could potentially accommodate all cars accessing the site in the assumption that the arrival profile is staggered over multiple hours. This could easily be coordinated by ensuring the start times for major events at different facilities do not coincide.

This arrangement would be preferable, as it would separate cars accessing the site from heavy vehicles accessing the quarry via the proposed southern access route.

Security Checkpoints

Since the quantum of cars accessing the precinct for Scenarios 2 and 3 would be comparatively low, certain car parking areas could be assigned to particular events. it is recommended that ticketholders are required to park in the car parking areas associated with their major event, as security checkpoints could be established at the entry points to these car parks instead of the access points to the precinct.

n Ride and Shuttle Buses

hile providing par n' ride would be redundant, the provision of some event shuttle bus services would improve inclusion with a public transport option. However, this would not be necessary from a capacity perspective.

Summary

The proposed masterplan and existing access route and intersection can accommodate the accessibility demands associated with a combination of major events occurring simultaneously (excluding major events at the FIA circuit), provided arrivals are staggered.

5.3.4 Scenario 4 - Day to Day

Throughout the year on non-major event days, it is intended for all facilities to be open and accessible for the public, which is assessed in Scenario 4.

It is estimated that ca. 800 people would attend the precinct on regular, non-event days.

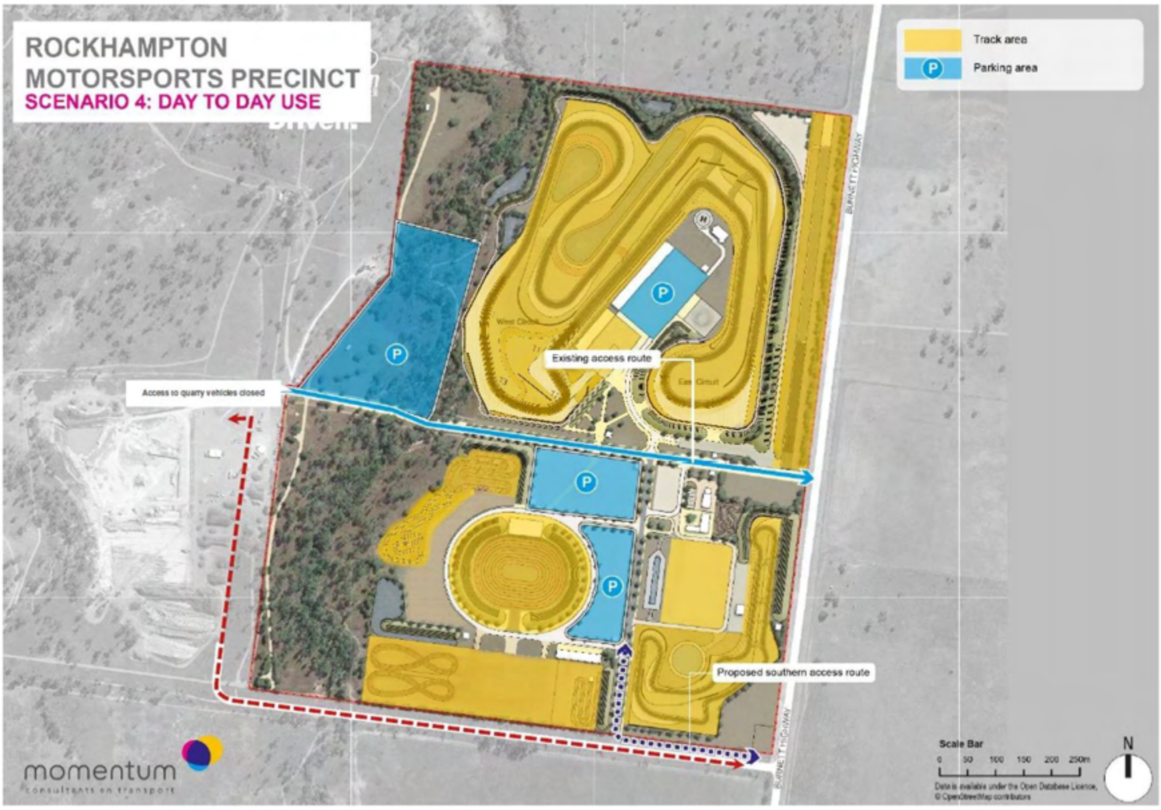

Figure 48 - Scenario 4 - Day to day use

Car Parking Capacity

All permanent car parking areas would be accessible to the public in Scenario 4.

Assuming a worst-case scenario of an occupancy rate of 1 passenger per vehicle, the quantum of car parking spaces on-site would easily accommodate this demand.

Capacity Assessment of Existing Access Route / Burnett Highway Intersection

The background traffic flows during a peak hour on Monday to Friday could be expected to be 10% of AADT data, which would equate to approximately 132 vehicles per hour in each direction. The intersection would have the capacity to accommodate approximately 590 right-turning vehicles during peak hours. Assuming the worst-case scenario of 1000 vehicles accessing the site are staggered throughout the day, the existing intersection can adequately accommodate cars accessing the site in Scenario 4.

Security Checkpoint

For day to day activity, it is not recommended that security checkpoints are implemented.

Summary

Demand for access to the precinct for day to day activity can easily be accommodated by the precinct and existing intersection.

5.3.5 Staging and Future Usage Growth

Considering the impact of time on the development of the facility as well as the potential for increases in facility usage on a day to day basis, it is possible to identify a likely timeframe when the existing intersection will no longer be able to accommodate the traffic impact, and therefore plan for a future upgrade.

With the development of the precinct proposed to be sequenced in stages, the impact on day to day traffic will also increase in line with the associated activities. It is also assumed that the popularity and attendance of day to day activities may grow incrementally. With the baseline attendances on a day to day basis as set out from Scenario 4, and assuming a 5% growth in attendance per year, the total estimate impact on traffic according to an indicative staging plan can be predicted over a number of years and compared with the estimated baseline traffic on Burnett Highway (Table 1) over the same timeframe. A summary of the calculation and comparison is shown in Table 3 below.

	Year (assuming opening in 2022)										
Development stage	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Speedway	0	100	105	110	116	122	128	134	141	148	155
+ Moto-/Super-cross	0	0	100	105	110	116	122	128	134	141	148
+ Go Kart	0	0	0	200	210	221	232	243	255	268	281
+ FIA Circuit	0	0	0	0	200	210	221	232	243	255	268
+ Drag	0	0	0	0	0	20	21	22	23	24	26
+ Visitors Centre	0	0	0	0	100	105	110	116	122	128	134
+ Driver Training	0	0	0	40	42	44	46	49	51	54	56
TOTAL	0	100	205	455	778	837	879	923	969	1017	1068
Baseline traffic[6]	2747	2884	3029	3180	3339	3506	3681	3865	4059	4261	4475
%		**3%**	**7%**	**14%**	**23%**	**24%**	**24%**	**24%**	**24%**	**24%**	**24%**

Table 3 - Estimated day to day traffic impacts (excluding major event or construction traffic)

It is assumed as a worst case scenario that 100% of the incremental traffic to the site identified in Table 3 would arrive from Rockhampton and as such would make a right turn on arrival into the main entrance – the existing intersection with the Burnett Highway. However further more detailed investigation into potential visitor journeys should be investigated further to establish a more accurate split between north and south bound travel to the site.

It is unlikely that, given the capacity of the existing intersection, an upgrade to the existing intersection would not be required in the foreseeable future (considering the cost and impact

[6] Based on latest publish AADT data for 2019 and with annual growth rate of 5% applied (see Table 1)

of an upgrade suitable for heavy vehicles and the likely relaxed tolerance of queueing for visitors to the precinct).

However, considering the findings of Section 5.3.2 regarding a major Road Racing Precinct event, it is recommended that the secondary entrance be implemented prior to the completion of the FIA Race Circuit, such that the precinct will be better prepared to accommodate the larger number of visitors associated with those events.

Furthermore, installation of the secondary entrance and an alternative quarry access would also facilitate the operation of events and activities north of the existing easement, as it would help to avoid mixing of heavy vehicle traffic associated with the quarry and visitor traffic, pedestrians and security arrangements associated with the precinct. The Off Road Racing and Driver Experience Precincts should be feasible to operate without the secondary entrance being added, with consideration of security measures that avoid mixing of quarry traffic and precinct activities.

5.3.6 Construction of the project

The construction phase of the project is likely to generate additional vehicle movements and should be included in any assessments. The build out of the precinct is likely to be undertaken in a phased approach and therefore trips can be spread out.

The quarry situated in the adjacent site has the potential to affect the Motorsport Precinct site through, for example, heavy vehicle movements. These movements will be protected through the access easement through the centre of the site but there is also the option to allow alternative routes through the site for quarry vehicles, such as the proposed Secondary access which would provide an intelligent and safe separation of road uses. Notwithstanding the requirement for heavy vehicle movements to the quarry, any routes on site which are subject to heavy vehicle movements, including race transporters and delivery vehicles should be designed and tracked to suit the width and length of these vehicles and to create a safe environment for pedestrians on site, with clearly defined pedestrian routes, crossing and different material surfaces such as block paving or coloured paving to define pedestrian only areas.

5.4 PLANNING & REGULATORY

Under the Planning Regulations the development will require referral to SARA which will require the development to demonstrate compliance with the following:

1. protect state transport infrastructure, public passenger transport infrastructure and public passenger services from the adverse impacts of development
2. maintain the operational performance of the transport network
3. ensure development enables safe and convenient access to public passenger transport.

To proceed to a full development application the proposed precinct development will require a full detailed Traffic Impact Assessment to be carried out on a fixed masterplan.

During the full planning application all access roads and parking requirements will need to be developed and comply with Australian Standard AS 2890.1-1993 (Part 1) & 2002 (Part 2) and other associated standards. This will require some of the following studies to be undertaken;

- Verify size of access roads vs ration of parking
- Compliance check with stacking and queuing requirements across the whole site
- Verify allowable density of vehicle parking at camping ground
- Check on sqm of proposed building development vs parking provision

5.5 SUSTAINABLE TRANSPORT

5.5.1 Walking and Cycling

The planning scheme identifies the Burnett Highway as a key arterial cycling route. The site has the opportunity to allow cyclists to divert off the highway, onto a shared use perimeter path making dual use of any maintenance / service access on the perimeter of the site.

Visitors are unlikely to walk to the site due to its rural location. This is often the case with motorsports venues due to the need to balance noise and the large areas required which cannot be accommodated within the CBD areas of most towns.

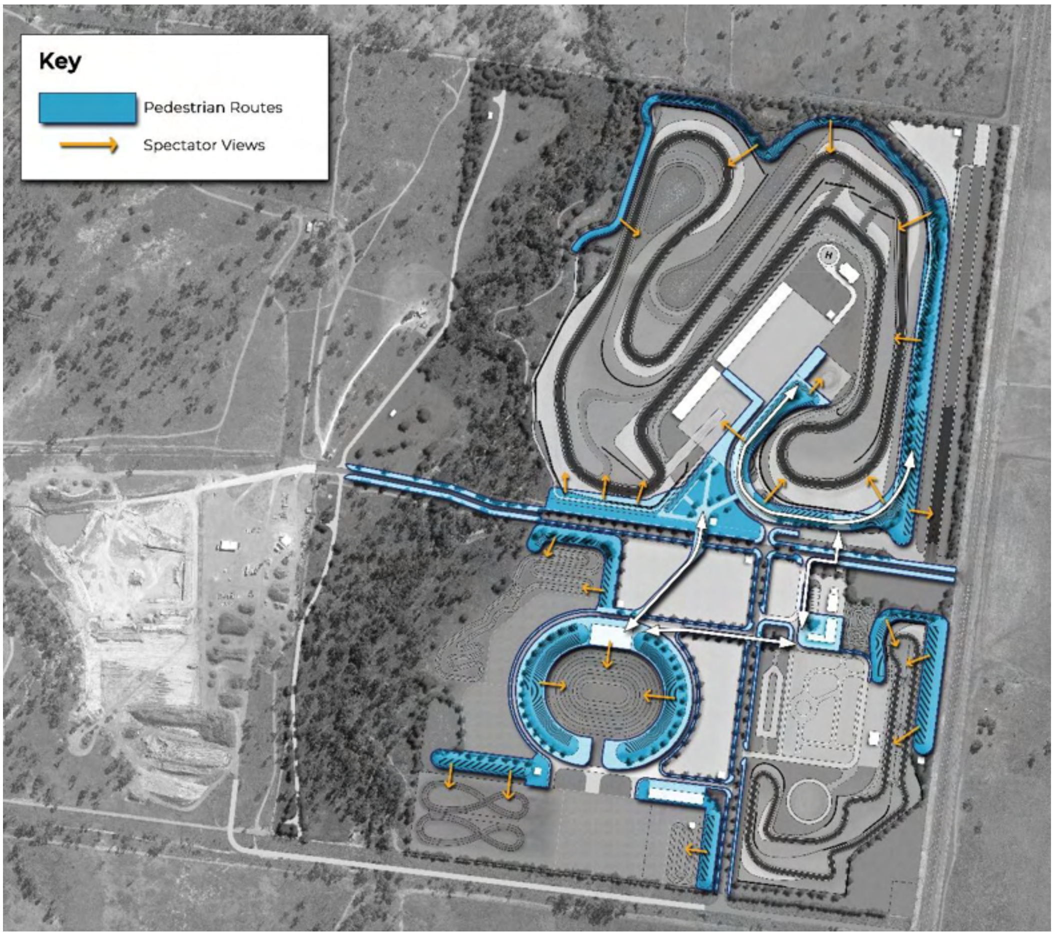

Figure 49 - Pedestrian Routes

However, we foresee the track facilities becoming assets to the wider Rockhampton cycling or running communities in the form of safe and private tracks for road cycling practice, races and club days, as seen at many motorsport venues across the world, as demonstrated as Yas Island in Abu Dhabi or Goodwood in England.

https://www.yasmarinacircuit.com/en/healthandfitness/trainyas-detailpage or
https://www.goodwood.com/motorsport/motor-circuit/goodwood-cycling/

This approach encourages a multi-use purpose to the facility, offering the motorsport precinct as a wider community asset for road safety training and assisting in the reduction of public highway accidents.

5.5.2 Bus Transport and Park and Ride

Bus operators running services in the Rockhampton area are Sunbus and Youngs. Scheduled services do not serve the site, with the exception of Young Route 22 which passes the site along the Burnett Highway.

Large events at the Motorsport Precinct tend to generate large volumes of visitors but these events are generally not frequent enough (monthly) to support the provision of a permanent bus service, whilst it is also inefficient to provide parking coverage on site for all vehicles that may wish to visit. To overcome this, venues often work with existing local facilities to create pop up park and ride services. In the case of Motorsports Precinct the facility could be situated near to existing businesses within the town, allowing visitors to engage with other local business (B2B opportunities) such as shops and restaurants.

Pre-booking of parking for large events can help with uptake. E.g booking only for onsite parking to manage demand. Both bus providers offer charter services which could be utilised in this way.

To prioritise the users of buses, it is recommended that the site layout is adapted to provide good drop off locations for buses, allowing passengers to be dropped off at the core of the venue (Welcome Centre), rather than left at the outskirts of the parking areas. It may also be possible to temporarily allocate certain communal areas or facilities (such as an existing paddock or parking area) for use as a bus drop area, that, outside of a major event, could serve a different purpose.

It is also recommended to identify compatible locations for a small bus stop if a day-to-day service looks likely.

5.6 FURTHER ASSESSMENTS TO BE UNDERTAKEN

To support a full development application, the following additional assessments are recommended:

- Trigger point assessment – assess upgrades to access
- Analysis and approval of proposed secondary access
- Detailed parking needs assessment with major event plan
- Transport impact assessment
- Pavement impact assessment

Should the full transport assessment identify the need to upgrade the right turn to provide more deceleration and queuing length then the interaction with the existing access to the North would need to be considered, which may mean that a different junction arrangement is required. Alternatively the access requirements could be split with the South access, particularly for large events, to allow the recently upgraded right turn Lane to remain as designed and be supplemented with a similar junction arrangement at the South ..

5.7 SUMMARY AND RECOMMENDATIONS

- The site is located off of the Burnett highway, which is a single carriage way state controlled road. The speed limit on the highway is 100 kilometres per hour and the road is predominantly straight.
- There is an existing access junction into the site, serving the quarry which is located West of the Development Area. A turn right lane allows entry to this junction, with a 180m turn right splay already in existence, which following a preliminary simulation offers a significant intersection capacity for right turning vehicles without impacting on through traffic. This is unlikely to be exceeded by day-to-day traffic generated by all precincts throughout the life of the project.
- For major events in the Off Road Racing and Driver Experience Precincts, it is likely that incoming traffic to the events could be comfortably accommodated with the existing access arrangements, but consideration should be given to quarry traffic movements in the management of event traffic and security. Installation of the secondary entrance would be helpful but not essential.
- For major events in the Road Racing Precinct, which could see approximately 30,000 visitors over a weekend (circa, 7500 vehicles per day), it is recommended that park n' ride or other sustainable transport solutions are incorporated into a major event strategy, and a secondary entrance from the Burnett Highway be delivered to minimise the impact on through traffic.

- South of the existing site access there is a road reserve corridor, which could become a secondary access to the site and an alternative access route to the quarry. This is located approximately 500 metres South of the existing access along the southern boundary of the project. Based on initial consultation with Council and public bodies, and assessment of potential traffic impacts subject to further detailed design and transport impact studies at development approval stage, no major concerns were raised with regards to highways or access to/from the Site.
- Based on anticipated event attendances, it is recommended that the secondary access to the Motorsports Precinct and alternative access to the quarry is installed at the latest prior to the completion of the FIA Main Circuit. Off Road Racing and Driving Experience Precinct events should be manageable with the existing access arrangements, subject to a detailed traffic impact assessment and a range of operational measures being implemented such as coordinated event start times, positioning of security checkpoints and coordinating the provision of parking areas across the precincts to support the events.
- If a full transport assessment identifies the need to upgrade the right turn to provide more deceleration and queuing length then the interaction with the existing access to the North would need to be considered, which may mean that a different junction arrangement is required.
- Sustainable transport is encouraged; with the venue operator offering shuttle services and even using the circuit for cycling events.
- Under the Planning Regulations the development will require referral to SARA which will require the development to demonstrate compliance with the following:
    - protect state transport infrastructure, public passenger transport infrastructure and public passenger services from the adverse impacts of development
    - maintain the operational performance of the transport network
    - ensure development enables safe and convenient access to public passenger transport.
- For a full development application, the following assessments are recommended:
    - Trigger point assessment – assess upgrades to access
    - Analysis and approval of proposed secondary access
    - Detailed parking needs assessment with major event plan
    - Detailed transport impact assessment
    - Pavement impact assessment

6. INFRASTRUCTURE

6.1 INFRASTRUCTURE STRATEGY

The site is set out such that utility provision could be phased with incremental demands in utilities being connect, using the main spine roads of the development as utility corridors. Refer to Attachment A2 as an illustration.

6.2 ELECTRICAL

6.2.1 On site distribution

The main electrical supply network on site will consist of underground cables running within the service corridors alongside the main roads, allowing phased build out of facilities.

6.2.2 Demand Sources

The site will require the provision of electrical connections for:

- Building servicing
- Track servicing
- Vehicle charging
- Illumination (excluding main on road track)

A preliminary estimate of the electrical power requirement for each part of the Motorsports Precinct has been prepared to determine an order of magnitude for the requirement which is included in Attachment A2 as an illustration. The anticipated aggregate demand across the precinct is anticipated to be in the range of up to 600-1000kW (subject to many significant design factors which should be determined during the detailed design phase) which will ramp up gradually over the staged development.

6.2.3 Supply sources

The site has the opportunity to be supplied with electricity through the existing electrical connection to the site, which may require upgrade to the on-site substation. Alternatively, solar generation is possible on the building roofs.

The South East corner of the site contains a small substation installed previously, we assume, for the provision of power to the quarry. There are extensive high voltage networks in the area. It is therefore assumed that getting a power supply for electricity to the site will not limit the development of the site. Assuming the location of the substation stays in the

South East corner of the site then the key routes for electricity supply on site could be below ground routes running along the future southern road corridor and the central spine road through the development.

The development of individual buildings should consider the potential for the use of solar panels to provide some or all of the electricity requirements, reducing the demand on local and regional generation sources.

Once the masterplan is fixed and building uses are defined, a load estimate should be undertaken as part of the development approval process to determine load cases and power supplies required across the site, thereby allowing the above strategy to be verified for use in the detailed design phase.

6.3 NATURAL GAS

There is no underground existing gas supply to the site and it would be considered disproportionately expensive to install based on a low number of demand sources. It is expected that the only need for gas on site will be for cooking or heating - these can be easily supplemented with electric alternatives or temporary gas cooking facilities.

6.4 POTABLE WATER

6.4.1 Existing supply

There is no existing potable water supply to the site and the site is not in a current designated water supply area. The nearest public water supply is around 5km away in Gracemere.

6.4.2 Supply Options

There are several options available for supply of potable water for the precinct

Supply Option	Details	Evaluation
Potable water extension from Gracemere (preferred option)	The nearest public water supply is located 5km away in Gracemere. A preliminary investigation into the extension of potable water was undertaken which identified the following key points: Approximately 8km of pipework would be required along with supporting tanks and pumps and treatment facilities.	High upfront cost Reliable supply Low ongoing costs compared to other options.

	8km x 150mm pipe holds approximately 141,000l of water therefore there is potential for the water to remain stationary for longer than acceptable for water quality. This could be addressed with a tank and dosing facilities near to the site. With the identified need for a tank this opens up the option for onsite storage to be located closer to the facility. Two indicative locations for tanks have been identified following alternative supply routes: • Route 1 Tea Tree Rd • Route 2 Burnet Hwy The identified tanks sites are at an elevation of approximately 40m. The precinct elevation is typically 30m. Assuming a tank height of 6m this would have the potential to deliver potable water at a supply pressure of 150kPa. Although this pressure is lower than the minimum domestic water supply pressure of 220kPa it still has the potential to effectively supply smaller tanks located throughout the precinct that would supply toilets, kitchens etc via small pressure booster pumps. On site fire-fighting facilities would require independent storage and booster pump arrangements.	Not suitable for fire provision unless additional augmentation is provided (Storage and booster pumps) **Preferred option**
Boreholes	The use of boreholes could be explored to supply some or all of the water for the site. A specialist consultant would be needed to assess the underlying hydrogeological condition to report on its suitability. Bore water may require treatment on site to maintain quality There are multiple existing registered water bores near the site, as recorded on QLD Globe (https://qldglobe.information.qld.gov.au/qldglobe/public/registered-bores-0). Nearby small settlements appear to use individual private boreholes where a public supply is not available, indicating the possibility of use at the Precinct.	Upfront cost Licence to take ground water. Utilising the same water source as local residents.

	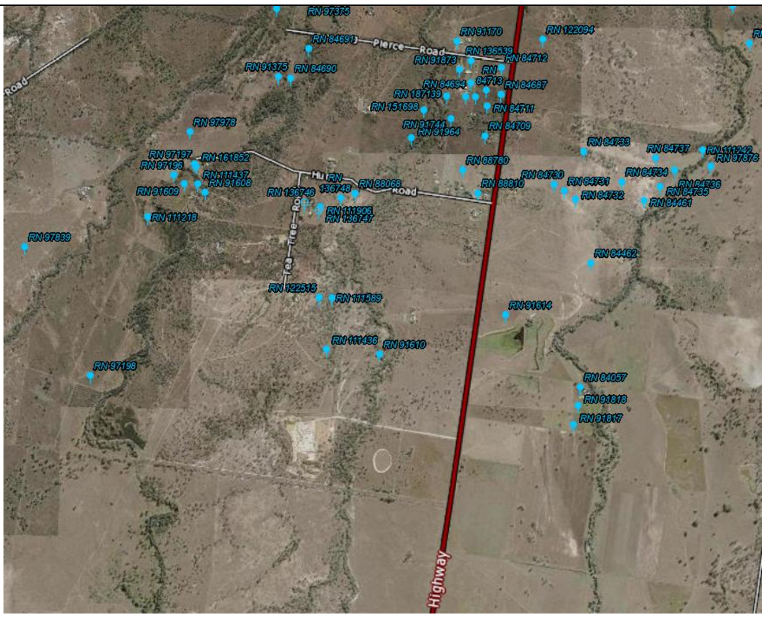	
Rainfall Treatment	Rainfall harvested water, which is in use elsewhere on the precinct for irrigation and toilet flushing, is also an option for providing potable water. This would require an appropriately designed treatment system to meet statutory and non statutory requirements such as the Drinking Water Guidelines.	Unlikely to supply enough water to meet demand on its own.
Transported water supply	Transported water involves the delivery of water to site to suit demand, often in an emergency. The delivery of water may be an option to cater for exceptional demand during rare events, and very early phases of the development/construction phase. A supply source will need to be identified in the Rockhampton region. Various risks exist with transported water, such as contamination which do not make this a sustainable supply for the precinct.(Refer to Queensland Health - Water Carriers Guide, for example)	High ongoing costs Benefits in supplementing supply for rarer large events Generates additional vehicle movements and associated impacts. Operationally inefficient

Table 4 - Potable water supply options

The viability of each option will need to be assessed against the final occupancy numbers and phasing plans to establish the most efficient method of supply. In either case minimising the use of potable water will be essential, hence the focus on water re use for the precinct. It is like

6.5 NON-POTABLE WATER

The viability of the development requires the re use of water on site. Core to this strategy is a 2 tier system of water treatment and re-use.

6.5.1 Demands

The viability of the development requires the re use of water on site. Core to this strategy is a 2 tier water treatment and re-use system, split into irrigation and building uses. The main demand sources for non-potable water will be:

- Irrigation
    - to landscaping
    - to track surfaces (dust suppression)
- Building uses
    - Cooling towers
    - Vehicle washing
    - Toilet flushing

6.5.2 Sources

The water for these uses will be sourced from rainfall runoff on the site with the method of collection dictating the potential use for the water, linked to the level of treatment required for re use. Rainfall collected directly from rooftops will be initially used to fill rainwater harvesting tanks for reuse within buildings due to its lower level of pollutants. Excess roof water and runoff from other areas of the site will be managed through the storm water strategy on site to provide water for irrigation.

The total capacity of the rain water storage basins is approximately 23,000m^2 which could offer 23 megalitres of storage with a working depth of 1m, subject to the outfall location and elevation.

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	147.7	142.0	99.3	50.3	38.4	41.8	32.8	23.5	22.3	49.0	63.8	103.5	823.2
Lowest	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	203.1
5th %ile	19.5	7.9	4.8	0.0	0.0	0.0	0.0	0.0	0.0	1.9	2.8	9.8	435.7
10th %ile	32.7	15.0	9.0	1.6	0.0	0.0	0.0	0.0	0.0	5.0	9.8	21.7	491.1
Median	103.3	102.7	63.5	30.3	20.8	20.5	16.0	15.1	11.8	36.2	55.2	85.1	782.9

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
90th %ile	307.4	344.7	235.7	105.2	93.7	113.1	88.0	61.7	60.5	100.3	129.5	185.1	1228.2
95th %ile	452.7	374.9	300.4	142.3	135.6	156.9	113.5	74.3	77.4	132.7	142.3	230.0	1425.6
Highest	807.0	850.7	509.0	673.7	242.8	245.8	445.8	221.4	150.4	223.0	278.0	662.6	1701.9

Table 5 - Summary statistics for monthly rainfall at Gracemere (source: Bureau of Meteorology)

Table 5 shows the monthly average rainfall at Gracemere. Taking an average amount of rainfall required to irrigate vegetated areas of 10mm/week (6mm for drought tolerant planting), the data shows the median rainfall in the months of April to October to be lower than the average amount required by the landscaped areas (assuming 4 x 10mm per week = ca. 40mm per month) to varying degrees of deficit. Short frequency dips and peaks in rainfall are also to be expected. Therefore some supplementary irrigation through the dryer months is expected, which could be facilitated by enhancing the water storage depth of the basins to achieve year round capacity. But there will remain the possibility of periods where irrigation of some landscaped areas should be irrigated selectively to manage the capacity of rain water storage for other more critical uses on the site.

Regulatory – The interception of overland flow may be subject to regulatory control and relevant permits may be required.

6.6 SEWAGE

There is no existing or planned Sewage trunk infrastructure connection servicing the site area. The site will deal with sewage through the provision of an onsite package treatment plant or septic system sized accordingly for predicted day to day demand. Manufacturers of treatment plants should be contacted early in the development design process to discuss possible phasing and upgrading to suit the buildout programme for the development.

Table 6 and Table 7 estimates the required number of sanitary facilities according to the Building Code of Australia for both day-to-day and major event scenarios respectively.

Because the expected operation of the precincts is likely to lead to a fairly low baseline usage on a day to day basis with occasional peaks for major events, it is recommended include permanent provision of WC and washing facilities proportional to the day-to-day expected capacity (an allowance of 20-30 WC, wash basins and urinals distributed across the precinct is therefore recommended), and to bring in temporary facilities as needed for major events which can be sized according to the capacity of each event.

Day-to-Day								
Area	**User Group**	**Capacity**	**WC**		**Urinals**		**Washbasins**	
Speedway	Male participants	10	1/20	**1**	1/10	**1**	1/10	**1**
	Female participants	10	1/10	**1**			1/10	**1**
	Male spectators or patrons	50	1/500	**0**	1/100	**1**	1/150	**0**
	Female spectators or patrons	50	1/70	**1**			1/150	**0**
	Total, Speedway			**2**		**2**		**3**
Karting	Male participants	50	1/20	**3**	1/10	**5**	1/10	**5**
	Female participants	50	1/10	**5**			1/10	**5**
	Male spectators or patrons	50	1/500	**0**	1/100	**1**	1/150	**0**
	Female spectators or patrons	50	1/70	**1**			1/150	**0**
	Total, Karting			**8**		**6**		**11**
Circuit	Male participants	50	1/20	**3**	1/10	**5**	1/10	**5**
	Female participants	50	1/10	**5**			1/10	**5**
	Male spectators or patrons	50	1/500	**0**	1/100	**1**	1/150	**0**
	Female spectators or patrons	50	1/70	**1**			1/150	**0**
	Total, Circuit			**8**		**6**		**11**
GRAND TOTAL				**19**		**13**		**24**

Table 6 - Determination of Sanitary Facilities based on Building Code of Australia (class 9b) for day to day activities

Major events								
Area	**User Group**	**Capacity**	**WC**		**Urinals**		**Washbasins**	
Speedway	Male participants	100	1/20	**5**	1/10	**10**	1/10	**10**
	Female participants	100	1/10	**10**			1/10	**10**
	Male spectators or patrons	2000	1/500	**4**	1/100	**20**	1/150	**13**
	Female spectators or patrons	2000	1/70	**29**			1/150	**13**
	Total, Speedway			**48**		**30**		**47**
Karting	Male participants	130	1/20	**7**	1/10	**13**	1/10	**13**
	Female participants	130	1/10	**13**			1/10	**13**
	Male spectators or patrons	1000	1/500	**2**	1/100	**10**	1/150	**7**
	Female spectators or patrons	1000	1/70	**14**			1/150	**7**
	Total, Karting			**36**		**23**		**39**
Circuit	Male participants	100	1/20	**5**	1/10	**10**	1/10	**10**
	Female participants	100	1/10	**10**			1/10	**10**
	Male spectators or patrons	7500	1/500	**15**	1/100	**75**	1/150	**50**
	Female spectators or patrons	7500	1/70	**107**			1/150	**50**
	Total, Circuit			**137**		**85**		**120**
GRAND TOTAL				**221**		**138**		**206**

Table 7 - Determination of Sanitary Facilities based on Building Code of Australia (class 9b) for major events

6.7 STREET LIGHTING / FLOOD LIGHTING

To provide a safety environment in low light hours in the evenings or winter months, it is expected that most public areas within the Motorsport Precinct will be lit to a minimum illumination according to relevant local street lighting standards. It would also be recommended to ensure that parking and paddock areas being occupied by visitors would also be illuminated to a similar minimum level to ensure a safety environment for pedestrians and vehicles operating in low light conditions.

For the circuits within each precinct, it will only be essential to add additional illuminations (flood lighting or circuit specific street lighting) if it were demanded by users or operators of each circuit.

For the purposes of estimating the order of magnitude electrical power demand of the precinct, the following assumptions are made for external lighting levels for the areas identified within the masterplan (refer to Attachment A2):

	Lux	Remarks
Off Road Racing Precinct		
Speedway oval track	200	According to FIM requirements and similar to an semi-professional Australian Rules Football stadium illumination
Grandstand	100	Grandstand illumination for crowd safety
Supercross	100	Basic minimum lighting to permit low light use
Peewee motocross	100	
Twin Mudsports Loop	100	
4x4 / Speedway paddock	50	
Speedway paddock	50	
BMX track	100	
Road Racing Precinct		
FIA Race Circuit	150	Basic minimum lighting to permit low light non-competitive use*
FIA Paddock /Parking	50	Basic minimum lighting to permit low light use
Burnout Pad	50	
Motorkhana Area	50	
Drag strip	150	Illuminated for safety of occasional evening activities
Drag paddock	50	Basic minimum lighting to permit low light use
Driving Experience Precinct		
RC Car Track	150	Small area illuminated for evening entertainment / children's' activities
Kart Circuit	200	Illuminated for safety of occasional evening activities
Kart Paddock	50	Basic minimum lighting to permit low light use
Road Safety Training Space	100	Minimum illumination for occasional evening use
Kick Plate & Skid Pad	100	Minimum illumination for occasional evening use
General infrastructure		
Main access roads	50	Basic minimum lighting to permit low light use
Fan Zone	50	Basic minimum lighting to permit low light use
Campsite	30	Bare minimum lighting for security
Storage Yard	15	Bare minimum lighting for security

Table 8 - Predicted average illumination levels for external areas

*As described in Table 8, it is assumed that flood lighting of the main circuit and drag strip required only for-non competitive evening uses only which would need to provide a substantial illumination level to minimise risk to participants – as a minimum, at least 150-200 Lux for non-competitive activity. If competition events were to be run in low light conditions, a minimum of 500 Lux for competitive track events is recommended (or over 1000 Lux if televised). It is also possible that parts of the FIA Circuit could be lit to permit the use of rallycross or drift activities in low light conditions, or other small permutations to moderate the investment in flood lighting infrastructure, and it's impacts.

In any case, the lighting design and construction should comply with the Australian standards for Sports Lighting Part 1: General Principles, Volume 2560.1 – 2007, and the associated power requirements of such lighting should be considered as part of the detailed design process to ensure incoming power supplies are available.

To provide a guide on the level of illumination, Table 9 provides benchmarks against a range of facilities.

Area	**Typical Illumination Levels**
Soft lighting to landscaped pedestrian areas	***5-20 Lux***
Exterior Car Parks	5-20 Lux
Soft lighting to landscaped pedestrian areas / cycle routes	5-75 Lux
Amateur Sports Playing Field	50-120 Lux
Training Pitches and Amateur Club sports playing fields	100-200 Lux
Outdoor Tennis Court / Professional Sports Fields	300-500 Lux
Indoor Basketball court	600-1000 Lux
FIA HD televised motorsports	750-1500 Lux

Table 9 - Guide to typical illumination levels in sports lighting

Power supply requirements should be discussed early in the planning process to ensure supply requirements can be met for the intended lux levels. Power supply to each lighting pole should be provided via a dedicated floodlighting switchboard and submain supply system for each pole to limit risk of blackouts in the event of a power failure. Furthermore, it is recommended that the lighting system operates with a back-up generator in place running in parallel to the primary lighting power supply.

The main precinct roads, core parking areas and pedestrian routes are proposed to be lit for safety, although this lighting system should be tailored and designed with controls based on the needs of the occupiers rather than always switched on at a certain time.

For areas of the site that are only used for large events the provision of strategic feeder pillars should be considered for ease of installation of temporary lighting to reduce the use of portable generators, which may create noise and air pollution.

To limit the impact of light pollution to the surroundings, it will be possible to reduce many of the negative effects of lighting through careful design and planning, such as:

- using lighting only where and when necessary,
- using an appropriate strength of light and adjusting light fittings to direct the light to where it is required.
- avoiding over lighting and use shields, reflectors and baffles to help reduce light spill to a minimum
- using specifically designed equipment that, once installed, minimises the spread of light above the horizontal.

For flood lighting installations (for the speedway or any other area that demands it), it is recommended that the preparation of light scatter diagrams that will accurately predict the performance of the lighting scheme, both inside and outside the pitch areas is undertaken as part of a development application.

Vegetated buffers, buildings, earth banks and other physical aspects of the landscape should be used to limit light pollution and operational factors such as limitations on the operating hours of flooding lighting should also be considered - typically between 10pm and 9am - which should be agreed in consultation with neighbouring properties.

6.8 COMMUNICATIONS

6.8.1 Network Coverage

The site does not appear to be connected to any wired communications networks so will have to rely on wireless provision of communication. The nearest wired communication is likely to be in Gracemere, therefore requiring a 5km extension to the network if wired communications were required.

6.8.2 Wireless Coverage

4G mapping shows that coverage is available at the site (refer to Figure 50 and Figure 51).

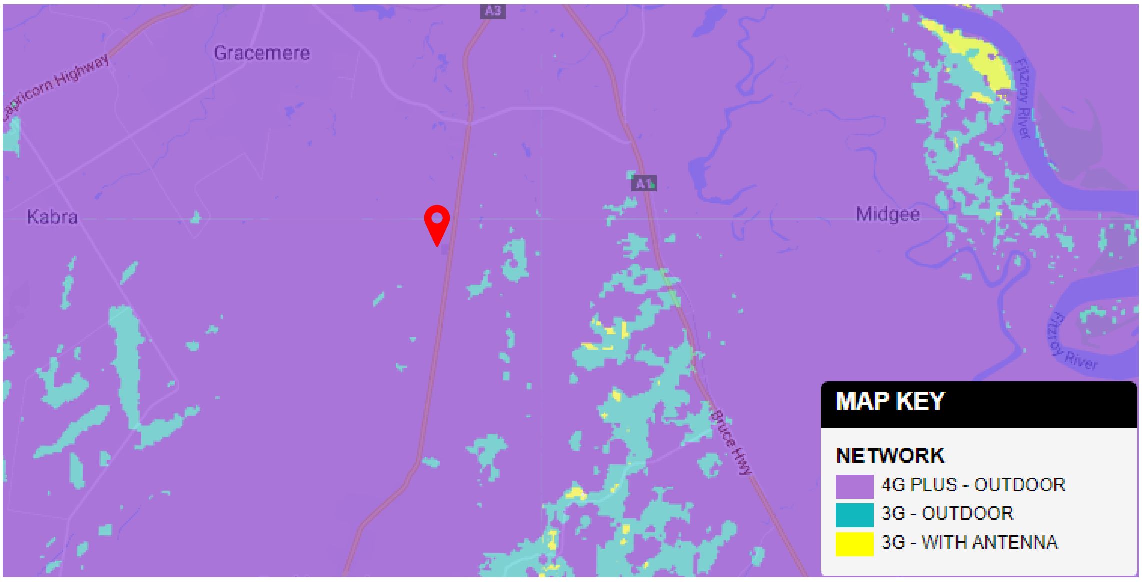

Figure 50 - Optus coverage in Bouldercombe area

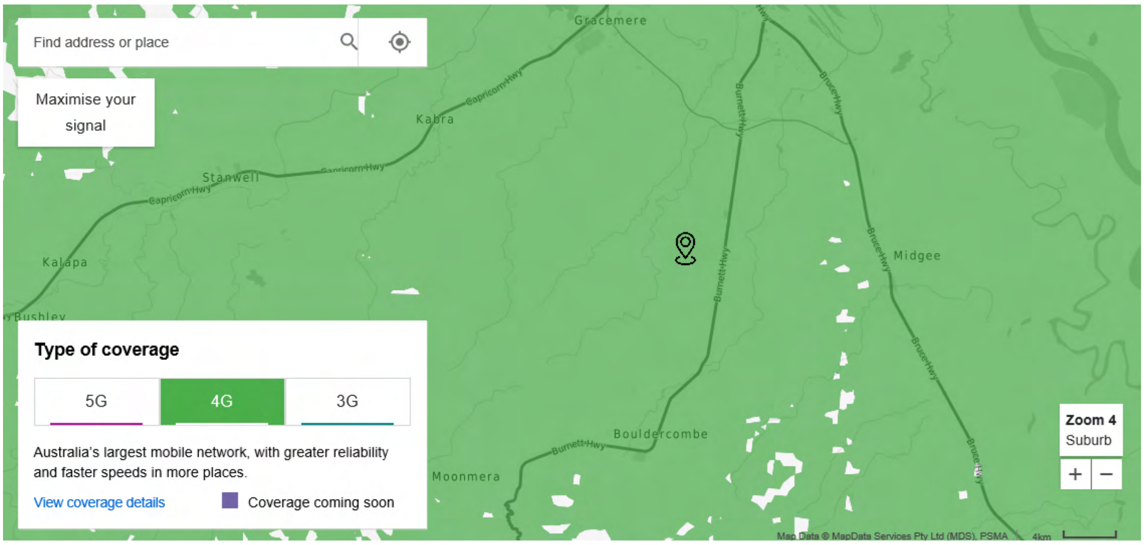

Figure 51 - Telstra coverage in Bouldercombe area

6.8.3 Communications requirements

Major events sporting events are likely to lead to an increase in demand for bandwidth as support functions such as media and hospitality services will rely on high speed reliable internet access for content transmission or elevated numbers of mobile phone usage.

Provisions for temporary additional bandwidth could be considered for major events, which could be delivered via temporary masts. Council could also make the site available for the siting of a permanent mast if demand exists in the area. However, this may also limited by the maximum height overlay for the site, currently understood to be 10 metres.

6.9 STORMWATER

Stormwater is managed on site through the precinct stormwater drainage network for which a strategy is provided in Attachment A4. Generally the core below ground infrastructure follows a the same path as other key infrastructure, running along the main north-south site corridor.

Provisions for stormwater management include swales and basins in addition to underground features, which provide treatment and attenuation.

6.10 SUMMARY AND RECOMMENDATIONS

- The site will require the provision of electrical connections for:
  - Building servicing
  - Track servicing
  - Vehicle charging
- The site has the opportunity to be supplied with electricity through the existing electrical connection to the site, which may require upgrade to the on-site substation. Alternatively, solar generation is possible on the building roofs.
- The anticipated aggregate electrical power load for the Motor Precinct could be in the region of 600-900kW subject to detailed design, operational factors and staging requirements.
- The South East corner of the site contains a small substation installed previously, we assume, for the provision of power to the quarry. There are extensive high voltage networks in the area. It is therefore assumed that getting a power supply for electricity to the site will not limit the development of the site. Assuming the location of the substation stays in the South East corner of the site then the key routes for electricity supply on site could be below ground routes running along the future southern road corridor and the central spine road through the development.
- Natural gas is not expected to be required for the Motor Precinct.
- There is no existing potable water supply to the site, although the potential for extension of the supply from Gracemere is being considered as the preferred option for the precinct. Collection, storage and re-use of rainwater is important as a design feature.

- Due to lack of existing infrastructure, the site will deal with sewage through the provision of an onsite package treatment plant or septic system sized accordingly for predicted day to day demand. Manufacturers of treatment plants should be contacted early in the development design process.
- No permanent floodlighting to the FIA Race Circuit or Drag Strip is anticipated. However Speedway and much of the Off Road Racing Precinct should be considered for sports lighting to enable occasional evening or low light use.
- For areas of the site that are only used for large events the provision of strategic feeder pillars should be considered for ease of installation of temporary lighting to reduce the use of portable generators.
- The nearest wired communication is likely to be in Gracemere, therefore requiring a 5km extension to the network if wired communications were required. Provisions for temporary additional bandwidth could be considered for major events, which could be delivered via temporary masts (no higher than 10m tall to comply with height limits).
- A preliminary utilities strategy showing the potential routes of mains utilities has been prepared for indicative costing and staging considerations. Refer to Attachment A2.

7. ENVIRONMENTAL (FLORA, FAUNA & WATERWAYS)

A desktop assessment of the Commonwealth, State and Local Government environmental planning considerations relevant to (and within proximity of) the Site has been undertaken. This includes applicable searches of the State and Local Government mapped and identified ecological, cultural heritage and bushfire hazard matters. This section will offer additional insight into the impact of the Proposed Development as currently illustrated (refer to **Attachment A**) and provide additional assessment and design recommendations in response to the identified constraints.

7.1 COMMONWEALTH

We have considered the Proposed Development against relevant *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) Referral Guidelines and Conservation Advice for known listed communities and species in the region. The Protected Matters Search Tool (**PMST**) results (**Attachment B2**) have been referenced against the outcomes of a search of the:

- Queensland Department of Environment and Science (**DES**) Wildlife Online database (**Attachment B3**) which indicates the number of records identified for each species for a designated site and buffer of the area[7]; and

- Queensland Department of Natural Resources, Mines and Energy (**DNRME**) Regulated Vegetation Management Map and Vegetation Management Supporting Map (**VMSM**) (**Attachment B1** & **4**)[8] indicate the vegetation communities present within the Site and surrounds.

A desktop review of the above databases has identified the *potential* presence of two (2) Matters of National Environmental Significance (**MNES**) over the Site, being:

1) Poplar box grassy woodland on alluvial plains- Endangered Threatened Ecological Community (**TEC**)

    a. This TEC is analogous with one (1) of the two (2) Regional Ecosystems[9] mapped on the VMSM (**Attachment B4**). This mapping bounds the west of the Proposed Development. Regional Ecosystem mapping is prepared by the Queensland Government at a course scale, and often found to be incorrect via on-ground flora composition/ extent studies, particularly in regional areas where it has been historically impacted. Further advice on this is provided in **7.4**.

2) Ornamental Snake (*Denisonia malculata*)- Vulnerable fauna species

    a. The mapped Category C Regulated Vegetation is identified as Essential Habitat for this species. Essential Habitat mapping is a course habitat association whereby assigning Regional Ecosystem types to a species, thus mapping can be grossly incorrect (e.g. not accounting for on-ground biophysical elements or locational circumstances). Further advice on this is provided in **Section 10.4**.

Based on the: anticipated ecological condition/ existing and historical Site utilisation; our experience and knowledge of the region and extent of the Proposed Development over the

[7] 5km buffer around the site was utilised as part of this search.
[8] Attachment 1 has Regulated Vegetation overlaid on the Proposed Development; Attachment 4 is the Government generated Vegetation Management Report
[9] Regional Ecosystem 12.3.2 is noted as being a 15% component of the mapped heterogenous polygon which bounds the west the Site.

Site, we believe that referral to Department of Agriculture, Water and Environment (**DAWE**) is unlikely to be warranted for assessment under the EPBC Act; however, further on-ground consideration of a number of key ecological elements must be undertaken to confirm this.

The masterplan has been designed as sympathetically as possible with the constraints identified about by way of avoiding the mapped Regulated Vegetation to the west of the Proposed Development. Avoidance will also reduce regulatory requirements and maximise compliance at a State and Local Government level which is further outlined below.

7.2 STATE - ENVIRONMENTAL

A review of relevant State Government environmental planning considerations has identified three (3) key matters and their constituent overlays being: Regulated Vegetation, Wildlife Habitat[10] (Endangered, Vulnerable and Special Least Concern) and Queensland Waterways for Waterway Barrier Works.

Regulated Vegetation

The western components of the Proposed Development are mapped to contain Category C- igh alue egrowth containing O Concern' egional Ecosystems and Category - Reef egrowth atercourse egetation containing O Concern' egional Ecosystems (refer Figure 52 below). Clearing[11] of Category R – Reef Regrowth Vegetation is Prohibited (**red solid shape** overlay in Figure 52 below).

[10] Also referred to as Essential Habitat on the VMSM.
[11] Clearing refers to native woody vegetation wor s within this overlay are permissible so long as they don't result in the impact to native woody vegetation.

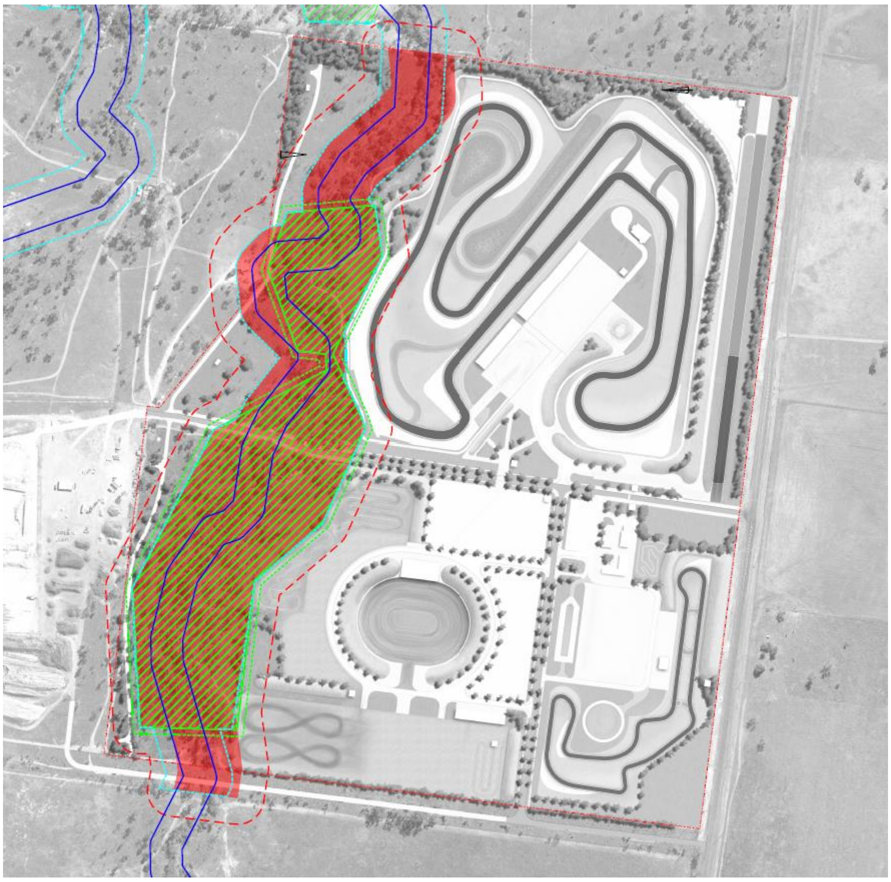

Figure 52 Mapped Regulated Vegetation (Source: Qld Globe: 2020) overlay with Motorsport Precinct masterplan

The Proposed Development as currently designed with the tracks as positioned will require a **Section e e nt o e** determination under the *Vegetation Management Act 1999* prior to lodgement of a development application for clearing within the mapped Category C regulated vegetation. This process is a pre-referral requirement for which involves an applicant demonstrating their Proposed Development is:

1) a Relevant Purpose under the Act; and

2) compliant with the State Code (thus avoiding non-compliance at an Operational Works stage).

To complete the Relevant Purpose determination, the Proposed Development will be required to demonstrate how the Impact ierarchy has been considered which re uires

1. Avoidance of any impact to MSES habitat values (generally aligned to the mapped Regulated Vegetation overlays);

2. Compliance with State Code 16;

3. Management of Impacts where clearing of MSES habitat values is unavoidable;
4. Mitigation of Impact to MSES; and
5. Offset any impacts under the provisions of the *Environmental Offsets Act 2014.*

Consideration of a precautionary 45m buffer (show in **dashed red line** in **Figure 52**) from the mapped vegetation to meet the provisions of the Relevant Purpose determination should be considered.

I the Proposed evelopment design is unable to avoid areas o mapped MSES values (in this case mapped Category C and Category R vegetation), the Proposed Development will require assessment against the State Code 16- Native Vegetation Clearing and referral to the State Assessment Referral Agency (**SARA**) as part of the development application process.

Essential Habitat

Essential Habitat for Ornamental Snake has been mapped which coincides with the mapped Category C vegetation (as shown by the **green hatched** zone in **Figure 52**). As stated above, it is strongly recommended that, where possible, the development is designed and sited outside of the Category C Vegetation area. Onsite assessment of the mapped Regulated Vegetation, the Proposed Development and a 10m buffer (**green dashed line**) will be required to determine the extent of the mapped values and a subsequent Ecological Assessment Report (**EAR**) as part of the approvals process will be required.

The mapped MSES Category R and Category C boundaries along with the stated buffer offsets are overlaid with the masterplan design in **Attachment B1**.

Queensland Waterways for Waterway Barrier Works

he Proposed evelopment area contains mapped ueensland aterways or aterway Barrier or s (ow) which should wor s or development encroach in this waterway will re uire compliance with the Acceptable development re uirements or operational wor that is constructing or raising waterway barrier wor s . hile it is anticipated that the proposed development will not undertake any work within the mapped waterway (apart from any upgrades of the existing road crossings), should any works occur, and do not meet the accepted development guidelines, assessment of the Proposed Development against State Code 18 and subsequent referral to SARA will be required as part of the approvals phase of the development. Referral will require specific design measures to be outlined and further aquatic ecology assessments to accompany the referral.

To assist with the project progressing, we have provided recommendations in **Section 10.4** or the Proposed evelopment's ability to meet the Assessment Benchmar s through its design; and further assessments required to facilitate the approvals phase of the project.

7.3 ROCKHAMPTON REGIONAL COUNCIL- ENVIRONMENTAL

A review of the **RRC** Planning Scheme 2015 (V2.1) has identified the Site is designated as ural oning and is encumbered by one (1) ey ecological matters and its constituent overlays being: Biodiversity Areas; and identified as containing the subcategories of MSES and Waterways (Figure 53).

Figure 53 Mapped RRC Planning Scheme Biodiversity Overlay (Source: RRC Interactive mapping: 2020)

It is noted that the Proposed Development largely avoids both RRC overlays, as the RRC Planning Scheme overlay aligns with the mapped MSES (as also illustrated in Attachment B1). Similar to the advice provided above for State Regulated Vegetation, the design has where possible maximised compliance with these overlays through avoidance and minimisation of encroachment. **An onsite inspection and flora survey/ habitat assessment is recommended to assess the ground-truthed values**, and assessment of the Proposed Development against the provisions of the RRC Overlay and Zone codes will be required as part of the development assessment phase. Based on the spatial extent of the Proposed Development, we believe that compliance with the relevant environmental provisions of the Planning Scheme (applicable sections of the Rural Zone Code and the Biodiversity Overlay code) can be complied with[12].

7.4 SUMMARY AND RECOMMENDATIONS

Desktop Analysis has detailed that the Proposed Development is relatively unencumbered from an environmental planning perspective. While it is acknowledged that the scheme assessed has generally avoided encroachment into mapped environmental values, detailed Site investigations will further refine the siting and design of the Proposed Development to:

a. seek out opportunities to maximise development footprint available for the Proposed Development;

b. identified on-ground constraints that should be avoided; and

c. assist with maximising compliance with regulatory frameworks and codes.

It is strongly recommended that onsite investigations by qualified and experienced ecologists to assess the extent of the mapped values. Additional assessment of the proposed development against the applicable ecological and provisions of the RRC Planning Scheme and the State Codes will be required as part of the approvals phase. Early consideration will allow design to be sympathetic of on-ground constraints while also maximising footprint where opportunities are identified.

In Summary, the Motorsport Precinct in its current form, is largely compliant with relevant environmental planning constraints. To improve compliance and reduce the risk of information request items, it is recommended that the following considerations and actions be undertaken as follows:

- Avoidance of Category R Regulated Vegetation
- Avoidance or minimisation of encroachment into Category C Regulated Vegetation;

[12] We note that town planning advice should be sought with regard to the application type (e.g. Variation Request, Infrastructure Designations or XZY).

- Avoidance of built infrastructure within the overlay and the 1.5 times the height of the tallest tree (**Attachment B1** illustrates conservative buffer) will result in the avoidance o the Proposed   evelopment's re uirement to see   a Section 22A   elevant Purpose'   etermination rom   N   ME
- Avoiding encroachment of the camping area from within the mapped Regulated Vegetation.
- Undertake onsite investigation to identify ecological values:
  - Inclusive of a tree survey to identify tree locations, habitat features and each individual trees Tree Protection Zone (this is the area surrounding the tree which must be avoided by civil works in order to retain it on a construction site and in perpetuity).
- Underta e a Section 22A   elevant Purpose determination prior to submission o the Development Application (if design cannot avoid the Regulated Vegetation overlays).
- Develop an Ecological Assessment Report which responds to the onsite values and all applicable RRC and SARA code requirements and consolidates the outcomes of the onsite investigations and any design requirement to incorporate the bushfire design recommendations.

8. BUSHFIRE

8.1 MAPPED CONSTRAINTS

It is noted that the Proposed evelopment area has mapped Medium Potential Bush ire Intensity and the subse uent Potential Impact Bu er generally aligning with the vegetated creek by both the Development Assessment Mapping System (**DAMS**) and the RRC Planning Scheme. A preliminary assessment of the Proposed Development against the State Planning Policy (**SPP**) has identified that the Proposed Development will require additional on-ground risk assessment to be undertaken as part of the full development approvals process.

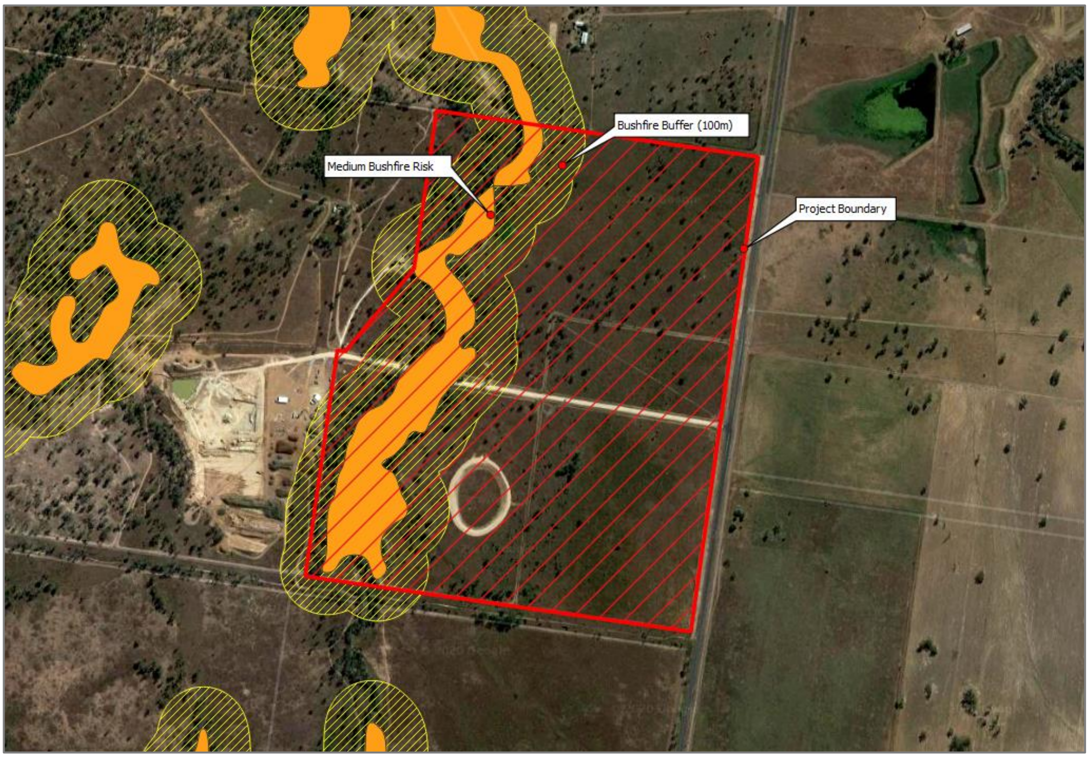

Figure 54 - Bushfire Hazard Area- Bushfire Prone Areas (Source: Development Assessment Mapping System: 2020)

While it is noted that the RRC Planning Scheme has incorporated the assessment requirements of the SPP in to its provisions, preliminary assessment of the Proposed Development (as per Attachment A1) has noted the following design factors will require consideration:

- Provision of direct access to a constructed, all weather road for emergency service vehicles;

- separation from hazardous vegetation by a public road or fire trail with a minimum width of four (4) metres and at least six (6) metres clear of vegetation, with a minimum of 4.8 metres vertical clearance and a maximum gradient of 12.5 per cent.

-

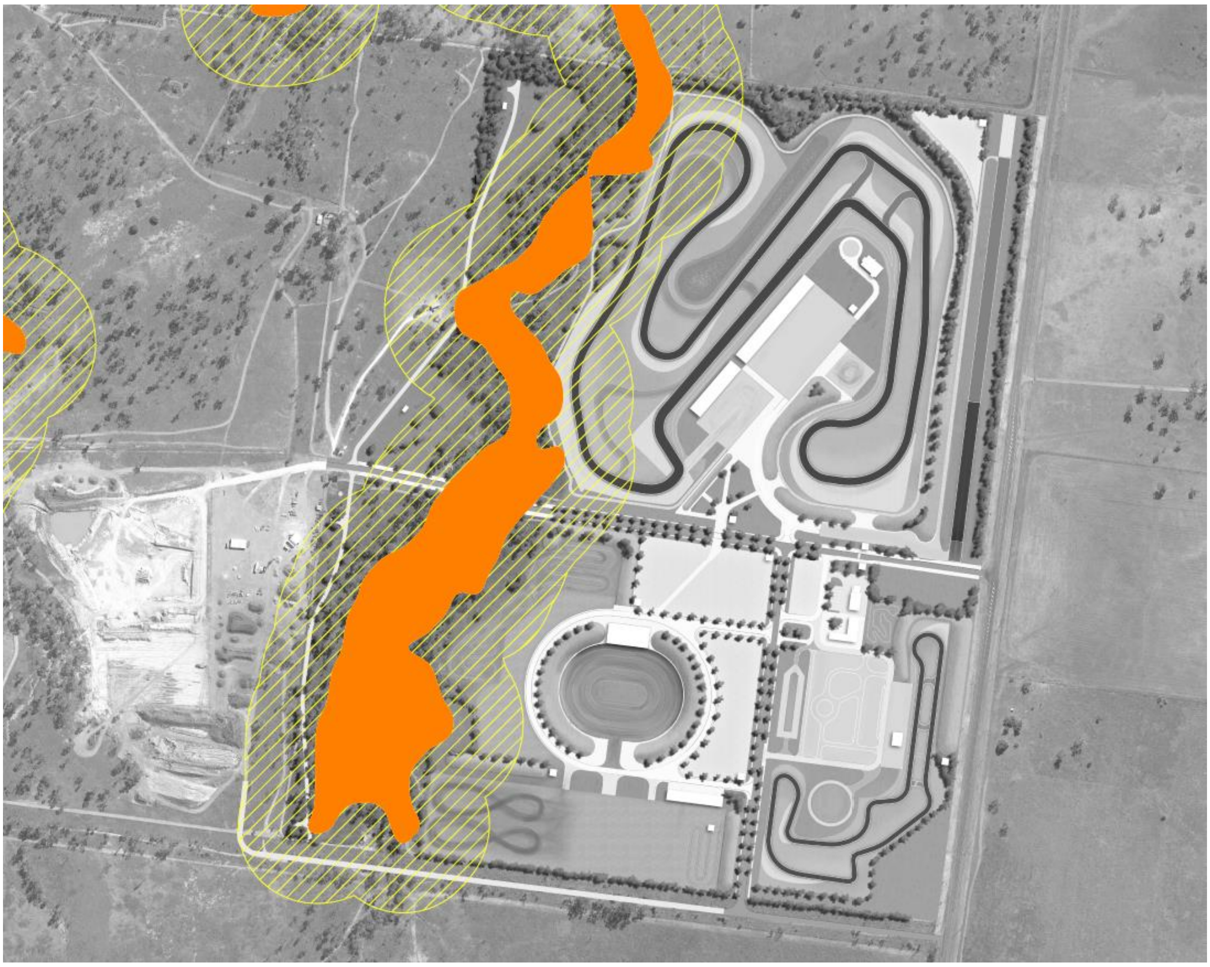

Figure 55 - Bushfire Hazard Area- Bushfire Prone Areas (Source: Development Assessment Mapping System: 2020) overlay against Motorsport Precinct masterplan

Design considerations, specifically with regard to the interface between the proposed camping area west of the north-south waterway, should be considered remove the possibility of a congregation of people located within the bushfire zone; **or**, require additional vegetation removal and management within the identified Regulated Vegetation to facilitate this aspect of the Proposed Development. It should be noted however, any additional vegetation removal will be required to avoid any mapped areas of Category R Vegetation (refer left hand image of **Figure 52**). It is recommended that an onsite investigation by a suitably qualified bushfire consultant is undertaken in conjunction with an ecological onsite inspection to assess the specific requirements of the development against the applicable Australian Standards.

ue to the current development's minor encroachment on the mapped Bushfire Buffer area, the approvals phase of the development will require additional assessment against the provisions of the RRC Planning Scheme Bushfire Hazard Overlay Code and the preparation of a Bushfire Management Plan which identifies hazardous areas, necessary setbacks to achieve compliance with the Australian Standards (achieving relevant separation distances for infrastructures or area of congregation), firefighting requirements and egress management.

We note that this assessment has the ability, and potential likelihood to reduce the level of bushfire hazard, enabling design to increase its footprint.

8.2 SUMMARY AND RECOMMENDATIONS

Desktop Analysis has detailed that the Proposed Development is relatively unencumbered from a bushfire perspective. While it is acknowledged that there is some encroachment on the mapped bushfire buffer areas, detailed site investigations will further refine the siting and design of the Proposed Development to:

a. seek out opportunities to maximise development footprint available for the Proposed Development;

b. identified on-ground constraints that should be avoided; and

c. assist with maximising compliance with regulatory frameworks and codes.

It is strongly recommended that onsite investigations by qualified and experienced bushfire consultants to determine the current and proposed Bushfire Attack Level (**BAL**)[13]. Additional assessment of the proposed development against the bushfire hazard codes and provisions of the RRC Planning Scheme and the State Codes will be required as part of the approvals phase. Early consideration will allow design to be sympathetic of on-ground constraints while also maximising footprint where opportunities are identified.

Consideration of minor interface adjustments of the proposed camping area may be deemed necessary to ensure compliance with the provisions of State Regulated Vegetation matters and the RRC Planning Scheme once further ground truthed values have been obtained.

[13] In accordance with the Australian Standard 3959-2009- Construction of Buildings in Bushfire Prone Areas.

Further design advice from a qualified bushfire consultant after an onsite inspection should be integrated into the Proposed Development prior to submission of a development application to RRC. This will ensure design can comply with Australian Standards for bushfire prone areas[14].

In Summary, the Proposed Development in its current form, is largely compliant with relevant bushfire considerations. To improve compliance and reduce the risk of information request items, it is recommended that minor redesign considerations and further actions be undertaken as follows

- Avoid encroachment of the camping area from within the mapped Regulated Vegetation and the inclusion of a separation buffer (e.g. car parking) between vegetation and camp sites to reduce bushfire hazard matters.
- Undertake onsite investigation to identify ground truth bushfire constraints;
- Seek bushfire advice on the necessary design requirements to protect the infrastructure and community. A Bushfire Hazard Assessment and Management Plan should be development to respond to the applicable RRC Planning Scheme Codes

[14] Noting that the provisions of the Australian Standard are not applicable to planning assessment. As such, it is important to design to these standards from the outset to ensure final constructed elements can be certified, thus avoiding non-compliance after construction and retrospective approvals being required.

9. CULTURAL HERITAGE

Searches of applicable and publicly available databases and registers, including the Native Title Register, the Department of Aboriginal and Torres Strait Islander Partnerships (**DATSIP**) and the Cultural Heritage Database, and a search of the RRCs Local register were undertaken (**Attachment B5**). The search was undertaken on the 24/08/2020 for the Site and a 1km buffer around the Site. Results of the search are as follows:

- The World Heritage List Australia as maintained by DAWE: contains no places close to the Site.
- Commonwealth Heritage List as maintained by DAWE: contains no places close to the Site.
- The National Heritage List as maintained by DAWE: contains no places close to the Site.
- Register of the National Estate as maintained by DAWE : contains no places close to the Site.
- Cultural Heritage Database and Register as maintained by DATSIP: Contains no Aboriginal or Torres Strait Islander cultural heritage site points or Aboriginal or Torres Strait Islander cultural heritage site polygons recorded
- The State Heritage Register (QLD Heritage Office): contains no places close to the Site .
- RRC Heritage Places Interactive Mapping: Contains no places close to the Site

While it is noted that there are no mapped or identified areas of Aboriginal or Torres Strait Islander or European Cultural Heritage, **early consultation with the listed Aboriginal Corporation, the Darumbal People[15], is strongly recommended** to offer the Darumbal People an understanding of the Site and the Proposed Development and to determine any unmapped sites of cultural heritage.

[15] As detailed under Section 34 of the *Aboriginal Cultural Heritage Act 2003* (QLD) and the *Native Title Act 1993 (Cth)*

Additionally, under Section 23 of *The Aboriginal Cultural Heritage Act 2003 (QLD),* it should be noted that the Site and any future development will be subjected to *The Aboriginal Cultural Heritage Duty of Care Guidelines*, which requires that all reasonable and practicable measures are undertaken to ensure the proposed activity does not harm Aboriginal Cultural Heritage.

o this end it is also recommended that a istoric Ob ect ind Procedure and Aboriginal Objects ind Procedure with a Stop or procedure is incorporated in a Construction Environmental Management Plan and Operational Environmental Management Plan as applicable.

9.1 SUMMARY AND RECOMMENDATIONS

Desktop Analysis has detailed that the Proposed Development is relatively unencumbered from a cultural heritage perspective.

It is noted that neither the Site or any areas within proximity to the boundaries of the Site have been identified or mapped with any Commonwealth, State or Local Heritage databases or registers. Section 23 of *The Aboriginal Cultural Heritage Act 2003 (QLD),* notes that the Site and any future development will be subjected to *The Aboriginal Cultural Heritage Duty of Care Guidelines*, which requires that all reasonable and practicable measures are undertaken to ensure the proposed activity does not harm Aboriginal Cultural Heritage.

To reduce the risk of information request items, it is recommended that further actions be undertaken as follows:

- Concurrent consultation with the Darumbal People**, is strongly recommended** to offer the Darumbal People an understanding of the site and the proposed development and to determine any unmapped sites of cultural heritage.

10. NOISE

10.1 ENVIRONMENTAL PROTECTION (NOISE) POLICY 2019

The *Environmental Protection (Noise) Policy 2019* (**EP Noise Policy**) declares the environmental values of acoustic environment; and identifies acoustic quality objectives that are directed at enhancing or protecting the environmental values; and providing a framework for making consistent, equitable and informed decisions that relate to the acoustic environment. It also specifies air quality objectives in its Schedule 1 which dictates indicators, environmental values, acoustic quality objectives and time of day.

While the Site itsel does not all into any o the speci ic sensitive receptors' listed in the Schedule; any sensitive receptors within proximity to the proposed development will require assessment to determine the potential impact of the development.[16] The threshold for noise pollution with regards to residence both outdoors and indoors are in Table 10, with the most relevant figure for the Motorsport precinct being the LAeq(1) noted in Column 3 at 50dBA.

Column 1	**Column 2**	**Column 3**			**Column 4**
Sensitive receptor	**Time of day**	**Acoustic quality objectives (measured at the receptor) *dB(A)***			**Environmental value**
		$L_{Aeq,adj,1hr}$	$L_{A10,adj,1hr}$	$L_{A1,adj,1hr}$	
residence (for outdoors)	daytime and evening	50	55	65	health and wellbeing
residence (for indoors)	daytime and evening	35	40	45	health and wellbeing
	night-time	30	35	40	health and wellbeing, in relation to the ability to sleep

Table 10 - Acoustic Quality Objectives

As detailed in the EP Regulation, the management hierarchy is utilised for an activity involving noise that affects, or may affect, an environmental value to be enhanced or protected under this policy.

[16] he de inition o residence' within the EP (Noise) Policy includes a building or part o building capable o being used as a dwelling.

(2) To the extent it is reasonable to do so, noise must be dealt with in the following order of preference—

(a) firstly—avoid the noise; Example for paragraph (a)— locating an industrial activity in an area that is not near a sensitive receptor

(b) secondly—minimise the noise, in the following order—

(i) firstly—orientate an activity to minimise the noise; Example for subparagraph (i)— facing a part of an activity that makes noise away from a sensitive receptor

(ii) secondly—use best available technology to minimise the noise;

(c) thirdly—manage the noise.

Example for paragraph (c)— using heavy machinery only during business hours

10.2 EXPERIENCE AND GENERAL APPROACH TO NOISE ASSESSMENT

Driven International have worked with SPLtrack Limited to jointly execute an assessment of noise impact of the proposed Rockhampton Motorsport Precinct and to prepare a series of acoustic models to demonstrate the likely impact of circuit activities of the Project.

The noise impact assessment has been compared to existing noise levels, as recorded in the **e ine oi e onito in e o t** prepared by AECOM, which provides evidence of the existing noise conditions at the closest sensitive receptors to the Site.

Driven and SPLtrack recognise noise as a high priority and sensitive issue at other motorsport venues around Australia, including Queensland located venues such as at Lakeside Park near Brisbane.

It is advised that early assessments and planning, combined with Drive-by noise monitoring is an essential modern tool for circuit noise management. It is the only effective method of ensuring that all participating vehicles remain noise compliant throughout the period of operation as other test methods can prove in-accurate.

Neighbourhood receptor noise impact levels are broadly the consequence of vehicle drive-by noise levels and the number of vehicles on the circuit. The receptor noise level values are usually modified (reduced) by incorporating mitigating structures, topography and ground features such as fences, buildings, landscaping or by the track operators applying restrictions on the vehicle noise drive-by outputs themselves.

We have noted the key concerns related to noise following public consultation comments and our strategy aims to mitigate these concerns where practically possible through both physical and operational mitigation methods, as outlined later in this report. The main comments being related to;

- Establishing noise limits
- How will noise be measured and monitored constantly
- Operating hours of the motorsport venue
- Effectiveness of the proposed mitigation measures
- Retaining tranquillity for the nearby residents

At many international circuits the number of days of operation are agreed based upon anticipated noise impact levels, balancing the amenity of neighbours with the overall benefits, viability and enjoyment of particular types of motorsport. This method permits a limited number of higher noisy' days enabling, for example, competition racing events using a wider variety of racing machinery that would not be able to achieve the lower drive-by noise limits that would likely be used for general day to day operation at the tracks.

The approach outlined above has been adopted at many major UK circuits, and we recognise the same has been applied by other circuits and/or local authorities in Australia, too as demonstrated later in this report.

It must be appreciated that drive-by monitoring is an internal tool for enforcement of the circuit's own noise control policies and should not be used to create a regulatory condition.

Compliance for environmental noise purposes should be managed using measurements taken at selected neighbourhood receptors. Noise levels at these locations may be monitored in real time using permanently installed noise meters if the Council and residents agree to this approach.

Whilst as many variables as possible are taken into account, no modelling system can be exact in its predictions, therefore the calculated figures are nominal. A margin of error of +/- 2-3dB should be factored in the assessment.

10.3 BENCHMARKING AND REFERENCE STANDARDS

There are no globally adopted universal standards for controlling motorsport noise, however there are a number of useful references. It is accepted that Australia may have a variety of guidelines across the country states or, more locally to Rockhampton, may been developed across the existing motorsport clubs operating in Rockhampton to suit their site and operational specific requirements. For the purposes of demonstrating best practice, we can refer to the following with regard to relevant benchmarks, noise measurement and mitigation practices;

- As a general guide, the following noise decibel readings apply to every day sounds.
    - *0 dB(A) The faintest sound we can hear*
    - *30 dB(A) A quiet library or in a quiet location in the country*
    - *45 dB(A) Typical office space. Ambience in the city at night*
    - *60 dB(A) Cafe courtyard at lunch time*
    - *70 dB(A) The sound of a car passing on the street*
    - *80 dB(A) Loud music played at home*
    - *90 dB(A) The sound of a truck passing on the street*
    - *100 dB(A) The sound of a rock band*
    - *115 dB(A) Limit of sound permitted in industry*
    - *120 dB(A) Deafening*
- In Australia the standard AS/NZS IEC 1672.1:2019 : Electroacoustics - Sound level meters – Specifications is used to classify noise meters into two classes, depending on accuracy, Class 1 is the most accurate and should be used for sound measurements and monitoring at the precinct.
- Queensland Department of Environment and Science document Noise Measurement Manual Version 4.01 dated 10 March 2020 (NMM). This guideline has been used for undertaking the baseline noise surveys, as reported by AECOM.
- Australian Standard - AS 2702 Methods or the Measurement o oad ra ic Noise – the sound logs and measurements taken at the Rockhampton site were in accordance with this standard as noted in the AECOM report.
- The *Environmental Protection (Noise) Policy 2019*, as mentioned earlier, quotes an LAeq of 50dB for outdoor noise measurements taken at sensitive residential receptor locations. This applies to daytime and evening measurements.
- Government of Western Australia; Department of Environment Regulation; Guide to management of noise from motor sport venues Environmental Protection (Noise) Regulations 1997; https://www.der.wa.gov.au/images/documents/your-environment/noise/Guide_to_management_of_noise_from_motor_sport_venues.pdf
    - Input on these guidelines was provided by CAMS (Confederation of Australian Motorsports Ltd) – now nown as Motorsport Australia’.

  - Suggests a 1km radius for consultation
- A number of Queensland state guidelines will need to be referred to across the planning of the motorsport precinct including the Environmental Protection Regulation 2008 and Planning Act 2016. These are useful contextual references to apply principles with regards to noise and environmental mitigation but contain no specific motorsport regulations.
- Based on engagement with various motorsport clubs operating in the Rockhampton region, we note that the vehicles tend to operate within a drive-by (20m from track edge) noise range of 92dB to 96dB for the majority of activity, with 105dB for major competition circuit events. This feedback is comparable with other global operating venues and has been used as input assumptions to the noise model.
- We recognise that noise issues have occurred at the Lakeside circuit near Brisbane, Queensland. The specifics of this venue cannot be compared to the Rockhampton Motorsport Precinct due to the differences in circuit orientation, weather and location of receptors however some references from a regulatory and noise management perspective are noted;
  - The venue is subject to noise restrictions of 70dBA from 0700 to 2200, applicable as an open air venue under the Environmental Protection Act.
  - he same act states that an occupier of premises must not use, or permit the use of, the premises for an open-air event on any day from 10pm to midnight if the use causes noise of more than the lesser of the following: (i) 50dB or ; (ii) 10dB above the background level. It is assumed these figures refer to the receptor location, not noise source.
  - All vehicles participating in track days at Lakeside Raceway must conform to the noise limit, on both a static test and trackside test, of 95 dB.
  - Demonstrates the importance of noise monitoring, and alignment of the method of noise monitoring between the venue operator, local authorities, and residents.
- The most noise sensitive circuits in the UK, such as Mallory Park in Leicestershire whose track is located within 200m of residential dwellings, are permitted to operate between 40 and 60 days per year at 65dBLAeq(30min), the remainder of operations being 55dBLAeq(30min).
- World Health Organisation (1999) Guidelines for community noise. These are now superseded by the WHO Noise Guidelines for the European Region 2018. This

guidance looks at noise impact at the façade of dwellings in terms of annoyance and health impact, but makes no reference to motorsport noise per se. The guidance is often used when investigating aircraft noise and considers dBLAFmax levels per noise event as a criteria. This has similarities with the method of management on motor racing circuits which uses dBLAFmax to determine the drive-by limits for participating vehicles.

10.4 MOTOR SPORT CIRCUIT EXPERIENCE

SPLtrack has been monitoring continuously at Silverstone, Brands Hatch, Snetterton, Donington Park, Mallory Park, Bedford Autodrome and Oulton Park for several years and has amassed a huge volume of data from a variety of track days, race events and vehicles. This has been used to inform the development of a noise modelling software platform specifically for the assessment of motor sport circuits. SP trac 's modelling system is in process of ongoing improvement and verification against real world data. The system is used for the comparison of real data and predicted modelling on a daily basis.

he company's drive-by monitoring system is in use at all of the above circuits and is used for the management of competitors and participants. Real-time neighbourhood meters are used to verify neighbourhood sound levels. All meters integrate with the predictive models to demonstrate compliance.

10.5 MODELLING SOFTWARE

There is no commercially available software suitable for modelling motorsport noise. SPLtrack has developed a bespoke modelling platform for motorsport noise assessment, which Driven International frequently use to assess circuits at pre-development phase. The models factor the number and type of vehicles, the polar noise footprint of each vehicle, acceleration/deceleration points on the track design and the expected environmental elements such as buildings, woodland and topography as included in the masterplan are all contained within the noise model inputs. Vehicle noise propagation is assessed in relation to dBLAFmax drive-by measurements.

10.6 DRIVE-BY MONITORING

Under the rules of the motorsport governing bodies, static tests are usually required for all participating vehicles. The static tests were developed many years ago prior to the development of very high revving engines, exhaust valves, quick shifters and other technical advances that cause noise output to increase at engine speeds much higher than those required by the static test. It has long been recognised that static tests are no longer effective at accurately representing the on-circuit noise output of a vehicle, however we recognise these can mitigate particularly loud vehicles from entering a circuit in the first instance hence should form part of the venues noise management operational procedure on event days.

For day to day events, drive-by measurements have been used for some time and are all circuit specific depending on the sensitivity of the site location. Different measurement criteria and separation distances were used from circuit to circuit and there was for a time a belief that dBLAeq(t) trackside measurement could be used to measure overall circuit noise output. Various metrics were in use including dBLAFmax, dBLASmax and dBLAeq(1s).

SPLtrack introduced a standardised drive-by monitoring system in 2007 using dBLAFmax measurement criteria, measuring 20m from the track centreline. The system has a user interface that shows an image of each vehicle exceeding the noise level threshold and provides a method of immediate moderation and enforcement. The system has proved to be extremely effective in eliminating noisy vehicles and has been instrumental in changing the attitude of track day participants from resistance to noise controls to one of cooperation and compliance.

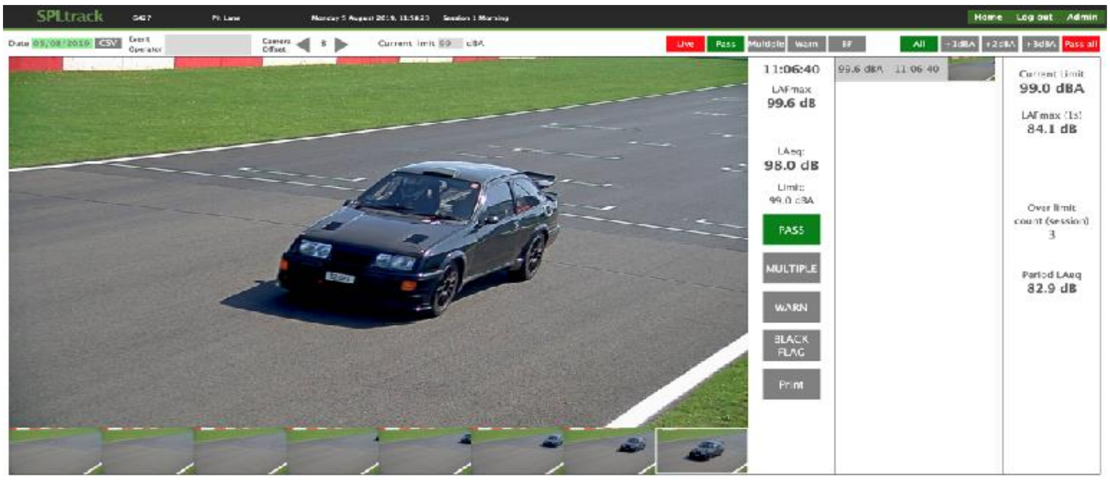

Figure 56 - Circuit Noise Monitoring Sofware

The software has a comprehensive reporting function, allowing circuits to monitor the effectiveness of control procedures and staff performance.

The result is that Drive-by noise monitoring has today transformed the noise management process for many global race circuits, making them compliant with local authority requirements and largely appeasing resident concerns. It has also played a major role in educating motorsport participants and promoting a responsible attitude to noise.

Such systems have been instrumental in helping motorsport venues to remain open and providing transparency on noise recording across all stakeholders involved in the operation and regulatory monitoring of noise at the tracks.

10.7 MODELLING TARGETS FOR MOTORSPORT NOISE

Based on a review of the reference benchmarks, guidelines and local legislation, Rockhampton Regional Council are targeting a day to day operational noise model that limits daytime receptor noise levels in order to comply with regional noise guidelines set out below.

- ***Day-to-day: 50dBA*** (the acoustic quality objectives of the Environmental Protection Policy Noise)
- ***Major event / Open air eve*****nt:** ***70dBA*** (Environmental Protection Act)

Using an dB LAeq measurement within the noise models, assessments are made as to whether it is achievable to realistically operate within these limits based on the masterplan design and proposed activities. The LAeq modelling measurements can be compared to the existing background noise measured using LA90 and the 50dBA limit. Where exceedances of 50dBA occur, mitigation measures can be suggested for managing noise limits or frequency of events.

E perience rom SP trac 's involvement at all o the UK's ma or motorsport circuits suggests that local residents to motorsport venues are willing to accept a certain amount of circuit generated noise for the following reasons and under certain conditions:

- Higher noise for Bona fide motor racing is generally regarded as more acceptable than testing or track day use. This is partly because there is a purpose to the event with a documented outcome, partly because such events are well advertised tend to attract spectators thereby having a perceived public benefit, and partly because race events involve longer periods of respite between circuit activity.
- Excessive noise during track days are regarded by residents as indulgent as they have no purpose other than the enjoyment of participants. They do not involve spectators and have no perceived public benefit. Track days often operate from 9am

to 6pm, usually with an hour respite for lunch, and otherwise have vehicles on circuit almost constantly. Popular track day grids generally number the maximum quantity of vehicles that the circuit can safely accommodate.

With this knowledge in mind, the approach of operating at a lower limit for day-day track days and applying a higher limit for the infrequent competition events is likely a reasonable approach, and one that is consistent at other motorsport venues in Australia and globally.

10.8 BASELINE SURVEY METHODOLOGY

The full AECOM Baseline Noise Monitoring Report can be found as Appendix C.10 however the key approach is outlined herein.

Initial estimates of existing noise in the area were generated using modelling software to generate a virtual baseline survey. However, it was recognised that actual noise measurements would be deemed more appropriate and realistic, hence noise measuring was undertaken by AECOM in September 2020 at nearby receptors to generate a baseline noise survey.

The 3 closest residential locations were identified for noise measuring, on the basis that these were deemed to be the most sensitive receptor locations with regards to noise impact.

The 3 locations and dates of the noise measuring are identified below.

Receptor No	Address	Shortest distance to site boundary (m)	Date of noise 2020 measurements
1A	53347 Burnett Highway, Bouldercombe, QLD	250m	7-22 September
2	89 Tea Tree Road, Bouldercombe, QLD	500m	8-23 September
3	42 Hunt Road, Bouldercombe, QLD	1,200m	22-29 September

Table 11 -3 x Noise measurement receptor locations

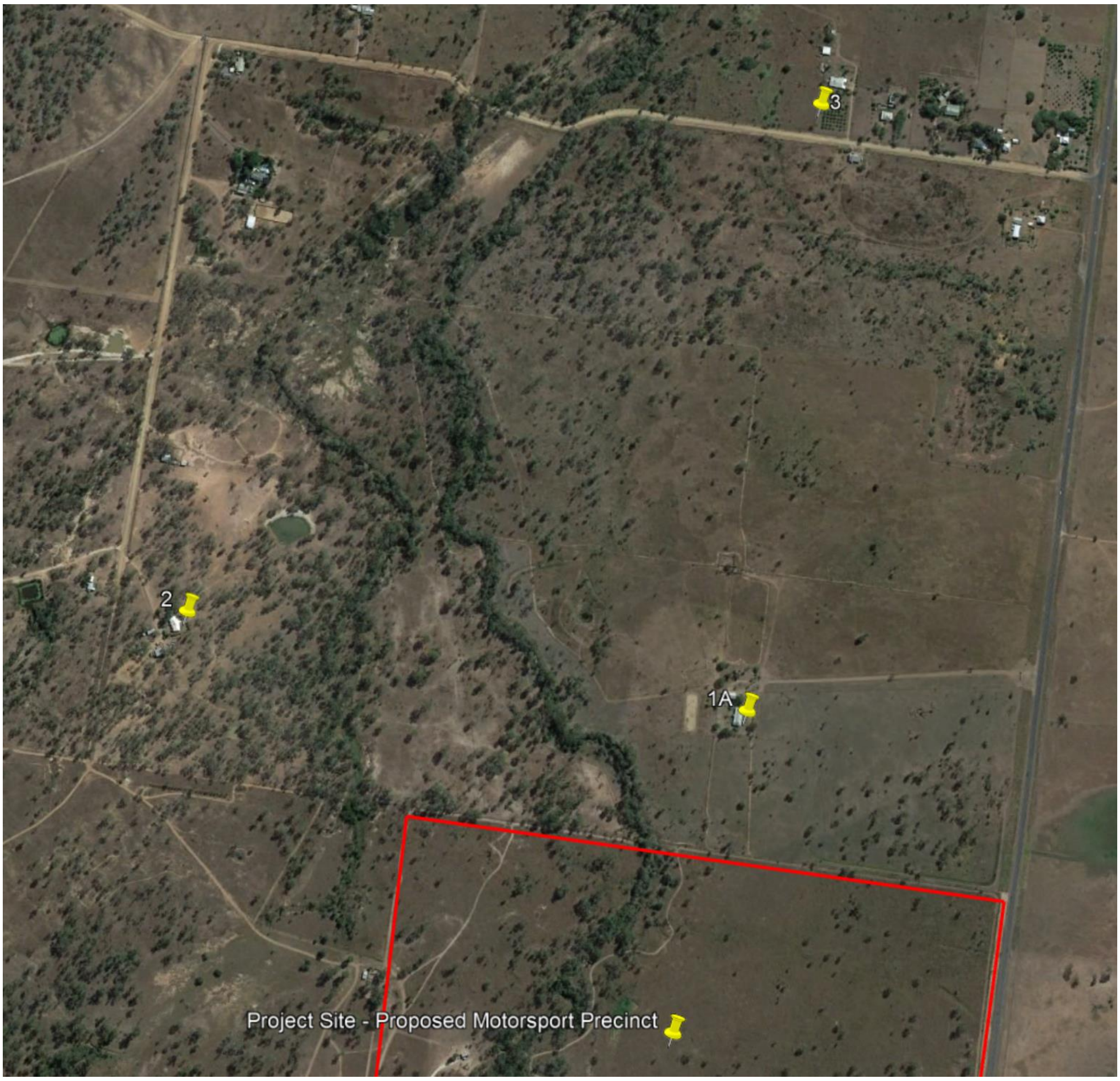

Figure 57 – 3 x Noise Measurement Receptor Locations

The methodology for monitoring is the following:

- One monitor, set at 15 minute intervals, was installed by an AECOM operator at each site to conduct continuous unattended noise monitoring for a minimum of 7 days. The monitors were set up to measure A-weighted sound pressure levels with a Fast instrument response. All meters were set to record the noise parameters, LAeq, LAmax, LAmin, LA01, LA10 and LA90.
- Both attended and unattended monitors were field calibrated before and after the measurements. All monitors were laboratory calibrated by a National Australian Testing Authority (NATA) certified calibration laboratory within 2 years and pass the

certification for a Class 2 or Class 1 noise level meter. Calibrators were field calibrated within 1 year and meet the certification for a Class 1 calibrator.

- All monitors were installed in the free field at a least 1.5m height. In order to negate reflection effects from buildings and sheds etc, all monitors were installed at least 3.5m from reflecting surfaces apart from the ground. Also, the logger was positioned such that noise contamination from other sources of noise such as pool pumps or air conditioners were minimised as far as practicable. Any periods of inclement weather with measurement of rain or average wind greater than 5.0 m/s was removed from the data set to avoid noise interference with the results.
- Two 15 minute attended measurements were conducted at each site to identify localised noise source influencing the noise environment.
- No drifts in noise exceeding ±0.5 dB were noted throughout the monitoring exercise.

10.9 BASELINE SURVEY RESULTS

The full results of the surveys can be found in the AECOM Baseline Noise Monitoring Report in Appendix C.10 however the key findings are provided herein.

In general the noise monitoring highlighted that the road traffic along Burnett Highway is the dominate noise source and influences the background noise levels at each site. The further the setback from the highway the lower the measured background noise level.

10.9.1 Receptor 1, 53347 Burnett Highway,

Unattended noise measurements were conducted over a two-week period from 8th September 2020 to 22nd September 2020. The arithmetic average of **LA90** during the hours of 7am to 10pm was measured between a range of **36dB(A) to 45dB(A)**, with a mean of 41dB. In addition, attended noise measurements provided the following dB results based only on a 15 minute duration.

Date/Time	LA Max	LAeq	LA 90	LA 10	Comments
8 Sept 2020 10.45-11.00	64	47	43	50	Most of the noise is road traffic noise as cars are constant and there is direct line of sight to highway with levels at 40–53dB(A).
22 Sept 2020 10.15-10.30	50	39	35	42	The background noise is leaves rustling noise and occasional distant traffic. Burnett Highway traffic noise at 36-43dB(A). Traffic along Burnett Highway was significantly less than the first measurement. At some points the road noise is audible but not measurable.

Table 12 - Receptor 1 attended noise measurements

10.9.2 Receptor 2, 89 Tea Tree Road

Unattended noise measurements were conducted over a two-week period from 8th September 2020 to 22nd September 2020..

Due to the increased set back from the highway the average background noise levels are lower than site one with an arithmetic average **LA90** range during the day between **33 dB(A) to 42 dB(A)**, with a mean of 39dB. There was a slight decrease for the average LA90 between the hours of 7am to 10pm with the highest arithmetic average LA90 noise level of 40dB(A).

Attended noise measurements provided the following dB results based only on a 15 minute duration.

Date/Time	LA Max	LAeq	LA 90	LA 10	Comments
8 Sept 2020 10.00-10.15	73	46	42	48	The background noise is rustling of leaves at 41-53dB(A). Road traffic noise from Burnett Hwy at 40dB(A). Bird noise at 45-73dB(A).
22 Sept 2020 12.00-12.15	74	41	33	44	The background noise is rustling of leaves at 35-48dB(A). Road traffic noise from Burnett Hwy at 32- 35dB(A). Bird noise at 35-52dB(A). Dog barking at 70-71dB(A).

Table 13 - Receptor 2 attended noise measurements

10.9.3 Receptor 3, 42 Hunt Road

Unattended noise measurements were conducted over a one-week period from 22nd to 29th September 2020. During the day period there is a range of arithmetic average **LA90** values ranging from **34dB(A) to 42dB(A),** with a mean of 37dB

Attended noise measurements provided the following dB results based only on a 15 minute duration.

Date/Time	LA Max	LAeq	LA 90	LA 10	Comments
8 Sept 2020 10.00-10.15	66	40	32	42	Burnett Hwy car noise at 30-42 dBA. Heavy Vehicle noise at 34-42 dBA. Vehicles along Hunt Road at 41-65 dBA. Bird noise at 36-53 dBA.
22 Sept 2020 12.00-12.15	65	40	32	40	The background is the road traffic noise from Burnett highway at 29 - 35dB(A). Dog barking is from the house on the opposite side of the street 34-43dB(A). Hunt Road car noise at 42-64 dBA. Bird noise at 34-55 dBA.

Table 14 - Receptor 3 attended noise measurements

10.10 CIRCUIT NOISE MODEL OPERATION MODES

There are a range of circuits and potential operating scenarios at the Motorsports Precinct. For the purpose of this assessment, Four configurations are considered;

The below is the most significant ull capacity' scenario in terms of noise;

- **Scenario 1; Full Capacity, Day-Day configurations** - 92dBLAFmax drive-by, 20 cars on the road circuit (recorded 20m from track centreline), with other tracks operating in day-day mode (practice, training, corporate).

In practice it is unlikely or rare that ***all*** circuits will operate simultaneously, therefore the configuration above represents an unlikely operational mode and worst case mode.

Other permutations with less tracks operating are more likely to reflect the real-world mid-week operation, or reflect a single track being used during a competitive event. These scenarios have been modelled as;

- **Scenario 2; All tracks except road course & drag -** operating track days or testing (non-competition) applying a 100dbLAF max drive-by limit. No operation of main road course.

- **Scenario 3; Road Course Event** - 105dBLAFmax drive-by (20 cars, track day or road course competition event) on the road circuit. All drive-by measurements recorded 20m from track centreline. No other tracks in operation.

- **Scenario 4; Speedway Bowl Event –** 105dBLAFmax drive-by, 10 cars or bikes on the dirt oval (recorded 20m from track centreline). No other tracks in operation.

The inputs across all of the operating circuits can be seen in appendix C1.1 Noise Model Inputs.

Each mode may eventually have different noise level limits depending upon the motor vehicle activity in progress and community noise constraints. Further modelling will be required and used to evaluate these options at the full development application stage.

Drive-by noise limits are specified above for a maximum of (n) vehicles on each circuit at any one time. In the case that the number of vehicles on circuit simultaneously was to be varied the drive-by limit could be reduced or increased using the formula

$$10log10\frac{Vehicles}{n}$$

to maintain the equivalent environmental impact. For example, using the above formula, an increase in the number of vehicles on the Road circuit from 20 to 40 would require a reduction in the drive-by limit of 3dB to maintain community noise at the same level.

10.11 NOISE IMPACT MODELLING METHOD

The models shown in Appendix C1 illustrate the likely noise impact levels for the operational modes described in 10.10. On occasions where not all of the available circuits were in use the environmental impact could be lower than that calculated in the model.

In the noise models presented, the source levels of the vehicles are expressed as dBLAFmax, the level that would be reported by a trackside drive-by measurement system. The distance from the track centreline to the microphone is normalised to 20m because this gives the best compromise between variation due to vehicle position on the track and the granularity of the measurement. Using 125ms windowing the system is able to measure fast moving vehicles accurately and independently providing that they are separated by a distance of at least 30m along the track and, if at minimum separation, there is no more than 12dB difference in sound level between them.

The model calculates the impact at receptors of the combined energy from all sources factored for distance, source directivity, topography, designed ground elements such as buildings and any bunds or barriers. In assessment, the sum of all vehicle noise sources received at a receptor is termed the Specific Noise Level, being the noise level experienced at the receptor due only to the circuit activity and not including other noise sources such as roads, aircraft, animals and anything else. The Specific Noise Level is expressed in the noise model as dBLA which is a momentary sound pressure level. However, because each circuit is effectively a continuous ribbon source, the sound pressure level will be virtually equivalent to the dBLAeq(t) where (t) is any period, i.e. a track session. The choice of assessment duration (t) is a subject of debate for community monitoring at motor sports circuits.

- If too long a period is chosen there may be periods of high noise levels that may create potential nuisance with periods of respite so that the overall equivalent level is compliant. If too short a period is used then it is difficult for the circuit to operate as a very high LAeq could be measured from a short peak of noise.
- Further, the wide range of motorsport disciplines have different frequency of track use during a day. Testing laps tend to be few in number with periods of engineering adjustment whereas track days feature almost continuous use excepting a break for lunch. It is therefore very difficult to adopt a single use cycle coefficient to apply to the model.
- Experience at other circuits has shown that $(t) = 30minutes$ is an appropriate sampling period that balances the amenity of neighbours with circuit operations.

The choice of $(t) = 30minutes$ allows the circuit, using real-time monitoring at key receptors, to regulate track time, typically comprising 20minute track sessions, with a 10minute break, thereby ensuring that the calculated levels can be achieved.

10.11.1 Comparing noise models with recorded data

Background Levels at the receptors are usually expressed as $dBLA_{90(t)}$ and is a statistical value which describes the noise level exceeded for 90% of the sample period (t). It excludes short-term noises such as aircraft overflights, passing vehicles and other sounds such as occasional dog barking, sirens etc. Because $dBLA_{90}$ is a statistical measurement it can only be calculated when all of the data for (t) has been collected, therefore it cannot be directly modelled and compared.

However, by comparing the specific noise level from the track models in dBLAeq(t) against the $dBLA_{90(t)}$ of the recorded background noise levels from the AECOM site data, the impact of change in noise levels at each receptor location can be estimated.

10.12 NOISE IMPACT SUMMARY

The models in Appendix C1 have been compiled to show the likely impact of each primary use permutation at the Motorsports Precinct.

A number of receptors have been selected, particularly the three locations that have been identified by the local consultants. These have been labelled AECOM 1-3.

Weather conditions have been considered in model variants. In these cases, the wind speed used is 7m/s. Temperature is normalised at 20degC and humidity 80%.

The image below provides an extract of the noise model, demonstrating how vehicles are applied to the track layouts and demonstrating the recordings at each receptor. The results of these models are included in Attachment C.

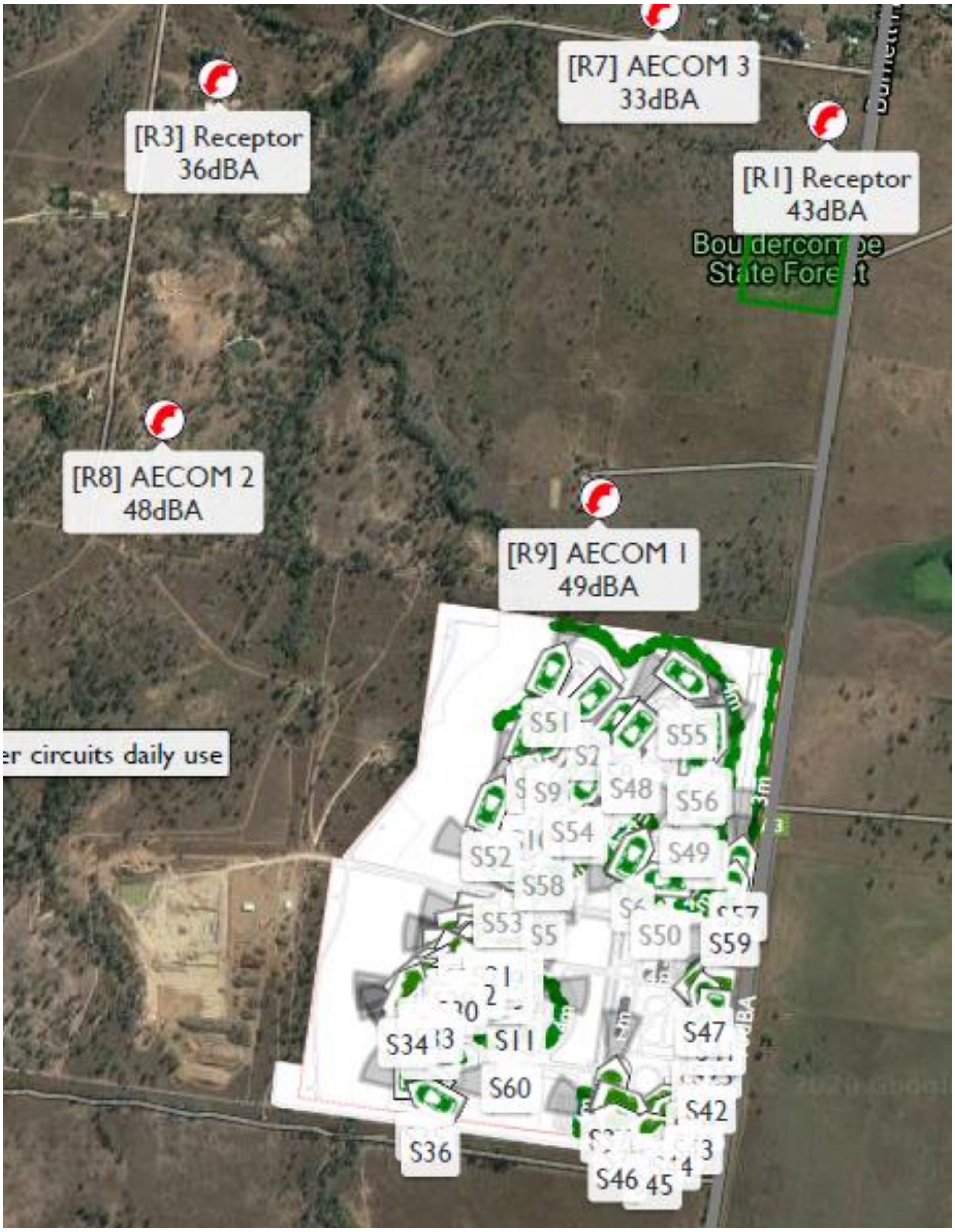

Figure 58 - Extract of noise model

The following table indicates the likely impact at the three receptors without any specific noise mitigation measures other than the existing design proposals for track orientation, buildings and landscaping bunds. All other receptors indicate lower impact levels as can be referenced from the model images.

The table provides a comparison to the baseline noise results against the modelled circuit using the following assumptions.

Existing Site = LA90 from AECOM unattended noise measurements at receptor location

Scenarios = Assumes LAeq result based on modelling of masterplan layout.

Receptor	**Existing Baseline**	**Scenario 1: Full Capacity, Day-Day.**	**Scenario 2: All tracks except road & drag, Day-Day**	**Scenario 3: Road Course Event**	**Scenario 4: Speedway Bowl Event**
Source	***LA90 range***	***92dBLAFmax***	***100dBLAFmax***	***105dBLAFmax***	***105dBLAFmax***
1	36-45 dB(A)	58 dB LAeq	51dB LAeq	71dB LAeq	43dB LAeq
2	33-42 dB(A)	50 dB LAeq	50dB LAeq	59dB LAeq	42dB LAeq
3	34-42 dB(A)	37 dB LAeq	35 dB LAeq	48 dB LAeq	27 dB LAeq

Table 15 - Predicted receptor noise levels dBLAeq(t) vs Existing noise levels dBLA90

The results below are colour coded to demonstrate measurement against the 50db(A) daytime limit and the 70dB(A) outdoor event limit, as quoted in the The *Environmental Protection (Noise) Policy 2019*.

- At or below 50dB
- Within 5dB of noise policy, with ability to further mitigate
- Exceeds 50dB day-day 70dB(A) event limit

The most vulnerable receptor is number 1, lying closest to the site boundary, which is expected to experience levels between 51dBLA and 58dBLA during day-day operations, and 71dBLA worst case on event days. However, this could be mitigated by the addition of a 4m acoustic barrier on the ridge of the embankment non the northern edge of the site. The noise level reduction due to the barrier would likely be circa 3dB, reducing the peak event noise to approximately 68dBLA.

Based on the model presented the other receptor noise levels at receptor 2 and 3 appear to be within acceptable limits, providing that not all tracks are operated at once, which would be extremely unlikely to occur and could be managed accordingly by the track operators.

However, to further limit noise levels at these receptor locations, further mitigation is recommended as explained herein.

10.13 NOISE MITIGATION

10.13.1 Layout of noise generating activities

The layout of facilities within the masterplan should where possible consider the position and proximity of sensitive receptors near to the site and be positioned as far away as is practical to minimise the impact. With the majority of sensitive receptors being located to the north of the property, the master plan design allows for the placement of mitigation measurements such as landscaping, embankments or acoustic fencing.

The position of particularly noisy activities, such as the drag strip starting area have been located next to the highway and moved to further away from the sensitive receptors as a result of both noise and environmental investigations undertaken on earlier design concepts.

The speedway, mudsports and dirt motorcycling based events, which are likely to host more frequent small-medium sized club events have been positioned towards the southern side of the property and are surrounded by grass banks and buildings.

Space for further localised mitigations should be included as close as possible to the sources of noise to maximise the noise attenuation effect of the measures, as well as along the northern boundary to minimise the impact on receptors to the north. Further details and options are explained below.

10.13.2 Noise berms

One option or noise mitigation is the use o natural earth mounds or noise berms which can be grassed or vegetated to fit in with the site and surrounding natural landscape. Noise berms should be in the region of 4m in height, as steep as is practical and should be as close to the source of the noise as possible maximise the mitigating effect. They can also be supplemented with vegetation and acoustic screening where needed to provide an enhanced level of attenuation.

Figure 59 - Grass Banks at Castle Combe Circuit, UK

An added benefit of noise berms is that they can also offer opportunities for elevated viewing or circulation space for spectators, - an ideal alternative to permanent grandstands. It is noted in the design that earth banks are used in a number of areas, such as around the northern perimeter of the main FIA circuit, and around the Speedway Oval, each of which are designed to contained grassed terraces.

Vegetation on top of the embankments or as part of the landscaping between or around track areas can also be used to supplement the noise mitigating effects. The addition of vegetation could also be used to introduce shape to spectator viewing areas. To the perimeter of the site, particularly the north, it is recommended to allow for a substantial vegetated noise berm to minimise impact on sensitive receptors to the north of the site.

10.13.3 Acoustic Screening

Further acoustic screening can be added either at ground level or at the top of an earth embankment to provide an enhanced level of acoustic protection in key locations around the site. Acoustic fences come in a range of sizes and styles, which are typically seen on the side of major highways in populated areas. Where space for an earth embankment is limited, acoustic fencing can offer a more compact solution, which can also offer other benefits such as space for advertising or signage relating to the precinct. The disadvantage of acoustic screening is typically relating to the cost of installation and maintenance, but also the visual impact the structures would have on the surroundings if used on the perimeter.

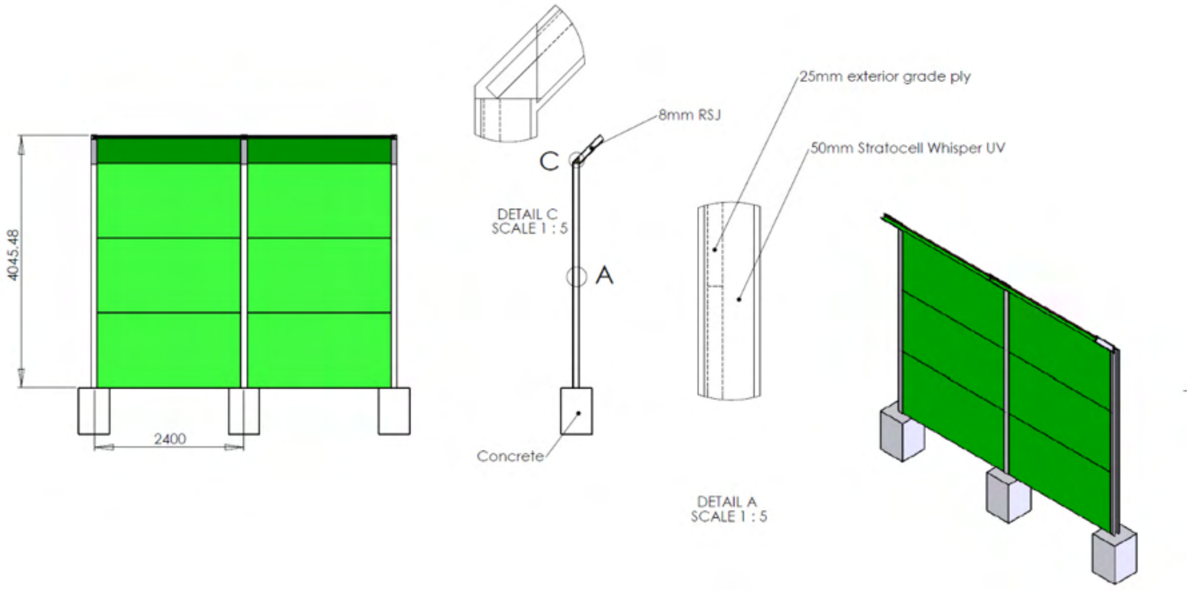

Figure 60 - Schematic Acoustic Fence Panels

Through implementation of additional acoustic screening, it is expected that a reduction of 3dBLAeq can be made on the noise levels experienced at the receptors. With additional acoustic screening installed along the Northern perimeter of the site, on top of the proposed grass banks, it is expected that the following can be achieved.

Receptor	**Existing Baseline**	**Scenario 1: Full Capacity, Day-Day.**	**Scenario 2: All tracks except road & drag, Day-Day**	**Scenario 3: Road Course Event**	**Scenario 4: Speedway Bowl Event**
Source	***LA90 range***	***92dBLAFmax***	***100dBLAFmax***	***105dBLAFmax***	***105dBLAFmax***
1	36-45 dB(A)	55 dB LAeq	48dB LAeq	68dB LAeq	40dB LAeq
2	33-42 dB(A)	47 dB LAeq	47dB LAeq	56dB LAeq	39dB LAeq
3	34-42 dB(A)	34 dB LAeq	32 dB LAeq	45 dB LAeq	24 dB LAeq

Table 16- Predicted receptor noise levels dBLAeq(t) vs Existing noise levels dBLA90 with acoustic fencing

10.13.4 Operational Noise Management Plans

In addition to implementing physical constrains, noise impact can be mitigated by regulating the specific noise levels that the tracks operate at. A key and commonly used method for the operator managing and mitigating the impact of noise from motorsport venues around the world is by adhering to a noise management plan . he plan sets out measures to limit the negative impacts of noise on the surroundings by:

(i) agreeing limits on the frequency and noise level of activities on the site,

(ii) provide controls by which track activity is checked and monitored and communicated to the wider community.

Reducing drive-by limits, reducing the session durations and reducing the number of vehicles on the circuit all contribute to noise reduction and should form part of the operational strategy of the circuit and be included in the noise management plan. It should however be noted that reducing the number of vehicles on track by 50% only reduces specific noise levels by 3dB. Smaller percentage reductions have only marginal benefit.

Variation of track session times including periods of respite (i.e lunch break down-time) can be helpful in reducing noise impact and the number of days of used could be restricted for higher noise sessions (competition events).

Public information is very important. An operational calendar should be shared with city and local residents via a web site or public forum so that they are fully informed, particularly when higher noise days are planned.

Regulation of vehicles via a real-time drive-by noise control system is fundamentally important. This exists as a well-developed method at several circuits and is becoming more understood by regulators and competitors alike. The system provides the only effective method to prevent unusually noisy vehicles from using the circuit and provides a permanent record of enforcement.

10.14 SUMMARY AND RECOMMENDATIONS

- It is advised that a permanently installed static drive-by noise monitoring device is an essential modern tool for circuit noise management and should form part of every day track operations. It is the only effective method of ensuring that all participating vehicles remain noise compliant throughout the period of operation as other test methods can prove in-accurate.

- The *Environmental Protection (Noise) Policy 2019* quotes an LAeq of 50dB for outdoor noise measurements taken at sensitive residential receptor locations. This applies to daytime and evening measurements. It quotes 70dB for outdoor open air events, which could be deemed as infrequent events for the purposes of a motorsport precinct.
- It is recommended that a noise management plan, outlining circuit operating hours, number of operating days and noise limit targets is agreed during the full development application process.
- It is recommended that a variation of track session times including periods of respite (i.e. lunch break down-time) are documented in the noise management plan to help reduce noise impact and the number of days of use could be restricted for high noise sessions (competition events) to offer further mitigation.
- Based on club engagement, it is noted that the vehicles tend to operate within a drive-by noise range of 92dB to 96dB (usually taken 20m from track edge) for the majority of activity, with 105dB for competitive events. This compares with other global operating venues and has been used as input assumptions to the modelling.
- There are a range of circuits at the Motorsports Precinct. However, for the purpose of this assessment, four configurations were considered.
    - **Scenario 1; Full Capacity,** Day-Day configuration**s - 92dBLAFmax** drive-by, 20 cars on the road circuit (recorded 20m from track centreline), with other tracks operating in day-day mode (practice, training, corporate).
    - **Scenario 2; All tracks except road course & drag - 100dbLAF max** drive-by limit, operating track days or testing (non-competition). No operation of main road course.
    - **Scenario 3; Road Course Event - 105dBLAFmax** drive-by (20 cars, track day or road course competition event) on the road circuit. All drive-by measurements recorded 20m from track centreline. No other tracks in operation.
    - **Scenario 4; Speedway Bowl Event – 105dBLAFmax drive-by**, 10 cars or bikes on the dirt oval (recorded 20m from track centreline). No other tracks in operation.
- Three key receptors have been selected for modelling purposes. The three locations that have been identified by the Council and local consultants as sensitive and are referred to AECOM 1-3.

- Based on the masterplan design, the following dB LAeq is expected at the 3 closest receptor locations. These highlight that Receptor 1, the closest to the proposed development, will experience the highest noise levels during both day to day and event operations. However Receptors 2 and 3 are generally within acceptable noise limits (below 70dB on events or 50dB during day to day operations.
- It is noted that the operation of all tracks at once should be avoided to minimise noise impact, and this strategy should form part of the operational calendar for the motorsport precinct.

Receptor	**Existing Baseline**	**Scenario 1: Full Capacity, Day-Day.**	**Scenario 2: All tracks except road & drag, Day-Day**	**Scenario 3: Road Course Event**	**Scenario 4: Speedway Bowl Event**
Source	***LA90 range***	***92dBLAFmax***	***100dBLAFmax***	***105dBLAFmax***	***105dBLAFmax***
1	36-45 dB(A)	58 dB LAeq	51dB LAeq	71dB LAeq	43dB LAeq
2	33-42 dB(A)	50 dB LAeq	50dB LAeq	59dB LAeq	42dB LAeq
3	34-42 dB(A)	37 dB LAeq	35 dB LAeq	48 dB LAeq	27 dB LAeq

Table 17 – Predeicted noise receptor levels (dBLAeq(t)) vs baseline

- These noise limits could be further mitigated by the installation of a 4m acoustic barrier on the ridge of the embankment along the northern edge of the site. The noise level reduction due to the barrier would be circa 3dB, providing the following results.

Receptor	**Existing Baseline**	**Scenario 1: Full Capacity, Day-Day.**	**Scenario 2: All tracks except road & drag, Day-Day**	**Scenario 3: Road Course Event**	**Scenario 4: Speedway Bowl Event**
Source	***LA90 range***	***92dBLAFmax***	***100dBLAFmax***	***105dBLAFmax***	***105dBLAFmax***
1	36-45 dB(A)	55 dB LAeq	48dB LAeq	68dB LAeq	40dB LAeq
2	33-42 dB(A)	47 dB LAeq	47dB LAeq	56dB LAeq	39dB LAeq
3	34-42 dB(A)	34 dB LAeq	32 dB LAeq	45 dB LAeq	24 dB LAeq

Table 18 - Predeicted noise receptor levels with acoustic fencing (dBLAeq(t)) vs baseline

- It is strongly recommended that a Full Noise Impact Assessment, including additional monitoring and analysis is undertaken as part of the Full Development Applications phase of this development. The development application should combine the experience of a motorsport acoustics professional and a local noise consultant who can prepare the development application in line with local standards.

11. AIR QUALITY

11.1 INTRODUCTION

The purpose of this Section is to provide a legislative review of applicable statutory thresholds for air quality, noise and vibration. To inform this technical assessment a desktop review of the Commonwealth, State and Local Government environmental planning considerations relevant to (and within proximity of) the Site has been undertaken. This includes a literature review of relevant resources to assist in the application of various guidelines and limitations.

The following information outlines the Commonwealth, State and Local planning framework for air quality, noise and vibration as it applies to the Project.

11.2 GENERAL METROLOGICAL FACTORS

Metrological factors for the area must be considered when considering air quality and air quality thresholds, and the following factors must be further considered to understand the specific chemical composition from the emission source into the environment:

- Wind speed and direction
- Temperature
- Humidity
- Rainfall
- Solar radiation

According to the Queensland Department of Transport and Main Roads, average pollutants caused by vehicle exhausts include:

- Carbon dioxide (av 182g/km/vehicle)[17]
- Carbon monoxide (av 182g/km/vehicle)[1],

[17] Source: https://www.greenvehicleguide.gov.au/pages/Information/VehicleEmissions

- nitrogen oxides (av 21mg/km/vehicle)[18],
- particles (not determined as part of this assessment),
- volatile organic compounds (not determined as part of this assessment) and
- sulfur dioxide (av 50mg/km/vehicle)[2].

Hydrocarbons and nitrogen oxides react with sunlight and warm temperatures to form ground-level ozone.[19]

11.3 COMMONWEALTH LEGISLATIVE REVIEW

11.3.1 National Environment Protection (Ambient Air Quality) Measure 2013

The purpose of the *National Environment Protection (Ambient Air Quality) Measure 2013* (**NEPM**) is to achieve an ambient air quality that allows for adequate protection of human health and well-being. The NEPM has reporting requirements which are submitted through the National Environment Protection website.

The Queensland Government has the primary responsibility under the NEPM to undertake monitoring and measuring of air quality against the national ambient (outdoor) air quality standards (refer Table 19 below).

Due to the nature of the Project, and the size and scale of the development, It is not anticipated that any aspect of the Project will trigger reporting requirements under the NEPM.

[18] Source: https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle#:~:text=typical%20passenger%20vehicle%3F-,A%20typical%20passenger%20vehicle%20emits%20about%204.6%20metric%20tons%20of,8%2C887%20grams%20of%20CO2.

[19] TMR: 2020: available: https://www.tmr.qld.gov.au/Community-and-environment/Environmental-management/How-you-can-make-a-difference/Motor-vehicle-pollution.aspx

Column 1 Item	Column 2 Pollutant	Column 3 Averaging period	Column 4 Maximum concentration standard	Column 5 Maximum allowable exceedances
1	Carbon monoxide	8 hours	9.0 ppm	1 day a year
2	Nitrogen dioxide	1 hour 1 year	0.12 ppm 0.03 ppm	1 day a year None
3	Photochemical oxidants (as ozone)	1 hour 4 hours	0.10 ppm 0.08 ppm	1 day a year 1 day a year
4	Sulfur dioxide	1 hour 1 day 1 year	0.20 ppm 0.08 ppm 0.02 ppm	1 day a year 1 day a year None
5	Lead	1 year	0.50 $\mu g/m^3$	None
6	Particles as PM_{10}	1 day 1 year	50 $\mu g/m^3$ 25 $\mu g/m^3$	None None
7	Particles as $PM_{2.5}$	1 day 1 year	25 $\mu g/m^3$ 8 $\mu g/m^3$	None None

Table 19 - Standards for Pollutants

11.3.2 National Environment Protection (National Pollutant Inventory) Measure 1998

The purpose of the *National Environment Protection (National Pollutant Inventory) Measure 1998* (**NPI Measure**) is to provide for the maintenance and improvement of ambient air quality and ambient water quality; the reduction of environmental impacts associated with hazardous wastes; and the improvement in the sustainable use of resources.

The closest facility listed on the National Pollutant Inventory (**NPI**) is identified as the Gracemere Sewerage Treatment Plant approximately 8 km north of the Site. While it is noted that there is no listing of any similar facilities on the NPI, **further assessment is recommended detailing the emission thresholds and the Motor S o t ci it reporting requirements for the NPI.**

11.4 STATE OF QUEENSLAND LEGISLATIVE REVIEW

11.4.1 Environmental Protection Act 1994

The *Environmental Protection Act 1994* (**EP Act**) is the principal environmental regulatory framework for environmental management and protection in Queensland. The EP Act objective is to protect the natural environment and associated ecological systems and processes while allowing for continued sustainable development.

he EP Act re uires the Pro ect's potential environmental impacts to be assessed and that measures be proposed to avoid or minimise any adverse impacts. To achieve this, the EP Act regulates activities that will or may have the potential to cause environmental harm.

11.4.2 Environmental Protection Regulation 2019

The *Environmental Protection Regulation 2019* (**EP Regulation**) supports and supplements the environmental assessment process outlined under the EP Act. It also specifies environmentally relevant activities (**ERA**s) that require approval, associated thresholds, specific approval details and reporting requirements. The EP Regulation considers the Management hierarchy as the key decision-making tool (avoid, recycle, minimise, mitigate).

Chapter 3 and Schedule 2 of the EP Regulation details the requirements for specific activities to be declared as ERAs which include the following potential onsite activities:

- ERA 8- Chemical Storage. The requirement for this ERA will be determined pending identification of onsite storage threshold of dangerous goods or combustible liquids
- ERA 63- Sewerage treatment. The requirement for this ERA will be determined pending finalisation of concept design.

Further Assessment and identification of requirements under the provisions of the EP Regulation are strongly recommended as part of the planning approvals phase of the development. Any required E A's will additionally trigger assessment o all impacts o the activity to mapped Matters of State Environmental Significance (**MSES**).

11.4.3 Environmental Protection (Air) Policy 2019

The Environmental Protection (Air) Policy 2019 (EP Air Policy) identifies environmental values to be enhanced or protected, states indicators and air quality objectives for enhancing or protecting the environmental values, and provides a framework for making consistent, equitable and informed decisions about the air environment. It also specifies air quality objectives in its Schedule 1 which dictates indicators, environmental values, air quality objectives and duration. The relevant emissions from vehicles include carbon monoxide, nitrogen oxide, particulate matter, volatile organic compounds and benzene.[20]

[20] The National Pollutant Inventory includes these substances as emissions that have potential health and environment effects http://www.npi.gov.au/substances/fact-sheets. Motor vehicle pollution is defined by Department of Transport and Main Roads https://www.tmr.qld.gov.au/Community-and-environment/Environmental-management/How-you-can-make-a-difference/Motor-vehicle-pollution.aspx

Column 1	Column 2	Column 3		Column 4	Column 5
Indicator	**Environmental value**	**Air quality objectives**		**Period**	**Days**
		µg/m³ (except where noted)	**ppm (volume/ volume)**		
benzene	health and wellbeing	5.4	0.002	1 year	
carbon monoxide	health and wellbeing	11mg/m³	9	8 hours	1 day each year
nitrogen dioxide	health and wellbeing	250	0.12	1 hr	1 day each year
		62	0.03	1 year	
	health and biodiversity of ecosystems	33	0.016	1 year	

Table 20 - Air Quality Objectives

The air quality objective is determined as an average over the period stated in Table 20, column 4 for the objective. The air quality objectives are prescribed for enhancing or protecting the environmental values in column 2.

An environmental value may still be enhanced or protected if the objective for an indicator is more than the objective in column 3 for the indicator for not more than the number of days in column 5. ***Queensland Government, Guideline: Application requirements for activities with impacts to air, Publication ESR/2015/1840***

The ESR/2015/1840 focuses on the types of impacts that ERAs can have on air and instructs the information to be provided to the Department of Environment and Science (**DES**) as part of the ERA Assessment process.

Preliminary identification of sensitive land uses (refer **Attachment D1**) has indicated 36 dwellings are within 2km of the boundary of the site. Assessment of the possible impacts from the proposed development will be required as part of ERA application should it be determined that these are required.

11.5 ROCKHAMPTON REGION PLANNING SCHEME (ROCK E PLAN) 2015

The Rockhampton Region Planning Scheme (RRPS) Part 3, Section 3.4, sub-category 3.4.7 relates to Air, Noise and Hazardous Materials. The specific outcomes are as follows:

1. The health, well-being, amenity and safety of communities and individuals are protected from the impacts of air, noise and odour emissions, and hazardous materials.
2. The interface between land zoned for industry and zones that contain or planned to contain future sensitive land use(s) is planned to protect the amenity and well-being of residents and to support and protect industrial uses in areas identified in the settlement pattern for industrial development. In particular, the planning of the Gracemere industrial area provides for the long-term separation of higher order industries from the future development of sensitive land use(s).
3. Development is avoided on land which is already contaminated unless rehabilitated.
4. Development involving the storage and handling of hazardous materials is appropriately located, designed and constructed to minimise health and safety risks to communities and adverse impacts on the environment.

There are no specific Planning scheme codes that trigger assessment as a result of the Project, however, it is strongly recommended that consultation with Rockhampton Regional Council and relevant community groups is undertaken as a matter of priority to determine impacts to sensitive land uses and preferred management/ mitigation measure.

11.6 SUMMARY AND RECOMMENDATIONS

The operational phase of the development will be required to meet the provisions for air quality with respect to the concentration of vehicles. it is recommended to undertake an air quality assessment to determine whether the Project can adequately satisfy the air quality thresholds with respect to Table 19. The volume of emissions from the vehicles may require management of some description to reduce the emissions.

- It is **strongly recommended that an Air Quality Assessment with recommended control measures** detailed is undertaken once finalisation of preliminary design is complete (Prior to Development Assessment). Modelling is recommended to verify the effectiveness of controls. Consideration of the NPI should be undertaken as part of this assessment.

- It is **strongly recommended that a Noise Impact Assessment**, including monitoring and analysis is undertaken as part of the Applications phase of the Project.
- **Further Assessment and identification of requirements under the provisions of t e e tion o** are strongly recommended as part of the planning approvals phase of the development.
- **Consultation is undertaken with Council and applicable local community groups** to determine unidentified points of impact and to understand desired management/mitigation measures.

12. GEOTECHNICAL

12.1 INTRODUCTION

A geotechnical investigation has been undertaken at the site on 21 July 2020 by Cardno (Qld) Pty Ltd. A draft report dated on 27 July 2020 is included in Attachment E1. The purpose of this section is to establish if any technical constraints identified within the preliminary geotechnical investigations have any bearing on the feasibility of plans being developed for the motor precinct and to provide options and outline recommendations for surface build up and materials and structures to be used in the precinct.

Figure 61 - Borehole locations

12.2 SCOPE OF WORK

The geotechnical investigation comprised both field testing and laboratory testing of samples obtained at 6 locations across the site.

The investigations included:

- Six (6no.) boreholes to 5m below ground level (refer to Figure 61)
- Standard penetration tests at 1.5m intervals within the boreholes
- Laboratory testing for:
    - Atterberg Limts incl. Linear Shrinkage
    - Particle Size Distribution
    - Shrink Swell
    - Consolidated Undrained (CU) Triaxial

12.3 GEOTECHNICAL INVESTIGATION SUMMARY FINDINGS

The investigation examined the following aspects and, when considering the proposed development of the motor precinct, offers a number of tentative conclusions that on the whole do not present any major cause for concern regarding the feasibility of development on the site.

12.3.1 Current surface condition

Generally ground cover consisted of grasses with sporadic low density tree growth. A creek traverse the site bearing north-south towards which tree growth increases. The watercourse cuts the site approximately 2m below surface level and was dry at the time of investigation. There is some evidence of cobble sized material within the creek bed and over the levee banks, indicating flood has occurred recently. The site generally drains towards this feature from both the east and the west.

12.3.2 Regional Geology

Geological maps indicate the site is likely comprised of Quaternary alluvial gravel, sand ,silt and clay.

12.3.3 Subsurface conditions

A table summarising the material encountered at the test locations within the report is provided below in Figure 62.

Location	Clayey SILT	CLAY	Sandy CLAY / Gravelly Sandy CLAY	Sandy Silty CLAY / Silty CLAY	Sandy GRAVEL / Sandy Clayey GRAVEL	Gravelly SAND / Gravelly Clayey SAND
BH01	0.00-0.20	0.20-2.70	4.10-5.20	5.20-6.45* 2.70-4.10		
BH02	0.00-0.10	0.10-3.30			3.30-5.62	5.62-6.00*
BH03	0.00-0.10		0.10-1.40			1.40-2.50*
BH04	0.00-0.10		0.10-0.90			0.90-3.45*
BH05	0.00-0.05				1.65-1.93*	0.05-1.65
BH06	0.00-0.05	0.05-1.40 2.40-3.20		3.20-4.00		1.40-2.40 4.00-6.36*

Figure 62 - Summary of Strata[21]

12.3.4 Groundwater

Ground water was not encountered in the boreholes during the investigation, however it is noted in the report there is likely to be seasonal variations in the water table depth. It is recommended that monitoring is understand to investigate the presence of seasonal ground water, which may have a bearing on the design and landscape.

12.3.5 Laboratory Test Results

The report also notes that laboratory testing results have not yet been released by the laboratory at the time of publishing the report. It is recommended that these results be obtained in due course in order to address, in particular, the potential for expansive soils in the design, which may introduce additional but manageable factors into the design.

12.3.6 Site Reactivity and Classification

The report notes that on the basis of the results from the field investigation, the site in its current state would likely to be classed **Class S** with expected movement in the region of 0-20mm. This low level of reactivity suggests a manageable amount of ground movement that can be accommodated in the foundation designs for the tracks and buildings.

Site Class	Site Classification Description	Characteristic surface movement (ys) mm
A	Most sand and rock sites with little or no ground movement from moisture changes	
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes	0 - 20mm
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes	20 - 40mm
H1	Highly reactive clay sites, which may experience high ground movement from moisture changes	40 - 60mm

21

H2	Highly reactive clay sites, which may experience very high ground movement from moisture changes	60 - 75mm
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes	> 75mm
P	Sites which include filled sites (refer to AS 2870-2011), soft soils, such as soft clay, silt or loose sands; landslip; mine subsidence; collapsing soils; soils subject to erosion; reactive sites subject to abnormal moisture conditions; tree affected; fill containing deleterious materials (wood, metal, plastic) or in a marine environment.	

Table 21 - Site Reactivity Classification (AS 2870)

12.3.7 Foundation Design

The report indicates that both shallow or deep footings could be considered for the project, and that consideration should also be given to settlement, which can result from the self-weight of the soil, or loading on top of the soil from additional fills or structures.

Settlement of sanding soils is likely to occur more quickly, whereas on cohesive soils it can take longer. The nature of the soils and strata identified in the investigation suggest that it is likely to be prone to settlement and it is recommended that ground improvements to improve enhance the stability of the soils be considered.

In particular for the race circuit, drag strip and other paved tracks of the masterplan, it is recommended that, during the design development phase, further consideration is given to the combination of ground improvement and pavement structure and material specification chosen for the tracks in order to minimise excessive settlement and risk of cracking and surface failure on the high specification racing surfaces, whose smoothness, texture and condition will be crucial to their viability.

12.3.8 Earthworks

The report suggests that the gravelly sand located on site to be suitable for re-use, which should enable volumes of imported and exported material to be reduced, subject to adequate quality controls.

It is also noted that the excavatability of the subsoil materials ranges from Class 1 to 3 in the Kirstens Classification System.

Material Type	Material Excavation Classification (1)		Description of excavatability
	Class	Class index boundaries	
Soil / Detritus	1	N <0.01	Hand spade
	2	0.01<N<0.1	Hand pick and spade
	3	0.1<N<1.0	Power tools
Rock	4	1.0<N<10	Easy ripping
	5	10<N<100	Hard ripping
	6	100<N<1,000	Very hard ripping
	7	1,000<N<10,000	Extremely hard ripping/blasting
	8	N <10,000	Blasting

Table 22 - Kirsten Classification System

12.3.9 CBR

The geotechnical investigation included DCP testing and correlation to approximate the California Bearing Ratio (CBR) at each of the testing sites. The CBR is primarily undertaken to provide data for road pavement design, with a result presented in % that signifies the strength of the subsurface soils compared with that of a standardised crushed rock.

For highway and track pavement design, typically a lower threshold CBR of between 2-3% is used below which soil stabilisation or other ground improvements are strongly recommended below the proposed the road structure. Above this threshold, a range of options are available for varying depths of capping, subbase and pavement depth overall to cater for the inherent strength of the soils. Generally, the higher the sub-grade CBR, the lesser the thickness of the pavement structure required, although other factors such as potential settlement should still also be considered in the design.

As can be seen from the CBR results from the investigation (Figure 63), the results indicate a CBR of at least 6% in all areas except 1 (BH06). It would be recommended to undertake further investigations as part of the detailed design stage to ensure that the suitability of the ground strength and stiffness is identified at further locations in key locations relevant to the design in order to determine appropriate ground treatment and foundation designs, and to identify localise variations in the CBR to ensure that critical assets such as the tracks are constructed to within acceptable tolerances of the specification.

Location	Depth (mm)	Approximate CBR (%)
BH01	0-900	15-25
	900-2400	6-10
BH02	0-400	6-10
	400-1600	10-15
	1600-1800	15-25
BH03	0-200	10-15
	200-1200	15-25
BH04	0-300	10-15
	300-1000	15-25
BH05	0-100	10-15
	100-300	15-25
	300-900	25-35
BH06	0-200	10-15
	200-600	6-10
	600-800	4-6
	800-1100	6-10
	1100-1400	15-25

Figure 63 – In Situ CBR Results

12.4 PROPOSED SURFACE BUILD UP

For the primary track surfaces, a range of different pavement designs and surfaces will be needed that will reflect the design surface characteristics and CBR of the soils. The design of each of the surface build ups should be undertaken at the detailed design stage, but the following provides an indication of the typical depths for each of the main features on the site:

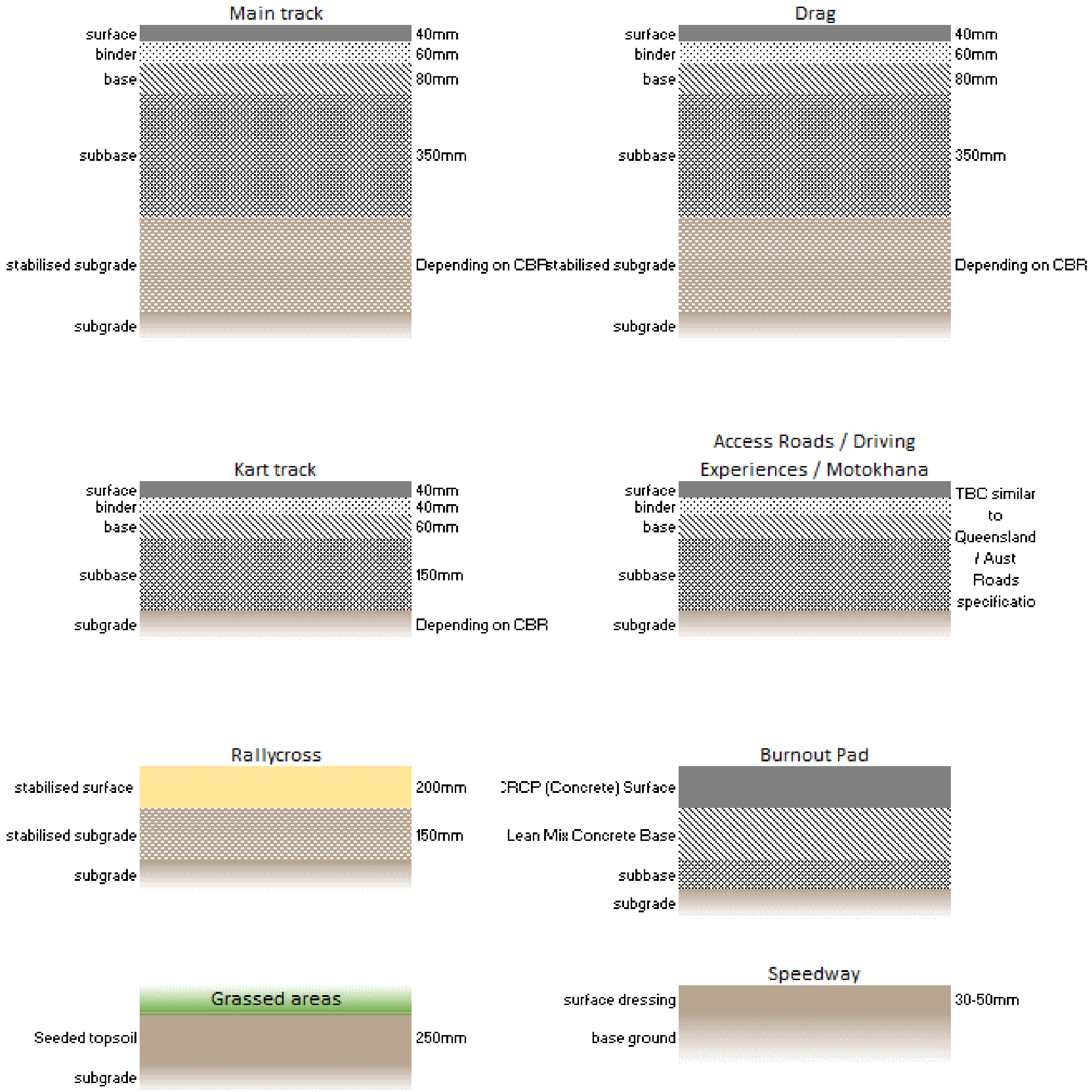

Figure 64 - Track Build Up Assumptions

12.5 SUMMARY AND RECOMMENDATIONS

- Obtain outstanding laboratory test results and establish risk of expansive soils and determine appropriate mitigation during the detailed design stage
- During the detailed design stage undertake further ground investigation in targeted locations associated with the designs to inform the design of building and track foundations
- Development of all track specifications to generally be based on enhanced versions of Queensland Transport and Main Roads Specifications. For example enhanced construction tolerances to meet FIA and Sanctioning Body guidelines. Enhancements often include:
    - Grip levels
    - Flatness
    - Texture depths
    - Transverse and longitudinal profile compliance
    - Enhanced asphalt mix design (modified binders, stiffness)
- Early contractor engagement with contractors that have experience of high standard highways or racetracks is recommended along with investigations into material sources.

13. ATTACHMENTS

ATTACHMENT A1 - SITE PLAN

VB - Viewing Bank (grass terracing)
WS - Water Store

1 - Vegetation Buffers
2 - Parking
3 - Vegetation and bank
4 - Storage Area
5 - Camping Area

6 - 3.1 km Road Course, clockwise
7 - Pit Building
8 - Paddock / Parking
9 - Helipad
10 - Medical Centre
11 - Support Pit Lane
12 - Burnout Pad
13 - Private Car Storage
14 - Motorkhana, 100 x 60 m
15 - Rallycross starting grid / paddock
16 - Rallycross Circuit, integrated within West Circuit
17 - 1/8 mile Drag Strip
18 - Drag Strip paddock
19 - Drag Strip sign-in building

20 - Main Entrance
21 - Easement Access Route
22 - Pedestrian Links

23 - Speedeay, Solos, Juniors (outer to inner)
24 - Grandstand
25 - Supercross Track
26 - Motocross PeeWee track
27 - Mudsportz
28 - 4x4 / Mud Sports
29 - BMX track
30 - Storage
31 - Speedway Pit Entry / Exit
32 - Paddock / Parking

33 - Welcome Centre Building
34 - Remote Control car track
35 - 1.2 km Kart Circuit
36 - Kart Control Room
37 - Road Safety driver training space
38 - Kick Plate
39 - Skid Pad

40 - Secondary Entrance

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NOTES

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Revision Details	By / Check	Date	Suffix
Viewing bank to North West amended	GN/BW	16/11	J
Change to track run-offs and sheds	GN/BW	11/11	I
Change to T1 and Storage Sheds	GN/BW	05/11	H

Purpose of Issue
For Information

Client
Rockhampton Regional Council

Project Title
Rockhampton Motorsports Precinct

Drawing Title
Site Plan

Designed	Drawn	Checked	Approved	Date
GN	MB	GN	BW	16/11

Project No.	Suitability
L095	For information only

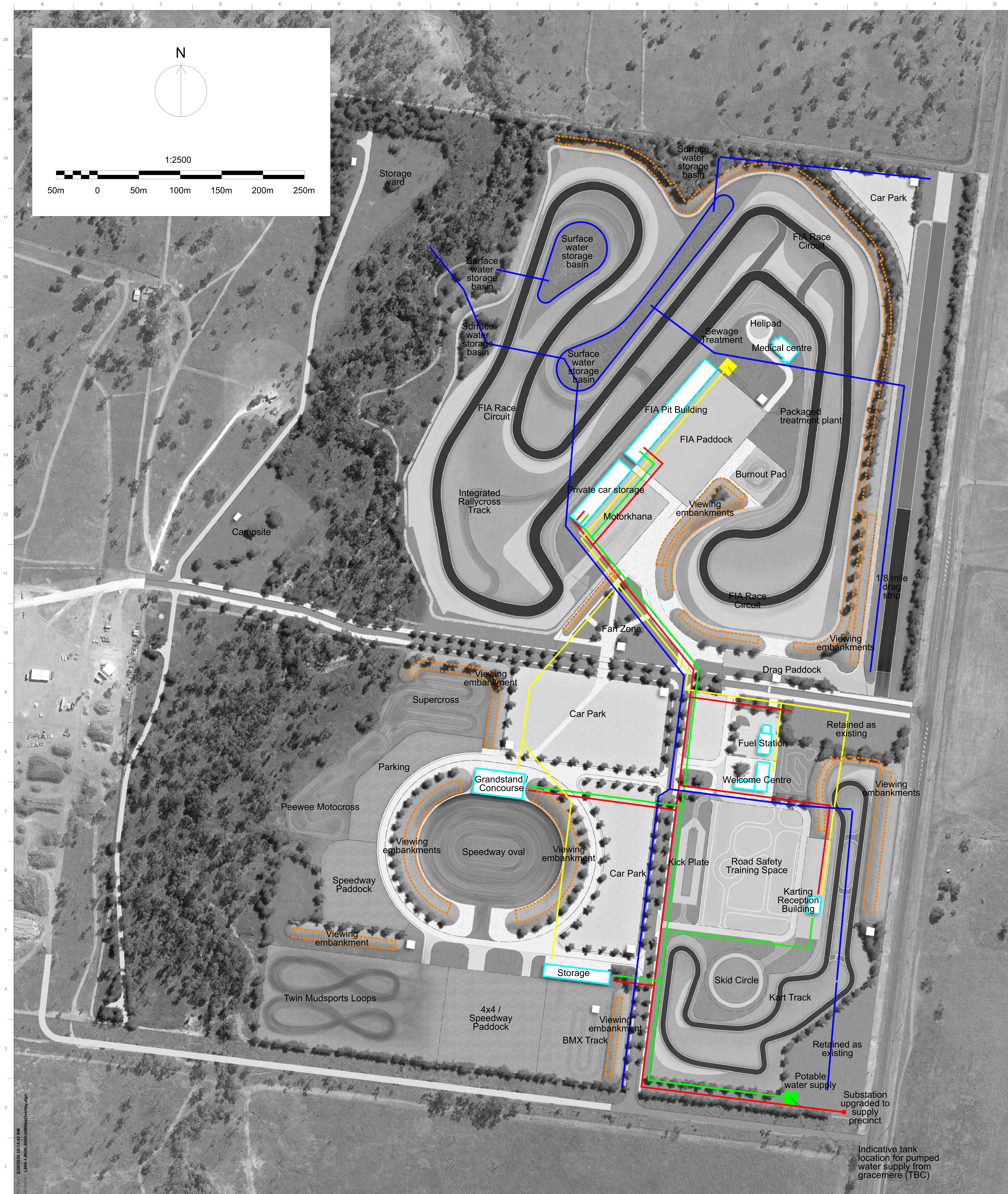
Scale @ A1	Drawing Units	Simulation
1:2500		

Prepared by
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Driven.

Drawing Number	Rev
L095-1-ROK-1001	J

ATTACHMENT A2 – UTILITIES PLAN



Precinct	Element	Plot area	GIFA	External Lighting Lux	External Lighting Load, kW	Building load estimate, W / sqm	Building load estimate, kW	Notes
Off Road Racing Precinct								
	Speedway oval track	20,000		200	**47**	-	-	Based on lighting guide for 200Lux lighting for Australian Rules Football field (similar size)
	Concourse	1,800	1,800	-	-	50	**90**	Office, catering, light retail uses
	Grandstand	1,800	1,800	100	**2**	-	-	Basic lighting provision only
	Supercross	8,600		100	**10**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Peewee motocross	7,900		100	**9**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Twin Mudsports Loop	25,000		100	**29**	-	-	Basic minimum illumination for low light hours (winter evenings)
	4x4 / Speedway paddock	15,000		50	**9**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Speedway paddock	16,000		50	**9**	-	-	Basic minimum illumination for low light hours (winter evenings)
	BMX track	9,500		100	**11**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Clubhouse / Storage	1,200	1,200	-	-	30	**36**	Basic lighting provision only, basic ameneties for clubs (changing rooms / toilets / showers)
Off Road Racing Precinct, Sub Total				**kW**	**127**		**126**	
Road Racing Precinct								
	FIA Race Circuit	250,000		150	**441**	-	-	Basic minimum illumination for low light hours (winter evenings)
	FIA Pit Building	3,000	6,000	-	-	40	**240**	Basic car workshop areas to ground floor, offices, catering, hospitality on upper floor
	FIA Paddock /Parking	12,000		50	**7**	-	-	Basic minimum illumination for low light hours (winter evenings)
	FIA Medical Center	550	550	-	-	50	**28**	Basic fit out, no major medical devices. Offices and first aid bays / resuscitation rooms.
	Helipad	870		-	-	-	-	Assume no illumination required. Very occasional daytime operation only.
	Burnout Pad	2,500		50	**1**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Private car storage	1,800	1,800	-	-	30	**54**	Basic lighting provision only
	Motorkhana Area	6,000		50	**4**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Drag strip	40,600		150	**72**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Drag paddock	5,500		50	**3**	-	-	Basic minimum illumination for low light hours (winter evenings)
Road Racing Precinct, Sub Total				**kW**	**528**		**322**	
Driving Experience Precinct								
	Welcome Center	2,950	775	-	-	50	**39**	Reception, meeting space, light retail and catering
	RC Car Track	2,800		150	**5**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Kart Circuit	47,700		200	**112**	-	-	Allowance for low light hours operation (winter evening use)
	Kart Reception Building	300	600	-	-	50	**30**	Office, catering, light retail uses, changing / WC.
	Kart Paddock	3,400		50	**2**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Road Safety Training Space	16,800		100	**20**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Kick Plate & Skid Pad	11,500		100	**14**	-	-	Basic minimum illumination for low light hours (winter evenings)
	Fuel Station	3,500	475	-	-	-	**30**	Allowance based on 6 pumps, canopy, small kiosk for staff
Driving Experience Precinct, Sub Total				**kW**	**152**		**99**	
General infrastructure								
	Main access roads	28,000		50	**16**	-	-	Basic minimum illumination for security
	Fan Zone	10,000		50	**6**	-	-	Basic minimum illumination for security
	Campsite	12,900		30	**5**	-	-	Basic minimum illumination for security
	Storage Yard	12,700		15	**2**	-	-	Basic minimum illumination for security
General infrastructure, Sub Total				**kW**	**29**		**-**	

SUMMARY		**External Lighting Load, kW**	**Building load estimate, kW**	**Site total load estimate, kW**
ITEM SUB TOTAL	**kW**	**837**	**546**	**1,383**
Demand factor		**75%**	**75%**	
Maximum demand	**kW**	**628**	**410**	**1,038**
Load factor, assumption		**60%**	**40%**	
Average load	**kW**	**377**	**164**	**541**
Coincidence factor		**80%**	**80%**	
Coincidence peak	**kW**	**502**	**328**	**830**

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Mains services

- Water
- Power
- Sewer
- Stormwater
- Non-potable water collection
- Utilities catchment boundary
- Spectator Viewing Area

Revision Details	By / Check	Date	Suffix
Circuit and drag strip updated	RD/BW	02/12	D
Legend Added	JK/BW	25/11	C
Initial Issue	CW/BW	31/08	A

Purpose of issue: Technical Assessment Only

Client: Rockhampton Regional Council

Project Title: Motorsports Precinct

Drawing Title: Utilities Overlay

Designed	Drawn	Checked	Approved	Date
CW	RD	CW	BW	02/12

Project No.: L095 | Suitability: For information only

Scale @ A1: 1:2500 | Drawing Units: | Simulation:

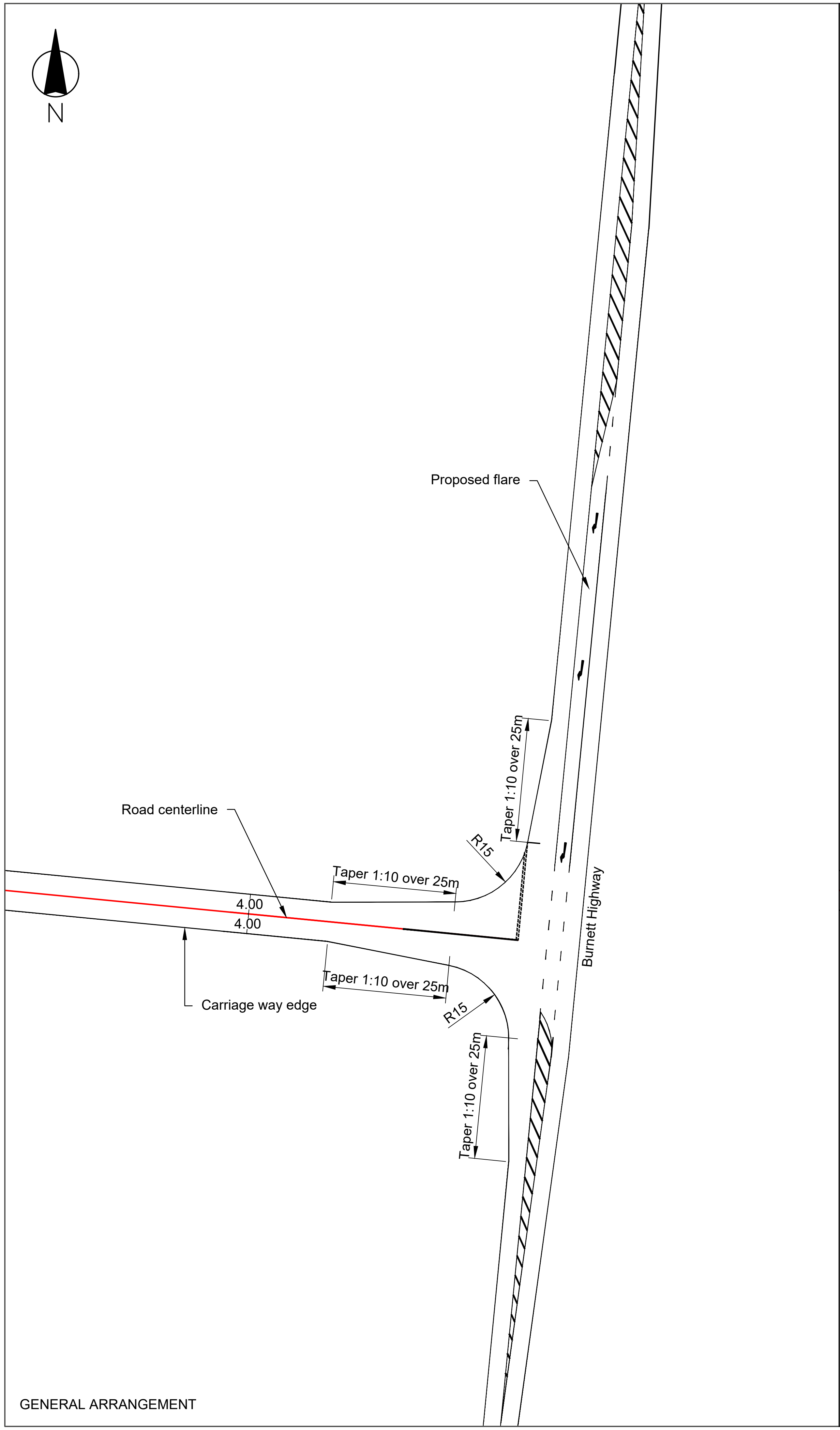
Prepared by
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Driven.

Drawing Number: L095-1-ROK-3000 | Rev: D

ATTACHMENT A3 – PROPOSED SOUTHERN ACCESS CONCEPT

ISO FULL BLEED A3 420 X 297 MM



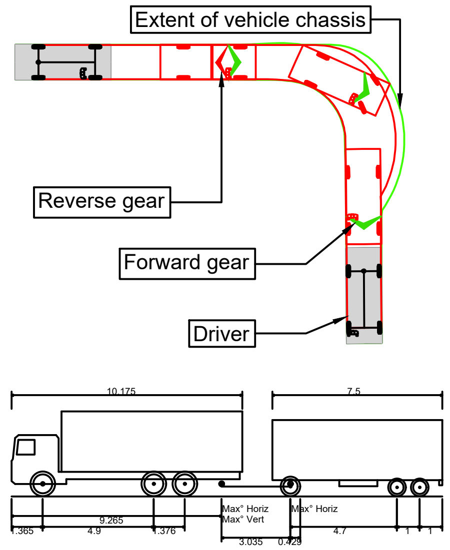
GENERAL ARRANGEMENT

SWEPT PATH ANALYSIS

NOTES

1. Do not scale from this drawing, work to figured dimensions only.
2. Dimensions are in metres unless stated otherwise.
3. This drawing is for discussion purposes only.
4. For swept path analysis a design speed of 20 kph has been used.

KEY



COMMON 3 AXLE RIGID TRUCK & 3 AXLE DOG TRAILER	
Overall Length	19.000m
Overall Width	2.550m
Overall Body Height	3.745m
Min Body Ground Clearance	0.429m
Max Track Width	2.470m
Lock-to-lock time	3.00s
Curb to Curb Turning Radius	10.000m

REV	DATE	REVISION DESCRIPTION / DETAILS	DRN BY	CHKD BY	APRVD BY
-	05/11/20	FIRST ISSUE	AT	LS	YS

momentum
transport consultancy

CLIENT:

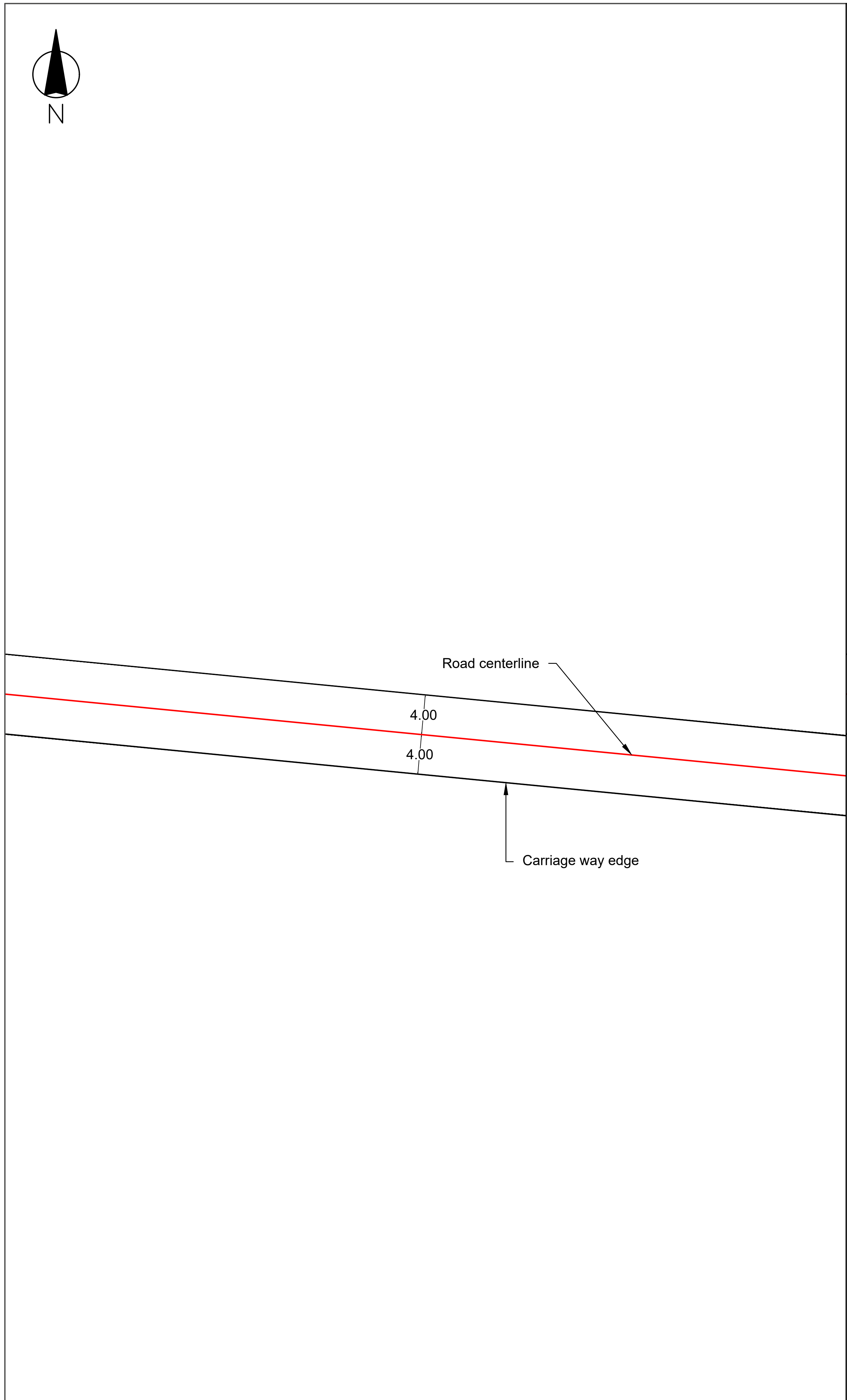
JOB TITLE:
ROCKHAMPTON MOTORSPORTS PRECINCT

DRAWING TITLE:
SOUTHERN ACCESS ROUTE - INTERSECTION WITH BURNETT HIGHWAY

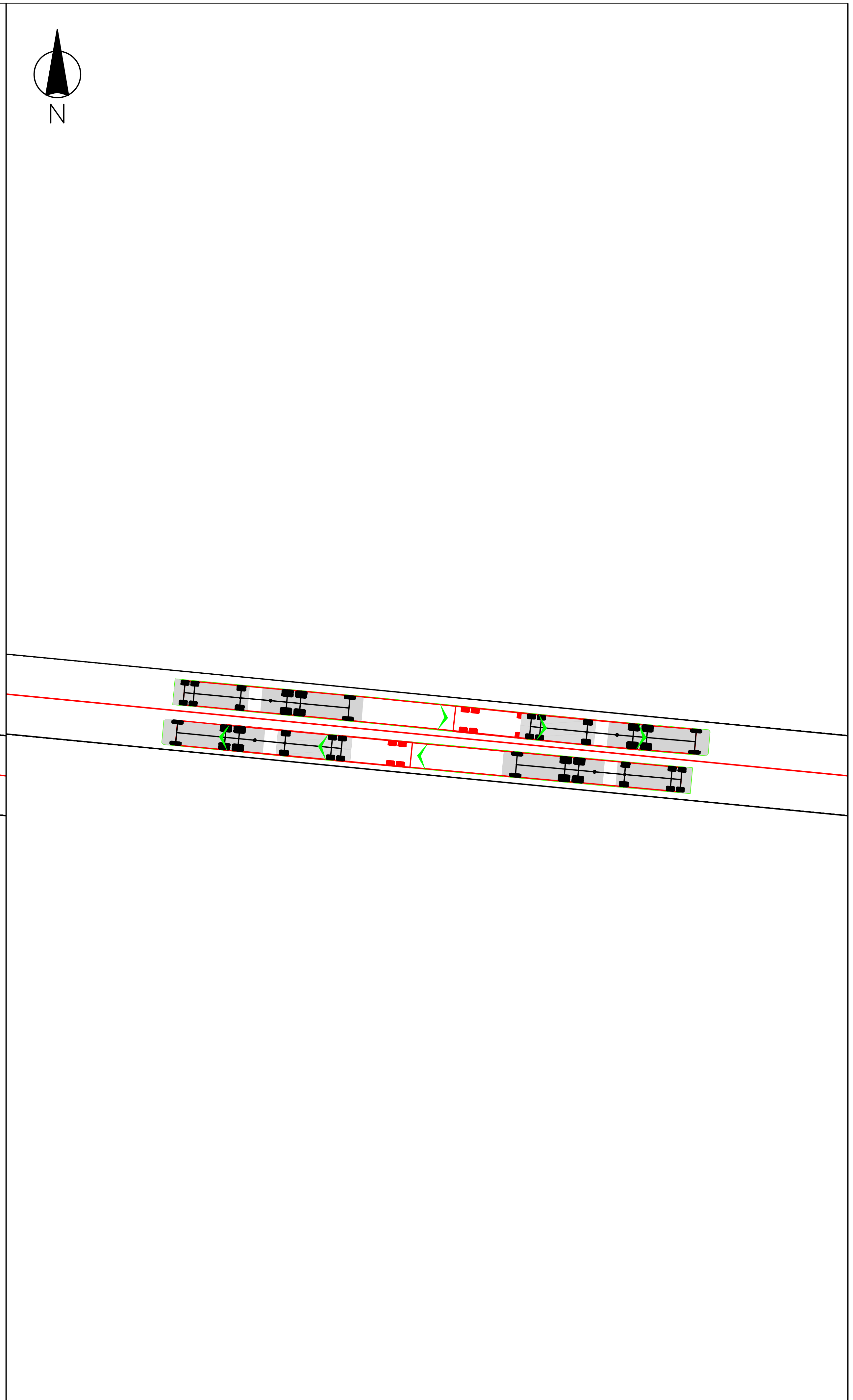
STATUS:
FOR INFORMATON

DRAWING NO: M000834-1-DR-001
REV: A
SCALE AT A3: 1:1000

ISO FULL BLEED A3 420 X 297 MM



GENERAL ARRANGEMENT



SWEPT PATH ANALYSIS

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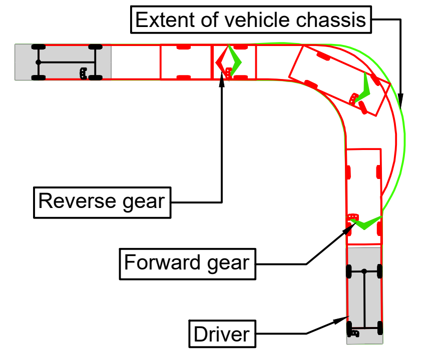
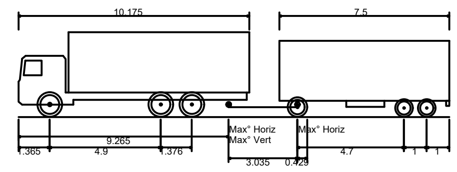
KEY





COMMON 3 AXLE RIGID TRUCK & 3 AXLE DOG TRAILER	
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Overall Width	2.550m
Overall Body Height	3.745m
Min Body Ground Clearance	0.429m
Max Track Width	2.470m
Lock-to-lock time	3.00s
Curb to Curb Turning Radius	10.000m

REV	DATE	REVISION DESCRIPTION / DETAILS	DRN BY	CHKD BY	APRVD BY
-	05/11/20	FIRST ISSUE	AT	LS	YS

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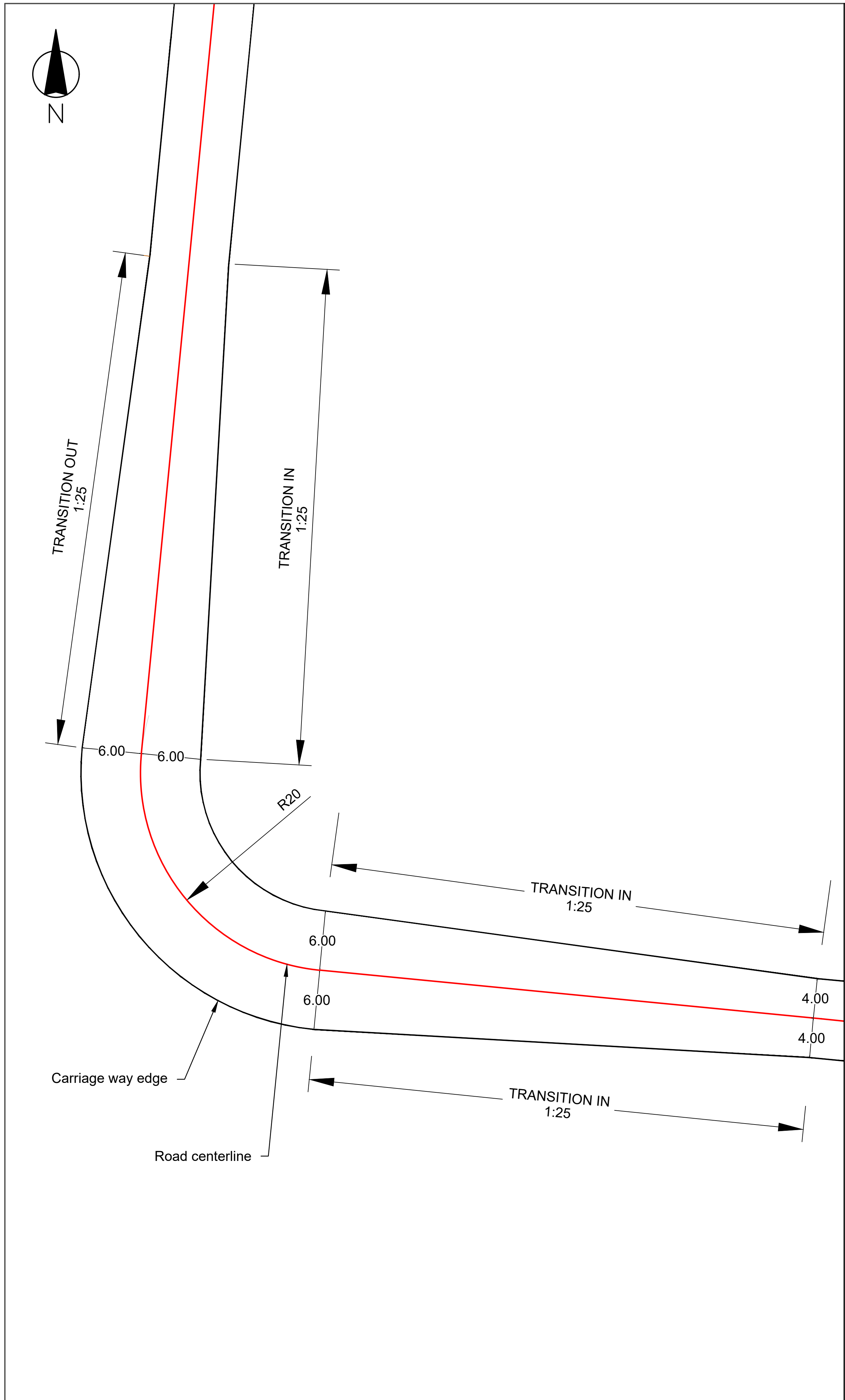
CLIENT:

JOB TITLE:
ROCKHAMPTON MOTORSPORTS PRECINCT

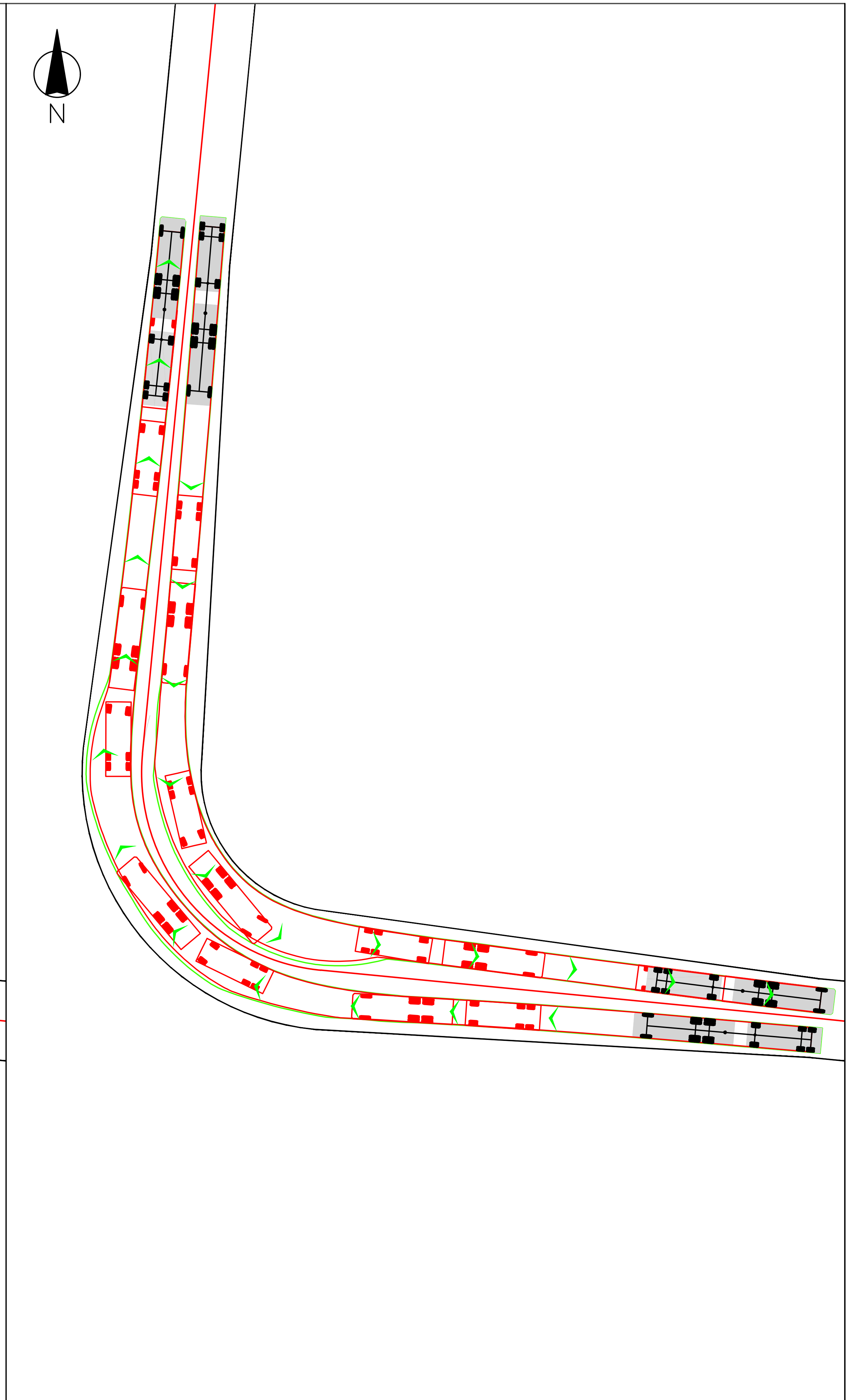
DRAWING TITLE:
SOUTHERN ACCESS ROUTE - STRAIGHT SECTION

STATUS:
FOR INFORMATON

DRAWING NO: M000834-1-DR-002
REV: A
SCALE AT A3: 1:500



GENERAL ARRANGEMENT



SWEPT PATH ANALYSIS

NOTES

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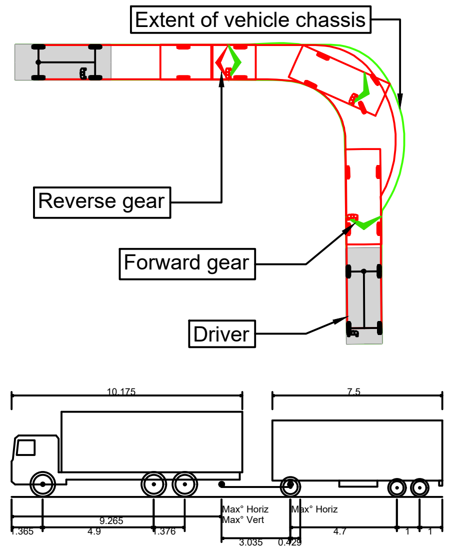
2. Dimensions are in metres unless stated otherwise.
3. This drawing is for discussion purposes only.
4. For swept path analysis a design speed of 20 kph has been used.

KEY



COMMON 3 AXLE RIGID TRUCK & 3 AXLE DOG TRAILER

Overall Length	19.000m
Overall Width	2.550m
Overall Body Height	3.745m
Min Body Ground Clearance	0.429m
Max Track Width	2.470m
Lock-to-lock time	3.00s
Curb to Curb Turning Radius	10.000m

-	05/11/20	FIRST ISSUE	AT	LS	YS
REV	DATE	REVISION DESCRIPTION / DETAILS	DRN BY	CHKD BY	APRVD BY

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transport consultancy

CLIENT:

JOB TITLE:
ROCKHAMPTON MOTORSPORTS PRECINCT

DRAWING TITLE:
SOUTHERN ACCESS ROUTE - CORNER

STATUS:
FOR INFORMATON

DRAWING NO:	REV:	SCALE AT A3:
M000834-1-DR-003	A	1:500

ATTACHMENT A4 – SITE DRAINAGE STRATEGY

A4.1 - Drainage Strategy Plan

A4.2 - Existing Site Sections

A4.3 - Site Sections Key Plan

A4.4 - Key Drainage Route Long Sections

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NOTES

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3. ALL DIMENSIONS, CHAINAGE, LEVELS AND COORDINATES ARE IN METRES UNLESS DEFINED OTHERWISE.
4. THE PURPOSE OF THIS DRAWING IS TO ILLUSTRATE A POTENTIAL GRAVITY DRAINAGE SOLUTION COULD BE POSSIBLE FOR THE SITE. THIS IS REQUIRED AS THE SITE IS RELATIVELY FLAT, WITH THE MAXIMUM DEPTH OF PIPES LIMITED BY THE BED LEVEL OF THE CREEK.
5. BASED ON THIS DRAWING THE SITE STORMWATER COULD BE DRAINED TO BASINS IN THE NORTH SECTION OF THE SITE BEFORE BEING DISCHARGED TO THE CREEK ONCE STORMWATER MANAGEMENT FUNCTIONS WERE COMPLETE.
6. THE PREFFERED DESIGN SOLUTION WILL BE DEVELOPED AS PART OF THE DETAILED DESIGN AND THE FINAL RESULT MAY LOOK SUBSTATIALLY DIFFERENT.
7. PIPE SIZES ARE INDICATIVE TO CHECK THAT SUITABLE DEPTH IS AVAILABLE FOR PIPES TO GENERALLY BE 1.2m+ BELOW GROUND.
8. ALL LEVELS ARE ARE APPROXIMATE AND BASED ON EXISTING GROUND LEVELS FROM THE QUEENSLAND 50cm DEM.

KEY

STORMWATER MANAGEMENT FACILITY (BASIN WITH BIORETENTION)

DRAINAGE SWALE / SILT REMOVAL FEATURE

DRAINAGE SWALE

FLOW DIRECTION ARROW

INDICATIVE SURFACE WATER DRAINAGE PIPE

INDICATIVE SURFACE WATER DRAINAGE PIPE (OFF ROAD ZONE)

Revision Details	By / Check	Date	Suffix
Legend added	CW/RD	25/11/20	B
First Issue	CW/RD	24/11/20	A

Purpose of issue

For Information

Client

Rockhampton Regional Council

Project Title

Motor Precinct

Drawing Title

Concept Drainage Plan

Designed	Drawn	Checked	Approved	Date
CW	CW	RD	RD	Nov 2020

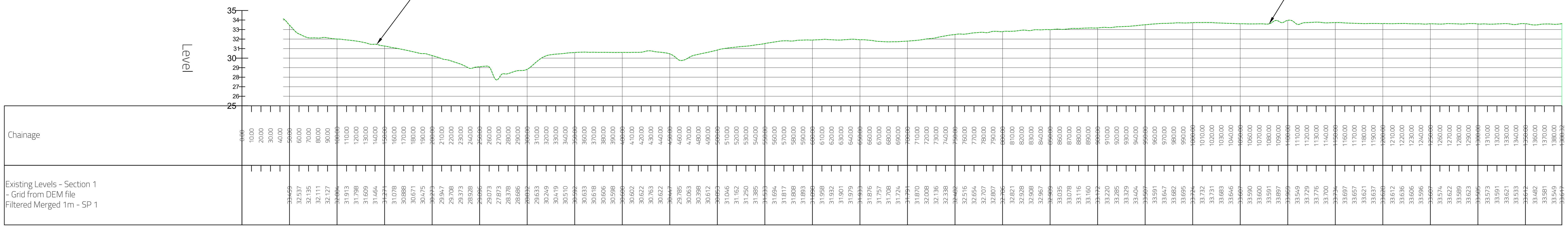
Project No. L095	Suitability For Information
Scale @ A1 1:2500	Zone N/A

Prepared by
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Drawing Number: L095-1-ROK-3500

Rev: B

SECTION 1 - LONGSECTION
SCALE: H 1:2500,V 1:250. DATUM: 25.000



SECTION 2 - LONGSECTION
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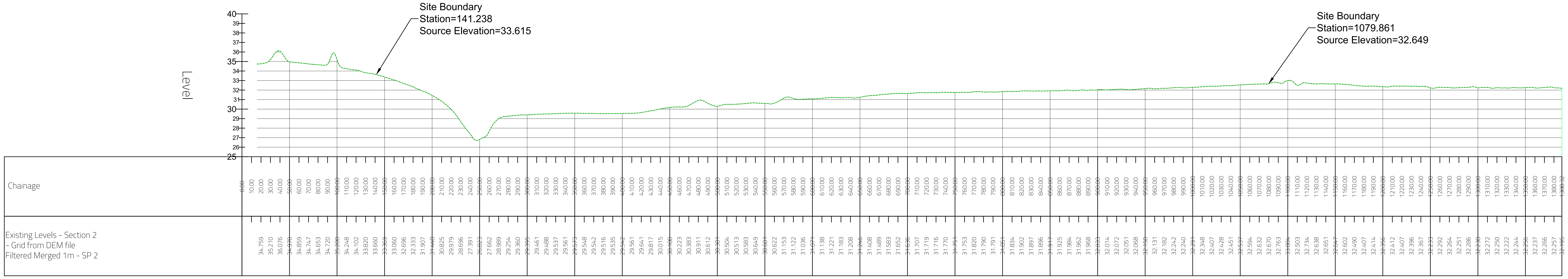

SECTION 3 - LONGSECTION
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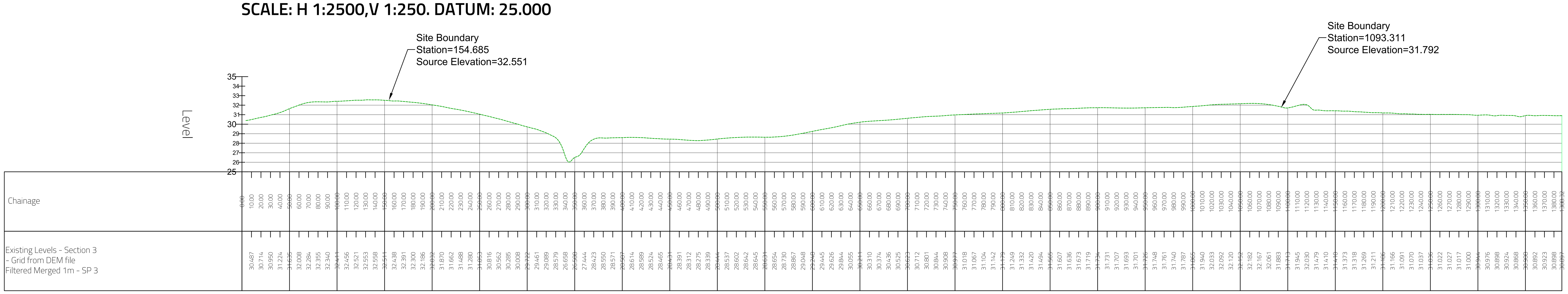

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT STANDARD DETAILS, DRAWINGS AND DOCUMENTATION.
2. DO NOT SCALE FROM THIS DRAWING, USE ONLY PRINTED DIMENSIONS.
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5. ALL LEVELS ARE ARE APPROXIMATE AND BASED ON EXISTING GROUND LEVELS FROM THE QUEENSLAND 50cm DEM.

Revision Details	By / Check	Date	Suffix
First Issue	CW/RD	24/11/20	A

Purpose of issue: **For Information**

Client: **Rockhampton Regional Council**

Project Title: **Motor Precinct**

Drawing Title: **Existing Site Sections Sheet 1 of 3**

Designed	Drawn	Checked	Approved	Date
CW	CW	RD	RD	Nov 2020

Project No.	Suitability
L095	For Information

Scale @ A1	Zone
1:2500	N/A

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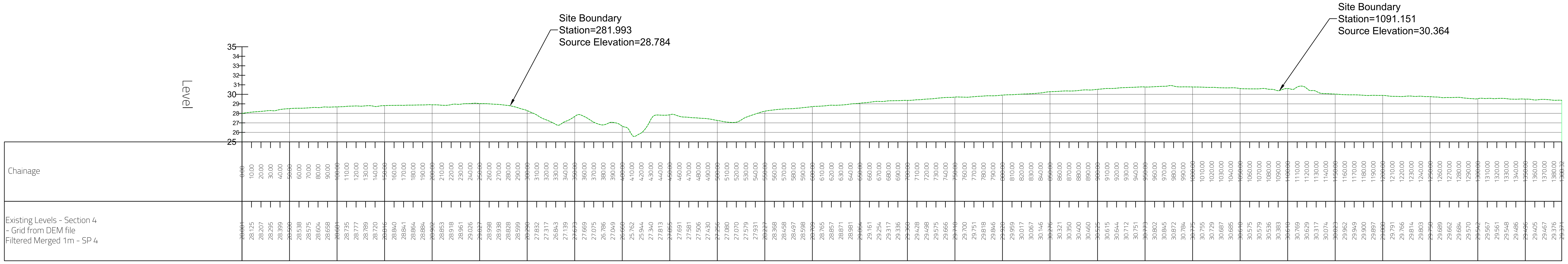
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Drawing Number: **L095-1-ROK-3601** Rev: **A**

SECTION 4 - LONGSECTION
SCALE: H 1:2500,V 1:250. DATUM: 25.000



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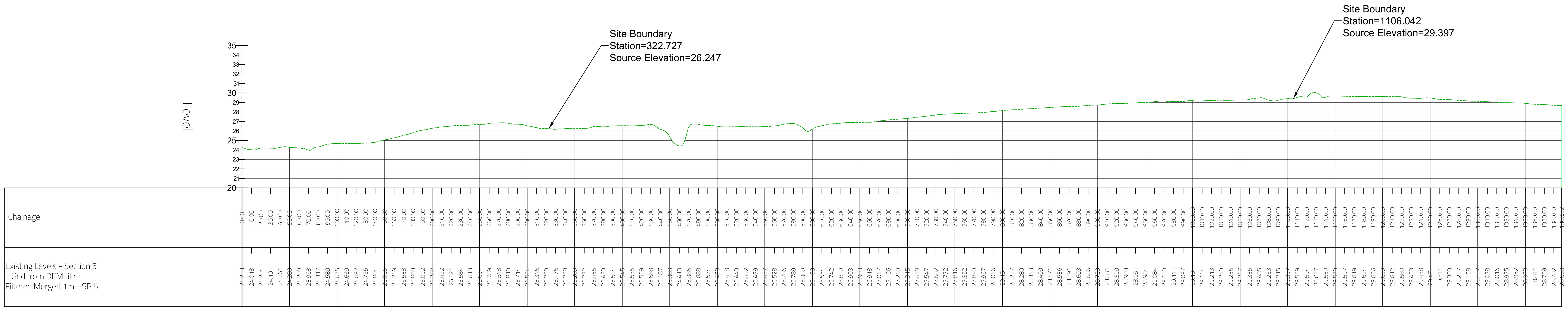
SCALE: H 1:2500,V 1:250. DATUM: 20.000



SECTION 6 - LONGSECTION
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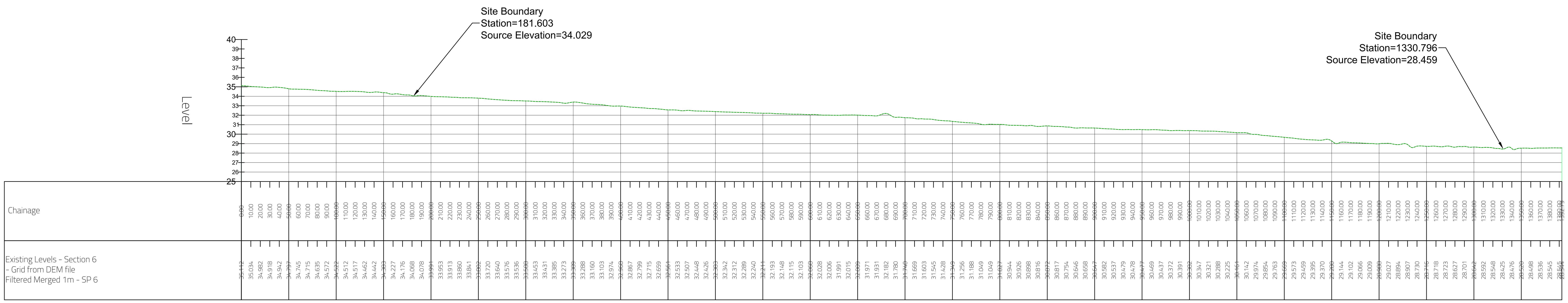

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Revision Details	By / Check	Date	Suffix
First Issue	CW/RD	24/11/20	A

Purpose of issue

For Information

Client

Rockhampton Regional Council

Project Title

Motor Precinct

Drawing Title

Existing Site Sections Sheet 2 of 3

Designed	Drawn	Checked	Approved	Date
CW	CW	RD	RD	Nov 2020

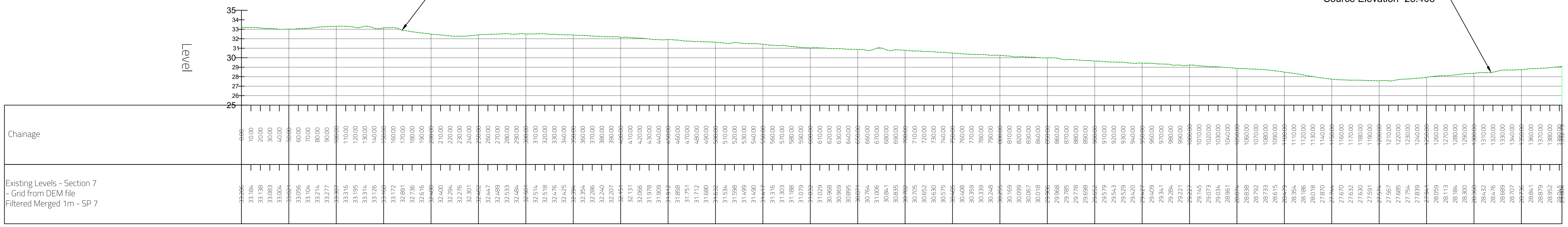
Project No	Suitability
L095	For Information
Scale @ A1: 1:2500	Zone: N/A

Prepared by
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel: +44 1256 767 766
www.driven-international.com

Driven.

Drawing Number	Rev
L095-1-ROK-3602	A

SECTION 7 - LONGSECTION
SCALE: H 1:2500,V 1:250. DATUM: 25.000



SECTION 8 - LONGSECTION
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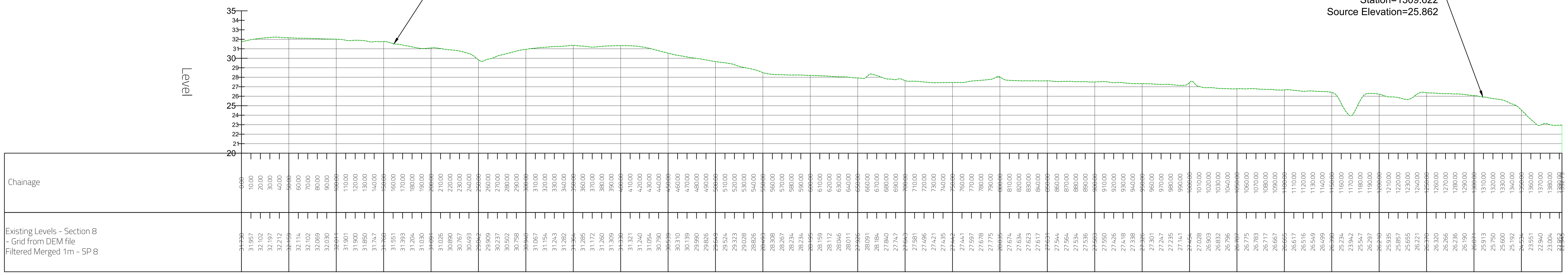

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT.

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Revision Details	By / Check	Date	Suffix
First Issue	CW/RD	24/11/20	A

Purpose of issue: **For Information**

Client: **Rockhampton Regional Council**

Project Title: **Motor Precinct**

Drawing Title: **Existing Site Sections Sheet 3 of 3**

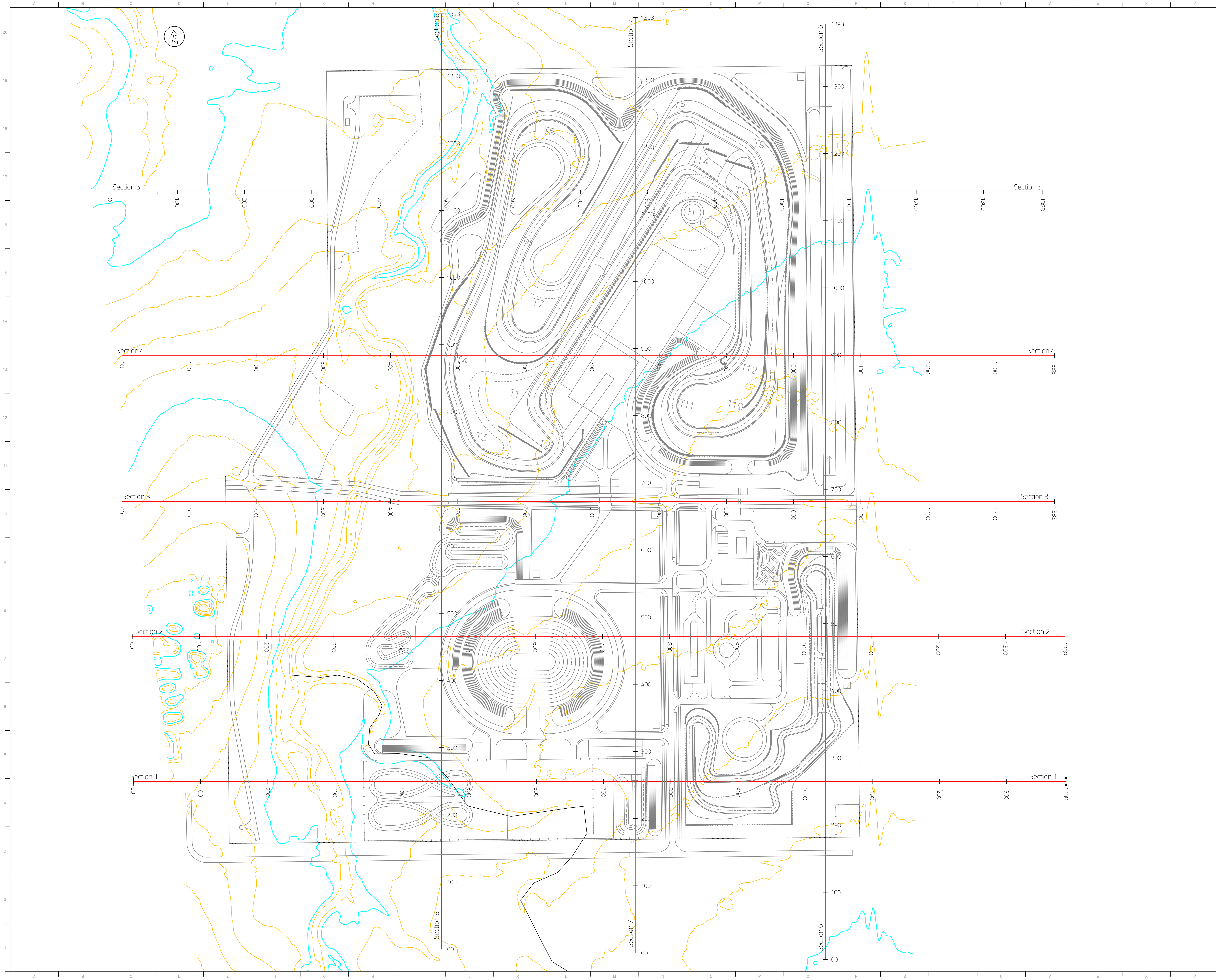
Designed	Drawn	Checked	Approved	Date
CW	CW	RD	RD	Nov 2020

Project No	Suitability
L095	For Information
Scale @ A1	**Zone**
1:2500	N/A

Prepared by
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Driven.

Drawing Number: **L095-1-ROK-3603** Rev: **A**



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Revision Details	By / Check	Date	Suffix
First Issue	First Issue	24/11/20	A

Purpose of issue

For Information

Client

Rockhampton Regional Council

Project Title

Motor Precinct

Drawing Title

Existing Site Sections Keyplan

Designed	Drawn	Checked	Approved	Date
CW	CW	RD	RD	Nov 2020

Project No.	Suitability
L095	For Information
Scale @ A1	**Zone**
1:2500	N/A

Prepared by
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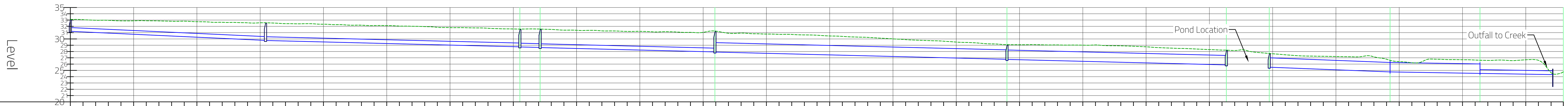
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Drawing Number: L095-1-ROK-3600

Rev: A

EXAMPLE LONGSECTION A
DATUM: 20.000
VERTICAL EXAGGERATION:5.0

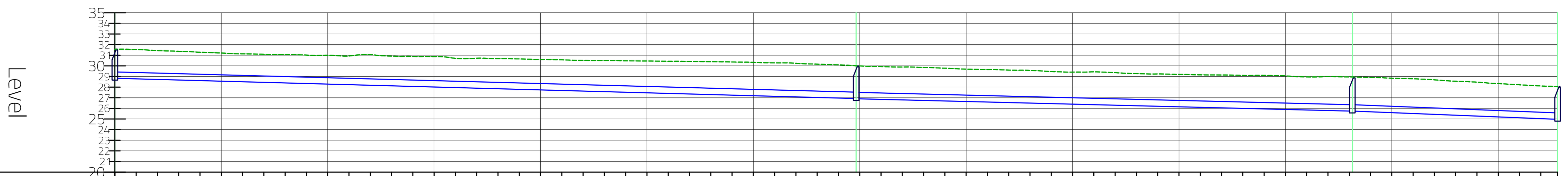


Chainage	Existing Levels - Alignment - (Strategy) - (2) - EG - SP 3
0.00	33.110
10.00	33.055
20.00	32.971
30.00	32.962
40.00	32.874
50.00	32.880
60.00	32.891
70.00	32.865
80.00	32.808
90.00	32.822
100.00	32.741
110.00	32.682
120.00	32.646
130.00	32.627
140.00	32.565
150.00	32.566
160.00	32.531
170.00	32.428
180.00	32.402
190.00	32.421
200.00	32.341
210.00	32.273
220.00	32.195
230.00	32.184
240.00	32.126
250.00	32.121
260.00	32.045
270.00	32.016
280.00	31.965
290.00	31.846
300.00	31.802
310.00	31.796
320.00	31.755
330.00	31.695
340.00	31.618
350.00	31.587
360.00	31.584
370.00	31.578
380.00	31.514
390.00	31.396
400.00	31.376
410.00	31.364
420.00	31.283
430.00	31.269
440.00	31.195
450.00	31.207
460.00	31.133
470.00	31.154
480.00	31.092
490.00	31.044
500.00	31.045
510.00	31.238
520.00	30.905
530.00	30.932
540.00	30.826
550.00	30.774
560.00	30.726
570.00	30.711
580.00	30.643
590.00	30.591
600.00	30.472
610.00	30.406
620.00	30.308
630.00	30.249
640.00	30.124
650.00	30.006
660.00	29.893
670.00	29.795
680.00	29.725
690.00	29.642
700.00	29.501
710.00	29.432
720.00	29.301
730.00	29.205
740.00	29.087
750.00	29.077
760.00	29.091
770.00	29.049
780.00	29.045
790.00	29.027
800.00	29.012
810.00	29.042
820.00	28.929
830.00	28.905
840.00	28.841
850.00	28.750
860.00	28.619
870.00	28.540
880.00	28.483
890.00	28.395
900.00	28.309
910.00	28.229
920.00	28.157
930.00	28.127
940.00	27.821
950.00	27.645
960.00	27.480
970.00	27.331
980.00	27.273
990.00	27.241
1000.00	27.204
1010.00	27.173
1020.00	27.189
1030.00	27.161
1040.00	26.774
1050.00	26.394
1060.00	26.215
1070.00	26.578
1080.00	26.774
1090.00	26.717
1100.00	26.696
1110.00	26.646
1120.00	26.589
1130.00	26.647
1140.00	26.554
1150.00	26.685
1160.00	26.602
1170.00	24.638
1179.68	24.759

Strategy - Pipe Details

Start	Pipe	End
	0.932% L= 154.204 600mm	154.197
32.570	0.500% L= 200.988 600mm	355.183
31.564	0.500% L= 16.006 600mm	371.189
31.570	0.500% L= 138.115 600mm	509.302
31.253	0.500% L= 230.761 1500mm	740.060
29.087	0.500% L= 173.361 1500mm	913.419
28.215		947.315
27.690	0.781% L= 95.458 1500mm	
	0.333% L= 71.067 1500mm	
	0.333% L= 57.498 600mm	1171.334
25.215		

EXAMPLE LONGSECTION B
DATUM: 20.000
VERTICAL EXAGGERATION:5.0



Chainage	Existing Levels - Alignment - (Strategy) - (1) - EG - SP 4
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10.00	31.544
20.00	31.434
30.00	31.372
40.00	31.286
50.00	31.206
60.00	31.127
70.00	31.089
80.00	31.064
90.00	31.011
100.00	30.997
110.00	30.937
120.00	31.049
130.00	30.917
140.00	30.891
150.00	30.872
160.00	30.712
170.00	30.716
180.00	30.681
190.00	30.651
200.00	30.597
210.00	30.570
220.00	30.517
230.00	30.502
240.00	30.480
250.00	30.457
260.00	30.430
270.00	30.412
280.00	30.393
290.00	30.366
300.00	30.330
310.00	30.284
320.00	30.241
330.00	30.160
340.00	30.092
350.00	29.990
360.00	29.932
370.00	29.894
380.00	29.848
390.00	29.781
400.00	29.691
410.00	29.647
420.00	29.602
430.00	29.572
440.00	29.463
450.00	29.412
460.00	29.431
470.00	29.360
480.00	29.273
490.00	29.237
500.00	29.203
510.00	29.158
520.00	29.138
530.00	29.104
540.00	29.104
550.00	29.055
560.00	28.968
570.00	28.987
580.00	28.956
590.00	28.913
600.00	28.837
610.00	28.782
620.00	28.685
630.00	28.554
640.00	28.464
650.00	28.328
660.00	28.216
670.00	28.106
677.91	28.038

Strategy - Pipe Details

Start	Pipe	End
	0.547% L= 348.308 600mm	348.303
30.001	0.500% L= 233.122 600mm	581.422
28.954	0.805% L= 96.489 600mm	

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5. BASED ON THIS DRAWING THE SITE STORMWATER COULD BE DRAINED TO BASINS IN THE NORTH SECTION OF THE SITE BEFORE BEING DISCHARGED TO THE CREEK ONCE STORMWATER MANAGEMENT FUNCTIONS WERE COMPLETE.
6. THE PREFFERED DESIGN SOLUTION WILL BE DEVELOPED AS PART OF THE DETAILED DESIGN AND THE FINAL RESULT MAY LOOK SUBSTATIALLY DIFFERENT.
7. PIPE SIZES ARE INDICATIVE TO CHECK THAT SUITABLE DEPTH IS AVAILABLE FOR PIPES TO GENERALLY BE 1.2m+ BELOW GROUND.
8. ALL LEVELS ARE ARE APPROXIMATE AND BASED ON EXISTING GROUND LEVELS FROM THE QUEENSLAND 50cm DEM.

Revision Details	By / Check	Date	Suffix
First Issue	CW/RD	24/11/20	A

Purpose of issue
Purpose of issue

Client
Rockhampton Regional Council

Project Title
Motor Precinct

Drawing Title
Concept Drainage Connection Check Longsection

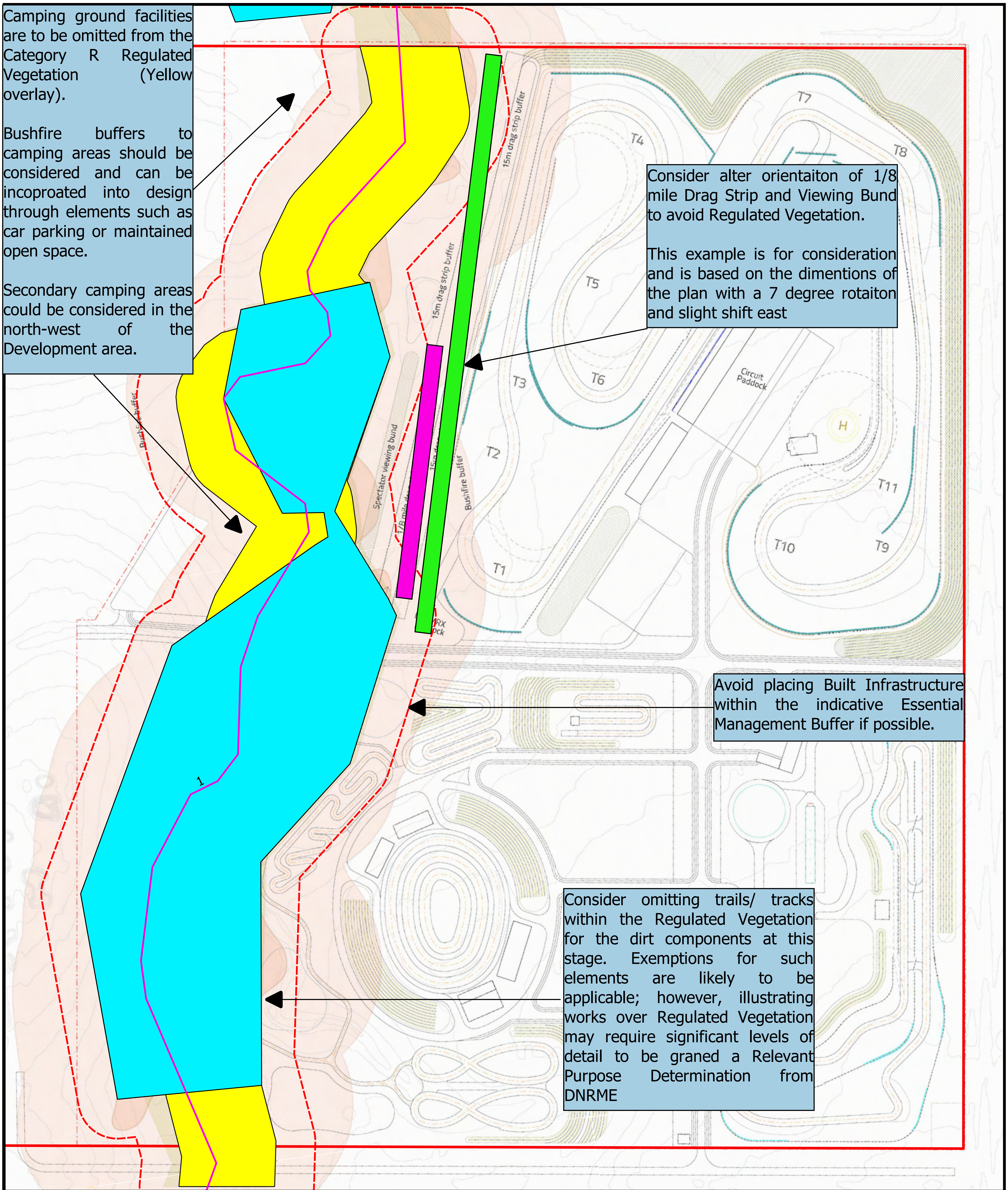
Designed	Drawn	Checked	Approved	Date
CW	CW	RD	RD	Nov 2020

Project No.	Suitability
L095	For Information
Scale @ A1	**Zone**
1:2500	N/A

Prepared by
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Drawing Number	Rev
L095-1-ROK-3510	A

ATTACHMENT B1 – PRELIMINARY MASTERPLAN ENVIRONMENTAL ASSESSMENT



Rockhampton Motor Sports Precinct Master Plan

Attachment 1 - Master Plan Advice

28 South Project Ref: 2020-075

Data Sources: Digital Cadastre Database (Dept. Natural Resources and Mines, 2020); Baseline Roads (DNRME 2020); Waterways (DNRME 2019); Regulated Vegetation (DNRMNE 2020).

28ºS ENVIRONMENTAL

Legend

data Queensland_waterways_for_waterway_barrier_works
- 1
- Category C/ Essential Habitat (Ornamental Snake)
- Category R
- Essential Management Buffer (45m)
- Site

Proposed Development- L095-1-ROK-1002
- Property_boundaries___DCDB_Lite

QLD Globe

100 0 100 200 m

Issue Date	Dwg No.	Author
27 August 2020	2020-008-TSP	MT

Approved	Revision Note
AR	RevA

(A3) GDA 94 MGA 56
1:4,000

N

ATTACHMENT B2 - EPBC PROTECTED MATTERS REPORT

Australian Government
Department of the Environment and Energy

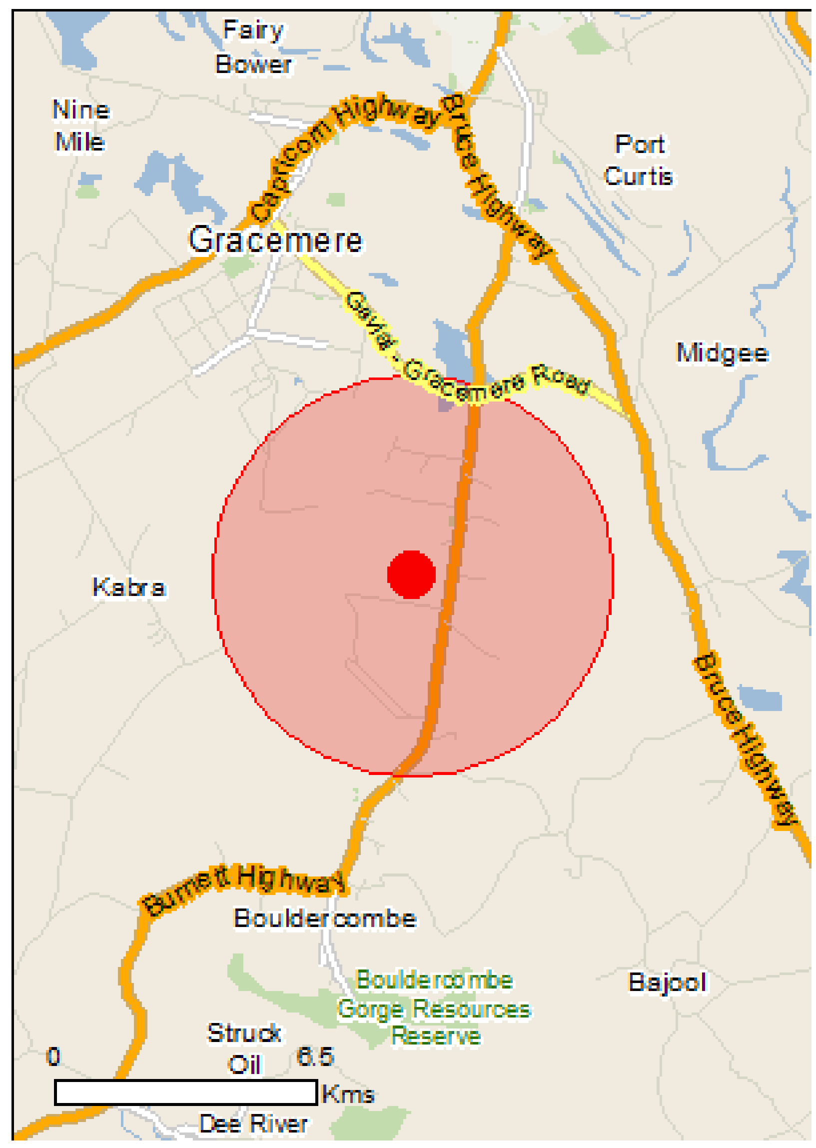
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

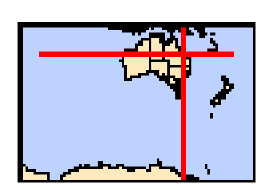
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 24/08/20 11:33:04



Coordinates
Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	31
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	22
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	34
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
Neochmia ruficauda ruficauda Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Poephila cincta cincta Southern Black-throated Finch [64447]	Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus		
Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Macroderma gigas		
Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Nyctophilus corbeni		
Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Plants		
Cossinia australiana		
Cossinia [3066]	Endangered	Species or species habitat may occur within area
Cupaniopsis shirleyana		
Wedge-leaf Tuckeroo [3205]	Vulnerable	Species or species habitat may occur within area
Cycas megacarpa		
[55794]	Endangered	Species or species habitat likely to occur within area
Cycas ophiolitica		
[55797]	Endangered	Species or species habitat known to occur within area
Dichanthium setosum		
bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus raveretiana		
Black Ironbox [16344]	Vulnerable	Species or species habitat may occur within area
Marsdenia brevifolia		
[64585]	Vulnerable	Species or species habitat may occur within area
Phaius australis		
Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Samadera bidwillii		
Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Delma torquata		
Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Denisonia maculata Ornamental Snake [1193]	Vulnerable	Species or species habitat known to occur within area
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
Rheodytes leukops Fitzroy River Turtle, Fitzroy Tortoise, Fitzroy Turtle, White-eyed River Diver [1761]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Marine Species		
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat may occur within area
Reptiles		
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Andropogon gayanus Gamba Grass [66895]		Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
Anredera cordifolia		
Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Cryptostegia grandiflora		
Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]		Species or species habitat likely to occur within area
Eichhornia crassipes		
Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis		
Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Jatropha gossypifolia		
Cotton-leaved Physic-Nut, Bellyache Bush, Cotton-leaf Physic Nut, Cotton-leaf Jatropha, Black Physic Nut [7507]		Species or species habitat likely to occur within area
Lantana camara		
Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Opuntia spp.		
Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata		
Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus		
Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Prosopis spp.		
Mesquite, Algaroba [68407]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii		
Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta		
Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Vachellia nilotica		
Prickly Acacia, Blackthorn, Prickly Mimosa, Black Piquant, Babul [84351]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus		
Asian House Gecko [1708]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-23.50783 150.48577

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Department of the Environment
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

ATTACHMENT B3 - QUEENSLAND GOVERNMENT WILDLIFE ONLINE EXTRACT

Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Status: All
Records: All
Date: All
Latitude: -23.5082
Longitude: 150.4848
Distance: 5
Email: Alissa@28south.com.au
Date submitted: Monday 24 Aug 2020 11:45:08
Date extracted: Monday 24 Aug 2020 11:50:02

The number of records retrieved = 32

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufonidae	*Rhinella marina*	cane toad	Y			1
animals	amphibians	Hylidae	*Litoria caerulea*	common green treefrog		C		1
animals	amphibians	Hylidae	*Cyclorana brevipes*	superb collared frog		C		6/5
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		2
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		1
animals	amphibians	Hylidae	*Cyclorana alboguttata*	greenstripe frog		C		1
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		3/3
animals	amphibians	Hylidae	*Litoria gracilenta*	graceful treefrog		C		1
animals	amphibians	Limnodynastidae	*Limnodynastes tasmaniensis*	spotted grassfrog		C		2
animals	amphibians	Limnodynastidae	*Platyplectrum ornatum*	ornate burrowing frog		C		1/1
animals	amphibians	Limnodynastidae	*Limnodynastes salmini*	salmon striped frog		C		1
animals	amphibians	Myobatrachidae	*Crinia deserticola*	chirping froglet		C		1
animals	amphibians	Myobatrachidae	*Uperoleia rugosa*	chubby gungan		C		3/3
animals	birds	Anatidae	*Dendrocygna eytoni*	plumed whistling-duck		C		1
animals	birds	Anseranatidae	*Anseranas semipalmata*	magpie goose		C		3
animals	birds	Ardeidae	*Ardea intermedia*	intermediate egret		C		1
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		1
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		1
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		SL		1
animals	mammals	Vespertilionidae	*Scotorepens greyii*	little broad-nosed bat		C		1
plants	land plants	Aizoaceae	*Trianthema portulacastrum*	black pigweed	Y			1/1
plants	land plants	Convolvulaceae	*Polymeria sp. (Rockhampton E.R.Anderson 3944)*			C		1/1
plants	land plants	Crassulaceae	*Bryophyllum delagoense*		Y			1/1
plants	land plants	Fabaceae	*Crotalaria verrucosa*			C		1/1
plants	land plants	Goodeniaceae	*Velleia spathulata*	wild pansies		C		1/1
plants	land plants	Malvaceae	*Hibiscus heterophyllus*			C		1/1
plants	land plants	Myrtaceae	*Eucalyptus platyphylla*	poplar gum		C		2/2
plants	land plants	Poaceae	*Aristida calycina var. calycina*			C		1/1
plants	land plants	Poaceae	*Aristida personata*			C		1/1
plants	land plants	Poaceae	*Aristida lazaridis*			C		1/1
plants	land plants	Sapindaceae	*Alectryon connatus*	grey birds-eye		C		1/1
plants	land plants	Verbenaceae	*Lantana camara*	lantana	Y			2/2

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.* The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.* The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens). This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon. This number is output as 999 if it equals or exceeds this value.

ATTACHMENT B4 - VEGETATION MANAGEMENT REPORT

Department of Natural Resources, Mines and Energy

Vegetation management report

For Lot: 713 Plan: LIV40180

Current as at 24/08/2020

Queensland Government

This publication has been compiled by Operations Support, Department of Natural Resources, Mines and Energy.

Recent changes

Updated mapping

Updated vegetation mapping was released on 6 April 2020 and includes the most recent Queensland Herbarium scientific updates to the Regulated Vegetation Management Map, regional ecosystems, wetland, high-value regrowth and essential habitat mapping.

Improvements to the format of the report were made in July 2020 to more clearly delineate the three regulatory frameworks of vegetation management, protected plants and koala habitat protection. The Vegetation Management Pre-clear Regional Ecosystem map was also removed from the Vegetation Management Report but can still be requested as a separate map.

Overview

Based on the lot on plan details you have supplied, this report provides the following detailed information:

Property details - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s) and catchment(s);

Vegetation management framework - an explanation of the application of the framework and contact details for the Department of Natural Resources Mines and Energy who administer the framework;

Vegetation management framework details for the specified Lot on Plan including:

- the vegetation management categories on the property;
- the vegetation management regional ecosystems on the property;
- vegetation management watercourses or drainage features on the property;
- vegetation management wetlands on the property;
- vegetation management essential habitat on the property;
- whether any area management plans are associated with the property;
- whether the property is coastal or non-coastal; and
- whether the property is mapped as Agricultural Land Class A or B;

Protected plant framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework, including:

- high risk areas on the protected plant flora survey trigger map for the property;

Koala protection framework - an explanation of the application of the framework and contact details for the Department of Environment and Science who administer the framework; and

Koala protection framework details for the specified Lot on Plan including:

- the koala district the property is located in;
- koala priority areas on the property;
- core and locally refined koala habitat areas on the property;
- whether the lot is located in an identified koala broad-hectare area; and
- koala habitat regional ecosystems on the property for core koala habitat areas.

This information will assist you to determine your options for managing vegetation under:

- the vegetation management framework, which may include:

- exempt clearing work;
- accepted development vegetation clearing code;
- an area management plan;
- a development approval;

- the protected plant framework, which may include:

- the need to undertake a flora survey;
- exempt clearing;
- a protected plant clearing permit;

- the koala protection framework, which may include:

- exempted development;
- a development approval;
- the need to undertake clearing sequentially and in the presence of a koala spotter.

Other laws

The clearing of native vegetation is regulated by both Queensland and Australian legislation, and some local governments also regulate native vegetation clearing. You may need to obtain an approval or permit under another Act, such as the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Section 9 of this guide provides contact details of other agencies you should confirm requirements with, before commencing vegetation clearing.

Table of Contents

1. Property details

1.1 Tenure and title area

All of the lot, plan, tenure and title area information associated with property Lot: 713 Plan: LIV40180, including links to relevant Smart Maps, are listed in Table 1. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 1: Lot, plan, tenure and title area information for the property

Lot	Plan	Tenure	Link to property on SmartMap	Property title area (sq metres)
713	LIV40180	Freehold	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=713\LIV40180	3,005,800
C	RP618317	Easement	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=C\RP618317	1,575
C	RP617061	Easement	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=C\RP617061	9,262
A	RP610319	Easement	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=A\RP610319	37,250
B	RP617060	Easement	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=B\RP617060	30,390
A	RP610320	Easement	https://apps.information.qld.gov.au/data/cadastre/GenerateSmartMap?q=A\RP610320	122,110

The tenure of the land may affect whether clearing is considered exempt clearing work or may be carried out under an accepted development vegetation clearing code.

1.2 Property location

Table 2 provides a summary of the locations for property Lot: 713 Plan: LIV40180, in relation to natural and administrative boundaries.

Table 2: Property location details

Local Government(s)
Rockhampton Regional

Bioregion(s)	Subregion(s)
Brigalow Belt	Mount Morgan Ranges

Catchment(s)
Fitzroy

2. Vegetation management framework (administered by the Department of Natural Resources, Mines and Energy (DNRME))

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenures under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA. Managing or clearing vegetation on these tenures may require approvals under these laws.

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under Schedule 5 of the Vegetation Management Regulation 2012; and
- a mangrove.

2.1 Exempt clearing work

Exempt clearing work is an activity for which you do not need to notify DNRME or obtain an approval under the vegetation management framework. Exempt clearing work was previously known as exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 4.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work and does not require notification or development approval under the vegetation management framework. For all other land tenures, contact DNRME before commencing clearing to ensure that the proposed activity is exempt clearing work.

A range of routine property management activities are considered exempt clearing work. A list of exempt clearing work is available at
https://www.qld.gov.au/environment/land/vegetation/exemptions/.

Exempt clearing work may be affected if the proposed clearing area is subject to development approval conditions, a covenant, an environmental offset, an exchange area, a restoration notice, or an area mapped as Category A. Exempt clearing work may require approval under other Commonwealth, State or Local Government laws, or local government planning schemes. Contact DNRME prior to clearing in any of these areas.

2.2 Accepted development vegetation clearing codes

Some clearing activities can be undertaken under an accepted development vegetation clearing code. The codes can be downloaded at
https://www.qld.gov.au/environment/land/vegetation/codes/

If you intend to clear vegetation under an accepted development vegetation clearing code, you must notify DNRME before commencing. The information in this report will assist you to complete the online notification form.

You can complete the online form at
https://apps.dnrm.qld.gov.au/vegetation/

2.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing under the vegetation management framework. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

On 8 March 2020, AMPs ended for fodder harvesting, managing thickened vegetation and managing encroachment. New notifications cannot be made for these AMPs. You will need to consider options for fodder harvesting, managing thickened vegetation or encroachment under a relevant accepted development vegetation clearing code or apply for a development approval.

New notifications can be made for all other AMPs. These will continue to apply until their nominated end date.

If an Area Management Plan applies to your property for which you can make a new notification, it will be listed in Section 3.6 of this report. Before clearing under one of these AMPs, you must first notify the DNRME and then follow the conditions and requirements listed in the AMP.
https://www.qld.gov.au/environment/land/vegetation/area-plans/

2.4 Development approvals

If under the vegetation management framework your proposed clearing is not exempt clearing work, or is not permitted under an accepted development vegetation clearing code, or an AMP, you may be able to apply for a development approval. Information on how to apply for a development approval is available at
https://www.qld.gov.au/environment/land/management/vegetation/development

2.5. Contact information for DNRME

For further information on the vegetation management framework:
Phone 135VEG (135 834)
Email vegetation@dnrme.qld.gov.au
Visit https://www.dnrme.qld.gov.au/?contact=vegetation to submit an online enquiry.

3. Vegetation management framework for Lot: 713 Plan: LIV40180

3.1 Vegetation categories

The vegetation categories on your property are shown on the regulated vegetation management map in section 4.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property. Total area: 301.91ha

Vegetation category	Area (ha)
Category B	12.7
Category C	26.4
Category R	23.7
Category X	239.2

Table 4: Description of vegetation categories

Category	Colour on Map	Description	Requirements / options under the vegetation management framework
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	Special conditions apply to Category A areas. Before clearing, contact DNRME to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Exempt clearing work, or notification and compliance with accepted development vegetation clearing codes, area management plans or development approval.
C	light blue	High-value regrowth areas	Exempt clearing work, or notification and compliance with managing Category C regrowth vegetation accepted development vegetation clearing code.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the Great Barrier Reef catchment areas	Exempt clearing work, or notification and compliance with managing Category R regrowth accepted development vegetation clearing code or area management plans.
X	white	Clearing on freehold land, indigenous land and leasehold land for agriculture and grazing purposes is considered exempt clearing work under the vegetation management framework. Contact DNRME to clarify whether a development approval is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A development approval may be required for some State land tenures.

Property Map of Assessable Vegetation (PMAV)

There is no Property Map of Assessable Vegetation (PMAV) present on this property.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 4.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description	Structure Category
11.12.1	Least concern	C	0.56	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.1	Least concern	R	1.40	Eucalyptus crebra woodland on igneous rocks	Sparse
11.3.2	Of concern	B	0.64	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	C	3.82	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.2	Of concern	R	4.28	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.25	Least concern	B	6.99	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	C	1.06	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.25	Least concern	R	0.51	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Sparse
11.3.4	Of concern	B	5.08	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	C	20.92	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.4	Of concern	R	17.48	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
non-rem	None	X	239.18	None	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work;
- accepted development vegetation clearing codes;
- performance outcomes in State Code 16 of the State Development Assessment Provisions (SDAP).

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 4.2.

3.4 Wetlands

There are no vegetation management wetlands present on this property.

3.5 Essential habitat

Protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA), and includes endangered, vulnerable or near-threatened wildlife.

Essential habitat for protected wildlife includes suitable habitat on the lot, or where a species has been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 4.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or
2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

Category A and/or Category B and/or Category C

Table 6: Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
483	Denisonia maculata	ornamental snake	V	Riparian woodland/open forest and shrub/woodland including Brigalow Acacia harpophylla; into drier habitats in summer.	100-450m.	Cracking clay with gilgai/soil crack microrelief and sandy loam substrates.	Near freshwater waterholes/creeks and low lying poorly drained areas that are frequently inundated by freshwater.

Label	Regional Ecosystem (mandatory unless otherwise specified)
483	10.3.2, 10.3.3, 10.3.4, 10.3.7, 10.3.13, 10.3.14, 10.3.15, 10.3.16, 10.3.27, 10.3.30, 10.3.31, 10.4.1, 10.4.2, 10.4.3, 10.4.4, 10.4.5, 10.4.6, 10.4.7, 10.4.8, 10.5.5, 10.9.1. 10.9.6. 10.9.7, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.6, 11.3.9, 11.3.10, 11.3.12, 11.3.15, 11.3.21, 11.3.23, 11.3.24, 11.3.25, 11.3.27, 11.3.28, 11.3.31, 11.3.34, 11.3.37, 11.3.38, 11.3.40, 11.4.2, 11.4.3, 11.4.4, 11.4.6, 11.4.7, 11.4.8, 11.4.9, 11.4.11, 11.5.2, 11.5.3, 11.5.16, 11.8.11, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.7, 11.9.11, 11.9.12, 11.9.14, 11.11.15, 11.12.6

3.6 Area Management Plan(s)

Nil

3.7 Coastal or non-coastal

For the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP), this property is regarded as*

Non Coastal

*See also Map 4.3

3.8 Agricultural Land Class A or B

The following can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code:

Does this lot contain land that is mapped as Agricultural Land Class A or B in the State Planning Interactive Mapping System?

Class A: 51.54ha

Class B: 67.87ha

Note - This confirms Agricultural Land Classes as per the State Planning Interactive Mapping System only. This response does not include Agricultural Land Classes identified under local government planning schemes. For further information, check the Planning Scheme for your local government area.

See Map 4.4 to identify the location and extent of Class A and/or Class B Agricultural land on Lot: 713 Plan: LIV40180.

4. Vegetation management framework maps

Vegetation management maps included in this report may also be requested individually at:
https://www.dnrme.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories needed to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

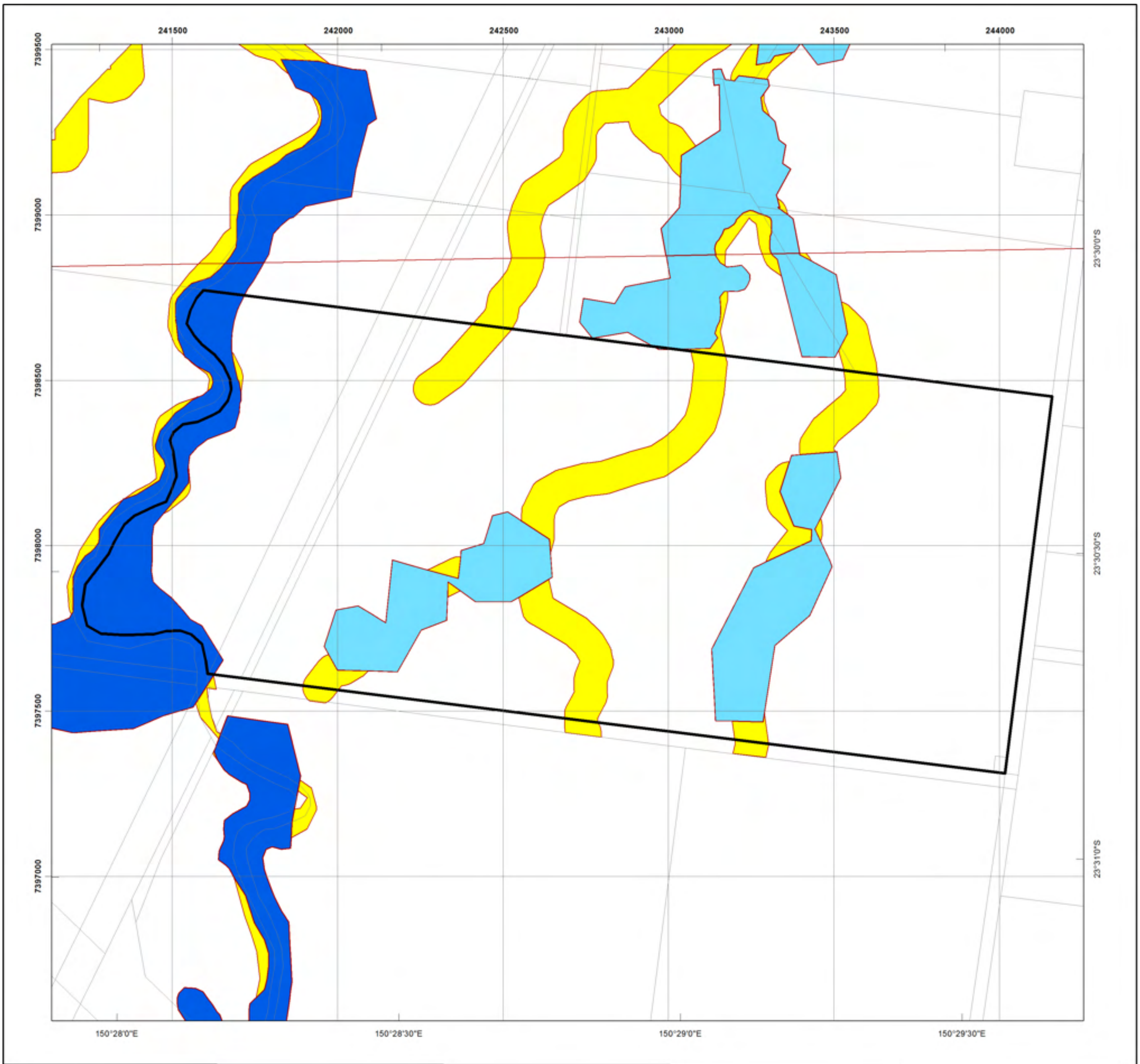
Coastal/non-coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the accepted development vegetation clearing codes and State Code 16 of the State Development Assessment Provisions (SDAP).

Agricultural Land Class A or B

The Agricultural Land Class map confirms the location and extent of land mapped as Agricultural Land Classes A or B as identified on the State Planning Interactive Mapping System. Please note that this map does not include areas identified as Agricultural Land Class A or B in local government planning schemes. This map can be used to identify Agricultural Land Class A or B areas under the "Managing regulated regrowth vegetation" accepted development vegetation clearing code.

4.1 Regulated vegetation management map



Regulated Vegetation Management Map

Legend

- Selected Lot and Plan
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Area not categorised
- Other land parcel boundaries

N

0 170 340 510 680 850 m

This product is projected into:
GDA 1994 MGA Zone 56

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources, Mines and Energy makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.dnrme.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

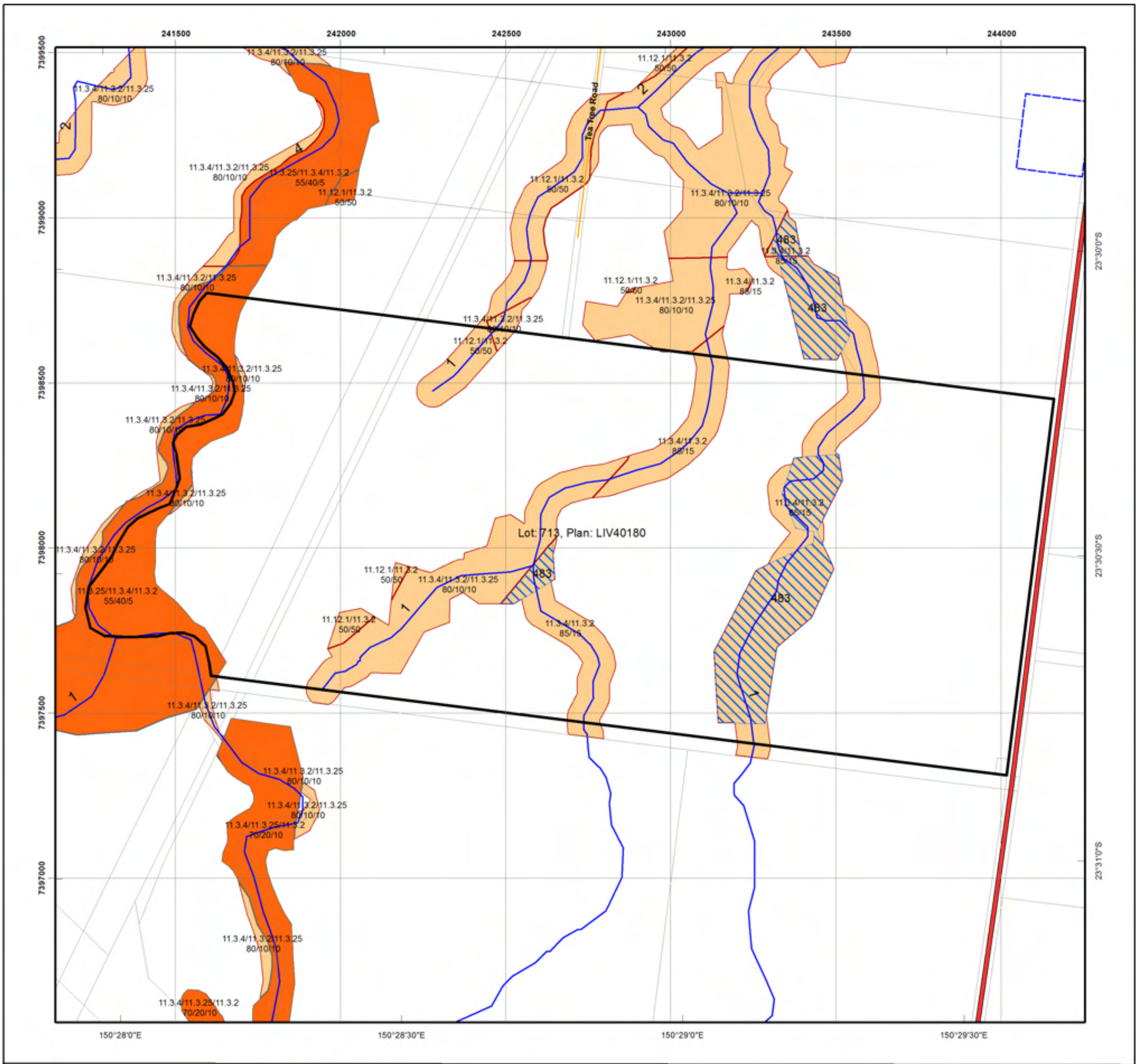
Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

Queensland Government

4.2 Vegetation management supporting map



Vegetation Management Supporting Map

Legend

- Selected Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area under Section 20AH
  These areas are edged in yellow and filled with the remnant RE Status
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category C area under Section 20AI
  These areas are edged in purple and filled with the remnant RE Status
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map
  (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries

Queensland Government

LOCALITY DIAGRAM

N

0 120 240 360 480 600 m

This product is projected into:
GDA 1994 MGA Zone 56

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

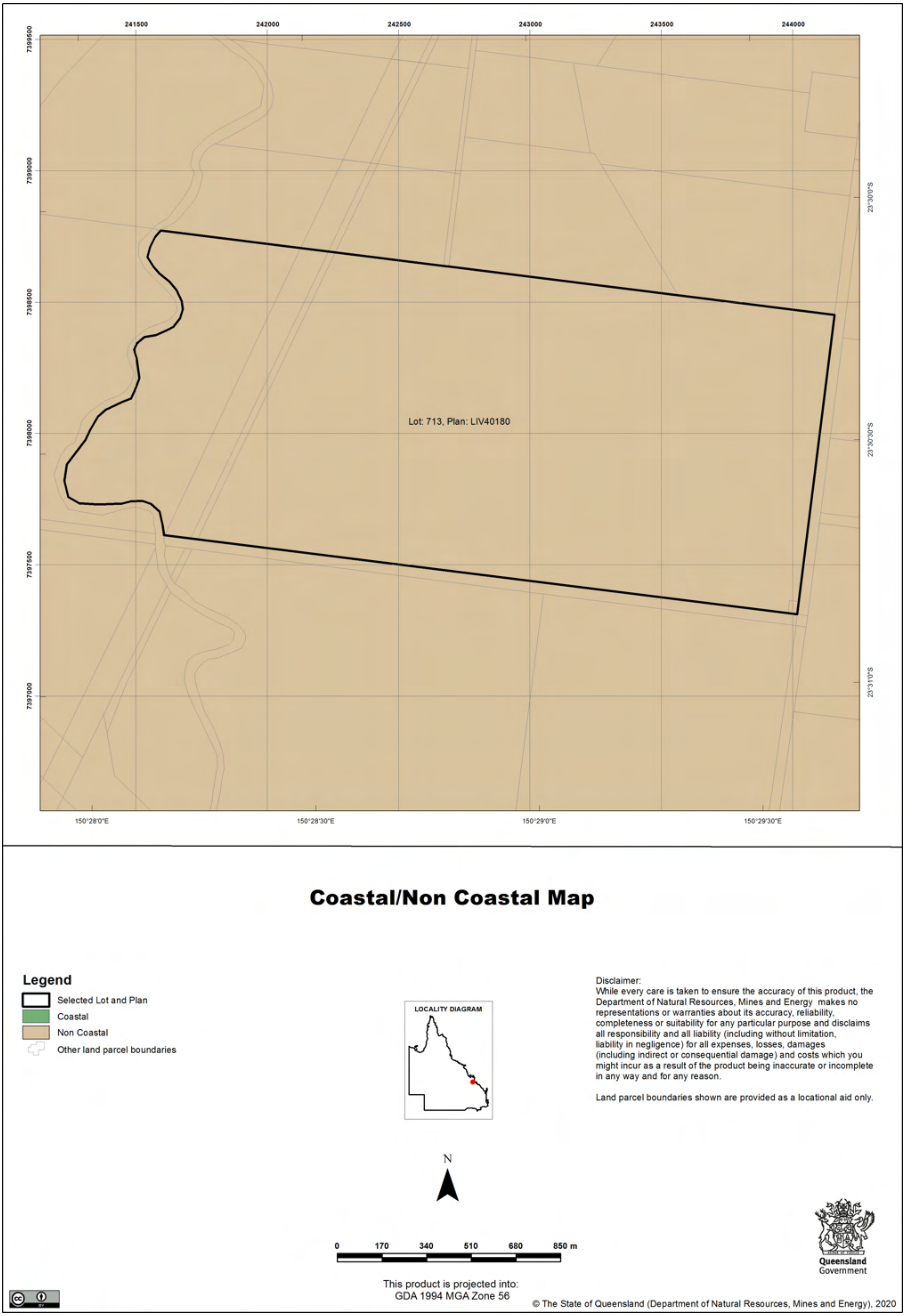
Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources, Mines and Energy makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.dnrme.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Land parcel boundaries are provided as locational aid only.

4.3 Coastal/non-coastal map



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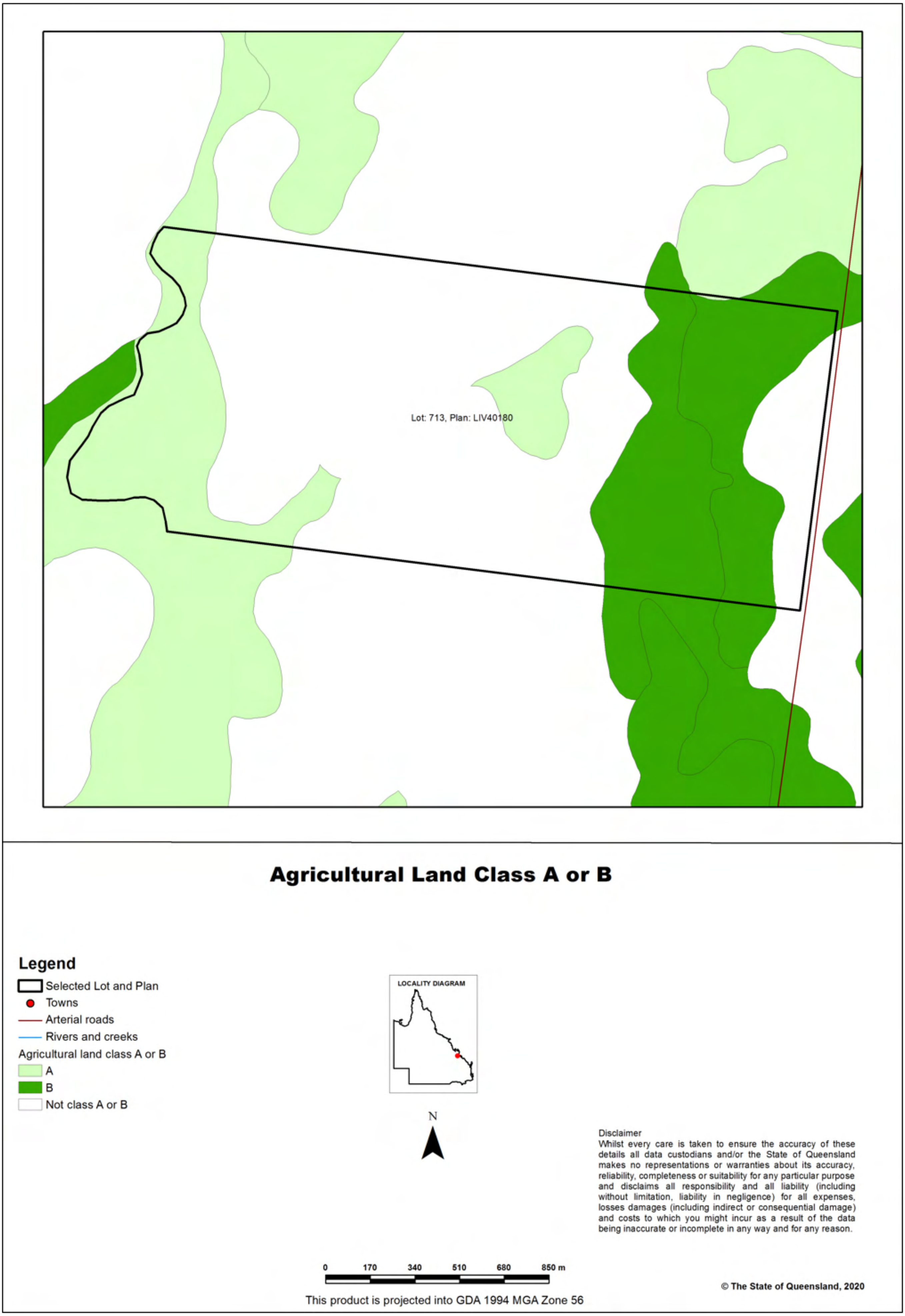
Land parcel boundaries shown are provided as a locational aid only.

4.4 Agricultural Land Class A or B map



5. Protected plants framework (administered by the Department of Environment and Science (DES))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA). The NCA regulates the clearing of protected plants 'in the wild' (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') that are listed as critically endangered, endangered, vulnerable or near threatened under the Act.

Please note that the protected plant clearing framework applies irrespective of the classification of the vegetation under the *Vegetation Management Act 1999* and any approval or exemptions given under another Act, for example, the *Vegetation Management Act 1999* or *Planning Regulation 2017*.

5.1 Clearing in high risk areas on the flora survey trigger map

The flora survey trigger map identifies high-risk areas for endangered, vulnerable or near threatened (EVNT) plants. These are areas where EVNT plants are known to exist or are likely to exist based on the habitat present. The flora survey trigger map for this property is provided in section 5.5.

If you are proposing to clear an area shown as high risk on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken by a suitably qualified person in accordance with the Flora survey guidelines. The main objective of a flora survey is to locate any EVNT plants that may be present in the clearing impact area.

If the flora survey identifies that EVNT plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment and Science, with a copy of the flora survey report, at least one week prior to clearing.

If the flora survey identifies that EVNT plants are present in, or within 100m of, the area to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the application form clearing permit.

5.2 Clearing outside high risk areas on the flora survey trigger map

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

5.3 Exemptions

Many activities are 'exempt' under the protected plant clearing framework, which means that clearing of native plants that are in the wild can be undertaken for these activities with no need for a flora survey or a protected plant clearing permit. The Information sheet - General exemptions for the take of protected plants provides some of these exemptions.

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) under the *Vegetation Management Act 1999* (i.e. listed in Schedule 21 of the Planning Regulations 2017) while some are different.

5.4 Contact information for DES

For further information on the protected plants framework:
Phone 1300 130 372 (and select option four)
Email palm@des.qld.gov.au
Visit https://www.qld.gov.au/environment/plants-animals/plants/protected-plants

5.5 Protected plants flora survey trigger map

This map included may also be requested individually at: https://apps.des.qld.gov.au/map-request/flora-survey-trigger/.

Updates to the data informing the flora survey trigger map

The flora survey trigger map will be reviewed, and updated if necessary, at least every 12 months to ensure the map reflects the most up-to-date and accurate data available.

Species information

Please note that flora survey trigger maps do not identify species associated with 'high risk areas'. While some species information may be publicly available, for example via the Queensland Spatial Catalogue, the Department of Environment and Science does not provide species information on request. Regardless of whether species information is available for a particular high risk area, clearing plants in a high risk area may require a flora survey and/or clearing permit. Please see the Department of Environment and Science webpage on the clearing of protected plants for more information.

Protected Plants Flora Survey Trigger Map

Legend

- Selected Lot and Plan
- High risk area
- Other land parcel boundaries
- Freeways / motorways / highways
- Secondary roads / streets

N

0 110 220 330 440 550 m

This product is projected into:
GDA 1994 MGA Zone 56

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

Land parcel boundaries are provided as locational aid only.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Science at palm@ehp.qld.gov.au

Disclaimer:
While every care is taken to ensure the accuracy of the data used to generate this product, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damages) and costs which might be incurred as a consequence of reliance on the data, or as a result of the data being inaccurate or incomplete in any way and for any reason.

6. Koala protection framework (administered by the Department of Environment and Science (DES))

The koala (*Phascolarctos cinereus*) is listed in Queensland as vulnerable by the Queensland Government under *Nature Conservation Act 1992* and by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999*.

The Queensland Government's koala protection framework is comprised of the *Nature Conservation Act 1992*, the Nature Conservation (Wildlife) Regulation 2006, the Nature Conservation (Wildlife Management) Regulation 2006, the Nature Conservation (Koala) Conservation Plan 2017, the *Planning Act 2016* and the Planning Regulation 2017.

6.1 Koala mapping

6.1.1 Koala districts

The parts of Queensland where koalas are known to occur has been divided into three koala districts - koala district A, koala district B and koala district C. Each koala district is made up of areas with comparable koala populations (e.g. density, extent and significance of threatening processes affecting the population) which require similar management regimes.

Section 7.1 identifies which koala district your property is located in.

6.1.2 Koala habitat areas

Koala habitat areas are areas of vegetation that have been determined to contain koala habitat that is essential for the conservation of a viable koala population in the wild based on the combination of habitat suitability and biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water). In order to protect this important koala habitat, clearing controls have been introduced into the Planning Regulation 2017 for development in koala habitat areas.

Please note that koala habitat areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

There are two different categories of koala habitat area (core koala habitat area and locally refined koala habitat), which have been determined using two different methodologies. These methodologies are described in the document Spatial modelling in South East Queensland.

Section 7.2 shows any koala habitat area that exists on your property.

Under the Nature Conservation (Koala) Conservation Plan 2017, an owner of land (or a person acting on the owner's behalf with written consent) can request to make, amend or revoke a koala habitat area determination if they believe, on reasonable grounds, that the existing determination for all or part of their property is incorrect.

More information on requests to make, amend or revoke a koala habitat area determination can be found in the document Guideline - Requests to make, amend or revoke a koala habitat area determination.

The koala habitat area map will be updated at least annually to include any koala habitat areas that have been made, amended or revoked.

Changes to the koala habitat area map which occur between annual updates because of a request to make, amend or revoke a koala habitat area determination can be viewed on the register of approved requests to make, amend or revoke a koala habitat area available at: https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/koalamaps. The register includes the lot on plan for the change, the date the decision was made and the map issued to the landholder that shows areas determined to be koala habitat areas.

6.1.3 Koala priority areas

Koala priority areas are large, connected areas that have been determined to have the highest likelihood of achieving conservation outcomes for koalas based on the combination of habitat suitability, biophysical variables with known relationships to koala habitat (e.g. landcover, soil, terrain, climate and ground water) and a koala conservation cost benefit analysis.

Conservation efforts will be prioritised in these areas to ensure the conservation of viable koala populations in the wild including a focus on management (e.g. habitat protection, habitat restoration and threat mitigation) and monitoring. This includes a prohibition on clearing in koala habitat areas that are in koala priority areas under the Planning Regulation 2017 (subject to some exemptions).

Please note that koala priority areas only exist in koala district A which is the South East Queensland "Shaping SEQ" Regional Plan area. These areas include the local government areas of Brisbane, Gold Coast, Logan, Lockyer Valley, Ipswich, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (urban extent).

Section 7.2 identifies if your property is in a koala priority area.

6.1.4 Identified koala broad-hectare areas

There are seven identified koala broad-hectare areas in SEQ. These are areas of koala habitat that are located in areas committed to meet development targets in the SEQ Regional Plan to accommodate SEQ's growing population including bring-forward Greenfield sites under the Queensland Housing Affordability Strategy and declared master planned areas under the repealed *Sustainable Planning Act 2009* and the repealed *Integrated Planning Act 1997*.

Specific assessment benchmarks apply to development applications for development proposed in identified koala broad-hectare areas to ensure koala conservation measures are incorporated into the proposed development.

Section 7.2 identifies if your property is in an identified koala broad-hectare area.

6.2 Koala habitat planning controls

On 7 February 2020, the Queensland Government introduced new planning controls to the Planning Regulation 2017 to strengthen the protection of koala habitat in South East Queensland (i.e. koala district A).

More information on these planning controls can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

As a high-level summary, the koala habitat planning controls make:

- development that involves interfering with koala habitat (defined below) in an area that is both a koala priority area and a koala habitat area, prohibited development (i.e. development for which a development application cannot be made);
- development that involves interfering with koala habitat (defined below) in an area that is a koala habitat area but is not a koala priority area, assessable development (i.e. development for which development approval is required); and
- development that is for extractive industries where the development involves interfering with koala habitat (defined below) in an area that is both a koala habitat area and a key resource area, assessable development (i.e. development for which development approval is required).

Interfering with koala habitat means:

1) Removing, cutting down, ringbarking, pushing over, poisoning or destroying in anyway, including by burning, flooding or draining native vegetation in a koala habitat area; but
2) Does not include destroying standing vegetation stock or lopping a tree.

However, these planning controls do not apply if the development is exempted development as defined in Schedule 24 of the Planning Regulation 2017. More information on exempted development can be found here:
https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping/legislation-policy.

There are also assessment benchmarks that apply to development applications for:
- building works, operational works, material change of use or reconfiguration of a lot where:
  - the local government planning scheme makes the development assessable;
  - the premises includes an area that is both a koala priority area and a koala habitat area; and
  - the development does not involve interfering with koala habitat (defined above); and

- development in identified koala broad-hectare areas.

The Guideline - Assessment Benchmarks in relation to Koala Habitat in South East Queensland assessment benchmarks outlines these assessment benchmarks, the intent of these assessment benchmarks and advice on how proposed development may meet these assessment benchmarks.

6.3 Koala Conservation Plan clearing requirements

Section 10 and 11 of the Nature Conservation (Koala) Conservation Plan 2017 prescribes requirements that must be met when clearing koala habitat in koala district A and koala district B.

These clearing requirements are independent to the koala habitat planning controls introduced into the Planning Regulation 2017, which means they must be complied with irrespective of any approvals or exemptions offered under other legislation.

Unlike the clearing controls prescribed in the Planning Regulation 2017 that are to protect koala habitat, the clearing requirements prescribed in the Nature Conservation (Koala) Conservation Plan 2017 are in place to prevent the injury or death of koalas when koala habitat is being cleared.

6.4 Contact information for DES

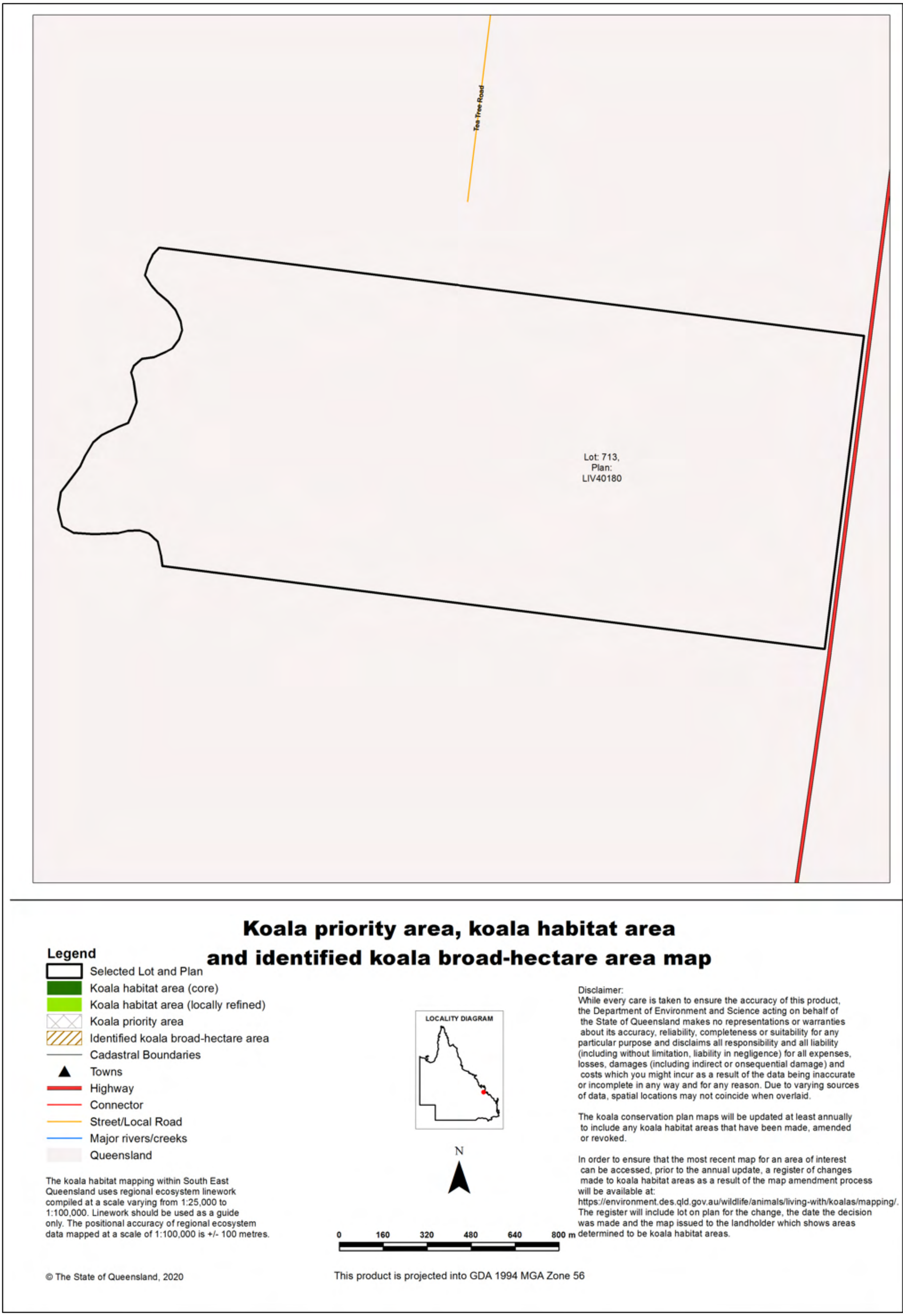
For further information on the koala protection framework:
Phone 13 QGOV (13 74 68)
Email koala.assessment@des.qld.gov.au
Visit https://environment.des.qld.gov.au/wildlife/animals/living-with/koalas/mapping

7. Koala protection framework details for Lot: 713 Plan: LIV40180

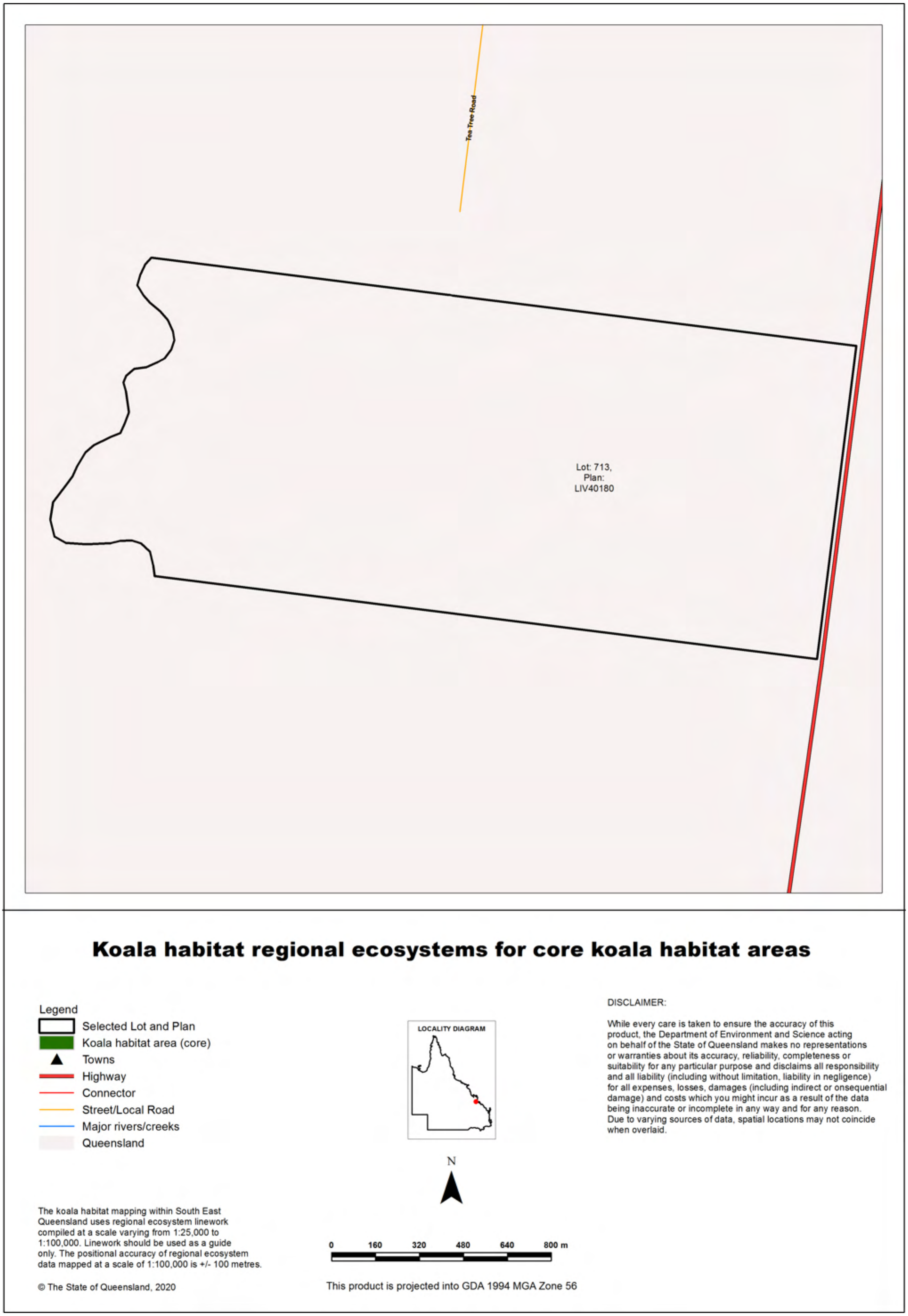
7.1 Koala districts

Koala District C

7.2 Koala priority area, koala habitat area and identified koala broad-hectare area map



7.3 Koala habitat regional ecosystems for core koala habitat areas



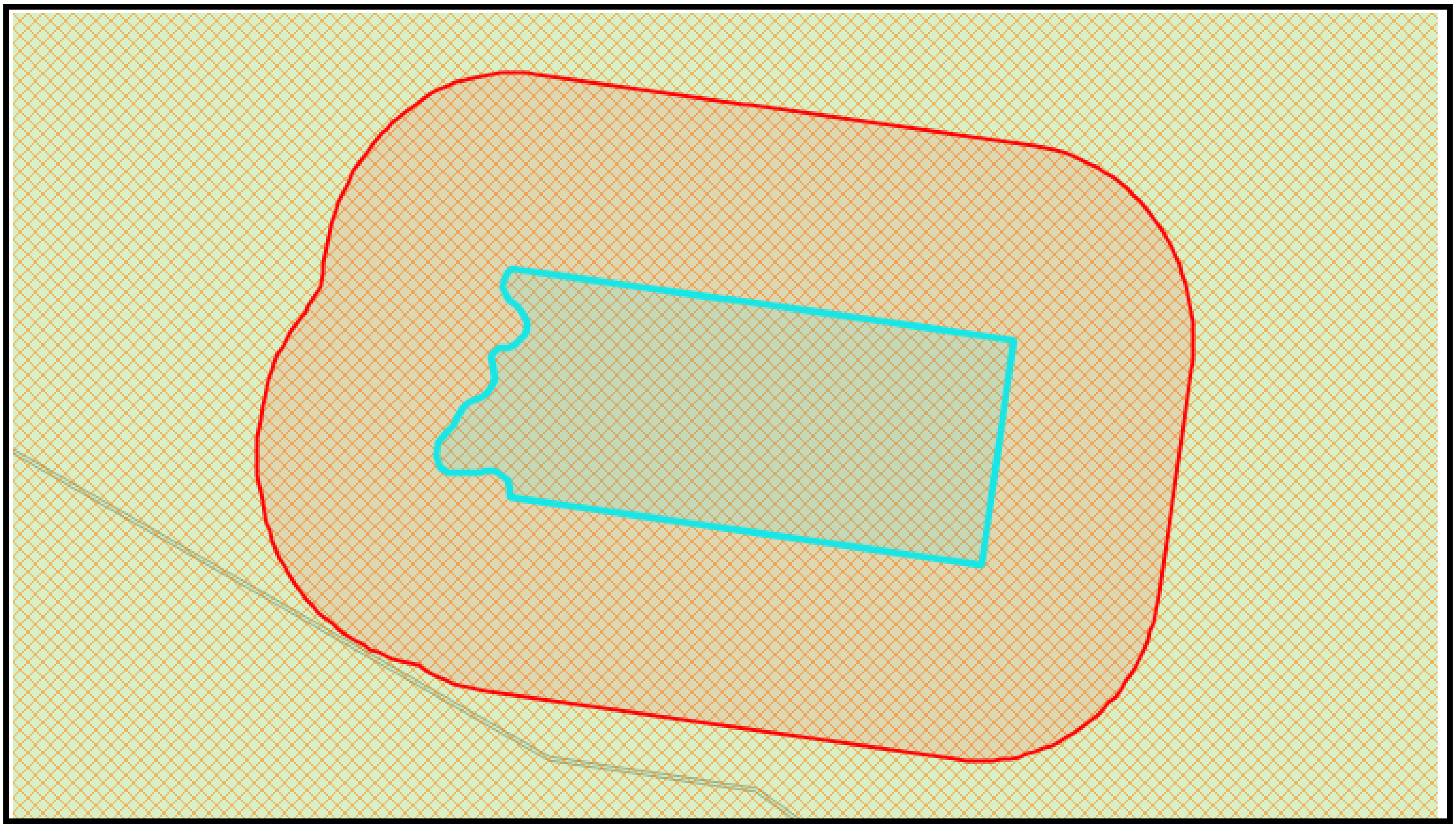
8. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
• Interference with overland flow • Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Natural Resources, Mines and Energy (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dnrme.qld.gov.au
• Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Aboriginal and Torres Strait Islander Partnerships (Queensland Government)	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
• Mining and environmentally relevant activities • Infrastructure development (coastal) • Heritage issues • Protected areas	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992* *Nature Conservation Act 1992*	Department of Environment and Science (Queensland Government)	Ph: 13 QGOV (13 74 68) www.des.qld.gov.au
• Interference with fish passage in a watercourse, mangroves • Forestry activities on State land tenures	*Fisheries Act 1994* *Forestry Act 1959*	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
• Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
• Development and planning processes	*Planning Act 2016* *State Development and Public Works Organisation Act 1971*	Queensland Treasury Department of State Development, Tourism and Innovation (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsdmip.qld.gov.au www.statedevelopment.qld.gov.au
• Local government requirements	*Local Government Act 2009* *Planning Act 2016*	Department of Local Government, Racing and Multicultural Affairs (Queensland Government)	Ph: 13 QGOV (13 74 68) Your relevant local government office

ATTACHMENT B5 - DEPARTMENT OF ABORIGINAL AND TORRES STRAIT ISLANDER PARTNERSHIPS LOT ON PLAN SEARCH

Lot on Plan Search

Reference Number:	75144
Lot:	713
Plan:	LIV40180
LGA:	Rockhampton Regional
Buffer Distance:	1000 metres



There are no Aboriginal or Torres Strait Islander cultural heritage site points recorded in your specific search area.

There are no Aboriginal or Torres Strait Islander cultural heritage site polygons recorded in your specific search area.

Lot on Plan Search

Cultural heritage party for the area is:

QC Ref Number	QUD Ref Number	Party Name	Contact Details
QCD2016/006 DET	QUD6131/1998	Darumbal People	Darumbal People Aboriginal Corporation RNTBC Trevor Hatfield PO Box 8581 ALLENSTOWN QLD 4700 Phone: (07) 4926 0026 Email: admin@darumbal.com.au

Cultural heritage body for the area is:

Body Name	Contact Details
Darumbal Enterprises Pty Ltd	Darumbal Enterprises Pty Ltd PO Box 8581 ALLENSTOWN QLD 4700 Phone: (07) 4926 0026 Email: admin@darumbal.com.au

There are no cultural heritage management plans recorded in your specific search area.

There are no Designated Landscape Areas (DLA) recorded in your specific search area.

There are no Registered Study Cultural Heritage Areas recorded in your specific search area.

Regional Coordinator:

Name	Position	Phone	Mobile	Email
Cultural Heritage Unit		1300 378 401		cultural.heritage@datsip.qld.gov.au

Lot on Plan Search

I refer to your submission in which you requested advice regarding Aboriginal or Torres Strait Islander cultural heritage recorded at your nominated location.

The Cultural Heritage Database and Register have been searched in accordance with the location description provided, and the results are set out in the above report.

Aboriginal or Torres Strait Islander cultural heritage which may exist within the search area is protected under the terms of the *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003*, even if the Department of Aboriginal and Torres Strait Islander Partnerships has no records relating to it.

Under the legislation a person carrying out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal or Torres Strait Islander cultural heritage. This applies whether or not such places are recorded in an official register and whether or not they are located on private land.

Please refer to our website https://www.datsip.qld.gov.au/people-communities/aboriginal-torres-strait-islander-cultural-heritage for a copy of the gazetted Cultural Heritage Duty of Care Guidelines, which set out reasonable and practicable measure for meeting the cultural heritage duty of care.

In order to meet your duty of care, any land-use activity within the vicinity of recorded cultural heritage should not proceed without the agreement of the Aboriginal or Torres Strait Islander Party for the area, or by developing a Cultural Heritage Management Plan under Part 7 of the legislation.

If your proposed activity is deemed a Category 5 activity pursuant to the Duty of Care Guidelines, there is generally a high risk that it may harm cultural heritage. In these circumstances, the activity should not proceed without cultural heritage assessment.

Where a category 5 activity is proposed, it is necessary to notify the Aboriginal or Torres Strait Islander Party and seek:

a. Advice as to whether the area is culturally significant;
b. If it is, agreement on how best the activity may be managed to avoid or minimise harm to any cultural heritage values.

The extent to which the person has complied with Cultural Heritage Duty of Care Guidelines and the extent the person consulted Aboriginal or Torres Strait Islander Parties about carrying out the activity – and the results of the consultation – are factors a court may consider when determining if a land user has complied with the cultural heritage duty of care.

Lot on Plan Search

Should you have any further queries, please do not hesitate to contact the Search Approval Officer on 1300 378 401.

Kind regards

The Director
Cultural Heritage | Community Participation | Department of Aboriginal and Torres Strait Islander Partnerships

ATTACHMENT C1 - NOISE MODELS

C1.0 Noise Model Inputs

C1.1 Scenario 1 – 92dBLAFmax Track Day

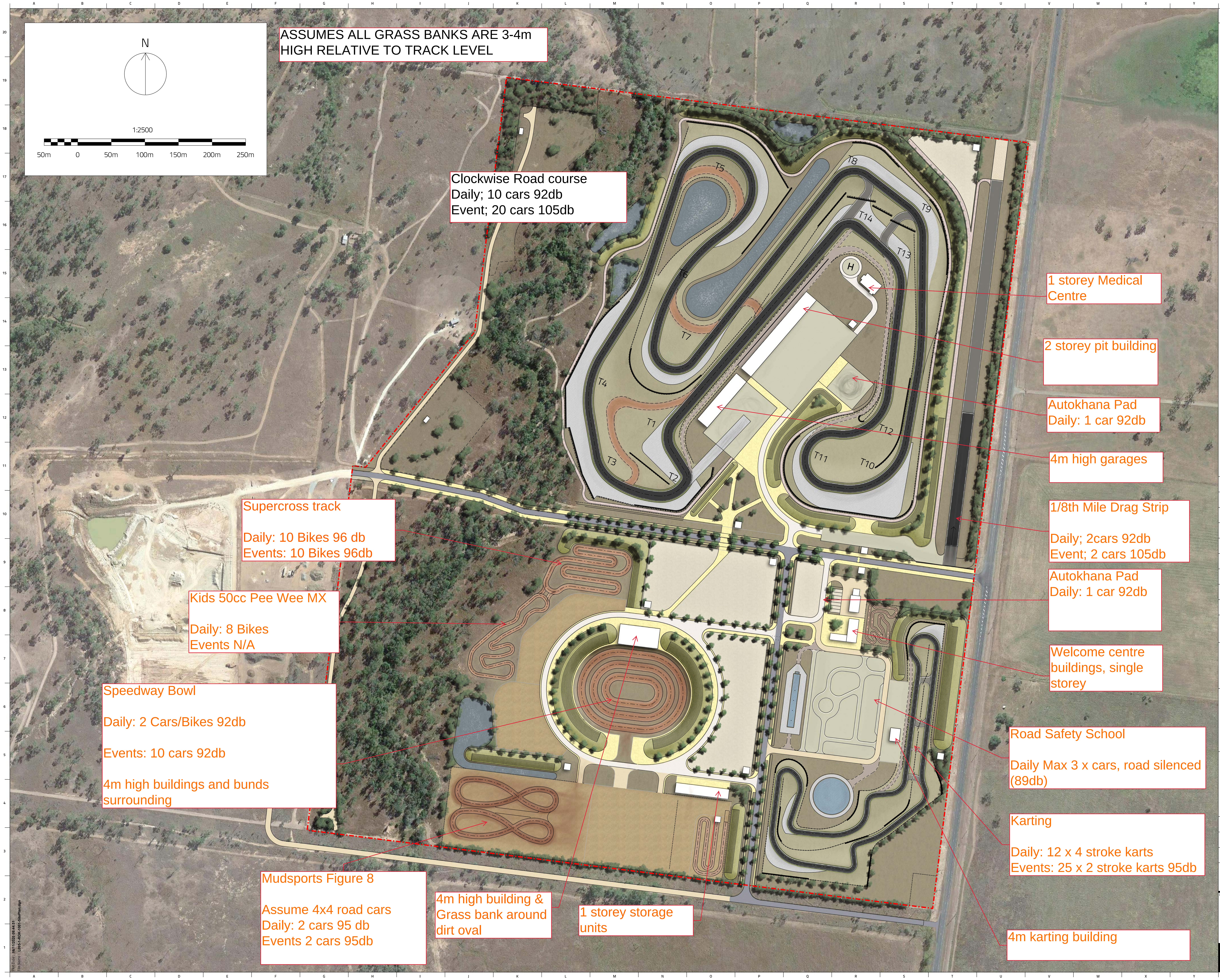
C1.2 Scenario 2 – No Circuit, No Drag, All others at 100dBA

C1.3 Scenario 3 – Main Circuit Only 105dBLAFmax

C1.4 Scenario 4 – 10 cars 105dB

C2.0 Motorsport Noise and Modelling Explanation

C3.0 AECOM Baseline Noise Survey



THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT.

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.
2. DO NOT SCALE FROM THIS DRAWING, USE ONLY PRINTED DIMENSIONS.
3. ALL DIMENSIONS, CHAINAGES, LEVELS AND COORDINATES ARE IN METRES UNLESS DEFINED OTHERWISE.
4. MOTORSPORT IS DANGEROUS, AS ARE NON-COMPETITIVE EQUIVALENTS SUCH AS DRIVING MEMBER CLUBS AND DRIVING EXPERIENCES. THE RISKS POSED TO DRIVERS, PASSENGERS, STAFF, PUBLIC AND ANY OTHER PERSONS AFFECTED BY THE OPERATION OF THIS FACILITY IS INFLUENCED BY MANY DIFFERENT FACTORS INCLUDING BUT NOT LIMITED TO WEATHER, VISIBILITY, TIME OF DAY, CONDITION OF THE DRIVING SURFACE AND VEHICLES, NUMBER AND COMPETENCE OF THE USERS AND STAFF OF THE FACILITY, OPERATIONS AND MAINTENANCE PROCEDURES. ANY DESIGNS, SPECIFICATIONS, SIMULATION DATA, OR ANY OTHER ADVICE, EITHER IMPLIED OR EXPRESSLY PROVIDED, WILL NOT REMOVE ALL OF THESE RISKS. DRIVEN INTERNATIONAL USE SIMULATIONS TOOLS, WHICH ARE BASED ON REAL WORLD INDUSTRY DATA TO APPLY INTERNATIONALLY RECOGNISED GUIDELINES AND INDUSTRY BEST PRACTICE TO MINIMISE THE RISKS AS FAR AS REASONABLY PRACTICABLE IN THE DESIGN OF THE COURSE. MOREOVER, ANY DESIGN, VIDEO, SKETCH, SIMULATION OR ADVICE THAT SHOWS OR IMPLIES A VEHICLE WILL COME TO A STOP BEFORE IMPACTING A BARRIER OR OTHER HAZARD SITUATION DOES NOT IMPLY OR SUGGEST THAT AN IMPACT IS NOT POSSIBLE. SUCH CALCULATIONS, SIMULATIONS AND PRESENTATIONS THEREOF ARE SIMPLY A MEASUREMENT OF RISK WHICH HAS APPLIED PUBLISHED GUIDANCE BY THE INTERNATIONAL GOVERNING BODY OF MOTORSPORT (THE FÉDÉRATION INTERNATIONALE DE L AUTOMOBILE OR FIA AND/OR FÉDÉRATION INTERNATIONALE DE MOTOCYCLISME OR FIM) AND UNDER NO CIRCUMSTANCES IMPLIES THAT THE DESIGN ELIMINATES RISK TO PERSONS OR PROPERTY.

Revision Details	By / Check	Date	Suffix
Viewing bank to North West amended	GN/BW	16/11	J
Change to track run-offs and sheds	GN/BW	11/11	I
Change to T1 and Storage Sheds	GN/BW	05/11	H

Purpose of issue: For Information

Client: Rockhampton Regional Council

Project Title: Rockhampton Motorsports Precinct

Drawing Title: Site Plan

Designed	Drawn	Checked	Approved	Date
GN	MB	GN	BW	16/11

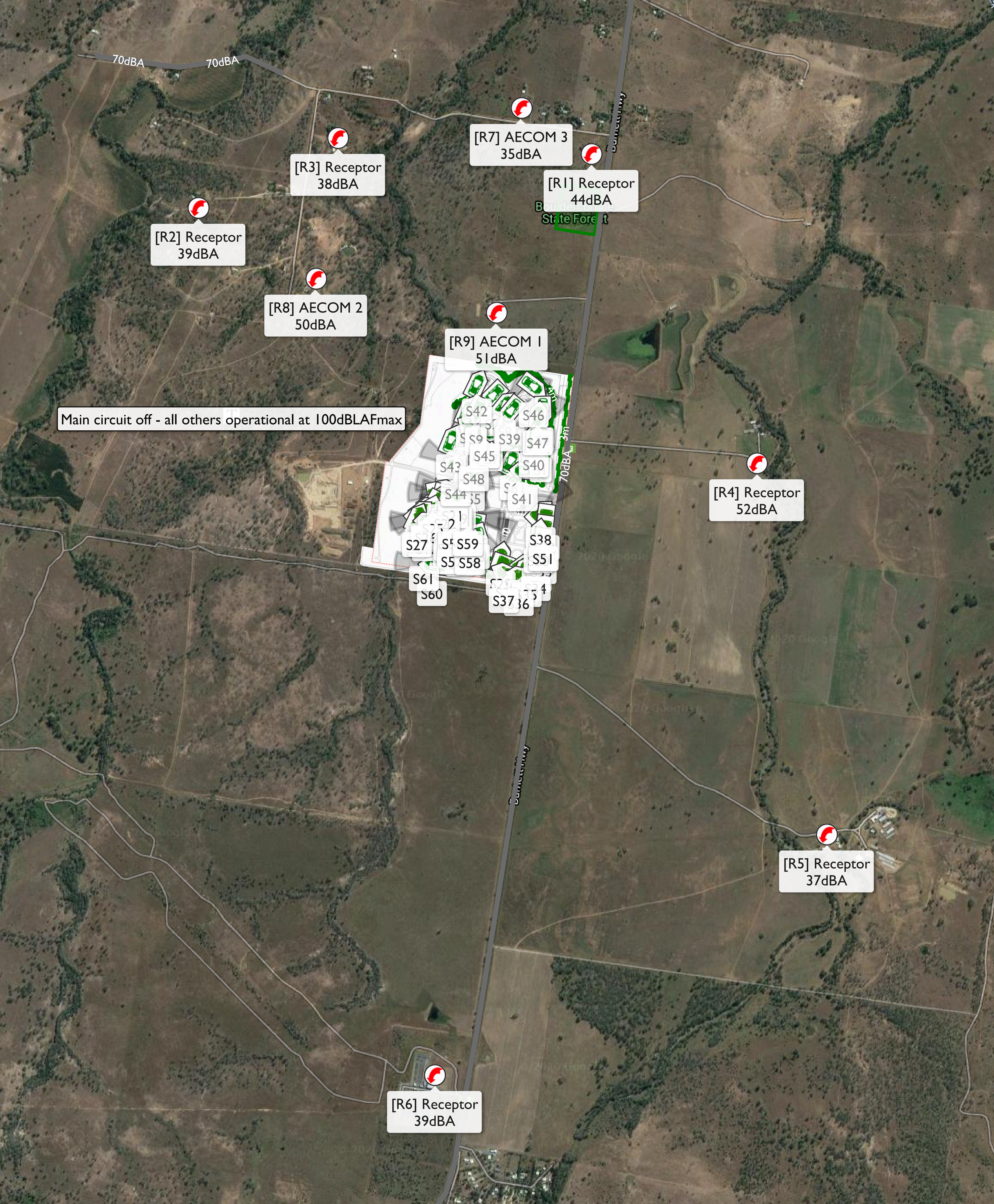
Project No.	Suitability
L095	For information only

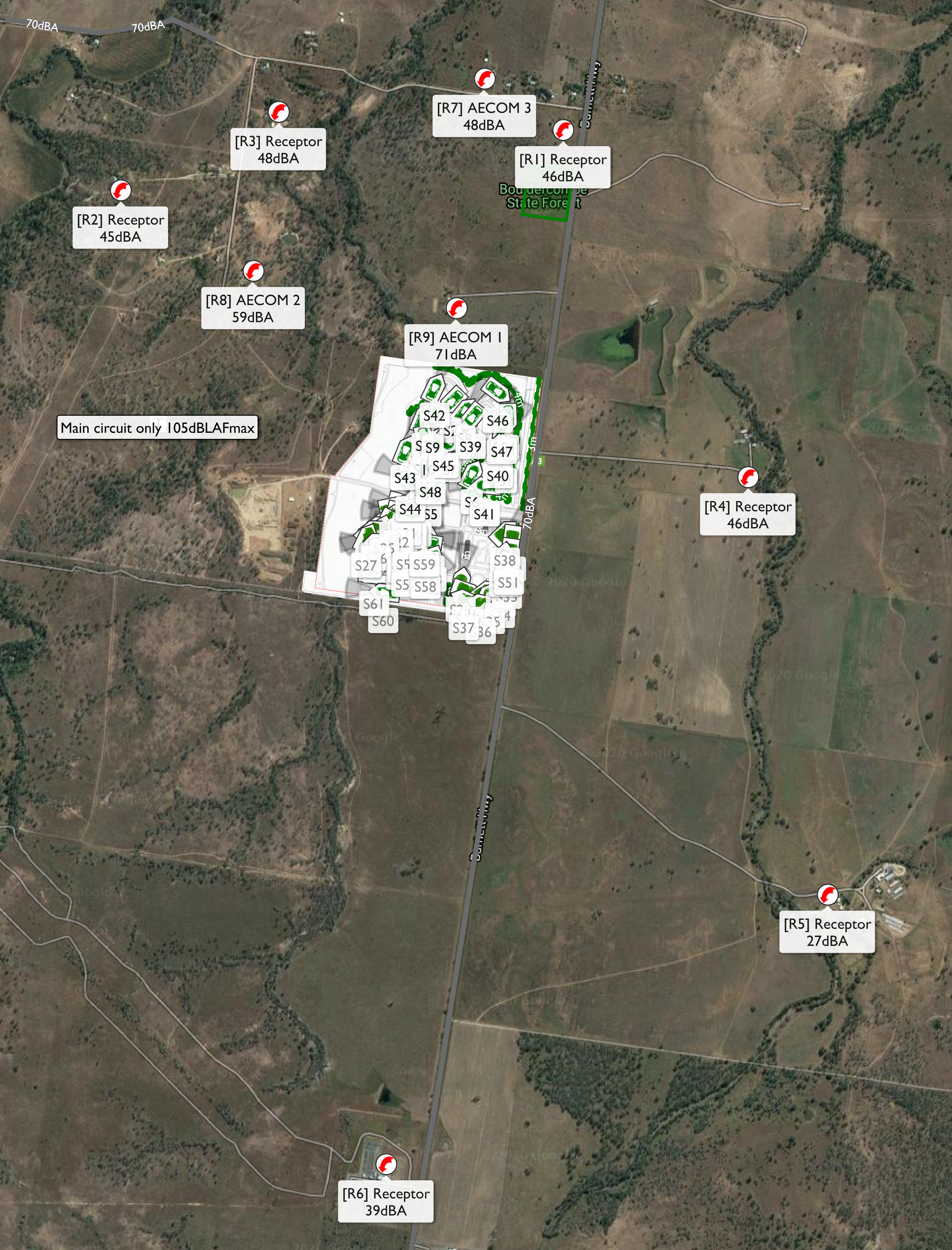
Scale @ A1	Drawing Units	Simulation
1:2500		

Prepared by
Driven International Ltd
Landmark House
Station Road
Hook, RG27 9HA
United Kingdom
Tel. +44 1256 767 766
www.driven-international.com

Drawing Number: L095-1-ROK-1001 | Rev: J


[R7] AECOM 3
37dBA
[R3] Receptor
39dBA
[R1] Receptor
44dBA
Bouldercombe
State Forest
[R2] Receptor
38dBA
[R8] AECOM 2
50dBA
[R9] AECOM 1
58dBA
92dBLAFmax Road Course 20 Cars daily use other circuits
[R4] Receptor
45dBA
S51
S55
S2
S9
S48
S56
S10
S54
S49
S52
S58
S6
S57
S53
S5
S50
S59
S30
S11
S47
S34
S60
S25
S42
S36
S46
S45
S44
[R5] Receptor
29dBA


70dBA
70dBA
[R7] AECOM 3
35dBA
[R3] Receptor
38dBA
[R1] Receptor
44dBA
[R2] Receptor
39dBA
[R8] AECOM 2
50dBA
[R9] AECOM 1
51dBA
Main circuit off - all others operational at 100dBLAFmax
S42
S46
S39
S47
S45
S40
S43
S48
S44
S41
70dBA
[R4] Receptor
52dBA
S27
S59
S38
S58
S51
S61
S60
S37
[R5] Receptor
37dBA
[R6] Receptor
39dBA


70dBA
70dBA
[R7] AECOM 3
48dBA
[R3] Receptor
48dBA
[R1] Receptor
46dBA
[R2] Receptor
45dBA
[R8] AECOM 2
59dBA
[R9] AECOM 1
71dBA
Main circuit only 105dBLAFmax
S42
S46
S9
S39
S47
S45
S43
S40
S48
S44
S41
70dBA
S27
S59
S38
S51
S58
S61
S60
S37
[R4] Receptor
46dBA
[R5] Receptor
27dBA
[R6] Receptor
39dBA

70dBA
70dBA
[R7] AECOM 3
27dBA
[R3] Receptor
30dBA
[R1] Receptor
43dBA
Bouldercombe
State Forest
[R2] Receptor
32dBA
[R8] AECOM 2
42dBA
[R9] AECOM 1
43dBA
SpeedwayBowl only - 10 cars 105dBLAFmax
S42
S46
S2
S9
S39
S47
S10
S45
S43
S40
S48
S6
S44
S5
S41
70dBA
[R4] Receptor
32dBA
S27
S56
S59
S38
S51
S57
S58
S33
S37
S36
Burnett Hwy
[R5] Receptor
28dBA

ATTACHMENT C2 - GLOSSARY OF TERMS (NOISE ASSESSMENT)

Head Office
The Coach House
Mallory Park Circuit
Leicestershire
LE9 7QE

Phone
+44 1455 502400

Email
info@spltrack.co.uk

Thursday, 19 November 2020

Ben Willshire
Driven International
Landmark House
Station Road
Hook
RG27 9HA

Hi Ben,

Technical note - Metrics used in ADA modelling

In **ADA** models we express the source levels as **$dBLAF_{max}$**, the level that would be reported by our trackside drive-by measurement system. The distance from the track centreline to the microphone is normalised to 20m because this gives the best compromise between variation due to vehicle position on the track and the granularity of the measurement. Using 125ms windowing we are able to measure fast moving vehicles accurately and independently providing that they are separated by a distance of at least 30m along the track and, if at minimum separation, there is no more than 12dB difference in sound level between them.

The **ADA** model calculates the impact at receptors of the combined energy from all sources factored for distance, source directivity, topography, ground elements such as trees and buildings and any bunds or barriers.

In assessment parlance the sum of all vehicle noise sources received at a receptor is termed the **Specific Noise Level**, being the noise level experienced at the receptor due only to the circuit activity and not including other noise sources such as roads, aircraft, animals and anything else.

The **Specific Noise Level** is expressed in in the model as **dBLA** which is a momentary sound pressure level however, because each circuit is effectively a continuous ribbon source, the sound pressure level will be virtually equivalent to the $dBLA_{eq(t)}$ where (t) is any period, i.e. a track session. In order to extrapolate an equivalent **Specific Noise Level** for longer periods of (t) where there would be quiet intermissions between track activity we need to apply a %ON factor. For example, if the circuit were active for 30 minutes in each hour, specific level $dBLA_{eq(1h)}$ could be 3dB lower than specific level $dBLA_{eq(30min)}$. We may make other adjustments for tonality if appropriate. This adjusted **Specific Noise Level** is sometimes referred to as the **Rating Level**.

It is not always easy to estimate the %ON time for circuits because track days operate almost continuous track time whilst race meetings often have significant quiet intermissions between race sessions. It is reasonable to say that for track days the %ON time should be assessed as 100% and for race meetings (which usually have higher drive-by levels) the %ON time can be assessed at 50%.

The normal receptor condition with no circuit activity

All receptors also receive noise from other sources which will vary over time. When we make an assessment we refer to it as a **Baseline Survey**. We can do this to some extent virtually using **ADA** but it is better to have real measurements taken over a representative sample period. We talk about two separate metrics:

> **Ambient level** - this is the equivalent noise level $dBLA_{eq(t)}$ at the receptor that includes all activity other than **Specific Noise**. Where motorsport circuit noise will the subject of the impact assessment a value of 30 minutes for (t) is often adopted when considering **Ambient Level**. We can model the **Ambient Level** if we know traffic flows, aircraft movements and any other identifiable noise sources however, where sound levels are very low, virtualised ambient noise assessments become less reliable.
>
> **Background Level** - This is expressed as $dBLA_{90(t)}$ and is a statistical value which describes the noise level exceeded for 90% of the sample period (t). It excludes short-term noises such as aircraft overflights, passing vehicles and other sounds such as occasional dog barking, sirens etc. Because $dBLA_{90}$ is a statistical measurement it can only be calculated when all of the data for (t) has been collected, therefore it cannot be modelled. The best that we can do is make an estimate based upon the ambient level and (if known) the incidence and amplitude of short term noise.

The Impact Assessment

It is usual to assess the **Specific Noise Level** against the **Background Noise Level** to determine impact at each receptor, taking into account the **Ambient Level** and any adjustments for **circuit %ON time**.
Where the increase in noise level at receptors due to circuit activity is significant the impact can be mitigated by regulating the **Specific Noise Level.** This can be achieved by:
- reducing drive-by limits
- reducing the session time
- by reducing the number of vehicles on the circuit, however reducing the grid by 50% only reduces specific noise by 3dB. Smaller percentage reductions have only marginal benefit. Reducing grid size can actually be worse in terms of nuisance because the perceived noise profile becomes more intermittent. In some cases we may need to increase the **Rating Level** to reflect this
- by adopting a calendar that regulates the number of days per year that specific types of circuit activity can take place
- by means of physical barriers such as bunds/embankments or acoustic fencing.

The calendar is normally negotiated between the circuit operator and the regulating authority, balancing the commercial needs of the circuit, the objectives of any planning schemes, benefit to the community and the amenity of residents.

Hope this clarifies.

Best,

Chris

Chris Beale

FULL GLOSSARY OF TERMS (NOISE ASSESSMENT)

The following terms may be used throughout this report in relation to noise impact.

Ambient Noise	The total encompassing sound in a given situation at a given time, usually composed of sound from many sources far and near
A-weighted sound pressure, p_A	Value of overall sound pressure, measured in pascals (Pa), after the electrical signal derived from a microphone has been passed through an A-
A-weighted sound pressure level, L_{pA}	Quantity of A-weighted sound pressure, given by the following formula in
Background Noise	The underlying level of noise present in the ambient noise when extraneous noise (such as transient traffic and dogs barking) is removed.
Background Noise Level, $L_{A90,T}$	The A weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90% of a given time interval, T, measured using time weighting, F, and quoted to the nearest whole number of decibels
Daytime Decibel (dB)	The period 09:00-23:00 hours
dB $L_{EP,w}$	Weekly noise exposure level
dB $L_{EP,d}$	Daily noise exposure level
Decibel (dB)	A unit of level derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure levels the reference quantity is 20 uPa. The threshold of normal

	hearing is in the region of 0 dB and 140 dB is the threshold of pain. A change of 1 dB is only perceptible under controlled conditions
dB(A), L_{Ax}	Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB(A) broadly agree with people's assessment of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions, and a change of 10 dB(A) corresponds roughly to halving or doubling the loudness of a sound. The background noise in a living room may be about 30 dB(A); normal conversation about 60 dB(A) at 1 metre; heavy road traffic about 80 dB(A) at 10 metres; the level near a pneumatic drill about 100 dB(A)
Equivalent continuous sound level [LAeq]	The constant sound level which, when occurring over the same period of time, would result in the receptor experiencing the same amount of sound energy. This is a key measurement for the assessment of motorsport venues, since it can be used to define the sound measurement over the duration of a track session.
Free-field level	Sound pressure level measured outside, far away from reflecting surfaces. Measurements are made 1.5 m above the ground and at least 3.5 m away from other reflecting surfaces are usually regarded as being free-field measurements. To minimize the effect of reflections the measuring position should be at least 3.5 m to the side of the reflecting surface (i.e.

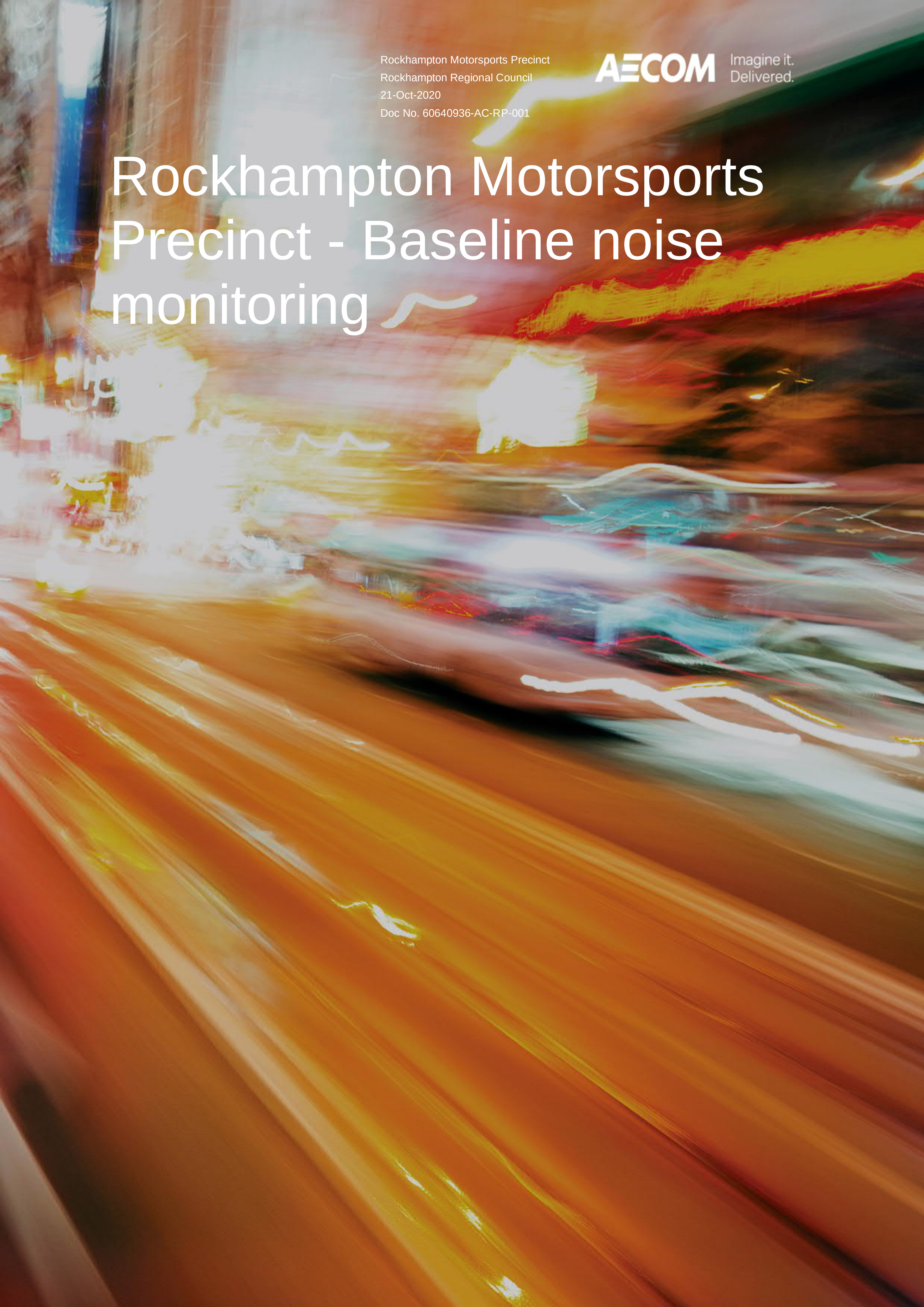
	not 3.5 m from the reflecting surface in the direction of the source). Estimates of noise from aircraft overhead usually include a correction of 2 dB to allow for reflections from the ground.
Frequency [f]	The repetition rate of the cycle measured in Hertz (Hz). The frequency corresponds to the pitch of the sound. A high frequency corresponds to a high pitched sound and a low frequency to a low pitched sound.
Façade level	Sound pressure level measured 1 m in front of the façade of a property.
$L_{A10,T}$	The A-weighted sound pressure level exceeded for 10% of the measurement period, T. For 10% of the measurement period it was louder than the L10.
$L_{A90,T}$	The A-weighted sound pressure level exceeded for 90% of the measurement period, T. For 90% of the measurement period it was louder than the L90.
L_{AE}	The sound exposure level – the level of a sound with a period of 1 second that has the same sound energy as the event considered.
$L_{Aeq,T}$	The equivalent continuous A-weighted sound pressure level is the value of the A-weighted sound pressure level in decibels (dB) of a continuous, steady sound, that within a specified time interval, T, has the same mean squared sound pressure as the sound under consideration that varies with time.

LAmax	The highest A weighted noise level recorded during a noise event. The time weighting (slow or fast) should be stated.
Night time	The period 23:00-09:00 hours.
Octave band	Band of frequencies in which the upper limit of the band is twice the frequency of the lower limit.
Third octave band	Band of frequencies in which the upper limit of the band is 2 times the frequency of the lower limit.
Residual noise	The ambient noise remaining at a given position in a given situation when the specific noise source is suppressed to a degree such that it does not contribute to the ambient noise.
Sound Power Level, L_W	An absolute parameter widely used for rating and comparing sound sources. Sound power is a physical property of the source alone, independent of any external or environmental factors.
Sound Pressure, p	Root-mean-square value of the variation in air pressure measured in pascals (Pa), above and below atmospheric pressure, caused by the sound.
Sound Pressure Level, L_p	Quantity of sound pressure, in decibels (dB).
Specific Noise Level, $L_{Aeq,Tr}$	The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source over a given reference time interval.
Specific Noise Source	The noise source under investigation.

ATTACHMENT C3 – BASELINE NOISE LEVEL SURVEY REPORT

Rockhampton Motorsports Precinct
Rockhampton Regional Council
21-Oct-2020
Doc No. 60640936-AC-RP-001

Rockhampton Motorsports Precinct - Baseline noise monitoring



Rockhampton Motorsports Precinct - Baseline noise monitoring

Client: Rockhampton Regional Council

ABN: 59 923 523 766

Prepared by

AECOM Australia Pty Ltd
Level 8, 540 Wickham Street, PO Box 1307, Fortitude Valley QLD 4006, Australia
T +61 7 3553 2000 F +61 7 3553 2050 www.aecom.com
ABN 20 093 846 925

21-Oct-2020

Job No.: 60640936

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 AS/NZS4801 and OHSAS18001.

Quality Information

Document	Rockhampton Motorsports Precinct - Baseline noise monitoring
Ref	60640936
Date	21-Oct-2020
Prepared by	Bryce Robbie
Reviewed by	Aloysius Chang

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
A	13-Oct-2020	Draft issue for client review		
1	21-Oct-2020	Final	Rhys Brown Associate Director - Acoustics	

Table of Contents

1.0 Introduction

AECOM Australia Pty Ltd has been commissioned by Rockhampton Regional Council (RRC) to undertake baseline noise measurements at three sites. These sites are located nearby to the proposed Rockhampton Motorsports Precinct (RMP) and measurements may be used to identify the current noise levels within the surrounding area.

The findings presented in the report are based on measurements carried out in September 2020. It should be noted that background levels can change due to changes in climatic conditions and measurements conducted at other times of the year may give rise to different results.

2.0 Noise monitoring locations

Noise monitoring locations were selected to be representative locations of the existing noise environment nearby to the RMP. All monitoring locations are residential properties with the closest located predominately to the North of the site. Monitoring locations was discussed and approved with RRC prior to the commencement of the measurements. The address and details of the unattended monitoring period is included in Table 1.

Table 1 - Noise Monitoring Locations

Site	Address	Lot	Start of Monitoring Period	End of Monitoring Period
1	53347 Burnett Highway, Bouldercombe, QLD	Lot 9 RP602640	7 September 2020	22 September 2020
2	89 Tea Tree Road, Bouldercombe, QLD	Lot 11 RP602640	8 September 2020	23 September 2020
3	42 Hunt Road, Bouldercombe, QLD	Lot 2 RP612657	22 September 2020	29 September 2020

3.0 Methodology

3.1 Noise measurements

Noise measurements were undertaken in general accordance with the Queensland Department of Environment and Science document *Noise Measurement Manual* Version 4.01 dated 10 March 2020 (NMM). The measurements were based on the long-term background measurement methodology for unattended monitoring with the addition of two attended measurements at each site.

The methodology for monitoring is the following:

- One monitor, set at 15 minute intervals, was installed by an AECOM operator at each site to conduct continuous unattended noise monitoring for a minimum of 7 days. The monitors were set up to measure A-weighted sound pressure levels with a Fast instrument response. All meters were set to record the noise parameters, L_{Aeq}, L_{Amax}, L_{Amin}, L_{A01}, L_{A10} and L_{A90}.
- Both attended and unattended monitors were field calibrated before and after the measurements. All monitors were laboratory calibrated by a National Australian Testing Authority (NATA) certified calibration laboratory within 2 years and pass the certification for a Class 2 or Class 1 noise level meter. Calibrators were field calibrated within 1 year and meet the certification for a Class 1 calibrator.

- All monitors were installed in the free field at a least 1.5m height. In order to negate reflection effects from buildings and sheds etc, all monitors were installed at least 3.5m from reflecting surfaces apart from the ground. Also, the logger was positioned such that noise contamination from other sources of noise such as pool pumps or air conditioners were minimised as far as practicable
- A portable weather station was used to monitor rain, humidity, wind and wind direction.
- Two 15 minute attended measurements were conducted at each site to identify localised noise source influencing the noise environment.

3.2 Quality Control and Instrumentation

Unattended noise logging was completed through the use of SVAN 957, Larson Davis 831 and RION NL-21 environmental noise loggers, which are Class 1 and Class 2 sound level meters, respectively. Class 1 and 2 noise loggers are considered acceptable for measuring ambient noise levels in accordance with the Australian Standard - AS 2702 *“Methods for the Measurement of Road Traffic Noise”*.

All sound level loggers and meters recorded noise data for the L_{A1}, L_{A10}, L_{A90}, L_{Aeq} and L_{Amax} descriptors and were field-calibrated using a Quest QC-20 acoustic calibrator both before and after noise measurements to monitor drifts in calibration. No drifts exceeding ±0.5 dB were noted throughout the monitoring exercise.

All sound level loggers, meters and calibrators were in current National Association of Testing Authorities (NATA) calibration at the time of use. NATA is Australia’s national laboratory accreditation authority. The details of the instrumentation used and their laboratory calibration dates prior to the noise monitoring period are shown below in Table 2. Additional details of the instrumentation used for the measurements are presented in the site sheets included in Appendix B and calibration certificates included in Appendix C.

Table 2 Noise monitoring equipment

Site	Address	Monitor brand and model	Serial Number	Last NATA calibration
1	53347 Burnett Highway, Bouldercombe, QLD	SVAN 957	27551	14 November 2019
2	89 Tea Tree Road, Bouldercombe, QLD	Larson Davis 831	002313	13 June 2019
3	42 Hunt Road, Bouldercombe, QLD	RION NL-21	00465440	16 December 2019
All	All monitoring sites (On-site calibration)	Quest QC-20	QF30200010	27 February 2020
All	All monitoring sites (Attended measurements)	NTI-XL2	A2A-09320-E0	21 February 2020

3.3 Weather observations

One Davis Vantage Pro2 portable weather stations were installed at the following sites during the noise monitoring period:

- Site 3 (7 September 2020 – 29 September 2020)

The recorded weather conditions comprise:

- Average and maximum wind speed;
- Average temperature;
- Rainfall;
- Humidity; and
- Air pressure.

Any periods of inclement weather with measurement of rain or average wind greater than 5.0 m/s was removed from the data set. Weather data recorded during noise measurements are presented in the site sheets provided in Appendix B.

4.0 Noise monitoring results

The monitoring results at each site have been processed with a focus on the L_{A90} noise descriptor. The L_{A90} is typically used to quantify the existing background noise levels in the surrounding environment. The processing period has been based on a standard Day (7am to 6pm), Evening (6pm to 10pm) and Night (10pm to 7am) as detailed in the NMM.

Additional time periods have also been processed that relate to the Open-air event criteria from the Environmental Protection Act 1994 (EPA 94). This is the typical criteria adopted for events such as races. This criterion is not based on the background noise levels for each of the time periods, but the measurements have been processed for a comparison against the criteria.

Each site also had two sets of attended noise measurements on separate days. These assisted to confirm the localised noise sources within the area and potential extraneous noise. Noise measurement site sheets were produced to present full results noise measurements at all sites and are provided in Appendix B.

4.1 Site 1 - 53347 Burnett Highway

4.1.1 Unattended noise measurements

The location of site one is directly North and the closest site to the proposed RMP. The monitoring site is a residential property located along Burnett Highway with direct line of sight to the highway. Due to this the main influence on the background noise level was vehicle movements along the Burnett Highway. Unattended noise measurements were conducted over a two-week period.

During the day period there is a range of arithmetic average L_{A90} from 36dB(A) to 46dB(A). During the first week of measurements there were periods of gentle wind which increased movement of leaves from nearby trees generating noise. There was a noticeable increase in the noise levels between 6pm to 7:30pm on most days which resulted in the evening and day averages both at similar levels which may be likely due to increased road traffic. The arithmetic average of L_{A90} during the hours of 7am to 10pm also was measured between a range of 36dB(A) to 45dB(A). The daily breakdown for each of the periods and the overall average of the monitoring period is presented in Table 3.

Table 3 Site 1 - Average L_{A90} measured levels per day

Day	Average L_{A90} (dB(A))					
	NMM (Day, Evening, Night)			Time periods defined under EPA 94 (Open-air event)		
	7am–6pm	6pm–10pm	10pm-7am	7am–10pm	10pm–12am	12am-7am
Mon 7 Sep	-	44	32	-	38	-
Tue 8 Sep	46	43	33	45	35	30
Wed 9 Sep	42	38	30	41	33	32

Day	Average L_{A90} (dB(A))					
	NMM (Day, Evening, Night)			Time periods defined under EPA 94 (Open-air event)		
	7am–6pm	6pm–10pm	10pm-7am	7am–10pm	10pm–12am	12am-7am
Thu 10 Sep	40	40	31	40	35	29
Fri 11 Sep	42	39	32	41	30	30
Sat 12 Sep	44	40	29	43	30	32
Sun 13 Sep	40	42	34	40	35	28
Mon 14 Sep	42	41	31	42	31	33
Tue 15 Sep	43	42	34	43	35	31
Wed 16 Sep	42	40	29	42	30	34
Thu 17 Sep	41	42	31	41	33	29
Fri 18 Sep	43	41	33	43	34	30
Sat 19 Sep	43	41	30	42	35	33
Sun 20 Sep	34	41	33	36	32	29
Mon 21 Sep	37	43	30	38	36	33
Tue 22 Sep	36	43	33	38	35	29

The summary of values presented in Table 3 is the arithmetic average of the L_{A90} values over the period of investigation. This calculation is consistent with the method used to determine the *Long-term average A-weighted Background Sound Pressure Level* as per Australian Standard AS1055:2018 *Acoustic – Description and measurement of environmental noise*, which is referenced in NMM. The maximum and minimum $L_{A90(15min)}$ values vary significantly throughout the measurement period, and may be significantly higher and lower than the values presented in Table 3, respectively. As background levels change due to seasonal variations, no single figure can be used to represent the background noise levels at the receptors over a range of climatic conditions. The full set of measurements for each period and additional descriptors such as the L_{Aeq} is included in the site sheet in Appendix B.

4.1.2 Attended noise measurements

As part of the deployment and retrieval of the noise logger an attended noise measurement was taken to identified localised noise sources in the surrounding environment. Both attended measurements were completed by an operator from AECOM. The existing noise environment at this location was predominately influenced by road traffic along Burnett Highway, with the noise levels during the monitoring period presented in Table 4.

Table 4 Site 1 - Attended noise measurements

Date and Time	Measured noise level (15min), dB(A)					Comments
	L_{Amax}	L_{Aeq}	L_{A90}	L_{A10}	L_{A1}	
8 September 2020 10:45am – 11:00am	64	47	43	50	53	The majority of the noise is road traffic noise as cars are constant and there is direct line of sight to highway with levels at 40–53dB(A).

Date and Time	Measured noise level (15min), dB(A)					Comments
	L_{Amax}	L_{Aeq}	L_{A90}	L_{A10}	L_{A1}	
22 September 2020 10:15am – 10:30am	50	39	35	42	44	The background noise is leaves rustling noise and occasional distant traffic. Burnett Highway traffic noise at 36-43dB(A). Traffic along Burnett Highway was significantly less than the first measurement. At some points the road noise is audible but not measurable.

4.2 Site 2 – 89 Tea Tree Road

4.2.1 Unattended noise measurements

The location of site two is North-west of the proposed RMP and located approximately 1.4 kilometres away from the highway. The monitoring site is an isolated residential property with slightly more local vegetation when compared to the other sites. Unattended noise measurements were conducted over a two-week period. The main influencing noise sources at this site is the rustling of leaves generating noise and occasional measurable road traffic noise.

Due to the increased set back from the highway the average background noise levels are lower than site one with an arithmetic average L_{A90} range during the day between 33 dB(A) to 42 dB(A). There was a slight decrease for the average L_{A90} between the hours of 7am to 10pm with the highest arithmetic average L_{A90} noise level of 40dB(A) as the increase for afternoon road traffic was not as significant at this site. The daily breakdown for each period under investigation are presented in Table 5.

Table 5 Site 2 - Average L_{A90} measured levels per day

Day	Average L_{A90} (dB(A))					
	NMM (Day, Evening, Night)			Time periods defined under EPA 94 (Open-air event)		
	7am–6pm	6pm–10pm	10pm-7am	7am–10pm	10pm–12am	12am-7am
Tue 8 Sep	-	35	29	-	25	-
Wed 9 Sep	39	31	28	37	27	30
Thu 10 Sep	36	31	27	35	24	28
Fri 11 Sep	39	33	30	37	26	28
Sat 12 Sep	42	32	27	40	24	31
Sun 13 Sep	38	31	29	36	30	28
Mon 14 Sep	40	32	28	38	24	29
Tue 15 Sep	41	33	32	39	29	29
Wed 16 Sep	40	31	26	37	24	33
Thu 17 Sep	39	33	27	38	26	27
Fri 18 Sep	42	33	31	39	28	27
Sat 19 Sep	42	30	27	39	30	32
Sun 20 Sep	33	32	27	33	24	26
Mon 21 Sep	35	34	28	35	32	28

Day	Average L_{A90} (dB(A))					
	NMM (Day, Evening, Night)			Time periods defined under EPA 94 (Open-air event)		
	7am–6pm	6pm–10pm	10pm-7am	7am–10pm	10pm–12am	12am-7am
Tue 22 Sep	35	36	30	35	31	27

The summary of values presented in Table 5 is the arithmetic average of the L_{A90} values over the period of investigation. This calculation is consistent with the method used to determine the *Long-term average A-weighted Background Sound Pressure Level* as per Australian Standard AS1055:2018 *Acoustic – Description and measurement of environmental noise*, which is referenced in NMM. The maximum and minimum $L_{A90(15min)}$ values vary significantly throughout the measurement period, and may be significantly higher and lower than the values presented in Table 5, respectively. As background levels change due to seasonal variations, no single figure can be used to represent the background noise levels at the receptors over a range of climatic conditions. The full set of measurements for each period and additional descriptors such as the L_{Aeq} is included in the site sheet in Appendix B.

4.2.2 Attended noise measurements

As part of the deployment and retrieval of the noise logger an attended noise measurement was taken to identified localised noise sources in the surrounding environment. Both attended measurements were completed by an operator from AECOM. The existing noise environment at this location was predominately influenced by localised natural sources of rustling of leaves, birds and distant road traffic noise with the noise levels during the monitoring period presented in Table 6.

Table 6 Site 2 - Attended noise measurements

Date and Time	Measured noise level (15min), dB(A)					Comments
	L_{Amax}	L_{Aeq}	L_{A90}	L_{A10}	L_{A1}	
8 September 2020 10:00am – 10:15am	73	46	42	48	52	The background noise is rustling of leaves at 41-53dB(A). Road traffic noise from Burnett Hwy at 40dB(A). Bird noise at 45-73dB(A).
22 September 2020 12:00pm – 12:15pm	74	41	33	43	49	The background noise is rustling of leaves at 35-48dB(A). Road traffic noise from Burnett Hwy at 32-35dB(A). Bird noise at 35-52dB(A). Dog barking at 70-71dB(A).

4.3 Site 3 – 42 Hunt Road

4.3.1 Unattended noise measurements

The location of site three is approximately 1 kilometre North of the proposed RMP and located approximately the same setback distance from the highway as site one. The monitoring site is another residential property and located close by to other neighbouring properties. Unattended noise measurements were conducted over a week period after there was an equipment failure during the initial monitoring period and re-measurements were required. Alike site one the main influencing noise source is the road traffic along Burnett Highway.

During the day period there is a range of arithmetic average L_{A90} values ranging from 34dB(A) to 42dB(A). There was a noticeable increase in the noise levels between 6pm to 7:30pm on most days which resulted in the evening averages measured higher than the 7am to 6pm day period. The arithmetic average of the L_{A90} during the hours of 7am to 10pm also was also calculated between 34dB(A) to 42dB(A). The daily breakdown for each of the periods for the calculated periods is presented in Table 7.

Table 7 Site 3 - Average L_{A90} measured levels per day

Day	Average L_{A90} (dB(A))					
	NMM (Day, Evening, Night)			Time periods defined under EPA 94 (Open-air event)		
	7am–6pm	6pm–10pm	10pm-7am	7am–10pm	10pm–12am	12am-7am
Tue 22 Sep		42	30		31	
Wed 23 Sep	35	45	36	38	35	30
Thu 24 Sep	36	38	31	37	28	36
Fri 25 Sep	38	43	35	39	42	31
Sat 26 Sep	34	36	25	34	24	33
Sun 27 Sep	35	36	29	35	27	25
Mon 28 Sep	41	38	30	40	26	30
Tue 29 Sep	42	40	29	42	27	32

The summary of values presented in Table 7 is the arithmetic average of the L_{A90} values over the period of investigation. This calculation is consistent with the method used to determine the *Long-term average A-weighted Background Sound Pressure Level* as per Australian Standard AS1055:2018 *Acoustic – Description and measurement of environmental noise*, which is referenced in NMM. The maximum and minimum $L_{A90(15min)}$ values vary significantly throughout the measurement period, and may be significantly higher and lower than the values presented in Table 7, respectively. As background levels change due to seasonal variations, no single figure can be used to represent the background noise levels at the receptors over a range of climatic conditions. The full set of measurements for each period and additional descriptors such as the L_{Aeq} is included in the site sheet in Appendix B.

4.3.2 Attended noise measurements

As part there was two attended noise measurement taken to identified localised noise sources in the surrounding environment. Both attended measurements were completed by an operator from AECOM. The existing noise environment at this location was predominately influenced by road traffic along Burnett Highway, construction noise and intermittent vehicles along Hunt Road and natural noise sources such as rustling leaves and birds with the noise levels during the monitoring period presented in Table 8.

Table 8 Site 3 - Attended noise measurements

Date and Time	Measured noise level (15min), dB(A)					Comments
	L_{Amax}	L_{Aeq}	L_{A90}	L_{A10}	L_{A1}	
22 September 2020 1:15pm – 1:30pm	66	40	32	42	50	Burnett Hwy car noise at 30-42 dBA. Heavy Vehicle noise at 34-42 dBA. Vehicles along Hunt Road at 41-65 dBA. Bird noise at 36-53 dBA.
23 September 2020 10:30am – 10:45am	65	40	32	40	51	The background is the road traffic noise from Burnett highway at 29 - 35dB(A). Dog barking is from the house on the opposite side of the street 34-43dB(A). Hunt Road car noise at 42-64 dBA. Bird noise at 34-55 dBA.

5.0 Conclusion

AECOM conducted baseline noise monitoring at 3 sites in proximity to the proposed RMP between 8 September 2020 to 29 September 2020.

Noise monitoring was conducted in general accordance with the Noise Measurement Manual Version 4.01 dated March 2020 for long-term background noise measurements to establish the existing noise levels at representative locations. The noise monitoring highlighted that the road traffic along Burnett Highway is the dominate noise source and influences the background noise levels at each site. The further the setback from the highway the lower the measured background noise level.

Appendix A

Glossary

Appendix A Glossary

The following is a brief description of the acoustic terminology used in this report.

Term	Explanation
Sound pressure level	The amount of sound at a specified point.
Decibel [dB]	The measurement unit of sound.
A Weighted decibel [dB(A)]	The A weighting is a frequency filter applied to measured noise levels to represent how humans hear sounds. The A-weighting filter emphasises frequencies in the speech range (between 1kHz and 4 kHz) which the human ear is most sensitive to, and places less emphasis on low frequencies at which the human ear is not so sensitive. When an overall sound level is A-weighted it is expressed in units of dB(A). The following are examples of the decibel readings of every day sounds; 0 dB(A) The faintest sound we can hear 30 dB(A) A quiet library or in a quiet location in the country 45 dB(A) Typical office space. Ambience in the city at night 60 dB(A) Cafe courtyard at lunch time 70 dB(A) The sound of a car passing on the street 80 dB(A) Loud music played at home 90 dB(A) The sound of a truck passing on the street 100 dB(A) The sound of a rock band 115 dB(A) Limit of sound permitted in industry 120 dB(A) Deafening
Frequency [f]	The repetition rate of the cycle measured in Hertz (Hz). The frequency corresponds to the pitch of the sound. A high frequency corresponds to a high pitched sound and a low frequency to a low pitched sound.
Equivalent continuous sound level [L_{eq}]	The constant sound level which, when occurring over the same period of time, would result in the receptor experiencing the same amount of sound energy.
$L_{A,max}$	The A-weighted maximum sound pressure level measured over the measurement period
$L_{A,10}$	The A-weighted sound pressure level exceeded for 10% of the measurement period. For 10% of the measurement period it was louder than the L_{10}.
$L_{A,90}$	The A-weighted sound pressure level exceeded for 90% of the measurement period. For 90% of the measurement period it was louder than the L_{90}.
Background noise	The underlying level of noise present in the ambient noise when extraneous noise (such as transient traffic and dogs barking) is removed.

Appendix B

Noise monitoring site sheets

Noise Monitoring Data Sheet

Rockhampton Motorsport Precinct

SITE ID
1

Dominant Road	Burnett Highway	From	7/09/2020	Address	53347 Burnett Highway
Distance to Road (m)	464	To	23/09/2020	Suburb	Bouldercombe
Pre Calibration	94.0	Mic. Height (m)	1.6	District	Rockhampton
Post Calibration	93.2	Meas. Type	Free Field	Longitude	150.490661°
Operator	LAN	Inst. Type	SVAN 957	Latitude	-23.501627°
Sample Int.	15 min	Inst. Serial #	27551	RP Lot#	9RP602640

Site Diagram - Aerial

Site Diagram - GIS

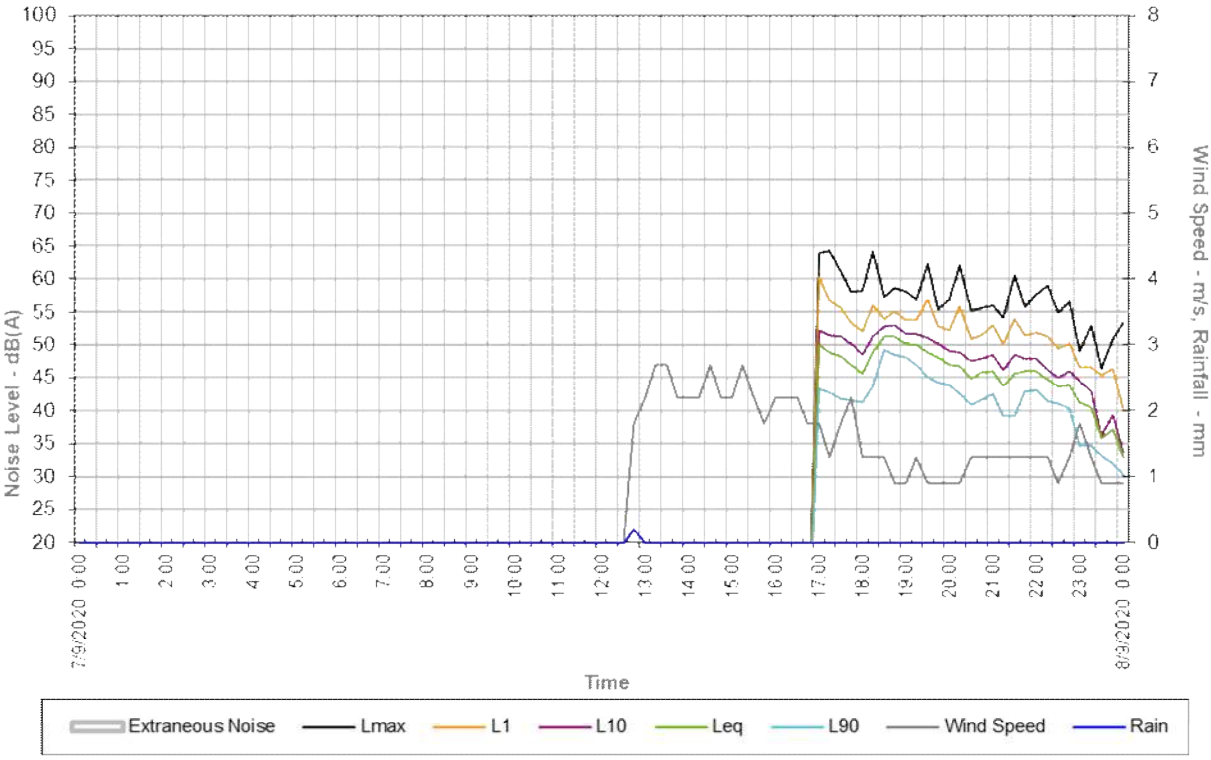
Site Photographs

Site Attended Measurements Summary

Date	Start	Measurement Type	Lmax	L1	L10	L90	Leq	Weather Conditions Comply	End
8/09/2020	**10:45 AM**	Attended	**63.8**	**53.3**	**50.0**	**42.5**	**47.3**	**Pass**	**11:00 AM**
		Logged	**65.6**	**53.4**	**49.9**	**42.2**	**47.1**		
		Difference	**-1.8**	**-0.1**	**0.1**	**0.3**	**0.2**		
Comments	The majority of the noise is road traffic noise as cars are constant and line of sight to the road is unobstructed. There was only 1 heavy vehicle during the entire measurement. The L90 the distant traffic. 11:15 min of Burnett Hwy cars at 40-53 dBA. 0:24 min of Burnett Hwy H.V.s at 50-63 dBA. 2:56 min of aircraft at 48 dBA. 0:25 min of leaf rustle noise at 41-42 dBA.								
22/09/2020	**10:15 AM**	Attended	**50.1**	**44.3**	**42.0**	**35.0**	**39.4**	**Pass**	**10:30 AM**
		Logged	**51.4**	**43.6**	**41.2**	**33.6**	**38.6**		
		Difference	**-1.3**	**0.7**	**0.8**	**1.4**	**0.8**		
Comments	The background noise is low leaves rustling noise and occasional distant traffic. At some points the road noise is audible but not measurable. Significantly less traffic than last time. 1:45 min of Burnett Hwy car noise at 36-43 dBA. 1:10 min of Distant traffic noise at 32-40 dBA. 12:05 min of leaf rustle noise at 25-51 dBA.								

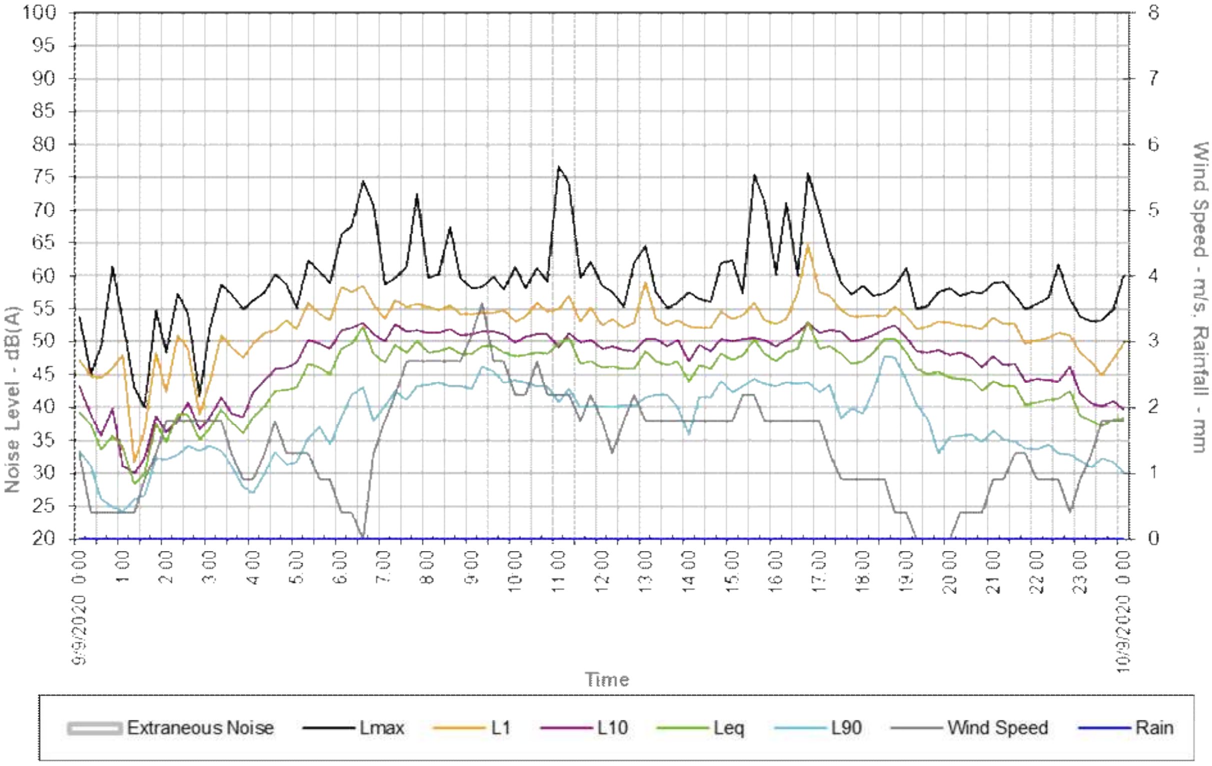
Site Noise and Weather Graphical Analysis

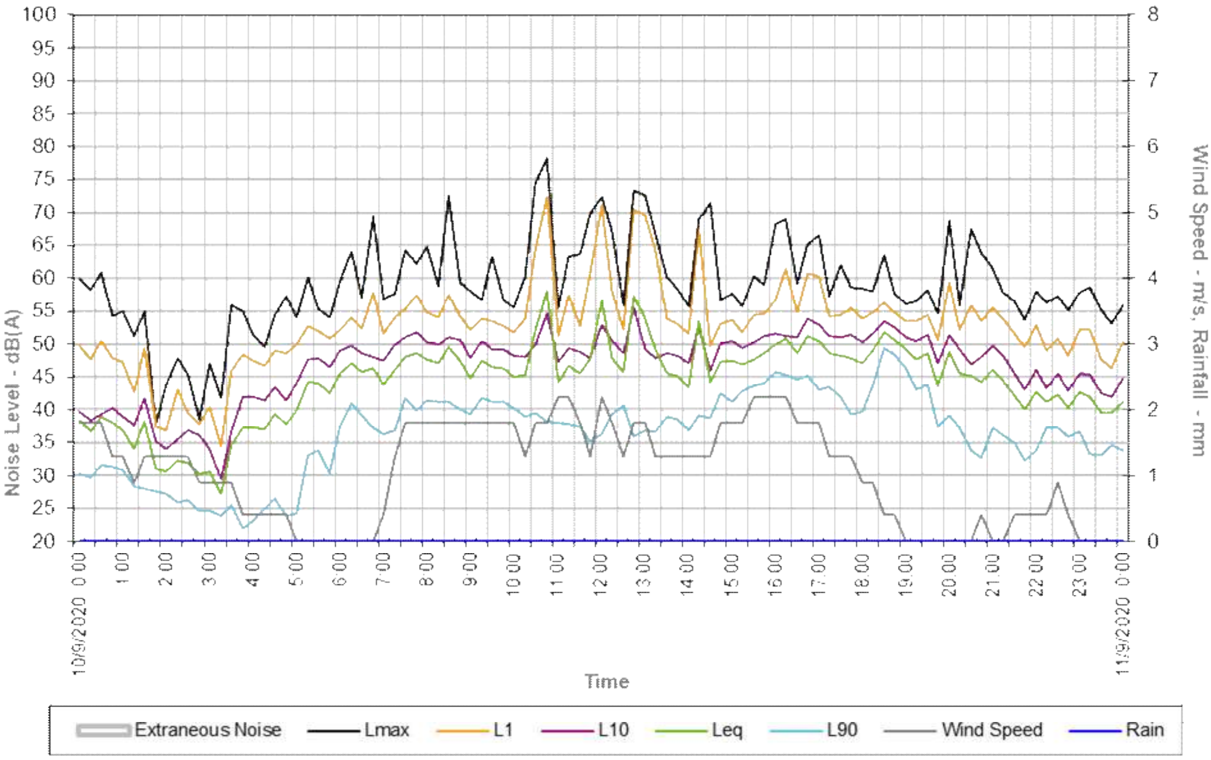
53347 Burnett Highway, Bouldercombe



Site Noise and Weather Graphical Analysis

53347 Burnett Highway, Bouldercombe

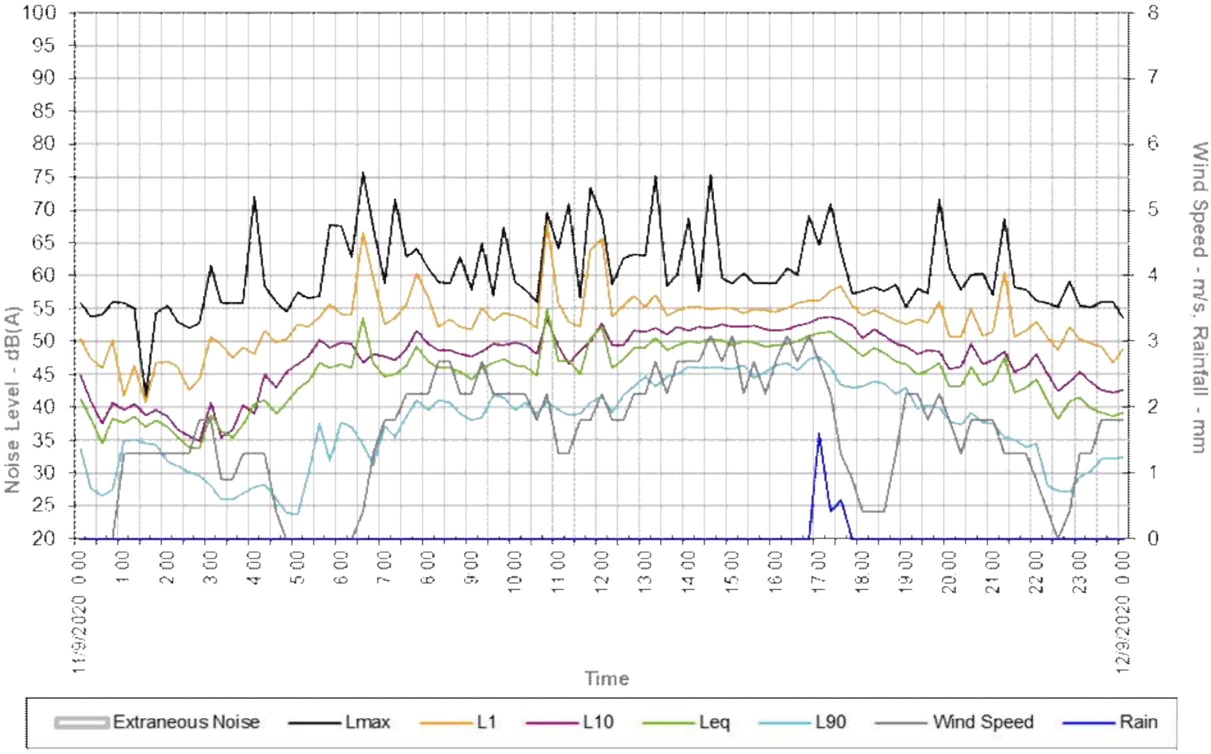


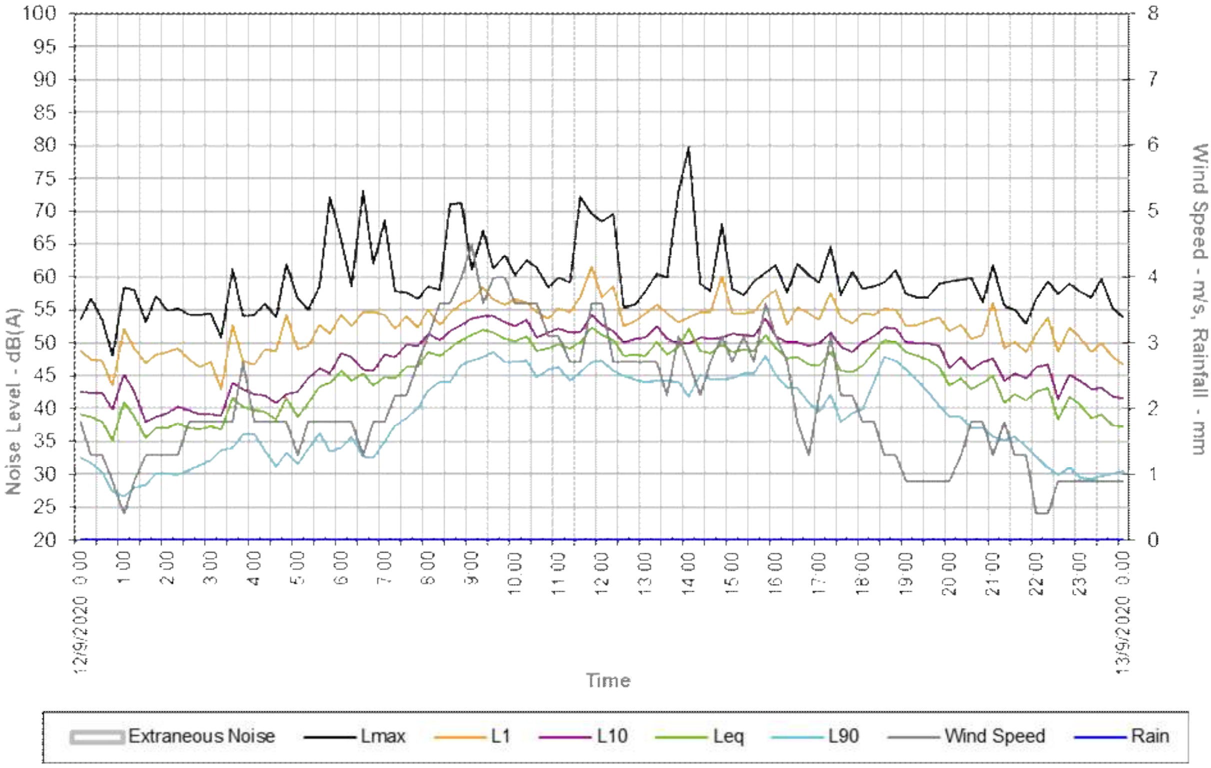


AECOM

Site Noise and Weather Graphical Analysis

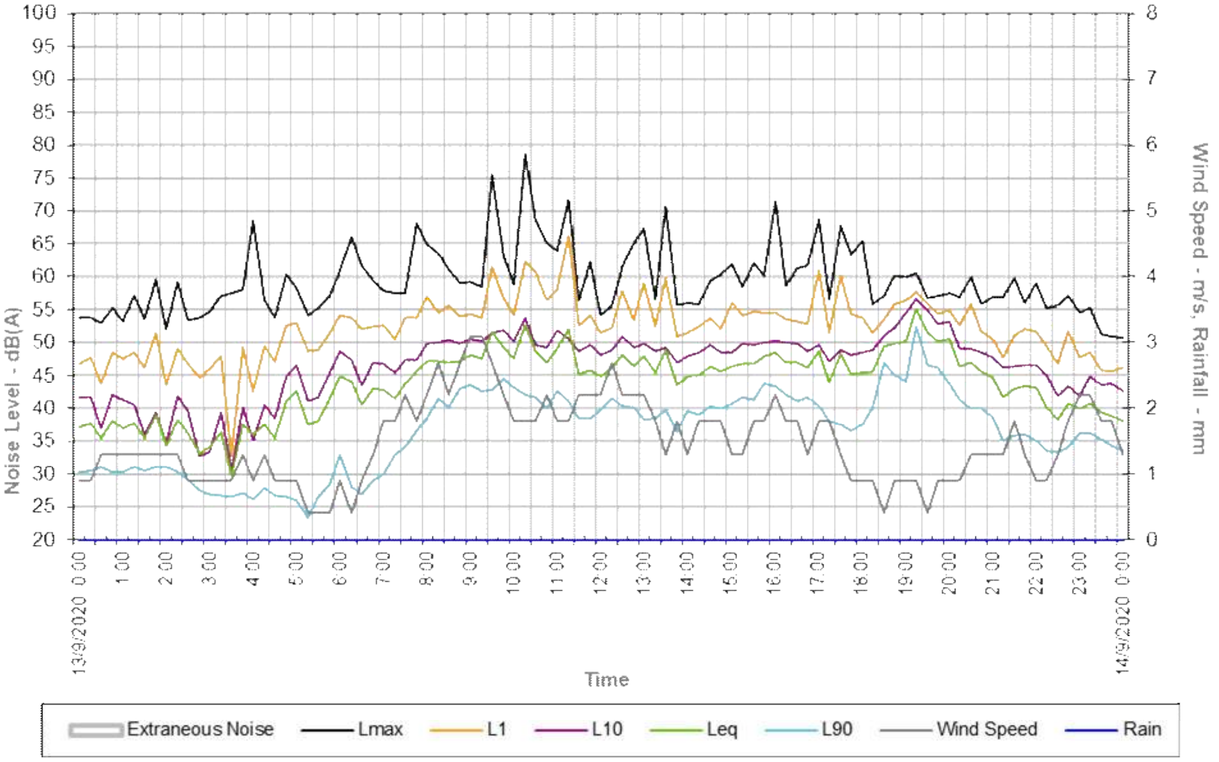
53347 Burnett Highway, Bouldercombe

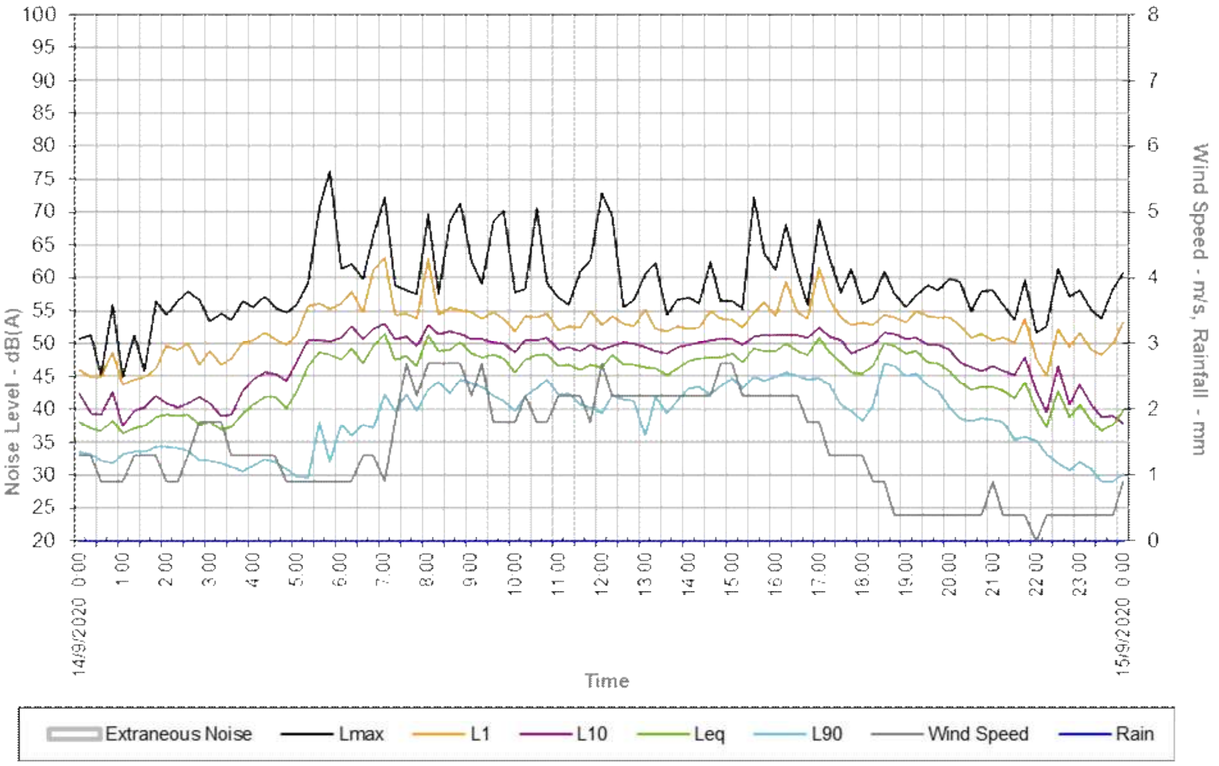




Site Noise and Weather Graphical Analysis

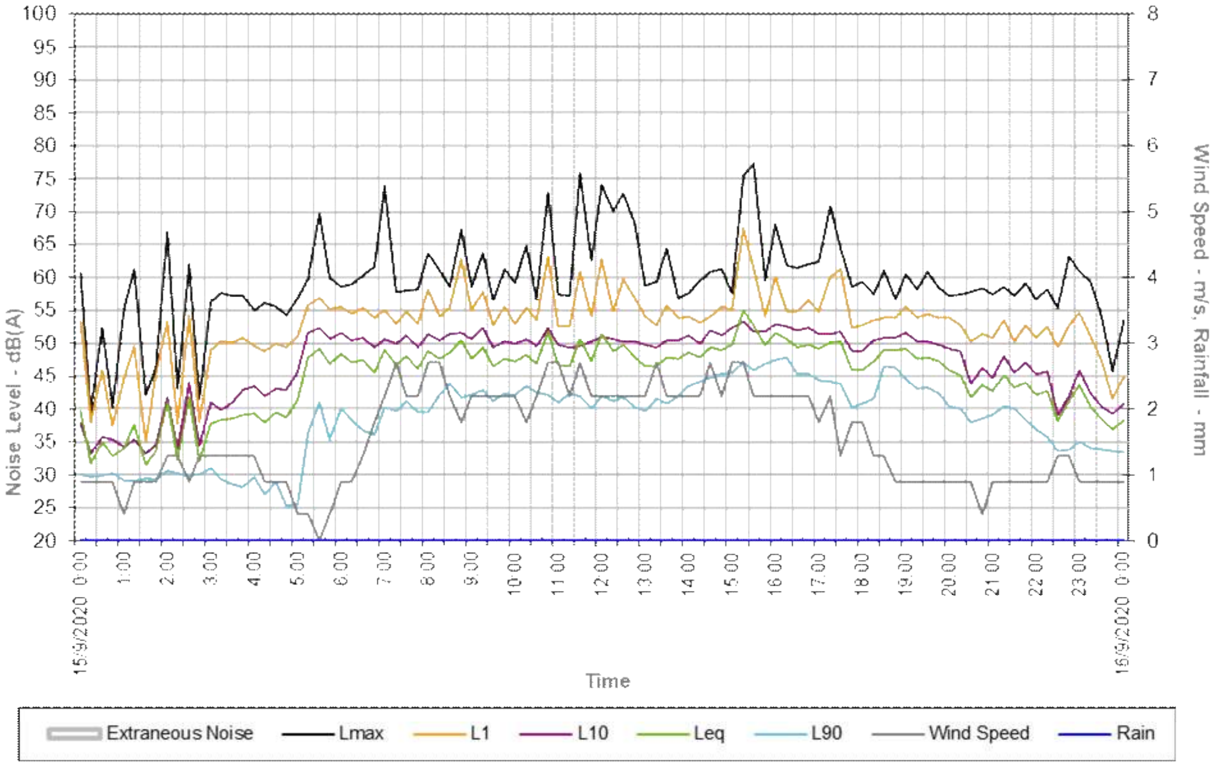
53347 Burnett Highway, Bouldercombe

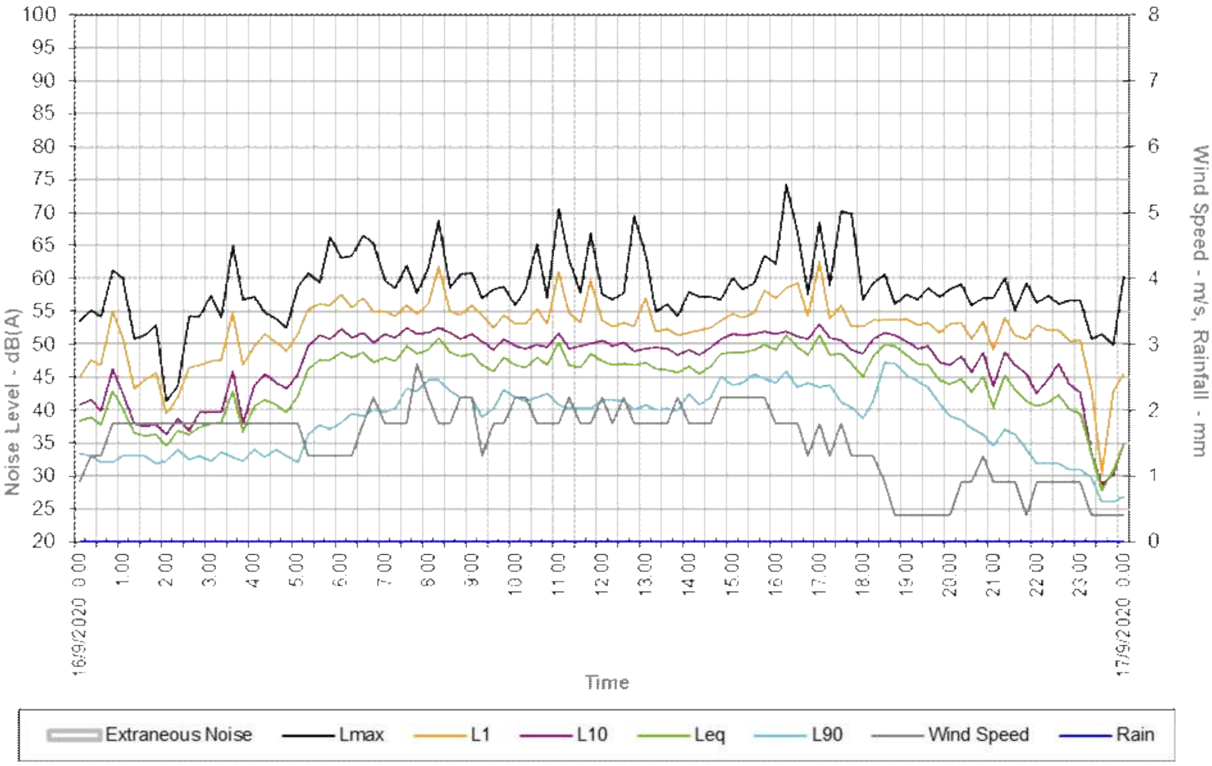




Site Noise and Weather Graphical Analysis

53347 Burnett Highway, Bouldercombe





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Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
7/09/2020 17:00	50	64	60	52	43	40	1.8	4.9	68	23	58	1019	0.0
7/09/2020 17:15	49	64	57	51	43	38	1.3	4.9	90	23	59	1019	0.0
7/09/2020 17:30	48	61	56	51	42	37	1.8	4.9	90	23	59	1019	0.0
7/09/2020 17:45	47	58	53	50	42	39	2.2	4.9	90	23	59	1019	0.0
7/09/2020 18:00	46	58	52	48	41	39	1.3	4.5	90	22	63	1019	0.0
7/09/2020 18:15	49	64	56	51	44	40	1.3	3.6	90	22	66	1019	0.0
7/09/2020 18:30	51	57	54	53	49	47	1.3	3.6	113	22	67	1020	0.0
7/09/2020 18:45	51	59	55	53	49	43	0.9	2.7	113	22	67	1020	0.0
7/09/2020 19:00	50	58	54	52	48	46	0.9	2.7	113	21	68	1020	0.0
7/09/2020 19:15	50	57	54	52	47	44	1.3	4.5	113	21	68	1020	0.0
7/09/2020 19:30	49	62	57	51	45	43	0.9	2.7	113	21	70	1020	0.0
7/09/2020 19:45	48	55	53	50	44	41	0.9	3.6	113	21	70	1020	0.0
7/09/2020 20:00	47	57	52	49	44	41	0.9	4.0	90	21	71	1020	0.0
7/09/2020 20:15	47	62	56	49	43	39	0.9	4.0	113	21	71	1020	0.0
7/09/2020 20:30	45	55	51	48	41	38	1.3	3.1	113	21	71	1020	0.0
7/09/2020 20:45	46	56	51	48	42	38	1.3	3.6	113	21	72	1020	0.0
7/09/2020 21:00	46	56	53	48	43	40	1.3	2.7	135	20	74	1020	0.0
7/09/2020 21:15	44	54	50	46	39	36	1.3	3.1	113	20	73	1021	0.0
7/09/2020 21:30	46	61	54	49	39	36	1.3	2.7	113	20	73	1021	0.0
7/09/2020 21:45	46	56	51	48	43	38	1.3	2.7	135	20	74	1021	0.0
7/09/2020 22:00	46	58	52	48	43	38	1.3	2.7	135	19	75	1021	0.0
7/09/2020 22:15	45	59	51	46	42	38	1.3	2.2	135	19	75	1021	0.0
7/09/2020 22:30	44	55	49	45	41	36	0.9	3.1	135	19	76	1021	0.0
7/09/2020 22:45	44	57	50	46	40	34	1.3	2.7	135	19	76	1020	0.0
7/09/2020 23:00	41	49	47	44	35	32	1.8	3.6	135	19	77	1021	0.0
7/09/2020 23:15	41	53	47	43	35	32	1.3	2.7	135	19	78	1020	0.0
7/09/2020 23:30	36	46	46	36	33	32	0.9	2.2	135	19	79	1020	0.0
7/09/2020 23:45	37	51	46	39	32	30	0.9	2.2	135	19	79	1020	0.0
8/09/2020 0:00	33	53	40	34	30	29	0.9	2.2	135	19	79	1020	0.0
8/09/2020 0:15	33	43	36	35	31	30	0.9	2.2	135	19	79	1020	0.0
8/09/2020 0:30	33	37	36	34	31	30	0.9	2.2	135	19	79	1020	0.0
8/09/2020 0:45	33	47	36	35	31	30	1.3	3.6	135	18	80	1020	0.0
8/09/2020 1:00	35	53	44	36	31	30	1.3	3.1	135	18	81	1020	0.0
8/09/2020 1:15	34	51	44	34	30	28	0.9	2.2	135	18	81	1020	0.0
8/09/2020 1:30	31	35	34	33	29	28	0.4	1.8	113	18	81	1020	0.0
8/09/2020 1:45	32	44	35	33	30	29	0.9	2.7	135	18	81	1019	0.0
8/09/2020 2:00	31	38	34	32	29	26	0.4	1.8	135	18	82	1019	0.0
8/09/2020 2:15	34	57	47	32	26	24	0.4	1.3	135	18	83	1019	0.0
8/09/2020 2:30	37	59	51	35	25	23	0.4	1.3	135	17	83	1019	0.0
8/09/2020 2:45	31	51	42	31	24	22	0.0	0.4	135	17	84	1019	0.0
8/09/2020 3:00	37	58	49	40	24	22	0.0	0.9	135	17	84	1019	0.0
8/09/2020 3:15	27	39	33	29	23	22	0.4	0.9	135	17	84	1019	0.0
8/09/2020 3:30	34	54	47	32	24	23	0.4	1.3	135	17	84	1019	0.0
8/09/2020 3:45	40	58	52	45	25	22	0.4	2.2	135	17	84	1019	0.0
8/09/2020 4:00	37	56	48	42	26	24	0.9	2.2	135	17	83	1019	0.0
8/09/2020 4:15	42	59	52	46	29	25	0.4	2.2	135	17	83	1019	0.0
8/09/2020 4:30	38	56	49	42	27	24	0.0	0.9	135	17	84	1019	0.0
8/09/2020 4:45	40	56	50	44	29	26	0.4	1.3	135	17	84	1019	0.0
8/09/2020 5:00	42	57	52	47	27	25	0.4	1.3	135	---	---	1019	0.0
8/09/2020 5:15	44	58	52	48	33	29	0.0	0.0	0	---	---	1019	0.0
8/09/2020 5:30	47	58	56	51	38	31	0.0	0.0	0	---	---	1019	0.0
8/09/2020 5:45	46	58	54	50	38	31	0.0	0.0	0	---	---	1019	0.0
8/09/2020 6:00	48	59	56	51	39	29	0.0	0.0	0	---	---	1019	0.0
8/09/2020 6:15	49	65	58	52	40	33	0.0	0.0	0	---	---	1020	0.0
8/09/2020 6:30	48	59	56	52	39	34	0.9	2.2	158	19	81	1020	0.0
8/09/2020 6:45	48	67	57	51	38	33	1.3	2.7	158	19	78	1020	0.0
8/09/2020 7:00	47	73	54	50	40	32	1.3	3.1	135	20	75	1020	0.0
8/09/2020 7:15	47	62	56	50	40	36	1.8	3.6	158	21	73	1020	0.0
8/09/2020 7:30	48	59	55	51	42	37	2.2	5.4	135	22	71	1020	0.0
8/09/2020 7:45	51	73	57	51	44	37	2.2	4.5	135	22	69	1021	0.0
8/09/2020 8:00	50	63	57	52	45	42	3.1	6.3	135	23	67	1021	0.0
8/09/2020 8:15	50	62	56	52	44	40	3.1	6.7	135	23	66	1021	0.0
8/09/2020 8:30	50	58	55	52	45	41	3.1	7.6	135	23	65	1021	0.0
8/09/2020 8:45	49	62	54	52	45	42	3.6	7.2	135	24	63	1021	0.0
8/09/2020 9:00	50	59	55	52	47	44	3.6	6.7	135	24	64	1021	0.0
8/09/2020 9:15	50	61	55	52	46	44	2.7	5.8	135	24	62	1021	0.0
8/09/2020 9:30	49	61	55	52	46	43	2.7	5.4	135	24	61	1021	0.0
8/09/2020 9:45	50	58	55	52	46	43	2.7	5.8	135	25	59	1021	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
8/09/2020 10:00	49	60	55	52	43	39	2.7	5.8	135	25	58	1021	0.0
8/09/2020 10:15	48	59	54	51	44	42	3.1	5.8	135	24	57	1021	0.0
8/09/2020 10:30	49	63	56	52	45	41	2.7	5.8	135	24	58	1021	0.0
8/09/2020 10:45	47	66	53	50	42	39	3.1	5.4	135	24	59	1021	0.0
8/09/2020 11:00	48	60	54	51	42	39	2.2	5.8	135	25	58	1020	0.0
8/09/2020 11:15	58	71	69	63	46	43	2.7	6.7	135	26	53	1020	0.0
8/09/2020 11:30	56	68	66	61	48	45	2.7	5.8	135	26	51	1020	0.0
8/09/2020 11:45	54	68	65	54	46	41	2.7	5.8	135	26	50	1020	0.0
8/09/2020 12:00	52	64	62	54	47	43	2.7	7.2	135	26	49	1019	0.0
8/09/2020 12:15	54	66	64	58	47	43	2.7	6.3	135	27	49	1019	0.0
8/09/2020 12:30	54	66	63	57	47	43	2.7	6.3	113	27	50	1019	0.0
8/09/2020 12:45	53	65	62	56	45	42	2.2	5.4	113	26	51	1019	0.0
8/09/2020 13:00	52	63	61	55	46	41	2.2	5.8	135	27	47	1019	0.0
8/09/2020 13:15	54	65	61	56	49	45	2.7	6.7	113	27	50	1018	0.0
8/09/2020 13:30	54	63	60	57	48	41	2.7	5.8	113	27	48	1018	0.0
8/09/2020 13:45	53	66	59	55	48	45	2.7	6.3	113	27	47	1018	0.0
8/09/2020 14:00	53	63	59	56	48	44	2.7	6.3	113	27	48	1018	0.0
8/09/2020 14:15	56	71	68	56	48	45	2.7	6.3	113	27	48	1018	0.0
8/09/2020 14:30	52	60	58	54	49	45	2.7	5.8	113	27	49	1018	0.0
8/09/2020 14:45	51	59	56	54	48	46	2.7	6.7	113	27	51	1018	0.0
8/09/2020 15:00	52	70	60	54	48	45	2.7	6.3	113	27	51	1018	0.0
8/09/2020 15:15	52	63	57	54	48	44	2.7	6.7	113	26	52	1018	0.0
8/09/2020 15:30	50	58	55	53	46	43	2.7	7.2	113	26	53	1018	0.0
8/09/2020 15:45	51	57	55	53	47	44	2.7	5.8	113	26	54	1018	0.0
8/09/2020 16:00	50	58	55	52	46	43	2.2	6.3	113	25	55	1018	0.0
8/09/2020 16:15	49	57	55	52	45	43	2.2	7.2	113	25	56	1018	0.0
8/09/2020 16:30	51	63	59	53	47	44	2.2	4.9	113	25	57	1018	0.0
8/09/2020 16:45	50	61	55	52	47	43	2.2	6.3	113	24	59	1018	0.0
8/09/2020 17:00	49	56	54	51	45	43	2.2	5.8	113	23	61	1018	0.0
8/09/2020 17:15	50	64	58	52	45	42	1.8	4.0	113	23	63	1018	0.0
8/09/2020 17:30	48	61	55	51	43	39	1.3	4.0	113	23	66	1018	0.0
8/09/2020 17:45	47	58	54	51	42	38	1.8	4.9	135	22	66	1018	0.0
8/09/2020 18:00	47	56	54	50	41	38	1.3	4.5	113	22	68	1018	0.0
8/09/2020 18:15	47	59	55	50	42	37	1.3	3.1	113	22	71	1019	0.0
8/09/2020 18:30	50	57	54	52	48	45	0.9	2.2	113	21	72	1019	0.0
8/09/2020 18:45	54	70	65	56	48	44	0.4	2.2	113	21	74	1019	0.0
8/09/2020 19:00	50	67	56	51	46	42	0.9	2.7	135	21	74	1019	0.0
8/09/2020 19:15	48	63	53	50	45	43	0.9	3.1	113	21	75	1019	0.0
8/09/2020 19:30	47	60	54	50	42	40	0.9	2.7	135	21	75	1019	0.0
8/09/2020 19:45	45	55	52	48	42	40	1.3	3.6	135	21	74	1019	0.0
8/09/2020 20:00	45	57	52	48	42	40	1.3	3.6	135	21	74	1019	0.0
8/09/2020 20:15	45	58	53	48	41	38	1.3	3.6	135	20	74	1019	0.0
8/09/2020 20:30	44	60	50	46	40	38	1.3	3.1	135	20	74	1020	0.0
8/09/2020 20:45	44	54	49	46	40	38	1.3	4.5	135	20	75	1019	0.0
8/09/2020 21:00	45	58	50	47	42	38	0.9	2.2	135	20	76	1019	0.0
8/09/2020 21:15	46	58	51	48	43	41	0.9	2.7	135	20	77	1019	0.0
8/09/2020 21:30	46	57	52	48	41	39	0.4	2.2	135	19	78	1020	0.0
8/09/2020 21:45	44	53	49	46	40	37	0.9	2.2	135	19	77	1020	0.0
8/09/2020 22:00	45	62	52	47	40	37	0.4	2.7	135	19	76	1020	0.0
8/09/2020 22:15	41	55	49	44	35	33	0.9	2.2	135	19	76	1019	0.0
8/09/2020 22:30	41	56	48	44	36	34	0.9	2.2	135	19	76	1019	0.0
8/09/2020 22:45	43	58	52	46	36	33	0.9	2.2	158	19	76	1019	0.0
8/09/2020 23:00	38	48	46	42	32	30	0.9	2.2	158	19	77	1019	0.0
8/09/2020 23:15	39	54	48	43	33	31	0.9	2.7	158	19	77	1019	0.0
8/09/2020 23:30	41	62	50	45	33	31	1.3	3.1	158	19	77	1019	0.0
8/09/2020 23:45	39	56	47	43	34	31	1.3	3.1	158	19	77	1019	0.0
9/09/2020 0:00	39	54	47	43	34	31	1.3	3.1	158	19	77	1019	0.0
9/09/2020 0:15	37	45	45	39	31	28	0.4	1.3	158	18	78	1019	0.0
9/09/2020 0:30	34	49	45	36	26	23	0.4	0.9	158	18	78	1019	0.0
9/09/2020 0:45	36	61	46	40	25	23	0.4	0.9	158	18	79	1018	0.0
9/09/2020 1:00	34	53	48	31	24	23	0.4	1.3	158	18	78	1018	0.0
9/09/2020 1:15	28	43	32	30	26	24	0.4	1.8	158	18	77	1018	0.0
9/09/2020 1:30	30	40	36	32	27	25	0.9	3.1	158	18	76	1018	0.0
9/09/2020 1:45	38	55	48	39	32	28	1.3	2.7	158	18	76	1018	0.0
9/09/2020 2:00	35	48	42	36	32	30	1.8	3.6	158	18	76	1018	0.0
9/09/2020 2:15	39	57	51	38	33	31	1.8	3.6	135	18	76	1017	0.0
9/09/2020 2:30	39	54	49	41	34	33	1.8	3.1	135	18	77	1017	0.0
9/09/2020 2:45	35	42	39	37	34	32	1.8	4.0	158	18	77	1017	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
9/09/2020 3:00	37	52	44	39	34	32	1.8	3.6	135	18	77	1017	0.0
9/09/2020 3:15	40	59	51	42	33	32	1.8	4.0	158	18	77	1017	0.0
9/09/2020 3:30	38	57	49	39	31	29	1.3	3.1	158	18	77	1017	0.0
9/09/2020 3:45	36	55	48	39	28	26	0.9	1.8	158	18	78	1017	0.0
9/09/2020 4:00	39	56	50	42	27	25	0.9	2.7	158	18	78	1017	0.0
9/09/2020 4:15	40	58	51	44	30	27	1.3	3.1	158	18	78	1017	0.0
9/09/2020 4:30	42	60	52	46	33	31	1.8	4.5	158	18	78	1017	0.0
9/09/2020 4:45	43	59	53	46	31	30	1.3	3.1	158	18	78	1017	0.0
9/09/2020 5:00	43	55	52	47	32	30	1.3	3.1	135	18	78	1017	0.0
9/09/2020 5:15	47	62	56	50	35	31	1.3	2.7	135	17	79	1017	0.0
9/09/2020 5:30	46	61	54	50	37	30	0.9	2.2	135	17	79	1017	0.0
9/09/2020 5:45	45	59	53	49	34	29	0.9	1.8	158	17	79	1017	0.0
9/09/2020 6:00	49	66	58	52	39	30	0.4	1.8	158	17	79	1017	0.0
9/09/2020 6:15	50	68	58	52	42	35	0.4	1.3	158	17	78	1017	0.0
9/09/2020 6:30	52	74	59	53	43	33	0.0	0.9	113	17	83	1017	0.0
9/09/2020 6:45	48	71	56	51	38	32	1.3	3.1	135	19	73	1017	0.0
9/09/2020 7:00	47	59	53	50	40	34	1.8	4.5	135	20	71	1018	0.0
9/09/2020 7:15	49	60	56	53	43	37	2.2	4.5	135	21	69	1018	0.0
9/09/2020 7:30	48	61	55	52	41	36	2.7	5.4	135	21	67	1018	0.0
9/09/2020 7:45	50	73	56	52	43	40	2.7	5.8	135	21	66	1018	0.0
9/09/2020 8:00	48	60	55	51	44	40	2.7	6.7	135	22	65	1018	0.0
9/09/2020 8:15	49	60	55	51	44	39	2.7	5.4	135	22	63	1018	0.0
9/09/2020 8:30	49	68	56	52	43	40	2.7	5.4	135	23	60	1018	0.0
9/09/2020 8:45	48	60	54	51	43	39	2.7	7.2	135	23	58	1018	0.0
9/09/2020 9:00	48	58	54	51	43	39	3.1	6.3	135	23	56	1018	0.0
9/09/2020 9:15	49	58	54	52	46	44	3.6	7.2	135	23	58	1018	0.0
9/09/2020 9:30	49	60	54	52	46	42	2.7	7.2	135	24	57	1018	0.0
9/09/2020 9:45	48	58	55	51	44	40	2.7	6.3	135	24	58	1018	0.0
9/09/2020 10:00	48	61	53	50	44	41	2.2	4.9	135	25	55	1018	0.0
9/09/2020 10:15	48	58	54	51	44	40	2.2	5.4	135	24	55	1018	0.0
9/09/2020 10:30	48	61	56	51	43	38	2.7	5.8	135	25	52	1017	0.0
9/09/2020 10:45	48	59	55	51	43	38	2.2	4.9	135	25	49	1017	0.0
9/09/2020 11:00	50	77	55	49	41	35	2.2	5.4	135	25	50	1017	0.0
9/09/2020 11:15	51	74	57	51	43	38	2.2	5.8	135	26	48	1016	0.0
9/09/2020 11:30	47	60	53	50	40	36	1.8	5.8	135	26	47	1016	0.0
9/09/2020 11:45	47	62	55	50	40	36	2.2	5.4	135	26	48	1016	0.0
9/09/2020 12:00	46	59	53	49	40	36	1.8	4.5	113	26	51	1016	0.0
9/09/2020 12:15	46	58	54	49	40	34	1.3	4.9	135	26	48	1016	0.0
9/09/2020 12:30	46	55	52	49	40	37	1.8	4.5	113	27	48	1015	0.0
9/09/2020 12:45	46	62	53	49	40	35	2.2	5.4	113	26	48	1015	0.0
9/09/2020 13:00	49	65	59	50	42	38	1.8	4.9	113	26	48	1015	0.0
9/09/2020 13:15	47	58	53	50	42	38	1.8	5.4	135	26	46	1015	0.0
9/09/2020 13:30	47	55	53	49	42	37	1.8	4.0	135	26	45	1015	0.0
9/09/2020 13:45	47	56	53	50	40	35	1.8	4.5	135	26	46	1014	0.0
9/09/2020 14:00	44	58	52	47	36	32	1.8	4.0	90	27	48	1014	0.0
9/09/2020 14:15	46	57	52	49	42	36	1.8	4.9	113	25	50	1014	0.0
9/09/2020 14:30	46	56	52	49	42	38	1.8	4.9	90	26	50	1014	0.0
9/09/2020 14:45	48	62	55	50	44	38	1.8	4.9	113	25	53	1014	0.0
9/09/2020 15:00	47	62	53	50	42	39	1.8	4.5	113	25	52	1014	0.0
9/09/2020 15:15	48	58	54	50	43	39	2.2	5.4	90	25	54	1014	0.0
9/09/2020 15:30	50	75	56	51	44	42	2.2	4.5	113	25	55	1014	0.0
9/09/2020 15:45	48	71	53	50	44	38	1.8	4.0	113	24	56	1014	0.0
9/09/2020 16:00	47	60	53	49	43	40	1.8	4.9	113	24	57	1014	0.0
9/09/2020 16:15	48	71	54	50	44	41	1.8	4.5	113	24	57	1014	0.0
9/09/2020 16:30	49	60	58	51	44	38	1.8	4.5	113	23	57	1014	0.0
9/09/2020 16:45	53	76	65	53	44	38	1.8	4.5	113	23	56	1014	0.0
9/09/2020 17:00	49	70	58	51	42	38	1.8	4.5	90	22	59	1014	0.0
9/09/2020 17:15	49	64	57	52	43	39	1.3	3.6	113	21	61	1014	0.0
9/09/2020 17:30	48	59	55	52	38	34	0.9	2.7	113	21	63	1014	0.0
9/09/2020 17:45	47	57	54	50	40	35	0.9	2.7	113	20	63	1014	0.0
9/09/2020 18:00	47	59	54	51	39	34	0.9	2.2	113	20	64	1014	0.0
9/09/2020 18:15	48	57	54	51	43	36	0.9	2.7	113	20	67	1015	0.0
9/09/2020 18:30	50	58	54	52	48	46	0.9	2.7	113	20	71	1015	0.0
9/09/2020 18:45	50	59	55	53	48	45	0.4	1.8	113	19	72	1014	0.0
9/09/2020 19:00	48	61	54	51	44	43	0.4	1.8	135	19	72	1015	0.0
9/09/2020 19:15	46	55	52	49	41	37	0.0	0.4	135	19	74	1015	0.0
9/09/2020 19:30	45	56	52	48	38	35	0.0	0.4	135	18	75	1015	0.0
9/09/2020 19:45	46	58	53	49	33	31	0.0	1.3	135	18	76	1015	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
9/09/2020 20:00	45	58	53	48	36	33	0.0	0.9	135	18	76	1015	0.0
9/09/2020 20:15	44	57	53	48	36	32	0.4	1.3	135	18	76	1015	0.0
9/09/2020 20:30	44	58	52	48	36	34	0.4	1.3	158	18	77	1015	0.0
9/09/2020 20:45	42	58	52	46	35	32	0.4	1.3	158	18	79	1015	0.0
9/09/2020 21:00	44	59	54	48	36	34	0.9	2.2	135	18	79	1015	0.0
9/09/2020 21:15	43	59	53	47	35	32	0.9	2.7	135	18	79	1015	0.0
9/09/2020 21:30	43	57	53	47	35	32	1.3	2.7	135	19	78	1015	0.0
9/09/2020 21:45	41	55	50	44	34	31	1.3	2.7	135	18	78	1015	0.0
9/09/2020 22:00	41	56	50	44	34	32	0.9	2.7	135	18	78	1015	0.0
9/09/2020 22:15	41	57	51	44	34	32	0.9	2.2	135	18	78	1014	0.0
9/09/2020 22:30	41	62	51	44	33	30	0.9	1.8	135	18	79	1014	0.0
9/09/2020 22:45	43	56	51	46	33	30	0.4	1.3	135	18	79	1014	0.0
9/09/2020 23:00	39	54	48	42	32	30	0.9	1.8	158	18	78	1014	0.0
9/09/2020 23:15	38	53	47	41	31	29	1.3	2.7	135	18	78	1014	0.0
9/09/2020 23:30	37	53	45	40	32	30	1.8	3.1	135	18	79	1014	0.0
9/09/2020 23:45	38	55	47	41	32	30	1.8	3.1	135	18	79	1014	0.0
10/09/2020 0:00	38	60	50	40	30	28	1.3	3.1	135	17	81	1014	0.0
10/09/2020 0:15	37	58	48	38	30	28	1.8	3.1	135	18	80	1014	0.0
10/09/2020 0:30	39	61	50	39	32	30	1.8	4.0	135	18	79	1014	0.0
10/09/2020 0:45	38	54	48	40	31	29	1.3	3.1	135	17	79	1013	0.0
10/09/2020 1:00	37	55	47	39	31	29	1.3	3.1	135	17	80	1013	0.0
10/09/2020 1:15	34	51	43	38	28	26	0.9	1.8	158	17	80	1013	0.0
10/09/2020 1:30	38	55	49	42	28	26	1.3	2.2	158	17	81	1013	0.0
10/09/2020 1:45	31	38	37	35	28	26	1.3	2.7	135	17	81	1013	0.0
10/09/2020 2:00	31	44	37	34	27	26	1.3	2.7	158	17	81	1013	0.0
10/09/2020 2:15	32	48	43	36	26	24	1.3	2.7	158	17	81	1013	0.0
10/09/2020 2:30	32	45	40	37	26	25	1.3	2.7	158	17	81	1013	0.0
10/09/2020 2:45	30	39	38	36	25	23	0.9	2.2	135	17	81	1012	0.0
10/09/2020 3:00	31	47	40	34	25	23	0.9	2.7	135	17	81	1012	0.0
10/09/2020 3:15	27	42	35	30	24	22	0.9	1.8	158	17	81	1012	0.0
10/09/2020 3:30	35	56	46	37	26	22	0.9	2.2	158	17	81	1012	0.0
10/09/2020 3:45	37	55	48	42	22	21	0.4	1.3	158	16	83	1012	0.0
10/09/2020 4:00	37	52	48	42	23	21	0.4	1.3	158	16	84	1012	0.0
10/09/2020 4:15	37	50	47	42	25	21	0.4	1.3	158	16	84	1012	0.0
10/09/2020 4:30	39	55	49	43	26	24	0.4	0.9	158	15	84	1013	0.0
10/09/2020 4:45	38	57	49	42	24	22	0.4	0.9	180	15	85	1013	0.0
10/09/2020 5:00	40	54	50	44	24	21	0.0	0.4	158	15	85	1013	0.0
10/09/2020 5:15	44	60	53	48	33	29	0.0	0.4	180	14	88	1013	0.0
10/09/2020 5:30	44	55	52	48	34	27	0.0	0.4	135	15	87	1013	0.0
10/09/2020 5:45	43	54	51	47	31	26	0.0	0.4	158	15	85	1013	0.0
10/09/2020 6:00	46	60	52	49	38	31	0.0	0.9	158	15	85	1013	0.0
10/09/2020 6:15	47	64	54	50	41	34	0.0	0.9	158	16	84	1013	0.0
10/09/2020 6:30	46	57	52	49	39	32	0.0	0.4	135	17	79	1014	0.0
10/09/2020 6:45	46	69	58	48	37	34	0.0	0.9	135	19	74	1014	0.0
10/09/2020 7:00	44	57	52	47	36	32	0.4	2.2	158	20	70	1014	0.0
10/09/2020 7:15	46	58	54	50	37	31	1.3	3.1	158	20	68	1014	0.0
10/09/2020 7:30	48	64	55	51	42	37	1.8	3.1	135	21	67	1014	0.0
10/09/2020 7:45	49	62	57	52	40	33	1.8	4.0	135	21	66	1014	0.0
10/09/2020 8:00	48	65	55	50	41	37	1.8	4.5	135	22	64	1014	0.0
10/09/2020 8:15	47	59	54	50	41	36	1.8	3.6	135	22	63	1014	0.0
10/09/2020 8:30	50	73	57	51	41	33	1.8	4.9	135	22	62	1014	0.0
10/09/2020 8:45	47	59	54	51	40	35	1.8	3.6	135	23	59	1014	0.0
10/09/2020 9:00	45	58	52	48	39	33	1.8	3.6	135	24	51	1014	0.0
10/09/2020 9:15	47	57	54	50	42	35	1.8	4.5	135	24	51	1014	0.0
10/09/2020 9:30	47	63	54	49	41	37	1.8	4.5	135	24	50	1014	0.0
10/09/2020 9:45	46	57	53	49	41	37	1.8	3.6	135	24	50	1014	0.0
10/09/2020 10:00	45	56	52	48	40	33	1.8	4.9	135	25	49	1014	0.0
10/09/2020 10:15	45	60	54	48	39	36	1.3	5.4	135	25	46	1014	0.0
10/09/2020 10:30	52	74	65	50	40	35	1.8	4.0	135	25	45	1014	0.0
10/09/2020 10:45	58	78	72	55	38	34	1.8	3.6	158	26	44	1014	0.0
10/09/2020 11:00	44	56	51	47	38	33	2.2	5.8	158	26	42	1013	0.0
10/09/2020 11:15	47	63	58	49	38	36	2.2	5.4	135	25	40	1013	0.0
10/09/2020 11:30	46	64	53	49	37	35	1.8	4.0	135	26	42	1013	0.0
10/09/2020 11:45	48	70	61	48	35	32	1.3	4.9	135	27	43	1012	0.0
10/09/2020 12:00	57	72	71	53	36	34	2.2	7.2	135	27	40	1012	0.0
10/09/2020 12:15	48	67	58	50	39	35	1.8	5.4	135	27	40	1012	0.0
10/09/2020 12:30	46	56	52	49	41	36	1.3	4.0	135	27	42	1012	0.0
10/09/2020 12:45	57	73	71	56	36	31	1.8	4.5	135	27	41	1012	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
10/09/2020 13:00	54	73	70	49	37	33	1.8	6.3	135	27	41	1011	0.0
10/09/2020 13:15	49	67	64	48	37	34	1.3	4.0	113	26	41	1011	0.0
10/09/2020 13:30	46	60	54	49	39	35	1.3	4.0	135	26	43	1011	0.0
10/09/2020 13:45	45	59	53	48	39	35	1.3	3.1	135	27	44	1011	0.0
10/09/2020 14:00	43	56	52	47	37	34	1.3	3.1	113	27	41	1011	0.0
10/09/2020 14:15	54	69	67	53	39	35	1.3	4.0	135	27	39	1011	0.0
10/09/2020 14:30	44	71	50	46	39	36	1.3	4.9	90	27	43	1011	0.0
10/09/2020 14:45	47	57	53	50	43	39	1.8	5.8	113	27	45	1010	0.0
10/09/2020 15:00	47	58	54	51	41	36	1.8	4.0	113	26	43	1010	0.0
10/09/2020 15:15	47	56	52	49	43	39	1.8	4.0	113	26	43	1011	0.0
10/09/2020 15:30	48	60	55	50	44	40	2.2	4.9	113	26	43	1011	0.0
10/09/2020 15:45	49	59	55	51	44	41	2.2	4.9	90	25	46	1011	0.0
10/09/2020 16:00	50	68	57	52	46	42	2.2	4.9	90	25	46	1011	0.0
10/09/2020 16:15	51	69	62	51	45	42	2.2	5.4	90	25	46	1011	0.0
10/09/2020 16:30	49	59	55	51	45	42	1.8	4.9	113	24	48	1011	0.0
10/09/2020 16:45	51	65	61	54	45	38	1.8	4.9	113	24	51	1011	0.0
10/09/2020 17:00	50	67	60	53	43	39	1.8	4.5	113	23	54	1011	0.0
10/09/2020 17:15	49	57	54	51	44	37	1.3	3.6	113	22	55	1011	0.0
10/09/2020 17:30	48	62	54	51	42	35	1.3	3.6	113	21	57	1012	0.0
10/09/2020 17:45	48	59	56	51	39	35	1.3	3.6	113	21	60	1012	0.0
10/09/2020 18:00	47	58	54	50	40	35	0.9	3.6	113	21	62	1012	0.0
10/09/2020 18:15	49	58	55	52	44	39	0.9	2.2	135	20	64	1012	0.0
10/09/2020 18:30	52	64	56	54	49	48	0.4	1.8	135	20	66	1013	0.0
10/09/2020 18:45	51	58	55	53	48	46	0.4	0.9	113	20	68	1013	0.0
10/09/2020 19:00	49	56	54	51	46	43	0.0	0.9	135	19	71	1013	0.0
10/09/2020 19:15	48	57	54	51	43	40	0.0	0.9	135	19	73	1013	0.0
10/09/2020 19:30	49	58	55	51	44	40	0.0	0.9	135	19	73	1013	0.0
10/09/2020 19:45	44	55	51	47	37	34	0.0	0.4	135	18	75	1013	0.0
10/09/2020 20:00	49	69	59	51	39	35	0.0	0.4	135	18	77	1013	0.0
10/09/2020 20:15	46	56	52	49	37	30	0.0	0.4	135	18	76	1013	0.0
10/09/2020 20:30	45	68	56	47	34	30	0.0	0.4	135	18	77	1014	0.0
10/09/2020 20:45	44	64	54	48	33	29	0.4	0.9	158	18	76	1014	0.0
10/09/2020 21:00	46	61	56	50	37	32	0.0	0.9	135	18	77	1014	0.0
10/09/2020 21:15	45	58	54	48	36	33	0.0	0.4	158	18	76	1014	0.0
10/09/2020 21:30	42	57	52	46	35	32	0.4	1.8	135	18	77	1014	0.0
10/09/2020 21:45	40	54	50	43	32	30	0.4	0.9	135	18	77	1014	0.0
10/09/2020 22:00	43	58	53	46	34	31	0.4	1.3	158	18	77	1014	0.0
10/09/2020 22:15	41	56	49	43	37	35	0.4	1.3	158	18	76	1014	0.0
10/09/2020 22:30	42	57	51	46	37	34	0.9	1.8	158	18	75	1014	0.0
10/09/2020 22:45	40	55	48	43	36	33	0.4	0.9	158	18	76	1014	0.0
10/09/2020 23:00	43	58	52	46	37	33	0.0	0.9	135	18	77	1013	0.0
10/09/2020 23:15	42	59	52	45	33	31	0.0	0.4	135	17	79	1013	0.0
10/09/2020 23:30	40	55	48	43	33	31	0.0	0.9	158	17	78	1013	0.0
10/09/2020 23:45	40	53	46	42	35	32	0.0	0.9	158	17	78	1013	0.0
11/09/2020 0:00	41	56	50	45	34	31	0.4	0.9	135	18	77	1012	0.0
11/09/2020 0:15	38	54	47	41	28	25	0.4	1.3	158	17	78	1012	0.0
11/09/2020 0:30	35	54	46	38	27	24	0.4	0.9	203	17	80	1013	0.0
11/09/2020 0:45	38	56	50	41	28	25	0.9	2.7	158	18	80	1013	0.0
11/09/2020 1:00	38	56	42	40	35	31	1.3	2.7	158	18	78	1013	0.0
11/09/2020 1:15	39	55	46	41	35	33	1.3	3.1	158	18	78	1013	0.0
11/09/2020 1:30	37	42	41	39	35	33	1.3	3.6	158	18	78	1013	0.0
11/09/2020 1:45	38	54	47	40	34	32	1.3	3.1	158	18	77	1013	0.0
11/09/2020 2:00	37	55	47	39	32	30	1.3	3.1	158	18	77	1013	0.0
11/09/2020 2:15	35	53	46	37	31	30	1.3	2.7	158	18	77	1013	0.0
11/09/2020 2:30	34	52	43	36	30	28	1.3	3.1	158	18	75	1013	0.0
11/09/2020 2:45	34	53	44	35	30	28	1.8	4.0	158	18	75	1013	0.0
11/09/2020 3:00	39	62	51	41	28	26	1.8	3.1	158	17	75	1012	0.0
11/09/2020 3:15	36	56	49	35	26	24	0.9	2.2	158	17	76	1013	0.0
11/09/2020 3:30	36	56	48	37	26	24	0.9	2.7	135	17	78	1012	0.0
11/09/2020 3:45	37	56	49	40	27	26	1.3	3.1	135	17	76	1012	0.0
11/09/2020 4:00	41	72	48	39	28	26	1.3	2.7	135	17	76	1013	0.0
11/09/2020 4:15	41	59	52	45	28	27	1.3	3.1	158	17	76	1013	0.0
11/09/2020 4:30	39	56	50	43	26	24	0.4	1.8	158	17	76	1013	0.0
11/09/2020 4:45	41	55	50	45	24	22	0.0	0.4	158	17	77	1013	0.0
11/09/2020 5:00	43	58	53	47	24	21	0.0	0.4	158	16	78	1014	0.0
11/09/2020 5:15	44	57	52	48	30	25	0.0	0.9	158	17	78	1014	0.0
11/09/2020 5:30	47	57	54	50	38	28	0.0	0.0	0	16	79	1014	0.0
11/09/2020 5:45	46	68	56	49	32	25	0.0	0.9	158	17	78	1014	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
11/09/2020 6:00	47	68	54	50	38	28	0.0	0.9	158	17	76	1015	0.0
11/09/2020 6:15	46	63	54	50	37	28	0.0	0.4	158	18	76	1015	0.0
11/09/2020 6:30	54	76	67	47	34	30	0.4	1.8	203	19	71	1015	0.0
11/09/2020 6:45	47	67	60	48	31	24	1.3	3.6	158	20	66	1015	0.0
11/09/2020 7:00	45	59	53	48	37	30	1.8	3.6	158	20	66	1016	0.0
11/09/2020 7:15	45	72	54	47	36	31	1.8	3.6	180	20	65	1016	0.0
11/09/2020 7:30	46	63	56	49	39	32	2.2	4.5	180	21	63	1016	0.0
11/09/2020 7:45	49	64	60	52	41	37	2.2	4.5	180	21	62	1016	0.0
11/09/2020 8:00	47	61	57	50	40	36	2.2	4.5	180	22	59	1016	0.0
11/09/2020 8:15	46	59	52	49	41	37	2.7	5.8	203	22	60	1016	0.0
11/09/2020 8:30	46	59	53	49	41	37	2.7	5.4	180	23	57	1016	0.0
11/09/2020 8:45	45	63	52	48	39	32	2.2	4.9	203	23	57	1016	0.0
11/09/2020 9:00	44	58	52	48	38	34	2.2	4.5	158	23	56	1016	0.0
11/09/2020 9:15	46	65	55	48	38	33	2.7	4.9	158	23	56	1016	0.0
11/09/2020 9:30	47	57	53	50	42	38	2.2	4.9	158	23	55	1015	0.0
11/09/2020 9:45	47	67	54	50	42	37	2.2	4.9	158	24	53	1015	0.0
11/09/2020 10:00	46	59	54	50	40	35	2.2	4.5	135	24	54	1015	0.0
11/09/2020 10:15	46	58	53	49	41	38	2.2	4.5	135	25	50	1015	0.0
11/09/2020 10:30	45	56	52	48	39	35	1.8	4.5	135	25	51	1015	0.0
11/09/2020 10:45	55	70	68	54	41	37	2.2	4.9	135	25	49	1015	0.0
11/09/2020 11:00	47	64	56	49	40	35	1.3	3.1	135	25	49	1015	0.0
11/09/2020 11:15	47	71	53	47	39	36	1.3	4.9	135	26	48	1014	0.0
11/09/2020 11:30	45	57	52	49	39	36	1.8	5.4	135	27	46	1014	0.0
11/09/2020 11:45	51	73	64	50	41	38	1.8	4.9	135	27	45	1014	0.0
11/09/2020 12:00	52	69	66	53	42	36	2.2	5.8	135	27	45	1014	0.0
11/09/2020 12:15	46	59	54	50	39	35	1.8	4.0	135	26	47	1014	0.0
11/09/2020 12:30	47	63	55	50	42	37	1.8	4.9	135	26	48	1013	0.0
11/09/2020 12:45	49	63	57	52	43	40	2.2	5.4	113	26	52	1013	0.0
11/09/2020 13:00	49	63	55	52	45	41	2.2	5.4	113	25	52	1013	0.0
11/09/2020 13:15	51	75	57	52	43	39	2.7	6.3	135	25	52	1013	0.0
11/09/2020 13:30	49	59	54	51	45	41	2.2	5.8	135	25	52	1013	0.0
11/09/2020 13:45	50	60	55	52	45	40	2.7	5.4	135	26	50	1013	0.0
11/09/2020 14:00	50	69	55	52	46	43	2.7	5.8	135	26	51	1013	0.0
11/09/2020 14:15	50	58	55	52	46	41	2.7	6.7	135	25	53	1013	0.0
11/09/2020 14:30	50	75	55	52	46	42	3.1	6.7	135	24	54	1013	0.0
11/09/2020 14:45	50	60	55	53	46	43	2.7	5.8	135	24	55	1013	0.0
11/09/2020 15:00	50	59	55	52	46	42	3.1	6.7	135	24	57	1013	0.0
11/09/2020 15:15	50	60	54	52	46	43	2.2	4.9	135	24	57	1013	0.0
11/09/2020 15:30	50	59	55	53	45	40	2.7	5.4	135	23	60	1014	0.0
11/09/2020 15:45	49	59	55	52	46	42	2.2	5.8	135	23	59	1014	0.0
11/09/2020 16:00	49	59	55	52	46	43	2.7	5.8	135	23	60	1014	0.0
11/09/2020 16:15	50	61	55	52	47	44	3.1	6.7	135	23	61	1014	0.0
11/09/2020 16:30	50	60	56	53	46	42	2.7	6.3	135	22	66	1014	0.0
11/09/2020 16:45	51	69	56	53	47	44	3.1	6.7	135	20	73	1015	0.0
11/09/2020 17:00	51	65	56	54	48	44	2.7	5.8	135	18	85	1015	1.6
11/09/2020 17:15	52	71	58	54	46	42	2.2	4.0	135	18	84	1015	0.4
11/09/2020 17:30	50	64	58	53	43	37	1.3	3.1	135	18	86	1015	0.6
11/09/2020 17:45	49	57	56	52	43	37	0.9	2.7	135	18	88	1015	0.0
11/09/2020 18:00	48	58	54	51	43	39	0.4	1.3	158	18	88	1015	0.0
11/09/2020 18:15	49	58	55	52	44	40	0.4	0.9	135	18	88	1016	0.0
11/09/2020 18:30	48	58	54	51	44	39	0.4	0.9	158	18	87	1016	0.0
11/09/2020 18:45	47	59	53	50	42	38	1.3	4.5	158	18	84	1016	0.0
11/09/2020 19:00	47	55	53	49	43	40	2.2	4.5	135	19	82	1016	0.0
11/09/2020 19:15	45	58	53	48	40	36	2.2	4.5	135	18	81	1016	0.0
11/09/2020 19:30	46	57	53	49	40	36	1.8	4.0	158	18	81	1017	0.0
11/09/2020 19:45	47	72	56	49	40	37	2.2	4.5	135	18	81	1017	0.0
11/09/2020 20:00	43	61	51	46	38	34	1.8	3.6	135	18	82	1017	0.0
11/09/2020 20:15	43	58	51	46	37	35	1.3	3.6	158	18	83	1017	0.0
11/09/2020 20:30	46	60	55	50	39	35	1.8	3.6	135	18	82	1017	0.0
11/09/2020 20:45	43	60	51	47	38	34	1.8	3.6	158	18	82	1017	0.0
11/09/2020 21:00	44	57	52	47	38	34	1.8	3.6	158	18	82	1017	0.0
11/09/2020 21:15	48	69	61	48	35	32	1.3	2.7	158	18	82	1017	0.0
11/09/2020 21:30	42	58	51	46	35	32	1.3	2.2	158	18	81	1017	0.0
11/09/2020 21:45	43	58	52	46	34	30	1.3	3.1	158	17	81	1017	0.0
11/09/2020 22:00	44	56	53	48	34	31	0.9	2.7	158	17	81	1017	0.0
11/09/2020 22:15	41	56	51	45	28	26	0.4	1.8	158	17	83	1017	0.0
11/09/2020 22:30	38	55	49	42	27	25	0.0	0.9	158	16	84	1017	0.0
11/09/2020 22:45	41	59	52	44	27	25	0.4	1.8	158	17	83	1017	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
11/09/2020 23:00	42	55	50	45	29	26	1.3	2.7	158	17	82	1017	0.0
11/09/2020 23:15	40	55	50	44	30	29	1.3	4.0	158	17	81	1017	0.0
11/09/2020 23:30	39	56	49	43	32	30	1.8	4.9	158	17	81	1017	0.0
11/09/2020 23:45	39	56	47	42	32	31	1.8	4.9	158	17	81	1017	0.0
12/09/2020 0:00	39	54	49	43	33	31	1.8	4.9	158	17	81	1017	0.0
12/09/2020 0:15	39	57	48	42	32	29	1.3	3.1	158	17	81	1016	0.0
12/09/2020 0:30	38	54	47	42	30	29	1.3	3.6	158	17	82	1016	0.0
12/09/2020 0:45	35	48	43	40	27	25	0.9	2.7	158	16	83	1016	0.0
12/09/2020 1:00	41	59	52	45	27	24	0.4	1.8	158	16	83	1016	0.0
12/09/2020 1:15	39	58	49	43	28	25	0.9	2.7	158	17	82	1015	0.0
12/09/2020 1:30	36	53	47	38	28	27	1.3	3.1	158	17	82	1015	0.0
12/09/2020 1:45	37	57	48	39	30	28	1.3	3.1	158	17	81	1015	0.0
12/09/2020 2:00	37	55	49	39	30	29	1.3	2.7	158	17	81	1015	0.0
12/09/2020 2:15	38	55	49	40	30	28	1.3	3.1	158	17	81	1015	0.0
12/09/2020 2:30	37	54	48	40	31	28	1.8	3.6	158	17	81	1015	0.0
12/09/2020 2:45	37	54	46	39	31	30	1.8	3.6	135	17	80	1015	0.0
12/09/2020 3:00	37	55	47	39	32	30	1.8	4.0	135	17	79	1015	0.0
12/09/2020 3:15	37	51	43	39	34	32	1.8	4.5	135	17	79	1015	0.0
12/09/2020 3:30	42	61	53	44	34	32	1.8	4.5	135	17	79	1015	0.0
12/09/2020 3:45	40	54	47	43	36	35	2.7	5.8	135	17	79	1015	0.0
12/09/2020 4:00	40	54	47	42	36	34	1.8	4.5	158	17	79	1015	0.0
12/09/2020 4:15	40	56	49	42	34	32	1.8	4.0	158	17	79	1015	0.0
12/09/2020 4:30	38	54	49	41	31	29	1.8	4.5	158	17	80	1016	0.0
12/09/2020 4:45	42	62	54	42	33	31	1.8	4.0	158	17	79	1016	0.0
12/09/2020 5:00	39	57	49	43	32	30	1.3	4.5	158	17	80	1016	0.0
12/09/2020 5:15	41	55	50	45	34	31	1.8	4.0	158	17	79	1016	0.0
12/09/2020 5:30	43	59	53	46	36	34	1.8	3.6	158	17	79	1016	0.0
12/09/2020 5:45	44	72	52	45	34	31	1.8	4.5	158	17	78	1017	0.0
12/09/2020 6:00	46	66	54	48	34	32	1.8	4.9	158	17	77	1017	0.0
12/09/2020 6:15	44	59	53	48	36	32	1.8	3.1	135	17	77	1017	0.0
12/09/2020 6:30	45	73	55	46	33	31	1.3	3.1	158	17	75	1017	0.0
12/09/2020 6:45	44	62	55	46	33	29	1.8	3.6	158	18	74	1017	0.0
12/09/2020 7:00	45	69	54	48	35	30	1.8	3.6	158	18	73	1017	0.0
12/09/2020 7:15	45	58	52	48	37	34	2.2	4.9	158	19	69	1017	0.0
12/09/2020 7:30	46	58	54	50	39	35	2.2	4.5	158	19	68	1018	0.0
12/09/2020 7:45	46	57	52	50	40	38	2.7	5.8	158	19	67	1018	0.0
12/09/2020 8:00	49	59	55	52	43	39	3.1	6.3	135	20	66	1018	0.0
12/09/2020 8:15	48	58	53	51	44	39	3.6	7.6	135	21	63	1018	0.0
12/09/2020 8:30	49	71	55	52	44	41	3.6	7.6	135	22	62	1018	0.0
12/09/2020 8:45	50	71	56	53	47	44	4.0	7.6	135	22	62	1018	0.0
12/09/2020 9:00	51	61	57	54	47	45	4.5	8.5	135	23	60	1018	0.0
12/09/2020 9:15	52	67	59	54	48	44	3.6	7.2	135	23	59	1018	0.0
12/09/2020 9:30	52	61	57	54	49	46	4.0	7.6	135	23	58	1017	0.0
12/09/2020 9:45	51	63	56	53	47	44	4.0	7.6	135	23	59	1017	0.0
12/09/2020 10:00	50	60	57	53	47	45	3.6	6.7	135	24	56	1017	0.0
12/09/2020 10:15	51	63	56	54	47	44	3.6	7.2	135	24	56	1017	0.0
12/09/2020 10:30	49	61	55	51	45	41	3.6	6.7	135	24	55	1017	0.0
12/09/2020 10:45	49	58	54	52	46	43	3.1	8.0	135	25	53	1017	0.0
12/09/2020 11:00	50	60	55	52	46	43	3.1	6.3	135	25	52	1017	0.0
12/09/2020 11:15	49	59	55	52	44	39	2.7	6.3	135	25	53	1016	0.0
12/09/2020 11:30	50	72	57	52	46	43	2.7	6.3	135	26	51	1016	0.0
12/09/2020 11:45	52	70	62	54	47	44	3.6	6.7	135	25	52	1016	0.0
12/09/2020 12:00	51	69	57	53	47	44	3.6	7.2	135	26	50	1016	0.0
12/09/2020 12:15	50	70	59	52	46	39	2.7	6.3	135	25	52	1016	0.0
12/09/2020 12:30	48	55	53	50	45	42	2.7	7.6	135	25	54	1016	0.0
12/09/2020 12:45	48	56	53	51	45	41	2.7	6.3	135	24	54	1016	0.0
12/09/2020 13:00	48	58	54	51	44	41	2.7	6.3	135	25	53	1015	0.0
12/09/2020 13:15	50	61	56	53	44	41	2.7	6.3	135	24	55	1016	0.0
12/09/2020 13:30	48	60	54	51	44	42	2.2	6.7	135	25	56	1015	0.0
12/09/2020 13:45	49	73	53	50	44	40	3.1	5.8	135	24	55	1015	0.0
12/09/2020 14:00	52	80	54	50	42	38	2.7	5.8	135	24	56	1015	0.0
12/09/2020 14:15	49	59	55	51	45	40	2.2	7.2	135	26	52	1015	0.0
12/09/2020 14:30	48	58	55	51	45	41	2.7	5.8	135	25	56	1015	0.0
12/09/2020 14:45	50	68	60	51	44	39	3.1	6.7	135	23	66	1015	0.0
12/09/2020 15:00	49	58	55	51	45	43	2.7	7.2	135	24	59	1015	0.0
12/09/2020 15:15	49	57	54	51	45	41	3.1	7.2	135	24	56	1014	0.0
12/09/2020 15:30	49	59	55	51	45	43	2.7	7.2	135	25	54	1015	0.0
12/09/2020 15:45	51	61	57	54	48	45	3.6	8.5	135	23	60	1015	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
12/09/2020 16:00	49	62	58	51	45	43	3.1	6.3	135	23	56	1015	0.0
12/09/2020 16:15	48	58	53	50	43	39	2.7	4.5	135	23	61	1015	0.0
12/09/2020 16:30	48	62	55	50	43	40	1.8	4.9	135	22	63	1015	0.0
12/09/2020 16:45	47	60	54	50	41	35	1.3	3.6	135	23	62	1015	0.0
12/09/2020 17:00	47	59	54	50	40	35	2.2	6.3	135	23	65	1015	0.0
12/09/2020 17:15	49	65	58	52	42	37	3.1	6.3	135	22	68	1015	0.0
12/09/2020 17:30	46	57	54	49	38	35	2.2	4.5	135	21	67	1016	0.0
12/09/2020 17:45	46	61	53	49	39	37	2.2	4.9	158	21	67	1016	0.0
12/09/2020 18:00	47	58	55	50	40	36	1.8	3.6	135	21	68	1016	0.0
12/09/2020 18:15	49	59	54	51	44	39	1.8	3.1	158	21	68	1017	0.0
12/09/2020 18:30	51	59	55	52	48	46	1.3	3.1	135	21	69	1017	0.0
12/09/2020 18:45	50	61	55	52	47	45	1.3	3.1	135	21	69	1017	0.0
12/09/2020 19:00	49	57	53	50	46	44	0.9	2.2	135	21	70	1017	0.0
12/09/2020 19:15	48	57	53	50	44	41	0.9	2.7	135	20	73	1017	0.0
12/09/2020 19:30	47	57	53	50	43	40	0.9	2.7	135	20	74	1017	0.0
12/09/2020 19:45	46	59	54	50	40	37	0.9	3.1	135	20	74	1017	0.0
12/09/2020 20:00	44	59	52	46	39	36	0.9	3.1	135	20	74	1017	0.0
12/09/2020 20:15	45	60	53	48	39	36	1.3	3.1	135	20	74	1018	0.0
12/09/2020 20:30	43	60	51	46	37	35	1.8	4.5	135	20	72	1018	0.0
12/09/2020 20:45	44	56	51	47	37	35	1.8	3.6	158	19	72	1018	0.0
12/09/2020 21:00	45	62	56	48	36	34	1.3	3.6	135	19	73	1018	0.0
12/09/2020 21:15	41	56	49	44	35	33	1.8	5.4	135	19	74	1018	0.0
12/09/2020 21:30	42	55	50	45	36	33	1.3	4.5	135	19	74	1018	0.0
12/09/2020 21:45	41	53	49	45	34	32	1.3	3.6	158	18	75	1018	0.0
12/09/2020 22:00	43	57	52	46	33	30	0.4	1.8	135	18	76	1018	0.0
12/09/2020 22:15	43	59	54	47	31	29	0.4	0.9	135	18	77	1017	0.0
12/09/2020 22:30	38	58	49	42	30	28	0.9	1.8	135	18	77	1017	0.0
12/09/2020 22:45	42	59	52	45	31	29	0.9	2.2	135	18	77	1017	0.0
12/09/2020 23:00	41	58	51	44	30	28	0.9	2.2	135	18	77	1017	0.0
12/09/2020 23:15	39	57	49	43	29	28	0.9	2.7	135	18	77	1017	0.0
12/09/2020 23:30	39	60	50	43	30	28	0.9	2.7	135	18	77	1017	0.0
12/09/2020 23:45	37	55	48	42	30	28	0.9	2.7	135	18	77	1017	0.0
13/09/2020 0:00	37	54	47	42	30	29	1.3	3.1	135	18	77	1017	0.0
13/09/2020 0:15	38	54	48	42	31	29	1.8	4.0	135	17	77	1017	0.0
13/09/2020 0:30	36	53	44	37	31	30	1.3	3.1	135	17	77	1017	0.0
13/09/2020 0:45	38	55	49	42	30	29	1.3	3.1	158	17	78	1017	0.0
13/09/2020 1:00	37	53	48	41	30	29	1.3	2.7	158	18	77	1016	0.0
13/09/2020 1:15	38	57	49	41	31	30	1.3	3.1	158	18	77	1016	0.0
13/09/2020 1:30	35	54	46	36	31	29	1.3	3.1	158	18	77	1016	0.0
13/09/2020 1:45	39	60	51	39	31	30	1.3	4.0	158	18	77	1016	0.0
13/09/2020 2:00	34	52	44	35	31	30	1.3	3.1	135	18	78	1016	0.0
13/09/2020 2:15	38	59	49	42	30	29	1.3	3.1	135	17	78	1016	0.0
13/09/2020 2:30	36	53	47	40	29	28	0.9	2.7	135	17	78	1016	0.0
13/09/2020 2:45	33	54	45	33	28	26	0.9	1.8	135	17	79	1016	0.0
13/09/2020 3:00	34	55	46	33	27	25	0.9	2.2	135	17	79	1016	0.0
13/09/2020 3:15	36	57	48	39	27	26	0.9	2.2	158	17	79	1016	0.0
13/09/2020 3:30	30	58	33	31	27	25	0.9	2.2	135	17	79	1016	0.0
13/09/2020 3:45	38	58	49	40	27	26	1.3	3.1	158	17	79	1016	0.0
13/09/2020 4:00	36	69	43	35	26	25	0.9	2.7	158	17	79	1016	0.0
13/09/2020 4:15	38	56	49	41	28	26	1.3	3.1	158	17	79	1016	0.0
13/09/2020 4:30	36	54	47	39	27	25	0.9	2.7	158	17	79	1016	0.0
13/09/2020 4:45	41	60	53	45	27	25	0.9	1.8	135	17	80	1017	0.0
13/09/2020 5:00	43	58	53	47	26	23	0.9	2.2	135	17	80	1017	0.0
13/09/2020 5:15	37	54	49	41	23	21	0.4	1.3	135	17	80	1017	0.0
13/09/2020 5:30	38	55	49	42	27	23	0.4	2.2	135	17	79	1017	0.0
13/09/2020 5:45	42	57	51	46	29	24	0.4	1.3	135	18	79	1017	0.0
13/09/2020 6:00	45	61	54	49	33	26	0.9	1.3	135	18	79	1017	0.0
13/09/2020 6:15	44	66	54	47	28	23	0.4	1.8	158	18	78	1017	0.0
13/09/2020 6:30	41	62	52	44	27	24	0.9	2.2	158	18	77	1018	0.0
13/09/2020 6:45	43	59	53	47	29	26	1.3	3.1	158	19	76	1018	0.0
13/09/2020 7:00	43	58	53	47	30	27	1.8	3.6	135	19	75	1018	0.0
13/09/2020 7:15	41	58	51	46	33	30	1.8	4.9	135	19	74	1018	0.0
13/09/2020 7:30	44	58	54	47	34	30	2.2	4.0	158	21	71	1018	0.0
13/09/2020 7:45	46	68	54	47	37	33	1.8	3.6	135	21	70	1018	0.0
13/09/2020 8:00	47	65	57	50	39	33	2.2	4.9	135	22	67	1018	0.0
13/09/2020 8:15	47	64	55	50	41	37	2.7	5.4	135	22	67	1018	0.0
13/09/2020 8:30	47	61	56	50	40	35	2.2	4.9	135	22	67	1018	0.0
13/09/2020 8:45	47	59	54	50	43	38	2.7	5.8	135	22	66	1018	0.0

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)	Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
13/09/2020 9:00	48	59	54	51	44	38	3.1	6.7	135	23	63	1018	0.0	14/09/2020 2:00	39	54	50	41	34	33	0.9	2.7	158	19	82	1016	0.0
13/09/2020 9:15	48	59	54	50	43	37	3.1	7.2	135	24	62	1018	0.0	14/09/2020 2:15	39	57	49	40	34	32	0.9	3.1	158	19	82	1016	0.0
13/09/2020 9:30	52	76	62	52	43	40	2.7	5.8	135	24	62	1018	0.0	14/09/2020 2:30	39	58	50	41	34	32	1.3	3.1	158	19	82	1016	0.0
13/09/2020 9:45	49	63	57	52	44	40	2.2	4.9	135	24	62	1018	0.0	14/09/2020 2:45	38	57	47	42	32	31	1.8	4.0	158	19	83	1016	0.0
13/09/2020 10:00	48	59	54	50	43	39	1.8	5.4	135	25	59	1018	0.0	14/09/2020 3:00	38	53	49	41	32	30	1.8	3.6	158	19	83	1016	0.0
13/09/2020 10:15	53	79	62	54	42	39	1.8	5.8	135	25	57	1018	0.0	14/09/2020 3:15	37	55	47	39	32	31	1.8	3.6	135	19	84	1016	0.0
13/09/2020 10:30	49	69	61	50	42	38	1.8	4.5	135	25	58	1018	0.0	14/09/2020 3:30	37	54	48	39	31	30	1.3	4.0	158	19	84	1016	0.0
13/09/2020 10:45	47	65	56	49	40	34	2.2	4.0	135	25	59	1017	0.0	14/09/2020 3:45	39	56	50	43	31	29	1.3	4.0	158	18	84	1016	0.0
13/09/2020 11:00	49	64	58	52	43	39	1.8	4.5	135	25	58	1017	0.0	14/09/2020 4:00	41	56	51	45	31	29	1.3	3.6	158	18	84	1016	0.0
13/09/2020 11:15	52	72	66	51	41	37	1.8	4.9	135	25	57	1017	0.0	14/09/2020 4:15	42	57	52	46	33	30	1.3	3.1	135	18	84	1016	0.0
13/09/2020 11:30	45	56	53	49	38	35	2.2	5.4	135	25	56	1017	0.0	14/09/2020 4:30	42	56	51	45	32	29	1.3	3.6	135	18	84	1016	0.0
13/09/2020 11:45	46	62	54	50	39	35	2.2	4.9	135	27	54	1016	0.0	14/09/2020 4:45	40	55	50	44	31	28	0.9	2.2	135	18	85	1016	0.0
13/09/2020 12:00	45	54	51	48	40	36	2.2	6.3	135	27	51	1016	0.0	14/09/2020 5:00	43	56	51	47	30	28	0.9	2.7	135	18	84	1016	0.0
13/09/2020 12:15	46	56	52	49	41	37	2.7	4.9	135	27	54	1016	0.0	14/09/2020 5:15	47	59	56	51	30	27	0.9	2.2	135	18	85	1016	0.0
13/09/2020 12:30	48	61	58	51	40	37	2.2	4.9	135	27	54	1016	0.0	14/09/2020 5:30	49	71	56	51	38	31	0.9	2.2	135	18	84	1016	0.0
13/09/2020 12:45	46	65	53	49	40	36	2.2	4.9	113	27	52	1016	0.0	14/09/2020 5:45	48	76	55	50	32	27	0.9	2.2	135	18	84	1017	0.0
13/09/2020 13:00	48	67	59	50	38	34	2.2	5.8	113	27	53	1016	0.0	14/09/2020 6:00	48	61	56	51	38	31	0.9	1.8	135	18	84	1017	0.0
13/09/2020 13:15	46	57	52	49	39	34	1.8	4.0	135	28	49	1015	0.0	14/09/2020 6:15	49	62	58	53	36	28	0.9	1.8	135	18	83	1017	0.0
13/09/2020 13:30	49	71	60	49	40	37	1.3	4.0	135	27	52	1015	0.0	14/09/2020 6:30	47	60	55	51	38	32	1.3	2.7	135	19	82	1017	0.0
13/09/2020 13:45	44	56	51	47	36	33	1.8	4.9	113	26	51	1015	0.0	14/09/2020 6:45	50	67	61	52	37	32	1.3	2.7	158	19	80	1017	0.0
13/09/2020 14:00	45	56	52	48	40	36	1.3	3.6	113	27	49	1015	0.0	14/09/2020 7:00	52	72	63	53	42	37	0.9	2.2	158	20	79	1018	0.0
13/09/2020 14:15	45	56	53	49	39	35	1.8	4.0	113	27	51	1015	0.0	14/09/2020 7:15	48	59	54	51	40	35	1.8	4.0	158	21	75	1018	0.0
13/09/2020 14:30	46	60	54	50	40	37	1.8	5.8	135	26	54	1015	0.0	14/09/2020 7:30	48	58	55	51	42	38	2.7	4.9	135	22	73	1018	0.0
13/09/2020 14:45	46	60	52	48	40	35	1.8	4.9	113	27	53	1015	0.0	14/09/2020 7:45	47	58	54	50	40	34	2.2	5.8	135	23	70	1018	0.0
13/09/2020 15:00	46	62	56	49	41	38	1.3	3.1	113	27	52	1015	0.0	14/09/2020 8:00	51	70	63	53	43	37	2.7	4.9	135	23	69	1018	0.0
13/09/2020 15:15	47	58	54	50	42	37	1.3	3.1	113	26	56	1014	0.0	14/09/2020 8:15	49	58	54	52	44	39	2.7	5.8	135	23	68	1018	0.0
13/09/2020 15:30	47	62	55	50	41	33	1.8	4.5	113	26	55	1015	0.0	14/09/2020 8:30	49	69	56	52	43	38	2.7	5.8	135	24	66	1018	0.0
13/09/2020 15:45	48	60	55	50	44	41	1.8	4.9	113	26	57	1015	0.0	14/09/2020 8:45	50	71	55	52	45	41	2.7	5.8	135	24	64	1019	0.0
13/09/2020 16:00	48	72	55	50	43	41	2.2	4.5	113	26	56	1015	0.0	14/09/2020 9:00	49	62	55	51	44	41	2.2	5.4	135	24	64	1019	0.0
13/09/2020 16:15	47	59	54	50	42	40	1.8	4.5	113	25	57	1015	0.0	14/09/2020 9:15	48	59	54	51	43	39	2.7	6.3	135	25	63	1019	0.0
13/09/2020 16:30	47	61	53	50	41	37	1.8	4.0	113	25	59	1015	0.0	14/09/2020 9:30	48	69	55	50	42	38	1.8	4.9	135	25	64	1019	0.0
13/09/2020 16:45	46	62	53	49	42	39	1.3	4.0	113	24	61	1015	0.0	14/09/2020 9:45	48	70	54	50	41	36	1.8	4.9	135	24	65	1018	0.0
13/09/2020 17:00	49	69	61	50	40	37	1.8	4.5	113	24	64	1015	0.0	14/09/2020 10:00	46	58	52	49	40	36	1.8	5.4	135	25	62	1018	0.0
13/09/2020 17:15	44	57	51	47	38	34	1.8	4.0	113	23	67	1015	0.0	14/09/2020 10:15	48	58	54	51	42	38	2.2	4.5	135	26	57	1018	0.0
13/09/2020 17:30	48	68	60	49	37	33	1.3	3.6	113	22	70	1016	0.0	14/09/2020 10:30	48	71	54	51	43	37	1.8	4.5	135	27	55	1018	0.0
13/09/2020 17:45	45	63	54	48	37	33	0.9	2.7	113	21	73	1016	0.0	14/09/2020 10:45	48	59	55	51	45	41	1.8	4.9	135	27	55	1018	0.0
13/09/2020 18:00	46	65	54	48	37	34	0.9	3.1	113	21	75	1016	0.0	14/09/2020 11:00	47	57	52	49	42	39	2.2	5.8	135	27	56	1018	0.0
13/09/2020 18:15	46	56	52	49	40	36	0.9	3.1	113	21	77	1016	0.0	14/09/2020 11:15	47	56	53	50	42	39	2.2	5.8	135	27	56	1018	0.0
13/09/2020 18:30	49	57	54	51	47	45	0.4	1.8	135	21	78	1016	0.0	14/09/2020 11:30	46	61	53	49	41	38	2.2	4.0	135	27	56	1017	0.0
13/09/2020 18:45	50	60	56	52	45	42	0.9	2.7	135	21	78	1016	0.0	14/09/2020 11:45	47	63	55	50	40	36	1.8	5.4	113	28	56	1017	0.0
13/09/2020 19:00	50	60	56	55	44	42	0.9	3.1	135	21	79	1016	0.0	14/09/2020 12:00	46	73	53	49	40	36	2.7	6.3	113	27	56	1017	0.0
13/09/2020 19:15	55	61	58	57	52	46	0.9	3.1	135	20	79	1016	0.0	14/09/2020 12:15	48	69	54	50	42	38	2.2	4.9	90	27	55	1016	0.0
13/09/2020 19:30	51	57	56	55	47	44	0.4	1.8	135	20	81	1016	0.0	14/09/2020 12:30	47	56	53	50	41	37	2.2	5.4	135	28	52	1017	0.0
13/09/2020 19:45	50	57	54	53	46	40	0.9	2.7	135	20	81	1017	0.0	14/09/2020 12:45	47	57	53	50	41	36	2.2	5.8	113	27	53	1016	0.0
13/09/2020 20:00	51	58	55	53	44	38	0.9	4.5	135	20	81	1017	0.0	14/09/2020 13:00	46	61	55	50	36	32	2.2	4.9	113	27	53	1016	0.0
13/09/2020 20:15	46	57	53	49	41	39	0.9	2.7	135	20	81	1017	0.0	14/09/2020 13:15	46	62	52	49	42	39	2.2	5.4	113	27	55	1016	0.0
13/09/2020 20:30	47	60	56	49	40	37	1.3	3.6	135	20	79	1017	0.0	14/09/2020 13:30	45	54	52	48	40	37	2.2	5.4	113	28	52	1016	0.0
13/09/2020 20:45	46	56	52	48	40	37	1.3	3.6	135	20	80	1017	0.0	14/09/2020 13:45	46	57	53	49	41	38	2.2	5.8	113	27	55	1016	0.0
13/09/2020 21:00	45	57	51	48	39	35	1.3	3.6	135	20	81	1017	0.0	14/09/2020 14:00	47	57	52	50	43	39	2.2	5.4	113	27	56	1016	0.0
13/09/2020 21:15	42	57	48	46	35	34	1.3	4.5	135	19	81	1017	0.0	14/09/2020 14:15	48	56	53	50	43	39	2.2	5.4	113	27	55	1015	0.0
13/09/2020 21:30	43	60	51	46	36	34	1.8	4.0	135	19	81	1017	0.0	14/09/2020 14:30	48	63	55	51	42	37	2.2	5.4	113	26	56	1016	0.0
13/09/2020 21:45	43	56	52	47	36	34	1.3	3.1	135	19	82	1017	0.0	14/09/2020 14:45	48	57	54	51	44	39	2.7	6.3	113	27	55	1015	0.0
13/09/2020 22:00	43	59	52	47	35	33	0.9	1.8	158	19	82	1017	0.0	14/09/2020 15:00	48	57	54	51	45	42	2.7	6.3	113	27	54	1015	0.0
13/09/2020 22:15	40	55	49	45	34	32	0.9	2.2	158	19	82	1017	0.0	14/09/2020 15:15	47	55	52	50	43	40	2.2	5.4	113	26	56	1015	0.0
13/09/2020 22:30	38	56	47	42	33	32	1.3	3.1	158	19	82	1017	0.0	14/09/2020 15:30	49	72	55	51	45	41	2.2	5.4	113	26	58	1015	0.0
13/09/2020 22:45	41	57	52	43	34	32	1.8	3.6	135	19	82	1017	0.0	14/09/2020 15:45	49	64	56	51	44	41	2.2	5.4	113	26	58	1015	0.0
13/09/2020 23:00	40	55	48	42	36	35	2.2	5.4	135	19	82	1017	0.0	14/09/2020 16:00	49	61	54	51	45	42	2.2	4.9	113	25	59	1016	0.0
13/09/2020 23:15	41	55	49	45	36	35	2.2	4.0	135	19	82	1017	0.0	14/09/2020 16:15	50	68	60	51	46	43	2.2	4.9	113	25	61	1016	0.0
13/09/2020 23:30	39	51	46	44	35	34	1.8	3.6	135	19	82	1017	0.0	14/09/2020 16:30	49	61	55	51	45	42	2.2	4.5	113	24	60	1016	0.0
13/09/2020 23:45	39	51	46	44	34	33	1.8	3.6	135	19	82	1017	0.0	14/09/2020 16:45	48	56	54	51	45	42	1.8	4.5	113	24	60	1016	0.0
14/09/2020 0:00	38	51	46	43	34	32	1.8	3.6	135	19	82	1017	0.0	14/09/2020 17:00	51	69	62	52	45	41	1.8	4.5	113	24	60	1016	0.0
14/09/2020 0:15	37	51	45	40	33	31	1.3	2.7	135	19	83	1017	0.0	14/09/2020 17:15	49	63	57	51	44	41	1.3	3.6	113	23	64	1016	0.0
14/09/2020 0:30	37	45	45	39	32	30	0.9	2.2	158	18	83	1017	0.0	14/09/2020 17:30	47	58	54	51	41	36	1.3	3.6	113	22	68	1016	0.0
14/09/2020 0:45	38	56	49	43	32	30	0.9	2.2	158	18	84	1017	0.0	14/09/2020 17:45	46	61	53	49	40	36	1.3	4.0	113	22	72	1016	0.0
14/09/2020 1:00	36	45	44	38	33	32	0.9	3.1	158	19	83	1017	0.0	14/09/2020 18:00	46	56	53	49	38	36	1.3	3.6	113	21	75	1016	0.0
14/09/2020 1:15	37	51	45	40	34	32	1.3	3.1	135	19	83	1016	0.0	14/09/2020 18:15	47	57	53	50	41	36	0.9	2.2	113	21	77	1016	0.0
14/09/2020 1:30	38	46	45	40	34	32	1.3	3.1	158	19	83	1016	0.0	14/09/2020 18:30	50	61	54	52	47	45	0.9	2.7	113	21	77	1017	0.0
14/09/2020 1:45	39	56	46	42	34	33	1.3	3.1	158	19	82	1016	0.0	14/09/2020 18:45	50	58	54	52	47	44	0.4	1.8	113	21	79	1017	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
14/09/2020 19:00	49	55	53	51	45	43	0.4	1.8	113	20	80	1017	0.0
14/09/2020 19:15	49	57	55	51	45	44	0.4	1.3	135	20	81	1017	0.0
14/09/2020 19:30	47	59	54	50	44	42	0.4	1.3	135	20	82	1017	0.0
14/09/2020 19:45	47	58	54	50	43	41	0.4	0.9	135	20	82	1017	0.0
14/09/2020 20:00	46	60	54	49	40	38	0.4	2.2	135	20	83	1017	0.0
14/09/2020 20:15	44	60	53	47	39	37	0.4	1.8	135	20	83	1018	0.0
14/09/2020 20:30	43	55	51	46	38	37	0.4	1.8	135	20	83	1018	0.0
14/09/2020 20:45	43	58	52	46	39	37	0.4	1.8	135	20	84	1018	0.0
14/09/2020 21:00	43	58	51	47	39	37	0.9	1.8	135	20	85	1018	0.0
14/09/2020 21:15	43	56	51	46	38	36	0.4	1.8	135	20	85	1018	0.0
14/09/2020 21:30	42	54	50	45	36	33	0.4	1.8	135	20	86	1018	0.0
14/09/2020 21:45	44	60	54	48	36	34	0.4	1.3	135	19	86	1018	0.0
14/09/2020 22:00	40	52	48	43	35	34	0.0	0.9	158	19	87	1018	0.0
14/09/2020 22:15	37	53	45	40	33	31	0.4	1.3	158	19	87	1018	0.0
14/09/2020 22:30	43	61	52	47	32	30	0.4	0.9	158	19	88	1018	0.0
14/09/2020 22:45	39	57	50	41	31	29	0.4	1.3	158	19	88	1018	0.0
14/09/2020 23:00	41	58	52	44	32	31	0.4	1.3	158	18	88	1018	0.0
14/09/2020 23:15	38	55	49	41	31	30	0.4	1.8	158	18	88	1018	0.0
14/09/2020 23:30	37	54	48	39	29	28	0.4	1.3	158	18	88	1018	0.0
14/09/2020 23:45	38	58	50	39	29	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:00	40	61	53	38	30	29	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:15	32	40	38	33	30	29	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:30	35	52	46	36	30	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:45	33	40	37	35	30	29	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:00	34	55	45	34	29	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:15	38	61	50	35	29	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:30	32	42	35	33	30	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:45	34	46	45	35	29	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:00	41	67	53	42	31	29	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:15	32	43	38	34	30	29	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:30	42	62	54	44	30	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:45	32	42	38	34	30	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:00	38	56	49	41	31	29	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:15	38	58	50	40	29	28	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:30	39	57	50	41	29	27	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:45	39	57	51	43	28	27	1.3	3.6	158	18	88	1016	0.0
15/09/2020 4:00	39	55	50	43	30	28	1.3	3.6	158	18	88	1016	0.0
15/09/2020 4:15	38	56	49	42	27	25	0.9	2.2	135	18	88	1016	0.0
15/09/2020 4:30	40	56	50	43	29	26	0.9	1.8	158	18	88	1016	0.0
15/09/2020 4:45	39	54	49	43	25	24	0.9	1.8	158	18	89	1017	0.0
15/09/2020 5:00	41	57	51	46	26	24	0.4	1.8	158	18	89	1017	0.0
15/09/2020 5:15	48	60	56	52	36	25	0.4	0.9	158	18	89	1017	0.0
15/09/2020 5:30	49	70	57	52	41	33	0.0	0.9	135	17	90	1017	0.0
15/09/2020 5:45	47	60	55	51	35	27	0.4	1.3	135	18	90	1017	0.0
15/09/2020 6:00	48	59	56	52	40	32	0.9	1.3	135	18	88	1018	0.0
15/09/2020 6:15	47	59	55	51	38	31	0.9	2.2	158	19	86	1018	0.0
15/09/2020 6:30	47	60	55	51	37	30	1.3	2.2	158	20	83	1018	0.0
15/09/2020 6:45	46	62	54	49	36	32	1.8	3.6	158	21	79	1018	0.0
15/09/2020 7:00	49	74	55	51	40	34	2.2	4.5	135	21	77	1018	0.0
15/09/2020 7:15	47	58	53	50	40	33	2.7	4.9	135	21	76	1019	0.0
15/09/2020 7:30	48	58	55	51	41	37	2.2	4.9	135	22	74	1019	0.0
15/09/2020 7:45	46	58	53	49	40	36	2.2	4.9	135	22	73	1019	0.0
15/09/2020 8:00	49	64	58	52	40	35	2.7	4.9	135	22	72	1019	0.0
15/09/2020 8:15	48	61	54	51	42	38	2.7	4.9	135	23	69	1019	0.0
15/09/2020 8:30	49	59	55	51	44	40	2.2	5.8	135	23	68	1019	0.0
15/09/2020 8:45	51	67	63	52	42	39	1.8	6.7	135	24	66	1019	0.0
15/09/2020 9:00	48	59	55	51	42	38	2.2	4.9	135	24	64	1019	0.0
15/09/2020 9:15	49	64	58	52	43	38	2.2	4.9	135	24	64	1019	0.0
15/09/2020 9:30	47	57	53	49	41	37	2.2	5.4	135	24	63	1019	0.0
15/09/2020 9:45	48	61	56	50	42	39	2.2	5.4	135	25	60	1019	0.0
15/09/2020 10:00	47	59	53	50	42	39	2.2	4.9	135	25	59	1019	0.0
15/09/2020 10:15	48	65	55	51	43	40	1.8	5.8	135	25	60	1019	0.0
15/09/2020 10:30	47	57	54	50	43	37	2.2	4.9	135	26	57	1019	0.0
15/09/2020 10:45	52	73	63	52	42	38	2.7	6.3	135	25	58	1019	0.0
15/09/2020 11:00	47	58	53	50	41	37	2.7	5.4	135	26	52	1019	0.0
15/09/2020 11:15	47	57	53	49	42	40	2.2	4.5	135	26	53	1018	0.0
15/09/2020 11:30	51	76	61	50	42	39	2.7	5.8	135	27	46	1018	0.0
15/09/2020 11:45	47	63	54	50	40	37	2.2	5.4	113	27	50	1018	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
15/09/2020 12:00	51	74	63	51	42	37	2.2	6.7	113	27	49	1018	0.0
15/09/2020 12:15	49	70	55	51	41	38	2.2	6.3	135	27	47	1018	0.0
15/09/2020 12:30	50	73	60	50	42	39	2.2	4.9	135	28	46	1018	0.0
15/09/2020 12:45	48	68	57	50	40	37	2.2	4.5	113	27	44	1018	0.0
15/09/2020 13:00	47	59	54	50	40	35	2.2	4.9	135	27	44	1017	0.0
15/09/2020 13:15	47	59	53	49	42	37	2.7	4.9	135	27	42	1017	0.0
15/09/2020 13:30	48	65	56	51	41	36	2.2	5.8	135	27	42	1017	0.0
15/09/2020 13:45	48	57	54	51	42	39	2.2	5.4	135	27	43	1017	0.0
15/09/2020 14:00	49	58	54	51	43	38	2.2	5.4	135	27	43	1017	0.0
15/09/2020 14:15	48	60	53	50	44	42	2.2	5.8	113	27	42	1017	0.0
15/09/2020 14:30	49	61	54	52	45	41	2.7	5.8	113	27	42	1016	0.0
15/09/2020 14:45	49	61	56	51	45	42	2.2	6.3	113	27	41	1016	0.0
15/09/2020 15:00	50	58	55	52	46	39	2.7	6.7	135	27	43	1016	0.0
15/09/2020 15:15	55	76	68	53	47	44	2.7	5.8	135	27	46	1016	0.0
15/09/2020 15:30	53	77	62	52	46	43	2.2	6.7	113	26	52	1016	0.0
15/09/2020 15:45	50	60	54	52	47	44	2.2	5.8	113	26	53	1017	0.0
15/09/2020 16:00	52	68	60	53	48	44	2.2	5.4	113	26	51	1017	0.0
15/09/2020 16:15	51	62	55	53	48	45	2.2	6.3	113	25	59	1017	0.0
15/09/2020 16:30	49	62	55	52	45	43	2.2	5.4	113	24	58	1017	0.0
15/09/2020 16:45	50	62	57	52	45	41	2.2	4.9	113	24	62	1017	0.0
15/09/2020 17:00	49	62	55	52	45	41	1.8	4.9	135	23	63	1017	0.0
15/09/2020 17:15	50	71	60	52	44	41	2.2	5.4	135	23	64	1017	0.0
15/09/2020 17:30	50	65	61	52	44	40	1.3	4.0	135	22	67	1017	0.0
15/09/2020 17:45	46	59	52	49	40	37	1.8	3.6	135	22	69	1017	0.0
15/09/2020 18:00	46	59	53	49	41	38	1.8	4.5	135	21	70	1017	0.0
15/09/2020 18:15	47	58	54	50	42	38	1.3	3.6	135	21	70	1018	0.0
15/09/2020 18:30	49	61	54	51	47	45	1.3	3.1	135	21	71	1018	0.0
15/09/2020 18:45	49	57	54	51	46	44	0.9	2.2	135	21	71	1018	0.0
15/09/2020 19:00	49	61	56	52	45	42	0.9	2.7	135	20	74	1018	0.0
15/09/2020 19:15	48	58	54	50	43	41	0.9	2.7	135	20	75	1019	0.0
15/09/2020 19:30	48	61	55	50	43	40	0.9	3.1	135	20	75	1019	0.0
15/09/2020 19:45	47	58	54	50	42	39	0.9	2.2	135	20	76	1019	0.0
15/09/2020 20:00	46	57	54	49	40	38	0.9	2.7	135	20	77	1019	0.0
15/09/2020 20:15	45	58	53	49	40	38	0.9	2.7	135	20	76	1019	0.0
15/09/2020 20:30	42	58	50	44	38	36	0.9	2.2	135	20	76	1019	0.0
15/09/2020 20:45	44	59	51	46	39	36	0.4	1.8	135	20	76	1019	0.0
15/09/2020 21:00	43	58	51	45	39	37	0.9	1.8	135	20	76	1019	0.0
15/09/2020 21:15	45	59	54	48	40	38	0.9	1.8	135	20	75	1020	0.0
15/09/2020 21:30	43	57	50	46	40	38	0.9	1.8	158	20	74	1019	0.0
15/09/2020 21:45	44	59	53	47	38	34	0.9	1.8	158	19	74	1019	0.0
15/09/2020 22:00	42	57	51	45	37	34	0.9	1.8	135	19	75	1019	0.0
15/09/2020 22:15	43	58	53	46	36	33	0.9	2.2	135	19	75	1019	0.0
15/09/2020 22:30	38	55	49	39	34	32	1.3	3.1	135	19	72	1019	0.0
15/09/2020 22:45	41	63	53	42	34	32	1.3	3.1	135	19	73	1019	0.0
15/09/2020 23:00	44	61	55	46	35	32	0.9	3.1	135	19	74	1019	0.0
15/09/2020 23:15	40	59	51	42	34	32	0.9	2.2	135	19	75	1019	0.0
15/09/2020 23:30	38	54	47	40	34	32	0.9	2.7	158	19	76	1019	0.0
15/09/2020 23:45	37	46	42	39	34	32	0.9	2.7	158	19	76	1019	0.0
16/09/2020 0:00	38	54	45	41	33	31	1.3	2.7	158	19	78	1019	0.0
16/09/2020 0:15	39	55	48	42	33	31	1.3	2.7	135	19	78	1019	0.0
16/09/2020 0:30	38	54	47	40	32	30	1.3	3.1	135	19	78	1018	0.0
16/09/2020 0:45	43	61	55	46	32	30	1.8	3.6	158	18	78	1018	0.0
16/09/2020 1:00	40	60	51	43	33	31	1.8	3.6	158	18	79	1018	0.0
16/09/2020 1:15	36	51	43	38	33	32	1.8	4.0	158	18	78	1018	0.0
16/09/2020 1:30	36	51	45	38	33	32	1.8	3.6	135	18	79	1017	0.0
16/09/2020 1:45	36	53	46	38	32	31	1.8	4.0	135	18	79	1017	0.0
16/09/2020 2:00	35	41	40	36	32	31	1.8	4.0	158	18	80	1017	0.0
16/09/2020 2:15	37	44	42	39	34	32	1.8	4.0	135	18	80	1017	0.0
16/09/2020 2:30	36	54	47	37	33	31	1.8	3.6	158	18	80	1017	0.0
16/09/2020 2:45	38	54	47	40	33	31	1.8	3.1	158	18	80	1017	0.0
16/09/2020 3:00	38	58	47	40	32	30	1.8	3.1	135	18	80	1017	0.0
16/09/2020 3:15	38	54	48	40	34	32	1.8	4.0	135	18	79	1017	0.0
16/09/2020 3:30	43	65	55	46	33	30	1.8	3.1	135	18	79	1017	0.0
16/09/2020 3:45	37	57	47	38	32	31	1.8	4.0	135	19	78	1017	0.0
16/09/2020 4:00	41	57	50	44	34	32	1.8	4.0	158	18	79	1017	0.0
16/09/2020 4:15	42	55	52	46	33	31	1.8	3.6	158	18	78	1017	0.0
16/09/2020 4:30	41	54	50	44	34	31	1.8	4.0	135	18	78	1017	0.0
16/09/2020 4:45	40	53	49	43	33	30	1.8	3.6	158	18	78	1017	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
16/09/2020 5:00	42	59	52	46	32	30	1.8	3.6	158	18	78	1017	0.0
16/09/2020 5:15	46	61	55	50	36	32	1.3	4.0	135	18	79	1017	0.0
16/09/2020 5:30	48	59	56	51	38	30	1.3	3.1	135	18	78	1017	0.0
16/09/2020 5:45	48	66	56	51	37	30	1.3	3.1	135	18	79	1018	0.0
16/09/2020 6:00	49	63	58	52	38	32	1.3	3.6	158	18	79	1018	0.0
16/09/2020 6:15	48	64	56	51	40	33	1.3	3.1	158	19	78	1018	0.0
16/09/2020 6:30	49	67	57	52	39	35	1.8	3.6	158	19	78	1019	0.0
16/09/2020 6:45	47	65	55	50	40	33	2.2	4.5	135	19	77	1019	0.0
16/09/2020 7:00	48	60	55	52	40	36	1.8	4.0	158	20	76	1019	0.0
16/09/2020 7:15	48	59	54	51	40	36	1.8	4.5	135	20	76	1019	0.0
16/09/2020 7:30	50	62	56	53	43	37	1.8	4.5	135	21	75	1019	0.0
16/09/2020 7:45	49	58	55	52	43	39	2.7	6.7	135	21	75	1019	0.0
16/09/2020 8:00	49	62	56	52	45	40	2.2	5.8	135	21	75	1020	0.0
16/09/2020 8:15	51	69	62	53	45	41	1.8	4.9	135	21	78	1020	0.0
16/09/2020 8:30	49	59	55	52	43	39	1.8	4.0	135	21	77	1020	0.0
16/09/2020 8:45	48	61	55	51	42	39	2.2	4.9	135	21	75	1020	0.0
16/09/2020 9:00	49	61	56	52	42	36	2.2	4.5	135	22	73	1020	0.0
16/09/2020 9:15	47	57	54	50	39	33	1.3	4.5	135	22	72	1020	0.0
16/09/2020 9:30	46	58	53	49	40	32	1.8	4.0	135	24	68	1020	0.0
16/09/2020 9:45	48	59	55	51	43	39	1.8	5.4	135	24	64	1019	0.0
16/09/2020 10:00	47	56	53	50	42	39	2.2	4.5	135	25	58	1019	0.0
16/09/2020 10:15	47	58	53	49	41	38	2.2	5.4	135	26	60	1019	0.0
16/09/2020 10:30	48	65	55	50	42	38	1.8	4.5	113	26	58	1019	0.0
16/09/2020 10:45	47	57	53	50	43	38	1.8	5.8	113	25	59	1019	0.0
16/09/2020 11:00	50	71	61	52	41	34	1.8	5.8	113	25	57	1019	0.0
16/09/2020 11:15	47	63	55	49	40	35	2.2	5.4	135	26	54	1018	0.0
16/09/2020 11:30	46	58	53	50	40	36	1.8	6.3	113	27	55	1018	0.0
16/09/2020 11:45	49	67	60	50	40	35	1.8	4.0	113	27	51	1018	0.0
16/09/2020 12:00	47	58	54	51	42	37	2.2	5.8	113	27	53	1018	0.0
16/09/2020 12:15	47	57	53	50	42	38	1.8	4.5	113	26	55	1018	0.0
16/09/2020 12:30	47	58	53	50	41	38	2.2	5.4	90	27	49	1017	0.0
16/09/2020 12:45	47	70	53	49	40	37	1.8	4.9	113	27	48	1017	0.0
16/09/2020 13:00	47	64	57	49	41	37	1.8	4.5	113	27	49	1017	0.0
16/09/2020 13:15	46	55	52	50	40	36	1.8	5.4	113	27	47	1017	0.0
16/09/2020 13:30	46	56	52	49	40	37	1.8	4.5	135	27	47	1016	0.0
16/09/2020 13:45	46	54	51	48	40	35	2.2	5.4	113	27	47	1016	0.0
16/09/2020 14:00	47	58	52	49	43	40	1.8	4.5	135	27	47	1016	0.0
16/09/2020 14:15	46	57	52	48	41	37	1.8	4.5	113	27	49	1016	0.0
16/09/2020 14:30	47	57	53	50	42	39	1.8	5.4	113	27	50	1016	0.0
16/09/2020 14:45	49	57	54	51	45	42	2.2	5.4	113	26	47	1016	0.0
16/09/2020 15:00	49	60	55	52	44	40	2.2	6.3	113	26	46	1016	0.0
16/09/2020 15:15	49	58	54	51	44	39	2.2	5.4	113	26	50	1016	0.0
16/09/2020 15:30	49	59	55	52	46	42	2.2	6.3	113	25	53	1016	0.0
16/09/2020 15:45	50	64	58	52	45	41	2.2	5.8	113	25	56	1016	0.0
16/09/2020 16:00	49	62	57	52	44	41	1.8	4.0	113	25	55	1016	0.0
16/09/2020 16:15	51	74	59	52	46	43	1.8	4.0	113	24	56	1016	0.0
16/09/2020 16:30	50	67	59	51	44	38	1.8	4.5	113	24	55	1016	0.0
16/09/2020 16:45	48	58	54	51	44	41	1.3	4.0	113	24	57	1017	0.0
16/09/2020 17:00	51	69	63	53	44	40	1.8	5.4	113	23	61	1017	0.0
16/09/2020 17:15	48	59	54	51	44	39	1.3	4.0	90	22	62	1017	0.0
16/09/2020 17:30	49	70	56	51	41	37	1.8	3.6	113	22	67	1017	0.0
16/09/2020 17:45	47	70	53	49	41	37	1.3	4.0	113	22	69	1017	0.0
16/09/2020 18:00	45	57	53	49	39	35	1.3	3.6	113	21	71	1017	0.0
16/09/2020 18:15	48	59	54	51	41	37	1.3	3.6	113	21	72	1018	0.0
16/09/2020 18:30	50	61	54	52	47	45	0.9	4.0	113	21	74	1018	0.0
16/09/2020 18:45	50	56	54	51	47	45	0.4	2.7	113	21	75	1018	0.0
16/09/2020 19:00	48	58	54	50	45	44	0.4	1.8	113	20	76	1018	0.0
16/09/2020 19:15	47	57	53	49	44	43	0.4	1.8	135	20	75	1018	0.0
16/09/2020 19:30	47	59	53	50	43	42	0.4	1.3	135	20	76	1018	0.0
16/09/2020 19:45	45	57	52	47	41	39	0.4	1.3	135	20	77	1018	0.0
16/09/2020 20:00	44	58	53	47	39	36	0.4	2.2	135	20	79	1019	0.0
16/09/2020 20:15	45	59	53	48	39	36	0.9	1.8	135	20	80	1019	0.0
16/09/2020 20:30	43	56	51	46	37	34	0.9	2.2	135	19	80	1019	0.0
16/09/2020 20:45	45	57	53	49	36	33	1.3	2.2	135	19	81	1019	0.0
16/09/2020 21:00	40	57	49	44	35	33	0.9	2.2	135	19	81	1019	0.0
16/09/2020 21:15	45	60	54	49	37	34	0.9	2.2	135	19	81	1019	0.0
16/09/2020 21:30	43	55	51	47	36	33	0.9	1.3	135	19	82	1019	0.0
16/09/2020 21:45	41	59	51	46	34	32	0.4	1.8	158	19	81	1019	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
16/09/2020 22:00	41	56	53	43	32	31	0.9	1.3	158	19	81	1019	0.0
16/09/2020 22:15	41	57	52	45	32	29	0.9	1.8	158	19	82	1019	0.0
16/09/2020 22:30	42	56	52	47	32	30	0.9	1.8	158	19	82	1019	0.0
16/09/2020 22:45	40	57	51	44	31	30	0.9	1.3	135	19	83	1019	0.0
16/09/2020 23:00	40	57	51	43	31	29	0.9	1.8	158	18	83	1019	0.0
16/09/2020 23:15	33	51	43	33	30	27	0.4	1.3	135	18	83	1019	0.0
16/09/2020 23:30	28	52	31	29	26	25	0.4	0.9	158	18	83	1019	0.0
16/09/2020 23:45	31	50	43	30	26	25	0.4	0.9	158	18	83	1019	0.0
17/09/2020 0:00	35	60	46	35	27	25	0.4	1.3	158	18	83	1018	0.0
17/09/2020 0:15	32	50	43	32	27	25	0.4	1.8	158	18	84	1018	0.0
17/09/2020 0:30	30	37	34	32	26	24	0.4	1.3	158	18	84	1018	0.0
17/09/2020 0:45	32	51	44	32	26	25	0.4	1.8	158	18	84	1018	0.0
17/09/2020 1:00	37	55	49	40	27	25	0.4	1.3	158	18	84	1017	0.0
17/09/2020 1:15	29	35	32	30	28	26	0.4	1.3	158	18	84	1017	0.0
17/09/2020 1:30	37	55	48	40	28	26	0.4	1.8	158	18	83	1017	0.0
17/09/2020 1:45	32	55	44	31	27	26	0.4	1.3	158	18	84	1017	0.0
17/09/2020 2:00	29	55	31	29	26	24	0.4	1.3	158	18	84	1017	0.0
17/09/2020 2:15	28	33	30	29	26	24	0.4	1.8	158	18	84	1017	0.0
17/09/2020 2:30	29	42	33	31	26	24	0.4	1.3	158	18	84	1017	0.0
17/09/2020 2:45	33	55	45	35	25	23	0.4	0.9	158	18	85	1016	0.0
17/09/2020 3:00	33	55	44	33	25	23	0.4	1.3	158	18	85	1016	0.0
17/09/2020 3:15	38	57	51	39	26	24	0.4	1.3	158	18	86	1016	0.0
17/09/2020 3:30	38	55	51	41	24	22	0.0	0.9	158	17	86	1016	0.0
17/09/2020 3:45	38	58	49	41	23	22	0.0	0.4	135	17	88	1016	0.0
17/09/2020 4:00	38	55	48	42	28	22	0.0	0.4	135	16	91	1017	0.0
17/09/2020 4:15	37	54	47	41	26	24	0.0	0.4	135	16	90	1017	0.0
17/09/2020 4:30	39	57	49	43	26	24	0.0	0.4	135	15	90	1017	0.0
17/09/2020 4:45	39	53	49	43	25	23	0.0	0.4	135	15	91	1017	0.0
17/09/2020 5:00	42	55	50	47	26	24	0.0	0.4	135	14	91	1017	0.0
17/09/2020 5:15	48	61	56	52	40	34	0.0	0.4	135	14	92	1017	0.0
17/09/2020 5:30	46	56	53	50	36	31	0.0	0.0	0	14	92	1017	0.0
17/09/2020 5:45	54	78	66	54	35	29	0.0	0.0	0	14	93	1017	0.0
17/09/2020 6:00	48	68	56	52	38	28	0.0	0.4	135	14	93	1017	0.0
17/09/2020 6:15	49	58	56	53	35	28	0.0	0.0	0	14	94	1017	0.0
17/09/2020 6:30	49	63	57	53	40	29	0.0	0.4	158	16	94	1018	0.0
17/09/2020 6:45	47	59	55	50	38	32	1.3	3.1	158	20	83	1018	0.0
17/09/2020 7:00	47	65	55	50	38	34	2.2	3.6	135	21	78	1018	0.0
17/09/2020 7:15	48	64	55	51	41	35	2.2	4.5	135	21	76	1018	0.0
17/09/2020 7:30	49	68	58	51	43	37	2.2	4.5	158	22	74	1018	0.0
17/09/2020 7:45	49	66	58	51	41	33	2.2	5.4	135	23	72	1019	0.0
17/09/2020 8:00	47	65	54	50	41	37	2.2	4.9	135	23	71	1019	0.0
17/09/2020 8:15	49	63	58	52	43	39	2.2	4.5	135	24	67	1019	0.0
17/09/2020 8:30	48	61	55	51	41	37	2.2	4.0	135	23	69	1019	0.0
17/09/2020 8:45	47	58	53	50	40	34	1.8	4.5	135	24	65	1019	0.0
17/09/2020 9:00	47	62	55	50	41	36	1.8	4.0	135	25	63	1019	0.0
17/09/2020 9:15	50	73	56	51	42	34	1.8	4.0	113	26	59	1019	0.0
17/09/2020 9:30	48	65	58	51	40	35	2.2	4.0	135	25	61	1019	0.0
17/09/2020 9:45	49	67	61	50	40	34	1.8	4.5	135	26	60	1019	0.0
17/09/2020 10:00	46	56	52	49	42	38	2.2	4.9	135	25	59	1019	0.0
17/09/2020 10:15	46	60	54	49	40	36	1.3	4.0	135	26	58	1019	0.0
17/09/2020 10:30	46	60	54	49	40	35	2.2	4.9	135	26	59	1018	0.0
17/09/2020 10:45	46	69	53	49	39	35	1.8	7.2	135	27	54	1018	0.0
17/09/2020 11:00	46	71	53	48	37	34	1.8	4.0	135	27	54	1018	0.0
17/09/2020 11:15	45	56	52	48	37	33	1.8	4.9	113	27	55	1018	0.0
17/09/2020 11:30	46	57	53	50	39	35	1.8	4.0	113	27	55	1018	0.0
17/09/2020 11:45	48	69	61	49	38	34	2.2	5.8	113	28	53	1017	0.0
17/09/2020 12:00	45	57	52	48	40	36	1.8	4.9	113	28	50	1017	0.0
17/09/2020 12:15	46	56	52	50	39	35	1.8	5.4	135	26	54	1017	0.0
17/09/2020 12:30	45	56	52	48	39	36	1.8	4.9	135	27	51	1017	0.0
17/09/2020 12:45	44	56	51	48	38	35	2.2	4.5	90	28	50	1016	0.0
17/09/2020 13:00	49	67	60	50	42	36	2.2	4.9	113	27	50	1016	0.0
17/09/2020 13:15	46	58	53	49	38	34	1.8	4.9	113	28	49	1016	0.0
17/09/2020 13:30	47	58	53	50	41	36	2.2	5.4	113	27	49	1016	0.0
17/09/2020 13:45	45	60	52	48	40	37	2.2	6.7	113	28	48	1016	0.0
17/09/2020 14:00	47	56	53	50	43	39	2.2	4.9	113	27	49	1016	0.0
17/09/2020 14:15	47	57	54	49	40	35	2.2	4.9	113	27	46	1016	0.0
17/09/2020 14:30	46	59	53	49	42	40	2.2	5.4	113	27	49	1015	0.0
17/09/2020 14:45	49	71	54	51	44	40	2.2	5.8	113	27	51	1015	0.0

Logged Noise and Weather Data

Date / Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
17/09/2020 15:00	49	73	55	51	43	39	2.2	5.4	113	27	49	1015	0.0
17/09/2020 15:15	47	57	53	50	44	40	2.2	4.9	113	27	45	1015	0.0
17/09/2020 15:30	47	56	53	50	44	40	1.8	4.5	113	26	47	1016	0.0
17/09/2020 15:45	48	63	57	50	43	39	1.8	4.5	113	26	51	1016	0.0
17/09/2020 16:00	49	71	58	52	43	40	1.8	4.0	113	26	57	1016	0.0
17/09/2020 16:15	51	72	63	52	44	41	2.2	4.0	113	25	60	1016	0.0
17/09/2020 16:30	47	57	54	50	42	39	1.8	4.9	113	25	59	1016	0.0
17/09/2020 16:45	51	68	63	52	44	41	1.8	5.4	113	24	64	1016	0.0
17/09/2020 17:00	48	60	54	51	43	37	1.8	4.0	113	24	67	1016	0.0
17/09/2020 17:15	50	63	58	52	43	38	1.8	4.0	113	23	70	1016	0.0
17/09/2020 17:30	47	59	54	50	40	36	1.3	4.0	113	22	73	1017	0.0
17/09/2020 17:45	47	56	53	50	39	34	1.8	3.6	113	22	75	1017	0.0
17/09/2020 18:00	48	60	55	51	41	37	0.9	3.1	113	21	77	1017	0.0
17/09/2020 18:15	48	60	54	50	41	38	0.9	2.7	113	21	78	1017	0.0
17/09/2020 18:30	51	59	55	53	48	45	0.9	2.7	113	21	79	1017	0.0
17/09/2020 18:45	50	57	55	52	47	44	0.4	1.8	113	21	81	1017	0.0
17/09/2020 19:00	49	59	55	51	46	43	0.4	1.8	113	21	83	1018	0.0
17/09/2020 19:15	49	57	54	51	47	45	0.4	1.8	113	20	84	1018	0.0
17/09/2020 19:30	49	56	54	51	46	45	0.0	0.9	135	20	85	1018	0.0
17/09/2020 19:45	48	55	52	50	46	45	0.0	0.4	135	20	85	1018	0.0
17/09/2020 20:00	49	57	53	51	46	44	0.0	0.9	135	21	84	1019	0.0
17/09/2020 20:15	47	54	52	49	45	44	0.0	0.9	135	21	83	1019	0.0
17/09/2020 20:30	47	55	52	50	43	40	0.0	0.9	135	20	83	1019	0.0
17/09/2020 20:45	45	56	52	48	39	37	0.0	0.4	135	20	85	1019	0.0
17/09/2020 21:00	41	58	52	45	35	33	0.4	0.9	135	20	86	1019	0.0
17/09/2020 21:15	44	59	53	48	35	33	0.4	0.9	158	20	86	1019	0.0
17/09/2020 21:30	42	55	51	46	37	35	0.4	0.9	158	20	86	1019	0.0
17/09/2020 21:45	43	56	52	47	36	34	0.4	1.3	158	20	87	1019	0.0
17/09/2020 22:00	44	60	55	47	35	33	0.9	1.8	135	20	86	1019	0.0
17/09/2020 22:15	42	59	52	46	34	32	0.9	2.2	135	20	86	1019	0.0
17/09/2020 22:30	45	64	58	46	33	32	0.9	2.2	135	20	86	1019	0.0
17/09/2020 22:45	42	57	50	46	33	32	0.4	1.3	158	19	87	1019	0.0
17/09/2020 23:00	41	55	50	45	34	32	0.4	1.3	158	19	87	1019	0.0
17/09/2020 23:15	38	49	46	43	32	31	0.9	1.8	158	19	88	1019	0.0
17/09/2020 23:30	39	57	49	44	32	31	0.4	1.3	158	19	88	1018	0.0
17/09/2020 23:45	36	52	44	37	31	29	0.4	1.3	158	19	88	1018	0.0
18/09/2020 0:00	36	54	47	39	31	29	0.4	1.3	158	19	89	1018	0.0
18/09/2020 0:15	35	54	46	34	30	29	0.9	1.8	158	19	89	1018	0.0
18/09/2020 0:30	31	40	34	33	30	28	0.9	2.2	158	19	89	1018	0.0
18/09/2020 0:45	40	59	51	44	29	28	0.4	1.3	158	19	88	1018	0.0
18/09/2020 1:00	38	60	51	38	28	26	0.4	1.3	158	18	89	1018	0.0
18/09/2020 1:15	37	57	49	40	29	27	0.4	1.3	158	18	88	1017	0.0
18/09/2020 1:30	30	39	35	32	29	27	0.4	1.8	158	18	88	1017	0.0
18/09/2020 1:45	32	50	35	34	29	27	0.9	2.2	158	18	88	1017	0.0
18/09/2020 2:00	39	60	53	37	30	28	0.9	2.2	135	18	88	1017	0.0
18/09/2020 2:15	37	62	48	37	30	28	0.9	2.2	135	18	87	1017	0.0
18/09/2020 2:30	42	61	56	41	28	26	0.9	2.7	135	18	88	1017	0.0
18/09/2020 2:45	35	55	49	34	26	25	1.3	3.1	135	18	88	1017	0.0
18/09/2020 3:00	37	56	49	40	27	25	1.3	3.1	135	18	88	1016	0.0
18/09/2020 3:15	34	52	47	34	28	27	1.3	2.7	158	18	88	1017	0.0
18/09/2020 3:30	36	54	49	38	27	25	0.9	1.8	135	18	89	1017	0.0
18/09/2020 3:45	40	54	51	44	26	25	0.4	2.2	135	18	89	1017	0.0
18/09/2020 4:00	37	56	48	40	27	26	0.9	2.2	158	18	89	1017	0.0
18/09/2020 4:15	41	57	51	45	26	24	0.4	0.9	135	18	89	1017	0.0
18/09/2020 4:30	39	58	50	43	26	24	0.4	1.8	158	18	88	1017	0.0
18/09/2020 4:45	41	59	52	45	27	25	0.4	1.3	158	18	88	1018	0.0
18/09/2020 5:00	45	58	54	49	35	29	0.4	1.3	135	18	88	1018	0.0
18/09/2020 5:15	49	63	60	53	33	27	0.4	1.3	158	18	88	1018	0.0
18/09/2020 5:30	50	76	62	52	34	27	0.4	1.3	158	17	88	1018	0.0
18/09/2020 5:45	46	62	56	50	31	23	0.4	1.3	158	18	87	1018	0.0
18/09/2020 6:00	49	67	59	52	35	28	0.4	1.8	158	18	87	1018	0.0
18/09/2020 6:15	48	67	56	52	39	29	0.9	1.8	135	19	85	1018	0.0
18/09/2020 6:30	51	69	58	53	43	32	1.3	2.7	158	20	82	1018	0.0
18/09/2020 6:45	47	57	54	50	39	32	1.3	3.1	135	20	80	1019	0.0
18/09/2020 7:00	48	65	57	50	40	34	2.2	4.0	135	21	78	1019	0.0
18/09/2020 7:15	48	71	56	51	39	35	2.2	4.0	135	22	76	1019	0.0
18/09/2020 7:30	47	58	54	51	38	33	2.2	4.9	135	22	73	1019	0.0
18/09/2020 7:45	48	62	55	51	42	39	2.2	4.0	135	23	72	1019	0.0

Logged Noise and Weather Data

Date / Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
18/09/2020 8:00	49	66	58	51	44	40	2.2	4.5	135	23	71	1019	0.0
18/09/2020 8:15	48	61	55	51	43	40	2.2	4.9	135	23	68	1019	0.0
18/09/2020 8:30	49	61	55	52	45	41	2.7	6.7	135	24	68	1019	0.0
18/09/2020 8:45	49	66	57	52	44	40	2.2	5.4	135	24	64	1019	0.0
18/09/2020 9:00	47	56	53	50	44	40	2.2	6.3	135	24	66	1019	0.0
18/09/2020 9:15	48	60	54	51	44	39	2.2	5.8	135	25	64	1019	0.0
18/09/2020 9:30	48	58	54	51	44	40	2.2	4.9	135	25	62	1019	0.0
18/09/2020 9:45	47	58	54	50	43	39	2.2	5.8	135	26	58	1019	0.0
18/09/2020 10:00	47	58	54	51	42	37	2.2	4.9	135	26	57	1019	0.0
18/09/2020 10:15	48	60	55	51	44	40	2.2	5.4	135	25	58	1019	0.0
18/09/2020 10:30	48	60	55	51	43	39	2.2	4.9	135	25	57	1019	0.0
18/09/2020 10:45	48	60	54	51	43	38	2.7	6.3	135	26	57	1018	0.0
18/09/2020 11:00	48	62	57	51	41	38	2.2	4.9	135	27	54	1018	0.0
18/09/2020 11:15	48	66	54	50	43	40	2.2	4.5	135	27	49	1018	0.0
18/09/2020 11:30	49	68	56	51	43	39	2.2	6.3	135	27	52	1018	0.0
18/09/2020 11:45	49	68	60	50	43	39	2.2	5.4	113	27	53	1018	0.0
18/09/2020 12:00	47	59	54	50	41	36	1.8	4.9	113	27	51	1017	0.0
18/09/2020 12:15	46	55	53	49	40	36	1.8	5.4	135	27	52	1017	0.0
18/09/2020 12:30	47	57	54	50	41	37	1.8	4.9	113	27	51	1017	0.0
18/09/2020 12:45	47	60	53	49	42	39	2.2	5.8	135	26	56	1017	0.0
18/09/2020 13:00	48	65	57	50	43	39	1.8	4.5	135	27	53	1017	0.0
18/09/2020 13:15	48	64	56	51	43	39	2.2	6.7	90	27	49	1016	0.0
18/09/2020 13:30	51	75	60	50	43	40	2.2	5.8	135	27	50	1016	0.0
18/09/2020 13:45	48	56	53	51	43	41	2.7	6.3	113	27	50	1016	0.0
18/09/2020 14:00	49	66	55	51	45	41	2.7	5.8	90	27	52	1016	0.0
18/09/2020 14:15	49	62	54	51	45	41	2.2	5.4	113	26	56	1016	0.0
18/09/2020 14:30	48	57	54	51	44	39	2.7	5.8	113	26	55	1016	0.0
18/09/2020 14:45	50	60	55	52	47	42	2.2	4.5	113	26	54	1016	0.0
18/09/2020 15:00	50	70	58	52	46	43	2.7	6.7	113	26	55	1016	0.0
18/09/2020 15:15	50	70	55	52	47	44	2.7	5.4	113	26	57	1016	0.0
18/09/2020 15:30	51	57	56	53	48	46	2.7	6.3	113	26	54	1016	0.0
18/09/2020 15:45	51	65	61	52	46	42	2.7	5.8	113	25	60	1016	0.0
18/09/2020 16:00	50	57	54	52	46	43	1.8	5.4	113	25	61	1016	0.0
18/09/2020 16:15	49	57	54	52	46	41	1.8	4.9	113	24	64	1016	0.0
18/09/2020 16:30	48	56	54	50	44	41	1.8	4.9	113	23	68	1017	0.0
18/09/2020 16:45	48	56	54	51	42	38	1.3	4.0	113	23	70	1017	0.0
18/09/2020 17:00	51	62	57	54	46	41	2.7	8.0	113	20	80	1017	0.2
18/09/2020 17:15	51	64	57	53	46	41	1.8	5.4	113	19	87	1017	0.0
18/09/2020 17:30	48	61	55	52	41	35	0.4	2.2	113	19	87	1017	0.0
18/09/2020 17:45	48	63	57	51	41	35	0.0	0.9	135	19	87	1017	0.0
18/09/2020 18:00	47	63	57	50	42	38	0.0	0.9	135	19	86	1017	0.0
18/09/2020 18:15	49	57	55	52	44	41	0.4	1.3	135	20	85	1017	0.0
18/09/2020 18:30	51	62	57	53	47	45	0.4	2.2	135	20	85	1018	0.0
18/09/2020 18:45	50	56	54	52	47	46	0.4	1.8	135	20	85	1018	0.0
18/09/2020 19:00	49	59	54	51	46	43	0.4	1.3	135	20	85	1018	0.0
18/09/2020 19:15	48	57	55	51	44	43	0.4	1.3	135	20	85	1018	0.0
18/09/2020 19:30	47	59	53	49	42	40	0.4	1.3	135	20	85	1018	0.0
18/09/2020 19:45	45	58	53	48	40	38	0.4	1.3	135	20	85	1018	0.0
18/09/2020 20:00	46	59	53	48	40	38	0.9	1.8	135	20	84	1018	0.0
18/09/2020 20:15	46	58	54	49	40	37	0.4	1.8	135	20	84	1018	0.0
18/09/2020 20:30	45	58	53	48	39	37	0.9	2.7	135	20	82	1018	0.0
18/09/2020 20:45	44	57	51	47	38	35	1.3	3.6	135	20	82	1018	0.0
18/09/2020 21:00	44	58	52	47	39	36	0.9	3.1	135	20	81	1018	0.0
18/09/2020 21:15	44	57	51	47	39	36	1.3	3.1	135	20	80	1018	0.0
18/09/2020 21:30	44	58	52	47	39	36	0.9	2.7	135	20	79	1018	0.0
18/09/2020 21:45	43	59	52	46	38	35	0.9	2.2	135	19	80	1018	0.0
18/09/2020 22:00	44	59	54	48	37	34	0.9	2.2	135	19	80	1018	0.0
18/09/2020 22:15	44	60	54	47	35	32	0.4	1.3	135	19	81	1018	0.0
18/09/2020 22:30	40	54	48	43	34	32	0.4	1.8	135	18	80	1017	0.0
18/09/2020 22:45	40	53	50	43	34	31	0.9	1.8	135	18	80	1017	0.0
18/09/2020 23:00	41	58	51	44	34	32	0.9	3.1	158	19	79	1017	0.0
18/09/2020 23:15	38	53	47	40	33	31	0.9	2.2	135	19	79	1017	0.0
18/09/2020 23:30	38	53	48	40	33	31	1.3	2.7	135	19	80	1017	0.0
18/09/2020 23:45	36	51	42	38	33	31	1.3	2.7	135	19	80	1017	0.0
19/09/2020 0:00	35	40	39	37	32	31	1.3	3.1	135	19	80	1017	0.0
19/09/2020 0:15	36	53	43	37	33	31	1.8	3.6	135	19	79	1017	0.0
19/09/2020 0:30	43	67	55	39	33	31	1.8	4.0	135	19	79	1017	0.0
19/09/2020 0:45	39	55	48	42	33	31	2.2	5.4	135	19	79	1016	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
19/09/2020 1:00	43	65	54	44	37	34	1.8	4.0	135	19	78	1016	0.0
19/09/2020 1:15	40	55	47	42	37	35	1.3	3.1	135	19	78	1016	0.0
19/09/2020 1:30	39	54	46	41	36	34	1.8	3.6	135	19	78	1016	0.0
19/09/2020 1:45	38	53	45	40	36	34	1.8	4.0	135	19	78	1016	0.0
19/09/2020 2:00	39	59	48	40	36	34	1.8	4.5	135	19	78	1016	0.0
19/09/2020 2:15	39	51	45	41	37	35	1.8	4.0	135	19	77	1016	0.0
19/09/2020 2:30	39	44	41	40	37	35	1.3	3.6	135	19	77	1016	0.0
19/09/2020 2:45	38	54	44	40	35	34	1.8	3.1	135	20	76	1016	0.0
19/09/2020 3:00	39	52	44	40	37	35	1.8	3.6	135	20	76	1016	0.0
19/09/2020 3:15	39	55	47	41	35	34	1.3	2.7	135	20	76	1016	0.0
19/09/2020 3:30	37	54	45	38	34	33	1.3	3.1	135	19	77	1016	0.0
19/09/2020 3:45	39	56	49	42	33	31	0.4	1.8	135	19	78	1016	0.0
19/09/2020 4:00	39	57	50	43	30	28	0.9	1.8	135	19	77	1016	0.0
19/09/2020 4:15	39	58	50	41	30	29	0.9	2.7	135	19	77	1016	0.0
19/09/2020 4:30	35	54	48	37	28	27	0.9	2.2	135	19	77	1016	0.0
19/09/2020 4:45	42	59	54	45	29	27	1.3	3.1	135	19	77	1016	0.0
19/09/2020 5:00	41	57	51	44	30	27	0.9	2.7	135	19	77	1016	0.0
19/09/2020 5:15	46	62	57	50	34	30	1.3	3.1	135	19	78	1016	0.0
19/09/2020 5:30	43	58	54	47	32	28	1.3	4.0	135	19	79	1016	0.0
19/09/2020 5:45	44	65	57	45	28	26	1.8	3.1	135	19	77	1016	0.0
19/09/2020 6:00	44	61	53	48	31	28	1.3	3.1	135	19	76	1016	0.0
19/09/2020 6:15	42	56	51	46	31	29	1.3	3.6	135	19	76	1017	0.0
19/09/2020 6:30	44	58	53	48	34	30	1.8	3.6	135	20	76	1017	0.0
19/09/2020 6:45	44	64	54	48	34	31	1.8	3.6	135	20	75	1017	0.0
19/09/2020 7:00	44	58	53	47	37	33	1.8	4.5	135	21	73	1017	0.0
19/09/2020 7:15	51	75	63	50	38	35	2.2	5.8	135	21	74	1017	0.0
19/09/2020 7:30	47	60	54	50	41	38	2.7	6.3	135	22	71	1017	0.0
19/09/2020 7:45	46	63	53	49	42	40	2.7	6.3	135	22	70	1017	0.0
19/09/2020 8:00	48	61	55	50	43	40	2.7	5.8	135	22	72	1018	0.0
19/09/2020 8:15	47	57	54	50	43	40	2.7	6.3	135	22	71	1017	0.0
19/09/2020 8:30	48	56	53	50	44	41	2.2	5.4	135	22	71	1017	0.0
19/09/2020 8:45	47	55	53	50	43	40	2.2	4.9	135	23	70	1018	0.0
19/09/2020 9:00	49	67	55	51	44	41	2.2	5.4	135	23	71	1018	0.0
19/09/2020 9:15	49	57	54	51	45	39	2.2	4.9	135	23	71	1018	0.0
19/09/2020 9:30	49	58	55	51	45	43	2.7	5.8	135	23	70	1017	0.0
19/09/2020 9:45	47	57	53	50	43	41	2.7	6.7	135	22	73	1017	0.0
19/09/2020 10:00	48	60	55	51	44	41	2.2	5.4	135	23	69	1017	0.0
19/09/2020 10:15	49	62	56	52	43	40	2.7	6.3	135	23	65	1017	0.0
19/09/2020 10:30	51	61	57	53	47	44	2.7	6.3	135	24	65	1017	0.0
19/09/2020 10:45	50	64	56	52	46	43	2.2	5.4	135	24	65	1016	0.0
19/09/2020 11:00	49	59	55	51	44	41	2.2	5.8	135	24	64	1016	0.0
19/09/2020 11:15	49	56	53	51	46	43	2.2	4.9	113	24	61	1016	0.0
19/09/2020 11:30	47	58	53	50	43	40	2.2	5.4	113	24	61	1016	0.0
19/09/2020 11:45	49	60	55	52	44	40	2.7	6.7	135	24	60	1016	0.0
19/09/2020 12:00	49	56	54	52	46	42	2.2	5.4	135	24	59	1016	0.0
19/09/2020 12:15	49	58	54	52	45	42	2.7	7.6	113	24	58	1015	0.0
19/09/2020 12:30	48	56	54	51	44	41	2.7	5.4	113	24	59	1015	0.0
19/09/2020 12:45	48	61	54	51	43	41	1.8	4.5	113	25	56	1015	0.0
19/09/2020 13:00	48	57	53	50	44	40	1.8	4.9	135	24	57	1015	0.0
19/09/2020 13:15	48	56	53	51	44	40	2.2	5.8	113	25	57	1015	0.0
19/09/2020 13:30	49	64	58	51	43	40	2.2	4.9	135	25	55	1014	0.0
19/09/2020 13:45	46	57	53	49	41	38	2.2	4.9	135	25	56	1014	0.0
19/09/2020 14:00	47	57	53	50	43	40	2.2	5.4	135	25	55	1014	0.0
19/09/2020 14:15	50	65	56	52	46	41	2.7	6.3	113	26	55	1014	0.0
19/09/2020 14:30	49	58	54	51	44	40	2.2	5.8	135	26	52	1013	0.0
19/09/2020 14:45	50	69	56	52	46	42	2.7	6.7	113	26	53	1013	0.0
19/09/2020 15:00	51	65	56	53	46	43	2.7	6.7	113	25	54	1013	0.0
19/09/2020 15:15	48	57	54	51	45	42	2.2	6.3	113	26	55	1013	0.0
19/09/2020 15:30	48	58	53	50	43	41	2.2	7.2	113	25	53	1014	0.0
19/09/2020 15:45	47	57	53	50	44	41	1.8	4.5	135	25	54	1014	0.0
19/09/2020 16:00	47	57	53	50	42	38	1.8	4.5	113	24	58	1014	0.0
19/09/2020 16:15	47	65	58	50	38	36	1.8	3.6	113	24	57	1014	0.0
19/09/2020 16:30	45	57	52	48	40	36	1.8	4.5	113	23	59	1015	0.0
19/09/2020 16:45	46	56	53	48	39	37	1.3	3.6	113	23	60	1015	0.0
19/09/2020 17:00	45	55	52	48	38	35	1.3	3.6	113	23	62	1015	0.0
19/09/2020 17:15	44	56	52	47	38	34	1.3	3.6	113	23	64	1015	0.0
19/09/2020 17:30	44	55	52	48	37	33	0.4	1.8	113	22	66	1015	0.0
19/09/2020 17:45	44	64	53	47	35	31	0.4	2.2	135	22	67	1015	0.0
19/09/2020 18:00	45	58	52	49	38	33	0.4	1.8	135	22	69	1016	0.0
19/09/2020 18:15	48	58	53	50	44	37	0.4	2.2	113	22	69	1016	0.0
19/09/2020 18:30	49	58	54	51	46	44	0.9	2.7	113	22	68	1016	0.0
19/09/2020 18:45	47	57	52	50	44	42	0.9	2.2	135	22	68	1016	0.0
19/09/2020 19:00	46	56	52	48	42	39	0.9	2.2	135	22	68	1016	0.0
19/09/2020 19:15	46	55	52	48	42	40	0.4	2.2	135	21	69	1016	0.0
19/09/2020 19:30	46	55	51	48	44	43	0.0	1.3	135	21	70	1016	0.0
19/09/2020 19:45	48	56	52	50	45	44	0.0	0.9	113	21	71	1017	0.0
19/09/2020 20:00	47	60	54	49	44	42	0.0	0.9	90	21	73	1017	0.0
19/09/2020 20:15	46	56	51	49	44	42	0.0	0.4	135	21	74	1017	0.0
19/09/2020 20:30	45	57	52	48	42	40	0.4	1.3	113	21	74	1017	0.0
19/09/2020 20:45	45	54	51	48	41	39	0.4	1.3	113	21	76	1016	0.0
19/09/2020 21:00	43	55	51	47	37	34	0.9	2.7	113	21	76	1016	0.0
19/09/2020 21:15	44	52	49	47	40	36	0.9	3.1	113	21	78	1016	0.0
19/09/2020 21:30	38	51	46	41	33	31	0.9	3.1	113	21	79	1016	0.0
19/09/2020 21:45	40	58	49	43	32	31	0.4	1.8	135	20	82	1016	0.0
19/09/2020 22:00	39	54	50	43	31	30	0.9	3.6	113	20	84	1015	0.0
19/09/2020 22:15	41	62	52	43	34	32	0.9	2.7	135	20	85	1015	0.0
19/09/2020 22:30	39	55	49	42	34	32	1.3	3.1	135	20	84	1014	0.0
19/09/2020 22:45	41	56	51	44	36	33	0.9	2.7	135	20	84	1014	0.0
19/09/2020 23:00	38	50	44	39	36	34	1.3	3.6	135	20	84	1015	0.0
19/09/2020 23:15	38	55	47	40	35	33	0.9	2.7	158	20	85	1015	0.0
19/09/2020 23:30	39	53	45	40	36	34	0.4	1.3	158	20	85	1015	0.0
19/09/2020 23:45	42	58	51	45	37	35	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:00	39	52	48	40	36	34	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:15	38	42	40	39	37	35	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:30	38	54	47	39	34	32	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:45	38	58	49	39	32	29	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:00	36	52	45	37	31	29	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:15	36	52	44	37	32	31	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:30	38	55	47	41	32	29	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:45	40	63	51	41	32	30	0.9	2.7	135	19	89	1013	0.0
20/09/2020 2:00	33	42	41	35	31	28	0.9	3.1	135	19	88	1013	0.0
20/09/2020 2:15	33	47	37	36	29	26	0.4	1.3	158	19	89	1013	0.0
20/09/2020 2:30	36	52	46	39	27	25	0.0	0.4	158	18	90	1013	0.0
20/09/2020 2:45	35	56	48	34	25	24	0.0	0.9	158	18	90	1013	0.0
20/09/2020 3:00	31	49	35	33	27	25	0.4	1.3	158	18	89	1012	0.0
20/09/2020 3:15	33	54	46	32	26	25	0.4	1.3	158	18	90	1012	0.0
20/09/2020 3:30	30	44	33	32	26	24	0.4	1.3	158	18	89	1012	0.0
20/09/2020 3:45	36	52	48	36	27	24	0.9	1.3	158	18	89	1012	0.0
20/09/2020 4:00	27	38	34	30	24	23	0.4	1.3	135	19	89	1013	0.0
20/09/2020 4:15	32	50	44	32	25	23	0.4	1.3	158	18	89	1012	0.0
20/09/2020 4:30	35	55	46	36	27	25	0.4	1.8	135	18	90	1013	0.0
20/09/2020 4:45	40	58	51	43	27	25	0.4	1.8	158	18	90	1013	0.0
20/09/2020 5:00	39	57	50	43	25	23	0.4	1.3	158	18	90	1013	0.0
20/09/2020 5:15	44	58	53	48	29	24	0.4	1.3	158	18	91	1013	0.0
20/09/2020 5:30	52	77	64	45	28	24	0.0	0.9	158	18	91	1013	0.0
20/09/2020 5:45	43	58	52	47	28	22	0.0	0.4	158	18	91	1013	0.0
20/09/2020 6:00	47	75	52	46	28	23	0.0	0.4	158	18	92	1014	0.0
20/09/2020 6:15	47	69	61	46	28	24	0.0	0.9	158	19	91	1014	0.0
20/09/2020 6:30	42	54	51	46	30	24	0.4	1.3	158	19	89	1014	0.0
20/09/2020 6:45	41	60	50	44	29	25	0.9	2.2	135	20	87	1014	0.0
20/09/2020 7:00	42	59	53	44	32	27	0.9	2.2	135	21	85	1014	0.0
20/09/2020 7:15	40	57	52	43	29	26	0.9	2.2	135	22	82	1014	0.0
20/09/2020 7:30	41	59	50	43	31	26	1.3	3.6	135	22	80	1014	0.0
20/09/2020 7:45	41	57	51	44	29	25	0.9	2.7	135	23	78	1014	0.0
20/09/2020 8:00	41	61	53	42	30	27	0.9	3.1	113	24	74	1014	0.0
20/09/2020 8:15	41	66	53	44	28	24	0.9	2.2	135	24	73	1014	0.0
20/09/2020 8:30	41	61	51	42	30	25	0.9	2.2	135	25	69	1015	0.0
20/09/2020 8:45	38	62	47	39	29	25	0.9	2.7	135	25	66	1014	0.0
20/09/2020 9:00	37	62	44	39	31	27	0.9	1.8	135	26	64	1015	0.0
20/09/2020 9:15	48	77	51	42	32	27	0.9	1.8	135	25	66	1014	0.0
20/09/2020 9:30	45	73	48	43	36	30	0.9	2.2	135	25	65	1015	0.0
20/09/2020 9:45	42	66	47	44	37	30	0.9	2.7	158	26	63	1014	0.0
20/09/2020 10:00	41	55	49	43	35	28	1.3	3.1	158	26	61	1014	0.0
20/09/2020 10:15	37	45	41	39	34	29	1.3	2.7	203	26	60	1014	0.0
20/09/2020 10:30	39	61	44	41	34	31	0.9	2.2	158	26	60	1014	0.0
20/09/2020 10:45	41	62	53	42	33	30	0.9	1.8	135	27	55	1014	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
20/09/2020 11:00	38	61	50	37	31	27	0.9	2.2	158	27	57	1013	0.0
20/09/2020 11:15	37	57	46	39	31	29	1.3	3.6	90	28	55	1013	0.0
20/09/2020 11:30	39	54	47	42	34	30	1.3	3.6	68	29	54	1013	0.0
20/09/2020 11:45	36	58	43	38	31	29	1.3	3.1	158	29	54	1013	0.0
20/09/2020 12:00	36	54	47	37	30	28	1.3	4.0	293	29	51	1012	0.0
20/09/2020 12:15	36	57	46	36	31	27	1.3	3.1	135	28	53	1012	0.0
20/09/2020 12:30	38	50	45	41	33	30	1.3	3.1	113	29	53	1012	0.0
20/09/2020 12:45	36	50	42	39	32	30	1.3	3.6	135	29	55	1011	0.0
20/09/2020 13:00	51	77	63	42	30	27	1.8	4.0	68	29	51	1011	0.0
20/09/2020 13:15	38	56	49	40	32	30	1.3	3.1	90	28	54	1011	0.0
20/09/2020 13:30	41	57	49	45	33	30	1.3	3.1	113	28	53	1011	0.0
20/09/2020 13:45	37	52	44	40	34	31	0.9	3.1	135	29	53	1010	0.0
20/09/2020 14:00	40	53	49	44	33	30	1.8	3.1	113	29	53	1010	0.0
20/09/2020 14:15	45	60	54	49	37	33	1.3	4.0	135	29	54	1010	0.0
20/09/2020 14:30	45	55	51	47	41	34	1.3	4.5	113	29	53	1010	0.0
20/09/2020 14:45	39	58	48	41	33	31	1.8	3.6	135	29	53	1010	0.0
20/09/2020 15:00	44	65	54	46	38	34	1.3	3.1	135	29	52	1009	0.0
20/09/2020 15:15	47	70	57	49	39	37	1.8	3.6	113	29	54	1009	0.0
20/09/2020 15:30	44	56	51	47	38	36	1.8	4.5	113	28	54	1009	0.0
20/09/2020 15:45	45	54	51	48	41	38	1.8	4.5	90	28	56	1009	0.0
20/09/2020 16:00	46	57	52	48	41	36	2.2	4.5	90	27	57	1009	0.0
20/09/2020 16:15	45	63	52	47	40	37	1.8	4.0	90	27	58	1010	0.0
20/09/2020 16:30	47	70	53	47	40	36	1.8	4.0	113	27	58	1010	0.0
20/09/2020 16:45	46	55	51	48	42	38	1.3	3.6	113	26	59	1010	0.0
20/09/2020 17:00	45	54	51	48	41	38	1.3	4.0	113	25	63	1010	0.0
20/09/2020 17:15	46	59	54	49	41	38	1.3	3.1	113	24	68	1010	0.0
20/09/2020 17:30	45	55	52	48	39	35	1.3	3.6	113	23	73	1010	0.0
20/09/2020 17:45	44	56	51	47	35	31	0.9	3.1	113	23	76	1010	0.0
20/09/2020 18:00	44	59	52	47	34	31	0.9	3.1	113	22	78	1010	0.0
20/09/2020 18:15	48	61	56	51	39	35	0.9	2.7	135	22	79	1010	0.0
20/09/2020 18:30	50	60	54	51	48	44	0.9	2.7	135	22	80	1011	0.0
20/09/2020 18:45	49	57	54	51	46	43	1.3	2.7	135	22	81	1011	0.0
20/09/2020 19:00	48	58	54	50	45	43	1.3	3.6	135	21	82	1011	0.0
20/09/2020 19:15	48	58	54	50	44	42	0.9	2.7	135	21	82	1011	0.0
20/09/2020 19:30	47	58	54	49	43	41	1.3	2.7	135	21	84	1011	0.0
20/09/2020 19:45	46	56	52	49	43	41	0.9	1.8	135	21	84	1012	0.0
20/09/2020 20:00	47	66	55	51	43	41	0.9	1.8	135	21	85	1012	0.0
20/09/2020 20:15	46	65	57	48	42	40	0.4	1.3	135	21	85	1012	0.0
20/09/2020 20:30	43	55	50	45	40	38	0.0	0.4	158	20	87	1012	0.0
20/09/2020 20:45	45	61	54	48	39	37	0.4	0.9	158	20	88	1012	0.0
20/09/2020 21:00	44	56	53	48	38	35	0.4	0.9	158	20	89	1012	0.0
20/09/2020 21:15	43	59	52	47	37	35	0.4	1.3	135	20	88	1012	0.0
20/09/2020 21:30	40	54	49	43	35	32	0.4	1.3	135	20	89	1012	0.0
20/09/2020 21:45	39	56	50	42	34	32	0.9	1.8	158	20	89	1012	0.0
20/09/2020 22:00	37	53	46	39	33	31	0.4	0.9	158	19	89	1012	0.0
20/09/2020 22:15	47	68	57	49	35	32	0.4	0.9	135	19	90	1012	0.0
20/09/2020 22:30	42	53	49	46	34	31	0.0	0.9	158	19	90	1012	0.0
20/09/2020 22:45	41	56	49	46	33	30	0.0	0.4	158	19	90	1012	0.0
20/09/2020 23:00	39	50	47	45	30	28	0.0	0.4	158	19	92	1012	0.0
20/09/2020 23:15	39	54	47	45	30	28	0.4	0.9	135	19	92	1012	0.0
20/09/2020 23:30	39	51	47	44	30	29	0.4	0.9	158	19	92	1012	0.0
20/09/2020 23:45	34	45	44	34	29	28	0.4	0.9	158	19	92	1012	0.0
21/09/2020 0:00	40	55	49	44	30	27	0.4	0.9	158	19	92	1012	0.0
21/09/2020 0:15	39	54	48	43	32	29	0.4	0.9	158	19	92	1012	0.0
21/09/2020 0:30	36	46	45	36	31	28	0.4	0.9	158	19	92	1011	0.0
21/09/2020 0:45	41	57	52	44	32	30	0.9	1.8	135	19	91	1011	0.0
21/09/2020 1:00	39	59	52	37	31	30	0.4	1.3	135	19	92	1011	0.0
21/09/2020 1:15	38	56	49	39	31	29	0.4	0.9	135	19	92	1011	0.0
21/09/2020 1:30	38	56	49	42	28	26	0.4	0.9	135	19	92	1011	0.0
21/09/2020 1:45	35	52	44	37	29	26	0.0	0.4	135	19	93	1011	0.0
21/09/2020 2:00	40	56	53	42	26	24	0.4	0.9	158	19	93	1011	0.0
21/09/2020 2:15	36	55	48	35	28	25	0.4	0.9	158	19	92	1011	0.0
21/09/2020 2:30	38	59	50	36	29	26	0.4	0.9	158	20	92	1011	0.0
21/09/2020 2:45	35	52	45	36	31	29	0.4	0.9	135	20	92	1010	0.0
21/09/2020 3:00	40	52	47	45	34	32	0.4	1.3	158	20	91	1010	0.0
21/09/2020 3:15	39	52	47	44	34	32	0.4	1.8	158	20	91	1010	0.0
21/09/2020 3:30	40	56	48	44	34	32	0.4	1.3	158	20	91	1010	0.0
21/09/2020 3:45	37	51	46	40	33	31	0.4	1.8	135	20	91	1010	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
21/09/2020 4:00	40	55	50	44	30	28	0.4	1.8	135	20	91	1011	0.0
21/09/2020 4:15	44	57	53	48	33	28	0.4	1.3	135	20	91	1011	0.0
21/09/2020 4:30	42	63	53	46	30	28	0.9	1.8	135	20	91	1011	0.0
21/09/2020 4:45	41	59	51	45	29	27	0.4	1.8	135	19	92	1011	0.0
21/09/2020 5:00	44	59	54	47	31	28	0.4	1.8	135	19	93	1011	0.0
21/09/2020 5:15	48	59	55	51	39	31	0.4	1.3	135	19	93	1011	0.0
21/09/2020 5:30	54	78	66	54	39	34	0.4	1.8	135	19	93	1012	0.0
21/09/2020 5:45	48	72	56	50	39	34	0.4	0.9	158	19	93	1012	0.0
21/09/2020 6:00	49	61	57	53	42	37	0.4	0.9	135	19	94	1012	0.0
21/09/2020 6:15	47	60	55	50	38	33	0.4	1.3	158	19	94	1012	0.0
21/09/2020 6:30	48	58	55	51	41	35	0.4	1.8	135	20	93	1012	0.0
21/09/2020 6:45	43	62	50	46	37	32	0.4	1.3	158	20	92	1013	0.0
21/09/2020 7:00	43	57	53	45	37	34	0.4	1.3	158	21	89	1013	0.0
21/09/2020 7:15	40	60	49	41	34	29	0.4	0.9	203	22	87	1013	0.0
21/09/2020 7:30	40	63	48	41	33	30	0.4	1.3	270	22	85	1014	0.0
21/09/2020 7:45	42	60	53	44	32	26	0.0	0.4	90	23	84	1014	0.0
21/09/2020 8:00	43	61	53	45	35	31	0.0	0.9	158	23	80	1014	0.0
21/09/2020 8:15	44	68	56	42	32	28	0.4	1.8	68	25	76	1014	0.0
21/09/2020 8:30	40	66	44	41	31	28	0.9	3.1	293	25	72	1014	0.0
21/09/2020 8:45	44	71	54	41	32	29	0.9	2.7	113	26	69	1014	0.0
21/09/2020 9:00	38	55	44	41	32	28	0.9	3.1	113	26	66	1014	0.0
21/09/2020 9:15	43	67	52	41	33	29	1.8	3.6	270	26	69	1014	0.0
21/09/2020 9:30	40	52	46	44	33	30	1.8	4.5	270	26	66	1014	0.0
21/09/2020 9:45	38	53	47	40	34	31	1.3	4.0	90	27	63	1014	0.0
21/09/2020 10:00	38	51	45	41	35	32	1.8	3.6	90	28	61	1013	0.0
21/09/2020 10:15	41	65	48	41	33	27	1.8	4.9	270	28	59	1013	0.0
21/09/2020 10:30	38	52	46	41	34	29	2.2	4.9	270	28	59	1013	0.0
21/09/2020 10:45	38	51	44	41	34	30	2.2	4.5	270	28	59	1013	0.0
21/09/2020 11:00	42	54	48	45	36	29	2.7	5.8	293	29	56	1013	0.0
21/09/2020 11:15	38	52	45	41	32	28	0.9	3.6	113	29	57	1012	0.0
21/09/2020 11:30	38	50	45	41	34	30	1.8	4.5	270	30	53	1012	0.0
21/09/2020 11:45	38	54	48	41	33	30	1.3	2.7	135	30	53	1012	0.0
21/09/2020 12:00	38	48	45	41	34	31	1.3	2.7	135	30	52	1012	0.0
21/09/2020 12:15	35	52	42	38	31	28	1.3	4.0	293	31	51	1011	0.0
21/09/2020 12:30	38	56	46	41	33	31	0.9	1.8	135	31	49	1011	0.0
21/09/2020 12:45	43	70	51	40	31	29	0.9	3.6	113	31	49	1011	0.0
21/09/2020 13:00	52	76	67	40	30	27	1.8	4.9	135	31	50	1010	0.0
21/09/2020 13:15	45	68	53	45	35	31	1.3	3.1	135	31	52	1010	0.0
21/09/2020 13:30	43	62	50	45	37	33	1.8	4.9	135	31	55	1010	0.0
21/09/2020 13:45	49	75	60	46	39	36	1.8	3.6	135	31	55	1010	0.0
21/09/2020 14:00	41	59	48	44	35	32	1.8	4.5	113	30	55	1010	0.0
21/09/2020 14:15	43	58	50	46	37	32	1.3	4.0	113	30	56	1010	0.0
21/09/2020 14:30	45	56	52	48	40	37	2.2	4.5	135	30	57	1010	0.0
21/09/2020 14:45	47	68	53	48	41	37	1.8	5.4	135	30	57	1009	0.0
21/09/2020 15:00	46	57	52	49	41	36	1.8	4.9	113	30	58	1010	0.0
21/09/2020 15:15	46	56	52	49	41	37	1.8	4.0	113	30	59	1009	0.0
21/09/2020 15:30	46	56	53	49	42	38	2.2	5.4	113	29	61	1010	0.0
21/09/2020 15:45	47	57	53	50	43	39	2.2	5.4	113	29	62	1009	0.0
21/09/2020 16:00	49	58	54	51	45	43	2.2	5.8	113	28	65	1009	0.0
21/09/2020 16:15	49	58	54	51	46	43	2.2	6.3	113	27	66	1009	0.0
21/09/2020 16:30	48	55	53	50	45	42	2.2	4.5	113	27	68	1009	0.0
21/09/2020 16:45	50	59	55	52	46	43	2.2	5.8	113	26	70	1009	0.0
21/09/2020 17:00	49	59	54	51	46	43	2.2	4.9	113	25	71	1009	0.0
21/09/2020 17:15	48	57	53	51	45	42	1.8	4.5	113	25	73	1009	0.0
21/09/2020 17:30	47	64	54	50	42	38	1.3	3.1	113	24	75	1009	0.0
21/09/2020 17:45	47	56	53	50	40	37	0.9	3.1	113	24	77	1009	0.0
21/09/2020 18:00	46	58	55	50	37	35	1.3	3.6	113	23	79	1010	0.0
21/09/2020 18:15	46	59	52	49	41	38	1.3	2.7	135	23	80	1010	0.0
21/09/2020 18:30	49	58	54	51	45	41	0.9	2.7	135	23	82	1010	0.0
21/09/2020 18:45	49	58	54	51	46	44	0.9	2.2	135	23	83	1010	0.0
21/09/2020 19:00	48	57	53	50	45	43	0.9	2.2	135	22	84	1011	0.0
21/09/2020 19:15	48	59	53	50	45	44	0.4	2.7	135	22	84	1011	0.0
21/09/2020 19:30	47	57	54	50	44	43	0.4	1.3	135	22	85	1011	0.0
21/09/2020 19:45	46	55	50	47	44	42	0.4	1.3	113	22	85	1011	0.0
21/09/2020 20:00	45	56	50	47	43	40	0.4	0.9	113	22	86	1011	0.0
21/09/2020 20:15	46	54	51	48	44	43	0.4	0.9	135	22	86	1011	0.0
21/09/2020 20:30	46	57	51	48	44	42	0.0	0.9	113	22	86	1012	0.0
21/09/2020 20:45	45	54	50	47	43	41	0.0	1.3	113	22	88	1012	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
21/09/2020 21:00	43	55	51	46	39	37	0.4	1.3	113	22	89	1012	0.0
21/09/2020 21:15	44	55	51	46	40	37	0.0	1.3	135	21	89	1012	0.0
21/09/2020 21:30	44	57	50	46	41	40	0.4	1.3	135	21	90	1012	0.0
21/09/2020 21:45	43	59	50	45	40	39	0.4	0.9	135	21	90	1012	0.0
21/09/2020 22:00	43	53	47	44	41	38	0.0	0.9	135	21	90	1012	0.0
21/09/2020 22:15	42	54	48	44	39	38	0.0	0.4	135	21	91	1012	0.0
21/09/2020 22:30	43	56	52	46	38	36	0.0	0.4	113	21	91	1012	0.0
21/09/2020 22:45	41	50	44	42	40	38	0.0	0.4	113	20	91	1012	0.0
21/09/2020 23:00	39	45	42	41	37	34	0.0	0.4	113	20	92	1012	0.0
21/09/2020 23:15	38	50	47	40	33	31	0.0	0.4	113	19	92	1012	0.0
21/09/2020 23:30	39	57	50	40	32	31	0.0	0.4	158	19	93	1012	0.0
21/09/2020 23:45	36	50	45	38	31	29	0.0	0.4	158	19	93	1012	0.0
22/09/2020 0:00	38	54	49	42	30	28	0.0	0.0	0	18	93	1012	0.0
22/09/2020 0:15	32	48	41	33	29	28	0.0	0.0	0	18	94	1012	0.0
22/09/2020 0:30	30	36	32	32	29	28	0.0	0.0	0	18	94	1012	0.0
22/09/2020 0:45	30	45	32	31	28	27	0.0	0.0	0	18	93	1012	0.0
22/09/2020 1:00	36	52	47	40	28	26	0.0	0.4	158	18	94	1012	0.0
22/09/2020 1:15	38	51	48	44	28	27	0.0	0.0	0	18	94	1011	0.0
22/09/2020 1:30	33	46	45	32	28	26	0.0	0.4	158	18	94	1011	0.0
22/09/2020 1:45	31	49	43	29	27	26	0.0	0.0	0	18	94	1011	0.0
22/09/2020 2:00	29	44	35	29	26	25	0.0	0.4	158	17	94	1011	0.0
22/09/2020 2:15	27	46	31	29	26	23	0.0	0.0	0	17	94	1011	0.0
22/09/2020 2:30	31	48	43	32	26	24	0.0	0.0	0	17	94	1011	0.0
22/09/2020 2:45	34	55	47	32	26	24	0.0	0.0	0	17	94	1011	0.0
22/09/2020 3:00	26	38	30	27	25	24	0.0	0.0	0	17	95	1011	0.0
22/09/2020 3:15	32	57	38	27	24	24	0.0	0.0	0	17	94	1011	0.0
22/09/2020 3:30	37	52	48	42	25	22	0.0	0.4	158	17	95	1011	0.0
22/09/2020 3:45	38	53	49	42	25	24	0.0	0.4	158	17	95	1011	0.0
22/09/2020 4:00	38	52	48	44	24	22	0.0	0.9	203	17	95	1011	0.0
22/09/2020 4:15	37	53	48	41	23	22	0.0	0.9	203	18	95	1012	0.0
22/09/2020 4:30	36	55	49	38	25	23	0.0	0.4	203	19	95	1012	0.0
22/09/2020 4:45	40	54	50	44	29	25	0.0	0.4	225	19	95	1012	0.0
22/09/2020 5:00	43	56	53	47	30	25	0.0	0.9	203	19	95	1012	0.0
22/09/2020 5:15	49	60	58	53	39	32	0.0	0.4	90	19	95	1012	0.0
22/09/2020 5:30	50	73	63	49	35	28	0.0	0.9	90	19	95	1012	0.0
22/09/2020 5:45	46	60	55	50	32	26	0.0	0.0	0	18	95	1012	0.0
22/09/2020 6:00	48	62	57	51	39	33	0.0	0.4	203	18	95	1012	0.0
22/09/2020 6:15	44	54	52	48	36	32	0.0	0.4	203	19	95	1012	0.0
22/09/2020 6:30	45	68	53	43	34	30	0.0	0.0	0	20	95	1013	0.0
22/09/2020 6:45	47	75	54	40	32	29	0.0	0.9	203	21	94	1013	0.0
22/09/2020 7:00	38	53	47	41	33	30	0.9	2.2	248	22	89	1013	0.0
22/09/2020 7:15	48	65	63	44	32	30	1.3	3.1	248	22	87	1013	0.0
22/09/2020 7:30	49	70	63	42	33	30	1.8	3.1	248	23	84	1014	0.0
22/09/2020 7:45	40	60	51	41	33	29	1.8	4.0	270	24	82	1014	0.0
22/09/2020 8:00	39	50	45	42	34	32	1.8	4.0	270	25	78	1014	0.0
22/09/2020 8:15	38	54	45	41	33	30	2.7	4.9	270	24	77	1014	0.0
22/09/2020 8:30	38	54	45	40	34	31	1.8	3.6	270	25	74	1013	0.0
22/09/2020 8:45	39	56	44	41	35	32	2.2	4.9	270	26	71	1014	0.0
22/09/2020 9:00	43	68	56	41	34	31	2.7	5.8	270	26	69	1013	0.0
22/09/2020 9:15	40	49	45	42	36	32	1.8	4.0	293	26	69	1013	0.0
22/09/2020 9:30	39	52	45	42	34	31	2.2	4.0	270	27	66	1013	0.0
22/09/2020 9:45	39	55	46	42	34	31	2.7	5.8	270	27	60	1013	0.0
22/09/2020 10:00	51	77	64	47	35	32	2.7	4.9	270	28	57	1013	0.0
22/09/2020 10:15	39	51	44	41	34	30	2.2	4.9	270	29	56	1013	0.0
22/09/2020 10:30	38	48	44	40	34	30	2.2	4.5	270	30	53	1012	0.0
22/09/2020 10:45	39	61	46	42	34	30	1.8	4.9	293	29	52	1012	0.0
22/09/2020 11:00	39	52	48	42	33	30	1.8	4.5	293	30	51	1012	0.0
22/09/2020 11:15	37	52	44	40	32	29	0.0	0.0	0	---	51	1012	0.0
22/09/2020 11:30	39	50	45	42	35	32	2.7	4.9	90	31	50	1011	0.0
22/09/2020 11:45	39	61	46	41	33	31	2.2	5.8	270	31	51	1011	0.0
22/09/2020 12:00	37	47	43	41	32	29	1.3	3.6	113	31	49	1011	0.0
22/09/2020 12:15	37	45	43	40	33	28	1.8	3.6	270	32	48	1011	0.0
22/09/2020 12:30	41	62	51	42	35	32	1.3	3.6	270	31	47	1010	0.0
22/09/2020 12:45	38	54	45	41	32	29	1.8	3.6	68	32	47	1010	0.0
22/09/2020 13:00	45	73	48	43	32	30	1.3	4.5	113	31	47	1009	0.0
22/09/2020 13:15	34	49	39	36	30	27	1.8	4.5	248	31	47	1009	0.0
22/09/2020 13:30	35	45	41	38	30	28	1.3	4.0	293	32	43	1009	0.0
22/09/2020 13:45	41	63	49	42	31	28	1.3	4.0	113	32	53	1009	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
22/09/2020 14:00	44	63	51	47	38	33	2.2	4.5	135	31	54	1009	0.0
22/09/2020 14:15	43	62	52	46	35	32	1.3	3.6	113	31	55	1008	0.0
22/09/2020 14:30	45	58	52	48	38	34	1.8	4.9	113	31	56	1008	0.0
22/09/2020 14:45	48	72	55	49	41	37	1.8	4.9	90	31	57	1008	0.0
22/09/2020 15:00	48	70	58	48	39	33	1.8	4.0	113	31	57	1008	0.0
22/09/2020 15:15	46	58	52	49	41	39	1.8	4.5	113	30	59	1009	0.0
22/09/2020 15:30	55	71	69	53	42	38	1.8	4.5	113	30	60	1009	0.0
22/09/2020 15:45	47	61	52	49	43	41	2.2	4.9	113	29	61	1009	0.0
22/09/2020 16:00	47	56	53	50	44	42	2.2	4.9	113	29	63	1009	0.0
22/09/2020 16:15	49	69	56	50	45	42	1.8	4.0	113	28	64	1009	0.0
22/09/2020 16:30	55	71	69	53	44	40	1.8	4.9	113	28	66	1009	0.0
22/09/2020 16:45	50	68	60	51	45	41	1.3	4.5	113	28	66	1009	0.0
22/09/2020 17:00	48	59	54	51	44	41	1.8	4.0	135	27	69	1009	0.0
22/09/2020 17:15	50	66	62	52	43	39	1.3	4.5	113	26	72	1009	0.0
22/09/2020 17:30	50	69	64	50	42	40	1.8	4.0	113	25	74	1010	0.0
22/09/2020 17:45	47	57	53	50	41	39	1.3	4.5	113	25	76	1010	0.0
22/09/2020 18:00	46	59	55	49	39	36	1.3	3.6	113	24	78	1009	0.0
22/09/2020 18:15	46	55	52	49	41	38	1.3	3.6	113	24	80	1010	0.0
22/09/2020 18:30	48	58	53	50	45	42	0.9	3.6	135	24	81	1010	0.0
22/09/2020 18:45	48	56	52	50	46	44	0.9	2.2	135	23	82	1010	0.0
22/09/2020 19:00	47	61	53	49	45	44	0.9	1.8	135	23	83	1011	0.0
22/09/2020 19:15	48	56	52	50	46	45	0.9	1.8	135	23	84	1011	0.0
22/09/2020 19:30	48	56	53	50	46	44	0.4	1.3	135	23	85	1011	0.0
22/09/2020 19:45	48	58	53	50	45	44	0.9	1.8	135	23	85	1011	0.0
22/09/2020 20:00	46	54	51	48	44	43	0.4	1.3	135	23	86	1011	0.0
22/09/2020 20:15	47	55	53	49	44	43	0.4	1.3	135	23	86	1011	0.0
22/09/2020 20:30	46	56	51	48	44	43	0.0	0.9	135	22	87	1011	0.0
22/09/2020 20:45	45	55	51	47	42	41	0.0	0.9	158	22	87	1011	0.0
22/09/2020 21:00	44	56	48	45	42	40	0.0	0.4	158	22	88	1012	0.0
22/09/2020 21:15	45	54	50	46	43	41	0.0	0.4	158	22	89	1011	0.0
22/09/2020 21:30	44	54	49	46	42	40	0.0	0.9	158	21	89	1012	0.0
22/09/2020 21:45	41	52	47	43	39	38	0.0	0.0	0	21	90	1011	0.0
22/09/2020 22:00	41	51	48	45	38	36	0.0	0.4	180	21	90	1012	0.0
22/09/2020 22:15	39	50	45	41	37	35	0.0	0.0	0	20	91	1011	0.0
22/09/2020 22:30	38	51	46	40	36	35	0.0	0.4	180	20	92	1011	0.0
22/09/2020 22:45	38	54	47	40	35	33	0.0	0.4	180	20	91	1011	0.0
22/09/2020 23:00	39	54	48	42	35	34	0.0	0.4	158	20	91	1011	0.0
22/09/2020 23:15	40	58	49	42	35	33	0.0	0.4	158	20	91	1011	0.0
22/09/2020 23:30	37	49	45	38	34	32	0.0	0.4	158	20	91	1011	0.0
22/09/2020 23:45	36	50	40	37	35	34	0.0	0.4	158	20	91	1011	0.0
23/09/2020 0:00	38	52	47	39	34	32	0.0	0.4	158	20	92	1011	0.0
23/09/2020 0:15	37	60	44	39	34	31	0.0	0.4	158	20	92	1011	0.0
23/09/2020 0:30	35	47	43	37	31	29	0.0	0.0	0	19	92	1011	0.0
23/09/2020 0:45	37	55	50	36	30	29	0.0	0.4	158	19	92	1011	0.0
23/09/2020 1:00	38	55	51	37	30	29	0.0	0.0	0	19	92	1011	0.0
23/09/2020 1:15	36	53	46	38	30	29	0.4	0.4	158	19	92	1011	0.0
23/09/2020 1:30	37	54	49	40	29	28	0.0	0.4	158	19	92	1011	0.0
23/09/2020 1:45	30	48	33	31	28	27	0.0	0.4	158	19	94	1011	0.0
23/09/2020 2:00	34	55	47	32	28	28	0.0	0.4	158	19	92	1010	0.0
23/09/2020 2:15	37	40	40	39	29	27	0.0	0.9	203	19	93	1011	0.0
23/09/2020 2:30	41	54	49	43	38	33	0.0	0.4	203	20	93	1010	0.0
23/09/2020 2:45	38	47	42	40	34	32	0.0	0.4	203	20	93	1010	0.0
23/09/2020 3:00	39	57	47	40	34	32	0.0	0.4	180	20	93	1010	0.0
23/09/2020 3:15	36	45	41	37	34	32	0.0	0.4	180	21	92	1010	0.0
23/09/2020 3:30	38	48	44	40	36	35	0.0	0.9	135	21	91	1010	0.0
23/09/2020 3:45	34	44	38	37	32	30	0.0	0.4	158	21	91	1010	0.0
23/09/2020 4:00	37	53	49	40	31	29	0.0	0.4	158	21	90	1011	0.0
23/09/2020 4:15	36	52	47	39	30	28	0.0	0.4	180	21	90	1011	0.0
23/09/2020 4:30	40	58	51	42	31	28	0.0	0.4	158	21	90	1011	0.0
23/09/2020 4:45	38	52	48	42	30	27	0.0	0.4	158	21	90	1011	0.0
23/09/2020 5:00	38	49	45	42	29	26	0.0	0.0	0	21	90	1011	0.0
23/09/2020 5:15	44	59	53	47	36	31	0.0	0.0	0	21	90	1011	0.0
23/09/2020 5:30	45	68	55	47	34	27	0.0	0.4	135	21	90	1011	0.0
23/09/2020 5:45	42	62	49	45	35	29	0.0	0.0	0	21	91	1011	0.0
23/09/2020 6:00	46	66	60	45	36	32	0.0	0.0	0	21	91	1011	0.0
23/09/2020 6:15	46	62	59	46	32	29	0.0	0.4	135	22	90	1012	0.0
23/09/2020 6:30	38	54	48	40	31	28	0.0	0.4	135	22	89	1012	0.0
23/09/2020 6:45	40	55	49	42	32	26	0.0	0.4	113	22	88	1012	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
23/09/2020	7:00	43	59	50	45	36	30	0.4	0.9	113	23	85	1012	0.0
23/09/2020	7:15	42	65	51	44	33	29	0.4	1.3	135	24	82	1012	0.0
23/09/2020	7:30	46	70	58	42	33	30	0.4	1.3	113	25	77	1012	0.0
23/09/2020	7:45	39	60	50	42	31	27	0.0	1.3	293	25	76	1012	0.0
23/09/2020	8:00	38	55	46	40	32	27	0.4	1.3	180	25	75	1012	0.0
23/09/2020	8:15	41	55	47	42	36	31	0.4	1.3	270	25	72	1012	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)

Noise Monitoring Data Sheet

Rockhampton Motorsport Precinct

SITE ID
2

Dominant Road	Burnett Highway	From	8/09/2020	Address	89 Tea Tree Road
Distance to Road (m)	1376	To	23/09/2020	Suburb	Bouldercombe
Pre Calibration	94.0	Mic. Height (m)	1.6	District	Rockhampton
Post Calibration	94	Meas. Type	Free Field	Longitude	150.481780°
Operator	LAN	Inst. Type	Larson Davis 831	Latitude	-23.499995°
Sample Int.	15 min	Inst. Serial #	2313	RP Lot#	11RP602640

Site Diagram - Aerial

Site Diagram - GIS

Site Photographs

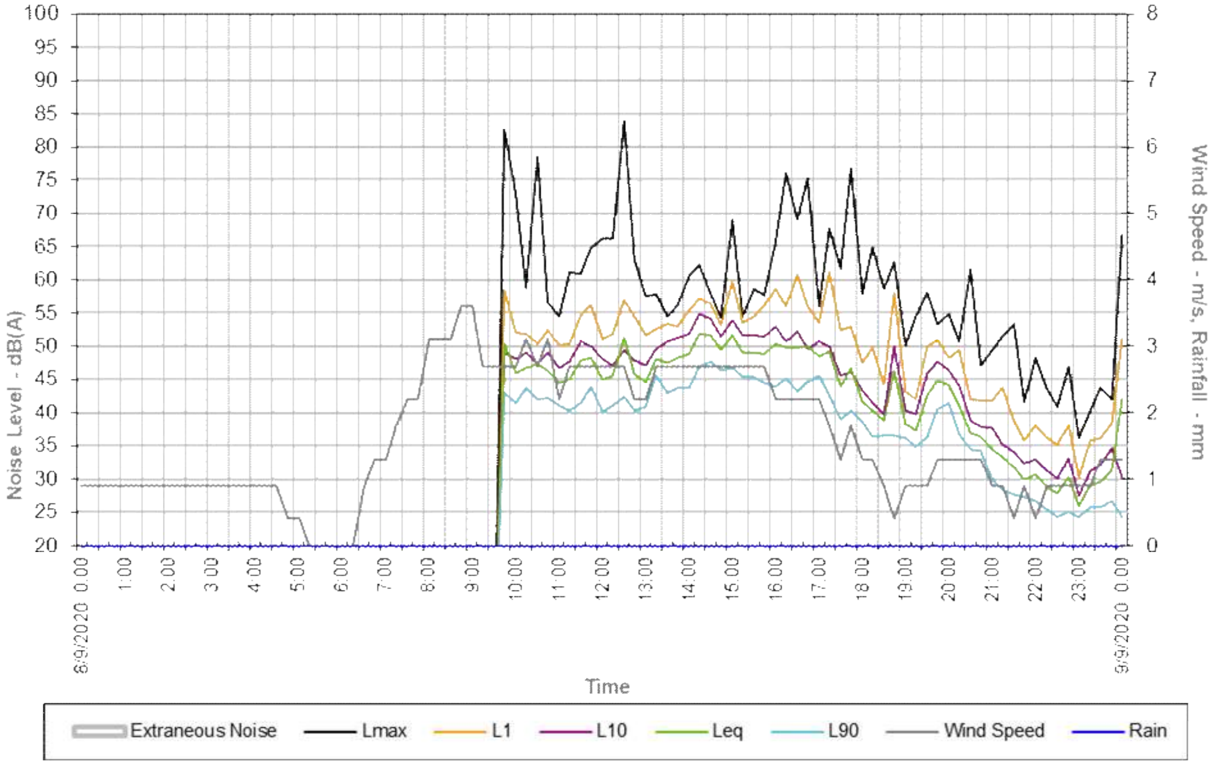
Site Attended Measurements Summary

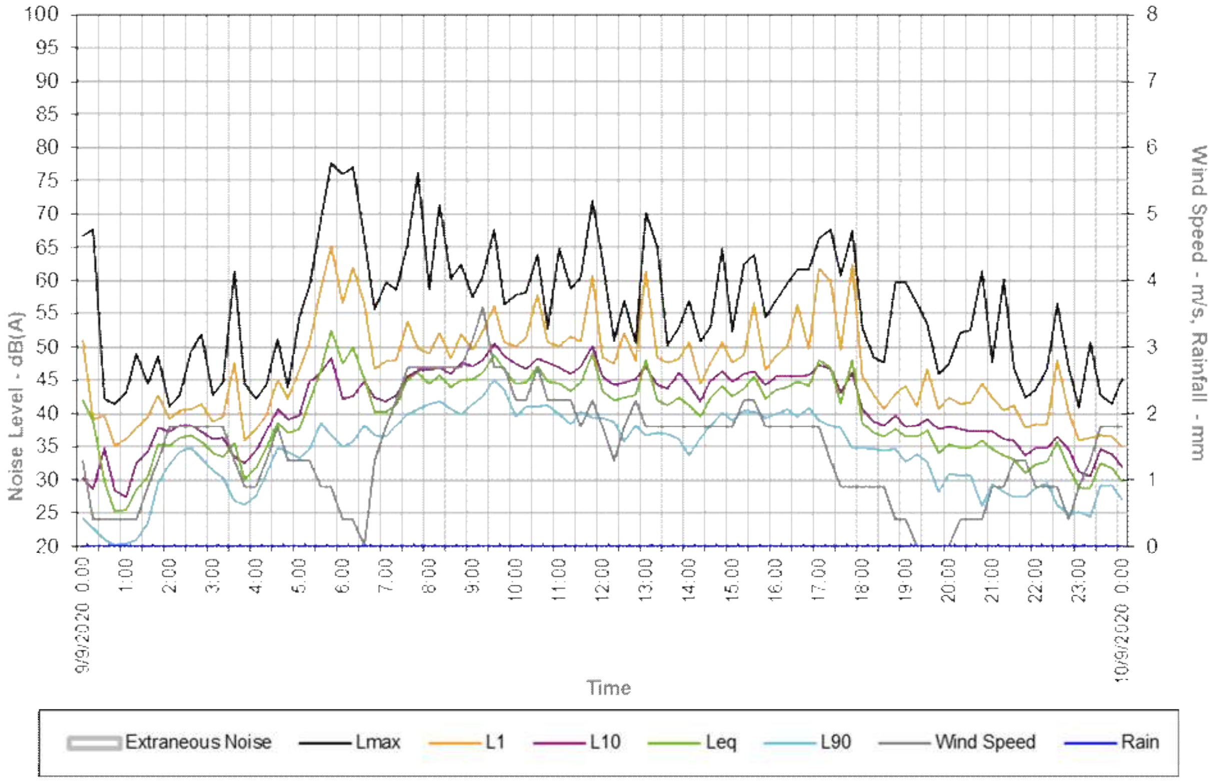
Date	Start	Measurement Type	Lmax	L1	L10	L90	Leq	Weather Conditions Comply	End
8/09/2020	**10:00 AM**	Attended	**73.2**	**52.1**	**47.8**	**41.5**	**46.1**	**Pass**	**10:15 AM**
		Logged	**72.9**	**52.0**	**48.0**	**41.5**	**46.0**		
		Difference	**0.3**	**0.1**	**-0.2**	**0.0**	**0.1**		
Comments	The background is the leaf rustle noise. Traffic is audible below 43. Backbeepers are audible even at 48 dBA. 0:12 min of Burnett Hwy car noise at 40 dBA. 1:56 min of Distant traffic noise at 41-41 dBA. 2:26 min of bird noise at 45-73 dBA. 10:13 min of leaf rustle noise at 41-53 dBA.								
22/09/2020	**12:00 PM**	Attended	**71.2**	**48.9**	**43.0**	**33.2**	**41.1**	**Pass**	**12:15 PM**
		Logged	**74.3**	**49.8**	**43.1**	**33.4**	**42.1**		
		Difference	**-3.1**	**-0.9**	**-0.1**	**-0.2**	**-1.0**		
Comments	The background noise is 0:48 min of distant traffic noise at 32-35 dBA. 0:24 min of aircraft noise at 36-43 dBA. 5:13 min of bird noise at 35-52 dBA. 0:11 min of dog noise at 70-71 dBA. 8:24 min of wind noise at 35-48 dBA.								

AECOM

Site Noise and Weather Graphical Analysis

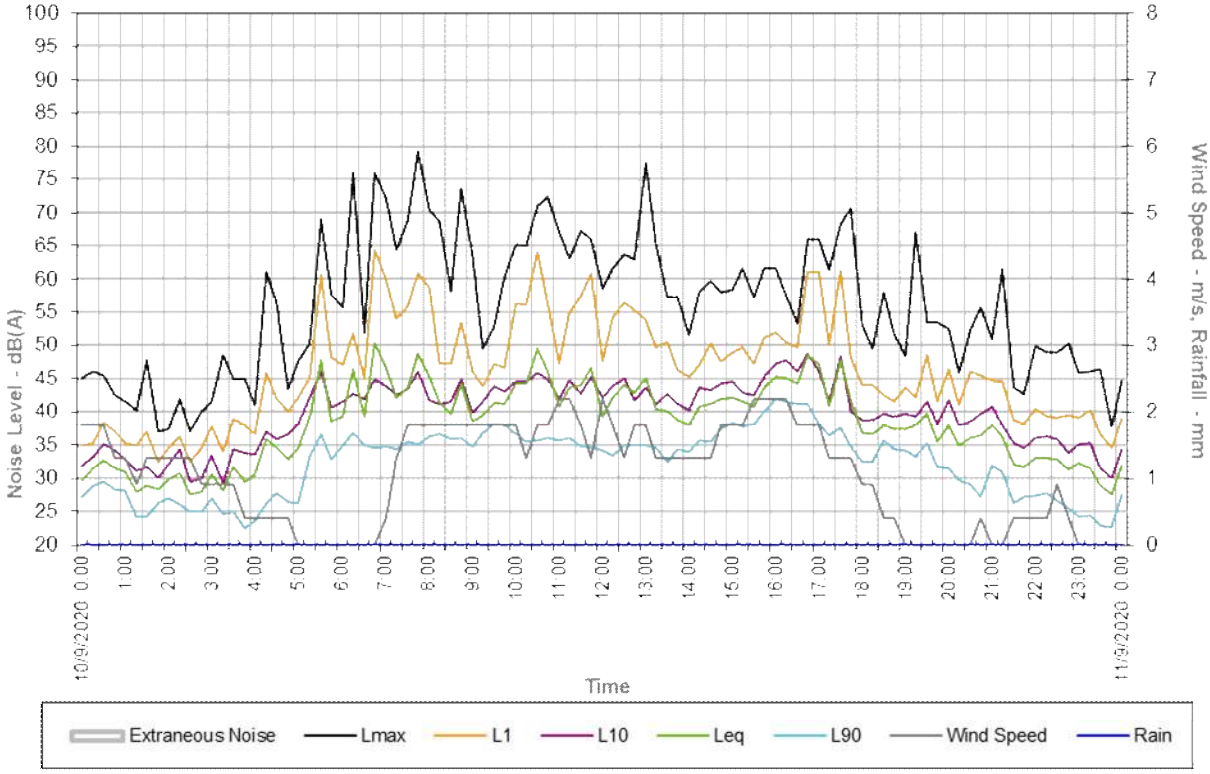
89 Tea Tree Road, Bouldercombe

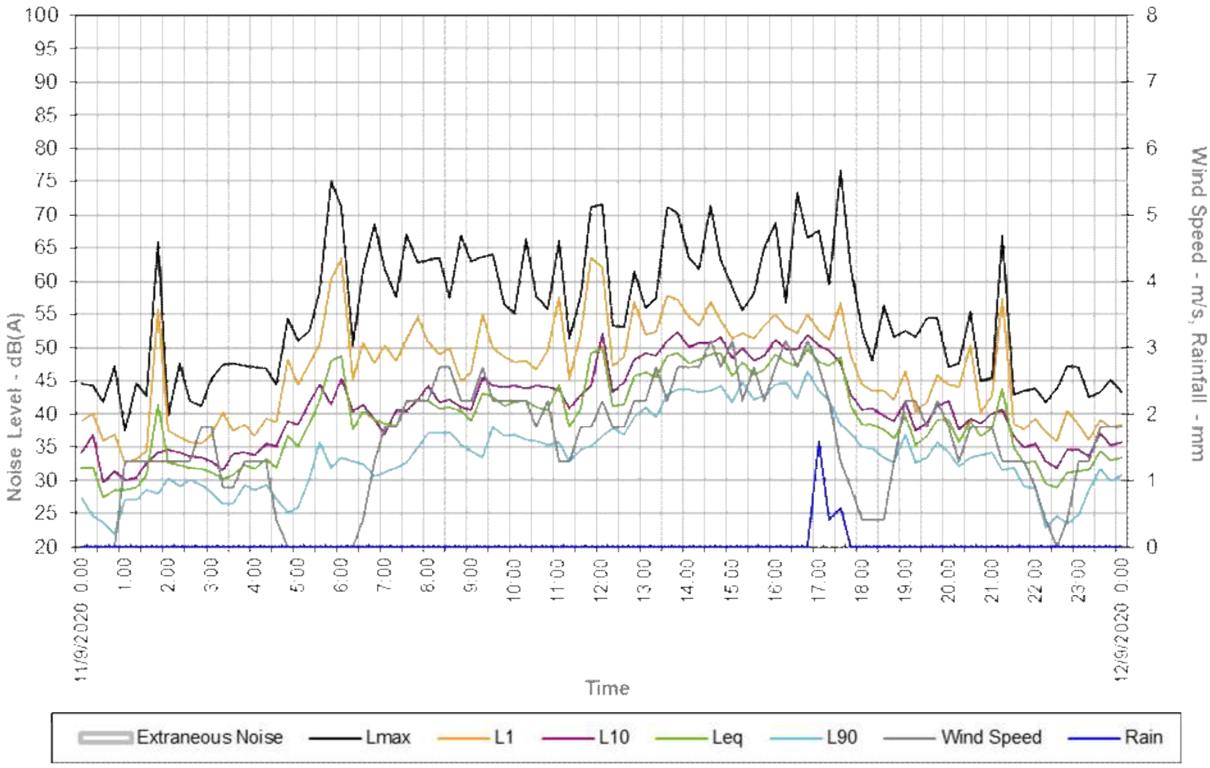




Site Noise and Weather Graphical Analysis

89 Tea Tree Road, Bouldercombe

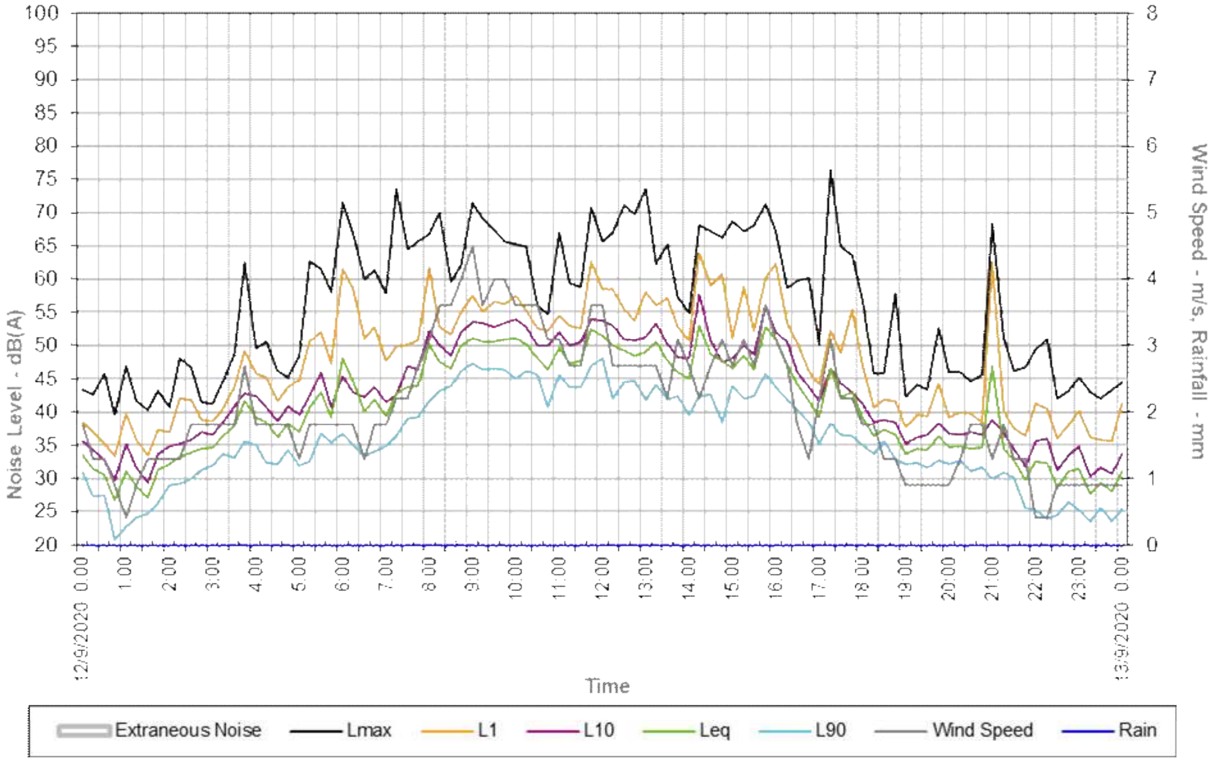


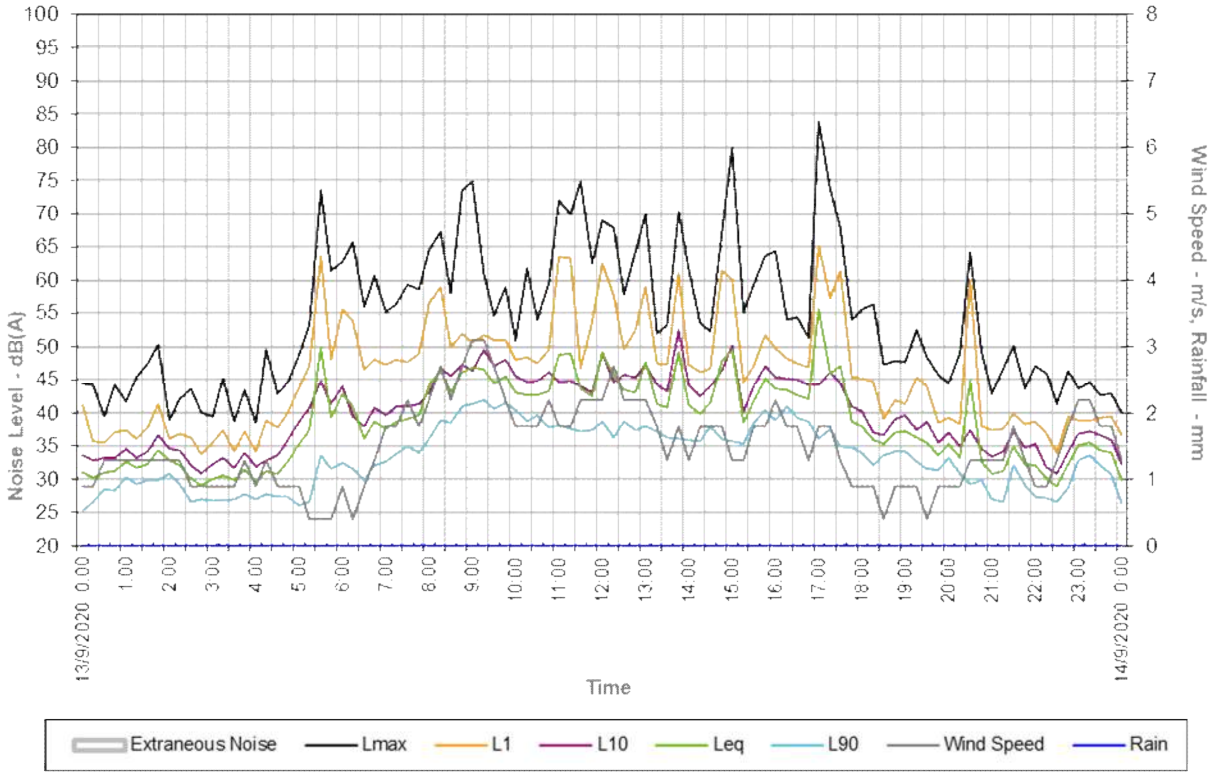


AECOM

Site Noise and Weather Graphical Analysis

89 Tea Tree Road, Bouldercombe

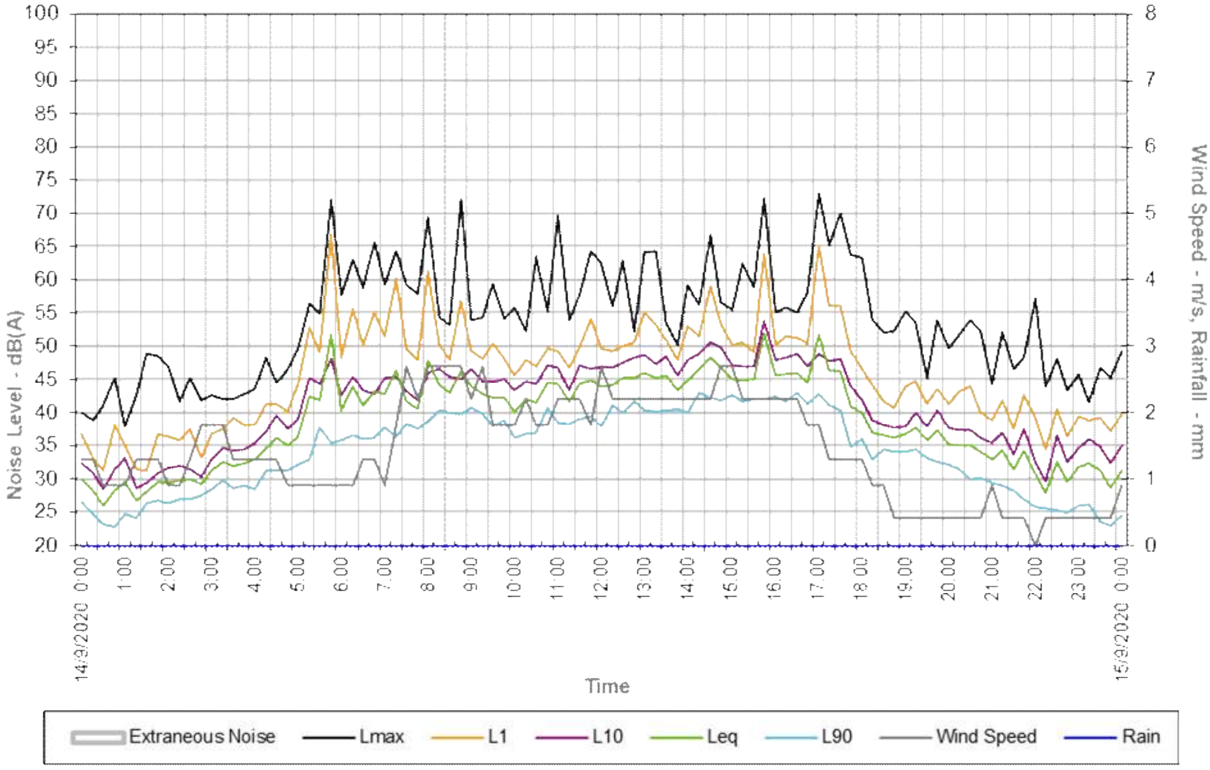


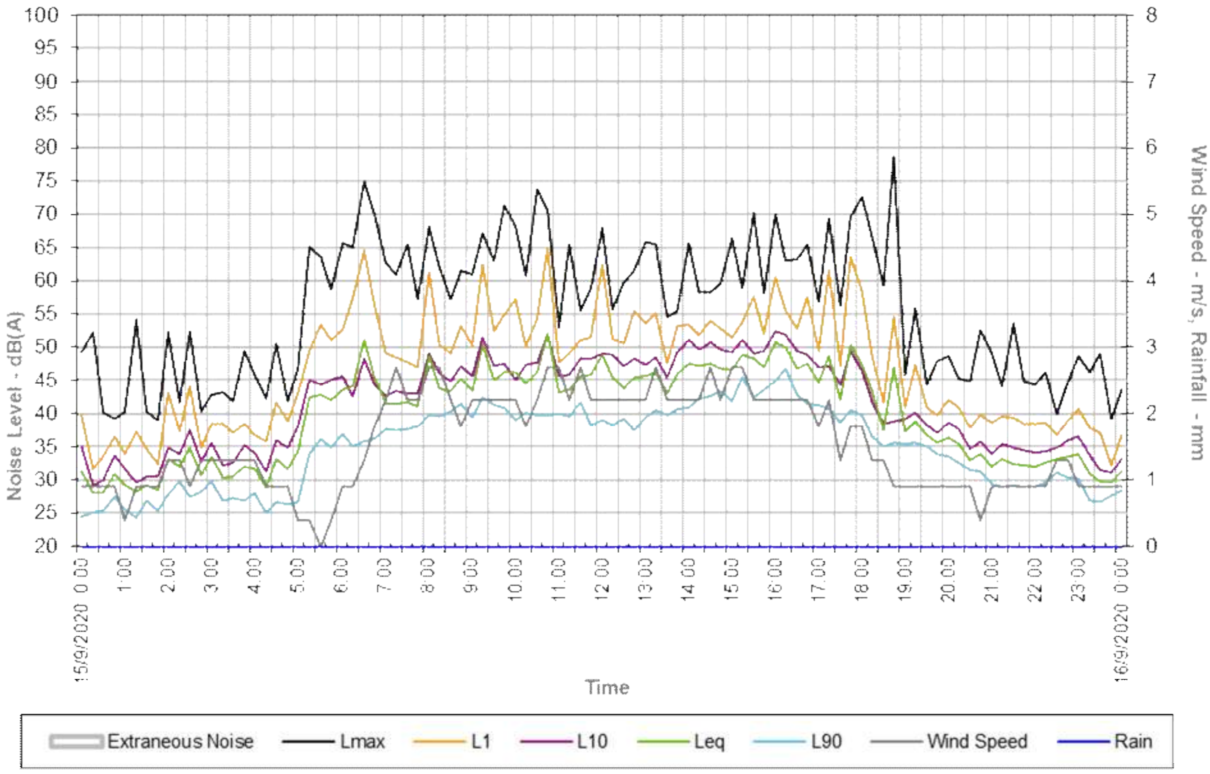


AECOM

Site Noise and Weather Graphical Analysis

89 Tea Tree Road, Bouldercombe

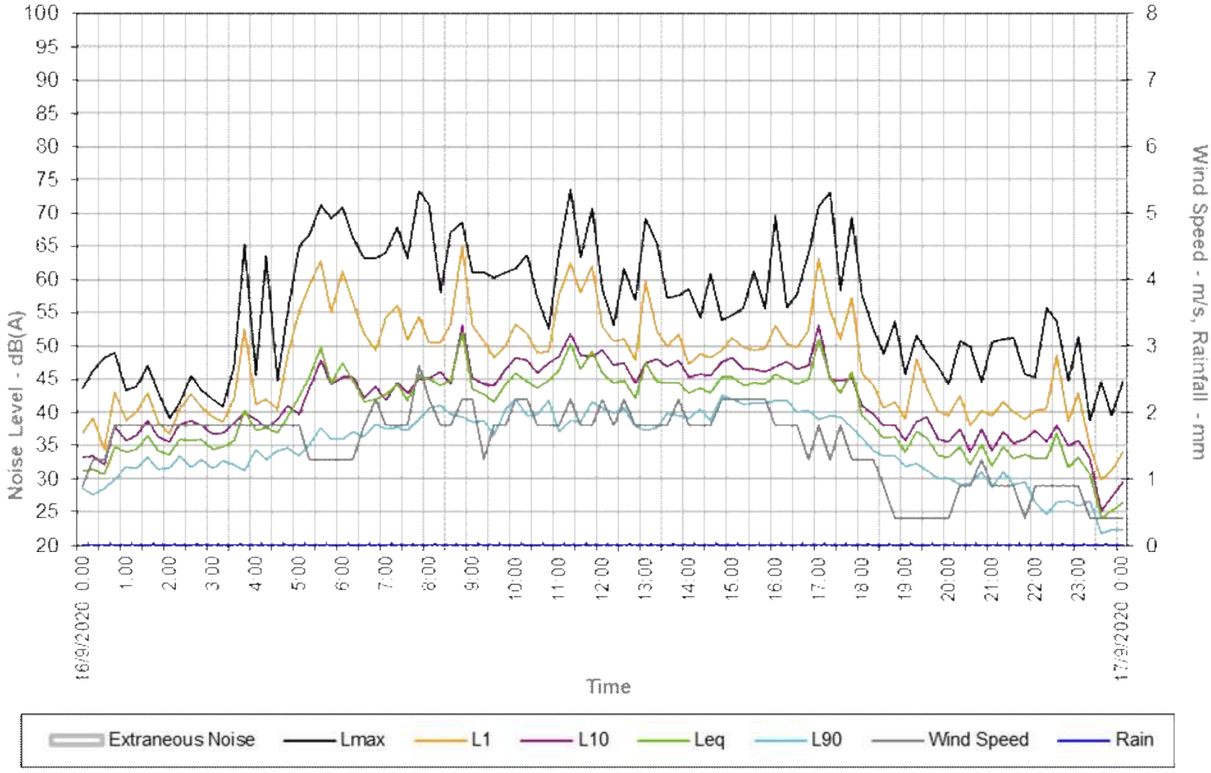


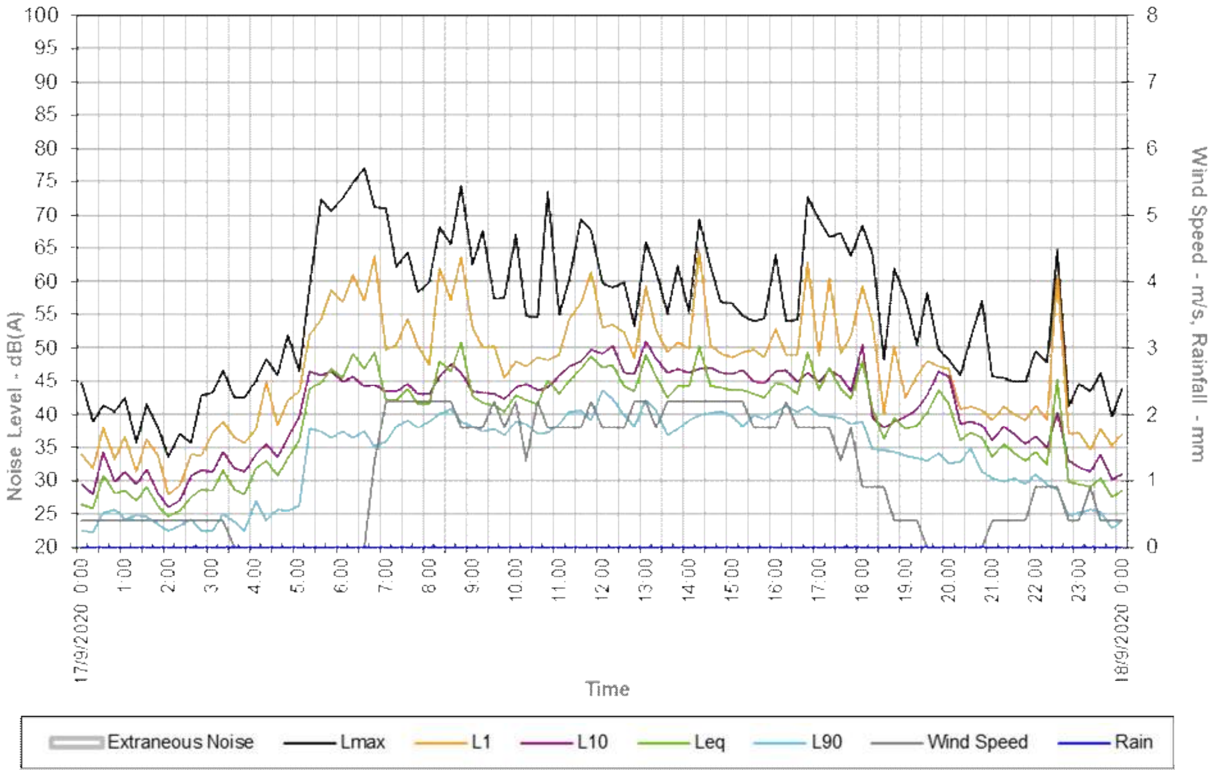


AECOM

Site Noise and Weather Graphical Analysis

89 Tea Tree Road, Bouldercombe





AECOM

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
8/09/2020 9:45	50	83	58	49	43	40	2.7	5.8	135	25	59	1021	0.0
8/09/2020 10:00	46	73	52	48	42	39	2.7	5.8	135	25	58	1021	0.0
8/09/2020 10:15	47	59	52	49	44	41	3.1	5.8	135	24	57	1021	0.0
8/09/2020 10:30	47	78	50	47	42	40	2.7	5.8	135	24	58	1021	0.0
8/09/2020 10:45	46	57	53	49	42	39	3.1	5.4	135	24	59	1021	0.0
8/09/2020 11:00	45	55	50	47	41	38	2.2	5.8	135	25	58	1020	0.0
8/09/2020 11:15	45	61	50	48	40	37	2.7	6.7	135	26	53	1020	0.0
8/09/2020 11:30	48	61	55	51	42	37	2.7	5.8	135	26	51	1020	0.0
8/09/2020 11:45	48	65	56	50	44	41	2.7	5.8	135	26	50	1020	0.0
8/09/2020 12:00	45	66	51	48	40	38	2.7	7.2	135	26	49	1019	0.0
8/09/2020 12:15	46	66	52	47	41	37	2.7	6.3	135	27	49	1019	0.0
8/09/2020 12:30	51	84	57	49	42	37	2.7	6.3	113	27	50	1019	0.0
8/09/2020 12:45	46	63	55	48	40	38	2.2	5.4	113	26	51	1019	0.0
8/09/2020 13:00	45	58	52	47	41	38	2.2	5.8	135	27	47	1019	0.0
8/09/2020 13:15	48	58	53	50	46	43	2.7	6.7	113	27	50	1018	0.0
8/09/2020 13:30	47	55	53	51	43	40	2.7	5.8	113	27	48	1018	0.0
8/09/2020 13:45	48	56	53	51	44	41	2.7	6.3	113	27	47	1018	0.0
8/09/2020 14:00	49	61	55	52	44	41	2.7	6.3	113	27	48	1018	0.0
8/09/2020 14:15	52	62	57	55	47	43	2.7	6.3	113	27	48	1018	0.0
8/09/2020 14:30	52	58	56	54	48	45	2.7	5.8	113	27	49	1018	0.0
8/09/2020 14:45	49	54	53	51	46	44	2.7	6.7	113	27	51	1018	0.0
8/09/2020 15:00	52	69	60	54	47	44	2.7	6.3	113	27	51	1018	0.0
8/09/2020 15:15	49	54	54	52	46	43	2.7	6.7	113	26	52	1018	0.0
8/09/2020 15:30	49	59	55	52	46	43	2.7	7.2	113	26	53	1018	0.0
8/09/2020 15:45	49	58	56	51	44	42	2.7	5.8	113	26	54	1018	0.0
8/09/2020 16:00	50	66	59	53	44	41	2.2	6.3	113	25	55	1018	0.0
8/09/2020 16:15	50	76	56	51	45	43	2.2	7.2	113	25	56	1018	0.0
8/09/2020 16:30	50	69	61	52	43	41	2.2	4.9	113	25	57	1018	0.0
8/09/2020 16:45	50	75	56	50	45	42	2.2	6.3	113	24	59	1018	0.0
8/09/2020 17:00	48	56	54	51	46	44	2.2	5.8	113	23	61	1018	0.0
8/09/2020 17:15	49	68	61	50	43	38	1.8	4.0	113	23	63	1018	0.0
8/09/2020 17:30	44	62	52	46	39	36	1.3	4.0	113	23	66	1018	0.0
8/09/2020 17:45	47	77	53	46	40	37	1.8	4.9	135	22	66	1018	0.0
8/09/2020 18:00	42	58	48	43	39	37	1.3	4.5	113	22	68	1018	0.0
8/09/2020 18:15	40	65	50	41	36	35	1.3	3.1	113	22	71	1019	0.0
8/09/2020 18:30	39	59	44	40	37	35	0.9	2.2	113	21	72	1019	0.0
8/09/2020 18:45	46	63	58	50	37	34	0.4	2.2	113	21	74	1019	0.0
8/09/2020 19:00	38	50	43	40	36	35	0.9	2.7	135	21	74	1019	0.0
8/09/2020 19:15	37	54	42	40	35	34	0.9	3.1	113	21	75	1019	0.0
8/09/2020 19:30	43	58	50	46	36	34	0.9	2.7	135	21	75	1019	0.0
8/09/2020 19:45	45	53	51	48	41	38	1.3	3.6	135	21	74	1019	0.0
8/09/2020 20:00	44	55	48	46	42	39	1.3	3.6	135	21	74	1019	0.0
8/09/2020 20:15	41	51	49	44	37	35	1.3	3.6	135	20	74	1019	0.0
8/09/2020 20:30	37	61	42	39	34	32	1.3	3.1	135	20	74	1020	0.0
8/09/2020 20:45	36	47	42	38	34	32	1.3	4.5	135	20	75	1019	0.0
8/09/2020 21:00	35	49	42	38	30	28	0.9	2.2	135	20	76	1019	0.0
8/09/2020 21:15	33	51	44	35	29	27	0.9	2.7	135	20	77	1019	0.0
8/09/2020 21:30	32	53	39	34	28	26	0.4	2.2	135	19	78	1020	0.0
8/09/2020 21:45	30	42	36	32	27	26	0.9	2.2	135	19	77	1020	0.0
8/09/2020 22:00	31	48	38	33	27	24	0.4	2.7	135	19	76	1020	0.0
8/09/2020 22:15	29	44	36	31	25	24	0.9	2.2	135	19	76	1019	0.0
8/09/2020 22:30	28	41	35	30	24	23	0.9	2.2	135	19	76	1019	0.0
8/09/2020 22:45	30	47	38	33	25	23	0.9	2.2	158	19	76	1019	0.0
8/09/2020 23:00	26	36	30	28	24	23	0.9	2.2	158	19	77	1019	0.0
8/09/2020 23:15	29	40	36	31	26	24	0.9	2.7	158	19	77	1019	0.0
8/09/2020 23:30	29	44	36	32	26	24	1.3	3.1	158	19	77	1019	0.0
8/09/2020 23:45	31	42	38	35	27	25	1.3	3.1	158	19	77	1019	0.0
9/09/2020 0:00	42	67	51	30	24	22	1.3	3.1	158	19	77	1019	0.0
9/09/2020 0:15	39	68	39	29	23	20	0.4	1.3	158	18	78	1019	0.0
9/09/2020 0:30	30	42	40	35	21	19	0.4	0.9	158	18	78	1019	0.0
9/09/2020 0:45	25	41	35	28	20	19	0.4	0.9	158	18	79	1018	0.0
9/09/2020 1:00	26	43	36	28	21	19	0.4	1.3	158	18	78	1018	0.0
9/09/2020 1:15	29	49	38	33	21	19	0.4	1.8	158	18	77	1018	0.0
9/09/2020 1:30	31	45	40	34	23	21	0.9	3.1	158	18	76	1018	0.0
9/09/2020 1:45	35	49	43	38	30	27	1.3	2.7	158	18	76	1018	0.0
9/09/2020 2:00	35	41	39	37	32	30	1.8	3.6	158	18	76	1018	0.0
9/09/2020 2:15	36	43	40	38	34	33	1.8	3.6	135	18	76	1017	0.0
9/09/2020 2:30	37	49	41	38	35	33	1.8	3.1	135	18	77	1017	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
9/09/2020 2:45	36	52	41	37	33	32	1.8	4.0	158	18	77	1017	0.0
9/09/2020 3:00	34	43	39	36	31	30	1.8	3.6	135	18	77	1017	0.0
9/09/2020 3:15	34	45	40	36	30	28	1.8	4.0	158	18	77	1017	0.0
9/09/2020 3:30	35	61	48	34	27	25	1.3	3.1	158	18	77	1017	0.0
9/09/2020 3:45	30	44	36	33	26	23	0.9	1.8	158	18	78	1017	0.0
9/09/2020 4:00	32	42	38	34	28	26	0.9	2.7	158	18	78	1017	0.0
9/09/2020 4:15	35	44	40	37	31	29	1.3	3.1	158	18	78	1017	0.0
9/09/2020 4:30	39	51	45	41	35	33	1.8	4.5	158	18	78	1017	0.0
9/09/2020 4:45	37	44	42	39	34	32	1.3	3.1	158	18	78	1017	0.0
9/09/2020 5:00	38	54	47	40	33	32	1.3	3.1	135	18	78	1017	0.0
9/09/2020 5:15	42	59	51	45	35	32	1.3	2.7	135	17	79	1017	0.0
9/09/2020 5:30	47	69	59	46	39	34	0.9	2.2	135	17	79	1017	0.0
9/09/2020 5:45	53	78	65	49	37	33	0.9	1.8	158	17	79	1017	0.0
9/09/2020 6:00	47	76	57	42	35	31	0.4	1.8	158	17	79	1017	0.0
9/09/2020 6:15	50	77	62	43	36	32	0.4	1.3	158	17	78	1017	0.0
9/09/2020 6:30	45	66	57	45	38	33	0.0	0.9	113	17	83	1017	0.0
9/09/2020 6:45	40	56	47	42	37	33	1.3	3.1	135	19	73	1017	0.0
9/09/2020 7:00	40	60	48	42	37	33	1.8	4.5	135	20	71	1018	0.0
9/09/2020 7:15	41	59	48	43	38	36	2.2	4.5	135	21	69	1018	0.0
9/09/2020 7:30	45	66	54	46	40	37	2.7	5.4	135	21	67	1018	0.0
9/09/2020 7:45	46	76	50	47	41	38	2.7	5.8	135	21	66	1018	0.0
9/09/2020 8:00	44	59	49	47	41	39	2.7	6.7	135	22	65	1018	0.0
9/09/2020 8:15	46	72	52	47	42	40	2.7	5.4	135	22	63	1018	0.0
9/09/2020 8:30	44	60	48	46	41	38	2.7	5.4	135	23	60	1018	0.0
9/09/2020 8:45	45	62	52	48	40	37	2.7	7.2	135	23	58	1018	0.0
9/09/2020 9:00	45	58	50	47	41	37	3.1	6.3	135	23	56	1018	0.0
9/09/2020 9:15	46	61	52	48	43	40	3.6	7.2	135	23	58	1018	0.0
9/09/2020 9:30	49	68	56	51	45	42	2.7	7.2	135	24	57	1018	0.0
9/09/2020 9:45	47	56	51	49	44	41	2.7	6.3	135	24	58	1018	0.0
9/09/2020 10:00	45	58	50	47	40	36	2.2	4.9	135	25	55	1018	0.0
9/09/2020 10:15	45	58	52	47	41	38	2.2	5.4	135	24	55	1018	0.0
9/09/2020 10:30	47	64	58	48	41	38	2.7	5.8	135	25	52	1017	0.0
9/09/2020 10:45	45	53	51	48	41	38	2.2	4.9	135	25	49	1017	0.0
9/09/2020 11:00	44	65	50	47	40	37	2.2	5.4	135	25	50	1017	0.0
9/09/2020 11:15	43	59	52	46	39	36	2.2	5.8	135	26	48	1016	0.0
9/09/2020 11:30	45	61	51	47	40	36	1.8	5.8	135	26	47	1016	0.0
9/09/2020 11:45	49	72	61	50	39	37	2.2	5.4	135	26	48	1016	0.0
9/09/2020 12:00	43	63	48	46	39	36	1.8	4.5	113	26	51	1016	0.0
9/09/2020 12:15	42	51	47	44	39	37	1.3	4.9	135	26	48	1016	0.0
9/09/2020 12:30	42	57	52	45	36	33	1.8	4.5	113	27	48	1015	0.0
9/09/2020 12:45	43	51	48	45	38	34	2.2	5.4	113	26	48	1015	0.0
9/09/2020 13:00	48	70	61	47	37	34	1.8	4.9	113	26	48	1015	0.0
9/09/2020 13:15	42	65	48	44	37	35	1.8	5.4	135	26	46	1015	0.0
9/09/2020 13:30	41	50	48	44	37	34	1.8	4.0	135	26	45	1015	0.0
9/09/2020 13:45	42	53	48	46	36	32	1.8	4.5	135	26	46	1014	0.0
9/09/2020 14:00	41	57	51	44	34	31	1.8	4.0	90	27	48	1014	0.0
9/09/2020 14:15	40	51	45	42	36	34	1.8	4.9	113	25	50	1014	0.0
9/09/2020 14:30	42	53	48	45	38	35	1.8	4.9	90	26	50	1014	0.0
9/09/2020 14:45	44	65	51	46	40	38	1.8	4.9	113	25	53	1014	0.0
9/09/2020 15:00	43	52	48	45	39	36	1.8	4.5	113	25	52	1014	0.0
9/09/2020 15:15	44	62	49	46	41	39	2.2	5.4	90	25	54	1014	0.0
9/09/2020 15:30	46	64	57	46	40	37	2.2	4.5	113	25	55	1014	0.0
9/09/2020 15:45	42	54	47	44	39	37	1.8	4.0	113	24	56	1014	0.0
9/09/2020 16:00	44	57	49	46	40	38	1.8	4.9	113	24	57	1014	0.0
9/09/2020 16:15	44	60	50	46	41	38	1.8	4.5	113	24	57	1014	0.0
9/09/2020 16:30	45	62	56	46	40	37	1.8	4.5	113	23	57	1014	0.0
9/09/2020 16:45	44	62	50	46	41	38	1.8	4.5	113	23	56	1014	0.0
9/09/2020 17:00	48	66	62	47	39	36	1.8	4.5	90	22	59	1014	0.0
9/09/2020 17:15	47	68	60	47	38	36	1.3	3.6	113	21	61	1014	0.0
9/09/2020 17:30	42	61	50	43	38	35	0.9	2.7	113	21	63	1014	0.0
9/09/2020 17:45	48	68	62	46	35	32	0.9	2.7	113	20	63	1014	0.0
9/09/2020 18:00	39	53	46	41	35	33	0.9	2.2	113	20	64	1014	0.0
9/09/2020 18:15	37	49	43	39	35	33	0.9	2.7	113	20	67	1015	0.0
9/09/2020 18:30	37	48	41	38	34	33	0.9	2.7	113	20	71	1015	0.0
9/09/2020 18:45	38	60	43	40	35	33	0.4	1.8	113	19	72	1014	0.0
9/09/2020 19:00	37	60	44	38	33	31	0.4	1.8	135	19	72	1015	0.0
9/09/2020 19:15	37	57	41	38	34	32	0.0	0.4	135	19	74	1015	0.0
9/09/2020 19:30	38	54	47	39	33	29	0.0	0.4	135	18	75	1015	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
9/09/2020	19:45	34	46	41	38	28	24	0.0	1.3	135	18	76	1015	0.0
9/09/2020	20:00	35	48	42	38	31	28	0.0	0.9	135	18	76	1015	0.0
9/09/2020	20:15	35	52	41	38	31	28	0.4	1.3	135	18	76	1015	0.0
9/09/2020	20:30	35	53	42	37	31	28	0.4	1.3	158	18	77	1015	0.0
9/09/2020	20:45	36	61	45	37	26	22	0.4	1.3	158	18	79	1015	0.0
9/09/2020	21:00	35	48	42	37	29	26	0.9	2.2	135	18	79	1015	0.0
9/09/2020	21:15	34	60	41	36	28	25	0.9	2.7	135	18	79	1015	0.0
9/09/2020	21:30	33	47	41	36	28	25	1.3	2.7	135	19	78	1015	0.0
9/09/2020	21:45	31	42	38	34	27	23	1.3	2.7	135	18	78	1015	0.0
9/09/2020	22:00	32	44	38	35	29	27	0.9	2.7	135	18	78	1015	0.0
9/09/2020	22:15	33	47	39	35	30	27	0.9	2.2	135	18	78	1014	0.0
9/09/2020	22:30	36	57	48	37	26	24	0.9	1.8	135	18	79	1014	0.0
9/09/2020	22:45	32	47	40	35	25	23	0.4	1.3	135	18	79	1014	0.0
9/09/2020	23:00	29	41	36	31	25	23	0.9	1.8	158	18	78	1014	0.0
9/09/2020	23:15	29	51	36	31	24	23	1.3	2.7	135	18	78	1014	0.0
9/09/2020	23:30	33	43	37	35	29	26	1.8	3.1	135	18	79	1014	0.0
9/09/2020	23:45	32	42	37	34	29	28	1.8	3.1	135	18	79	1014	0.0
10/09/2020	0:00	30	45	35	32	27	26	1.3	3.1	135	17	81	1014	0.0
10/09/2020	0:15	32	46	35	33	29	26	1.8	3.1	135	18	80	1014	0.0
10/09/2020	0:30	33	46	38	35	29	28	1.8	4.0	135	18	79	1014	0.0
10/09/2020	0:45	32	42	37	34	28	26	1.3	3.1	135	17	79	1013	0.0
10/09/2020	1:00	31	42	35	33	28	27	1.3	3.1	135	17	80	1013	0.0
10/09/2020	1:15	28	40	35	31	24	22	0.9	1.8	158	17	80	1013	0.0
10/09/2020	1:30	29	48	37	32	24	23	1.3	2.2	158	17	81	1013	0.0
10/09/2020	1:45	28	37	32	30	26	25	1.3	2.7	135	17	81	1013	0.0
10/09/2020	2:00	30	37	35	32	27	25	1.3	2.7	158	17	81	1013	0.0
10/09/2020	2:15	31	42	36	34	26	24	1.3	2.7	158	17	81	1013	0.0
10/09/2020	2:30	28	37	32	29	25	24	1.3	2.7	158	17	81	1013	0.0
10/09/2020	2:45	28	40	35	30	25	24	0.9	2.2	135	17	81	1012	0.0
10/09/2020	3:00	31	42	38	34	27	24	0.9	2.7	135	17	81	1012	0.0
10/09/2020	3:15	28	49	34	29	25	23	0.9	1.8	158	17	81	1012	0.0
10/09/2020	3:30	32	45	39	34	25	23	0.9	2.2	158	17	81	1012	0.0
10/09/2020	3:45	30	45	38	34	23	21	0.4	1.3	158	16	83	1012	0.0
10/09/2020	4:00	31	41	37	34	24	21	0.4	1.3	158	16	84	1012	0.0
10/09/2020	4:15	36	61	46	37	26	23	0.4	1.3	158	16	84	1012	0.0
10/09/2020	4:30	35	57	42	36	28	24	0.4	0.9	158	15	84	1013	0.0
10/09/2020	4:45	33	43	40	37	26	24	0.4	0.9	180	15	85	1013	0.0
10/09/2020	5:00	35	48	42	38	26	23	0.0	0.4	158	15	85	1013	0.0
10/09/2020	5:15	39	50	45	42	33	28	0.0	0.4	180	14	88	1013	0.0
10/09/2020	5:30	48	69	61	46	37	32	0.0	0.4	135	15	87	1013	0.0
10/09/2020	5:45	39	58	48	41	33	28	0.0	0.4	158	15	85	1013	0.0
10/09/2020	6:00	39	56	47	42	35	32	0.0	0.9	158	15	85	1013	0.0
10/09/2020	6:15	47	76	52	43	37	33	0.0	0.9	158	16	84	1013	0.0
10/09/2020	6:30	39	52	45	42	35	31	0.0	0.4	135	17	79	1014	0.0
10/09/2020	6:45	50	76	64	45	35	30	0.0	0.9	135	19	74	1014	0.0
10/09/2020	7:00	47	72	60	44	35	32	0.4	2.2	158	20	70	1014	0.0
10/09/2020	7:15	42	65	54	42	34	31	1.3	3.1	158	20	68	1014	0.0
10/09/2020	7:30	44	69	56	43	36	33	1.8	3.1	135	21	67	1014	0.0
10/09/2020	7:45	49	79	61	46	35	32	1.8	4.0	135	21	66	1014	0.0
10/09/2020	8:00	45	71	59	42	36	34	1.8	4.5	135	22	64	1014	0.0
10/09/2020	8:15	41	69	47	41	37	35	1.8	3.6	135	22	63	1014	0.0
10/09/2020	8:30	40	58	47	42	36	34	1.8	4.9	135	22	62	1014	0.0
10/09/2020	8:45	44	74	54	45	36	32	1.8	3.6	135	23	59	1014	0.0
10/09/2020	9:00	39	63	46	40	35	32	1.8	3.6	135	24	51	1014	0.0
10/09/2020	9:15	39	49	44	42	37	34	1.8	4.5	135	24	51	1014	0.0
10/09/2020	9:30	41	53	47	44	38	36	1.8	4.5	135	24	50	1014	0.0
10/09/2020	9:45	41	60	47	43	38	35	1.8	3.6	135	24	50	1014	0.0
10/09/2020	10:00	44	65	56	45	37	34	1.8	4.9	135	25	49	1014	0.0
10/09/2020	10:15	44	65	56	45	36	32	1.3	5.4	135	25	46	1014	0.0
10/09/2020	10:30	49	71	64	46	36	32	1.8	4.0	135	25	45	1014	0.0
10/09/2020	10:45	46	72	56	45	36	33	1.8	3.6	158	26	44	1014	0.0
10/09/2020	11:00	41	67	47	42	36	32	2.2	5.8	158	26	42	1013	0.0
10/09/2020	11:15	44	63	55	45	36	31	2.2	5.4	135	25	40	1013	0.0
10/09/2020	11:30	44	67	58	43	35	32	1.8	4.0	135	26	42	1013	0.0
10/09/2020	11:45	47	66	61	45	35	32	1.3	4.9	135	27	43	1012	0.0
10/09/2020	12:00	39	59	48	42	34	31	2.2	7.2	135	27	40	1012	0.0
10/09/2020	12:15	42	62	54	44	34	30	1.8	5.4	135	27	40	1012	0.0
10/09/2020	12:30	44	64	57	45	35	32	1.3	4.0	135	27	42	1012	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
10/09/2020	12:45	43	63	55	42	35	31	1.8	4.5	135	27	41	1012	0.0
10/09/2020	13:00	45	78	54	44	35	32	1.8	6.3	135	27	41	1011	0.0
10/09/2020	13:15	41	65	50	41	35	31	1.3	4.0	113	26	41	1011	0.0
10/09/2020	13:30	40	57	50	43	32	30	1.3	4.0	135	26	43	1011	0.0
10/09/2020	13:45	39	57	46	41	34	30	1.3	3.1	135	27	44	1011	0.0
10/09/2020	14:00	38	52	45	40	34	31	1.3	3.1	113	27	41	1011	0.0
10/09/2020	14:15	41	58	47	44	36	33	1.3	4.0	135	27	39	1011	0.0
10/09/2020	14:30	41	60	50	43	36	32	1.3	4.9	90	27	43	1011	0.0
10/09/2020	14:45	42	58	48	44	37	33	1.8	5.8	113	27	45	1010	0.0
10/09/2020	15:00	42	58	49	45	38	36	1.8	4.0	113	26	43	1010	0.0
10/09/2020	15:15	42	62	50	43	38	36	1.8	4.0	113	26	43	1011	0.0
10/09/2020	15:30	41	57	47	42	38	36	2.2	4.9	113	26	43	1011	0.0
10/09/2020	15:45	44	62	51	45	40	37	2.2	4.9	90	25	46	1011	0.0
10/09/2020	16:00	45	62	52	47	42	40	2.2	4.9	90	25	46	1011	0.0
10/09/2020	16:15	45	58	51	48	42	40	2.2	5.4	90	25	46	1011	0.0
10/09/2020	16:30	44	53	50	46	41	38	1.8	4.9	113	24	48	1011	0.0
10/09/2020	16:45	49	66	61	49	41	38	1.8	4.9	113	24	51	1011	0.0
10/09/2020	17:00	47	66	61	46	38	35	1.8	4.5	113	23	54	1011	0.0
10/09/2020	17:15	41	61	50	42	37	33	1.3	3.6	113	22	55	1011	0.0
10/09/2020	17:30	48	68	61	48	38	35	1.3	3.6	113	21	57	1012	0.0
10/09/2020	17:45	42	71	48	40	35	30	1.3	3.6	113	21	60	1012	0.0
10/09/2020	18:00	37	53	44	39	33	29	0.9	3.6	113	21	62	1012	0.0
10/09/2020	18:15	37	49	44	39	32	30	0.9	2.2	135	20	64	1012	0.0
10/09/2020	18:30	38	58	42	40	36	33	0.4	1.8	135	20	66	1013	0.0
10/09/2020	18:45	37	52	42	39	34	32	0.4	0.9	113	20	68	1013	0.0
10/09/2020	19:00	37	48	44	40	34	32	0.0	0.9	135	19	71	1013	0.0
10/09/2020	19:15	38	67	42	39	33	31	0.0	0.9	135	19	73	1013	0.0
10/09/2020	19:30	40	53	49	42	35	31	0.0	0.9	135	19	73	1013	0.0
10/09/2020	19:45	36	53	42	38	32	29	0.0	0.4	135	18	75	1013	0.0
10/09/2020	20:00	38	53	46	42	32	28	0.0	0.4	135	18	77	1013	0.0
10/09/2020	20:15	35	46	41	38	30	25	0.0	0.4	135	18	76	1013	0.0
10/09/2020	20:30	36	52	46	39	29	25	0.0	0.4	135	18	77	1014	0.0
10/09/2020	20:45	37	56	46	40	27	23	0.4	0.9	158	18	76	1014	0.0
10/09/2020	21:00	38	51	45	41	32	28	0.0	0.9	135	18	77	1014	0.0
10/09/2020	21:15	36	61	45	38	31	27	0.0	0.4	158	18	76	1014	0.0
10/09/2020	21:30	32	44	39	35	26	24	0.4	1.8	135	18	77	1014	0.0
10/09/2020	21:45	32	43	38	35	27	25	0.4	0.9	135	18	77	1014	0.0
10/09/2020	22:00	33	50	40	36	27	24	0.4	1.3	158	18	77	1014	0.0
10/09/2020	22:15	33	49	39	36	28	26	0.4	1.3	158	18	76	1014	0.0
10/09/2020	22:30	33	49	39	36	27	24	0.9	1.8	158	18	75	1014	0.0
10/09/2020	22:45	31	50	39	34	26	23	0.4	0.9	158	18	76	1014	0.0
10/09/2020	23:00	32	46	39	35	24	22	0.0	0.9	135	18	77	1013	0.0
10/09/2020	23:15	32	46	40	35	24	22	0.0	0.4	135	17	79	1013	0.0
10/09/2020	23:30	29	46	37	32	23	20	0.0	0.9	158	17	78	1013	0.0
10/09/2020	23:45	28	38	35	30	23	20	0.0	0.9	158	17	78	1013	0.0
11/09/2020	0:00	32	45	39	34	28	25	0.4	0.9	135	18	77	1012	0.0
11/09/2020	0:15	32	44	40	37	25	22	0.4	1.3	158	17	78	1012	0.0
11/09/2020	0:30	27	42	36	30	24	22	0.4	0.9	203	17	80	1013	0.0
11/09/2020	0:45	29	47	37	31	22	20	0.9	2.7	158	18	80	1013	0.0
11/09/2020	1:00	29	38	33	30	27	26	1.3	2.7	158	18	78	1013	0.0
11/09/2020	1:15	29	45	33	31	27	26	1.3	3.1	158	18	78	1013	0.0
11/09/2020	1:30	31	43	35	33	29	27	1.3	3.6	158	18	78	1013	0.0
11/09/2020	1:45	41	66	56	34	28	27	1.3	3.1	158	18	77	1013	0.0
11/09/2020	2:00	33	40	38	35	30	28	1.3	3.1	158	18	77	1013	0.0
11/09/2020	2:15	32	48	37	34	29	28	1.3	2.7	158	18	77	1013	0.0
11/09/2020	2:30	32	42	36	34	30	28	1.3	3.1	158	18	75	1013	0.0
11/09/2020	2:45	32	41	36	34	29	28	1.8	4.0	158	18	75	1013	0.0
11/09/2020	3:00	31	45	37	33	28	26	1.8	3.1	158	17	75	1012	0.0
11/09/2020	3:15	30	47	40	32	27	25	0.9	2.2	158	17	76	1013	0.0
11/09/2020	3:30	31	48	37	34	26	24	0.9	2.7	135	17	78	1012	0.0
11/09/2020	3:45	32	47	38	34	29	27	1.3	3.1	135	17	76	1012	0.0
11/09/2020	4:00	32	47	37	34	29	26	1.3	2.7	135	17	76	1013	0.0
11/09/2020	4:15	33	47	39	36	29	27	1.3	3.1	158	17	76	1013	0.0
11/09/2020	4:30	32	45	39	35	27	25	0.4	1.8	158	17	76	1013	0.0
11/09/2020	4:45	37	55	48	39	25	21	0.0	0.4	158	17	77	1013	0.0
11/09/2020	5:00	35	51	45	38	26	20	0.0	0.4	158	16	78	1014	0.0
11/09/2020	5:15	39	53	48	42	30	26	0.0	0.9	158	17	78	1014	0.0
11/09/2020	5:30	42	59	51	44	36	30	0.0	0.0	0	16	79	1014	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
11/09/2020 5:45	48	75	60	42	32	27	0.0	0.9	158	17	78	1014	0.0
11/09/2020 6:00	49	71	63	45	34	29	0.0	0.9	158	17	76	1015	0.0
11/09/2020 6:15	38	50	45	40	33	29	0.0	0.4	158	18	76	1015	0.0
11/09/2020 6:30	40	62	51	41	33	29	0.4	1.8	203	19	71	1015	0.0
11/09/2020 6:45	39	69	48	39	31	25	1.3	3.6	158	20	66	1015	0.0
11/09/2020 7:00	39	62	50	37	31	29	1.8	3.6	158	20	66	1016	0.0
11/09/2020 7:15	38	58	48	41	32	30	1.8	3.6	180	20	65	1016	0.0
11/09/2020 7:30	42	67	51	40	33	30	2.2	4.5	180	21	63	1016	0.0
11/09/2020 7:45	42	63	55	42	35	32	2.2	4.5	180	21	62	1016	0.0
11/09/2020 8:00	42	63	51	44	37	35	2.2	4.5	180	22	59	1016	0.0
11/09/2020 8:15	41	64	49	42	37	35	2.7	5.8	203	22	60	1016	0.0
11/09/2020 8:30	41	58	50	42	37	35	2.7	5.4	180	23	57	1016	0.0
11/09/2020 8:45	40	67	45	41	35	33	2.2	4.9	203	23	57	1016	0.0
11/09/2020 9:00	39	63	46	41	34	31	2.2	4.5	158	23	56	1016	0.0
11/09/2020 9:15	43	64	55	46	34	29	2.7	4.9	158	23	56	1016	0.0
11/09/2020 9:30	43	64	50	44	38	34	2.2	4.9	158	23	55	1015	0.0
11/09/2020 9:45	41	57	49	44	37	34	2.2	4.9	158	24	53	1015	0.0
11/09/2020 10:00	42	55	48	44	37	34	2.2	4.5	135	24	54	1015	0.0
11/09/2020 10:15	42	66	48	44	36	31	2.2	4.5	135	25	50	1015	0.0
11/09/2020 10:30	41	58	47	44	36	34	1.8	4.5	135	25	51	1015	0.0
11/09/2020 10:45	41	56	50	44	35	33	2.2	4.9	135	25	49	1015	0.0
11/09/2020 11:00	44	66	58	44	36	33	1.3	3.1	135	25	49	1015	0.0
11/09/2020 11:15	38	51	45	41	33	30	1.3	4.9	135	26	48	1014	0.0
11/09/2020 11:30	41	58	52	43	35	32	1.8	5.4	135	27	46	1014	0.0
11/09/2020 11:45	49	71	64	44	35	33	1.8	4.9	135	27	45	1014	0.0
11/09/2020 12:00	50	72	62	52	37	33	2.2	5.8	135	27	45	1014	0.0
11/09/2020 12:15	41	53	47	43	38	35	1.8	4.0	135	26	47	1014	0.0
11/09/2020 12:30	42	53	49	45	37	35	1.8	4.9	135	26	48	1013	0.0
11/09/2020 12:45	46	61	57	48	40	36	2.2	5.4	113	26	52	1013	0.0
11/09/2020 13:00	46	56	52	49	41	38	2.2	5.4	113	25	52	1013	0.0
11/09/2020 13:15	46	57	52	49	40	38	2.7	6.3	135	25	52	1013	0.0
11/09/2020 13:30	49	71	58	51	43	42	2.2	5.8	135	25	52	1013	0.0
11/09/2020 13:45	49	70	57	52	44	41	2.7	5.4	135	26	50	1013	0.0
11/09/2020 14:00	48	64	55	50	44	42	2.7	5.8	135	26	51	1013	0.0
11/09/2020 14:15	48	62	53	51	43	41	2.7	6.7	135	25	53	1013	0.0
11/09/2020 14:30	49	71	57	51	43	41	3.1	6.7	135	24	54	1013	0.0
11/09/2020 14:45	49	63	54	52	44	42	2.7	5.8	135	24	55	1013	0.0
11/09/2020 15:00	46	59	51	48	42	40	3.1	6.7	135	24	57	1013	0.0
11/09/2020 15:15	48	56	52	50	45	42	2.2	4.9	135	24	57	1013	0.0
11/09/2020 15:30	46	58	52	48	42	39	2.7	5.4	135	23	60	1014	0.0
11/09/2020 15:45	47	65	53	49	43	40	2.2	5.8	135	23	59	1014	0.0
11/09/2020 16:00	49	69	55	51	44	41	2.7	5.8	135	23	60	1014	0.0
11/09/2020 16:15	48	57	53	50	45	42	3.1	6.7	135	23	61	1014	0.0
11/09/2020 16:30	47	73	52	50	42	39	2.7	6.3	135	22	66	1014	0.0
11/09/2020 16:45	50	67	55	52	47	45	3.1	6.7	135	20	73	1015	0.0
11/09/2020 17:00	48	68	53	50	43	41	2.7	5.8	135	18	85	1015	1.6
11/09/2020 17:15	47	60	51	50	42	40	2.2	4.0	135	18	84	1015	0.4
11/09/2020 17:30	49	77	57	48	38	36	1.3	3.1	135	18	86	1015	0.6
11/09/2020 17:45	41	62	49	43	37	32	0.9	2.7	135	18	88	1015	0.0
11/09/2020 18:00	38	53	45	41	35	31	0.4	1.3	158	18	88	1015	0.0
11/09/2020 18:15	38	48	44	41	35	32	0.4	0.9	135	18	88	1016	0.0
11/09/2020 18:30	38	56	44	40	34	30	0.4	0.9	158	18	87	1016	0.0
11/09/2020 18:45	36	52	42	39	33	31	1.3	4.5	158	18	84	1016	0.0
11/09/2020 19:00	40	53	47	42	37	35	2.2	4.5	135	19	82	1016	0.0
11/09/2020 19:15	35	52	40	37	33	31	2.2	4.5	135	18	81	1016	0.0
11/09/2020 19:30	37	54	42	39	34	31	1.8	4.0	158	18	81	1017	0.0
11/09/2020 19:45	39	55	46	41	36	34	2.2	4.5	135	18	81	1017	0.0
11/09/2020 20:00	39	47	44	42	34	32	1.8	3.6	135	18	82	1017	0.0
11/09/2020 20:15	36	48	44	38	32	30	1.3	3.6	158	18	83	1017	0.0
11/09/2020 20:30	39	55	50	39	34	32	1.8	3.6	135	18	82	1017	0.0
11/09/2020 20:45	37	45	40	39	34	32	1.8	3.6	158	18	82	1017	0.0
11/09/2020 21:00	38	46	43	40	34	32	1.8	3.6	158	18	82	1017	0.0
11/09/2020 21:15	44	67	58	41	32	29	1.3	2.7	158	18	82	1017	0.0
11/09/2020 21:30	35	43	39	37	32	30	1.3	2.2	158	18	81	1017	0.0
11/09/2020 21:45	33	43	38	35	29	27	1.3	3.1	158	17	81	1017	0.0
11/09/2020 22:00	33	44	39	36	29	26	0.9	2.7	158	17	81	1017	0.0
11/09/2020 22:15	30	42	37	33	23	21	0.4	1.8	158	17	83	1017	0.0
11/09/2020 22:30	29	44	36	32	25	22	0.0	0.9	158	16	84	1017	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
11/09/2020 22:45	31	47	41	35	23	21	0.4	1.8	158	17	83	1017	0.0
11/09/2020 23:00	31	47	38	35	25	23	1.3	2.7	158	17	82	1017	0.0
11/09/2020 23:15	32	43	36	34	29	26	1.3	4.0	158	17	81	1017	0.0
11/09/2020 23:30	35	43	39	37	32	29	1.8	4.9	158	17	81	1017	0.0
11/09/2020 23:45	33	45	38	35	30	28	1.8	4.9	158	17	81	1017	0.0
12/09/2020 0:00	34	43	38	36	31	27	1.8	4.9	158	17	81	1017	0.0
12/09/2020 0:15	32	43	37	34	27	25	1.3	3.1	158	17	81	1016	0.0
12/09/2020 0:30	31	46	35	33	28	26	1.3	3.6	158	17	82	1016	0.0
12/09/2020 0:45	27	40	33	30	21	20	0.9	2.7	158	16	83	1016	0.0
12/09/2020 1:00	31	47	40	35	23	20	0.4	1.8	158	16	83	1016	0.0
12/09/2020 1:15	29	42	36	32	24	22	0.9	2.7	158	17	82	1015	0.0
12/09/2020 1:30	27	40	34	29	25	23	1.3	3.1	158	17	82	1015	0.0
12/09/2020 1:45	31	43	37	34	26	24	1.3	3.1	158	17	81	1015	0.0
12/09/2020 2:00	32	41	37	35	29	27	1.3	2.7	158	17	81	1015	0.0
12/09/2020 2:15	33	48	42	35	29	27	1.3	3.1	158	17	81	1015	0.0
12/09/2020 2:30	34	47	42	36	30	29	1.8	3.6	158	17	81	1015	0.0
12/09/2020 2:45	35	42	39	37	31	29	1.8	3.6	135	17	80	1015	0.0
12/09/2020 3:00	35	41	39	37	32	31	1.8	4.0	135	17	79	1015	0.0
12/09/2020 3:15	36	45	41	39	34	32	1.8	4.5	135	17	79	1015	0.0
12/09/2020 3:30	38	49	44	41	33	31	1.8	4.5	135	17	79	1015	0.0
12/09/2020 3:45	42	63	49	43	36	34	2.7	5.8	135	17	79	1015	0.0
12/09/2020 4:00	39	50	46	42	35	34	1.8	4.5	158	17	79	1015	0.0
12/09/2020 4:15	38	51	45	41	32	30	1.8	4.0	158	17	79	1015	0.0
12/09/2020 4:30	36	46	42	39	32	30	1.8	4.5	158	17	80	1016	0.0
12/09/2020 4:45	38	45	44	41	34	32	1.8	4.0	158	17	79	1016	0.0
12/09/2020 5:00	37	49	45	40	32	30	1.3	4.5	158	17	80	1016	0.0
12/09/2020 5:15	41	63	51	42	33	30	1.8	4.0	158	17	79	1016	0.0
12/09/2020 5:30	43	62	52	46	37	33	1.8	3.6	158	17	79	1016	0.0
12/09/2020 5:45	39	58	47	41	36	33	1.8	4.5	158	17	78	1017	0.0
12/09/2020 6:00	48	72	62	45	37	34	1.8	4.9	158	17	77	1017	0.0
12/09/2020 6:15	45	67	59	43	35	32	1.8	3.1	135	17	77	1017	0.0
12/09/2020 6:30	40	60	51	42	33	31	1.3	3.1	158	17	75	1017	0.0
12/09/2020 6:45	42	61	53	44	34	30	1.8	3.6	158	18	74	1017	0.0
12/09/2020 7:00	39	58	48	41	35	31	1.8	3.6	158	18	73	1017	0.0
12/09/2020 7:15	43	74	50	43	36	34	2.2	4.9	158	19	69	1017	0.0
12/09/2020 7:30	44	65	50	47	39	37	2.2	4.5	158	19	68	1018	0.0
12/09/2020 7:45	44	66	51	46	39	38	2.7	5.8	158	19	67	1018	0.0
12/09/2020 8:00	50	67	62	52	42	39	3.1	6.3	135	20	66	1018	0.0
12/09/2020 8:15	48	70	53	50	43	41	3.6	7.6	135	21	63	1018	0.0
12/09/2020 8:30	47	60	52	49	44	41	3.6	7.6	135	22	62	1018	0.0
12/09/2020 8:45	50	62	55	52	46	44	4.0	7.6	135	22	62	1018	0.0
12/09/2020 9:00	51	72	58	54	47	45	4.5	8.5	135	23	60	1018	0.0
12/09/2020 9:15	51	69	55	53	46	43	3.6	7.2	135	23	59	1018	0.0
12/09/2020 9:30	51	67	57	53	47	44	4.0	7.6	135	23	58	1017	0.0
12/09/2020 9:45	51	66	56	53	46	44	4.0	7.6	135	23	59	1017	0.0
12/09/2020 10:00	51	65	58	54	45	43	3.6	6.7	135	24	56	1017	0.0
12/09/2020 10:15	50	65	55	53	46	45	3.6	7.2	135	24	56	1017	0.0
12/09/2020 10:30	48	56	53	50	46	43	3.6	6.7	135	24	55	1017	0.0
12/09/2020 10:45	46	55	52	50	41	38	3.1	8.0	135	25	53	1017	0.0
12/09/2020 11:00	50	67	55	52	46	42	3.1	6.3	135	25	52	1017	0.0
12/09/2020 11:15	47	59	53	50	44	41	2.7	6.3	135	25	53	1016	0.0
12/09/2020 11:30	48	59	53	51	44	42	2.7	6.3	135	26	51	1016	0.0
12/09/2020 11:45	52	71	63	54	47	43	3.6	6.7	135	25	52	1016	0.0
12/09/2020 12:00	52	66	59	54	48	46	3.6	7.2	135	26	50	1016	0.0
12/09/2020 12:15	50	67	59	53	42	40	2.7	6.3	135	25	52	1016	0.0
12/09/2020 12:30	49	71	55	51	45	42	2.7	7.6	135	25	54	1016	0.0
12/09/2020 12:45	49	70	54	51	45	42	2.7	6.3	135	24	54	1016	0.0
12/09/2020 13:00	49	74	58	51	42	38	2.7	6.3	135	25	53	1015	0.0
12/09/2020 13:15	51	62	56	53	44	41	2.7	6.3	135	24	55	1016	0.0
12/09/2020 13:30	48	65	57	50	42	39	2.2	6.7	135	25	56	1015	0.0
12/09/2020 13:45	46	57	53	48	43	40	3.1	5.8	135	24	55	1015	0.0
12/09/2020 14:00	45	55	51	48	40	37	2.7	5.8	135	24	56	1015	0.0
12/09/2020 14:15	53	68	64	58	42	40	2.2	7.2	135	26	52	1015	0.0
12/09/2020 14:30	49	67	59	51	43	41	2.7	5.8	135	25	56	1015	0.0
12/09/2020 14:45	48	66	61	48	38	35	3.1	6.7	135	23	66	1015	0.0
12/09/2020 15:00	47	69	51	48	44	42	2.7	7.2	135	24	59	1015	0.0
12/09/2020 15:15	48	67	59	50	42	40	3.1	7.2	135	24	56	1014	0.0
12/09/2020 15:30	46	68	52	49	43	41	2.7	7.2	135	25	54	1015	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
12/09/2020 15:45	53	71	60	56	46	43	3.6	8.5	135	23	60	1015	0.0
12/09/2020 16:00	51	67	62	52	44	42	3.1	6.3	135	23	56	1015	0.0
12/09/2020 16:15	47	59	53	51	42	39	2.7	4.5	135	23	61	1015	0.0
12/09/2020 16:30	44	60	50	46	40	39	1.8	4.9	135	22	63	1015	0.0
12/09/2020 16:45	42	60	46	44	39	36	1.3	3.6	135	23	62	1015	0.0
12/09/2020 17:00	39	50	44	42	35	31	2.2	6.3	135	23	65	1015	0.0
12/09/2020 17:15	47	77	52	47	38	33	3.1	6.3	135	22	68	1015	0.0
12/09/2020 17:30	42	65	49	44	37	33	2.2	4.5	135	21	67	1016	0.0
12/09/2020 17:45	43	64	56	43	36	34	2.2	4.9	158	21	67	1016	0.0
12/09/2020 18:00	39	57	47	41	35	33	1.8	3.6	135	21	68	1016	0.0
12/09/2020 18:15	36	46	41	38	34	32	1.8	3.1	158	21	68	1017	0.0
12/09/2020 18:30	37	46	42	39	36	34	1.3	3.1	135	21	69	1017	0.0
12/09/2020 18:45	37	58	42	38	33	31	1.3	3.1	135	21	69	1017	0.0
12/09/2020 19:00	34	42	38	35	32	30	0.9	2.2	135	21	70	1017	0.0
12/09/2020 19:15	35	44	40	36	33	31	0.9	2.7	135	20	73	1017	0.0
12/09/2020 19:30	34	43	39	37	32	30	0.9	2.7	135	20	74	1017	0.0
12/09/2020 19:45	36	53	44	38	33	31	0.9	3.1	135	20	74	1017	0.0
12/09/2020 20:00	35	46	39	37	32	31	0.9	3.1	135	20	74	1017	0.0
12/09/2020 20:15	35	46	40	37	33	30	1.3	3.1	135	20	74	1018	0.0
12/09/2020 20:30	35	45	40	37	31	29	1.8	4.5	135	20	72	1018	0.0
12/09/2020 20:45	35	46	38	37	32	30	1.8	3.6	158	19	72	1018	0.0
12/09/2020 21:00	47	68	62	39	30	28	1.3	3.6	135	19	73	1018	0.0
12/09/2020 21:15	35	51	40	37	31	29	1.8	5.4	135	19	74	1018	0.0
12/09/2020 21:30	33	46	38	35	30	27	1.3	4.5	135	19	74	1018	0.0
12/09/2020 21:45	30	47	36	32	26	24	1.3	3.6	158	18	75	1018	0.0
12/09/2020 22:00	33	49	41	36	25	23	0.4	1.8	135	18	76	1018	0.0
12/09/2020 22:15	33	51	41	36	24	21	0.4	0.9	135	18	77	1017	0.0
12/09/2020 22:30	29	42	36	31	24	23	0.9	1.8	135	18	77	1017	0.0
12/09/2020 22:45	31	43	38	34	27	24	0.9	2.2	135	18	77	1017	0.0
12/09/2020 23:00	32	45	40	35	25	23	0.9	2.2	135	18	77	1017	0.0
12/09/2020 23:15	28	43	36	30	24	22	0.9	2.7	135	18	77	1017	0.0
12/09/2020 23:30	29	42	36	32	26	24	0.9	2.7	135	18	77	1017	0.0
12/09/2020 23:45	28	43	36	31	24	22	0.9	2.7	135	18	77	1017	0.0
13/09/2020 0:00	31	45	41	34	25	24	1.3	3.1	135	18	77	1017	0.0
13/09/2020 0:15	30	44	36	33	27	25	1.8	4.0	135	17	77	1017	0.0
13/09/2020 0:30	31	40	36	33	29	28	1.3	3.1	135	17	77	1017	0.0
13/09/2020 0:45	31	44	37	33	28	27	1.3	3.1	158	17	78	1017	0.0
13/09/2020 1:00	33	42	37	35	30	29	1.3	2.7	158	18	77	1016	0.0
13/09/2020 1:15	32	45	36	33	29	28	1.3	3.1	158	18	77	1016	0.0
13/09/2020 1:30	32	47	38	34	30	28	1.3	3.1	158	18	77	1016	0.0
13/09/2020 1:45	34	50	41	37	30	28	1.3	4.0	158	18	77	1016	0.0
13/09/2020 2:00	33	39	36	35	31	29	1.3	3.1	135	18	78	1016	0.0
13/09/2020 2:15	32	42	37	35	29	25	1.3	3.1	135	17	78	1016	0.0
13/09/2020 2:30	30	44	36	32	27	25	0.9	2.7	135	17	78	1016	0.0
13/09/2020 2:45	29	40	34	31	27	26	0.9	1.8	135	17	79	1016	0.0
13/09/2020 3:00	30	40	36	32	27	25	0.9	2.2	135	17	79	1016	0.0
13/09/2020 3:15	31	45	38	33	27	25	0.9	2.2	158	17	79	1016	0.0
13/09/2020 3:30	30	39	34	32	27	25	0.9	2.2	135	17	79	1016	0.0
13/09/2020 3:45	31	43	37	34	28	26	1.3	3.1	158	17	79	1016	0.0
13/09/2020 4:00	30	39	34	32	27	25	0.9	2.7	158	17	79	1016	0.0
13/09/2020 4:15	31	50	39	33	28	26	1.3	3.1	158	17	79	1016	0.0
13/09/2020 4:30	31	43	38	34	27	26	0.9	2.7	158	17	79	1016	0.0
13/09/2020 4:45	33	45	40	36	28	25	0.9	1.8	135	17	80	1017	0.0
13/09/2020 5:00	35	49	44	39	26	24	0.9	2.2	135	17	80	1017	0.0
13/09/2020 5:15	37	53	47	41	27	22	0.4	1.3	135	17	80	1017	0.0
13/09/2020 5:30	50	74	64	45	34	28	0.4	2.2	135	17	79	1017	0.0
13/09/2020 5:45	39	62	48	42	32	27	0.4	1.3	135	18	79	1017	0.0
13/09/2020 6:00	43	63	56	44	33	28	0.9	1.3	135	18	79	1017	0.0
13/09/2020 6:15	41	66	54	40	32	26	0.4	1.8	158	18	78	1017	0.0
13/09/2020 6:30	36	56	47	38	30	26	0.9	2.2	158	18	77	1018	0.0
13/09/2020 6:45	39	61	48	41	32	28	1.3	3.1	158	19	76	1018	0.0
13/09/2020 7:00	38	55	47	40	33	29	1.8	3.6	135	19	75	1018	0.0
13/09/2020 7:15	39	56	48	41	34	31	1.8	4.9	135	19	74	1018	0.0
13/09/2020 7:30	39	59	48	41	35	32	2.2	4.0	158	21	71	1018	0.0
13/09/2020 7:45	40	59	49	42	34	32	1.8	3.6	135	21	70	1018	0.0
13/09/2020 8:00	44	65	57	43	36	33	2.2	4.9	135	22	67	1018	0.0
13/09/2020 8:15	47	67	59	47	39	36	2.7	5.4	135	22	67	1018	0.0
13/09/2020 8:30	43	58	50	46	39	36	2.2	4.9	135	22	67	1018	0.0
13/09/2020 8:45	46	74	52	47	41	39	2.7	5.8	135	22	66	1018	0.0
13/09/2020 9:00	47	75	51	46	41	39	3.1	6.7	135	23	63	1018	0.0
13/09/2020 9:15	47	61	52	50	42	39	3.1	7.2	135	24	62	1018	0.0
13/09/2020 9:30	44	55	51	47	41	38	2.7	5.8	135	24	62	1018	0.0
13/09/2020 9:45	46	59	51	48	42	39	2.2	4.9	135	24	62	1018	0.0
13/09/2020 10:00	43	51	48	46	40	37	1.8	5.4	135	25	59	1018	0.0
13/09/2020 10:15	43	62	48	45	39	36	1.8	5.8	135	25	57	1018	0.0
13/09/2020 10:30	43	54	48	45	40	37	1.8	4.5	135	25	58	1018	0.0
13/09/2020 10:45	43	60	50	46	38	36	2.2	4.0	135	25	59	1017	0.0
13/09/2020 11:00	49	72	64	45	38	36	1.8	4.5	135	25	58	1017	0.0
13/09/2020 11:15	49	70	63	45	38	34	1.8	4.9	135	25	57	1017	0.0
13/09/2020 11:30	44	75	47	44	37	35	2.2	5.4	135	25	56	1017	0.0
13/09/2020 11:45	43	63	54	43	38	34	2.2	4.9	135	27	54	1016	0.0
13/09/2020 12:00	49	69	63	49	39	37	2.2	6.3	135	27	51	1016	0.0
13/09/2020 12:15	46	68	58	45	36	34	2.7	4.9	135	27	54	1016	0.0
13/09/2020 12:30	43	58	50	46	39	36	2.2	4.9	135	27	54	1016	0.0
13/09/2020 12:45	43	64	53	45	37	35	2.2	4.9	113	27	52	1016	0.0
13/09/2020 13:00	48	70	59	47	38	35	2.2	5.8	113	27	53	1016	0.0
13/09/2020 13:15	42	52	48	44	37	34	1.8	4.0	135	28	49	1015	0.0
13/09/2020 13:30	41	53	47	43	36	33	1.3	4.0	135	27	52	1015	0.0
13/09/2020 13:45	49	70	61	53	36	33	1.8	4.9	113	26	51	1015	0.0
13/09/2020 14:00	41	62	47	44	36	32	1.3	3.6	113	27	49	1015	0.0
13/09/2020 14:15	40	54	46	43	36	33	1.8	4.0	113	27	51	1015	0.0
13/09/2020 14:30	42	52	47	44	38	36	1.8	5.8	135	26	54	1015	0.0
13/09/2020 14:45	48	67	62	46	36	33	1.8	4.9	113	27	53	1015	0.0
13/09/2020 15:00	50	80	60	50	36	32	1.3	3.1	113	27	52	1015	0.0
13/09/2020 15:15	39	55	45	40	35	32	1.3	3.1	113	26	56	1014	0.0
13/09/2020 15:30	42	59	47	44	39	35	1.8	4.5	113	26	55	1015	0.0
13/09/2020 15:45	45	64	52	47	40	38	1.8	4.9	113	26	57	1015	0.0
13/09/2020 16:00	44	65	50	45	39	37	2.2	4.5	113	26	56	1015	0.0
13/09/2020 16:15	44	54	48	45	41	39	1.8	4.5	113	25	57	1015	0.0
13/09/2020 16:30	43	55	48	45	39	35	1.8	4.0	113	25	59	1015	0.0
13/09/2020 16:45	42	51	47	44	39	36	1.3	4.0	113	24	61	1015	0.0
13/09/2020 17:00	56	84	65	44	36	33	1.8	4.5	113	24	64	1015	0.0
13/09/2020 17:15	46	74	57	46	38	34	1.8	4.0	113	23	67	1015	0.0
13/09/2020 17:30	47	68	61	44	35	33	1.3	3.6	113	22	70	1016	0.0
13/09/2020 17:45	39	54	45	41	35	32	0.9	2.7	113	21	73	1016	0.0
13/09/2020 18:00	38	56	45	40	34	32	0.9	3.1	113	21	75	1016	0.0
13/09/2020 18:15	36	56	45	37	32	30	0.9	3.1	113	21	77	1016	0.0
13/09/2020 18:30	35	47	39	37	34	32	0.4	1.8	135	21	78	1016	0.0
13/09/2020 18:45	37	48	42	39	34	33	0.9	2.7	135	21	78	1016	0.0
13/09/2020 19:00	37	48	41	40	34	33	0.9	3.1	135	21	79	1016	0.0
13/09/2020 19:15	36	53	45	37	33	31	0.9	3.1	135	20	79	1016	0.0
13/09/2020 19:30	36	48	44	39	32	30	0.4	1.8	135	20	81	1016	0.0
13/09/2020 19:45	34	46	39	36	31	30	0.9	2.7	135	20	81	1017	0.0
13/09/2020 20:00	35	44	39	37	33	31	0.9	4.5	135	20	81	1017	0.0
13/09/2020 20:15	33	49	38	35	31	28	0.9	2.7	135	20	81	1017	0.0
13/09/2020 20:30	45	64	60	38	29	28	1.3	3.6	135	20	79	1017	0.0
13/09/2020 20:45	33	49	38	35	30	28	1.3	3.6	135	20	80	1017	0.0
13/09/2020 21:00	31	43	38	33	27	25	1.3	3.6	135	20	81	1017	0.0
13/09/2020 21:15	31	47	38	34	27	25	1.3	4.5	135	19	81	1017	0.0
13/09/2020 21:30	35	50	40	37	32	30	1.8	4.0	135	19	81	1017	0.0
13/09/2020 21:45	32	44	38	35	29	27	1.3	3.1	135	19	82	1017	0.0
13/09/2020 22:00	32	47	39	35	27	26	0.9	1.8	158	19	82	1017	0.0
13/09/2020 22:15	30	46	37	32	27	25	0.9	2.2	158	19	82	1017	0.0
13/09/2020 22:30	29	41	34	31	27	24	1.3	3.1	158	19	82	1017	0.0
13/09/2020 22:45	32	46	40	34	29	26	1.8	3.6	135	19	82	1017	0.0
13/09/2020 23:00	35	44	39	37	33	32	2.2	5.4	135	19	82	1017	0.0
13/09/2020 23:15	36	45	39	37	34	32	2.2	4.0	135	19	82	1017	0.0
13/09/2020 23:30	34	43	39	37	32	30	1.8	3.6	135	19	82	1017	0.0
13/09/2020 23:45	34	43	40	36	31	29	1.8	3.6	135	19	82	1017	0.0
14/09/2020 0:00	30	40	37	32	27	25	1.8	3.6	135	19	82	1017	0.0
14/09/2020 0:15	28	39	33	31	25	24	1.3	2.7	135	19	83	1017	0.0
14/09/2020 0:30	26	41	31	29	23	22	0.9	2.2	158	18	83	1017	0.0
14/09/2020 0:45	28	45	38	32	23	21	0.9	2.2	158	18	84	1017	0.0
14/09/2020 1:00	30	38	35	33	25	23	0.9	3.1	158	19	83	1017	0.0
14/09/2020 1:15	27	43	32	29	24	23	1.3	3.1	135	19	83	1016	0.0
14/09/2020 1:30	28	49	31	29	26	26	1.3	3.1	158	19	83	1016	0.0

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
14/09/2020 1:45	30	49	37	31	27	25	1.3	3.1	158	19	82	1016	0.0
14/09/2020 2:00	29	47	36	32	26	24	0.9	2.7	158	19	82	1016	0.0
14/09/2020 2:15	30	42	36	32	27	25	0.9	3.1	158	19	82	1016	0.0
14/09/2020 2:30	30	45	38	31	27	25	1.3	3.1	158	19	82	1016	0.0
14/09/2020 2:45	29	42	33	30	27	26	1.8	4.0	158	19	83	1016	0.0
14/09/2020 3:00	31	43	37	33	29	27	1.8	3.6	158	19	83	1016	0.0
14/09/2020 3:15	33	42	38	35	30	28	1.8	3.6	135	19	84	1016	0.0
14/09/2020 3:30	32	42	39	34	29	27	1.3	4.0	158	19	84	1016	0.0
14/09/2020 3:45	32	43	38	34	29	26	1.3	4.0	158	18	84	1016	0.0
14/09/2020 4:00	33	44	38	35	28	27	1.3	3.6	158	18	84	1016	0.0
14/09/2020 4:15	35	48	41	37	31	29	1.3	3.1	135	18	84	1016	0.0
14/09/2020 4:30	36	45	41	40	31	29	1.3	3.6	135	18	84	1016	0.0
14/09/2020 4:45	35	47	40	37	31	28	0.9	2.2	135	18	85	1016	0.0
14/09/2020 5:00	36	50	44	39	32	29	0.9	2.7	135	18	84	1016	0.0
14/09/2020 5:15	42	56	53	45	33	29	0.9	2.2	135	18	85	1016	0.0
14/09/2020 5:30	42	55	49	44	38	35	0.9	2.2	135	18	84	1016	0.0
14/09/2020 5:45	52	72	67	48	36	31	0.9	2.2	135	18	84	1017	0.0
14/09/2020 6:00	40	58	48	43	36	32	0.9	1.8	135	18	84	1017	0.0
14/09/2020 6:15	44	63	56	45	37	31	0.9	1.8	135	18	83	1017	0.0
14/09/2020 6:30	41	59	50	43	36	32	1.3	2.7	135	19	82	1017	0.0
14/09/2020 6:45	43	66	55	43	36	33	1.3	2.7	158	19	80	1017	0.0
14/09/2020 7:00	43	59	51	45	38	35	0.9	2.2	158	20	79	1018	0.0
14/09/2020 7:15	46	64	60	45	36	32	1.8	4.0	158	21	75	1018	0.0
14/09/2020 7:30	42	59	50	43	38	36	2.7	4.9	135	22	73	1018	0.0
14/09/2020 7:45	41	58	48	42	38	35	2.2	5.8	135	23	70	1018	0.0
14/09/2020 8:00	48	69	61	46	39	36	2.7	4.9	135	23	69	1018	0.0
14/09/2020 8:15	44	54	50	47	40	38	2.7	5.8	135	23	68	1018	0.0
14/09/2020 8:30	43	53	48	45	40	37	2.7	5.8	135	24	66	1018	0.0
14/09/2020 8:45	46	72	57	45	40	38	2.7	5.8	135	24	64	1019	0.0
14/09/2020 9:00	44	54	49	47	41	38	2.2	5.4	135	24	64	1019	0.0
14/09/2020 9:15	43	54	48	45	40	38	2.7	6.3	135	25	63	1019	0.0
14/09/2020 9:30	42	60	50	45	38	34	1.8	4.9	135	25	64	1019	0.0
14/09/2020 9:45	42	54	48	45	39	37	1.8	4.9	135	24	65	1018	0.0
14/09/2020 10:00	40	56	46	43	36	33	1.8	5.4	135	25	62	1018	0.0
14/09/2020 10:15	42	52	48	45	37	33	2.2	4.5	135	26	57	1018	0.0
14/09/2020 10:30	41	63	47	44	37	34	1.8	4.5	135	27	55	1018	0.0
14/09/2020 10:45	44	55	50	47	41	37	1.8	4.9	135	27	55	1018	0.0
14/09/2020 11:00	44	70	49	47	38	36	2.2	5.8	135	27	56	1018	0.0
14/09/2020 11:15	42	54	47	43	38	35	2.2	5.8	135	27	56	1018	0.0
14/09/2020 11:30	44	58	50	47	39	36	2.2	4.0	135	27	56	1017	0.0
14/09/2020 11:45	45	64	54	47	39	37	1.8	5.4	113	28	56	1017	0.0
14/09/2020 12:00	44	63	50	47	38	35	2.7	6.3	113	27	56	1017	0.0
14/09/2020 12:15	44	56	49	47	41	38	2.2	4.9	90	27	55	1016	0.0
14/09/2020 12:30	45	63	50	48	40	36	2.2	5.4	135	28	52	1017	0.0
14/09/2020 12:45	45	52	51	48	42	38	2.2	5.8	113	27	53	1016	0.0
14/09/2020 13:00	46	64	55	49	40	38	2.2	4.9	113	27	53	1016	0.0
14/09/2020 13:15	45	64	53	47	40	38	2.2	5.4	113	27	55	1016	0.0
14/09/2020 13:30	46	54	51	49	40	38	2.2	5.4	113	28	52	1016	0.0
14/09/2020 13:45	43	50	48	46	41	37	2.2	5.8	113	27	55	1016	0.0
14/09/2020 14:00	45	59	53	48	40	38	2.2	5.4	113	27	56	1016	0.0
14/09/2020 14:15	47	56	51	49	43	40	2.2	5.4	113	27	55	1015	0.0
14/09/2020 14:30	48	67	59	51	42	39	2.2	5.4	113	26	56	1016	0.0
14/09/2020 14:45	47	57	53	50	42	40	2.7	6.3	113	27	55	1015	0.0
14/09/2020 15:00	45	55	50	47	43	41	2.7	6.3	113	27	54	1015	0.0
14/09/2020 15:15	45	62	51	47	42	39	2.2	5.4	113	26	56	1015	0.0
14/09/2020 15:30	45	59	49	47	42	39	2.2	5.4	113	26	58	1015	0.0
14/09/2020 15:45	52	72	64	54	42	38	2.2	5.4	113	26	58	1015	0.0
14/09/2020 16:00	46	55	50	48	42	40	2.2	4.9	113	25	59	1016	0.0
14/09/2020 16:15	46	56	51	48	42	39	2.2	4.9	113	25	61	1016	0.0
14/09/2020 16:30	46	55	51	49	43	41	2.2	4.5	113	24	60	1016	0.0
14/09/2020 16:45	45	58	50	47	41	40	1.8	4.5	113	24	60	1016	0.0
14/09/2020 17:00	52	73	65	49	43	40	1.8	4.5	113	24	60	1016	0.0
14/09/2020 17:15	46	65	56	48	41	37	1.3	3.6	113	23	64	1016	0.0
14/09/2020 17:30	46	70	56	48	40	37	1.3	3.6	113	22	68	1016	0.0
14/09/2020 17:45	41	64	49	44	35	33	1.3	4.0	113	22	72	1016	0.0
14/09/2020 18:00	40	63	47	42	36	34	1.3	3.6	113	21	75	1016	0.0
14/09/2020 18:15	37	54	44	39	33	31	0.9	2.2	113	21	77	1016	0.0
14/09/2020 18:30	37	52	42	38	35	32	0.9	2.7	113	21	77	1017	0.0

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
14/09/2020 18:45	36	52	41	38	34	33	0.4	1.8	113	21	79	1017	0.0
14/09/2020 19:00	37	55	44	38	34	32	0.4	1.8	113	20	80	1017	0.0
14/09/2020 19:15	38	54	45	40	34	33	0.4	1.3	135	20	81	1017	0.0
14/09/2020 19:30	36	45	41	38	33	31	0.4	1.3	135	20	82	1017	0.0
14/09/2020 19:45	37	54	44	40	33	30	0.4	0.9	135	20	82	1017	0.0
14/09/2020 20:00	35	50	41	38	32	30	0.4	2.2	135	20	83	1017	0.0
14/09/2020 20:15	35	52	43	37	31	29	0.4	1.8	135	20	83	1018	0.0
14/09/2020 20:30	35	54	44	37	30	28	0.4	1.8	135	20	83	1018	0.0
14/09/2020 20:45	34	52	40	36	30	28	0.4	1.8	135	20	84	1018	0.0
14/09/2020 21:00	33	44	39	35	29	27	0.9	1.8	135	20	85	1018	0.0
14/09/2020 21:15	34	52	42	37	29	27	0.4	1.8	135	20	85	1018	0.0
14/09/2020 21:30	31	47	37	34	28	26	0.4	1.8	135	20	86	1018	0.0
14/09/2020 21:45	34	48	43	38	27	25	0.4	1.3	135	19	86	1018	0.0
14/09/2020 22:00	31	57	39	33	26	24	0.0	0.9	158	19	87	1018	0.0
14/09/2020 22:15	28	44	34	30	26	24	0.4	1.3	158	19	87	1018	0.0
14/09/2020 22:30	33	48	41	37	25	23	0.4	0.9	158	19	88	1018	0.0
14/09/2020 22:45	30	43	36	33	25	23	0.4	1.3	158	19	88	1018	0.0
14/09/2020 23:00	32	46	39	35	26	24	0.4	1.3	158	18	88	1018	0.0
14/09/2020 23:15	32	42	39	36	26	25	0.4	1.8	158	18	88	1018	0.0
14/09/2020 23:30	31	47	39	35	24	21	0.4	1.3	158	18	88	1018	0.0
14/09/2020 23:45	29	45	37	32	23	21	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:00	31	49	40	35	24	23	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:15	28	52	32	29	25	23	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:30	28	40	34	30	26	24	0.4	1.3	158	18	88	1018	0.0
15/09/2020 0:45	31	39	37	34	28	26	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:00	29	40	34	32	26	24	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:15	28	54	37	30	24	23	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:30	29	40	35	31	27	25	0.4	1.3	158	18	88	1018	0.0
15/09/2020 1:45	28	39	33	31	26	24	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:00	33	52	43	35	28	26	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:15	32	42	37	34	30	27	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:30	35	52	44	38	28	26	0.4	1.3	158	18	88	1018	0.0
15/09/2020 2:45	31	40	35	33	28	27	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:00	34	43	38	36	30	27	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:15	30	43	38	32	27	25	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:30	31	42	37	33	27	25	0.4	1.3	158	18	88	1018	0.0
15/09/2020 3:45	32	49	39	35	27	25	1.3	3.6	158	18	88	1016	0.0
15/09/2020 4:00	32	46	37	34	28	25	1.3	3.6	158	18	88	1016	0.0
15/09/2020 4:15	29	42	36	31	25	23	0.9	2.2	135	18	88	1016	0.0
15/09/2020 4:30	33	51	42	36	27	25	0.9	1.8	158	18	88	1016	0.0
15/09/2020 4:45	32	42	39	35	26	24	0.9	1.8	158	18	89	1017	0.0
15/09/2020 5:00	34	47	43	38	27	24	0.4	1.8	158	18	89	1017	0.0
15/09/2020 5:15	42	65	50	45	34	27	0.4	0.9	158	18	89	1017	0.0
15/09/2020 5:30	43	64	53	44	36	32	0.0	0.9	135	17	90	1017	0.0
15/09/2020 5:45	42	59	51	45	35	28	0.4	1.3	135	18	90	1017	0.0
15/09/2020 6:00	44	66	53	46	37	30	0.9	1.3	135	18	88	1018	0.0
15/09/2020 6:15	44	65	57	43	35	32	0.9	2.2	158	19	86	1018	0.0
15/09/2020 6:30	51	75	65	48	36	32	1.3	2.2	158	20	83	1018	0.0
15/09/2020 6:45	45	70	57	44	36	33	1.8	3.6	158	21	79	1018	0.0
15/09/2020 7:00	41	63	49	43	38	35	2.2	4.5	135	21	77	1018	0.0
15/09/2020 7:15	41	61	48	43	38	35	2.7	4.9	135	21	76	1019	0.0
15/09/2020 7:30	42	66	48	43	38	35	2.2	4.9	135	22	74	1019	0.0
15/09/2020 7:45	41	57	47	43	38	35	2.2	4.9	135	22	73	1019	0.0
15/09/2020 8:00	49	68	61	49	40	38	2.7	4.9	135	22	72	1019	0.0
15/09/2020 8:15	44	62	50	46	40	37	2.7	4.9	135	23	69	1019	0.0
15/09/2020 8:30	43	57	49	45	40	38	2.2	5.8	135	23	68	1019	0.0
15/09/2020 8:45	45	62	53	47	41	39	1.8	6.7	135	24	66	1019	0.0
15/09/2020 9:00	43	61	50	46	40	38	2.2	4.9	135	24	64	1019	0.0
15/09/2020 9:15	50	67	62	52	43	40	2.2	4.9	135	24	64	1019	0.0
15/09/2020 9:30	45	63	52	47	41	40	2.2	5.4	135	24	63	1019	0.0
15/09/2020 9:45	46	71	55	48	41	38	2.2	5.4	135	25	60	1019	0.0
15/09/2020 10:00	46	68	57	45	39	36	2.2	4.9	135	25	59	1019	0.0
15/09/2020 10:15	45	61	50	47	40	37	1.8	5.8	135	25	60	1019	0.0
15/09/2020 10:30	46	74	54	48	40	37	2.2	4.9	135	26	57	1019	0.0
15/09/2020 10:45	52	71	65	52	40	36	2.7	6.3	135	25	58	1019	0.0
15/09/2020 11:00	43	53	48	46	40	37	2.7	5.4	135	26	52	1019	0.0
15/09/2020 11:15	44	66	49	46	40	36	2.2	4.5	135	26	53	1018	0.0
15/09/2020 11:30	46	56	51	48	42	40	2.7	5.8	135	27	46	1018	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
15/09/2020	11:45	46	59	52	48	38	35	2.2	5.4	113	27	50	1018	0.0
15/09/2020	12:00	49	68	62	49	39	35	2.2	6.7	113	27	49	1018	0.0
15/09/2020	12:15	45	56	51	49	38	36	2.2	6.3	135	27	47	1018	0.0
15/09/2020	12:30	44	60	51	47	39	36	2.2	4.9	135	28	46	1018	0.0
15/09/2020	12:45	45	62	55	48	38	35	2.2	4.5	113	27	44	1018	0.0
15/09/2020	13:00	46	66	54	47	40	35	2.2	4.9	135	27	44	1017	0.0
15/09/2020	13:15	46	65	55	48	41	37	2.7	4.9	135	27	42	1017	0.0
15/09/2020	13:30	43	55	48	46	40	37	2.2	5.8	135	27	42	1017	0.0
15/09/2020	13:45	46	55	53	49	41	38	2.2	5.4	135	27	43	1017	0.0
15/09/2020	14:00	48	66	53	51	41	38	2.2	5.4	135	27	43	1017	0.0
15/09/2020	14:15	47	58	52	50	42	40	2.2	5.8	113	27	42	1017	0.0
15/09/2020	14:30	48	58	54	51	43	40	2.7	5.8	113	27	42	1016	0.0
15/09/2020	14:45	47	60	53	50	43	41	2.2	6.3	113	27	41	1016	0.0
15/09/2020	15:00	47	66	52	49	42	40	2.7	6.7	135	27	43	1016	0.0
15/09/2020	15:15	49	59	54	51	45	43	2.7	5.8	135	27	46	1016	0.0
15/09/2020	15:30	48	70	58	49	43	39	2.2	6.7	113	26	52	1016	0.0
15/09/2020	15:45	47	58	52	49	44	42	2.2	5.8	113	26	53	1017	0.0
15/09/2020	16:00	51	70	61	53	45	43	2.2	5.4	113	26	51	1017	0.0
15/09/2020	16:15	50	63	56	52	47	44	2.2	6.3	113	25	59	1017	0.0
15/09/2020	16:30	47	63	53	50	43	41	2.2	5.4	113	24	58	1017	0.0
15/09/2020	16:45	48	66	58	49	41	39	2.2	4.9	113	24	62	1017	0.0
15/09/2020	17:00	45	57	50	47	41	40	1.8	4.9	135	23	63	1017	0.0
15/09/2020	17:15	49	70	62	47	41	39	2.2	5.4	135	23	64	1017	0.0
15/09/2020	17:30	42	56	47	44	39	36	1.3	4.0	135	22	67	1017	0.0
15/09/2020	17:45	50	70	64	50	41	38	1.8	3.6	135	22	69	1017	0.0
15/09/2020	18:00	47	73	59	46	40	38	1.8	4.5	135	21	70	1017	0.0
15/09/2020	18:15	43	67	49	42	37	34	1.3	3.6	135	21	70	1018	0.0
15/09/2020	18:30	38	59	42	39	35	33	1.3	3.1	135	21	71	1018	0.0
15/09/2020	18:45	47	79	55	39	36	34	0.9	2.2	135	21	71	1018	0.0
15/09/2020	19:00	37	46	41	39	36	34	0.9	2.7	135	20	74	1018	0.0
15/09/2020	19:15	39	56	47	40	36	34	0.9	2.7	135	20	75	1019	0.0
15/09/2020	19:30	37	44	41	38	35	34	0.9	3.1	135	20	75	1019	0.0
15/09/2020	19:45	36	48	40	37	34	33	0.9	2.2	135	20	76	1019	0.0
15/09/2020	20:00	36	49	42	39	34	32	0.9	2.7	135	20	77	1019	0.0
15/09/2020	20:15	36	45	41	38	33	31	0.9	2.7	135	20	76	1019	0.0
15/09/2020	20:30	33	45	38	35	31	30	0.9	2.2	135	20	76	1019	0.0
15/09/2020	20:45	34	53	40	36	31	29	0.4	1.8	135	20	76	1019	0.0
15/09/2020	21:00	32	49	39	34	29	28	0.9	1.8	135	20	76	1019	0.0
15/09/2020	21:15	33	44	40	36	29	27	0.9	1.8	135	20	75	1020	0.0
15/09/2020	21:30	33	54	39	35	29	27	0.9	1.8	158	20	74	1019	0.0
15/09/2020	21:45	32	45	38	35	29	28	0.9	1.8	158	19	74	1019	0.0
15/09/2020	22:00	32	44	38	34	29	28	0.9	1.8	135	19	75	1019	0.0
15/09/2020	22:15	33	46	39	34	30	28	0.9	2.2	135	19	75	1019	0.0
15/09/2020	22:30	33	40	37	35	31	30	1.3	3.1	135	19	72	1019	0.0
15/09/2020	22:45	34	45	39	36	30	29	1.3	3.1	135	19	73	1019	0.0
15/09/2020	23:00	34	49	41	37	30	28	0.9	3.1	135	19	74	1019	0.0
15/09/2020	23:15	31	46	38	34	27	25	0.9	2.2	135	19	75	1019	0.0
15/09/2020	23:30	30	49	37	32	27	26	0.9	2.7	158	19	76	1019	0.0
15/09/2020	23:45	30	39	32	31	28	26	0.9	2.7	158	19	76	1019	0.0
16/09/2020	0:00	31	44	37	33	29	27	1.3	2.7	158	19	78	1019	0.0
16/09/2020	0:15	31	46	39	33	28	26	1.3	2.7	135	19	78	1019	0.0
16/09/2020	0:30	31	48	34	32	29	26	1.3	3.1	135	19	78	1018	0.0
16/09/2020	0:45	35	49	43	38	30	28	1.8	3.6	158	18	78	1018	0.0
16/09/2020	1:00	34	43	39	36	32	30	1.8	3.6	158	18	79	1018	0.0
16/09/2020	1:15	34	44	40	37	32	30	1.8	4.0	158	18	78	1018	0.0
16/09/2020	1:30	37	47	43	39	33	32	1.8	3.6	135	18	79	1017	0.0
16/09/2020	1:45	34	43	39	36	31	29	1.8	4.0	135	18	79	1017	0.0
16/09/2020	2:00	34	39	37	36	32	30	1.8	4.0	158	18	80	1017	0.0
16/09/2020	2:15	36	41	40	38	34	32	1.8	4.0	135	18	80	1017	0.0
16/09/2020	2:30	36	46	43	39	32	30	1.8	3.6	158	18	80	1017	0.0
16/09/2020	2:45	36	43	41	38	33	30	1.8	3.1	158	18	80	1017	0.0
16/09/2020	3:00	34	42	39	37	32	29	1.8	3.1	135	18	80	1017	0.0
16/09/2020	3:15	35	41	39	37	33	30	1.8	4.0	135	18	79	1017	0.0
16/09/2020	3:30	36	47	42	38	32	30	1.8	3.1	135	18	79	1017	0.0
16/09/2020	3:45	40	66	53	40	31	30	1.8	4.0	135	19	78	1017	0.0
16/09/2020	4:00	37	46	41	39	34	32	1.8	4.0	158	18	79	1017	0.0
16/09/2020	4:15	38	64	42	38	33	31	1.8	3.6	158	18	78	1017	0.0
16/09/2020	4:30	37	45	40	39	34	32	1.8	4.0	135	18	78	1017	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
16/09/2020	4:45	39	55	49	41	35	33	1.8	3.6	158	18	78	1017	0.0
16/09/2020	5:00	42	65	55	40	34	32	1.8	3.6	158	18	78	1017	0.0
16/09/2020	5:15	45	67	59	44	35	33	1.3	4.0	135	18	79	1017	0.0
16/09/2020	5:30	50	71	63	48	38	34	1.3	3.1	135	18	78	1017	0.0
16/09/2020	5:45	44	69	55	44	36	33	1.3	3.1	135	18	79	1018	0.0
16/09/2020	6:00	47	71	61	45	36	33	1.3	3.6	158	18	79	1018	0.0
16/09/2020	6:15	45	66	57	45	37	34	1.3	3.1	158	19	78	1018	0.0
16/09/2020	6:30	42	63	52	42	36	34	1.8	3.6	158	19	78	1019	0.0
16/09/2020	6:45	42	63	49	44	38	34	2.2	4.5	135	19	77	1019	0.0
16/09/2020	7:00	43	64	54	42	37	35	1.8	4.0	158	20	76	1019	0.0
16/09/2020	7:15	44	68	56	44	38	35	1.8	4.5	135	20	76	1019	0.0
16/09/2020	7:30	42	63	51	43	37	36	1.8	4.5	135	21	75	1019	0.0
16/09/2020	7:45	46	73	54	45	39	37	2.7	6.7	135	21	75	1019	0.0
16/09/2020	8:00	45	71	51	45	41	39	2.2	5.8	135	21	75	1020	0.0
16/09/2020	8:15	44	58	51	46	41	39	1.8	4.9	135	21	78	1020	0.0
16/09/2020	8:30	45	67	53	44	40	38	1.8	4.0	135	21	77	1020	0.0
16/09/2020	8:45	52	69	65	53	39	36	2.2	4.9	135	21	75	1020	0.0
16/09/2020	9:00	43	61	53	45	39	35	2.2	4.5	135	22	73	1020	0.0
16/09/2020	9:15	43	61	51	44	39	35	1.3	4.5	135	22	72	1020	0.0
16/09/2020	9:30	42	60	48	44	37	33	1.8	4.0	135	24	68	1020	0.0
16/09/2020	9:45	44	61	50	47	40	36	1.8	5.4	135	24	64	1019	0.0
16/09/2020	10:00	46	62	53	48	42	39	2.2	4.5	135	25	58	1019	0.0
16/09/2020	10:15	45	64	52	48	40	36	2.2	5.4	135	26	60	1019	0.0
16/09/2020	10:30	44	57	49	46	40	37	1.8	4.5	113	26	58	1019	0.0
16/09/2020	10:45	45	53	49	47	42	37	1.8	5.8	113	25	59	1019	0.0
16/09/2020	11:00	46	64	58	48	37	34	1.8	5.8	113	25	57	1019	0.0
16/09/2020	11:15	50	74	62	52	39	34	2.2	5.4	135	26	54	1018	0.0
16/09/2020	11:30	47	63	58	49	39	36	1.8	6.3	113	27	55	1018	0.0
16/09/2020	11:45	49	71	62	48	42	40	1.8	4.0	113	27	51	1018	0.0
16/09/2020	12:00	46	59	53	49	41	38	2.2	5.8	113	27	53	1018	0.0
16/09/2020	12:15	44	53	51	47	40	38	1.8	4.5	113	26	55	1018	0.0
16/09/2020	12:30	45	62	51	47	41	39	2.2	5.4	90	27	49	1017	0.0
16/09/2020	12:45	42	57	48	45	38	36	1.8	4.9	113	27	48	1017	0.0
16/09/2020	13:00	47	69	60	48	37	35	1.8	4.5	113	27	49	1017	0.0
16/09/2020	13:15	45	66	52	48	38	36	1.8	5.4	113	27	47	1017	0.0
16/09/2020	13:30	44	57	50	47	40	37	1.8	4.5	135	27	47	1016	0.0
16/09/2020	13:45	44	58	52	48	40	36	2.2	5.4	113	27	47	1016	0.0
16/09/2020	14:00	43	59	47	45	39	36	1.8	4.5	135	27	47	1016	0.0
16/09/2020	14:15	44	54	49	46	40	39	1.8	4.5	113	27	49	1016	0.0
16/09/2020	14:30	43	61	48	46	39	35	1.8	5.4	113	27	50	1016	0.0
16/09/2020	14:45	45	54	49	48	43	40	2.2	5.4	113	26	47	1016	0.0
16/09/2020	15:00	45	55	51	48	42	39	2.2	6.3	113	26	46	1016	0.0
16/09/2020	15:15	44	56	50	47	41	39	2.2	5.4	113	26	50	1016	0.0
16/09/2020	15:30	44	61	49	47	41	39	2.2	6.3	113	25	53	1016	0.0
16/09/2020	15:45	44	56	50	46	42	40	2.2	5.8	113	25	56	1016	0.0
16/09/2020	16:00	46	70	53	47	42	40	1.8	4.0	113	25	55	1016	0.0
16/09/2020	16:15	45	56	50	48	42	39	1.8	4.0	113	24	56	1016	0.0
16/09/2020	16:30	44	58	50	47	40	37	1.8	4.5	113	24	55	1016	0.0
16/09/2020	16:45	45	64	52	47	40	38	1.3	4.0	113	24	57	1017	0.0
16/09/2020	17:00	51	71	63	53	39	36	1.8	5.4	113	23	61	1017	0.0
16/09/2020	17:15	45	73	55	45	40	37	1.3	4.0	90	22	62	1017	0.0
16/09/2020	17:30	43	59	51	45	39	37	1.8	3.6	113	22	67	1017	0.0
16/09/2020	17:45	46	69	57	45	38	35	1.3	4.0	113	22	69	1017	0.0
16/09/2020	18:00	40	58	46	41	36	34	1.3	3.6	113	21	71	1017	0.0
16/09/2020	18:15	38	53	44	40	34	31	1.3	3.6	113	21	72	1018	0.0
16/09/2020	18:30	36	49	41	38	34	31	0.9	4.0	113	21	74	1018	0.0
16/09/2020	18:45	36	54	42	38	34	32	0.4	2.7	113	21	75	1018	0.0
16/09/2020	19:00	34	46	39	36	32	30	0.4	1.8	113	20	76	1018	0.0
16/09/2020	19:15	37	52	48	39	32	30	0.4	1.8	135	20	75	1018	0.0
16/09/2020	19:30	36	49	44	39	31	29	0.4	1.3	135	20	76	1018	0.0
16/09/2020	19:45	34	47	40	36	30	28	0.4	1.3	135	20	77	1018	0.0
16/09/2020	20:00	33	44	40	36	30	28	0.4	2.2	135	20	79	1019	0.0
16/09/2020	20:15	35	51	43	37	29	27	0.9	1.8	135	20	80	1019	0.0
16/09/2020	20:30	32	50	38	34	29	27	0.9	2.2	135	19	80	1019	0.0
16/09/2020	20:45	35	45	40	37	31	28	1.3	2.2	135	19	81	1019	0.0
16/09/2020	21:00	32	51	40	34	29	27	0.9	2.2	135	19	81	1019	0.0
16/09/2020	21:15	35	51	42	37	31	28	0.9	2.2	135	19	81	1019	0.0
16/09/2020	21:30	33	51	40	35	29	27	0.9	1.3	135	19	82	1019	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
16/09/2020 21:45	34	46	39	36	30	27	0.4	1.8	158	19	81	1019	0.0
16/09/2020 22:00	33	45	40	37	27	24	0.9	1.3	158	19	81	1019	0.0
16/09/2020 22:15	33	56	41	36	25	23	0.9	1.8	158	19	82	1019	0.0
16/09/2020 22:30	37	54	49	38	27	23	0.9	1.8	158	19	82	1019	0.0
16/09/2020 22:45	32	45	39	35	27	24	0.9	1.3	135	19	83	1019	0.0
16/09/2020 23:00	33	52	43	36	26	23	0.9	1.8	158	18	83	1019	0.0
16/09/2020 23:15	31	39	35	33	27	24	0.4	1.3	135	18	83	1019	0.0
16/09/2020 23:30	24	45	30	25	22	20	0.4	0.9	158	18	83	1019	0.0
16/09/2020 23:45	25	40	31	27	22	20	0.4	0.9	158	18	83	1019	0.0
17/09/2020 0:00	27	45	34	30	22	21	0.4	1.3	158	18	83	1018	0.0
17/09/2020 0:15	26	39	32	28	22	21	0.4	1.8	158	18	84	1018	0.0
17/09/2020 0:30	31	41	38	34	25	23	0.4	1.3	158	18	84	1018	0.0
17/09/2020 0:45	28	40	33	30	26	24	0.4	1.8	158	18	84	1018	0.0
17/09/2020 1:00	29	43	37	31	24	23	0.4	1.3	158	18	84	1017	0.0
17/09/2020 1:15	27	36	31	29	25	24	0.4	1.3	158	18	84	1017	0.0
17/09/2020 1:30	29	42	36	32	25	23	0.4	1.8	158	18	83	1017	0.0
17/09/2020 1:45	26	38	34	28	24	22	0.4	1.3	158	18	84	1017	0.0
17/09/2020 2:00	25	34	28	26	22	21	0.4	1.3	158	18	84	1017	0.0
17/09/2020 2:15	26	37	29	27	23	22	0.4	1.8	158	18	84	1017	0.0
17/09/2020 2:30	28	36	34	31	24	23	0.4	1.3	158	18	84	1017	0.0
17/09/2020 2:45	29	43	34	32	22	21	0.4	0.9	158	18	85	1016	0.0
17/09/2020 3:00	29	43	37	31	22	21	0.4	1.3	158	18	85	1016	0.0
17/09/2020 3:15	32	47	39	34	25	23	0.4	1.3	158	18	86	1016	0.0
17/09/2020 3:30	29	43	37	32	24	22	0.0	0.9	158	17	86	1016	0.0
17/09/2020 3:45	28	43	36	31	22	21	0.0	0.4	135	17	88	1016	0.0
17/09/2020 4:00	32	45	38	34	27	22	0.0	0.4	135	16	91	1017	0.0
17/09/2020 4:15	33	48	45	36	24	22	0.0	0.4	135	16	90	1017	0.0
17/09/2020 4:30	31	46	38	34	26	23	0.0	0.4	135	15	90	1017	0.0
17/09/2020 4:45	33	52	42	37	26	23	0.0	0.4	135	15	91	1017	0.0
17/09/2020 5:00	36	47	43	40	26	23	0.0	0.4	135	14	91	1017	0.0
17/09/2020 5:15	44	59	52	47	38	32	0.0	0.4	135	14	92	1017	0.0
17/09/2020 5:30	45	72	54	46	38	32	0.0	0.0	0	14	92	1017	0.0
17/09/2020 5:45	47	71	59	47	37	31	0.0	0.0	0	14	93	1017	0.0
17/09/2020 6:00	46	73	57	45	37	30	0.0	0.4	135	14	93	1017	0.0
17/09/2020 6:15	49	75	61	46	36	32	0.0	0.0	0	14	94	1017	0.0
17/09/2020 6:30	47	77	57	44	37	31	0.0	0.4	158	16	94	1018	0.0
17/09/2020 6:45	49	71	64	44	35	32	1.3	3.1	158	20	83	1018	0.0
17/09/2020 7:00	42	71	50	44	36	33	2.2	3.6	135	21	78	1018	0.0
17/09/2020 7:15	42	62	51	43	38	35	2.2	4.5	135	21	76	1018	0.0
17/09/2020 7:30	44	65	55	45	39	37	2.2	4.5	158	22	74	1018	0.0
17/09/2020 7:45	42	58	50	43	38	36	2.2	5.4	135	23	72	1019	0.0
17/09/2020 8:00	42	60	47	43	39	37	2.2	4.9	135	23	71	1019	0.0
17/09/2020 8:15	48	68	62	46	40	38	2.2	4.5	135	24	67	1019	0.0
17/09/2020 8:30	47	66	57	48	41	38	2.2	4.0	135	23	69	1019	0.0
17/09/2020 8:45	51	75	64	46	39	35	1.8	4.5	135	24	65	1019	0.0
17/09/2020 9:00	43	63	53	44	38	35	1.8	4.0	135	25	63	1019	0.0
17/09/2020 9:15	42	68	50	43	37	35	1.8	4.0	113	26	59	1019	0.0
17/09/2020 9:30	41	57	50	43	38	35	2.2	4.0	135	25	61	1019	0.0
17/09/2020 9:45	40	58	46	42	37	35	1.8	4.5	135	26	60	1019	0.0
17/09/2020 10:00	43	67	48	44	39	36	2.2	4.9	135	25	59	1019	0.0
17/09/2020 10:15	42	55	47	45	39	37	1.3	4.0	135	26	58	1019	0.0
17/09/2020 10:30	42	55	49	44	37	35	2.2	4.9	135	26	59	1018	0.0
17/09/2020 10:45	45	74	48	44	37	35	1.8	7.2	135	27	54	1018	0.0
17/09/2020 11:00	43	55	49	46	39	36	1.8	4.0	135	27	54	1018	0.0
17/09/2020 11:15	45	60	54	47	41	37	1.8	4.9	113	27	55	1018	0.0
17/09/2020 11:30	47	69	57	48	41	36	1.8	4.0	113	27	55	1018	0.0
17/09/2020 11:45	49	68	61	50	39	36	2.2	5.8	113	28	53	1017	0.0
17/09/2020 12:00	47	60	53	49	44	40	1.8	4.9	113	28	50	1017	0.0
17/09/2020 12:15	48	59	53	50	42	38	1.8	5.4	135	26	54	1017	0.0
17/09/2020 12:30	44	60	52	46	40	37	1.8	4.9	135	27	51	1017	0.0
17/09/2020 12:45	44	53	48	46	38	36	2.2	4.5	90	28	50	1016	0.0
17/09/2020 13:00	49	66	59	51	42	40	2.2	4.9	113	27	50	1016	0.0
17/09/2020 13:15	46	62	53	48	41	38	1.8	4.9	113	28	49	1016	0.0
17/09/2020 13:30	43	55	49	46	37	34	2.2	5.4	113	27	49	1016	0.0
17/09/2020 13:45	44	62	51	47	38	34	2.2	6.7	113	28	48	1016	0.0
17/09/2020 14:00	44	55	50	46	39	34	2.2	4.9	113	27	49	1016	0.0
17/09/2020 14:15	50	69	65	47	40	37	2.2	4.9	113	27	46	1016	0.0
17/09/2020 14:30	44	62	50	47	40	38	2.2	5.4	113	27	49	1015	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
17/09/2020 14:45	44	57	49	46	41	38	2.2	5.8	113	27	51	1015	0.0
17/09/2020 15:00	44	57	49	46	40	37	2.2	5.4	113	27	49	1015	0.0
17/09/2020 15:15	44	55	49	47	38	36	2.2	4.9	113	27	45	1015	0.0
17/09/2020 15:30	43	54	50	45	40	37	1.8	4.5	113	26	47	1016	0.0
17/09/2020 15:45	43	54	49	45	39	36	1.8	4.5	113	26	51	1016	0.0
17/09/2020 16:00	45	64	53	47	40	38	1.8	4.0	113	26	57	1016	0.0
17/09/2020 16:15	44	54	49	47	41	38	2.2	4.0	113	25	60	1016	0.0
17/09/2020 16:30	43	54	49	45	40	38	1.8	4.9	113	25	59	1016	0.0
17/09/2020 16:45	49	73	63	46	41	39	1.8	5.4	113	24	64	1016	0.0
17/09/2020 17:00	44	69	49	45	40	38	1.8	4.0	113	24	67	1016	0.0
17/09/2020 17:15	47	67	60	47	40	38	1.8	4.0	113	23	70	1016	0.0
17/09/2020 17:30	44	67	49	46	39	37	1.3	4.0	113	22	73	1017	0.0
17/09/2020 17:45	42	64	52	43	39	36	1.8	3.6	113	22	75	1017	0.0
17/09/2020 18:00	48	68	59	50	39	37	0.9	3.1	113	21	77	1017	0.0
17/09/2020 18:15	41	64	54	40	35	32	0.9	2.7	113	21	78	1017	0.0
17/09/2020 18:30	36	48	40	38	35	33	0.9	2.7	113	21	79	1017	0.0
17/09/2020 18:45	40	62	50	39	34	32	0.4	1.8	113	21	81	1017	0.0
17/09/2020 19:00	38	58	43	40	34	32	0.4	1.8	113	21	83	1018	0.0
17/09/2020 19:15	38	50	46	41	34	31	0.4	1.8	113	20	84	1018	0.0
17/09/2020 19:30	40	58	48	43	33	31	0.0	0.9	135	20	85	1018	0.0
17/09/2020 19:45	44	50	47	47	34	30	0.0	0.4	135	20	85	1018	0.0
17/09/2020 20:00	42	48	47	46	33	30	0.0	0.9	135	21	84	1019	0.0
17/09/2020 20:15	36	46	41	39	33	30	0.0	0.9	135	21	83	1019	0.0
17/09/2020 20:30	37	51	41	39	35	31	0.0	0.9	135	20	83	1019	0.0
17/09/2020 20:45	37	57	41	38	31	29	0.0	0.4	135	20	85	1019	0.0
17/09/2020 21:00	34	46	39	36	30	28	0.4	0.9	135	20	86	1019	0.0
17/09/2020 21:15	36	46	41	38	30	28	0.4	0.9	158	20	86	1019	0.0
17/09/2020 21:30	34	45	40	37	30	28	0.4	0.9	158	20	86	1019	0.0
17/09/2020 21:45	33	45	39	36	30	27	0.4	1.3	158	20	87	1019	0.0
17/09/2020 22:00	34	50	41	37	31	28	0.9	1.8	135	20	86	1019	0.0
17/09/2020 22:15	33	48	39	35	29	28	0.9	2.2	135	20	86	1019	0.0
17/09/2020 22:30	45	65	61	40	29	26	0.9	2.2	135	20	86	1019	0.0
17/09/2020 22:45	30	41	37	33	25	23	0.4	1.3	158	19	87	1019	0.0
17/09/2020 23:00	30	45	37	32	25	23	0.4	1.3	158	19	87	1019	0.0
17/09/2020 23:15	29	43	35	31	26	24	0.9	1.8	158	19	88	1019	0.0
17/09/2020 23:30	30	46	38	34	25	23	0.4	1.3	158	19	88	1018	0.0
17/09/2020 23:45	28	40	35	30	23	22	0.4	1.3	158	19	88	1018	0.0
18/09/2020 0:00	29	44	37	31	24	21	0.4	1.3	158	19	89	1018	0.0
18/09/2020 0:15	29	49	40	30	23	21	0.9	1.8	158	19	89	1018	0.0
18/09/2020 0:30	26	39	32	28	23	21	0.9	2.2	158	19	89	1018	0.0
18/09/2020 0:45	30	49	39	34	23	22	0.4	1.3	158	19	88	1018	0.0
18/09/2020 1:00	30	48	37	32	26	21	0.4	1.3	158	18	89	1018	0.0
18/09/2020 1:15	27	42	35	30	23	22	0.4	1.3	158	18	88	1017	0.0
18/09/2020 1:30	24	37	27	25	23	21	0.4	1.8	158	18	88	1017	0.0
18/09/2020 1:45	27	38	32	29	25	23	0.9	2.2	158	18	88	1017	0.0
18/09/2020 2:00	30	46	39	33	24	23	0.9	2.2	135	18	88	1017	0.0
18/09/2020 2:15	30	44	39	32	25	23	0.9	2.2	135	18	87	1017	0.0
18/09/2020 2:30	33	50	44	37	23	21	0.9	2.7	135	18	88	1017	0.0
18/09/2020 2:45	27	43	36	29	22	21	1.3	3.1	135	18	88	1017	0.0
18/09/2020 3:00	28	45	35	31	24	22	1.3	3.1	135	18	88	1016	0.0
18/09/2020 3:15	30	59	35	31	25	24	1.3	2.7	158	18	88	1017	0.0
18/09/2020 3:30	32	48	38	33	27	24	0.9	1.8	135	18	89	1017	0.0
18/09/2020 3:45	32	50	39	33	27	24	0.4	2.2	135	18	89	1017	0.0
18/09/2020 4:00	29	44	35	31	24	23	0.9	2.2	158	18	89	1017	0.0
18/09/2020 4:15	33	47	43	36	26	24	0.4	0.9	135	18	89	1017	0.0
18/09/2020 4:30	32	51	40	34	25	23	0.4	1.8	158	18	88	1017	0.0
18/09/2020 4:45	44	65	58	40	28	25	0.4	1.3	158	18	88	1018	0.0
18/09/2020 5:00	41	63	51	40	32	28	0.4	1.3	135	18	88	1018	0.0
18/09/2020 5:15	42	63	54	43	35	29	0.4	1.3	158	18	88	1018	0.0
18/09/2020 5:30	43	63	53	44	35	30	0.4	1.3	158	17	88	1018	0.0
18/09/2020 5:45	43	67	56	42	34	29	0.4	1.3	158	18	87	1018	0.0
18/09/2020 6:00	44	66	57	43	34	28	0.4	1.8	158	18	87	1018	0.0
18/09/2020 6:15	47	73	62	44	35	30	0.9	1.8	135	19	85	1018	0.0
18/09/2020 6:30	50	75	62	47	38	32	1.3	2.7	158	20	82	1018	0.0
18/09/2020 6:45	47	73	61	43	37	34	1.3	3.1	135	20	80	1019	0.0
18/09/2020 7:00	40	60	50	42	36	34	2.2	4.0	135	21	78	1019	0.0
18/09/2020 7:15	50	75	62	45	38	36	2.2	4.0	135	22	76	1019	0.0
18/09/2020 7:30	43	64	51	46	39	36	2.2	4.9	135	22	73	1019	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
18/09/2020 7:45	48	68	55	51	43	40	2.2	4.0	135	23	72	1019	0.0
18/09/2020 8:00	49	68	61	49	41	37	2.2	4.5	135	23	71	1019	0.0
18/09/2020 8:15	50	70	57	52	44	41	2.2	4.9	135	23	68	1019	0.0
18/09/2020 8:30	48	66	56	50	43	40	2.7	6.7	135	24	68	1019	0.0
18/09/2020 8:45	49	65	55	52	45	41	2.2	5.4	135	24	64	1019	0.0
18/09/2020 9:00	48	74	56	50	43	39	2.2	6.3	135	24	66	1019	0.0
18/09/2020 9:15	47	65	53	49	43	40	2.2	5.8	135	25	64	1019	0.0
18/09/2020 9:30	47	62	55	50	41	38	2.2	4.9	135	25	62	1019	0.0
18/09/2020 9:45	48	65	56	50	42	38	2.2	5.8	135	26	58	1019	0.0
18/09/2020 10:00	47	66	54	50	41	38	2.2	4.9	135	26	57	1019	0.0
18/09/2020 10:15	46	63	53	49	41	37	2.2	5.4	135	25	58	1019	0.0
18/09/2020 10:30	47	70	56	49	41	38	2.2	4.9	135	25	57	1019	0.0
18/09/2020 10:45	50	79	56	51	42	38	2.7	6.3	135	26	57	1018	0.0
18/09/2020 11:00	47	63	57	49	41	39	2.2	4.9	135	27	54	1018	0.0
18/09/2020 11:15	48	62	54	50	45	42	2.2	4.5	135	27	49	1018	0.0
18/09/2020 11:30	49	63	56	51	46	41	2.2	6.3	135	27	52	1018	0.0
18/09/2020 11:45	50	71	63	50	42	38	2.2	5.4	113	27	53	1018	0.0
18/09/2020 12:00	48	63	57	50	43	39	1.8	4.9	113	27	51	1017	0.0
18/09/2020 12:15	45	59	52	48	40	35	1.8	5.4	135	27	52	1017	0.0
18/09/2020 12:30	43	54	49	46	39	36	1.8	4.9	113	27	51	1017	0.0
18/09/2020 12:45	43	60	49	46	39	37	2.2	5.8	135	26	56	1017	0.0
18/09/2020 13:00	44	61	53	46	39	35	1.8	4.5	135	27	53	1017	0.0
18/09/2020 13:15	43	55	48	46	39	35	2.2	6.7	90	27	49	1016	0.0
18/09/2020 13:30	45	55	51	48	41	38	2.2	5.8	135	27	50	1016	0.0
18/09/2020 13:45	47	58	53	50	41	38	2.7	6.3	113	27	50	1016	0.0
18/09/2020 14:00	46	53	51	49	41	39	2.7	5.8	90	27	52	1016	0.0
18/09/2020 14:15	46	59	51	48	43	40	2.2	5.4	113	26	56	1016	0.0
18/09/2020 14:30	49	67	55	52	44	40	2.7	5.8	113	26	55	1016	0.0
18/09/2020 14:45	48	73	53	50	44	42	2.2	4.5	113	26	54	1016	0.0
18/09/2020 15:00	49	69	59	50	43	40	2.7	6.7	113	26	55	1016	0.0
18/09/2020 15:15	48	59	54	51	44	42	2.7	5.4	113	26	57	1016	0.0
18/09/2020 15:30	50	60	55	53	47	44	2.7	6.3	113	26	54	1016	0.0
18/09/2020 15:45	50	69	62	50	44	41	2.7	5.8	113	25	60	1016	0.0
18/09/2020 16:00	48	64	54	50	44	41	1.8	5.4	113	25	61	1016	0.0
18/09/2020 16:15	46	55	51	48	42	39	1.8	4.9	113	24	64	1016	0.0
18/09/2020 16:30	47	61	57	49	40	38	1.8	4.9	113	23	68	1017	0.0
18/09/2020 16:45	43	57	49	45	40	37	1.3	4.0	113	23	70	1017	0.0
18/09/2020 17:00	50	62	56	54	39	37	2.7	8.0	113	20	80	1017	0.2
18/09/2020 17:15	50	61	55	53	44	40	1.8	5.4	113	19	87	1017	0.0
18/09/2020 17:30	42	58	48	44	38	36	0.4	2.2	113	19	87	1017	0.0
18/09/2020 17:45	44	59	53	46	38	35	0.0	0.9	135	19	87	1017	0.0
18/09/2020 18:00	41	57	49	43	37	34	0.0	0.9	135	19	86	1017	0.0
18/09/2020 18:15	40	55	46	42	36	33	0.4	1.3	135	20	85	1017	0.0
18/09/2020 18:30	39	51	45	41	35	32	0.4	2.2	135	20	85	1018	0.0
18/09/2020 18:45	39	54	43	41	36	33	0.4	1.8	135	20	85	1018	0.0
18/09/2020 19:00	38	47	43	41	34	32	0.4	1.3	135	20	85	1018	0.0
18/09/2020 19:15	36	49	42	38	34	31	0.4	1.3	135	20	85	1018	0.0
18/09/2020 19:30	41	53	47	44	34	31	0.4	1.3	135	20	85	1018	0.0
18/09/2020 19:45	36	48	44	39	32	30	0.4	1.3	135	20	85	1018	0.0
18/09/2020 20:00	36	53	41	39	32	30	0.9	1.8	135	20	84	1018	0.0
18/09/2020 20:15	36	48	41	38	33	29	0.4	1.8	135	20	84	1018	0.0
18/09/2020 20:30	37	54	47	39	33	29	0.9	2.7	135	20	82	1018	0.0
18/09/2020 20:45	36	45	40	38	33	32	1.3	3.6	135	20	82	1018	0.0
18/09/2020 21:00	35	46	40	37	32	30	0.9	3.1	135	20	81	1018	0.0
18/09/2020 21:15	34	43	39	36	32	30	1.3	3.1	135	20	80	1018	0.0
18/09/2020 21:30	34	48	40	37	30	28	0.9	2.7	135	20	79	1018	0.0
18/09/2020 21:45	33	48	39	35	29	27	0.9	2.2	135	19	80	1018	0.0
18/09/2020 22:00	34	47	42	37	29	25	0.9	2.2	135	19	80	1018	0.0
18/09/2020 22:15	35	50	42	37	30	28	0.4	1.3	135	19	81	1018	0.0
18/09/2020 22:30	30	39	36	32	27	24	0.4	1.8	135	18	80	1017	0.0
18/09/2020 22:45	35	42	39	37	28	24	0.9	1.8	135	18	80	1017	0.0
18/09/2020 23:00	36	47	41	38	30	26	0.9	3.1	158	19	79	1017	0.0
18/09/2020 23:15	31	46	36	33	28	24	0.9	2.2	135	19	79	1017	0.0
18/09/2020 23:30	33	47	38	34	28	25	1.3	2.7	135	19	80	1017	0.0
18/09/2020 23:45	33	51	41	35	29	26	1.3	2.7	135	19	80	1017	0.0
19/09/2020 0:00	29	41	35	32	27	25	1.3	3.1	135	19	80	1017	0.0
19/09/2020 0:15	33	42	38	35	31	29	1.8	3.6	135	19	79	1017	0.0
19/09/2020 0:30	36	58	45	37	32	30	1.8	4.0	135	19	79	1017	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
19/09/2020 0:45	36	44	41	38	33	30	2.2	5.4	135	19	79	1016	0.0
19/09/2020 1:00	39	55	46	41	35	33	1.8	4.0	135	19	78	1016	0.0
19/09/2020 1:15	38	52	45	41	33	31	1.3	3.1	135	19	78	1016	0.0
19/09/2020 1:30	34	45	39	36	32	30	1.8	3.6	135	19	78	1016	0.0
19/09/2020 1:45	34	44	38	36	32	30	1.8	4.0	135	19	78	1016	0.0
19/09/2020 2:00	35	45	40	37	32	30	1.8	4.5	135	19	78	1016	0.0
19/09/2020 2:15	34	39	38	36	32	30	1.8	4.0	135	19	77	1016	0.0
19/09/2020 2:30	35	44	40	37	32	30	1.3	3.6	135	19	77	1016	0.0
19/09/2020 2:45	34	46	42	36	30	28	1.8	3.1	135	20	76	1016	0.0
19/09/2020 3:00	35	43	41	37	33	31	1.8	3.6	135	20	76	1016	0.0
19/09/2020 3:15	33	44	39	35	30	29	1.3	2.7	135	20	76	1016	0.0
19/09/2020 3:30	34	60	42	36	29	28	1.3	3.1	135	19	77	1016	0.0
19/09/2020 3:45	32	45	37	34	29	27	0.4	1.8	135	19	78	1016	0.0
19/09/2020 4:00	30	47	37	32	27	24	0.9	1.8	135	19	77	1016	0.0
19/09/2020 4:15	32	50	38	35	29	25	0.9	2.7	135	19	77	1016	0.0
19/09/2020 4:30	36	64	41	33	28	26	0.9	2.2	135	19	77	1016	0.0
19/09/2020 4:45	34	54	43	37	29	26	1.3	3.1	135	19	77	1016	0.0
19/09/2020 5:00	42	66	54	39	30	27	0.9	2.7	135	19	77	1016	0.0
19/09/2020 5:15	41	62	51	42	35	32	1.3	3.1	135	19	78	1016	0.0
19/09/2020 5:30	50	77	62	48	37	33	1.3	4.0	135	19	79	1016	0.0
19/09/2020 5:45	41	66	52	43	32	29	1.8	3.1	135	19	77	1016	0.0
19/09/2020 6:00	39	59	49	41	34	31	1.3	3.1	135	19	76	1016	0.0
19/09/2020 6:15	49	69	62	47	34	31	1.3	3.6	135	19	76	1017	0.0
19/09/2020 6:30	44	66	57	44	35	33	1.8	3.6	135	20	76	1017	0.0
19/09/2020 6:45	40	58	50	42	36	33	1.8	3.6	135	20	75	1017	0.0
19/09/2020 7:00	45	68	55	46	38	35	1.8	4.5	135	21	73	1017	0.0
19/09/2020 7:15	46	69	59	46	39	36	2.2	5.8	135	21	74	1017	0.0
19/09/2020 7:30	43	57	49	45	40	37	2.7	6.3	135	22	71	1017	0.0
19/09/2020 7:45	46	68	51	48	42	39	2.7	6.3	135	22	70	1017	0.0
19/09/2020 8:00	47	52	50	49	44	41	2.7	5.8	135	22	72	1018	0.0
19/09/2020 8:15	44	65	51	45	40	37	2.7	6.3	135	22	71	1017	0.0
19/09/2020 8:30	45	61	51	48	41	39	2.2	5.4	135	22	71	1017	0.0
19/09/2020 8:45	44	61	50	46	41	38	2.2	4.9	135	23	70	1018	0.0
19/09/2020 9:00	47	66	56	49	42	40	2.2	5.4	135	23	71	1018	0.0
19/09/2020 9:15	46	60	52	48	42	39	2.2	4.9	135	23	71	1018	0.0
19/09/2020 9:30	46	56	51	49	43	41	2.7	5.8	135	23	70	1017	0.0
19/09/2020 9:45	46	59	51	48	42	40	2.7	6.7	135	22	73	1017	0.0
19/09/2020 10:00	48	66	59	49	41	38	2.2	5.4	135	23	69	1017	0.0
19/09/2020 10:15	49	71	59	50	42	39	2.7	6.3	135	23	65	1017	0.0
19/09/2020 10:30	50	58	55	52	46	43	2.7	6.3	135	24	65	1017	0.0
19/09/2020 10:45	49	56	53	51	47	45	2.2	5.4	135	24	65	1016	0.0
19/09/2020 11:00	47	58	51	49	43	41	2.2	5.8	135	24	64	1016	0.0
19/09/2020 11:15	49	57	54	52	45	44	2.2	4.9	113	24	61	1016	0.0
19/09/2020 11:30	47	63	55	50	43	41	2.2	5.4	113	24	61	1016	0.0
19/09/2020 11:45	49	60	56	52	43	41	2.7	6.7	135	24	60	1016	0.0
19/09/2020 12:00	46	62	50	48	43	42	2.2	5.4	135	24	59	1016	0.0
19/09/2020 12:15	49	57	53	51	45	43	2.7	7.6	113	24	58	1015	0.0
19/09/2020 12:30	47	54	51	49	45	43	2.7	5.4	113	24	59	1015	0.0
19/09/2020 12:45	47	59	52	50	45	43	1.8	4.5	113	25	56	1015	0.0
19/09/2020 13:00	46	56	50	48	43	41	1.8	4.9	135	24	57	1015	0.0
19/09/2020 13:15	46	62	51	48	42	40	2.2	5.8	113	25	57	1015	0.0
19/09/2020 13:30	49	72	61	48	43	40	2.2	4.9	135	25	55	1014	0.0
19/09/2020 13:45	47	63	54	49	43	39	2.2	4.9	135	25	56	1014	0.0
19/09/2020 14:00	46	56	53	49	42	40	2.2	5.4	135	25	55	1014	0.0
19/09/2020 14:15	52	65	60	55	45	42	2.7	6.3	113	26	55	1014	0.0
19/09/2020 14:30	49	59	56	52	45	43	2.2	5.8	135	26	52	1013	0.0
19/09/2020 14:45	49	60	55	51	45	42	2.7	6.7	113	26	53	1013	0.0
19/09/2020 15:00	50	58	55	53	44	42	2.7	6.7	113	25	54	1013	0.0
19/09/2020 15:15	46	55	51	49	43	41	2.2	6.3	113	26	55	1013	0.0
19/09/2020 15:30	46	57	52	49	43	40	2.2	7.2	113	25	53	1014	0.0
19/09/2020 15:45	47	63	53	50	43	39	1.8	4.5	135	25	54	1014	0.0
19/09/2020 16:00	45	59	51	48	41	38	1.8	4.5	113	24	58	1014	0.0
19/09/2020 16:15	50	69	64	51	38	34	1.8	3.6	113	24	57	1014	0.0
19/09/2020 16:30	44	62	54	45	38	34	1.8	4.5	113	23	59	1015	0.0
19/09/2020 16:45	42	59	50	45	37	34	1.3	3.6	113	23	60	1015	0.0
19/09/2020 17:00	43	63	53	46	37	34	1.3	3.6	113	23	62	1015	0.0
19/09/2020 17:15	43	63	53	46	37	32	1.3	3.6	113	23	64	1015	0.0
19/09/2020 17:30	39	54	48	42	36	32	0.4	1.8	113	22	66	1015	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
19/09/2020 17:45	50	71	65	47	31	27	0.4	2.2	135	22	67	1015	0.0
19/09/2020 18:00	49	70	62	48	32	29	0.4	1.8	135	22	69	1016	0.0
19/09/2020 18:15	33	45	41	35	29	26	0.4	2.2	113	22	69	1016	0.0
19/09/2020 18:30	35	50	40	37	32	28	0.9	2.7	113	22	68	1016	0.0
19/09/2020 18:45	35	49	39	37	34	32	0.9	2.2	135	22	68	1016	0.0
19/09/2020 19:00	39	52	45	43	34	32	0.9	2.2	135	22	68	1016	0.0
19/09/2020 19:15	36	59	43	36	32	30	0.4	2.2	135	21	69	1016	0.0
19/09/2020 19:30	36	57	49	36	31	30	0.0	1.3	135	21	70	1016	0.0
19/09/2020 19:45	34	55	41	35	31	29	0.0	0.9	113	21	71	1017	0.0
19/09/2020 20:00	33	49	41	36	29	27	0.0	0.9	90	21	73	1017	0.0
19/09/2020 20:15	34	59	42	35	29	27	0.0	0.4	135	21	74	1017	0.0
19/09/2020 20:30	34	55	42	36	29	28	0.4	1.3	113	21	74	1017	0.0
19/09/2020 20:45	33	48	39	35	30	27	0.4	1.3	113	21	76	1016	0.0
19/09/2020 21:00	33	46	38	34	31	29	0.9	2.7	113	21	76	1016	0.0
19/09/2020 21:15	33	48	37	34	30	29	0.9	3.1	113	21	78	1016	0.0
19/09/2020 21:30	33	52	38	34	28	26	0.9	3.1	113	21	79	1016	0.0
19/09/2020 21:45	34	52	40	36	31	29	0.4	1.8	135	20	82	1016	0.0
19/09/2020 22:00	34	46	39	37	30	27	0.9	3.6	113	20	84	1015	0.0
19/09/2020 22:15	36	46	43	38	33	30	0.9	2.7	135	20	85	1015	0.0
19/09/2020 22:30	35	47	39	37	32	29	1.3	3.1	135	20	84	1014	0.0
19/09/2020 22:45	36	45	41	39	34	32	0.9	2.7	135	20	84	1014	0.0
19/09/2020 23:00	36	44	41	38	34	31	1.3	3.6	135	20	84	1015	0.0
19/09/2020 23:15	31	48	37	33	29	27	0.9	2.7	158	20	85	1015	0.0
19/09/2020 23:30	28	43	32	29	26	24	0.4	1.3	158	20	85	1015	0.0
19/09/2020 23:45	30	50	38	33	27	25	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:00	29	47	35	30	26	24	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:15	29	51	37	28	26	24	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:30	27	39	34	30	24	23	0.4	1.3	158	20	85	1015	0.0
20/09/2020 0:45	30	42	36	33	27	26	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:00	31	52	38	33	28	26	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:15	31	43	39	32	28	26	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:30	29	52	39	31	24	22	0.4	1.3	158	20	85	1015	0.0
20/09/2020 1:45	30	44	39	33	24	22	0.9	2.7	135	19	89	1013	0.0
20/09/2020 2:00	29	42	32	31	26	25	0.9	3.1	135	19	88	1013	0.0
20/09/2020 2:15	24	44	32	26	21	19	0.4	1.3	158	19	89	1013	0.0
20/09/2020 2:30	27	41	35	30	22	21	0.0	0.4	158	18	90	1013	0.0
20/09/2020 2:45	26	50	36	29	21	19	0.0	0.9	158	18	90	1013	0.0
20/09/2020 3:00	28	40	34	31	23	21	0.4	1.3	158	18	89	1012	0.0
20/09/2020 3:15	26	42	33	28	24	22	0.4	1.3	158	18	90	1012	0.0
20/09/2020 3:30	23	46	26	25	21	20	0.4	1.3	158	18	89	1012	0.0
20/09/2020 3:45	29	43	37	31	26	23	0.9	1.3	158	18	89	1012	0.0
20/09/2020 4:00	30	49	41	34	21	20	0.4	1.3	135	19	89	1013	0.0
20/09/2020 4:15	26	44	32	29	23	21	0.4	1.3	158	18	89	1012	0.0
20/09/2020 4:30	33	54	40	35	25	23	0.4	1.8	135	18	90	1013	0.0
20/09/2020 4:45	31	44	39	34	27	24	0.4	1.8	158	18	90	1013	0.0
20/09/2020 5:00	43	64	57	41	25	22	0.4	1.3	158	18	90	1013	0.0
20/09/2020 5:15	43	59	52	46	34	25	0.4	1.3	158	18	91	1013	0.0
20/09/2020 5:30	45	71	58	41	31	27	0.0	0.9	158	18	91	1013	0.0
20/09/2020 5:45	44	63	56	46	33	27	0.0	0.4	158	18	91	1013	0.0
20/09/2020 6:00	50	71	65	46	33	27	0.0	0.4	158	18	92	1014	0.0
20/09/2020 6:15	45	67	58	44	31	26	0.0	0.9	158	19	91	1014	0.0
20/09/2020 6:30	38	56	47	41	32	28	0.4	1.3	158	19	89	1014	0.0
20/09/2020 6:45	41	62	53	41	31	27	0.9	2.2	135	20	87	1014	0.0
20/09/2020 7:00	45	71	56	38	31	28	0.9	2.2	135	21	85	1014	0.0
20/09/2020 7:15	40	67	51	40	30	27	0.9	2.2	135	22	82	1014	0.0
20/09/2020 7:30	40	60	50	43	32	28	1.3	3.6	135	22	80	1014	0.0
20/09/2020 7:45	40	65	51	40	31	28	0.9	2.7	135	23	78	1014	0.0
20/09/2020 8:00	35	57	45	36	29	27	0.9	3.1	113	24	74	1014	0.0
20/09/2020 8:15	35	58	43	37	29	26	0.9	2.2	135	24	73	1014	0.0
20/09/2020 8:30	36	59	44	37	31	27	0.9	2.2	135	25	69	1015	0.0
20/09/2020 8:45	45	72	57	45	30	26	0.9	2.7	135	25	66	1014	0.0
20/09/2020 9:00	36	54	46	38	30	27	0.9	1.8	135	26	64	1015	0.0
20/09/2020 9:15	41	69	52	39	30	26	0.9	1.8	135	25	66	1014	0.0
20/09/2020 9:30	36	53	45	39	30	27	0.9	2.2	135	25	65	1015	0.0
20/09/2020 9:45	36	56	47	38	29	26	0.9	2.7	158	26	63	1014	0.0
20/09/2020 10:00	39	60	50	42	31	27	1.3	3.1	158	26	61	1014	0.0
20/09/2020 10:15	41	71	51	41	30	27	1.3	2.7	203	26	60	1014	0.0
20/09/2020 10:30	40	54	50	44	29	26	0.9	2.2	158	26	60	1014	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
20/09/2020 10:45	34	56	44	36	28	26	0.9	1.8	135	27	55	1014	0.0
20/09/2020 11:00	49	63	58	56	30	28	0.9	2.2	158	27	57	1013	0.0
20/09/2020 11:15	51	64	59	55	32	28	1.3	3.6	90	28	55	1013	0.0
20/09/2020 11:30	54	71	63	58	36	30	1.3	3.6	68	29	54	1013	0.0
20/09/2020 11:45	38	63	46	41	32	29	1.3	3.1	158	29	54	1013	0.0
20/09/2020 12:00	42	70	52	44	33	29	1.3	4.0	293	29	51	1012	0.0
20/09/2020 12:15	39	58	49	41	33	29	1.3	3.1	135	28	53	1012	0.0
20/09/2020 12:30	45	69	55	47	34	29	1.3	3.1	113	29	53	1012	0.0
20/09/2020 12:45	39	58	49	42	32	28	1.3	3.6	135	29	55	1011	0.0
20/09/2020 13:00	49	71	63	48	33	28	1.8	4.0	68	29	51	1011	0.0
20/09/2020 13:15	49	69	61	50	33	29	1.3	3.1	90	28	54	1011	0.0
20/09/2020 13:30	40	64	47	42	34	30	1.3	3.1	113	28	53	1011	0.0
20/09/2020 13:45	37	54	47	40	31	28	0.9	3.1	135	29	53	1010	0.0
20/09/2020 14:00	43	68	55	45	33	29	1.8	3.1	113	29	53	1010	0.0
20/09/2020 14:15	44	63	56	44	36	33	1.3	4.0	135	29	54	1010	0.0
20/09/2020 14:30	40	54	46	42	36	32	1.3	4.5	113	29	53	1010	0.0
20/09/2020 14:45	40	62	48	42	34	30	1.8	3.6	135	29	53	1010	0.0
20/09/2020 15:00	40	58	46	42	36	31	1.3	3.1	135	29	52	1009	0.0
20/09/2020 15:15	46	67	55	48	39	33	1.8	3.6	113	29	54	1009	0.0
20/09/2020 15:30	46	72	58	46	37	34	1.8	4.5	113	28	54	1009	0.0
20/09/2020 15:45	42	69	47	43	37	34	1.8	4.5	90	28	56	1009	0.0
20/09/2020 16:00	41	53	45	43	37	35	2.2	4.5	90	27	57	1009	0.0
20/09/2020 16:15	40	62	45	42	38	36	1.8	4.0	90	27	58	1010	0.0
20/09/2020 16:30	43	68	52	45	38	35	1.8	4.0	113	27	58	1010	0.0
20/09/2020 16:45	47	75	56	46	38	35	1.3	3.6	113	26	59	1010	0.0
20/09/2020 17:00	44	62	55	46	38	34	1.3	4.0	113	25	63	1010	0.0
20/09/2020 17:15	43	60	54	43	37	34	1.3	3.1	113	24	68	1010	0.0
20/09/2020 17:30	40	60	50	43	35	32	1.3	3.6	113	23	73	1010	0.0
20/09/2020 17:45	40	62	50	42	34	30	0.9	3.1	113	23	76	1010	0.0
20/09/2020 18:00	49	82	59	42	34	32	0.9	3.1	113	22	78	1010	0.0
20/09/2020 18:15	40	61	52	41	32	29	0.9	2.7	135	22	79	1010	0.0
20/09/2020 18:30	37	55	45	38	34	32	0.9	2.7	135	22	80	1011	0.0
20/09/2020 18:45	37	60	41	38	35	32	1.3	2.7	135	22	81	1011	0.0
20/09/2020 19:00	37	48	41	38	35	31	1.3	3.6	135	21	82	1011	0.0
20/09/2020 19:15	39	59	50	39	36	33	0.9	2.7	135	21	82	1011	0.0
20/09/2020 19:30	37	51	46	39	33	31	1.3	2.7	135	21	84	1011	0.0
20/09/2020 19:45	35	42	39	37	32	30	0.9	1.8	135	21	84	1012	0.0
20/09/2020 20:00	37	48	43	39	34	31	0.9	1.8	135	21	85	1012	0.0
20/09/2020 20:15	37	52	46	38	32	29	0.4	1.3	135	21	85	1012	0.0
20/09/2020 20:30	36	52	43	38	32	28	0.0	0.4	158	20	87	1012	0.0
20/09/2020 20:45	36	52	43	39	32	27	0.4	0.9	158	20	88	1012	0.0
20/09/2020 21:00	36	46	40	38	33	26	0.4	0.9	158	20	89	1012	0.0
20/09/2020 21:15	36	46	42	39	32	26	0.4	1.3	135	20	88	1012	0.0
20/09/2020 21:30	34	45	39	36	30	27	0.4	1.3	135	20	89	1012	0.0
20/09/2020 21:45	33	45	39	36	27	24	0.9	1.8	158	20	89	1012	0.0
20/09/2020 22:00	29	44	37	32	25	23	0.4	0.9	158	19	89	1012	0.0
20/09/2020 22:15	34	47	42	39	24	22	0.4	0.9	135	19	90	1012	0.0
20/09/2020 22:30	28	43	36	31	24	22	0.0	0.9	158	19	90	1012	0.0
20/09/2020 22:45	32	44	37	33	29	25	0.0	0.4	158	19	90	1012	0.0
20/09/2020 23:00	27	37	32	30	24	21	0.0	0.4	158	19	92	1012	0.0
20/09/2020 23:15	27	40	32	29	22	21	0.4	0.9	135	19	92	1012	0.0
20/09/2020 23:30	27	42	33	29	24	22	0.4	0.9	158	19	92	1012	0.0
20/09/2020 23:45	30	43	36	32	26	24	0.4	0.9	158	19	92	1012	0.0
21/09/2020 0:00	27	38	32	30	24	22	0.4	0.9	158	19	92	1012	0.0
21/09/2020 0:15	29	44	34	31	26	22	0.4	0.9	158	19	92	1012	0.0
21/09/2020 0:30	27	41	34	29	23	22	0.4	0.9	158	19	92	1011	0.0
21/09/2020 0:45	35	51	45	38	28	22	0.9	1.8	135	19	91	1011	0.0
21/09/2020 1:00	32	51	43	35	27	25	0.4	1.3	135	19	92	1011	0.0
21/09/2020 1:15	31	42	38	35	24	22	0.4	0.9	135	19	92	1011	0.0
21/09/2020 1:30	32	44	41	35	25	23	0.4	0.9	135	19	92	1011	0.0
21/09/2020 1:45	33	44	40	37	24	22	0.0	0.4	135	19	93	1011	0.0
21/09/2020 2:00	33	46	41	37	27	23	0.4	0.9	158	19	93	1011	0.0
21/09/2020 2:15	30	42	37	33	27	23	0.4	0.9	158	19	92	1011	0.0
21/09/2020 2:30	30	45	38	33	25	23	0.4	0.9	158	20	92	1011	0.0
21/09/2020 2:45	29	53	35	30	25	22	0.4	0.9	135	20	92	1010	0.0
21/09/2020 3:00	30	46	35	33	25	22	0.4	1.3	158	20	91	1010	0.0
21/09/2020 3:15	33	45	40	36	26	23	0.4	1.8	158	20	91	1010	0.0
21/09/2020 3:30	31	46	37	35	26	22	0.4	1.3	158	20	91	1010	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
21/09/2020 3:45	28	51	36	31	24	22	0.4	1.8	135	20	91	1010	0.0
21/09/2020 4:00	31	52	39	33	25	24	0.4	1.8	135	20	91	1011	0.0
21/09/2020 4:15	32	48	40	34	24	22	0.4	1.3	135	20	91	1011	0.0
21/09/2020 4:30	31	43	38	34	27	24	0.9	1.8	135	20	91	1011	0.0
21/09/2020 4:45	38	56	50	38	30	26	0.4	1.8	135	19	92	1011	0.0
21/09/2020 5:00	40	57	51	42	32	28	0.4	1.8	135	19	93	1011	0.0
21/09/2020 5:15	50	73	63	52	38	33	0.4	1.3	135	19	93	1011	0.0
21/09/2020 5:30	47	63	60	49	37	33	0.4	1.8	135	19	93	1012	0.0
21/09/2020 5:45	43	69	53	45	35	31	0.4	0.9	158	19	93	1012	0.0
21/09/2020 6:00	43	63	53	44	38	35	0.4	0.9	135	19	94	1012	0.0
21/09/2020 6:15	44	67	55	45	37	33	0.4	1.3	158	19	94	1012	0.0
21/09/2020 6:30	45	65	56	47	38	34	0.4	1.8	135	20	93	1012	0.0
21/09/2020 6:45	48	72	59	47	37	33	0.4	1.3	158	20	92	1013	0.0
21/09/2020 7:00	48	72	59	51	36	33	0.4	1.3	158	21	89	1013	0.0
21/09/2020 7:15	45	70	58	42	34	31	0.4	0.9	203	22	87	1013	0.0
21/09/2020 7:30	40	63	51	40	32	30	0.4	1.3	270	22	85	1014	0.0
21/09/2020 7:45	46	67	59	50	31	28	0.0	0.4	90	23	84	1014	0.0
21/09/2020 8:00	44	77	51	40	32	29	0.0	0.9	158	23	80	1014	0.0
21/09/2020 8:15	45	75	52	40	31	28	0.4	1.8	68	25	76	1014	0.0
21/09/2020 8:30	39	63	50	41	30	27	0.9	3.1	293	25	72	1014	0.0
21/09/2020 8:45	41	67	53	39	29	26	0.9	2.7	113	26	69	1014	0.0
21/09/2020 9:00	43	74	54	38	29	26	0.9	3.1	113	26	66	1014	0.0
21/09/2020 9:15	47	70	62	41	31	28	1.8	3.6	270	26	69	1014	0.0
21/09/2020 9:30	40	64	53	37	31	29	1.8	4.5	270	26	66	1014	0.0
21/09/2020 9:45	40	63	51	41	31	28	1.3	4.0	90	27	63	1014	0.0
21/09/2020 10:00	43	70	54	40	32	29	1.8	3.6	90	28	61	1013	0.0
21/09/2020 10:15	39	54	45	41	34	30	1.8	4.9	270	28	59	1013	0.0
21/09/2020 10:30	38	54	45	40	32	30	2.2	4.9	270	28	59	1013	0.0
21/09/2020 10:45	39	61	48	41	35	32	2.2	4.5	270	28	59	1013	0.0
21/09/2020 11:00	40	55	49	42	33	30	2.7	5.8	293	29	56	1013	0.0
21/09/2020 11:15	44	68	51	44	36	30	0.9	3.6	113	29	57	1012	0.0
21/09/2020 11:30	46	70	58	47	33	29	1.8	4.5	270	30	53	1012	0.0
21/09/2020 11:45	47	69	56	51	34	29	1.3	2.7	135	30	53	1012	0.0
21/09/2020 12:00	44	60	54	48	34	28	1.3	2.7	135	30	52	1012	0.0
21/09/2020 12:15	40	55	48	43	32	29	1.3	4.0	293	31	51	1011	0.0
21/09/2020 12:30	40	55	48	43	34	30	0.9	1.8	135	31	49	1011	0.0
21/09/2020 12:45	41	59	52	43	32	28	0.9	3.6	113	31	49	1011	0.0
21/09/2020 13:00	49	80	59	51	33	29	1.8	4.9	135	31	50	1010	0.0
21/09/2020 13:15	39	63	48	41	33	29	1.3	3.1	135	31	52	1010	0.0
21/09/2020 13:30	41	58	52	44	34	32	1.8	4.9	135	31	55	1010	0.0
21/09/2020 13:45	42	60	47	44	37	34	1.8	3.6	135	31	55	1010	0.0
21/09/2020 14:00	39	55	44	41	35	32	1.8	4.5	113	30	55	1010	0.0
21/09/2020 14:15	41	56	52	43	35	31	1.3	4.0	113	30	56	1010	0.0
21/09/2020 14:30	41	57	46	43	37	33	2.2	4.5	135	30	57	1010	0.0
21/09/2020 14:45	41	58	47	43	37	34	1.8	5.4	135	30	57	1009	0.0
21/09/2020 15:00	42	64	47	45	39	37	1.8	4.9	113	30	58	1010	0.0
21/09/2020 15:15	44	62	55	45	39	36	1.8	4.0	113	30	59	1009	0.0
21/09/2020 15:30	43	53	47	45	41	38	2.2	5.4	113	29	61	1010	0.0
21/09/2020 15:45	43	51	47	45	41	40	2.2	5.4	113	29	62	1009	0.0
21/09/2020 16:00	45	56	49	47	42	41	2.2	5.8	113	28	65	1009	0.0
21/09/2020 16:15	45	58	51	47	42	40	2.2	6.3	113	27	66	1009	0.0
21/09/2020 16:30	44	60	49	47	42	40	2.2	4.5	113	27	68	1009	0.0
21/09/2020 16:45	46	63	56	48	41	39	2.2	5.8	113	26	70	1009	0.0
21/09/2020 17:00	45	69	54	46	40	38	2.2	4.9	113	25	71	1009	0.0
21/09/2020 17:15	45	57	50	47	41	39	1.8	4.5	113	25	73	1009	0.0
21/09/2020 17:30	40	49	44	42	37	35	1.3	3.1	113	24	75	1009	0.0
21/09/2020 17:45	40	65	46	41	35	33	0.9	3.1	113	24	77	1009	0.0
21/09/2020 18:00	39	53	44	41	35	32	1.3	3.6	113	23	79	1010	0.0
21/09/2020 18:15	36	58	42	38	34	31	1.3	2.7	135	23	80	1010	0.0
21/09/2020 18:30	37	52	42	39	34	33	0.9	2.7	135	23	82	1010	0.0
21/09/2020 18:45	38	52	43	39	37	33	0.9	2.2	135	23	83	1010	0.0
21/09/2020 19:00	37	59	42	38	34	32	0.9	2.2	135	22	84	1011	0.0
21/09/2020 19:15	36	44	39	37	34	32	0.4	2.7	135	22	84	1011	0.0
21/09/2020 19:30	36	45	40	38	34	31	0.4	1.3	135	22	85	1011	0.0
21/09/2020 19:45	36	49	38	37	34	32	0.4	1.3	113	22	85	1011	0.0
21/09/2020 20:00	36	47	39	37	32	30	0.4	0.9	113	22	86	1011	0.0
21/09/2020 20:15	37	52	43	39	34	30	0.4	0.9	135	22	86	1011	0.0
21/09/2020 20:30	37	54	44	38	35	30	0.0	0.9	113	22	86	1012	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
21/09/2020 20:45	37	44	39	38	36	31	0.0	1.3	113	22	88	1012	0.0
21/09/2020 21:00	36	47	40	38	35	28	0.4	1.3	113	22	89	1012	0.0
21/09/2020 21:15	36	41	39	37	35	29	0.0	1.3	135	21	89	1012	0.0
21/09/2020 21:30	35	49	38	37	31	28	0.4	1.3	135	21	90	1012	0.0
21/09/2020 21:45	35	42	38	36	32	27	0.4	0.9	135	21	90	1012	0.0
21/09/2020 22:00	36	43	39	37	34	27	0.0	0.9	135	21	90	1012	0.0
21/09/2020 22:15	36	52	44	37	34	28	0.0	0.4	135	21	91	1012	0.0
21/09/2020 22:30	36	50	42	37	34	27	0.0	0.4	113	21	91	1012	0.0
21/09/2020 22:45	36	46	41	37	34	28	0.0	0.4	113	20	91	1012	0.0
21/09/2020 23:00	35	40	36	36	33	24	0.0	0.4	113	20	92	1012	0.0
21/09/2020 23:15	35	50	39	36	32	24	0.0	0.4	113	19	92	1012	0.0
21/09/2020 23:30	35	44	39	37	33	23	0.0	0.4	158	19	93	1012	0.0
21/09/2020 23:45	32	42	37	35	25	23	0.0	0.4	158	19	93	1012	0.0
22/09/2020 0:00	31	41	38	35	25	22	0.0	0.0	0	18	93	1012	0.0
22/09/2020 0:15	32	39	35	34	25	22	0.0	0.0	0	18	94	1012	0.0
22/09/2020 0:30	32	39	35	34	26	24	0.0	0.0	0	18	94	1012	0.0
22/09/2020 0:45	31	39	34	33	23	20	0.0	0.0	0	18	93	1012	0.0
22/09/2020 1:00	31	40	35	34	24	21	0.0	0.4	158	18	94	1012	0.0
22/09/2020 1:15	32	45	38	34	24	21	0.0	0.0	0	18	94	1011	0.0
22/09/2020 1:30	31	41	35	34	22	21	0.0	0.4	158	18	94	1011	0.0
22/09/2020 1:45	32	37	34	34	31	20	0.0	0.0	0	18	94	1011	0.0
22/09/2020 2:00	32	42	36	34	23	20	0.0	0.4	158	17	94	1011	0.0
22/09/2020 2:15	32	45	37	33	24	20	0.0	0.0	0	17	94	1011	0.0
22/09/2020 2:30	30	50	35	32	22	20	0.0	0.0	0	17	94	1011	0.0
22/09/2020 2:45	31	36	34	33	29	21	0.0	0.0	0	17	94	1011	0.0
22/09/2020 3:00	28	45	34	33	20	19	0.0	0.0	0	17	95	1011	0.0
22/09/2020 3:15	28	50	38	32	21	20	0.0	0.0	0	17	94	1011	0.0
22/09/2020 3:30	28	43	36	31	21	20	0.0	0.4	158	17	95	1011	0.0
22/09/2020 3:45	28	43	34	31	22	21	0.0	0.4	158	17	95	1011	0.0
22/09/2020 4:00	28	39	35	32	23	21	0.0	0.9	203	17	95	1011	0.0
22/09/2020 4:15	29	38	34	31	25	22	0.0	0.9	203	18	95	1012	0.0
22/09/2020 4:30	32	52	39	35	25	23	0.0	0.4	203	19	95	1012	0.0
22/09/2020 4:45	32	44	40	36	26	23	0.0	0.4	225	19	95	1012	0.0
22/09/2020 5:00	40	56	50	44	30	25	0.0	0.9	203	19	95	1012	0.0
22/09/2020 5:15	44	66	53	47	37	33	0.0	0.4	90	19	95	1012	0.0
22/09/2020 5:30	49	72	63	46	36	31	0.0	0.9	90	19	95	1012	0.0
22/09/2020 5:45	44	67	54	46	35	30	0.0	0.0	0	18	95	1012	0.0
22/09/2020 6:00	44	66	57	45	35	30	0.0	0.4	203	18	95	1012	0.0
22/09/2020 6:15	51	68	64	55	35	32	0.0	0.4	203	19	95	1012	0.0
22/09/2020 6:30	50	81	61	44	34	31	0.0	0.0	0	20	95	1013	0.0
22/09/2020 6:45	47	74	59	46	33	29	0.0	0.9	203	21	94	1013	0.0
22/09/2020 7:00	44	63	57	45	34	31	0.9	2.2	248	22	89	1013	0.0
22/09/2020 7:15	38	60	51	37	32	30	1.3	3.1	248	22	87	1013	0.0
22/09/2020 7:30	44	65	59	41	30	28	1.8	3.1	248	23	84	1014	0.0
22/09/2020 7:45	45	68	59	42	31	29	1.8	4.0	270	24	82	1014	0.0
22/09/2020 8:00	37	53	45	39	32	30	1.8	4.0	270	25	78	1014	0.0
22/09/2020 8:15	40	63	51	41	32	30	2.7	4.9	270	24	77	1014	0.0
22/09/2020 8:30	45	76	57	40	31	29	1.8	3.6	270	25	74	1013	0.0
22/09/2020 8:45	44	69	57	38	30	27	2.2	4.9	270	26	71	1014	0.0
22/09/2020 9:00	38	60	49	38	32	29	2.7	5.8	270	26	69	1013	0.0
22/09/2020 9:15	45	66	60	41	32	28	1.8	4.0	293	26	69	1013	0.0
22/09/2020 9:30	43	67	56	41	33	29	2.2	4.0	270	27	66	1013	0.0
22/09/2020 9:45	42	70	50	42	34	31	2.7	5.8	270	27	60	1013	0.0
22/09/2020 10:00	40	53	44	43	36	33	2.7	4.9	270	28	57	1013	0.0
22/09/2020 10:15	40	48	44	43	37	35	2.2	4.9	270	29	56	1013	0.0
22/09/2020 10:30	40	56	46	42	36	32	2.2	4.5	270	30	53	1012	0.0
22/09/2020 10:45	43	59	52	45	36	31	1.8	4.9	293	29	52	1012	0.0
22/09/2020 11:00	45	67	55	46	35	31	1.8	4.5	293	30	51	1012	0.0
22/09/2020 11:15	44	62	53	47	37	32	0.0	0.0	0	---	51	1012	0.0
22/09/2020 11:30	51	79	60	47	36	32	2.7	4.9	90	31	50	1011	0.0
22/09/2020 11:45	61	93	61	46	36	31	2.2	5.8	270	31	51	1011	0.0
22/09/2020 12:00	42	74	50	43	33	30	1.3	3.6	113	31	49	1011	0.0
22/09/2020 12:15	39	57	49	43	32	27	1.8	3.6	270	32	48	1011	0.0
22/09/2020 12:30	38	55	47	41	33	29	1.3	3.6	270	31	47	1010	0.0
22/09/2020 12:45	40	56	51	43	33	28	1.8	3.6	68	32	47	1010	0.0
22/09/2020 13:00	44	64	55	46	36	33	1.3	4.5	113	31	47	1009	0.0
22/09/2020 13:15	44	59	53	46	38	34	1.8	4.5	248	31	47	1009	0.0
22/09/2020 13:30	41	56	48	44	34	30	1.3	4.0	293	32	43	1009	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
22/09/2020 13:45	49	81	45	41	32	28	1.3	4.0	113	32	53	1009	0.0
22/09/2020 14:00	40	50	46	43	34	29	2.2	4.5	135	31	54	1009	0.0
22/09/2020 14:15	48	82	52	44	34	31	1.3	3.6	113	31	55	1008	0.0
22/09/2020 14:30	41	64	48	43	35	32	1.8	4.9	113	31	56	1008	0.0
22/09/2020 14:45	41	54	46	43	37	35	1.8	4.9	90	31	57	1008	0.0
22/09/2020 15:00	40	50	46	43	37	34	1.8	4.0	113	31	57	1008	0.0
22/09/2020 15:15	41	58	48	44	38	36	1.8	4.5	113	30	59	1009	0.0
22/09/2020 15:30	44	61	54	46	40	37	1.8	4.5	113	30	60	1009	0.0
22/09/2020 15:45	44	56	48	46	41	38	2.2	4.9	113	29	61	1009	0.0
22/09/2020 16:00	43	52	48	46	41	39	2.2	4.9	113	29	63	1009	0.0
22/09/2020 16:15	44	62	47	46	42	40	1.8	4.0	113	28	64	1009	0.0
22/09/2020 16:30	44	53	48	45	41	39	1.8	4.9	113	28	66	1009	0.0
22/09/2020 16:45	48	68	62	46	40	39	1.3	4.5	113	28	66	1009	0.0
22/09/2020 17:00	43	57	53	44	39	36	1.8	4.0	135	27	69	1009	0.0
22/09/2020 17:15	41	57	47	43	38	36	1.3	4.5	113	26	72	1009	0.0
22/09/2020 17:30	43	64	53	45	37	35	1.8	4.0	113	25	74	1010	0.0
22/09/2020 17:45	40	54	48	43	36	34	1.3	4.5	113	25	76	1010	0.0
22/09/2020 18:00	43	66	48	43	38	34	1.3	3.6	113	24	78	1009	0.0
22/09/2020 18:15	40	56	50	43	34	31	1.3	3.6	113	24	80	1010	0.0
22/09/2020 18:30	36	56	42	38	32	30	0.9	3.6	135	24	81	1010	0.0
22/09/2020 18:45	38	48	42	39	36	33	0.9	2.2	135	23	82	1010	0.0
22/09/2020 19:00	38	47	41	40	36	31	0.9	1.8	135	23	83	1011	0.0
22/09/2020 19:15	41	52	48	43	39	37	0.9	1.8	135	23	84	1011	0.0
22/09/2020 19:30	39	58	42	41	37	32	0.4	1.3	135	23	85	1011	0.0
22/09/2020 19:45	39	52	46	40	36	32	0.9	1.8	135	23	85	1011	0.0
22/09/2020 20:00	37	48	40	39	35	32	0.4	1.3	135	23	86	1011	0.0
22/09/2020 20:15	39	53	42	40	37	32	0.4	1.3	135	23	86	1011	0.0
22/09/2020 20:30	39	56	47	40	37	33	0.0	0.9	135	22	87	1011	0.0
22/09/2020 20:45	39	45	41	40	36	30	0.0	0.9	158	22	87	1011	0.0
22/09/2020 21:00	35	47	39	37	32	28	0.0	0.4	135	22	88	1012	0.0
22/09/2020 21:15	36	51	40	38	34	31	0.0	0.4	158	22	89	1011	0.0
22/09/2020 21:30	40	48	43	43	34	31	0.0	0.9	158	21	89	1012	0.0
22/09/2020 21:45	42	51	44	44	38	31	0.0	0.0	0	21	90	1011	0.0
22/09/2020 22:00	42	47	46	45	35	27	0.0	0.4	180	21	90	1012	0.0
22/09/2020 22:15	40	44	43	42	28	25	0.0	0.0	0	20	91	1011	0.0
22/09/2020 22:30	37	51	43	41	30	25	0.0	0.4	180	20	92	1011	0.0
22/09/2020 22:45	39	45	44	43	30	24	0.0	0.4	180	20	91	1011	0.0
22/09/2020 23:00	43	51	46	44	41	26	0.0	0.4	158	20	91	1011	0.0
22/09/2020 23:15	42	45	45	44	29	25	0.0	0.4	158	20	91	1011	0.0
22/09/2020 23:30	41	51	46	45	26	24	0.0	0.4	158	20	91	1011	0.0
22/09/2020 23:45	38	45	44	43	26	23	0.0	0.4	158	20	91	1011	0.0
23/09/2020 0:00	37	47	44	42	25	23	0.0	0.4	158	20	92	1011	0.0
23/09/2020 0:15	38	53	44	43	29	26	0.0	0.4	158	20	92	1011	0.0
23/09/2020 0:30	34	44	37	36	28	23	0.0	0.0	0	19	92	1011	0.0
23/09/2020 0:45	31	50	36	33	26	24	0.0	0.4	158	19	92	1011	0.0
23/09/2020 1:00	30	51	37	33	23	22	0.0	0.0	0	19	92	1011	0.0
23/09/2020 1:15	27	45	36	29	24	22	0.4	0.4	158	19	92	1011	0.0
23/09/2020 1:30	33	48	39	34	26	21	0.0	0.4	158	19	92	1011	0.0
23/09/2020 1:45	33	40	34	34	32	23	0.0	0.4	158	19	94	1011	0.0
23/09/2020 2:00	31	40	35	34	22	21	0.0	0.4	158	19	92	1010	0.0
23/09/2020 2:15	33	39	38	36	31	24	0.0	0.9	203	19	93	1011	0.0
23/09/2020 2:30	35	47	41	38	31	24	0.0	0.4	203	20	93	1010	0.0
23/09/2020 2:45	33	50	36	34	32	28	0.0	0.4	203	20	93	1010	0.0
23/09/2020 3:00	33	40	37	35	32	24	0.0	0.4	180	20	93	1010	0.0
23/09/2020 3:15	34	42	36	35	32	23	0.0	0.4	180	21	92	1010	0.0
23/09/2020 3:30	34	45	37	36	33	24	0.0	0.9	135	21	91	1010	0.0
23/09/2020 3:45	36	42	41	39	33	27	0.0	0.4	158	21	91	1010	0.0
23/09/2020 4:00	34	40	38	36	33	26	0.0	0.4	158	21	90	1011	0.0
23/09/2020 4:15	34	42	39	36	32	25	0.0	0.4	180	21	90	1011	0.0
23/09/2020 4:30	36	53	47	38	32	22	0.0	0.4	158	21	90	1011	0.0
23/09/2020 4:45	38	53	49	41	28	24	0.0	0.4	158	21	90	1011	0.0
23/09/2020 5:00	38	52	48	41	27	23	0.0	0.0	0	21	90	1011	0.0
23/09/2020 5:15	49	78	54	46	34	28	0.0	0.0	0	21	90	1011	0.0
23/09/2020 5:30	48	68	62	47	33	29	0.0	0.4	135	21	90	1011	0.0
23/09/2020 5:45	47	74	59	46	34	30	0.0	0.0	0	21	91	1011	0.0
23/09/2020 6:00	42	61	51	45	35	28	0.0	0.0	0	21	91	1011	0.0
23/09/2020 6:15	52	70	67	51	32	29	0.0	0.4	135	22	90	1012	0.0
23/09/2020 6:30	46	73	59	46	30	26	0.0	0.4	135	22	89	1012	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
23/09/2020 6:45	46	67	60	48	30	26	0.0	0.4	113	22	88	1012	0.0
23/09/2020 7:00	46	68	60	42	33	30	0.4	0.9	113	23	85	1012	0.0
23/09/2020 7:15	49	74	62	45	30	26	0.4	1.3	135	24	82	1012	0.0
23/09/2020 7:30	36	58	46	39	29	27	0.4	1.3	113	25	77	1012	0.0
23/09/2020 7:45	38	65	47	38	28	25	0.0	1.3	293	25	76	1012	0.0
23/09/2020 8:00	39	65	50	38	27	24	0.4	1.3	180	25	75	1012	0.0
23/09/2020 8:15	35	58	46	36	28	25	0.4	1.3	270	25	72	1012	0.0
23/09/2020 8:30	42	75	51	40	30	27	0.9	2.7	293	26	68	1012	0.0
23/09/2020 8:45	37	62	48	39	30	26	0.9	2.7	270	25	70	1012	0.0
23/09/2020 9:00	40	63	51	42	30	26	0.9	2.7	270	26	67	1012	0.0
23/09/2020 9:15	47	73	60	47	30	25	1.3	2.7	248	26	67	1012	0.0

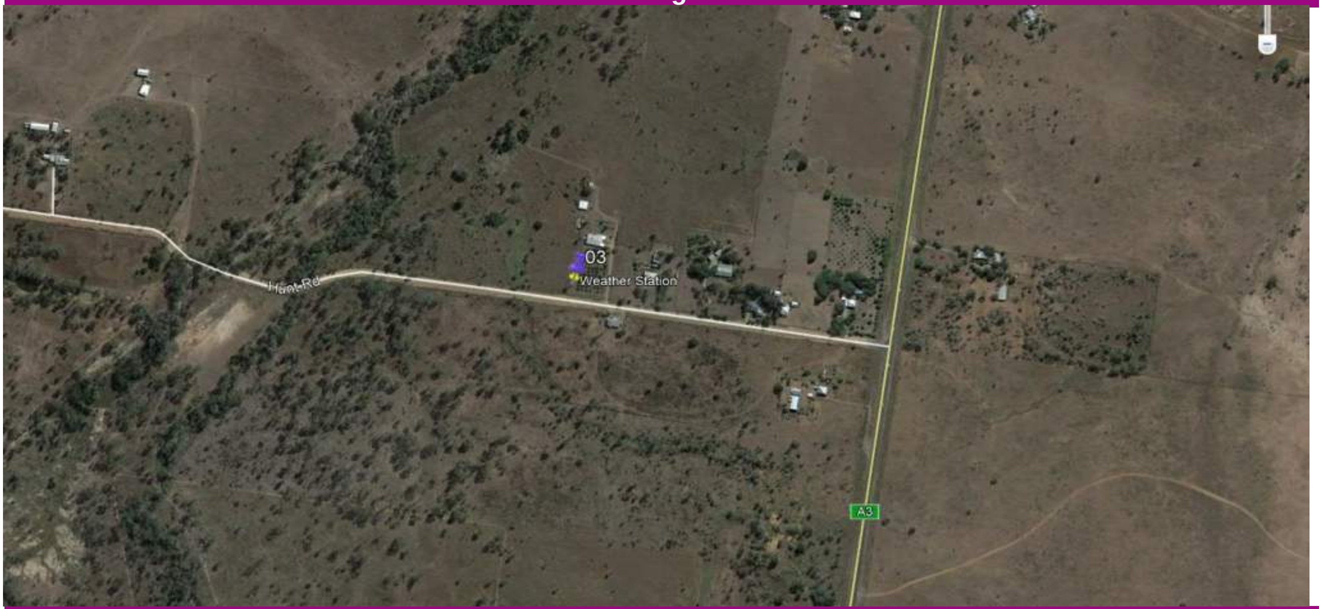
Noise Monitoring Data Sheet

Rockhampton Motorsport Precinct

SITE ID
3

Dominant Road	Burnett Highway	From	22/09/2020	Address	42 Hunt Road
Distance to Road (m)	481	To	30/09/2020	Suburb	Bouldercombe
Pre Calibration	94.0	Mic. Height (m)	1.6	District	Rockhampton
Post Calibration	93.7	Meas. Type	Free Field	Longitude	150.491965°
Operator	LAN	Inst. Type	Rion NL-21	Latitude	-23.492499°
Sample Int.	15 min	Inst. Serial #	465440	RP Lot#	2RP612657

Site Diagram - Aerial



Site Diagram - GIS

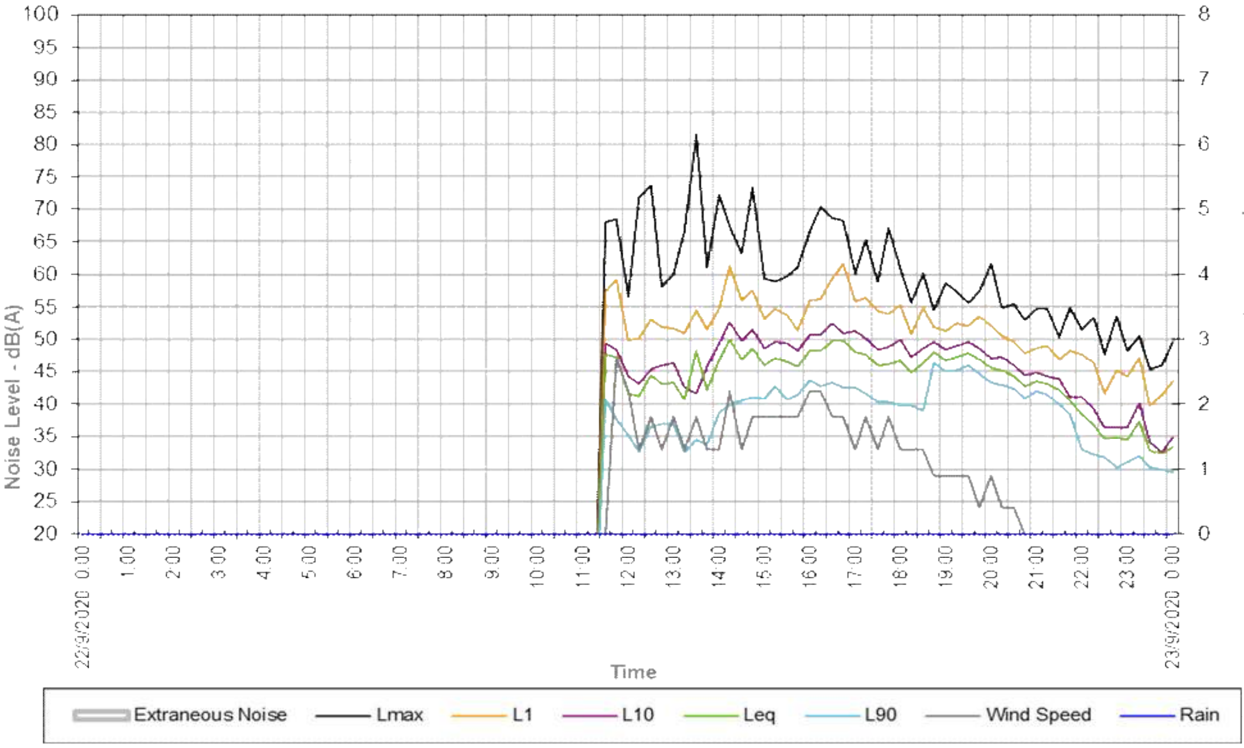
Site Photographs

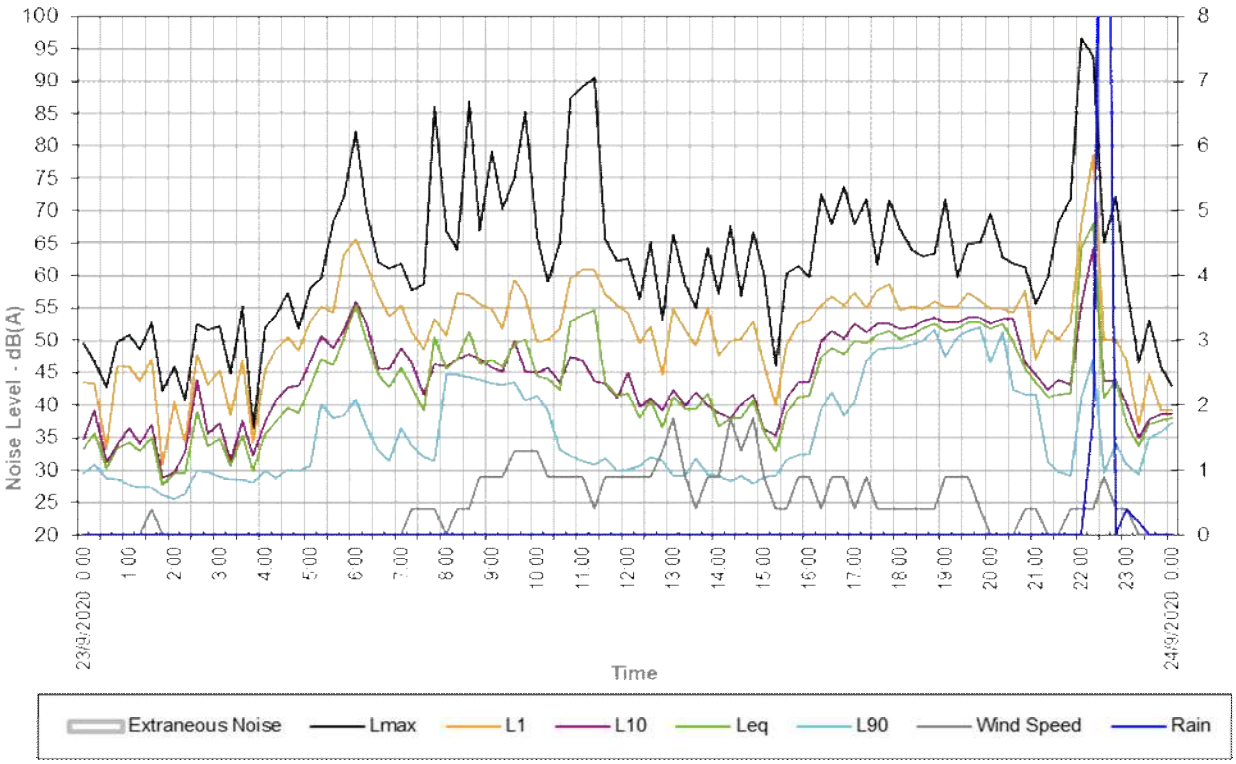
Site Attended Measurements Summary

Date	Start	Measurement Type	Lmax	L1	L10	L90	Leq	Weather Conditions Comply	End
22/09/2020	**1:15 PM**	Attended	**65.8**	**50.2**	**42.0**	**32.1**	**40.0**	**Pass**	**1:30 PM**
		Logged	**66.6**	**50.9**	**42.5**	**32.5**	**40.7**		
		Difference	**-0.8**	**-0.7**	**-0.5**	**-0.4**	**-0.7**		
Comments	Traffic noise coming from the east. 7:05 min of Burnett Hwy car noise at 30-42 dBA. 0:30 min of Burnett Hwy H.V. noise at 34-42 dBA. 0:47 min of Distant traffic noise at 32-33 dBA. 0:17 min of Hunt Rd car noise at 41-65 dBA. 6:10 min of bird noise at 36-53 dBA. 0:11 min of wind noise at 37-38 dBA.								
23/09/2020	**10:30 AM**	Attended	**64.9**	**50.7**	**39.7**	**31.5**	**40.1**	**Pass**	**10:45 AM**
		Logged	**65.1**	**51.8**	**43.5**	**33.1**	**42.4**		
		Difference	**-0.2**	**-1.1**	**-3.8**	**-1.6**	**-2.3**		
Comments	The background is the road traffic noise from Burnett highway. The dog barking is from the house on the opposite side of the street. 8:31 min of Burnett Hwy car noise at 29-35 dBA. 0:17 min of Hunt Rd car noise at 42-64 dBA. 4:23 min of bird noise at 34-55 dBA. 1:49 min of dog noise at 34-43 dBA.								

Site Noise and Weather Graphical Analysis

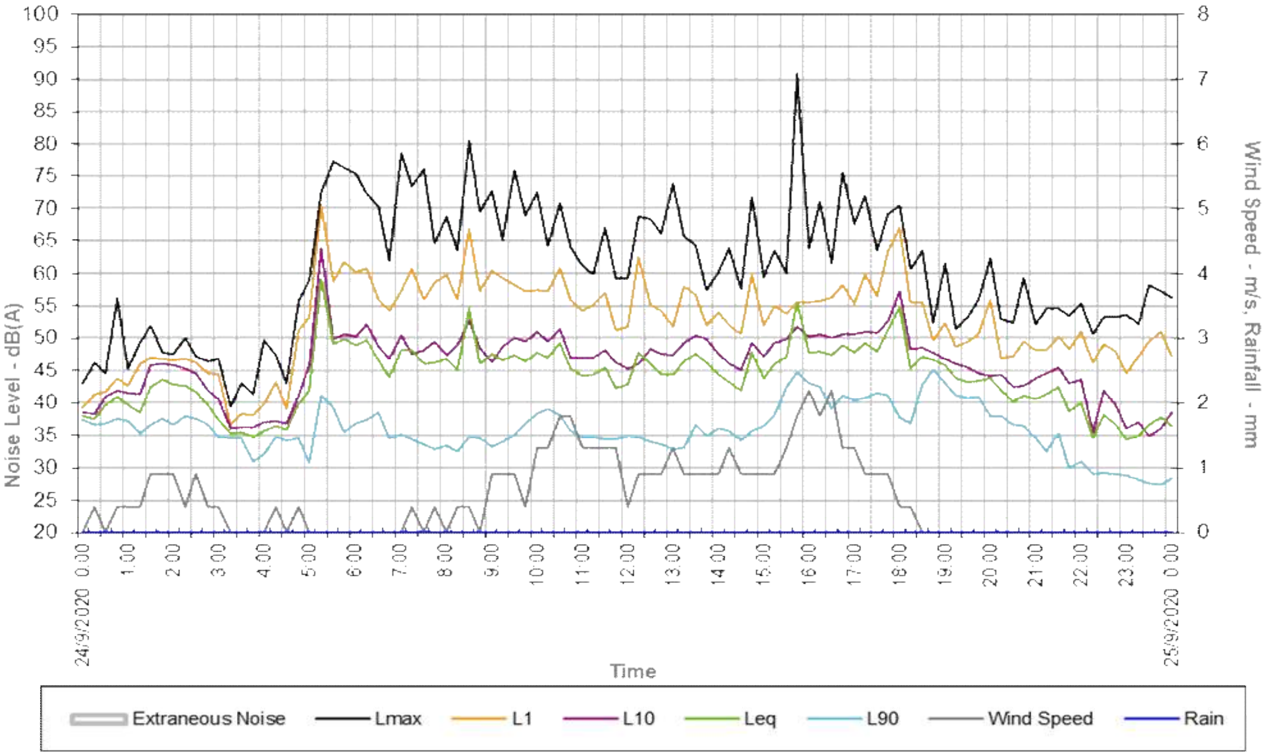
42 Hunt Road, Bouldercombe

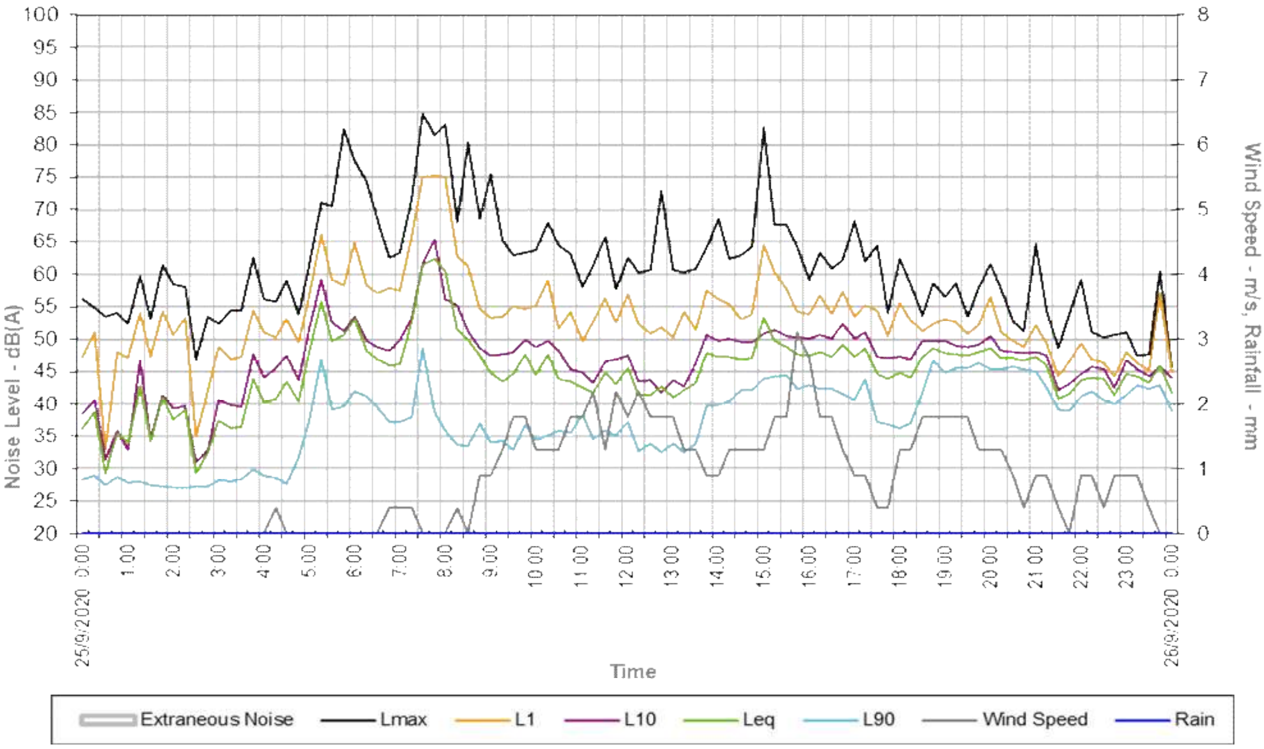




Site Noise and Weather Graphical Analysis

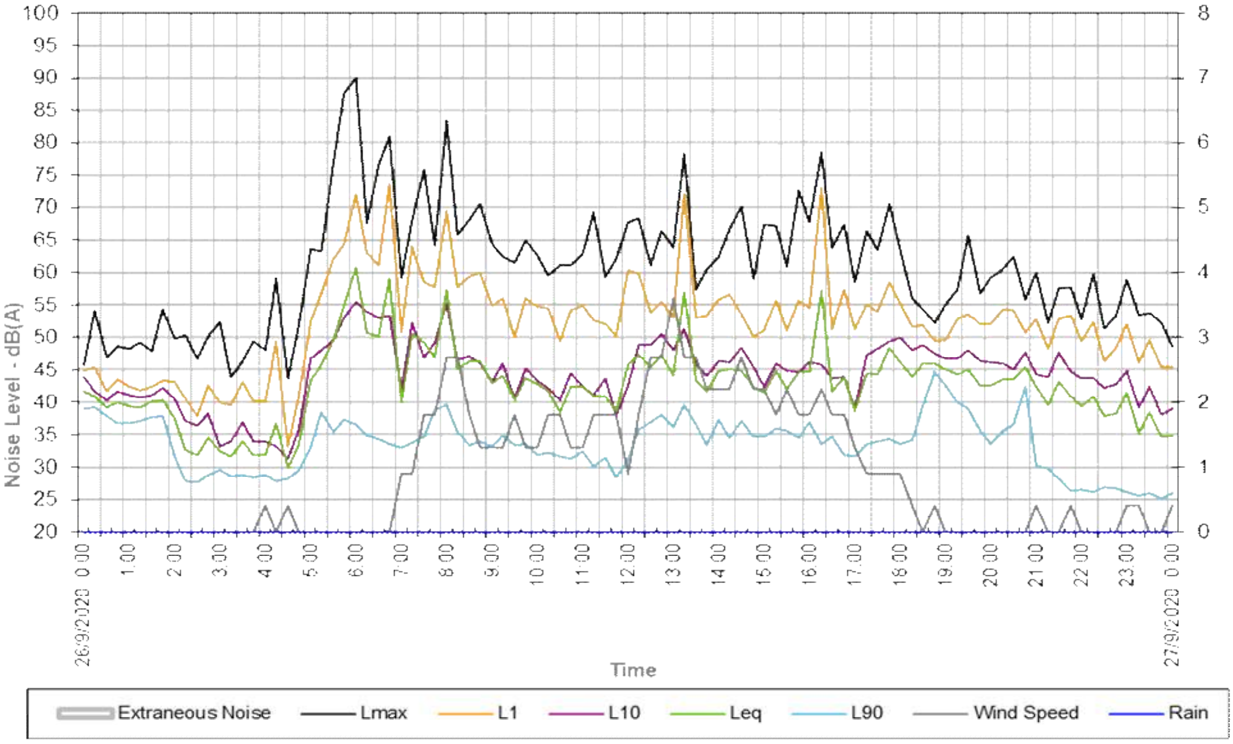
42 Hunt Road, Bouldercombe

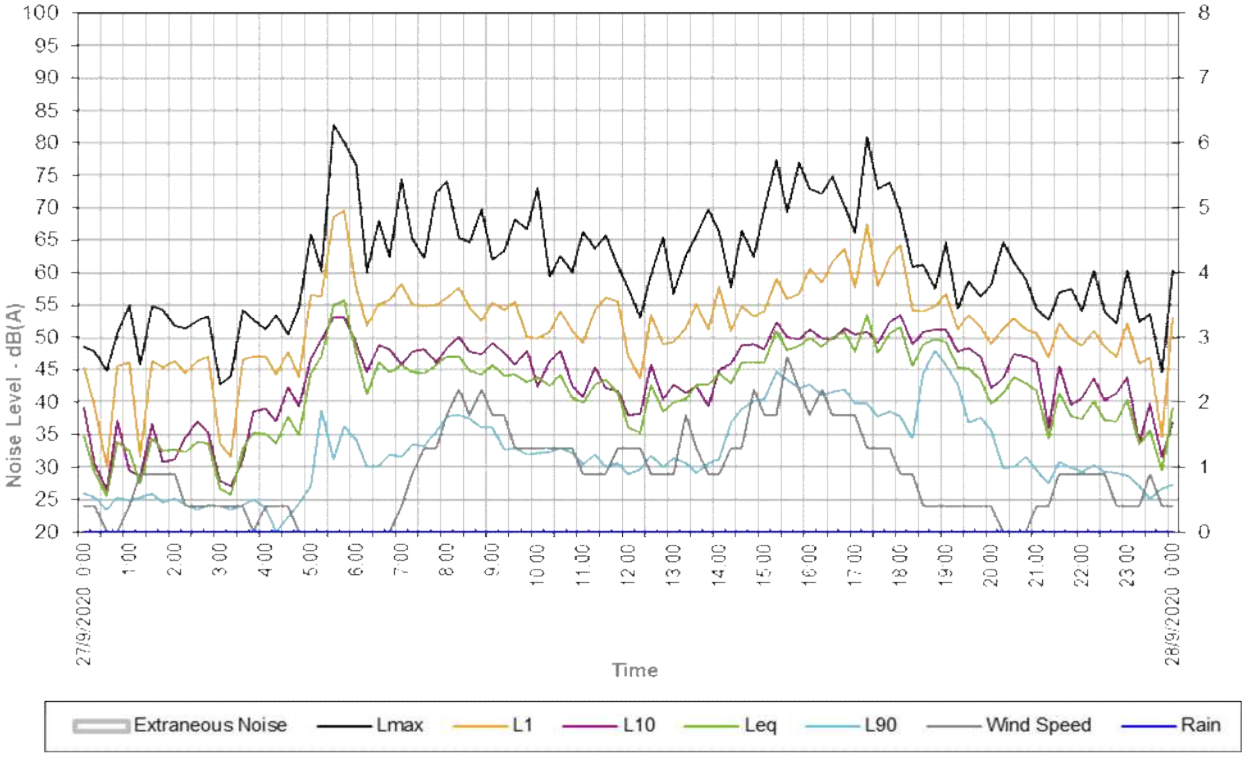




Site Noise and Weather Graphical Analysis

42 Hunt Road, Bouldercombe

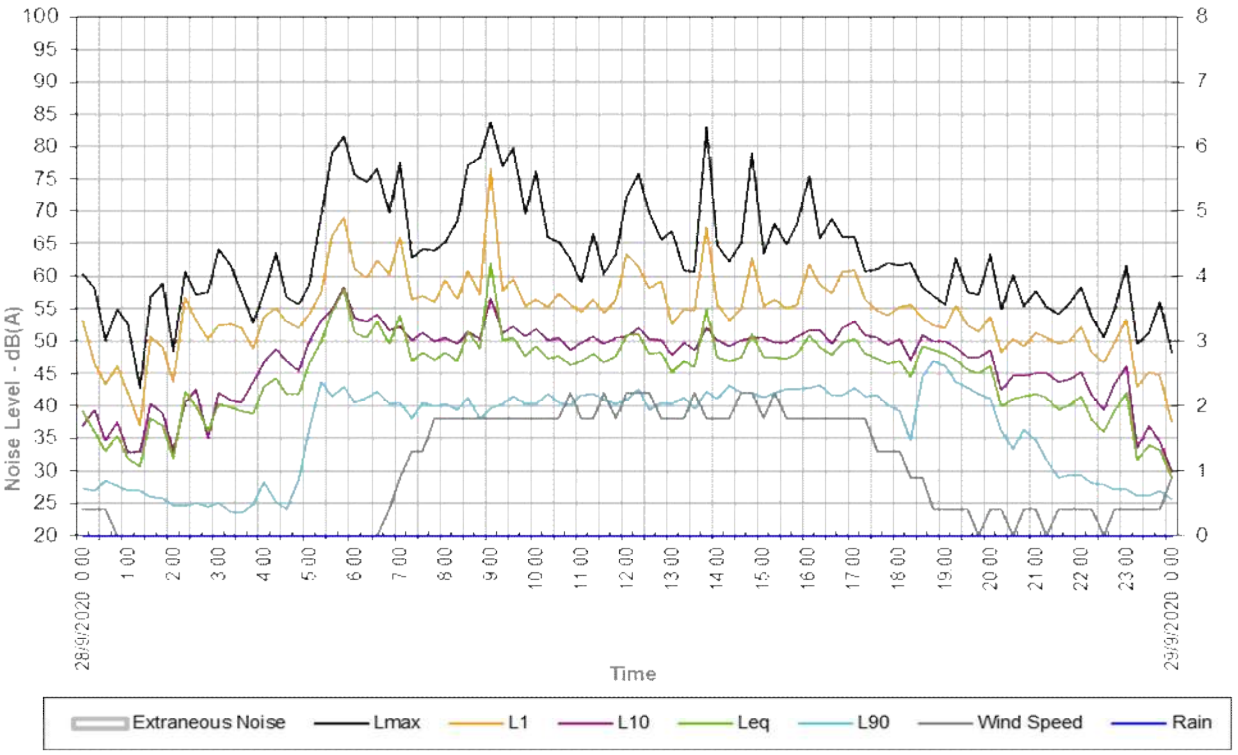


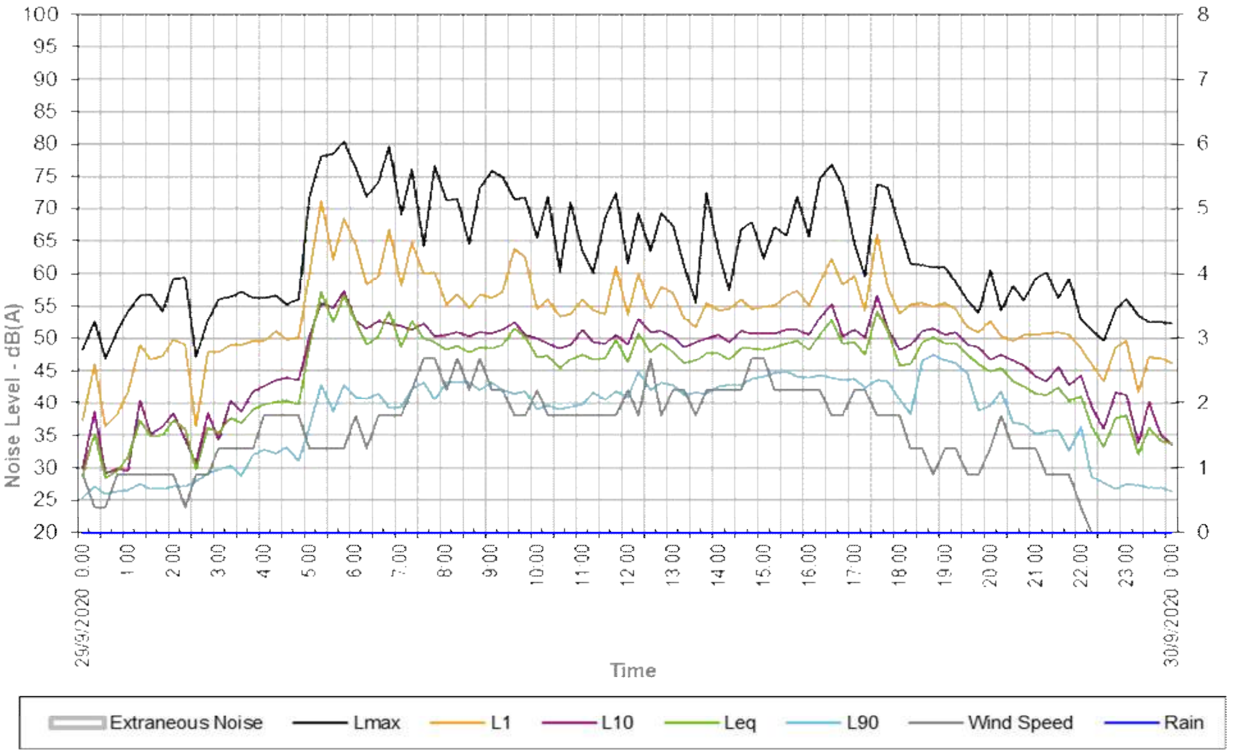


AECOM

Site Noise and Weather Graphical Analysis

42 Hunt Road, Bouldercombe

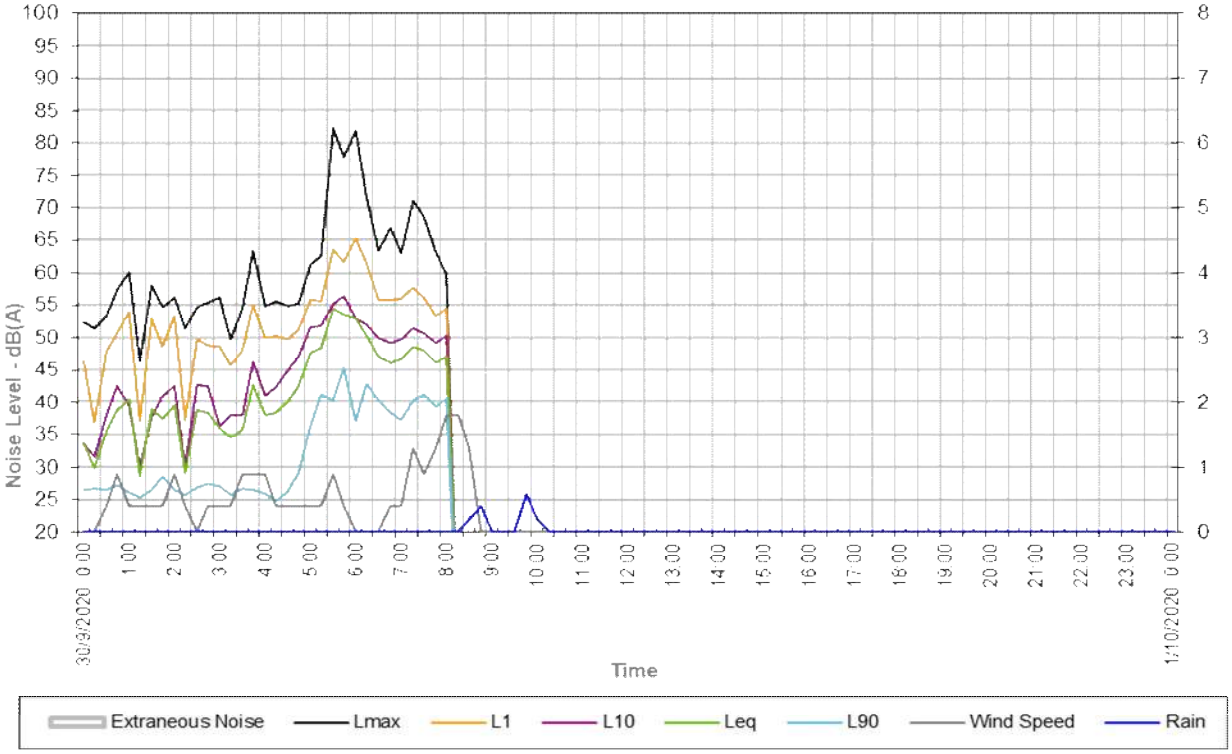




AECOM

Site Noise and Weather Graphical Analysis

42 Hunt Road, Bouldercombe



Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
22/09/2020	11:30	48	68	57	49	41	34	0.0	0.0	0	---	51	1012	0.0
22/09/2020	11:45	47	69	59	48	38	32	2.7	4.9	90	31	50	1011	0.0
22/09/2020	12:00	42	57	50	44	35	31	2.2	5.8	270	31	51	1011	0.0
22/09/2020	12:15	41	72	50	43	33	28	1.3	3.6	113	31	49	1011	0.0
22/09/2020	12:30	45	74	53	45	37	32	1.8	3.6	270	32	48	1011	0.0
22/09/2020	12:45	43	58	52	46	37	34	1.3	3.6	270	31	47	1010	0.0
22/09/2020	13:00	43	60	52	46	37	32	1.8	3.6	68	32	47	1010	0.0
22/09/2020	13:15	41	67	51	43	33	29	1.3	4.5	113	31	47	1009	0.0
22/09/2020	13:30	48	82	55	42	35	32	1.8	4.5	248	31	47	1009	0.0
22/09/2020	13:45	42	61	52	46	34	30	1.3	4.0	293	32	43	1009	0.0
22/09/2020	14:00	47	72	55	49	39	31	1.3	4.0	113	32	53	1009	0.0
22/09/2020	14:15	50	67	61	53	40	34	2.2	4.5	135	31	54	1009	0.0
22/09/2020	14:30	47	63	56	50	41	36	1.3	3.6	113	31	55	1008	0.0
22/09/2020	14:45	49	73	58	52	41	36	1.8	4.9	113	31	56	1008	0.0
22/09/2020	15:00	46	59	53	49	41	37	1.8	4.9	90	31	57	1008	0.0
22/09/2020	15:15	47	59	55	50	43	38	1.8	4.0	113	31	57	1008	0.0
22/09/2020	15:30	47	60	54	49	41	36	1.8	4.5	113	30	59	1009	0.0
22/09/2020	15:45	46	61	51	48	42	36	1.8	4.5	113	30	60	1009	0.0
22/09/2020	16:00	48	67	56	51	44	40	2.2	4.9	113	29	61	1009	0.0
22/09/2020	16:15	48	70	56	51	43	38	2.2	4.9	113	29	63	1009	0.0
22/09/2020	16:30	50	69	60	52	43	40	1.8	4.0	113	28	64	1009	0.0
22/09/2020	16:45	50	68	62	51	43	39	1.8	4.9	113	28	66	1009	0.0
22/09/2020	17:00	48	60	56	51	43	38	1.3	4.5	113	28	66	1009	0.0
22/09/2020	17:15	48	65	56	50	42	37	1.8	4.0	135	27	69	1009	0.0
22/09/2020	17:30	46	59	54	48	40	37	1.3	4.5	113	26	72	1009	0.0
22/09/2020	17:45	46	67	54	49	40	36	1.8	4.0	113	25	74	1010	0.0
22/09/2020	18:00	47	61	55	50	40	36	1.3	4.5	113	25	76	1010	0.0
22/09/2020	18:15	45	56	51	47	40	35	1.3	3.6	113	24	78	1009	0.0
22/09/2020	18:30	46	60	55	49	39	36	1.3	3.6	113	24	80	1010	0.0
22/09/2020	18:45	48	55	52	50	46	44	0.9	3.6	135	24	81	1010	0.0
22/09/2020	19:00	47	59	51	48	45	43	0.9	2.2	135	23	82	1010	0.0
22/09/2020	19:15	47	57	52	49	45	43	0.9	1.8	135	23	83	1011	0.0
22/09/2020	19:30	48	56	52	50	46	43	0.9	1.8	135	23	84	1011	0.0
22/09/2020	19:45	47	57	54	49	45	43	0.4	1.3	135	23	85	1011	0.0
22/09/2020	20:00	46	62	52	47	43	41	0.9	1.8	135	23	85	1011	0.0
22/09/2020	20:15	45	55	51	47	43	41	0.4	1.3	135	23	86	1011	0.0
22/09/2020	20:30	44	55	50	46	42	40	0.4	1.3	135	23	86	1011	0.0
22/09/2020	20:45	43	53	48	45	41	39	0.0	0.9	135	22	87	1011	0.0
22/09/2020	21:00	44	55	49	45	42	39	0.0	0.9	158	22	87	1011	0.0
22/09/2020	21:15	43	55	49	44	41	39	0.0	0.4	158	22	88	1012	0.0
22/09/2020	21:30	42	50	47	44	40	37	0.0	0.4	158	22	89	1011	0.0
22/09/2020	21:45	41	55	48	41	38	36	0.0	0.9	158	21	89	1012	0.0
22/09/2020	22:00	39	52	48	41	33	31	0.0	0.0	0	21	90	1011	0.0
22/09/2020	22:15	37	53	46	39	32	30	0.0	0.4	180	21	90	1012	0.0
22/09/2020	22:30	35	48	42	36	32	29	0.0	0.0	0	20	91	1011	0.0
22/09/2020	22:45	35	54	45	36	30	29	0.0	0.4	180	20	92	1011	0.0
22/09/2020	23:00	35	48	44	36	31	29	0.0	0.4	180	20	91	1011	0.0
22/09/2020	23:15	37	51	47	40	32	29	0.0	0.4	158	20	91	1011	0.0
22/09/2020	23:30	33	45	40	34	30	28	0.0	0.4	158	20	91	1011	0.0
22/09/2020	23:45	32	46	41	33	30	28	0.0	0.4	158	20	91	1011	0.0
23/09/2020	0:00	33	50	44	35	30	28	0.0	0.0	0	20	92	1011	0.0
23/09/2020	0:15	36	47	43	39	31	28	0.0	0.4	158	20	92	1011	0.0
23/09/2020	0:30	30	43	33	31	29	27	0.0	0.4	158	20	92	1011	0.0
23/09/2020	0:45	33	50	46	34	29	26	0.0	0.0	0	19	92	1011	0.0
23/09/2020	1:00	34	51	46	37	28	25	0.0	0.4	158	19	92	1011	0.0
23/09/2020	1:15	33	49	44	34	27	25	0.0	0.0	0	19	92	1011	0.0
23/09/2020	1:30	35	53	47	37	27	25	0.4	0.4	158	19	92	1011	0.0
23/09/2020	1:45	28	42	31	29	26	24	0.0	0.4	158	19	92	1011	0.0
23/09/2020	2:00	30	46	40	30	26	23	0.0	0.4	158	19	94	1011	0.0
23/09/2020	2:15	30	41	34	33	26	24	0.0	0.4	158	19	92	1010	0.0
23/09/2020	2:30	39	53	48	44	30	28	0.0	0.9	203	19	93	1011	0.0
23/09/2020	2:45	34	52	43	36	30	28	0.0	0.4	203	20	93	1010	0.0
23/09/2020	3:00	35	52	45	37	29	27	0.0	0.4	203	20	93	1010	0.0
23/09/2020	3:15	31	45	38	32	29	27	0.0	0.4	180	20	93	1010	0.0
23/09/2020	3:30	35	55	47	38	28	27	0.0	0.4	180	21	92	1010	0.0
23/09/2020	3:45	30	37	34	32	28	26	0.0	0.9	135	21	91	1010	0.0
23/09/2020	4:00	36	52	45	37	30	27	0.0	0.4	158	21	91	1010	0.0
23/09/2020	4:15	38	54	49	41	29	26	0.0	0.4	158	21	90	1011	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
23/09/2020	4:30	40	57	51	43	30	27	0.0	0.4	180	21	90	1011	0.0
23/09/2020	4:45	39	52	49	43	30	27	0.0	0.4	158	21	90	1011	0.0
23/09/2020	5:00	43	58	53	47	31	26	0.0	0.4	158	21	90	1011	0.0
23/09/2020	5:15	47	60	55	51	40	33	0.0	0.0	0	21	90	1011	0.0
23/09/2020	5:30	46	68	54	49	38	32	0.0	0.0	0	21	90	1011	0.0
23/09/2020	5:45	50	72	63	52	39	34	0.0	0.4	135	21	90	1011	0.0
23/09/2020	6:00	55	82	66	56	41	34	0.0	0.0	0	21	91	1011	0.0
23/09/2020	6:15	50	70	62	53	37	29	0.0	0.0	0	21	91	1011	0.0
23/09/2020	6:30	45	62	57	46	33	29	0.0	0.4	135	22	90	1012	0.0
23/09/2020	6:45	43	61	54	46	31	28	0.0	0.4	135	22	89	1012	0.0
23/09/2020	7:00	46	62	56	49	37	30	0.0	0.4	113	22	88	1012	0.0
23/09/2020	7:15	43	58	51	47	34	28	0.4	0.9	113	23	85	1012	0.0
23/09/2020	7:30	39	59	49	42	32	28	0.4	1.3	135	24	82	1012	0.0
23/09/2020	7:45	51	86	53	46	32	28	0.4	1.3	113	25	77	1012	0.0
23/09/2020	8:00	46	67	51	46	45	44	0.0	1.3	293	25	76	1012	0.0
23/09/2020	8:15	47	64	57	47	45	44	0.4	1.3	180	25	75	1012	0.0
23/09/2020	8:30	51	87	57	48	44	36	0.4	1.3	270	25	72	1012	0.0
23/09/2020	8:45	46	67	56	47	44	43	0.9	2.7	293	26	68	1012	0.0
23/09/2020	9:00	47	79	55	46	43	43	0.9	2.7	270	25	70	1012	0.0
23/09/2020	9:15	46	70	52	45	43	42	0.9	2.7	270	26	67	1012	0.0
23/09/2020	9:30	50	75	59	50	44	43	1.3	2.7	248	26	67	1012	0.0
23/09/2020	9:45	50	85	57	45	41	31	1.3	3.1	225	27	65	1012	0.0
23/09/2020	10:00	45	66	50	45	41	34	1.3	3.1	225	27	64	1012	0.0
23/09/2020	10:15	44	59	50	46	39	32	0.9	2.7	248	27	64	1012	0.0
23/09/2020	10:30	42	65	52	44	33	30	0.9	2.7	270	27	63	1011	0.0
23/09/2020	10:45	53	87	60	47	32	28	0.9	2.2	270	27	62	1011	0.0
23/09/2020	11:00	54	89	61	47	31	28	0.9	2.7	270	27	63	1011	0.0
23/09/2020	11:15	55	91	61	44	31	27	0.4	1.8	225	27	61	1011	0.0
23/09/2020	11:30	44	66	57	43	32	27	0.9	3.6	248	28	62	1011	0.0
23/09/2020	11:45	42	62	55	41	30	28	0.9	2.2	203	28	60	1011	0.0
23/09/2020	12:00	42	63	54	45	30	27	0.9	3.1	225	28	60	1011	0.0
23/09/2020	12:15	38	56	50	40	31	27	0.9	2.7	248	29	58	1010	0.0
23/09/2020	12:30	41	65	52	41	32	27	0.9	2.7	270	29	57	1010	0.0
23/09/2020	12:45	37	53	45	39	31	29	1.3	4.0	248	30	56	1010	0.0
23/09/2020	13:00	41	66	55	42	29	26	1.8	4.0	270	31	53	1010	0.0
23/09/2020	13:15	39	59	52	40	29	26	0.9	3.6	158	30	53	1009	0.0
23/09/2020	13:30	39	55	49	42	32	28	0.4	1.8	158	31	52	1009	0.0
23/09/2020	13:45	42	64	55	40	29	26	0.9	2.7	135	30	54	1009	0.0
23/09/2020	14:00	37	57	48	39	29	27	0.9	2.7	270	31	52	1009	0.0
23/09/2020	14:15	38	68	50	38	28	25	1.8	4.5	248	31	51	1008	0.0
23/09/2020	14:30	38	57	50	40	29	27	1.3	4.5	248	31	52	1008	0.0
23/09/2020	14:45	41	67	53	42	28	25	1.8	4.0	248	30	53	1008	0.0
23/09/2020	15:00	36	60	46	36	29	26	0.9	2.7	203	30	54	1008	0.0
23/09/2020	15:15	33	46	40	35	29	27	0.4	1.8	270	30	54	1008	0.0
23/09/2020	15:30	39	60	49	41	32	29	0.4	1.8	248	30	54	1008	0.0
23/09/2020	15:45	41	62	53	44	32	29	0.9	2.2	203	30	54	1008	0.0
23/09/2020	16:00	42	60	53	44	32	29	0.9	2.2	203	30	55	1008	0.0
23/09/2020	16:15	47	73	55	50	39	34	0.4	1.3	135	30	54	1008	0.0
23/09/2020	16:30	49	68	57	51	42	34	0.9	2.2	113	29	62	1008	0.0
23/09/2020	16:45	48	74	56	50	38	31	0.9	2.7	113	28	65	1008	0.0
23/09/2020	17:00	50	68	57	53	41	33	0.4	2.2	113	28	67	1008	0.0
23/09/2020	17:15	50	72	55	51	47	32	0.9	2.7	113	27	68	1008	0.0
23/09/2020	17:30	51	62	58	53	49	47	0.4	2.7	135	27	69	1008	0.0
23/09/2020	17:45	51	72	59	53	49	48	0.4	2.2	113	26	71	1008	0.0
23/09/2020	18:00	50	67	55	52	49	48	0.4	2.2	135	26	72	1008	0.0
23/09/2020	18:15	51	64	55	52	49	48	0.4	1.3	135	25	73	1008	0.0
23/09/2020	18:30	52	63	55	53	50	49	0.4	1.3	135	25	74	1009	0.0
23/09/2020	18:45	53	63	56	54	52	48	0.4	1.8	135	25	74	1009	0.0
23/09/2020	19:00	51	72	55	53	47	44	0.9	1.8	158	25	75	1009	0.0
23/09/2020	19:15	52	60	55	53	51	43	0.9	1.8	135	24	75	1009	0.0
23/09/2020	19:30	53	65	57	54	52	50	0.9	2.2	135	24	77	1010	0.0
23/09/2020	19:45	53	65	56	54	52	51	0.4	0.9	135	24	78	1010	0.0
23/09/2020	20:00	52	70	55	53	47	43	0.0	0.9	135	24	78	1010	0.0
23/09/2020	20:15	53	63	55	53	51	50	0.0	0.9	45	24	79	1010	0.0
23/09/2020	20:30	50	62	54	53	42	39	0.0	0.4	338	23	81	1010	0.0
23/09/2020	20:45	46	61	58	47	42	39	0.4	1.8	158	24	79	1010	0.0
23/09/2020	21:00	44	56	47	45	42	37	0.4	1.8	158	24	79	1011	0.0
23/09/2020	21:15	41	60	52	42	31	29	0.0	0.9	158	24	80	1010	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
23/09/2020 21:30	42	68	50	44	30	25	0.0	0.4	158	23	82	1010	0.0
23/09/2020 21:45	42	72	53	43	29	25	0.4	1.3	158	23	85	1010	0.0
23/09/2020 22:00	64	97	68	56	41	39	0.4	0.9	158	23	87	1011	0.0
23/09/2020 22:15	68	94	79	64	47	40	0.4	3.6	203	23	89	1011	1.8
23/09/2020 22:30	41	65	50	44	30	28	0.9	4.0	135	21	90	1011	17.8
23/09/2020 22:45	44	72	50	44	34	28	0.4	1.8	315	21	90	1011	0.0
23/09/2020 23:00	37	58	47	40	31	29	0.4	1.3	158	21	91	1011	0.4
23/09/2020 23:15	34	47	37	35	29	27	0.0	0.4	180	21	92	1011	0.2
23/09/2020 23:30	37	53	45	38	35	29	0.0	0.0	0	21	92	1011	0.0
23/09/2020 23:45	38	46	39	39	36	32	0.0	0.0	0	21	93	1011	0.0
24/09/2020 0:00	38	43	39	39	37	35	0.0	0.4	180	21	93	1011	0.0
24/09/2020 0:15	38	46	41	38	37	34	0.4	0.9	270	22	92	1010	0.0
24/09/2020 0:30	40	45	42	41	37	31	0.0	1.3	293	21	91	1010	0.0
24/09/2020 0:45	41	56	44	42	38	34	0.4	0.9	315	22	91	1010	0.0
24/09/2020 1:00	40	45	43	42	37	32	0.4	1.3	293	21	92	1010	0.0
24/09/2020 1:15	39	49	46	41	35	32	0.4	1.8	270	21	92	1010	0.0
24/09/2020 1:30	42	52	47	46	37	33	0.9	1.8	270	21	92	1010	0.0
24/09/2020 1:45	44	48	47	46	38	34	0.9	1.8	293	21	92	1009	0.0
24/09/2020 2:00	43	48	47	46	37	32	0.9	2.2	270	21	92	1010	0.0
24/09/2020 2:15	43	50	47	45	38	35	0.4	1.8	270	21	91	1009	0.0
24/09/2020 2:30	42	47	46	45	38	34	0.9	1.3	293	21	91	1008	0.0
24/09/2020 2:45	40	47	45	42	37	33	0.4	1.3	270	21	91	1009	0.0
24/09/2020 3:00	37	47	44	41	35	30	0.4	2.2	248	21	91	1009	0.0
24/09/2020 3:15	35	40	37	36	35	31	0.0	0.9	248	21	91	1009	0.0
24/09/2020 3:30	36	43	38	36	35	30	0.0	0.4	248	21	91	1009	0.0
24/09/2020 3:45	35	41	38	36	31	28	0.0	0.4	225	21	91	1009	0.0
24/09/2020 4:00	36	50	40	37	32	29	0.0	0.4	225	21	92	1009	0.0
24/09/2020 4:15	36	47	43	37	35	30	0.4	0.9	225	21	92	1009	0.0
24/09/2020 4:30	36	43	39	37	34	29	0.0	0.9	270	21	92	1009	0.0
24/09/2020 4:45	40	56	51	41	35	28	0.4	0.4	248	21	92	1009	0.0
24/09/2020 5:00	42	59	53	46	31	27	0.0	0.4	248	21	92	1009	0.0
24/09/2020 5:15	59	73	70	64	41	32	0.0	0.4	225	21	92	1009	0.0
24/09/2020 5:30	49	77	59	50	39	35	0.0	0.0	0	21	93	1009	0.0
24/09/2020 5:45	50	76	62	51	36	32	0.0	0.0	0	21	93	1009	0.0
24/09/2020 6:00	49	75	60	50	37	33	0.0	0.4	225	21	93	1009	0.0
24/09/2020 6:15	50	72	61	52	37	32	0.0	0.0	0	21	93	1009	0.0
24/09/2020 6:30	47	70	56	49	39	32	0.0	0.4	225	21	94	1009	0.0
24/09/2020 6:45	44	62	54	47	35	30	0.0	0.4	225	21	94	1010	0.0
24/09/2020 7:00	48	79	57	50	35	29	0.0	0.4	225	21	94	1010	0.0
24/09/2020 7:15	48	73	61	48	34	31	0.4	0.9	248	21	94	1010	0.0
24/09/2020 7:30	46	76	56	48	34	29	0.0	0.9	315	22	94	1010	0.0
24/09/2020 7:45	46	65	59	49	33	29	0.4	0.9	248	22	92	1011	0.0
24/09/2020 8:00	47	69	60	47	34	31	0.0	0.9	225	22	90	1010	0.0
24/09/2020 8:15	45	63	56	49	33	29	0.4	1.8	225	22	87	1011	0.0
24/09/2020 8:30	55	81	67	53	35	30	0.4	1.3	248	23	85	1011	0.0
24/09/2020 8:45	46	70	57	49	35	31	0.0	0.9	203	23	83	1011	0.0
24/09/2020 9:00	48	73	60	46	33	30	0.9	1.8	158	24	82	1010	0.0
24/09/2020 9:15	47	65	59	49	34	31	0.9	1.8	158	24	80	1011	0.0
24/09/2020 9:30	47	76	58	50	35	31	0.9	1.8	158	24	75	1011	0.0
24/09/2020 9:45	47	69	57	49	37	31	0.4	1.8	135	24	71	1011	0.0
24/09/2020 10:00	48	73	58	51	38	33	1.3	2.7	158	25	66	1010	0.0
24/09/2020 10:15	47	64	57	50	39	33	1.3	3.1	135	26	64	1010	0.0
24/09/2020 10:30	49	71	61	51	38	32	1.8	4.0	135	27	63	1010	0.0
24/09/2020 10:45	45	64	56	47	36	31	1.8	4.9	158	27	61	1010	0.0
24/09/2020 11:00	44	61	54	47	35	31	1.3	3.1	158	27	57	1010	0.0
24/09/2020 11:15	44	60	55	47	35	32	1.3	3.6	158	27	55	1010	0.0
24/09/2020 11:30	46	67	57	48	34	31	1.3	3.1	158	28	54	1010	0.0
24/09/2020 11:45	42	59	51	46	34	30	1.3	4.0	158	28	47	1009	0.0
24/09/2020 12:00	43	59	52	45	35	31	0.4	2.2	113	28	48	1010	0.0
24/09/2020 12:15	48	69	63	46	35	29	0.9	2.7	158	28	46	1010	0.0
24/09/2020 12:30	46	68	55	48	34	30	0.9	2.7	135	29	46	1009	0.0
24/09/2020 12:45	44	66	54	48	34	28	0.9	2.7	135	29	44	1009	0.0
24/09/2020 13:00	44	74	52	47	33	29	1.3	3.1	135	29	46	1009	0.0
24/09/2020 13:15	46	66	58	49	33	30	0.9	2.7	158	29	47	1009	0.0
24/09/2020 13:30	48	64	57	50	37	28	0.9	2.7	135	29	45	1008	0.0
24/09/2020 13:45	46	57	52	50	35	30	0.9	2.7	135	30	44	1008	0.0
24/09/2020 14:00	44	60	54	48	36	32	0.9	2.7	135	29	46	1008	0.0
24/09/2020 14:15	43	64	52	46	36	32	1.3	3.1	135	30	45	1008	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
24/09/2020 14:30	42	58	51	45	34	30	0.9	2.7	113	30	46	1008	0.0
24/09/2020 14:45	48	72	60	49	36	31	0.9	2.7	135	29	46	1008	0.0
24/09/2020 15:00	44	60	52	47	36	32	0.9	2.2	113	29	46	1008	0.0
24/09/2020 15:15	46	63	55	49	38	33	0.9	3.1	135	29	46	1008	0.0
24/09/2020 15:30	47	60	54	50	43	38	1.3	4.0	113	29	54	1008	0.0
24/09/2020 15:45	56	91	56	52	45	40	1.8	4.0	90	28	53	1008	0.0
24/09/2020 16:00	48	64	56	50	43	38	2.2	5.8	90	27	53	1008	0.0
24/09/2020 16:15	48	71	56	51	42	38	1.8	5.4	90	27	54	1008	0.0
24/09/2020 16:30	47	62	56	50	39	34	2.2	4.9	90	26	53	1008	0.0
24/09/2020 16:45	49	76	58	51	41	37	1.3	3.6	113	25	54	1008	0.0
24/09/2020 17:00	48	68	55	51	41	35	1.3	3.1	113	25	55	1008	0.0
24/09/2020 17:15	49	72	60	51	41	36	0.9	2.7	113	24	53	1009	0.0
24/09/2020 17:30	48	63	56	51	42	37	0.9	2.7	113	24	54	1008	0.0
24/09/2020 17:45	51	69	63	53	41	36	0.9	1.8	135	23	57	1009	0.0
24/09/2020 18:00	55	70	67	57	38	31	0.4	1.8	135	23	61	1009	0.0
24/09/2020 18:15	45	61	56	48	37	35	0.4	1.3	135	22	64	1008	0.0
24/09/2020 18:30	47	63	56	49	43	37	0.0	0.4	180	21	66	1009	0.0
24/09/2020 18:45	47	52	50	48	45	42	0.0	0.4	180	21	74	1009	0.0
24/09/2020 19:00	46	62	52	47	43	41	0.0	0.4	180	20	75	1009	0.0
24/09/2020 19:15	44	51	49	46	41	38	0.0	0.4	180	20	78	1009	0.0
24/09/2020 19:30	43	53	49	46	41	35	0.0	0.0	0	19	80	1010	0.0
24/09/2020 19:45	43	56	51	45	41	36	0.0	0.0	0	19	84	1010	0.0
24/09/2020 20:00	44	62	56	44	38	34	0.0	0.4	180	19	84	1010	0.0
24/09/2020 20:15	42	53	47	44	38	33	0.0	0.4	180	18	86	1010	0.0
24/09/2020 20:30	40	52	47	43	37	31	0.0	0.0	0	18	86	1010	0.0
24/09/2020 20:45	41	59	50	43	37	30	0.0	0.0	0	18	88	1010	0.0
24/09/2020 21:00	41	52	48	44	35	30	0.0	0.4	158	18	87	1010	0.0
24/09/2020 21:15	41	55	48	45	32	29	0.0	0.4	158	18	87	1010	0.0
24/09/2020 21:30	43	55	50	46	35	29	0.0	0.4	158	17	88	1010	0.0
24/09/2020 21:45	39	54	48	43	30	27	0.0	0.4	158	17	88	1010	0.0
24/09/2020 22:00	40	55	51	44	31	28	0.0	0.0	0	17	89	1010	0.0
24/09/2020 22:15	35	51	46	36	29	27	0.0	0.0	0	16	90	1010	0.0
24/09/2020 22:30	38	53	49	42	29	27	0.0	0.4	158	16	92	1010	0.0
24/09/2020 22:45	37	53	48	40	29	26	0.0	0.0	0	16	92	1010	0.0
24/09/2020 23:00	34	54	45	36	29	27	0.0	0.0	0	16	92	1010	0.0
24/09/2020 23:15	35	52	47	37	28	26	0.0	0.0	0	16	93	1010	0.0
24/09/2020 23:30	37	58	49	35	28	25	0.0	0.0	0	16	93	1010	0.0
24/09/2020 23:45	38	57	51	36	27	25	0.0	0.0	0	16	92	1009	0.0
25/09/2020 0:00	36	56	47	39	28	26	0.0	0.0	0	16	93	1009	0.0
25/09/2020 0:15	39	55	51	41	29	26	0.0	0.0	0	16	92	1009	0.0
25/09/2020 0:30	29	54	33	31	27	26	0.0	0.0	0	15	93	1009	0.0
25/09/2020 0:45	36	54	48	36	29	26	0.0	0.0	0	15	93	1009	0.0
25/09/2020 1:00	34	52	47	33	28	26	0.0	0.0	0	15	93	1009	0.0
25/09/2020 1:15	43	60	54	47	28	26	0.0	0.4	158	15	93	1009	0.0
25/09/2020 1:30	34	53	47	35	27	25	0.0	0.0	0	15	93	1009	0.0
25/09/2020 1:45	41	61	54	41	27	25	0.0	0.0	0	15	93	1009	0.0
25/09/2020 2:00	38	58	51	39	27	25	0.0	0.0	0	15	94	1009	0.0
25/09/2020 2:15	39	58	53	40	27	25	0.0	0.0	0	15	94	1009	0.0
25/09/2020 2:30	29	47	35	31	27	25	0.0	0.0	0	15	94	1008	0.0
25/09/2020 2:45	33	54	42	33	27	25	0.0	0.0	0	14	94	1009	0.0
25/09/2020 3:00	37	52	49	41	28	25	0.0	0.0	0	15	95	1008	0.0
25/09/2020 3:15	36	54	47	40	28	26	0.0	0.0	0	15	95	1008	0.0
25/09/2020 3:30	37	54	47	40	28	26	0.0	0.0	0	15	95	1008	0.0
25/09/2020 3:45	44	63	54	48	30	27	0.0	0.0	0	15	95	1008	0.0
25/09/2020 4:00	40	56	51	44	29	27	0.0	0.9	180	16	95	1008	0.0
25/09/2020 4:15	41	56	50	46	29	26	0.4	1.3	180	16	94	1008	0.0
25/09/2020 4:30	43	59	53	47	28	25	0.0	0.4	180	16	93	1008	0.0
25/09/2020 4:45	40	54	50	44	32	27	0.0	0.4	180	16	94	1008	0.0
25/09/2020 5:00	48	61	57	52	37	31	0.0	0.0	0	16	95	1008	0.0
25/09/2020 5:15	56	71	66	59	47	42	0.0	0.0	0	16	94	1009	0.0
25/09/2020 5:30	50	71	59	53	39	34	0.0	0.0	0	16	95	1009	0.0
25/09/2020 5:45	51	83	58	51	40	32	0.0	0.4	158	17	95	1009	0.0
25/09/2020 6:00	53	78	65	54	42	35	0.0	0.4	158	17	95	1009	0.0
25/09/2020 6:15	48	74	58	50	41	36	0.0	0.0	0	17	95	1009	0.0
25/09/2020 6:30	47	69	57	49	40	33	0.0	0.4	158	17	94	1009	0.0
25/09/2020 6:45	46	63	58	48	37	32	0.4	1.3	315	17	93	1009	0.0
25/09/2020 7:00	46	63	58	50	37	33	0.4	0.9	338	18	92	1010	0.0
25/09/2020 7:15	53	72	66	53	38	32	0.4	0.9	338	18	90	1010	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
25/09/2020 7:30	62	85	75	62	49	33	0.0	0.9	90	20	88	1010	0.0
25/09/2020 7:45	62	81	75	65	39	32	0.0	0.4	315	21	83	1010	0.0
25/09/2020 8:00	61	83	75	56	36	30	0.0	0.9	158	23	78	1010	0.0
25/09/2020 8:15	51	68	63	55	34	30	0.4	1.8	158	23	76	1010	0.0
25/09/2020 8:30	50	80	61	51	33	30	0.0	0.9	0	24	75	1010	0.0
25/09/2020 8:45	48	69	55	49	37	31	0.9	2.2	248	24	75	1010	0.0
25/09/2020 9:00	45	76	53	48	34	30	0.9	3.1	270	25	72	1010	0.0
25/09/2020 9:15	44	65	54	48	34	29	1.3	2.7	270	26	69	1010	0.0
25/09/2020 9:30	45	63	55	48	33	29	1.8	4.0	248	26	67	1010	0.0
25/09/2020 9:45	48	63	55	50	37	31	1.8	3.6	270	26	66	1010	0.0
25/09/2020 10:00	45	64	55	49	34	30	1.3	4.5	248	27	63	1010	0.0
25/09/2020 10:15	48	68	59	50	35	31	1.3	4.5	270	27	64	1010	0.0
25/09/2020 10:30	44	65	52	48	36	30	1.3	4.0	248	27	65	1010	0.0
25/09/2020 10:45	43	63	54	45	36	31	1.8	5.8	270	28	59	1009	0.0
25/09/2020 11:00	43	58	50	45	38	34	1.8	4.0	270	28	60	1009	0.0
25/09/2020 11:15	42	61	53	43	35	29	2.2	5.8	270	28	58	1008	0.0
25/09/2020 11:30	45	66	56	47	36	32	1.3	4.9	270	29	54	1008	0.0
25/09/2020 11:45	43	58	53	47	35	31	2.2	4.9	293	30	50	1008	0.0
25/09/2020 12:00	46	63	57	47	37	32	1.8	4.0	270	30	51	1008	0.0
25/09/2020 12:15	42	60	52	44	33	28	2.2	5.8	270	30	51	1008	0.0
25/09/2020 12:30	42	61	51	44	34	30	1.8	4.0	68	30	50	1007	0.0
25/09/2020 12:45	43	73	52	42	33	29	1.8	4.9	270	31	48	1007	0.0
25/09/2020 13:00	41	61	50	44	34	29	1.8	5.8	270	31	45	1007	0.0
25/09/2020 13:15	42	60	54	43	33	30	1.3	3.6	68	31	44	1007	0.0
25/09/2020 13:30	43	61	52	46	34	30	1.3	3.6	68	31	47	1006	0.0
25/09/2020 13:45	48	64	57	51	40	34	0.9	2.7	135	30	56	1006	0.0
25/09/2020 14:00	47	69	56	50	40	36	0.9	2.7	135	29	58	1006	0.0
25/09/2020 14:15	47	62	55	50	41	36	1.3	4.0	113	29	59	1005	0.0
25/09/2020 14:30	47	63	53	50	42	40	1.3	3.1	135	28	62	1005	0.0
25/09/2020 14:45	47	64	54	50	42	37	1.3	3.6	113	28	65	1005	0.0
25/09/2020 15:00	53	83	64	51	44	39	1.3	4.0	135	27	67	1005	0.0
25/09/2020 15:15	50	68	60	52	44	41	1.8	4.0	135	27	68	1005	0.0
25/09/2020 15:30	49	68	58	51	45	41	1.8	4.9	135	27	69	1004	0.0
25/09/2020 15:45	48	64	54	50	42	38	3.1	6.3	158	27	70	1005	0.0
25/09/2020 16:00	47	59	54	50	43	37	2.7	5.4	135	26	70	1005	0.0
25/09/2020 16:15	48	63	57	51	42	38	1.8	4.5	135	26	69	1005	0.0
25/09/2020 16:30	47	61	54	50	42	37	1.8	3.6	135	27	69	1005	0.0
25/09/2020 16:45	49	62	57	52	42	36	1.3	2.7	135	26	71	1005	0.0
25/09/2020 17:00	47	68	54	50	41	36	0.9	2.2	135	26	72	1005	0.0
25/09/2020 17:15	49	62	55	51	44	39	0.9	2.7	135	26	71	1005	0.0
25/09/2020 17:30	45	64	55	47	37	33	0.4	1.3	158	26	72	1005	0.0
25/09/2020 17:45	44	54	50	47	37	33	0.4	2.2	45	26	70	1006	0.0
25/09/2020 18:00	45	62	56	47	36	33	1.3	3.6	68	26	62	1006	0.0
25/09/2020 18:15	44	59	53	47	37	33	1.3	3.1	293	25	64	1006	0.0
25/09/2020 18:30	47	54	51	50	42	38	1.8	4.0	293	25	67	1006	0.0
25/09/2020 18:45	49	59	52	50	47	41	1.8	4.9	293	24	70	1007	0.0
25/09/2020 19:00	48	57	53	50	45	41	1.8	4.5	293	24	71	1007	0.0
25/09/2020 19:15	48	59	53	49	46	43	1.8	4.9	293	23	73	1007	0.0
25/09/2020 19:30	47	54	51	49	46	42	1.8	4.5	293	23	74	1007	0.0
25/09/2020 19:45	48	58	52	49	46	44	1.3	3.1	293	23	75	1007	0.0
25/09/2020 20:00	49	62	57	51	45	39	1.3	3.6	315	23	76	1008	0.0
25/09/2020 20:15	47	58	51	48	45	42	1.3	2.7	315	23	77	1008	0.0
25/09/2020 20:30	47	53	50	48	46	43	0.9	2.2	68	22	78	1008	0.0
25/09/2020 20:45	47	51	49	48	45	41	0.4	1.8	315	22	79	1008	0.0
25/09/2020 21:00	47	65	52	48	45	42	0.9	1.8	270	22	80	1008	0.0
25/09/2020 21:15	46	54	49	48	43	40	0.9	1.8	270	22	80	1008	0.0
25/09/2020 21:30	41	49	44	42	39	38	0.4	1.3	270	21	81	1008	0.0
25/09/2020 21:45	42	54	47	43	39	37	0.0	0.9	248	21	82	1009	0.0
25/09/2020 22:00	44	59	49	45	41	38	0.9	2.2	225	21	82	1008	0.0
25/09/2020 22:15	44	51	47	46	42	39	0.9	2.2	248	21	82	1009	0.0
25/09/2020 22:30	44	50	46	45	41	37	0.4	2.2	225	22	82	1009	0.0
25/09/2020 22:45	42	51	44	43	40	38	0.9	2.2	248	22	83	1009	0.0
25/09/2020 23:00	45	51	48	47	42	39	0.9	2.2	248	22	83	1009	0.0
25/09/2020 23:15	44	48	46	45	43	36	0.9	2.7	248	22	84	1009	0.0
25/09/2020 23:30	43	48	45	44	42	40	0.4	2.2	270	22	84	1008	0.0
25/09/2020 23:45	46	61	57	46	43	40	0.0	1.3	270	22	84	1008	0.0
26/09/2020 0:00	42	46	45	44	39	37	0.0	0.0	0	21	85	1008	0.0
26/09/2020 0:15	41	54	45	42	39	35	0.0	0.0	0	21	86	1008	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
26/09/2020 0:30	39	47	42	40	38	33	0.0	0.0	0	21	86	1008	0.0
26/09/2020 0:45	40	49	44	42	37	34	0.0	0.9	248	21	87	1008	0.0
26/09/2020 1:00	39	48	42	41	37	34	0.0	0.4	248	21	86	1008	0.0
26/09/2020 1:15	39	49	42	41	37	34	0.0	0.9	315	21	86	1008	0.0
26/09/2020 1:30	40	48	42	41	38	35	0.0	0.4	203	21	86	1008	0.0
26/09/2020 1:45	40	54	43	42	38	34	0.0	0.4	225	21	87	1008	0.0
26/09/2020 2:00	38	50	43	41	32	30	0.0	0.4	225	21	87	1008	0.0
26/09/2020 2:15	33	50	41	37	28	26	0.0	0.0	0	21	88	1008	0.0
26/09/2020 2:30	32	47	38	36	28	26	0.0	0.0	0	21	88	1008	0.0
26/09/2020 2:45	34	50	43	38	29	27	0.0	0.4	225	21	88	1008	0.0
26/09/2020 3:00	32	53	40	33	30	28	0.0	0.0	0	21	89	1008	0.0
26/09/2020 3:15	32	44	40	34	29	26	0.0	0.0	0	21	90	1008	0.0
26/09/2020 3:30	34	46	43	37	29	26	0.0	0.4	225	21	90	1008	0.0
26/09/2020 3:45	32	50	40	34	29	26	0.0	0.4	225	21	90	1008	0.0
26/09/2020 4:00	32	48	40	34	29	26	0.4	1.3	270	21	90	1008	0.0
26/09/2020 4:15	37	59	49	33	28	26	0.0	0.9	270	21	90	1008	0.0
26/09/2020 4:30	30	44	33	31	28	27	0.4	1.8	270	21	90	1008	0.0
26/09/2020 4:45	33	52	41	36	30	27	0.0	0.9	225	20	90	1008	0.0
26/09/2020 5:00	43	64	53	47	33	29	0.0	0.4	203	20	91	1008	0.0
26/09/2020 5:15	46	63	57	48	39	33	0.0	0.0	0	19	92	1008	0.0
26/09/2020 5:30	50	77	62	50	36	31	0.0	0.0	0	19	92	1009	0.0
26/09/2020 5:45	55	88	64	53	37	31	0.0	0.0	0	18	93	1009	0.0
26/09/2020 6:00	61	90	72	56	37	29	0.0	0.0	0	18	93	1009	0.0
26/09/2020 6:15	51	68	63	54	35	29	0.0	0.0	0	18	94	1009	0.0
26/09/2020 6:30	50	77	61	53	34	30	0.0	0.4	225	18	93	1010	0.0
26/09/2020 6:45	59	81	74	53	34	29	0.0	1.3	248	19	93	1010	0.0
26/09/2020 7:00	40	59	51	42	33	30	0.9	1.8	248	19	91	1010	0.0
26/09/2020 7:15	51	68	64	52	34	31	0.9	3.6	225	21	85	1010	0.0
26/09/2020 7:30	49	76	59	47	35	31	1.8	4.0	225	22	81	1011	0.0
26/09/2020 7:45	47	64	58	49	39	35	1.8	5.4	225	23	72	1011	0.0
26/09/2020 8:00	57	84	70	55	40	35	2.7	5.8	203	23	66	1011	0.0
26/09/2020 8:15	45	66	58	47	36	31	2.7	6.3	203	24	65	1011	0.0
26/09/2020 8:30	46	68	59	47	33	31	1.8	4.5	203	24	60	1011	0.0
26/09/2020 8:45	46	71	60	46	34	31	1.3	4.9	225	25	59	1011	0.0
26/09/2020 9:00	43	64	55	43	33	30	1.3	3.1	203	25	52	1012	0.0
26/09/2020 9:15	44	63	56	46	35	32	1.3	3.1	203	26	48	1012	0.0
26/09/2020 9:30	40	62	50	41	33	30	1.8	3.6	203	26	44	1012	0.0
26/09/2020 9:45	44	65	56	45	34	30	1.3	3.6	203	26	37	1012	0.0
26/09/2020 10:00	43	63	55	43	32	28	1.3	4.5	203	27	36	1012	0.0
26/09/2020 10:15	42	60	55	42	32	29	1.8	4.5	225	27	33	1012	0.0
26/09/2020 10:30	38	61	49	40	32	28	1.8	4.0	248	27	31	1012	0.0
26/09/2020 10:45	42	61	54	45	31	28	1.3	4.9	203	28	32	1012	0.0
26/09/2020 11:00	42	63	55	42	33	29	1.3	3.1	203	28	30	1011	0.0
26/09/2020 11:15	41	69	53	41	30	27	1.8	4.9	225	28	29	1011	0.0
26/09/2020 11:30	41	59	52	44	32	29	1.8	4.5	248	29	28	1011	0.0
26/09/2020 11:45	39	62	50	38	28	25	1.8	4.5	225	29	27	1010	0.0
26/09/2020 12:00	46	68	60	43	31	28	0.9	3.1	225	29	26	1010	0.0
26/09/2020 12:15	47	68	60	49	36	32	1.8	5.8	203	30	24	1010	0.0
26/09/2020 12:30	45	61	54	49	37	31	2.7	5.4	225	30	21	1010	0.0
26/09/2020 12:45	47	66	55	51	38	33	2.7	7.2	225	30	20	1010	0.0
26/09/2020 13:00	44	64	53	48	36	31	3.6	7.2	203	30	19	1009	0.0
26/09/2020 13:15	57	78	72	51	40	34	2.7	6.7	225	30	19	1009	0.0
26/09/2020 13:30	43	57	53	46	37	31	2.7	5.8	203	30	20	1009	0.0
26/09/2020 13:45	42	61	53	44	33	30	2.2	5.4	225	30	21	1009	0.0
26/09/2020 14:00	45	62	56	46	37	33	2.2	6.3	203	30	22	1009	0.0
26/09/2020 14:15	45	67	57	46	34	32	2.2	5.4	225	30	21	1008	0.0
26/09/2020 14:30	45	70	54	49	37	34	2.7	6.7	225	30	21	1008	0.0
26/09/2020 14:45	42	59	50	46	35	32	2.2	6.3	225	31	18	1008	0.0
26/09/2020 15:00	41	67	51	43	35	33	2.2	5.8	225	31	19	1008	0.0
26/09/2020 15:15	45	67	56	46	36	32	1.8	4.9	225	31	20	1008	0.0
26/09/2020 15:30	42	61	51	45	36	32	2.2	4.9	203	30	20	1008	0.0
26/09/2020 15:45	45	73	56	45	35	32	1.8	5.8	225	31	20	1008	0.0
26/09/2020 16:00	45	68	55	46	37	33	1.8	4.9	203	31	20	1008	0.0
26/09/2020 16:15	57	79	73	46	34	31	2.2	5.8	203	30	20	1008	0.0
26/09/2020 16:30	42	64	51	44	35	33	1.8	4.0	203	31	20	1008	0.0
26/09/2020 16:45	44	67	57	44	32	29	1.8	4.0	203	30	20	1008	0.0
26/09/2020 17:00	39	58	51	39	32	29	1.3	4.9	203	30	20	1009	0.0
26/09/2020 17:15	45	66	55	47	34	30	0.9	1.8	203	30	21	1009	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
26/09/2020 17:30	44	63	54	48	34	30	0.9	2.2	203	29	22	1009	0.0
26/09/2020 17:45	48	71	58	50	34	28	0.9	1.8	158	27	26	1009	0.0
26/09/2020 18:00	46	64	55	50	34	28	0.9	1.8	158	26	27	1009	0.0
26/09/2020 18:15	44	56	52	48	34	30	0.4	0.9	158	25	31	1009	0.0
26/09/2020 18:30	46	54	52	49	39	35	0.0	0.4	158	24	35	1010	0.0
26/09/2020 18:45	46	52	50	48	45	43	0.4	0.4	158	24	31	1010	0.0
26/09/2020 19:00	45	55	50	47	43	40	0.0	0.4	158	23	36	1010	0.0
26/09/2020 19:15	44	57	53	47	40	36	0.0	0.4	180	22	38	1010	0.0
26/09/2020 19:30	45	66	54	48	39	36	0.0	0.4	158	21	49	1010	0.0
26/09/2020 19:45	43	57	52	46	36	33	0.0	0.4	158	20	45	1011	0.0
26/09/2020 20:00	43	59	52	46	34	29	0.0	0.4	158	20	45	1011	0.0
26/09/2020 20:15	44	61	54	46	36	32	0.0	0.4	158	20	44	1011	0.0
26/09/2020 20:30	44	63	54	45	37	32	0.0	0.0	0	20	42	1011	0.0
26/09/2020 20:45	46	56	51	48	42	35	0.0	1.3	135	21	40	1012	0.0
26/09/2020 21:00	42	60	53	44	30	26	0.4	1.3	135	21	37	1012	0.0
26/09/2020 21:15	40	52	48	44	30	26	0.0	0.4	180	19	46	1012	0.0
26/09/2020 21:30	43	58	53	48	28	25	0.0	0.4	158	19	47	1012	0.0
26/09/2020 21:45	41	58	53	45	26	23	0.4	0.4	158	17	53	1012	0.0
26/09/2020 22:00	39	53	49	44	27	24	0.0	0.4	158	17	51	1012	0.0
26/09/2020 22:15	41	60	52	44	26	23	0.0	0.4	158	17	57	1012	0.0
26/09/2020 22:30	38	51	46	42	27	23	0.0	0.9	158	16	63	1012	0.0
26/09/2020 22:45	38	53	49	43	27	24	0.0	0.9	158	15	64	1012	0.0
26/09/2020 23:00	41	59	52	45	26	22	0.4	0.9	158	16	59	1012	0.0
26/09/2020 23:15	35	53	46	39	26	22	0.4	0.9	180	16	58	1013	0.0
26/09/2020 23:30	39	54	50	43	26	23	0.0	0.4	180	15	65	1013	0.0
26/09/2020 23:45	35	52	46	38	25	21	0.0	0.4	180	14	69	1013	0.0
27/09/2020 0:00	35	49	45	39	26	22	0.4	0.9	158	14	63	1013	0.0
27/09/2020 0:15	29	48	39	30	25	22	0.4	0.9	180	14	67	1013	0.0
27/09/2020 0:30	26	45	30	27	23	20	0.0	0.4	203	14	68	1013	0.0
27/09/2020 0:45	34	51	46	37	25	21	0.0	0.4	180	13	75	1013	0.0
27/09/2020 1:00	33	55	46	30	25	21	0.4	0.9	158	13	73	1013	0.0
27/09/2020 1:15	27	46	32	29	25	21	0.9	1.3	158	13	68	1013	0.0
27/09/2020 1:30	34	55	46	37	26	22	0.9	1.3	180	15	57	1012	0.0
27/09/2020 1:45	33	54	45	31	25	20	0.9	1.8	180	15	48	1012	0.0
27/09/2020 2:00	33	52	46	31	25	20	0.9	1.3	180	16	45	1012	0.0
27/09/2020 2:15	32	52	45	35	24	20	0.4	1.8	158	16	42	1012	0.0
27/09/2020 2:30	34	53	46	37	23	20	0.4	1.8	158	17	39	1012	0.0
27/09/2020 2:45	34	53	47	35	24	19	0.4	1.3	158	17	39	1012	0.0
27/09/2020 3:00	27	43	34	28	24	19	0.4	1.3	158	17	38	1012	0.0
27/09/2020 3:15	26	44	32	27	23	19	0.4	0.9	158	17	38	1012	0.0
27/09/2020 3:30	33	54	47	31	24	19	0.4	1.3	135	17	38	1012	0.0
27/09/2020 3:45	35	53	47	39	25	20	0.0	0.9	158	15	39	1013	0.0
27/09/2020 4:00	35	51	47	39	24	19	0.4	1.3	158	17	37	1013	0.0
27/09/2020 4:15	34	54	44	37	20	18	0.4	0.9	203	15	51	1013	0.0
27/09/2020 4:30	38	51	48	42	22	19	0.4	0.4	203	13	66	1013	0.0
27/09/2020 4:45	35	55	44	39	24	19	0.0	0.0	0	12	67	1013	0.0
27/09/2020 5:00	44	66	57	47	27	20	0.0	0.4	203	12	70	1014	0.0
27/09/2020 5:15	47	60	56	50	39	30	0.0	0.0	0	11	73	1014	0.0
27/09/2020 5:30	55	83	69	53	31	24	0.0	0.4	203	10	75	1014	0.0
27/09/2020 5:45	56	80	70	53	36	27	0.0	0.0	0	10	70	1014	0.0
27/09/2020 6:00	48	77	58	49	34	27	0.0	0.4	180	11	70	1014	0.0
27/09/2020 6:15	41	60	52	45	30	26	0.0	0.0	0	12	60	1014	0.0
27/09/2020 6:30	46	68	55	49	30	26	0.0	0.4	158	16	44	1015	0.0
27/09/2020 6:45	45	62	56	48	32	27	0.0	0.0	0	15	56	1015	0.0
27/09/2020 7:00	46	74	58	46	32	27	0.4	1.8	135	18	33	1015	0.0
27/09/2020 7:15	45	65	55	48	34	29	0.9	2.7	135	19	32	1016	0.0
27/09/2020 7:30	45	62	55	48	33	27	1.3	2.7	158	20	29	1015	0.0
27/09/2020 7:45	46	72	55	46	36	33	1.3	3.1	135	21	29	1016	0.0
27/09/2020 8:00	47	74	56	48	38	34	1.8	4.0	135	21	27	1016	0.0
27/09/2020 8:15	47	66	58	50	38	34	2.2	4.5	135	22	27	1016	0.0
27/09/2020 8:30	45	65	55	48	37	33	1.8	4.5	135	22	26	1016	0.0
27/09/2020 8:45	44	70	53	47	36	32	2.2	4.5	135	22	25	1016	0.0
27/09/2020 9:00	46	62	55	49	36	30	1.8	4.0	135	23	25	1016	0.0
27/09/2020 9:15	44	63	54	48	33	28	1.8	3.6	135	24	26	1016	0.0
27/09/2020 9:30	44	68	56	46	33	29	1.3	4.0	135	24	25	1016	0.0
27/09/2020 9:45	43	67	50	48	32	26	1.3	3.1	135	25	23	1016	0.0
27/09/2020 10:00	44	73	50	42	32	28	1.3	3.6	135	25	22	1016	0.0
27/09/2020 10:15	43	59	51	46	32	28	1.3	2.7	135	25	28	1016	0.0

Logged Noise and Weather Data

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
27/09/2020 10:30	44	63	54	48	33	29	1.3	2.2	135	26	29	1016	0.0
27/09/2020 10:45	41	60	51	43	32	28	1.3	3.6	113	26	32	1016	0.0
27/09/2020 11:00	40	66	49	41	30	27	0.9	3.1	135	26	32	1016	0.0
27/09/2020 11:15	43	64	54	45	32	27	0.9	2.2	135	26	33	1016	0.0
27/09/2020 11:30	43	66	56	42	30	27	0.9	3.6	113	27	33	1015	0.0
27/09/2020 11:45	42	61	56	42	31	27	1.3	3.1	270	27	32	1015	0.0
27/09/2020 12:00	36	58	47	38	29	26	1.3	3.1	135	27	31	1015	0.0
27/09/2020 12:15	35	53	44	38	30	27	1.3	3.1	203	27	31	1014	0.0
27/09/2020 12:30	43	60	54	46	32	28	0.9	2.2	225	28	32	1014	0.0
27/09/2020 12:45	39	66	49	41	30	26	0.9	2.2	113	28	30	1014	0.0
27/09/2020 13:00	40	57	49	43	31	28	0.9	2.7	158	28	33	1013	0.0
27/09/2020 13:15	41	63	52	41	31	27	1.8	4.9	90	28	30	1013	0.0
27/09/2020 13:30	43	66	55	43	29	26	1.3	5.4	293	29	27	1013	0.0
27/09/2020 13:45	43	70	51	39	31	27	0.9	2.7	225	29	27	1013	0.0
27/09/2020 14:00	44	66	58	45	31	28	0.9	3.6	135	29	27	1012	0.0
27/09/2020 14:15	43	58	51	46	37	33	1.3	3.6	90	29	29	1012	0.0
27/09/2020 14:30	46	67	55	49	39	35	1.3	3.6	113	28	32	1012	0.0
27/09/2020 14:45	46	62	53	49	40	37	2.2	5.8	113	28	34	1011	0.0
27/09/2020 15:00	46	70	54	48	40	36	1.8	5.8	113	28	36	1011	0.0
27/09/2020 15:15	51	77	59	52	45	40	1.8	5.4	113	27	40	1011	0.0
27/09/2020 15:30	48	69	56	50	44	40	2.7	6.3	113	26	41	1011	0.0
27/09/2020 15:45	49	77	57	50	42	39	2.2	5.4	90	26	43	1011	0.0
27/09/2020 16:00	50	73	61	51	43	40	1.8	4.9	90	26	45	1011	0.0
27/09/2020 16:15	49	72	59	50	41	37	2.2	4.0	113	25	48	1012	0.0
27/09/2020 16:30	50	75	62	50	42	37	1.8	4.0	113	25	50	1012	0.0
27/09/2020 16:45	51	70	64	51	42	37	1.8	4.5	113	24	52	1012	0.0
27/09/2020 17:00	48	66	58	51	40	37	1.8	4.9	113	24	56	1012	0.0
27/09/2020 17:15	54	81	68	51	40	35	1.3	3.6	113	23	58	1012	0.0
27/09/2020 17:30	48	73	58	49	38	34	1.3	4.5	113	23	62	1013	0.0
27/09/2020 17:45	51	74	62	52	39	35	1.3	4.5	135	22	65	1013	0.0
27/09/2020 18:00	52	69	64	54	38	32	0.9	3.1	135	21	67	1013	0.0
27/09/2020 18:15	46	61	54	49	34	30	0.9	2.7	135	21	69	1013	0.0
27/09/2020 18:30	49	61	54	51	44	40	0.4	1.8	135	21	71	1014	0.0
27/09/2020 18:45	50	57	55	51	48	46	0.4	1.8	135	20	72	1014	0.0
27/09/2020 19:00	49	65	57	51	46	43	0.4	1.8	135	20	73	1014	0.0
27/09/2020 19:15	45	55	51	48	43	41	0.4	1.3	158	20	74	1014	0.0
27/09/2020 19:30	45	59	54	48	37	34	0.4	0.9	158	20	76	1015	0.0
27/09/2020 19:45	44	56	52	47	38	34	0.4	0.9	158	19	77	1015	0.0
27/09/2020 20:00	40	58	49	42	36	30	0.4	0.9	158	19	77	1015	0.0
27/09/2020 20:15	42	65	51	44	30	28	0.0	0.9	158	19	78	1015	0.0
27/09/2020 20:30	44	62	53	48	30	27	0.0	0.4	158	19	79	1015	0.0
27/09/2020 20:45	43	59	51	47	32	28	0.0	0.4	158	19	80	1015	0.0
27/09/2020 21:00	42	55	51	46	30	26	0.4	0.4	158	19	80	1015	0.0
27/09/2020 21:15	35	53	47	36	28	25	0.4	0.9	158	19	80	1015	0.0
27/09/2020 21:30	41	57	52	46	31	27	0.9	1.8	158	19	78	1015	0.0
27/09/2020 21:45	38	58	50	40	30	27	0.9	1.3	158	19	77	1015	0.0
27/09/2020 22:00	37	54	49	41	29	27	0.9	1.8	135	19	77	1015	0.0
27/09/2020 22:15	40	60	51	44	30	27	0.9	1.8	158	19	76	1015	0.0
27/09/2020 22:30	37	54	49	40	29	26	0.9	2.2	158	18	76	1015	0.0
27/09/2020 22:45	37	52	47	42	29	26	0.4	1.3	158	18	76	1015	0.0
27/09/2020 23:00	40	60	52	44	29	26	0.4	0.9	158	18	76	1015	0.0
27/09/2020 23:15	33	52	46	34	27	25	0.4	1.8	158	18	76	1015	0.0
27/09/2020 23:30	36	54	47	40	25	23	0.9	1.8	158	18	76	1015	0.0
27/09/2020 23:45	30	45	35	32	27	25	0.4	0.9	158	18	77	1015	0.0
28/09/2020 0:00	39	60	53	37	27	24	0.4	1.3	158	18	78	1015	0.0
28/09/2020 0:15	36	58	47	39	27	23	0.4	1.3	158	18	78	1015	0.0
28/09/2020 0:30	33	50	43	35	29	26	0.4	0.9	158	18	79	1015	0.0
28/09/2020 0:45	35	55	46	37	28	25	0.0	0.9	158	18	80	1015	0.0
28/09/2020 1:00	32	53	42	33	27	24	0.0	0.0	0	17	82	1014	0.0
28/09/2020 1:15	31	43	37	33	27	23	0.0	0.4	180	16	84	1014	0.0
28/09/2020 1:30	38	57	51	40	26	22	0.0	0.0	0	16	85	1014	0.0
28/09/2020 1:45	37	59	49	39	26	22	0.0	0.0	0	15	87	1014	0.0
28/09/2020 2:00	32	49	44	33	25	20	0.0	0.0	0	15	89	1014	0.0
28/09/2020 2:15	42	61	57	41	25	21	0.0	0.0	0	14	89	1014	0.0
28/09/2020 2:30	40	57	53	43	25	21	0.0	0.0	0	14	90	1014	0.0
28/09/2020 2:45	36	58	50	35	24	21	0.0	0.0	0	14	90	1014	0.0
28/09/2020 3:00	40	64	52	42	25	22	0.0	0.0	0	14	91	1014	0.0
28/09/2020 3:15	40	62	53	41	24	20	0.0	0.0	0	13	92	1014	0.0

Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)	Date Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
28/09/2020 3:30	39	58	52	41	24	20	0.0	0.0	0	13	92	1014	0.0	28/09/2020 20:30	41	60	50	45	33	30	0.0	0.9	135	19	69	1016	0.0
28/09/2020 3:45	39	53	49	44	25	21	0.0	0.0	0	13	92	1014	0.0	28/09/2020 20:45	42	56	49	45	36	33	0.4	1.3	135	19	70	1016	0.0
28/09/2020 4:00	43	58	54	47	28	23	0.0	0.0	0	13	93	1014	0.0	28/09/2020 21:00	42	58	51	45	35	32	0.4	1.3	135	19	71	1016	0.0
28/09/2020 4:15	44	64	55	49	25	21	0.0	0.0	0	13	93	1014	0.0	28/09/2020 21:15	41	55	51	45	32	29	0.0	0.9	135	19	71	1016	0.0
28/09/2020 4:30	42	57	53	47	24	22	0.0	0.0	0	13	93	1014	0.0	28/09/2020 21:30	39	54	50	44	29	27	0.4	1.3	135	19	71	1016	0.0
28/09/2020 4:45	42	56	52	45	29	23	0.0	0.0	0	13	93	1015	0.0	28/09/2020 21:45	40	56	50	44	29	27	0.4	1.3	135	19	70	1017	0.0
28/09/2020 5:00	47	59	54	50	36	28	0.0	0.0	0	13	93	1015	0.0	28/09/2020 22:00	41	58	52	45	29	27	0.4	1.3	158	19	71	1016	0.0
28/09/2020 5:15	50	70	58	53	44	38	0.0	0.0	0	13	93	1015	0.0	28/09/2020 22:15	38	54	48	42	28	25	0.4	0.9	158	18	74	1016	0.0
28/09/2020 5:30	55	79	66	55	41	34	0.0	0.0	0	13	94	1015	0.0	28/09/2020 22:30	36	51	47	39	28	25	0.0	0.9	158	18	76	1016	0.0
28/09/2020 5:45	58	82	69	58	43	34	0.0	0.0	0	13	94	1015	0.0	28/09/2020 22:45	39	55	50	43	27	25	0.4	0.9	158	18	75	1016	0.0
28/09/2020 6:00	51	76	61	54	41	32	0.0	0.0	0	13	93	1015	0.0	28/09/2020 23:00	42	62	53	46	27	24	0.4	1.3	158	18	74	1016	0.0
28/09/2020 6:15	51	75	60	53	41	33	0.0	0.0	0	14	95	1015	0.0	28/09/2020 23:15	32	50	43	34	26	24	0.4	1.3	158	18	74	1016	0.0
28/09/2020 6:30	53	77	62	54	42	35	0.0	0.4	135	16	92	1016	0.0	28/09/2020 23:30	34	51	45	37	26	24	0.4	1.3	158	18	74	1016	0.0
28/09/2020 6:45	50	70	60	52	40	36	0.4	1.3	158	18	84	1016	0.0	28/09/2020 23:45	33	56	45	34	27	24	0.4	1.3	135	18	73	1016	0.0
28/09/2020 7:00	54	78	66	52	41	36	0.9	2.7	135	19	79	1016	0.0	29/09/2020 0:00	29	48	37	30	26	23	0.9	1.8	135	19	74	1015	0.0
28/09/2020 7:15	47	63	56	50	38	32	1.3	2.7	135	20	76	1016	0.0	29/09/2020 0:15	35	53	46	39	27	24	0.4	1.3	158	18	75	1016	0.0
28/09/2020 7:30	48	64	57	51	41	36	1.3	3.1	135	21	73	1016	0.0	29/09/2020 0:30	29	47	36	29	26	23	0.4	0.9	158	18	76	1015	0.0
28/09/2020 7:45	47	64	56	50	40	33	1.8	4.0	135	21	73	1017	0.0	29/09/2020 0:45	30	51	38	30	26	24	0.9	1.8	158	18	76	1015	0.0
28/09/2020 8:00	48	65	59	51	40	35	1.8	3.1	135	22	71	1017	0.0	29/09/2020 1:00	32	54	42	30	27	24	0.9	1.8	135	18	75	1015	0.0
28/09/2020 8:15	47	69	56	50	39	35	1.8	4.5	135	22	70	1017	0.0	29/09/2020 1:15	37	57	49	40	28	26	0.9	2.2	158	18	75	1015	0.0
28/09/2020 8:30	51	77	61	52	41	35	1.8	4.0	135	22	69	1017	0.0	29/09/2020 1:30	35	57	47	35	27	25	0.9	2.2	158	18	74	1015	0.0
28/09/2020 8:45	49	78	57	50	38	31	1.8	4.0	135	23	67	1017	0.0	29/09/2020 1:45	35	54	47	36	27	24	0.9	2.2	158	18	75	1015	0.0
28/09/2020 9:00	62	84	77	57	40	33	1.8	3.6	135	24	66	1017	0.0	29/09/2020 2:00	37	59	50	39	27	25	0.9	1.3	158	18	75	1014	0.0
28/09/2020 9:15	50	77	58	51	40	35	1.8	4.5	135	25	64	1017	0.0	29/09/2020 2:15	36	60	49	34	27	25	0.4	1.3	158	18	75	1014	0.0
28/09/2020 9:30	51	80	60	52	42	36	1.8	4.0	135	24	62	1017	0.0	29/09/2020 2:30	30	47	36	31	28	26	0.9	2.2	158	18	74	1014	0.0
28/09/2020 9:45	48	70	55	51	40	33	1.8	4.0	135	25	61	1017	0.0	29/09/2020 2:45	36	53	48	39	29	27	0.9	2.2	158	18	74	1014	0.0
28/09/2020 10:00	49	76	56	52	40	36	1.8	4.5	135	26	58	1017	0.0	29/09/2020 3:00	35	56	48	34	30	28	1.3	2.7	158	18	73	1014	0.0
28/09/2020 10:15	47	66	55	50	42	36	1.8	4.5	135	26	57	1017	0.0	29/09/2020 3:15	38	57	49	40	30	28	1.3	3.1	158	18	72	1014	0.0
28/09/2020 10:30	48	65	57	51	41	35	1.8	4.9	135	26	55	1017	0.0	29/09/2020 3:30	37	57	49	39	29	26	1.3	3.6	158	18	72	1014	0.0
28/09/2020 10:45	46	63	56	49	40	36	2.2	4.9	135	27	54	1017	0.0	29/09/2020 3:45	39	56	50	42	32	30	1.3	2.7	158	18	73	1014	0.0
28/09/2020 11:00	47	59	55	50	42	36	1.8	3.6	135	27	54	1017	0.0	29/09/2020 4:00	40	56	50	43	33	31	1.8	3.6	158	18	73	1014	0.0
28/09/2020 11:15	48	67	56	51	42	37	1.8	5.4	135	27	52	1016	0.0	29/09/2020 4:15	40	57	51	44	32	31	1.8	3.6	158	18	73	1014	0.0
28/09/2020 11:30	47	60	54	50	41	37	2.2	5.4	135	26	53	1016	0.0	29/09/2020 4:30	40	55	50	44	33	31	1.8	4.0	158	18	73	1014	0.0
28/09/2020 11:45	48	63	56	51	40	36	1.8	4.5	113	27	50	1016	0.0	29/09/2020 4:45	40	56	50	44	31	29	1.8	3.6	158	17	73	1014	0.0
28/09/2020 12:00	51	72	63	51	41	37	2.2	4.5	135	26	52	1016	0.0	29/09/2020 5:00	49	72	60	50	36	30	1.3	3.1	158	17	74	1015	0.0
28/09/2020 12:15	51	76	61	52	43	35	2.2	5.4	135	25	53	1016	0.0	29/09/2020 5:15	57	78	71	56	43	38	1.3	3.1	135	17	74	1015	0.0
28/09/2020 12:30	48	70	58	50	39	34	2.2	5.8	113	27	50	1015	0.0	29/09/2020 5:30	52	79	62	55	39	32	1.3	3.1	158	17	74	1015	0.0
28/09/2020 12:45	48	66	59	50	41	35	1.8	4.0	113	26	50	1015	0.0	29/09/2020 5:45	57	81	69	57	43	37	1.3	3.1	158	17	74	1015	0.0
28/09/2020 13:00	45	67	53	48	40	35	1.8	4.0	135	26	51	1015	0.0	29/09/2020 6:00	53	76	64	53	41	35	1.8	3.1	158	18	73	1015	0.0
28/09/2020 13:15	47	61	55	50	41	38	1.8	4.9	113	27	48	1014	0.0	29/09/2020 6:15	49	72	58	52	41	37	1.3	3.1	158	18	73	1016	0.0
28/09/2020 13:30	46	61	55	49	40	34	2.2	4.5	113	27	49	1014	0.0	29/09/2020 6:30	50	74	60	53	41	35	1.8	3.6	158	19	71	1016	0.0
28/09/2020 13:45	55	83	68	52	42	38	1.8	4.9	113	27	51	1014	0.0	29/09/2020 6:45	54	80	67	52	39	34	1.8	3.6	158	19	69	1016	0.0
28/09/2020 14:00	48	65	56	50	41	36	1.8	6.3	113	27	50	1014	0.0	29/09/2020 7:00	49	69	58	52	40	33	1.8	4.0	158	20	68	1016	0.0
28/09/2020 14:15	47	62	53	49	43	38	1.8	6.3	113	27	51	1014	0.0	29/09/2020 7:15	53	76	65	51	42	37	2.2	4.5	158	21	67	1017	0.0
28/09/2020 14:30	48	65	55	50	42	39	2.2	5.8	113	27	50	1014	0.0	29/09/2020 7:30	50	64	60	52	43	39	2.7	5.4	135	21	67	1017	0.0
28/09/2020 14:45	51	79	63	51	42	38	2.2	6.3	113	26	53	1013	0.0	29/09/2020 7:45	50	77	60	50	41	36	2.7	5.8	135	21	66	1017	0.0
28/09/2020 15:00	48	63	55	51	41	36	1.8	4.0	135	26	53	1013	0.0	29/09/2020 8:00	48	71	55	51	43	37	2.2	4.5	135	22	64	1017	0.0
28/09/2020 15:15	48	68	56	50	42	38	2.2	4.0	113	26	52	1013	0.0	29/09/2020 8:15	49	72	57	51	43	38	2.7	5.4	135	23	62	1017	0.0
28/09/2020 15:30	47	65	55	50	43	39	1.8	4.9	113	25	53	1013	0.0	29/09/2020 8:30	48	65	55	50	43	39	2.2	6.7	135	24	62	1017	0.0
28/09/2020 15:45	48	68	56	51	43	37	1.8	4.5	113	26	52	1013	0.0	29/09/2020 8:45	49	73	57	51	42	37	2.7	5.4	135	24	60	1017	0.0
28/09/2020 16:00	51	75	62	52	43	39	1.8	4.0	113	25	52	1013	0.0	29/09/2020 9:00	48	76	56	51	43	38	2.2	5.4	135	24	60	1017	0.0
28/09/2020 16:15	49	66	59	52	43	39	1.8	4.9	135	25	53	1013	0.0	29/09/2020 9:15	49	75	57	51	42	39	2.2	4.9	135	24	59	1017	0.0
28/09/2020 16:30	48	69	57	50	42	38	1.8	5.4	113	24	55	1013	0.0	29/09/2020 9:30	52	72	64	52	42	38	1.8	4.9	113	25	55	1017	0.0
28/09/2020 16:45	50	66	61	52	42	38	1.8	4.0	113	24	55	1014	0.0	29/09/2020 9:45	50	72	62	51	42	37	1.8	4.9	135	25	53	1017	0.0
28/09/2020 17:00	50	66	61	53	43	39	1.8	4.5	135	24	55	1014	0.0	29/09/2020 10:00	47	65	55	50	39	34	2.2	6.7	135	25	55	1017	0.0
28/09/2020 17:15	48	61	56	51	42	37	1.8	3.6	113	23	56	1014	0.0	29/09/2020 10:15	47	72	56	49	40	34	1.8	4.0	135	25	56	1017	0.0
28/09/2020 17:30	47	61	55	51	42	36	1.3	4.5	113	23	58	1014	0.0	29/09/2020 10:30	45	60	53	48	39	36	1.8	4.0	135	26	54	1017	0.0
28/09/2020 17:45	47	62	54	49	40	36	1.3	3.6	113	22	60	1014	0.0	29/09/2020 10:45	47	71	54	49	40	35	1.8	4.5	113	25	56	1017	0.0
28/09/2020 18:00	47	62	55	50	39	34	1.3	4.0	113	21	61	1015	0.0	29/09/2020 11:00	48	63	56	51	40	32	1.8	4.0	113	25	54	1017	0.0
28/09/2020 18:15	45	62	56	47	35	30	0.9	2.7	135	21	61	1015	0.0	29/09/2020 11:15	47	60	54	49	42	37	1.8	4.0	113	27	52	1017	0.0
28/09/2020 18:30	49	58	54	51	45	37	0.9	2.2	113	21	60	1015	0.0	29/09/2020 11:30	47	69	54	49	41	33	1.8	4.0	113	25	54	1016	0.0
28/09/2020 18:45	49	57	53	50	47	45	0.4	1.3	135	20	61	1015	0.0	29/09/2020 11:45	50	73	61	51	42	35	1.8	5.4	113	26	52	1016	0.0
28/09/2020 19:00	48	56	52	50	46	44	0.4	1.8	135	20	62	1016	0.0	29/09/2020 12:00	46	62	54	49	41	36	2.2	4.5	135	26	52	1016	0.0
28/09/2020 19:15	47	63	56	49	44	41	0.4	1.3	135	20	63	1016	0.0	29/09/2020 12:15	51	69	60	53	45	41	1.8	4.9	113	26	52	1016	0.0
28/09/2020 19:30	46	58	52	48	43	41	0.4	1.8	135	20	64	1016	0.0	29/09/2020 12:30	48	64	55	51	42	39	2.7	6.7	113	24	60	1016	0.0
28/09/2020 19:45	45	57	52	48	42	38	0.0	0.9	135	20	65	1016	0.0	29/09/2020 12:45	49	69	58	51	43	39	1.8	5.8	113	25	55	1015	0.0
28/09/2020 20:00	46	63	54	49	41	37	0.4	0.9	135	19	67	1016	0.0	29/09/2020 13:00	48	67	57	50	43	39	2.2	4.9	113	26	52	1015	0.0
28/09/2020 20:15	40	55	48	42	36	31	0.4	0.9	135	19	68	1016	0.0	29/09/2020 13:15	46	61	53	49	41	37	2.2	5.4	113	26	52	1015	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
29/09/2020	13:30	47	56	52	49	42	37	1.8	5.4	113	25	52	1014	0.0
29/09/2020	13:45	48	72	56	50	41	38	2.2	4.5	113	25	54	1014	0.0
29/09/2020	14:00	48	64	54	51	43	39	2.2	5.4	113	25	53	1014	0.0
29/09/2020	14:15	47	57	55	49	43	39	2.2	5.8	113	26	49	1014	0.0
29/09/2020	14:30	49	67	56	51	43	39	2.2	6.7	113	26	51	1014	0.0
29/09/2020	14:45	49	68	55	51	44	40	2.7	5.8	113	26	52	1013	0.0
29/09/2020	15:00	48	62	55	51	44	41	2.7	6.3	113	26	52	1013	0.0
29/09/2020	15:15	49	67	55	51	45	41	2.2	6.3	113	25	54	1013	0.0
29/09/2020	15:30	49	66	57	51	45	40	2.2	4.5	113	25	54	1013	0.0
29/09/2020	15:45	50	72	57	51	44	39	2.2	5.4	113	25	54	1013	0.0
29/09/2020	16:00	48	66	55	51	44	40	2.2	4.5	113	24	55	1013	0.0
29/09/2020	16:15	51	75	59	53	44	40	2.2	4.9	113	24	56	1013	0.0
29/09/2020	16:30	53	77	62	55	44	39	1.8	4.9	113	24	56	1014	0.0
29/09/2020	16:45	49	74	58	50	44	40	1.8	5.8	113	24	56	1013	0.0
29/09/2020	17:00	50	65	60	51	44	40	2.2	4.9	113	23	54	1014	0.0
29/09/2020	17:15	48	60	54	50	42	38	2.2	5.4	113	23	57	1014	0.0
29/09/2020	17:30	54	74	66	57	44	39	1.8	5.8	113	23	61	1014	0.0
29/09/2020	17:45	51	73	58	52	43	39	1.8	4.5	113	22	64	1014	0.0
29/09/2020	18:00	46	67	54	48	41	37	1.8	6.3	113	21	66	1014	0.0
29/09/2020	18:15	46	62	55	49	38	34	1.3	4.5	113	21	67	1014	0.0
29/09/2020	18:30	50	61	55	51	47	41	1.3	4.5	113	21	68	1015	0.0
29/09/2020	18:45	50	61	55	52	48	44	0.9	3.6	113	21	68	1015	0.0
29/09/2020	19:00	49	61	56	51	47	40	1.3	4.5	113	21	67	1015	0.0
29/09/2020	19:15	49	59	55	51	46	42	1.3	3.1	135	21	68	1015	0.0
29/09/2020	19:30	48	56	52	49	45	41	0.9	3.1	135	20	69	1015	0.0
29/09/2020	19:45	46	54	51	49	39	35	0.9	2.7	135	20	70	1015	0.0
29/09/2020	20:00	45	61	53	47	40	36	1.3	3.6	135	20	70	1015	0.0
29/09/2020	20:15	46	54	50	48	42	37	1.8	4.5	135	20	70	1015	0.0
29/09/2020	20:30	43	58	50	47	37	33	1.3	2.7	135	20	71	1015	0.0
29/09/2020	20:45	43	56	51	46	37	34	1.3	2.2	135	20	70	1016	0.0
29/09/2020	21:00	42	59	51	44	35	32	1.3	2.7	135	20	70	1016	0.0
29/09/2020	21:15	41	60	51	43	36	31	0.9	2.7	135	20	70	1016	0.0
29/09/2020	21:30	42	56	51	46	36	32	0.9	3.1	135	19	71	1016	0.0
29/09/2020	21:45	40	59	51	43	33	30	0.9	2.7	135	19	71	1016	0.0
29/09/2020	22:00	41	53	49	44	36	32	0.4	1.8	135	19	71	1016	0.0
29/09/2020	22:15	36	51	46	40	29	25	0.0	1.3	135	19	72	1017	0.0
29/09/2020	22:30	33	50	43	36	28	25	0.0	0.9	135	18	73	1016	0.0
29/09/2020	22:45	38	55	49	42	27	23	0.0	1.3	135	18	74	1016	0.0
29/09/2020	23:00	38	56	50	41	28	23	0.0	1.3	135	18	75	1016	0.0
29/09/2020	23:15	32	54	42	34	27	23	0.0	1.3	135	18	75	1016	0.0
29/09/2020	23:30	36	52	47	40	27	23	0.0	0.9	135	18	75	1016	0.0
29/09/2020	23:45	34	52	47	35	27	24	0.0	0.9	158	17	75	1016	0.0
30/09/2020	0:00	34	52	46	34	26	24	0.0	0.4	158	17	76	1016	0.0
30/09/2020	0:15	30	52	37	32	27	23	0.0	0.9	158	17	76	1016	0.0
30/09/2020	0:30	36	53	48	38	27	24	0.4	1.8	158	17	75	1015	0.0
30/09/2020	0:45	39	57	51	43	27	25	0.9	2.2	158	18	74	1015	0.0
30/09/2020	1:00	41	60	54	40	26	23	0.4	1.3	135	17	74	1015	0.0
30/09/2020	1:15	29	46	37	30	25	22	0.4	1.3	135	17	75	1015	0.0
30/09/2020	1:30	39	58	53	38	26	21	0.4	0.9	158	17	75	1014	0.0
30/09/2020	1:45	37	55	49	41	29	26	0.4	1.3	158	17	76	1014	0.0
30/09/2020	2:00	40	56	53	43	26	23	0.9	1.3	158	17	76	1014	0.0
30/09/2020	2:15	29	51	37	30	26	23	0.4	1.3	158	17	76	1014	0.0
30/09/2020	2:30	39	55	50	43	27	23	0.0	0.9	158	17	77	1014	0.0
30/09/2020	2:45	38	55	49	43	27	24	0.4	0.4	158	17	77	1014	0.0
30/09/2020	3:00	36	56	49	36	27	24	0.4	1.3	158	17	76	1014	0.0
30/09/2020	3:15	35	50	46	38	26	23	0.4	1.3	158	17	75	1014	0.0
30/09/2020	3:30	36	55	48	38	27	24	0.9	1.3	158	17	74	1014	0.0
30/09/2020	3:45	43	63	55	46	27	24	0.9	2.2	158	17	74	1014	0.0
30/09/2020	4:00	38	55	50	41	26	23	0.9	1.8	158	17	74	1014	0.0
30/09/2020	4:15	38	56	50	42	25	22	0.4	1.8	158	17	74	1014	0.0
30/09/2020	4:30	40	55	50	45	26	24	0.4	1.3	158	17	74	1014	0.0
30/09/2020	4:45	43	55	51	47	29	25	0.4	1.3	158	17	75	1014	0.0
30/09/2020	5:00	48	61	56	52	36	29	0.4	1.3	158	17	75	1014	0.0
30/09/2020	5:15	48	63	56	52	41	35	0.4	1.8	158	16	75	1014	0.0
30/09/2020	5:30	54	82	64	55	40	31	0.9	1.8	158	16	75	1014	0.0
30/09/2020	5:45	54	78	62	56	45	35	0.4	1.3	158	16	75	1014	0.0
30/09/2020	6:00	53	82	65	53	37	30	0.0	0.9	90	16	77	1014	0.0
30/09/2020	6:15	50	72	62	52	43	37	0.0	0.0	0	16	78	1014	0.0

Logged Noise and Weather Data

Date	Start Time	LAeq	LAMax	LA1	LA10	LA90	LAmin	Av. Wind speed (m/s)	Max Wind speed (m/s)	Wind Dir (°) North=0°	Temp (°C)	Hum. (%)	Air Pres. (hPa)	Rain (mm)
30/09/2020	6:30	47	63	56	50	40	34	0.0	1.3	135	18	72	1015	0.0
30/09/2020	6:45	46	67	56	49	38	33	0.4	1.8	113	19	69	1015	0.0
30/09/2020	7:00	47	63	56	50	37	31	0.4	2.2	135	19	67	1015	0.0
30/09/2020	7:15	49	71	58	51	40	34	1.3	3.6	135	20	63	1015	0.0
30/09/2020	7:30	48	69	56	51	41	35	0.9	3.1	135	20	65	1015	0.0
30/09/2020	7:45	46	63	53	49	39	36	1.3	3.6	135	20	65	1015	0.0
30/09/2020	8:00	47	60	54	50	41	36	1.8	3.6	135	21	63	1015	0.0

Appendix C

Calibration Certificates

CERTIFICATE OF CALIBRATION

CERTIFICATE NO.: SLM 26050

Equipment Description:	Sound Level Meter		
Manufacturer:	Rion		
Model No:	NL-21	**Serial No:**	00465440
Microphone Type:	UC-52	**Serial No:**	108047
Preamplifier Type:	NH-21	**Serial No:**	19492

Comments: All tests passed for class 2.
(See over for details)

Owner: AECOM Australia Pty Ltd
Level 8, 540 Wickham Street
Fortitude Valley QLD 4006

Ambient Pressure: 999 hPa ±1.5 hPa

Temperature: 25 °C ±2° C **Relative Humidity:** 57 % ±5%

Date of Calibration: 16/12/2019 **Issue Date:** 16/12/2019

Acu-Vib Test Procedure: AVP10 (SLM)

CHECKED BY: VKB **AUTHORISED SIGNATURE:** ....

Hein Soe

Accredited for compliance with ISO/IEC 17025 - Calibration
The results of the tests, calibration and/or measurements included in this document are traceable to Australian/national standards.

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WORLD RECOGNISED ACCREDITATION

Accredited Lab. No. 9262
Acoustic and Vibration Measurements

ACU-VIB
ELECTRONICS

HEAD OFFICE
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
Tel: (02) 96808133 Fax: (02)96808233
Mobile: 0413 809806
web site: www.acu-vib.com.au

CERTIFICATE OF CALIBRATION

CERTIFICATE NO.: SLM 24931 & FILT 5242

Equipment Description:	Sound Level Meter		
Manufacturer:	Larson Davis		
Model No:	831	**Serial No:**	0002313
Microphone Type:	PCB377B02	**Serial No:**	120192
Preamplifier Type:	PRM 831(PCB)	**Serial No:**	017089
Filter Type:	1/3 Octave	**Serial No:**	0002313
Comments:	All tests passed for class 1. (See over for details)		
Owner:	AECOM Australia Pty Ltd Level 8, 540 Wickham Street Fortitude Valley QLD 4006		
Ambient Pressure:	1000 hPa ±1.5 hPa		
Temperature:	24 °C ±2° C	**Relative Humidity:**	48% ±5%
Date of Calibration:	13/06/2019	**Issue Date:**	14/06/2019
Acu-Vib Test Procedure:	AVP10 (SLM) & AVP06 (Filters)		

CHECKED BY: KB **AUTHORISED SIGNATURE:** ....
Jack Kielt

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HEAD OFFICE
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
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CERTIFICATE OF CALIBRATION

CERTIFICATE NO.: SLM 25902 & FILT 509

Equipment Description:	Sound & Vibration Analyser		
Manufacturer:	Svantek		
Model No:	Svan-957	**Serial No:**	27551
Microphone Type:	7052E	**Serial No:**	70011
Preamplifier Type:	SV12L	**Serial No:**	29798
Filter Type:	1/3 Octave	**Serial No:**	27551
Comments:	All tests passed for class 1. (See over for details)		
Owner:	AECOM Australia Pty Ltd L3, 120 Bunda Street Cairns, QLD 4870		
Ambient Pressure:	1001 hPa ±1.5 hPa		
Temperature:	24 °C ±2° C	**Relative Humidity:**	27% ±5%
Date of Calibration:	14/11/2019	**Issue Date:**	14/11/2019
Acu-Vib Test Procedure:	AVP10 (SLM) & AVP06 (Filters)		

CHECKED BY: JK

AUTHORISED SIGNATURE: ....
Jack Kielt

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HEAD OFFICE
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
Tel: (02) 96808133 Fax: (02)96808233
Mobile: 0413 809808
web site: www.acu-vib.com.au

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CERTIFICATE OF CALIBRATION

CERTIFICATE NO.: **SLM 26414 & FILT 5648**

Equipment Description: Sound Level Meter

Manufacturer: NTi

Model No: XL2-TA **Serial No:** A2A-09320-E0

Microphone Type: 7052E **Serial No:** 70003

Preamplifier Type: MA220 **Serial No:** 5216

Filter Type: 1/3 Octave **Serial No:** A2A-09320-E0

Comments: All tests passed for class 1.
(See over for details)

Owner: AECOM Australia Pty Ltd
Level 8, 540 Wickham Street
Fortitude Valley QLD 4006

Ambient Pressure: 1002 hPa ±1.5 hPa

Temperature: 23 °C ±2° C **Relative Humidity:** 55% ±5%

Date of Calibration: 21/02/2020 **Issue Date:** 24/02/2020

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: JRB **AUTHORISED SIGNATURE:** .... Jack Kielt

Accredited for compliance with ISO/IEC 17025 - Calibration
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HEAD OFFICE
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
Tel: (02) 96808133 Fax: (02)96808233
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Acoustic and Vibration
Measurements

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: 26424A

EQUIPMENT TESTED: Acoustic Calibrator

Manufacturer: Quest **Class:** 1
Type No: QC-20 **Serial No:** QF3020010
Owner: AECOM Australia Pty Ltd
Level 8, 540 Wickham Street
Fortitude Valley QLD 4006
Tests Performed: According to AS/IEC 60942 and procedure AVPO2

Parameter	Pre-Adj	Adj Y/N	Output: (db re 20 µPa)	Frequency: (Hz)	THD&N (%)
Level 1:	94.29	Y	94.03	249.49	5.01
Level 2:	NA	N	113.98	249.47	0.71
Level 1:	NA	N	94.01	994.46	3.98
Level 2:	NA	N	113.96	994.40	0.71
Uncertainty:			±0.11 dB	±0.05 Hz	±0.2 %
Uncertainty (at 95% c.l.) k=2					

TEST CONDITIONS:

Ambient Pressure: 1006 hPa ± 1.5 hPa **Relative Humidity:** 59% ± 5%
Temperature: 23 °C ± 2° C
Date of Calibration: 24/02/2020 **Issue Date:** 27/02/2020

CHECKED BY: MKB **AUTHORISED SIGNATURE:** .... Jack Kielt

Accredited for compliance with ISO/IEC 17025 - Calibration
The results of the tests, calibration and/or measurements included in this document are traceable to Australian/national standards.
The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

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Acoustic and Vibration Measurements

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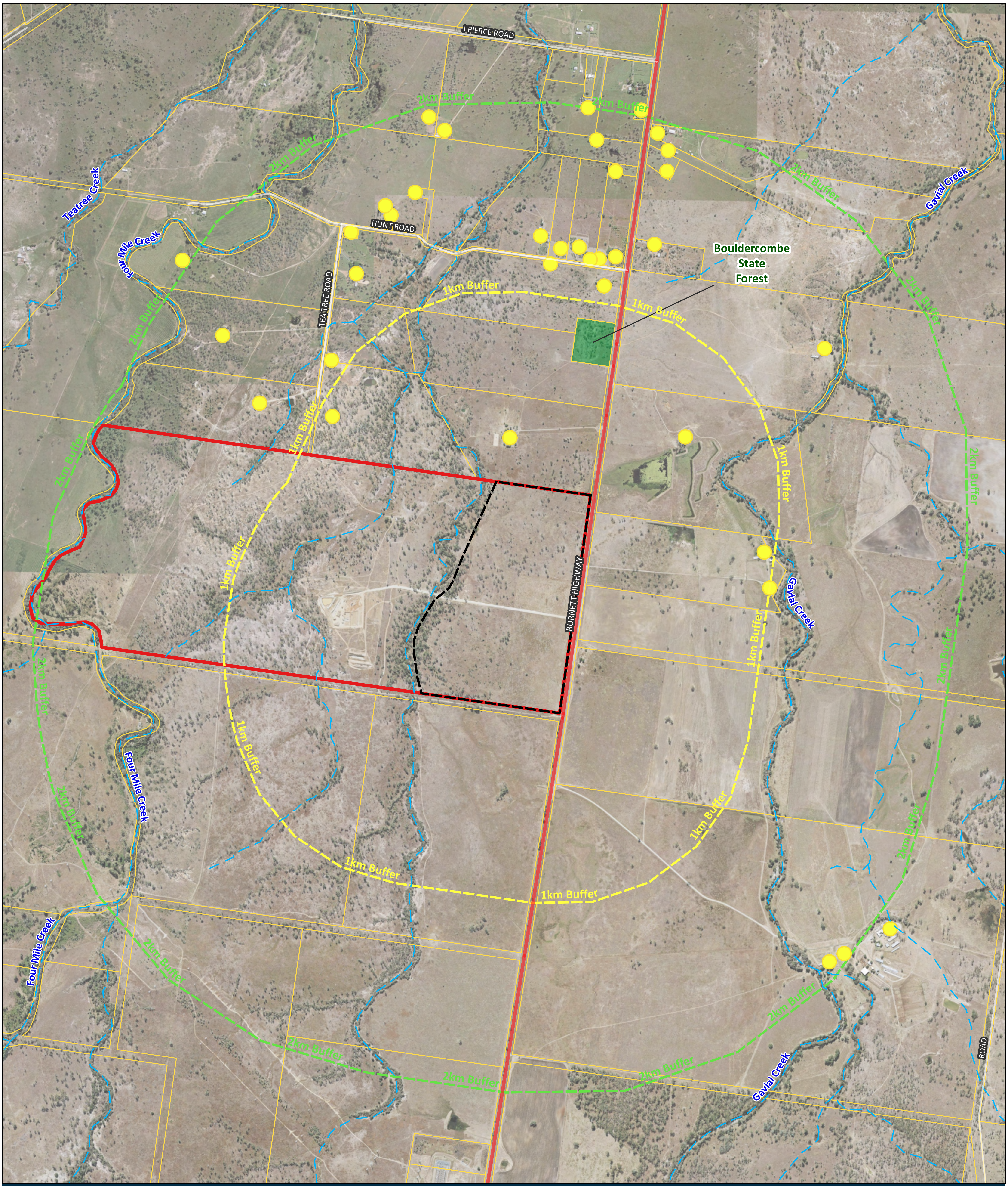
HEAD OFFICE
Unit 14, 22 Hudson Ave. Castle Hill NSW 2154
Tel: (02) 96808133 Fax: (02)96808233
Mobile: 0413 809806
Web site: www.acu-vib.com.au

ATTACHMENT D1 – MAP OF NEARBY DWELLINGS WITHIN 2KM (AIR QUALITY)



Rockhampton Motor Sports Precinct Master Plan

Attachment 1 - Sensitive Receptor Map

28 South Project Ref: 2020-075

Data Sources: Digital Cadastre Database (Dept. Natural Resources and Mines, 2020); Baseline Roads (DNRME 2020); Waterways (DNRME 2019); Regulated Vegetation (DNRMNE 2020).

28ºS ENVIRONMENTAL

Legend

- Site Boundary
- Project Footprint (indicative)
- 1km Buffer to Project Footprint
- 2km Buffer to Project Footprint
- Potential Dwellings +/- Sheds
- Protected Areas
- Highway
- Road
- Watercourse
- Property Boundaries

Issue Date	Dwg No.	Author
9 September 2020	2020-008-SRM	RF

Approved	Revision Note
AR	RevA

(A3) GDA 94 MGA 56
1:20,000

500 0 500 1,000 m

N

ATTACHMENT E1 – PRELIMINARY INTERPRETIVE GEOTECHNICAL REPORT

Preliminary Interpretive Geotechnical Report

Rockhampton Motorsport Precinct

M31279

Prepared for
Rockhampton Regional Council

27 July 2020

Contact Information

Cardno (Qld) Pty Ltd
ABN 57 051 074 992

71 Maggiolo Drive
Paget QLD 4740
Australia

www.cardno.com
Phone +61 7 4952 5255

Document Information

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Project Name	Rockhampton Motorsport Precinct
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Date	27 July 2020
Version Number	01

Author(s):

Nathan Woodhouse
BSc. (Geo), BCom
Project Geologist

Effective Date 27/07/2020

Approved By:

Trudie Bradbury
BSc (Hons) Geology, MSc Geohazard Assessment, MMinRes
Principal Engineering Geologist

Date Approved 27/07/2020

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
01	27/07/2020	Preliminary Report	NW/LA	ML/TB

Table of Contents

Appendices

Tables

Figures

1 Introduction

This preliminary report has been provided at the request of Rockhampton Regional Council in order to facilitate initial engineering design. A finalised report will follow upon completion of laboratory testing. *Note that all design values and borehole data provided in this report are preliminary in nature at this stage and are subject to change based upon laboratory results.*

At the request of Rockhampton Regional Council (herein 'the client', Cardno (Qld) Pty Ltd (herein 'Cardno') undertook a geotechnical investigation on 21 July 2020 on the site of a proposed motorsports precinct located at 53199 Burnett Highway, Bouldercombe (Lot 713 on LIV40180).

The purpose of the investigation was to gain geotechnical understanding of the ground conditions that exist at the site. The investigation was undertaken with reference to the following standards:

> AS1289—*Methods of Testing Soils for Engineering Purposes*;

> AS1726—*Geotechnical Site Investigations*;

> AS2870—*Residential Slabs & Footings*;

> AS3798—*Guidelines on Earthworks for Commercial and Residential Developments*; and

> AS2159—*Piling –Design and Installation*.

2 Scope of Work

A geotechnical investigation was undertaken at the site of the proposed motorsports precinct development near Bouldercombe, approximately 18km south of Rockhampton CBD. No information has been provided to Cardno in relation to the proposed design of the motorsports precinct, such as structural plans or drawings. The field investigation consisted of a geotechnical drilling program on 20 July 2020, subsequent laboratory testing program, and engineering assessment.

2.1 Field Investigation

The fieldworks comprised the following:

> Drilling of six (6no.) boreholes to 5m below ground level (mbgl) or prior virtual auger refusal utilising a subcontracted drilling rig (Investigator Mk.10) with air core drilling techniques; and

> Standard Penetration Tests (SPTs) were undertaken at 1.5 m intervals within the boreholes;

Proposed investigation locations were provided by the client prior to fieldworks commencing and located on site by a Cardno Geologist on 9 July 2020. Boreholes were positioned with respect to site constraints identified on the day of service clearance. During the field investigation, all materials encountered were logged by a Cardno Geologist with consideration to *AS1726—Geotechnical Site Investigations*. The descriptive engineering logs are attached in **Appendix B**. Some boreholes were advanced to greater depth at the discretion of the supervising Geologist in order to provide clarity on the sites geomorphology. Dynamic Cone Penetrometers were also advanced at the discretion of the supervising Geologist in order to provide high level foundation support data.

Representative samples of encountered strata layers were taken to allow for laboratory testing.

Coordinates of test locations are provided in **Table 2-1**, below.

Table 2-1 Summary of Test Locations

Location	Coordinates UTM 55k		Termination Depth (m)
	Easting	Northing	
BH01	0243877	8397602	6.45
BH02	0243733	7397609	6.00
BH03	0243503	7397628	2.50
BH04	0243333	7397684	3.45
BH05	0243184	7397907	3.45
BH06	0243725	7397933	6.00

2.2 Laboratory Testing

Representative samples recovered during the field investigation were transported to our NATA accredited laboratory in Mackay. Selected samples were then subjected to geotechnical testing in accordance with *AS1289—Methods of Testing Soil for Engineering Purposes* where applicable.

The following testing was undertaken:

> Atterberg Limits incl. Linear Shrinkage;

> Particle Size Distribution;

> Shrink Swell; and

> Consolidated Undrained (CU) Triaxial.

Laboratory testing reports have not yet been issued and will be provided in the final version of this report.

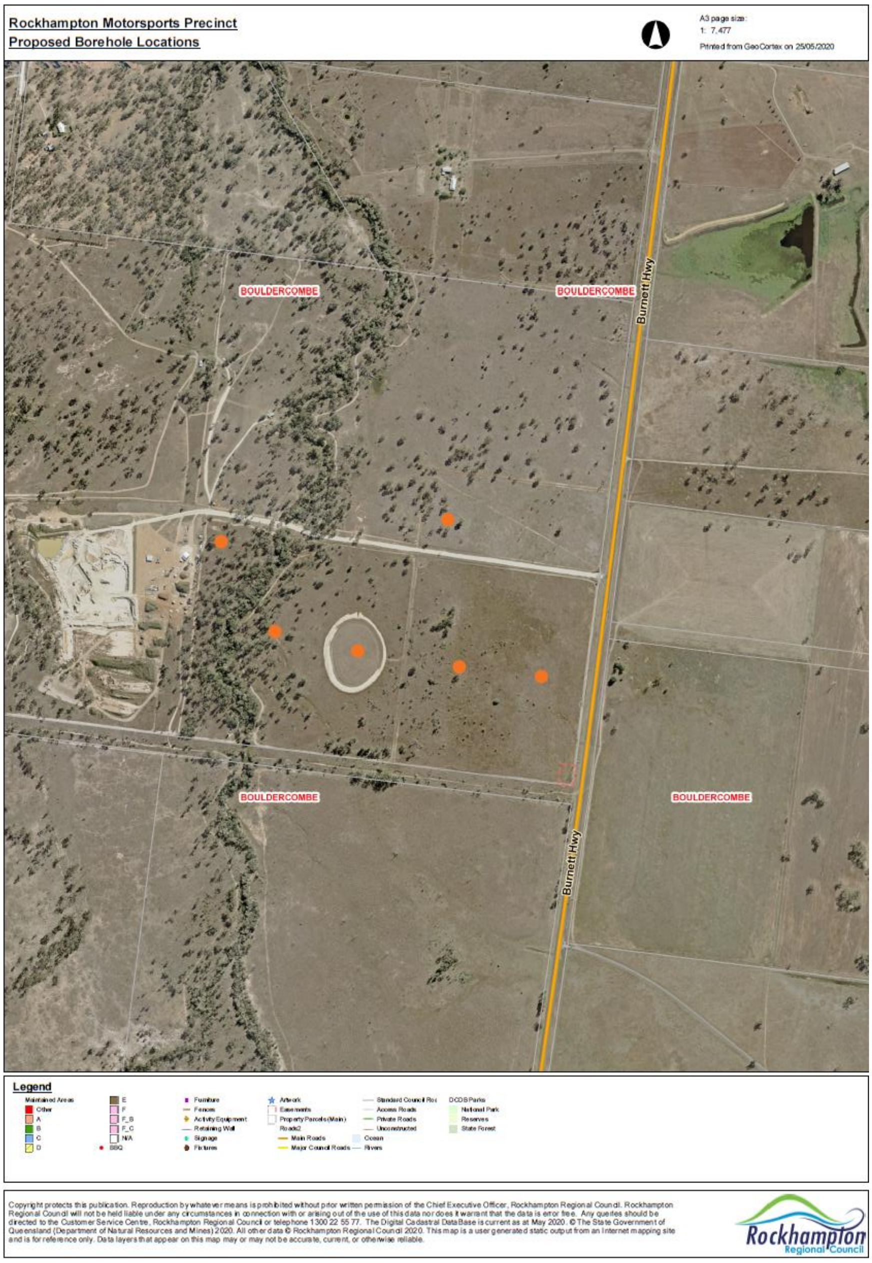
3 Site Conditions

3.1 Surface Conditions

The proposed location of the motorsport precinct is adjacent to the west of the Burnett Highway, approximately 18km south of the Rockhampton CBD as shown in **Figure 3-1**, below. Access to the site was made via the main entrance and gravel track maintained by the adjacent quarry - Bouldercombe Quarries. Access gates leading off from the gravel track to each of the boreholes were used under approval from the client and the quarry owner.

The site is located on land currently used for unknown purposes. It is bound by the Burnett Highway to the east, adjoining paddocks to the north and south as well as a quarry producing gravel, sand and granite to the west. Generally, the groundcover consisted of grasses with sporadic, low density mature tree growth. A creek traverses the site bearing north-south, towards which tree growth increases. This watercourse cuts the site to approximately 2m below surface level, and was dry at the time of the investigation. Significant cobble sized material was present within the creek bed and over the levee banks, indicating flooding has occurred at some stage in recent times. The site itself gently drains towards this feature from both the east and west.

Figure 3-1 Excerpt from Rockhampton City Council City scoping documentation from GeoCortex (borehole locations marked in orange

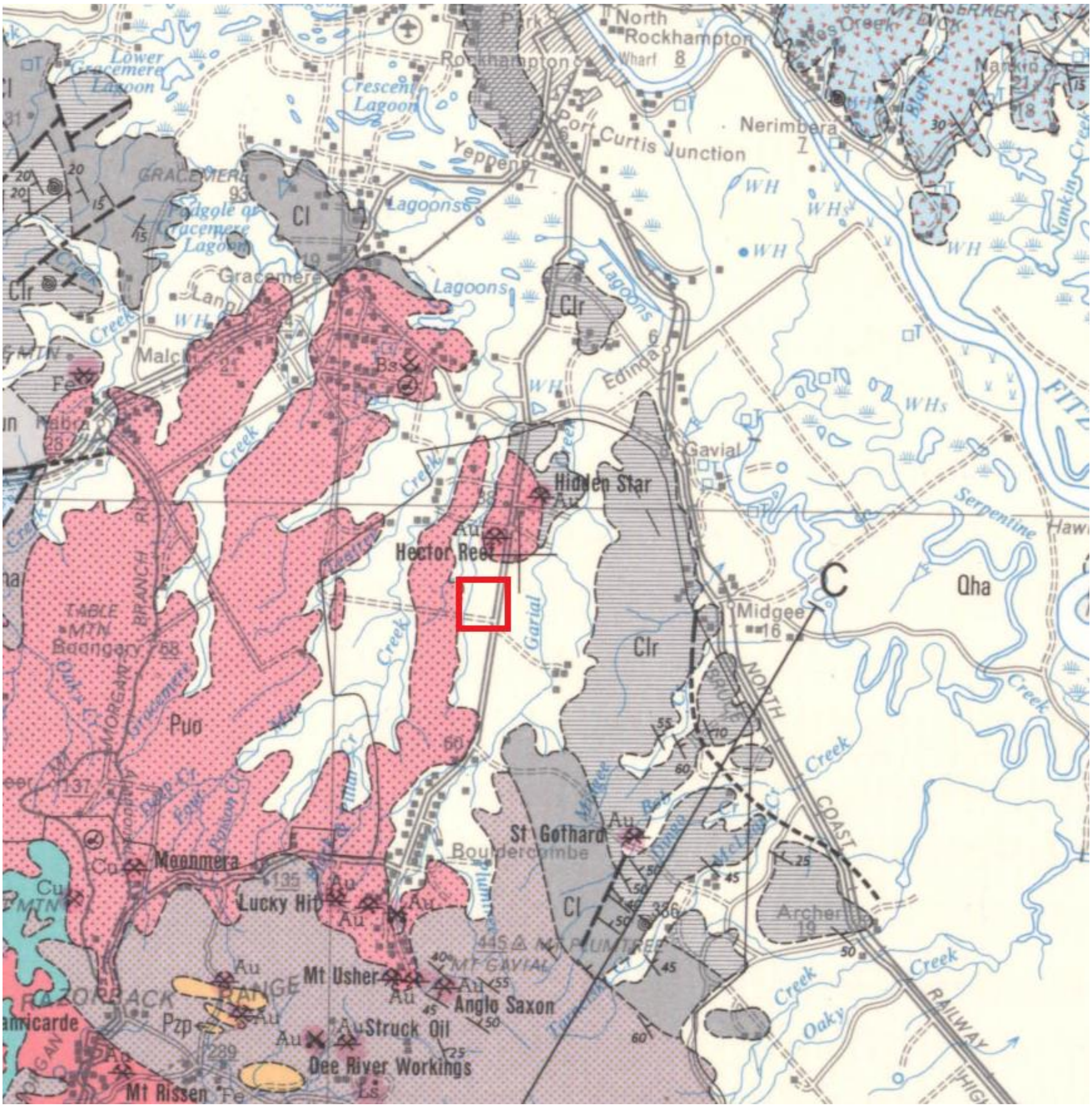


A site plan, locating the boreholes and test pits, is attached as Appendix A. Photos of the site are attached in Appendix D.

3.2 Regional Geology

The 1:100,000 Geological Map (Mackay, Sheet 8755) describes the geology of the subject site as shown in **Figure 3-2**, below.

Figure 3-2 Excerpt from geological map, Rockhampton 1:250,000 Geological Series Sheet SF 56-13



The geological map above indicates the site comprises Quaternary alluvial gravel, sand, silty and clay which is likely underlain by the Bouldercombe Complex. This major Upper Permian igneous feature comprises granodiorite, granite, diorite, quartz gabbro and monzonite in batholithic (>100km^2) proportions. The Bouldercombe Complex was emplaced into an east-west dilatant zone developed across the Yarrol Basin. Significant units of the Yarrol Basin sequence which exist close to the site are the Lower Carboniferous Rockhampton Group and Crana Beds. These units generally comprise sedimentary material including mudstone, siltstone, conglomerate and limestone.

3.3 Subsurface Conditions

The material succession disclosed in the boreholes can be generalised as being a fluvial dominated environment to the east of site where quaternary alluvial material has been deposited. It appears a stream system with fluctuating energy systems has existed at the site at some point. This was characterised by high energy transportation of slightly to moderately weathered clasts of extrusive and intrusive coarse igneous material ranging from sand to cobble sized (**see Figure 3-3**). These larger clasts were regularly over and underlain by Silty CLAY material, indicating a prevailing low energy sedimentary environment.

The west of the site -adjacent the quarry – shows the emergence of the Bouldercombe Complex in the form of residual soil becoming extremely weathered granodiorite (**see Figure 3-4**). No CLAY or coarse grained to cobble sized clasts were noted within BH05. This was the only borehole allocated to the west of the site.

A table summarising the material encountered at each test location is provided in **Table 3-1**, below.

Table 3-1 Summary of Strata

Location	Clayey SILT	CLAY	Sandy CLAY / Gravelly Sandy CLAY	Sandy Silty CLAY / Silty CLAY	Sandy GRAVEL / Sandy Clayey GRAVEL	Gravelly SAND / Gravelly Clayey SAND
BH01	0.00-0.20	0.20-2.70	4.10-5.20	5.20-6.45* 2.70-4.10		
BH02	0.00-0.10	0.10-3.30			3.30-5.62	5.62-6.00*
BH03	0.00-0.10		0.10-1.40			1.40-2.50*
BH04	0.00-0.10		0.10-0.90			0.90-3.45*
BH05	0.00-0.05				1.65-1.93*	0.05-1.65
BH06	0.00-0.05	0.05-1.40 2.40-3.20		3.20-4.00		1.40-2.40 4.00-6.36*

* Borehole termination Depth

Figure 3-3 Rounded to sub-rounded fine to coarse grained and cobble sized material recovered from BH06. Note larger clasts likely rubbled during drilling causing angular surfaces.

Figure 3-4 Decomposed to extremely weathered granodiorite recovered from BH05 in 3.0m SPT (N=R)

3.4 Groundwater

Groundwater was not encountered in the boreholes during the investigation. It should be noted that there is potential in the area for variation in the depth to the water table due to seasonal influences.

4 Laboratory Test Results

4.1 Geotechnical Test Results

Selected samples collected from the test pits were laboratory tested for the following geotechnical parameters:

- Atterberg Limits incl. Linear Shrinkage;
- Particle Size Distribution;
- Shrink Swell;
- Consolidated Undrained (CU) Triaxial; and
- Shear Box (3 Stage).

Geotechnical test results have not yet been released by the laboratory, and will be provided in the final version of this report.

5 Engineering assessment

5.1 Site Reactivity and Classification

The proposed structures are likely to be outside the range of dimensions and uses for which the standard footing designs of *AS2870-Residential Slabs & Footings* apply. Footing design of the structure should be based on engineering principles, using the information provided in this section as a guide.

Based on results from the field investigation, the site in its current state (from a residential perspective) would be classified as **Class S** due to the presence of low plasticity clays likely to experience minor characteristic surface movement from moisture changes onsite.

It is expected that seasonal surface movement will be in the region of 0–20 mm. If earthworks are to be undertaken on the site (e.g. removal of material or replacement of soils), then the site classification and the seasonal movement may need to be revised.

5.2 Foundation Design

Recommendations for shallow and deep footings are provided in the following sections. When designing the structure, consideration should also be given to settlement. Settlement can result from self-weight of the soil materials, and/or loading of the soil from any additional placement of fill and from the proposed structure. Settlement of the sand soils is likely to occur soon after construction, whereas settlement on cohesive clayey soils is likely to take longer. The soils on this site are medium dense/ stiff and are likely to be prone to settlement. Consideration may need to be given to improving the performance of the soils through ground improvement, depending on the design loads likely to be applied.

5.2.1 Shallow Foundation

Based on the visual soil descriptions and DCP test results, the allowable bearing capacity is variable across the site. An allowable bearing capacity of at least 100kPa was achieved across the site at the locations tested. Based on design requirements, footings may need to be extended to a suitable bearing depth. Alternately ground improvement will be required in accordance with AS3798 under Level 1 conditions.

Bearing characteristics across the site are likely highly dependent on soil moisture content. It is recommended that inspections be carried out by an experienced geotechnical professional, following footing excavations to confirm the adequacy of the founding soils. Inspections should be carried out prior to the placement of reinforcing steel and ordering of concrete.

It should be noted that significant gravel to cobble sized material was present across the field area. When encountered, this material may artificially increase the bearing capacity calculation due to added resistance. Allowable bearing capacity calculated by the methods of Stockwell[1] are provided in provided in **Table 5-1**, below and should be read in conjunction with the Summary of Strata, **Table 3-3**.

Table 5-1 Allowable Bearing Capacity

Location	Allowable Bearing Capacity Achieved Depth (m)		
	100kPa	150kPa	200kPa
BH01		0.00-2.40**	
BH02	0.00-0.20	0.20-1.60	1.60-1.80*
BH03	-	0.00-0.20	0.20-1.20*
BH04	-	0.00-0.20	0.20-1.00**
BH05	-	0.00-0.10	0.10-0.90**
BH06	0.00-1.20	-	1.20-1.40**

*DCP Termination **DCP Refusal

[1] Stockwell, MJ (1977). Determination of allowable bearing pressure under small structures. New Zealand Engineering, Vol. 32, No. 6: 132-135

5.2.2 Deep Foundations

The loose/soft nature of some of the materials encountered indicates that the adoption of piles may be required for heavily loaded parts of the structure or to assist with minimising settlement (e.g. a piled raft).

Bored or driven piles may be adopted for footing design. The types of pile to be utilised will depend on their advantages and disadvantages of the particular methodology of piling as described below.

Bored Piles

Advantages:

> Minimal vibration during construction.
> Relatively widely available and understood construction technology.

Disadvantages:

> Unknown obstacles in the uncontrolled fill may force the bored hole (and liners) out of tolerance.
> Costs involved for removing spoil.
> Typically, lower values of end bearing and shaft adhesion compared to driven piles.
> Hole instability is likely to occur through sand layers and 'uncontrolled fill' which will require hole support techniques.
> Groundwater inflow may complicate construction by requiring casing or hole support.

Driven Piles

Advantages:

> High level of performance confidence.
> Design strength generally increased due to displacement type.
> No issues with spoil removal.
> Other sites in the locality have used this method successfully.

Disadvantages:

> Relatively high noise and vibrations during construction may affect nearby structures.

Geotechnical design parameters for ultimate strength limit state are provided in **Table 5-2** overleaf, below, assuming a pile diameter of 500 mm. The design should also include assessment of both strength and serviceability limit states. The values provided need to be factored to obtain design geotechnical strengths using 0.45 and 0.33 for compression and uplift loads respectively. The values provided are based on single pile design and do not take into account the effects of piles in groups.

Table 5-2 Results of Ultimate Bearing and Ultimate Uplift Capacities

Note: (1) – Although values for driven piles are provided, it is expected that driven piles will be driven to virtual refusal, in which case the axial compression load capacity will be equal to the structural capacity of the pile member.

NB: Values are conservative as the weathering and strength below borehole depth is unknown.

Table 1-1 Recommended Geotechnical Parameters for Pile Design

Unit (Material)	Consistency – Field Observation	BORED PILES		DRIVEN PILES[1]	
		Skin Friction (fs) – kPa	End Bearing (fb) – kPa	Skin Friction (fs) – kPa	End Bearing (fb) – kPa
Alluvial - Clay	F	10	220	25	225
Alluvial - Clay	St	20	450	50	450
Alluvial - Silty Clay	St	20	400	35	405
Alluvial - Sandy Clay	St	15	360	30	360
Alluvial - Sandy Clay	Vst	40	800	35	810
Alluvial - Gravelly Sandy Clay	Vst	35	720	30	720
Alluvial - Sandy Clayey Gravel	MD	5	700	25	1500
Alluvial - Sandy Gravel	D	10	1500	40	3000
EXW - Sandy Gravel	D/ VD	10	3000	50	7000
Alluvial - Clayey Gravelly Sand	MD	5	1400	25	3500
Alluvial - Gravelly Sand/ Clayey Gravelly Sand	D	10	2000	40	4000

[1] Although values for driven piles are provided, it is expected that driven piles will be driven to virtual refusal, in which case the axial compression load capacity will be equal to the structural capacity of the pile member.

*Ignore top 2.0m.

We strongly recommend that for bored piling the works be supervised by a geotechnical professional who can assess whether the ground conditions encountered during piling are commensurate with the ground conditions described in this report. For driven piles the pile driving records need to be analysed by a geotechnical professional.

5.3 Earthworks

5.3.1 General

It is recommended that all earthworks are carried out in accordance *AS 3798-2007*. We would consider the Gravelly SAND located onsite to be suitable for reuse, assuming quality assessment is undertaken and material is placed under Level 1 conditions. If trees are removed from the site to facilitate construction, any backfill required should be in the form of engineered fill.

5.3.2 Excavatability

Based on the field investigation and testing, we would estimate that the excavatability of the subsoil materials can range from Class 1 to 3 in the Kirsten's Classification System[2] refer to **Table 5-3**, overleaf.

[2] Kirsten, H. A. D (1982). A classification system for excavation in natural materials. Civ Eng S Afr 24,:293–308

Table 5-3 Definition of Eight Point Excavation Classification System for Soil, Detritus, Rock & Boulders

Material Type	Material Excavation Classification (1)		Description of excavatability
	Class	Class index boundaries	
Soil / Detritus	1	N <0.01	Hand spade
	2	0.01<N<0.1	Hand pick and spade
	3	0.1<N<1.0	Power tools
Rock	4	1.0<N<10	Easy ripping
	5	10<N<100	Hard ripping
	6	100<N<1,000	Very hard ripping
	7	1,000<N<10,000	Extremely hard ripping/blasting
	8	N <10,000	Blasting

Note: (1) Kirsten Classification System

5.4 Groundwater and Excavation Support

Whilst no groundwater was encountered during the field investigation, seasonal variations could lead to fluctuations in groundwater levels and presence. Monitoring should be undertaken to investigate the presence of a seasonal groundwater table at this location. If groundwater is encountered during construction, a geotechnical professional should be contacted for comment.

5.5 CBR

Table 5-4; overleaf, summarises the results of field DCP testing and correlation to approximate California Bearing Ratio (CBR) value. DCP tests were undertaken from surface to refusal or at least 150kPa bearing capacity. The DCP testing values were used to produce equivalent CBR values with reference to standard engineering practices. Further investigations including bulk sampling is required to confirm these CBR approximations. Fine to coarse gravel material within the subsurface can lead to an increase in DCP values recorded on site. DCP results are presented in **Appendix C.**

Table 5-4 In Situ and CBR Results

Location	Depth (mm)	Approximate CBR (%)
BH01	0-900	15-25
	900-2400	6-10
BH02	0-400	6-10
	400-1600	10-15
	1600-1800	15-25
BH03	0-200	10-15
	200-1200	15-25
BH04	0-300	10-15
	300-1000	15-25
BH05	0-100	10-15
	100-300	15-25
	300-900	25-35
BH06	0-200	10-15
	200-600	6-10
	600-800	4-6
	800-1100	6-10
	1100-1400	15-25

5.6 Erodability

The free draining nature of the natural soil on site will likely limit the erosion potential by surface waters considerably. In a recompacted state material with a high clay content (clayey sand, sandy clay) may form a low permeability layer. Erosion prevention measures such as sediment traps should be utilised for these surfaces, particularly if earthworks are to be exposed to heavy rains. The high percentage of alluvial material present within the onsite material may be susceptible to erosion by aeolian processes; particularly when in an uncompacted state such as a stockpile. Dust suppression techniques such as keeping the stockpile in a moist condition may alleviate the aeolian erosion considerably.

6 Limitations

Geotechnical services are provided by Cardno (Qld) Pty Ltd (Cardno) in accordance with generally accepted professional engineering and geological practice in the area where these services are rendered. The client acknowledges that the present standard in the engineering and geologic profession does not include a guarantee of perfection, and no other warranty, expressed or implied, is extended by Cardno. It is the reader's responsibility to verify the correct interpretation and intention of the recommendations presented herein. Cardno assumes no responsibility for misunderstandings or improper interpretations that result in unsatisfactory or unsafe work products. It is the reader's further responsibility to acquire copies of any supplemental reports, addenda or responses to public agency reviews that may supersede recommendations in this report.

The findings presented in this report have been based on the investigation described in this report. There are always some variations in subsurface conditions across the site, which cannot be fully defined by investigation. It is unlikely that the measurements and values obtained from sampling and testing during the investigation will represent the extremes of conditions that may exist within the site. Hence it is recommended that if any ground conditions other than those described in this report are encountered during construction, further advice should be immediately sought from Cardno.

It is recommended that Cardno be commissioned to provide a review of design and documentation to confirm that the intents of the geotechnical report are properly reflected in the designs. Similarly, inspection of the footing excavations is considered a prudent means of ensuring that ground conditions meet design expectations.

This report has been prepared specifically for Rockhampton Regional Council and their project designers. Information contained in this report should not be construed as appropriate for any other purposes or for other users.

APPENDIX

A

SITE MAP

Rockhampton Regional Council

Geotechnical Investigation

ROCKHAMPTON MOTORSPORTS PRECINCT

BOREHOLE LOCATION

Hole ID	Easting	Northing
BH01	243877	7397602
BH02	243733	7397609
BH03	243503	7397628
BH04	243333	7397684
BH05	243184	7397907
BH06	243725	7397933

Legend

Borehole

FIGURE 1

1:3,000 Scale at A3

m
0 25 50 75 100

N

Cardno

Map Produced by SEQ Geosciences (9918)
Date: 2020-07-21 | Project: M31279
Coordinate System: GDA 1994 MGA Zone 56
Map: Rockhampton Motorsports Precinct.mxd 01

APPENDIX

B

BOREHOLES LOGS AND DCPs

BOREHOLE LOG SHEET

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton

Hole No: BH01
Job No: M31279
Sheet: 1 of 2

Position: E243877.000 N7397602.000 55 MGA94	**Angle from Horizontal:** 90°	**Surface Elevation:**
Rig Type: Truck Rig	**Mounting:** Truck	**Driller:** BGD
Casing Diameter:		**Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20 **Date Completed:** 21/7/20	**Logged By:** NW	**Checked By:** TB

Drilling: Method: Rotary Air Drilling; Water: Groundwater Not Encountered

Sample or Field Test	Depth (m)	Classification	Material Description	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
B 0.00 - 0.20 m	0.00 – 0.20m	MH	Clayey SILT: high plasticity, black, with fine grained sand, w/grasses, cracks-20mm thick, MPS 4 LL 40 P75 80	D	L	TOPSOIL
B 0.20 m	0.20 – 0.70m	CI	CLAY: intermediate plasticity, dark brown, with fine to coarse grained sand, trace fine grained, sub-rounded gravel, MPS 5 LL 45 P75 80	D / M	St	ALLUVIAL
B 1.50 - 2.70 m SPT 1.50 - 1.95 m 2, 3, 3 N=6	0.70 – 2.70m	CI	CLAY: intermediate plasticity, grey mottled brown, with fine to medium grained, sub-rounded gravel, trace fine grained sand, MPS 10 LL 40 P75 85	M	F	
SPT 3.00 - 3.45 m 4, 7, 12 N=19	2.70m –	CL	CLAY: low plasticity, grey mottled dark grey, with silt, trace fine grained, sub-rounded gravel, trace sand, fine grained, MPS 2 LL 30 P75 90	D / M	St	

Depth scale: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5

Draft

METHOD
- EX Excavator bucket
- R Ripper
- HA Hand auger
- PT Push tube
- SON Sonic drilling
- AH Air hammer
- PS Percussion sampler
- AS Short spiral auger
- AD/V Solid flight auger: V-Bit
- AD/T Solid flight auger: TC-Bit
- HFA Hollow flight auger
- WB Washbore drilling
- RR Rock roller

PENETRATION
- VE Very Easy (No Resistance)
- E Easy
- F Firm
- H Hard
- VH Very Hard (Refusal)

WATER
- Water Level on Date shown
- water inflow
- water outflow

FIELD TESTS
- SPT - Standard Penetration Test
- HP - Hand/Pocket Penetrometer
- DCP - Dynamic Cone Penetrometer
- PSP - Perth Sand Penetrometer
- MC - Moisture Content
- PBT - Plate Bearing Test
- IMP - Borehole Impression Test
- PID - Photoionisation Detector
- VS - Vane Shear; P=Peak, R=Resdual (uncorrected kPa)

SAMPLES
- B - Bulk disturbed sample
- D - Disturbed sample
- ES - Environmental sample
- U - Thin wall tube 'undisturbed'

MOISTURE
- D - Dry
- M - Moist
- W - Wet
- PL - Plastic limit
- LL - Liquid limit
- *w* - Moisture content

SOIL CONSISTENCY
- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard

RELATIVE DENSITY
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (QLD) PTY LTD

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BOREHOLE LOG SHEET

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton

Hole No: BH01

Job No: M31279 **Sheet:** 2 of 2

Position: E243877.000 N7397602.000 55 MGA94	**Angle from Horizontal:** 90°	**Surface Elevation:**
Rig Type: Truck Rig	**Mounting:** Truck	**Driller:** BGD
Casing Diameter:		**Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20 **Date Completed:** 21/7/20	**Logged By:** NW	**Checked By:** TB

Drilling: Method	Drilling: Resistance	Drilling: Casing	Water	Sampling & Testing: Sample or Field Test	Depth (m)	Graphic Log	Classification	Material Description: SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
Rotary Air Drilling			Groundwater Not Encountered	B 4.10 m			CL	4.10m		St	ALLUVIAL
				SPT 4.50 - 4.71 m 30, 30/60mm N=R	4.5		CL	Sandy CLAY: low plasticity, grey mottled dark grey, fine to medium grained sand, trace fine to medium grained, sub-rounded gravel, becoming less sandier throughout layer, MPS 2 LL 30 P75 50		St becoming H	
				B 5.00 - 6.00 m	5.0			5.20m			
					5.5		CL	Sandy Silty CLAY: low plasticity, grey, fine to medium grained sand, MPS 1 LL 30 P75 70	D / M	VSt	
				SPT 6.00 - 6.45 m 7, 12, 13 N=25	6.0			6.45m			
					6.5			TERMINATED AT 6.45 m Target depth			
					7.0						
					7.5						

Draft

METHOD
- EX Excavator bucket
- R Ripper
- HA Hand auger
- PT Push tube
- SON Sonic drilling
- AH Air hammer
- PS Percussion sampler
- AS Short spiral auger
- AD/V Solid flight auger: V-Bit
- AD/T Solid flight auger: TC-Bit
- HFA Hollow flight auger
- WB Washbore drilling
- RR Rock roller

PENETRATION
- VE Very Easy (No Resistance)
- E Easy
- F Firm
- H Hard
- VH Very Hard (Refusal)

WATER
- Water Level on Date shown
- water inflow
- water outflow

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- F - Firm
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RELATIVE DENSITY
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

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BOREHOLE LOG SHEET

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton
Job No: M31279

Hole No: BH02

Sheet: 1 of 2

Position: E243733.000 N7397609.000 55 MGA94 | **Angle from Horizontal:** 90° | **Surface Elevation:**
Rig Type: Truck Rig | **Mounting:** Truck | **Driller:** BGD
Casing Diameter: | **Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20 | **Date Completed:** 21/7/20 | **Logged By:** NW | **Checked By:** TB

Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components; ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
Rotary Air Drilling			Groundwater Not Encountered				MH	Clayey SILT: high plasticity, black, with fine grained sand, w/grasses, cracks-20mm thick, MPS 4 LL 40 P75 80	D	L	TOPSOIL
				B 0.10 m	0.10m		CI	CLAY: intermediate plasticity, black, with silt, with fine to medium grained sand, trace gravel, fine to coarse grained, sub-rounded to rounded, MPS 25 LL 40 P75 75	D to M	St	ALLUVIAL
				B 0.50 m	0.50m		CI	CLAY: intermediate plasticity, brown/dark brown, with fine to medium grained sand, trace fine grained, rounded gravel, MPS 8 LL 45 P75 85	M	St / VSt	
				SPT 1.50 - 1.95 m 3, 6, 7 N=13	1.5						
				SPT 3.00 - 3.45 m 10, 26, 25 N=51	3.0						
					3.30m		SC	Clayey Sandy GRAVEL: fine to coarse, sub-angular to angular, grey, fine to coarse grained sand, gravelly section around 5.30m, MPS 30 LL 30 P75 20	D to M	MD / D	

Draft

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
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DCP - Dynamic Cone Penetrometer
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VS - Vane Shear; P=Peak, R=Resdual (uncorrected kPa)

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D - Disturbed sample
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U - Thin wall tube 'undisturbed'

MOISTURE
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M - Moist
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PL - Plastic limit
LL - Liquid limit
w - Moisture content

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VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

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BOREHOLE LOG SHEET

Hole No: BH02

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton
Job No: M31279
Sheet: 2 of 2

Position: E243733.000 N7397609.000 55 MGA94 | **Angle from Horizontal:** 90° | **Surface Elevation:**
Rig Type: Truck Rig | **Mounting:** Truck | **Driller:** BGD
Casing Diameter: | **Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20 | **Date Completed:** 21/7/20 | **Logged By:** NW | **Checked By:** TB

Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Classification	Material Description (SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components; ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure)	Moisture Condition	Consistency / Relative Density	STRUCTURE & Other Observations
Rotary Air Drilling			Groundwater Not Encountered	B 4.00 m		SC	Clayey Sandy GRAVEL: fine to coarse, sub-angular to angular, grey, fine to coarse grained sand, gravelly section around 5.30m, MPS 30 LL 30 P75 20 *(continued)*	D to M	MD / D	ALLUVIAL
				B 4.50 - 5.00 m SPT 4.50 - 4.86 m 13, 29, 12/60mm HB N=R	4.5					
				B 5.00 - 5.50 m	5.0					
				SPT 5.50 - 5.62 m 30/120mm N=R	5.5		5.62m			
						SW	Gravelly SAND: fine to coarse grained, brown/grey, fine to coarse grained, sub-angular to sub-rounded gravel, MPS 40 LL 0 P75 0	M	VD	
					6.0		6.00m TERMINATED AT 6.00 m Target depth			
					6.5					
					7.0					
					7.5					

Draft

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Resdual (uncorrected kPa)

SAMPLES
B - Bulk disturbed sample
D - Disturbed sample
ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
w - Moisture content

SOIL CONSISTENCY
VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard

RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (QLD) PTY LTD

Cardno

BOREHOLE LOG SHEET

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton
Job No: M31279

Hole No: BH03

Sheet: 1 of 1

Position: E243503.000 N7397628.000 55 MGA94	**Angle from Horizontal:** 90°	**Surface Elevation:**
Rig Type: Truck Rig	**Mounting:** Truck	**Driller:** BGD
Casing Diameter:		**Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20 **Date Completed:** 21/7/20	**Logged By:** NW	**Checked By:** TB

Drilling: Method	Drilling: Resistance	Drilling: Casing	Water	Sampling & Testing: Sample or Field Test	Depth (m)	Graphic Log	Classification	Material Description: SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
Rotary Air Drilling (0.00 – 2.50 m)			Groundwater Not Encountered	B 0.10 m	0.00–0.10		MH	Clayey SILT: high plasticity, black, with fine grained sand, w/grasses, cracks-20mm thick, MPS 4 LL 40 P75 80	D	L	TOPSOIL
					0.10–1.40		CL	Gravelly Sandy CLAY: low plasticity, black/very dark brown, fine to coarse grained sand, fine to medium grained, sub-angular to sub-rounded gravel, MPS 4 LL 30 P75 50	D	VSt	ALLUVIAL
				B 1.40 m; SPT 1.50 - 1.90 m 15, 21, 30/95mm N=R; B 1.90 - 2.50 m	1.40–2.50		SC	Clayey Gravelly SAND: fine to coarse grained, brown/dark grey, fine to coarse grained, angular to sub-angular gravel, gravel becoming larger with depth, MPS 25 LL 25 P75 25	D	D	
					2.50			TERMINATED AT 2.50 m Virtual Refusal			

Depth scale: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5

Draft

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Resdual (uncorrected kPa)

SAMPLES
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U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
M - Moist
W - Wet
PL - Plastic limit
LL - Liquid limit
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RELATIVE DENSITY
VL - Very Loose
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MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (QLD) PTY LTD

CARDNO 2.01.6 LIB.GLB Log CARDNO NON-CORED M31279_ROC MOTORSPORT GINT FILE.GPJ <<DrawingFile>> 27/07/2020 15:17 10.0.000 Datgel AGS RTA, Photo, Monitoring Tools

Cardno

BOREHOLE LOG SHEET

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton

Hole No: BH04

Job No: M31279 | **Sheet:** 1 of 1

Position: E243333.000 N7397684.000 55 MGA94 | **Angle from Horizontal:** 90° | **Surface Elevation:**

Rig Type: Truck Rig | **Mounting:** Truck | **Driller:** BGD

Casing Diameter: | **Contractor:** Cardno (QLD) Pty Ltd

Date Started: 21/7/20 | **Date Completed:** 21/7/20 | **Logged By:** NW | **Checked By:** TB

Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	Material Description (SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components; ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure)	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
Rotary Air Drilling			Groundwater Not Encountered		0.00 - 0.10		MH	Clayey SILT: high plasticity, black, with fine grained sand, w/grasses, cracks-20mm thick, MPS 4 LL 40 P75 80	D	L	TOPSOIL
				0.10 - 0.90 m	0.10m - 0.90m		CL	Gravelly Sandy CLAY: low plasticity, black/very dark brown, fine to coarse grained sand, fine to medium grained, sub-angular to sub-rounded gravel, MPS 4 LL 30 P75 50		VSt	ALLUVIAL
				0.90 - 1.50 m SPT 1.50 - 1.95 m 7, 28, 30 N=58 2.00 - 2.50 m SPT 3.00 - 3.22 m 8, 30/70mm HB N=R	0.90m - 3.45m		SP	Gravelly SAND: fine to coarse grained, brown/dark grey, fine to coarse grained, angular to sub-angular gravel, gravel becoming larger with depth, MPS 25 LL 0 P75 0		VD	
					3.45m			TERMINATED AT 3.45 m Virtual Refusal			

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
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RELATIVE DENSITY
VL - Very Loose
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MD - Medium Dense
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CARDNO (QLD) PTY LTD

BOREHOLE LOG SHEET

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton

Job No: M31279

Hole No: BH05

Sheet: 1 of 1

Position: E243184.000 N7397907.000 55 MGA94	**Angle from Horizontal:** 90°	**Surface Elevation:**
Rig Type: Truck Rig	**Mounting:** Truck	**Driller:** BGD
Casing Diameter:		**Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20 **Date Completed:** 21/7/20	**Logged By:** NW	**Checked By:** TB

Method	Resistance	Casing	Water	Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
Rotary Air Drilling			Groundwater Not Encountered	B 0.10 - 1.50 m	0.00–0.05		MH	Clayey SILT: high plasticity, black, with fine grained sand, grass, MPS 4 LL 40 P75 80	D	L	TOPSOIL
				SPT 1.50 - 1.93 m 16, 30, 30/130mm HB N=R	0.05–1.65		SP	Gravelly SAND: fine to coarse grained, browny red, fine grained, sub-rounded gravel, MPS 5 LL 0 P75 0		L to MD	RESIDUAL SOIL
				SPT 3.00 - 3.15 m 30/145mm N=R	1.65–3.45		GP	Sandy GRAVEL: fine, rounded, white/grey mottled black, fine to coarse grained sand, trace clay, Deco Granite, MPS 3 LL 20 P75 2		H	EXTREMELY WEATHERED
					3.45			TERMINATED AT 3.45 m Virtual Refusal			

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Resdual (uncorrected kPa)

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ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE
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SOIL CONSISTENCY
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H - Hard

RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Refer to explanatory notes for details of abbreviations and basis of descriptions

CARDNO (QLD) PTY LTD

Cardno

BOREHOLE LOG SHEET

Client: Rockhampton Regional Council
Project: Rockhampton Motorsport Precinct
Location: Rockhampton

Job No: M31279

Hole No: BH06

Sheet: 1 of 2

Position: E243725.000 N7397933.000 55 MGA94	**Angle from Horizontal:** 90°	**Surface Elevation:**
Rig Type: Truck Rig	**Mounting:** Truck	**Driller:** BGD
Casing Diameter:		**Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20 **Date Completed:** 21/7/20	**Logged By:** NW	**Checked By:** TB

Drilling: Method: Rotary Air Drilling; Water: Groundwater Not Encountered

Sample or Field Test	Depth (m)	Classification	Material Description (SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components, ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure)	Moisture Condition	Consistency / Relative Density	STRUCTURE & Other Observations
	0.00 - 0.05m	MH	Clayey SILT: high plasticity, black, with fine grained sand, grass, MPS 4 LL 40 P75 80	D	L	TOPSOIL
	0.05 - 0.40m	CI	CLAY: intermediate plasticity, black, with silt, trace fine to medium grained sand, trace gravel, fine grained, rounded, MPS 3 LL 45 P75 85	D / M	St	ALLUVIAL
B 0.40 - 1.40 m	0.40 - 1.40m	CI	CLAY: intermediate plasticity, brown/grey, with fine grained sand, with fine to medium grained, sub-rounded gravel, MPS 7 LL 40 P75 70	M	St	
B 1.40 m; SPT 1.50 - 1.95 m 23, 30, 11 N=41; B 1.95 - 2.40 m	1.40 - 2.40m	SW	Gravelly Clayey SAND: fine to coarse grained, grey mottled orange to brown, fine to coarse grained, angular gravel, 1.4-3.2m angular coarse gravels in clay matrix, MPS 45 LL 30 P75 20	D / M	MD	
B 2.40 m	2.40 - 3.20m	CI	CLAY: intermediate plasticity, grey mottled brown to black flecs, with fine to medium grained sand, Note: coarse gravel to cobbles near base of layer and not recovered at 3.0m, grinding on drill bit,, MPS 1 LL 40 P75 75	M	F / St	
SPT 3.25 - 3.70 m 6, 8, 13 N=21	3.20 - 4.00m	CL	Silty CLAY: low plasticity, grey/white, with fine grained sand, MPS 1 LL 30 P75 90	D / M	St / VSt	RESIDUAL SOIL

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Resdual (uncorrected kPa)

SAMPLES
B - Bulk disturbed sample
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ES - Environmental sample
U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
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SOIL CONSISTENCY
VS - Very Soft
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RELATIVE DENSITY
VL - Very Loose
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CARDNO (QLD) PTY LTD

BOREHOLE LOG SHEET

Client: Rockhampton Regional Council **Project:** Rockhampton Motorsport Precinct **Location:** Rockhampton	**Job No:** M31279		**Hole No: BH06** **Sheet:** 2 of 2
Position: E243725.000 N7397933.000 55 MGA94	**Angle from Horizontal:** 90°		**Surface Elevation:**
Rig Type: Truck Rig	**Mounting:** Truck		**Driller:** BGD
Casing Diameter:			**Contractor:** Cardno (QLD) Pty Ltd
Date Started: 21/7/20	**Date Completed:** 21/7/20	**Logged By:** NW	**Checked By:** TB

Drilling: Method	Drilling: Resistance	Drilling: Casing	Water	Sampling & Testing: Sample or Field Test	Depth (m)	Graphic Log	Classification	SOIL TYPE, plasticity or particle characteristic, colour, secondary and minor components ROCK TYPE, grain size and type, colour, fabric & texture, strength, weathering, defects and structure	Moisture Condition	Consistency Relative Density	STRUCTURE & Other Observations
Rotary Air Drilling			Groundwater Not Encountered	B 4.00 - 4.50 m SPT 6.00 - 6.36 m 14, 27, 30/60mm HB N=R	4.5 5.0 5.5 6.0		SW	Gravelly SAND: fine to coarse grained, brown mottled black, fine to coarse grained, angular to sub-angular gravel, trace clay, clay clumps with rounded gravel throughout layer, MPS 40 LL 35 P75 5	D / M	MD to D	ALLUVIAL
					6.36m			TERMINATED AT 6.36 m Target depth			
					6.5 7.0 7.5						

Draft

METHOD
EX Excavator bucket
R Ripper
HA Hand auger
PT Push tube
SON Sonic drilling
AH Air hammer
PS Percussion sampler
AS Short spiral auger
AD/V Solid flight auger: V-Bit
AD/T Solid flight auger: TC-Bit
HFA Hollow flight auger
WB Washbore drilling
RR Rock roller

PENETRATION
VE Very Easy (No Resistance)
E Easy
F Firm
H Hard
VH Very Hard (Refusal)

WATER
Water Level on Date shown
water inflow
water outflow

FIELD TESTS
SPT - Standard Penetration Test
HP - Hand/Pocket Penetrometer
DCP - Dynamic Cone Penetrometer
PSP - Perth Sand Penetrometer
MC - Moisture Content
PBT - Plate Bearing Test
IMP - Borehole Impression Test
PID - Photoionisation Detector
VS - Vane Shear; P=Peak, R=Resdual (uncorrected kPa)

SAMPLES
B - Bulk disturbed sample
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U - Thin wall tube 'undisturbed'

MOISTURE
D - Dry
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SOIL CONSISTENCY
VS - Very Soft
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RELATIVE DENSITY
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
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CARDNO (QLD) PTY LTD

Material Test Report

Report Number:	**M31279-1**
Issue Number:	1
Date Issued:	23/07/2020
Client:	Rockhampton Regional Council PO Box 1860, Rockhampton QLD 4700
Contact:	Alyce
Project:	M31279 - Rockhampton Motorsport Precinct
Project Location:	Rockhampton
Work Request:	803

Cardno (QLD) Pty Ltd
Mackay Laboratory
71 Maggiolo Drive Paget QLD 4740
Phone: (07) 4952 5255
Email: derren.hoskins@cardno.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

D. Hoskins

Approved Signatory: Derren Hoskins
Laboratory Manager
NATA Accredited Laboratory Number: 910

Dynamic Cone Penetrometer AS 1289 6.3.2						
Sample Number	20-803A	20-803B	20-803C	20-803D	20-803E	20-803F
Location	BH01	BH02	BH03	BH04	BH05	BH06
Easting	243877	243733	243503	243333	243184	243725
Northing	7397602	7397609	7397628	7397684	7397907	7397933
Date Tested	21/07/2020	21/07/2020	21/07/2020	21/07/2020	21/07/2020	21/07/2020
Soil Description	Refer to Logs	Refer to Logs	Refer to Logs	Refer to Logs	Refer to Logs	Refer to Logs
Reduced Level (mm)						
Moisture Condition	Dry	Dry	Dry	Dry	Dry	Dry
Start Depth (mm)	0	0	0	0	0	0
0-100 blows/100 mm	7	3	7	6	6	5
100-200 blows/100 mm	8	3	6	6	10	7
200-300 blows/100 mm	6	4	8	7	10	4
300-400 blows/100 mm	8	5	8	8	15	4
400-500 blows/100 mm	9	6	9	8	13	3
500-600 blows/100 mm	9	6	8	9	13	3
600-700 blows/100 mm	7	4	9	9	9	2
700-800 blows/100 mm	8	6	8	8	12	3
800-900 blows/100 mm	7	6	7	8	25	4
900-1000 blows/100 mm	5	6	10	10		4
1000-1100 blows/100 mm	6	6	9			4
1100-1200 blows/100 mm	5	5	7			8
1200-1300 blows/100 mm	5	6				10
1300-1400 blows/100 mm	5	6				25
1400-1500 blows/100 mm	5	7				
1500-1600 blows/100 mm	5	6				
1600-1700 blows/100 mm	5	9				
1700-1800 blows/100 mm	5	9				
1800-1900 blows/100 mm	5					
1900-2000 blows/100 mm	5					
2000-2100 blows/100 mm	5					
2100-2200 blows/100 mm	4					
2200-2300 blows/100 mm	4					
2300-2400 blows/100 mm	5					
2400-2500 blows/100 mm	30					
Ground Water Level						
Remarks						

APPENDIX

C

LABORATORY TESTING

APPENDIX

D

PHOTOS

Image 1001: BH01


Image 1002: BH01 SPT @1.5m (N=6)


Image 1003: BH01 SPT @3.00m (N=19)


Image 1004: BH01 SPT @4.50m (N=R)


Image 1005: BH01 SPT @6.00m (N=25)


Image 1006: BH02

Image 1007: BH02 SPT@1.50m (N=13)

Image 1008: BH02 SPT@3.00m (N=51)

Image 1009: BH02 SPT@4.50m (N=R)


Image 1010: BH02 SPT@5.50m (N=R)

Image 1011: BH03


Image 1012: BH03 SPT@1.50m (N=R)

Image 1013: BH03

Image 1014: BH04

Image 1015: BH04 SPT@1.50m (N=58)


Image 1016: BH04 SPT@3.00m (N=R)


Image 1017: BH05


Image 1018: BH05 SPT@1.50m (N=R)

Image 1019: BH05 SPT@3.00m (N=R)

Image 1020: BH06

Image 1021: BH06 SPT@1.50m (N=41)


Image 1022: BH06 SPT@3.25m (N=21)


Image 1023: BH06 SPT@6.00m (N=R)


Image 1024: BH06 SPT@6.00m (N=R)