



AGENDA

Coordination Committee Meeting

Tuesday 23 October 2018
commencing at 10.30am

Caboolture Chambers
2 Hasking Street, Caboolture

COUNCILLOR:

NOTICE IS HEREBY GIVEN, that a meeting of the Coordination Committee will be held on Tuesday 23 October 2018 commencing at 10.30am in Caboolture Chambers, 2 Hasking Street, Caboolture to give consideration to the matters listed on this agenda.

Daryl Hitzman
Chief Executive Officer

18 October 2018

Membership = 13
Mayor and all Councillors

Quorum = 7

[Agenda for public distribution](#)

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7 ECONOMIC DEVELOPMENT, EVENTS & TOURISM SESSION (Cr P Flannery)

8 REGIONAL INNOVATION (Cr D Grimwade)

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ATTENDANCE & APOLOGIES

Attendance:

Committee Members:

Cr Allan Sutherland (Mayor) (Chairperson)

Officers:

Apologies:

The Mayor is the Chairperson of the Coordination Committee.

Coordination Committee meetings comprise of Sessions chaired by Council's nominated Spokesperson for that portfolio, as follows:

Session	Spokesperson
1 Governance	Cr Allan Sutherland (Mayor)
2 Planning & Development	Cr Mick Gillam
3 Corporate Services	Cr Matt Constance
4 Asset Construction & Maintenance	Cr Adam Hain
5 Parks, Recreation & Sport	Cr Koliانا Winchester
6 Lifestyle & Amenity	Cr Denise Sims
7 Economic Development, Events & Tourism	Cr Peter Flannery
8 Regional Innovation	Cr Darren Grimwade
9 General Business	Cr Allan Sutherland (Mayor)

1 GOVERNANCE SESSION

(Cr A Sutherland, Mayor)

ITEM 1.1

LOCAL GOVERNMENT ASSOCIATION OF QUEENSLAND - LGX CONNECTING THE NOW CONFERENCE - REGIONAL

Meeting / Session: 1 GOVERNANCE
Reference: A17715187 : 17 October 2018
Responsible Officer: LK, Executive Support Officer (CEO Executive Services)

Executive Summary

This report seeks consideration of Councillor attendance to the Local Government Association of Queensland (LGAQ) - LGx Connecting the Now conference to be held in Brisbane from 31 October 2018 to 2 November 2018.

OFFICER'S RECOMMENDATION

1. That Councillor Adrian Raedel be authorised to attend the Local Government Association of Queensland (LGAQ) - LGx Connecting the Now conference.
2. That the Chief Executive Officer arrange for Officer attendance at this Conference as appropriate.

ITEM 1.1 LOCAL GOVERNMENT ASSOCIATION OF QUEENSLAND - LGX CONNECTING THE NOW CONFERENCE - REGIONAL - A17715187 (Cont.)

REPORT DETAIL

1. Background

Advice has been received that the Local Government Association of Queensland (LGAQ) - LGx Connecting the Now conference is to be held at the Brisbane Convention and Exhibition Centre from Wednesday 31 October 2018 to Friday 2 November 2018. Cr Adrian Raedel has expressed his interest in attending.

2. Explanation of Item

The LGAQ - LGx Connecting the Now conference will discuss the future of communication in the public sector and will feature topics such as:

- Understanding today's communication cycle
- Best practice communication in today's councils
- Communication challenges shared across councils
- Campaign building
- The LGx Network and support to councils
- Digital and social professional development, including: unlocking the power of paid social media, influencer marketing, and customer service communication
- Communication and engagement professional development, including media masterclass, marketing strategy for events, and social media and the law
- Information technology and content professional development, including demystifying data and using integrated platforms for internal communications.

3. Strategic Implications

3.1 Legislative/Legal Implications

There are no legislation/legal implications arising as a direct result from this report.

3.2 Corporate Plan / Operational Plan

Creating Opportunities: Digital literacy and commerce - a digital region.

3.3 Policy Implications

Arrangements will be made in accordance with Council's Professional Development Policy 2150-089.

3.4 Risk Management Implications

There are no risk management implications arising as a direct result from this report.

3.5 Delegated Authority Implications

There are no delegated authority implications arising as a direct result from this report.

3.6 Financial Implications

Appropriate funds have been provided in the 2018/19 Budget.

3.7 Economic Benefit

There are no economic benefit implications arising as a direct result from this report.

3.8 Environmental Implications

There are no environmental benefit implications arising as a direct result from this report.

3.9 Social Implications

Topics associated with the conference will address a range of social challenges facing local government.

3.10 Consultation / Communication

Consultation undertaken with all Councillors, the Chief Executive Officer and Directors.

ITEM 1.2
COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL

Meeting / Session: 4 ASSET CONSTRUCTION AND MAINTENANCE
Reference: A17680014 : 18 October 2018 - **Refer Supporting Information A16938904**
Responsible Officer: RM, Manager Asset Maintenance (ECM)
KC, Senior Legal Officer (Legal Services)

Executive Summary

The purpose of this report is to seek Council's consideration of 2150-099 Heavy Vehicle National Law – Chain of Responsibility Compliance Policy.

OFFICER'S RECOMMENDATION

That 2150-099 Heavy Vehicle National Law - Chain of Responsibility Compliance Policy, as appearing in the supporting information to this report, be adopted.

ITEM 1.2 COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL - A17680014 (Cont.)

REPORT DETAIL

1. Background

The *Heavy Vehicle National Law* (Cth) (HVNL) is applied (with modifications) as a law of Queensland by the *Heavy Vehicle National Law Act 2012* (Qld).

The Chain of Responsibility (CoR) obligations within the HVNL make every party in the transport supply chain responsible for heavy vehicle safety. If a heavy vehicle breach of mass, dimension, load restraint, maintenance or driver speed or fatigue occurs, every person in the chain for that load can be held liable, even if they did not own/operate the vehicle and even if they were not contractually responsible for the particular process which caused the breach.

The CoR obligations have been in place for some time, however, the HVNL has recently been materially amended in the following ways:

1. The obligation on supply chain participants will move from being incident/accident focused to being proactive and risk management focused, identical to the regime in place for WHS. Under the new laws, a council can be found in breach even where there has not been any incident. The primary focus will shift to the risk management systems that a council has in place to prevent any incident from arising.
2. Any council which does not have in place a CoR risk management system will be in breach under the new laws and expose itself and its executive officers to the new maximum penalties which include criminal sanctions as well as civil implications.

2. Explanation of Item

Adoption of 2150-099 Heavy Vehicle National Law – Chain of Responsibility Compliance Policy (Attachment 1) by council and additional underlying operational documents which have also been prepared encapsulate the framework to mitigate heavy vehicle risks.

The operational preparations regarding compliance with the amended legislation have already been implemented by Council.

3. Strategic Implications

3.1 Legislative/Legal Implications

This Policy is required to ensure compliance with the *Heavy Vehicle National Law Act 2012* (Qld).

3.2 Corporate Plan / Operational Plan

Strengthening Communities: Strong local governance - strong leadership and governance.

3.3 Policy Implications

This report seeks the adoption of 2150-099 Heavy Vehicle National Law - Chain of Responsibility Compliance Policy.

3.4 Risk Management Implications

These Policies ensure that Council fulfils all relevant legal obligations and the safety of its employees and residents of the Moreton Bay Region.

3.5 Delegated Authority Implications

There are no delegated authority implications associated with this report.

3.6 Financial Implications

There are no financial implications associated with this report.

3.7 Economic Benefit

There are no economic benefit implications associated with this report.

Moreton Bay Regional Council

ITEM 1.2 COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL - A17680014 (Cont.)

3.8 Environmental Implications

There are no environmental implications associated with this report.

3.9 Social Implications

There are no social implications associated with this report.

3.10 Consultation / Communication

Human Resources
Executive Management team

SUPPORTING INFORMATION

Ref: A16938904

The following list of supporting information is provided for:

ITEM 1.2

COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL

#1 Draft Heavy Vehicle National Law - Chain of Responsibility Compliance Policy

ITEM 1.2 - COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL (Cont.)
#1 Draft Heavy Vehicle National Law - Chain of Responsibility Compliance Policy



Policy: 2150-099

Heavy Vehicle National Law – Chain of Responsibility Compliance

Head of Power

Heavy Vehicle National Law Act 2012 (Qld) (which includes the *Heavy Vehicle National Law*)
Heavy Vehicle National Law Regulation 2014 (Qld)
Heavy Vehicle (Fatigue Management) National Regulation (Qld)
Heavy Vehicle (General) National Regulation (Qld)
Heavy Vehicle (Mass, Dimension and Loading) National Regulation (Qld)
Heavy Vehicle (Vehicle Standards) National Regulation (Qld)
Associated National Notices, State HVNL Notices and Australian Standards

Objective

To establish a framework to ensure that Council, its workers and other parties in the chain of responsibility for Council's transport activities and those that interact with Council's transport activities cooperate to ensure that compliance with the HVNL is met.

Definitions

ATM means aggregate trailer mass.

Council means the Moreton Bay Regional Council.

GVM means gross vehicle mass.

Heavy vehicle means:

- (a) a vehicle that has a GVM or ATM of more than 4.5 t; and
- (b) a combination that includes a heavy vehicle with a GVM or ATM of more than 4.5 t.

HVNL the *Heavy Vehicle National Law Act 2012 (Qld)* (which includes the *Heavy Vehicle National Law*) and each of the regulations to that Act.

Public Risk means:

- (a) a safety risk; or
- (b) a risk of damage to road infrastructure.

Public safety means the safety of persons or property, including the safety of:

- (a) the drivers of, and passengers and other persons in, vehicles and combinations; and
- (b) persons or property in or in the vicinity of, or likely to be in or in the vicinity of, road infrastructure and public places; and
- (c) vehicles and combinations and any loads in them.

Safety risk means a risk:

- (a) to public safety; or
- (b) of harm to the environment.

Transport activities means activities, including business practices and making decisions, associated with the use of a heavy vehicle on a road, including, for example:

- (a) contracting, directing or employing a person:
 - (i) to drive the vehicle; or
 - (ii) to carry out another activity associated with the use of the vehicle (such as maintaining or repairing the vehicle); or

ITEM 1.2 - COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL (Cont.)



Policy: 2150-099 - Heavy Vehicle National Law – Chain of Responsibility Compliance

- (b) consigning a load for transport using the vehicle; or
- (c) scheduling the operation of a heavy vehicle; or
- (d) managing the loading of goods onto or unloading of goods from the vehicle; or
- (e) loading goods onto or unloading goods from the vehicle; or
- (f) receiving goods unloaded from the vehicle.

Worker means a person who carries out work in any capacity for Council.

Application

This Policy applies to all Council workers.

What activities are covered under this Policy?

- **Consigning** – anyone involved in commissioning a load for road transport by heavy vehicle;
- **Driving** – anyone involved in the physical act of driving/operating a heavy vehicle on a road;
- **Loading** – anyone involved in loading or restraining the load on a heavy vehicle for road transport;
- **Loading managers** – anyone who manages, or is responsible for the operation of, regular loading or unloading of heavy vehicles at premises;
- **Receiving** – anyone involved in taking possession of deliveries delivered by road transport on a heavy vehicle;
- **Scheduling** – anyone responsible for the scheduling, rostering and vehicle allocation process associated with the use of heavy vehicles operated on roads; and
- **Maintaining** – anyone involved in maintaining Council owned heavy vehicles and equipment used in conjunction with heavy vehicles.

Policy Statement

Responsibilities of Council

Council values the safety of its workers and the public. Council is committed to ensuring, so far as is reasonably practicable, the safety of Council's transport activities relating to heavy vehicles. In doing so, Council has developed a chain of responsibility safety management system the aim of which is to eliminate or minimise public risks. The system also assists Council to achieve compliance with the HVNL and its associated regulations, as well as relevant notices and Australian Standards.

Council's safety procedures and processes are risk management based with the aim of eliminating or minimising known risks. This is achieved by identifying and assessing public risks, implementing control measures and monitoring and reviewing these for effectiveness.

Council integrates the chain of responsibility safety management system into the planning and operation of its operations. The system is reviewed through a continual improvement program, internal and external audits, hazard inspection program, monitoring program and scheduled reviews of relevant documentation. Council:

- provides regular compulsory HVNL training and information sessions for all workers;
- has a safety committee which incorporates chain of responsibility that allows the setting of a strategic direction for safety, consultation processes and resolution of relevant public risks and communication;
- provides adequate resources to regularly review, manage and continuously improve chain of responsibility safety systems and processes;
- implements proactive control measures and initiatives where appropriate;
- ensures that an annual compliance report is provided to Council that identifies any breach of the HVNL, and steps taken to remedy those breaches, and includes relevant reporting measures; and
- undertakes regular maintenance and repairs on Council owned heavy vehicles and associated equipment to ensure that those vehicles comply with heavy vehicle standards.

ITEM 1.2 - COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL (Cont.)



Policy: 2150-099 - Heavy Vehicle National Law – Chain of Responsibility Compliance

Council is committed to continually improving its chain of responsibility safety performance in all transport activities and associated tasks undertaken across the organisation. It seeks to eliminate or minimise public risk through its consultative and active safety and wellbeing culture.

Council is committed, so far as is reasonably practicable, to allocating adequate financial resources within its budget to ensure its obligations under the HVNL can be met.

Responsibilities of workers

Workers are required to:

- follow the systems, policies, procedures and directives implemented by Council in relation to the HVNL;
- follow all reasonable directions from Council regarding compliance with the HVNL;
- report any incident or breach of the HVNL or the systems, policies, procedures and directives implemented by Council;
- ensure they do not breach the general duty in the HVNL by their actions, inactions or demands;
- ensure they do not coerce, induce or encourage a breach of the HVNL;
- ensure they do not provide false or misleading information that could cause a breach of the HVNL; and
- ensure that all visitors to Council workplaces follow all relevant Council policies, procedures and directives and all non-conformances are appropriately recorded.

Responsibilities of Directors and Managers

In addition to complying with the obligations that apply to workers generally, Council requires all Directors and Managers to lead by example and actively encourage a culture which supports compliance with the HVNL.

Directors and Managers are required to:

- ensure that the people they supervise understand their responsibilities under this Policy and the HVNL;
- take opportunities to discuss this Policy and reinforce the importance of safety and compliance;
- create an environment where workers and contractors feel comfortable raising concerns relating to transport activities;
- work with workers and/or contractors to address concerns in way that ensures, so far as is reasonably practicable, HVNL compliance;
- at no time encourage or direct a worker or contractor to achieve business results at the expense of ethical conduct or compliance with any policy or the HVNL;
- document all relevant processes, audit and training information appropriately; and
- understand and communicate appropriate controls to ensure that members of the public remain compliant with the HVNL when on any Council site.

Related Documents

This policy complements and is to be implemented in conjunction with other Council policies and directives but not limited to:

Corporate Directive 2180-047 - Heavy Vehicle National Law – Chain of Responsibility Compliance

Review Triggers

This Policy will be reviewed for applicability, continuing effect and consistency with related documents and the Law when any of the following occurs:

- (1) The related documents are amended.
- (2) The related documents are replaced by new documents.
- (3) Amendments affecting the scope and effect of a Policy of this nature are made to the Law.

Otherwise, this Policy is to be reviewed at least once every two years for relevance and effectiveness.

ITEM 1.2 - COUNCIL POLICY - HEAVY VEHICLE NATIONAL LAW - REGIONAL (Cont.)



Policy: 2150-099 - Heavy Vehicle National Law – Chain of Responsibility Compliance

Responsibility

This Policy is to be:

- (1) implemented by Directors and Managers; and
- (2) reviewed and amended in accordance with the "Review Triggers" by the Chief Executive Officer.

Policy: 2150-099		Official Version: Atba	
Heavy Vehicle National Law – Chain of Responsibility Compliance			
Document Control			
Version / Reviewed	Version Adoption (Council meeting / Minute Page) Reviewed (revision comment)	Date	Word version reference
Version 1	DRAFT	xx.xx.2018	A16938904

ITEM 1.3
2017-18 ANNUAL REPORT - REGIONAL

Meeting / Session: 1 GOVERNANCE
Reference: A177053154 : 10 October 2018 - **Refer Supporting Information A17720223**
(tabled at meeting)
Responsible Officer: MH, Principal Strategy and Engagement Officer (CEO Strategy & Engagement)

Executive Summary

This report seeks adoption of the Moreton Bay Regional Council 2017-18 Annual Report.

OFFICER'S RECOMMENDATION

That the Moreton Bay Regional Council 2017-18 Annual Report be adopted, as tabled.

ITEM 1.3 2017-18 ANNUAL REPORT - REGIONAL - A177053154 (Cont.)

REPORT DETAIL

1. Background

The Moreton Bay Regional Council 2017-18 Annual Report has been prepared in accordance with the *Local Government Act 2009* and Local Government Regulation 2012. This legislation stipulates how a council is required to measure its performance in its annual report against its Operational Plan for 2017-18 and the objectives of its Corporate Plan.

In accordance with section 182 of the Local Government Regulation 2012, a local government must adopt its annual report within one month after the day the auditor-general gives the auditor-general's audit report about the local government's financial statements for the financial year to the local government.

2. Explanation of Item

The 2017-18 Annual Report outlines Council's operations, activities and financial performance for the reporting period. It presents a record of Council's operations to residents, ratepayers, customers and other interested parties.

The report highlights Council's investment in initiatives, projects and partnerships that support a thriving regional economy, none larger than The Mill at Moreton Bay which includes a new university campus at its core.

The report also details Council's achievements towards maintaining a vibrant, inclusive and healthy Moreton Bay. This includes adoption of the region's first Disability Access and Inclusion Plan, rollout of innovative waste management initiatives, and support for major community celebrations including the 2018 Gold Coast Commonwealth Games Queens Baton Relay, Rugby League Commonwealth Championships and Caboolture Family Fun Day.

The 2017-18 Annual Report was guided by the Corporate Plan 2017-22. The document contains financial highlights, operational activities and achievements, information related to corporate governance requirements and the Community Financial Report.

Once adopted, the 2017-18 Annual Report will be available for download at www.moretonbay.qld.gov.au/annualreport and a copy made available for viewing at Council's customer service centres.

3. Strategic Implications

3.1 Legislative/Legal Implications

The preparation and adoption of an Annual Report is a requirement of the Local Government Regulation 2012. The Annual Report must contain specific detail as required by the *Local Government Act 2009*.

3.2 Corporate Plan / Operational Plan

Strengthening Communities: Strong local governance - a Council connected with its community.

3.3 Policy Implications

There are no policy implications arising as a direct result of this report.

3.4 Risk Management Implications

There are no risk management implications arising as a direct result of this report.

3.5 Delegated Authority Implications

There are no delegated authority implications arising as a direct result of this report.

3.6 Financial Implications

The cost of the preparation has been provided in the 2017-18 budget.

ITEM 1.3 2017-18 ANNUAL REPORT - REGIONAL - A177053154 (Cont.)

3.7 Economic Benefit

There are no economic benefit implications arising as a direct result of this report.

3.8 Environmental Implications

There are no environmental implications arising as a result of this report.

3.9 Social Implications

There are no social implications arising as a result of this report.

3.10 Consultation / Communication

The compilation of the Annual Report has required extensive consultation across the organisation and has relied on consultation with Councillors and input from Officers at all levels.

2 PLANNING & DEVELOPMENT SESSION

(Cr M Gillam)

ITEM 2.1

DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12

APPLICANT: NBN C/- Aurecon Australasia

OWNER: Ms Ailsa D Masters

Meeting / Session: 2 PLANNING & DEVELOPMENT
Reference: A17671559 : 9 October 2018 – Refer Supporting Information A17675471, A17675475, A17675474, A17675473, A17675472, & A17675470
Responsible Officer: CS, Planner (PED Development Services)

Executive Summary

APPLICATION DETAILS	
Applicant:	NBN C/- Aurecon Australasia
Lodgement Date:	11 December 2017
Properly Made Date:	11 December 2017
Confirmation Notice Date:	4 January 2018
Information Request Date:	18 January 2018
Info Response Received Date:	19 March 2018
Public Notification Dates:	3 April 2018 - 26 April 2018
No. of Submissions:	Properly Made: One (1) Not Properly Made: Zero (0)
Decision Due Date:	24 October 2018
Prelodgement Meeting Held:	No

PROPERTY DETAILS	
Division:	Division 12
Property Address:	300 Dwane Road, Delaneys Creek
RP Description	Lot 21 C31989
Land Area:	64.75 hectares
Property Owner	Ms Ailsa D Masters

STATUTORY DETAILS	
Planning Legislation:	<i>Planning Act 2016</i>
Planning Scheme:	Moreton Bay Regional Council Planning Scheme
Planning Locality / Zone	Rural Zone
Level of Assessment:	Impact and Consistent

This application seeks a Material Change of Use - Development Permit for a Telecommunications Facility to be located at the abovementioned property. The proposed structure comprises a 51 metre tall lattice tower with ancillary components located within a fenced compound.

The application was publicly advertised with one (1) submission received. The proposed development is considered to satisfy the requirements of the Moreton Bay Regional Council Planning Scheme and is recommended to be approved subject to conditions.

Moreton Bay Regional Council

ITEM 2.1 DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 - A17671559 (Cont.)

OFFICER'S RECOMMENDATION

- A. That Council, in accordance with the *Planning Act 2016*, approves the development application for a Material Change of Use - Development Permit for a Telecommunications Facility at 300 Dwane Road, Delaneys Creek, described as Lot 21 C31989, subject to the following plans/documents and conditions:

Approved Plans and Documents			
Plan / Document Name	Reference Number	Prepared By	Dated
Overall Site Plan	4WDF-51-03-DAGU-C2 Rev02	Aurecon Australia Pty Ltd	7 December 2017
Site Setout Plan	4WDF-51-03-DAGU-C3 Rev03	Aurecon Australia Pty Ltd	23 January 2018
Site Elevations and Details	4WDF-51-03-DAGU-C4 Rev02	Aurecon Australia Pty Ltd	7 December 2017
NBN Antenna Configuration & Setout Plan	4WDF-51-03-DAGU-A1 Rev02	Aurecon Australia Pty Ltd	7 December 2017
Landslide Risk Assessment Report	247473 Rev 0	Aurecon Australasia Pty Ltd	31 May 2018

Plans to be Amended			
Plan / Document Name	Reference Number	Prepared By	Dated
Property Vegetation Management Plan	247473	Aurecon Australasia Pty Ltd	30 April 2018

Conditions

CONDITION		TIMING
MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT		
DEVELOPMENT PLANNING		
1	Approved Plans and/or Documents	
	Undertake development generally in accordance with the approved plans and/or documents. These plans and/or documents will form part of the approval, unless otherwise amended by conditions of this approval.	Prior to commencement of use and to be maintained at all times.
2	Amended Document Required	
A	Submit an amended Vegetation Management Plan, prepared by a suitably qualified person, and including scaled plans and supporting documentation that provides for the following: 1. Nominate on a plan all of the trees to be removed during the works phase and show Trees 002 to 017 to be retained (ie remove tree markers and numbers from the plan) and	Prior to works commencing on site.

Moreton Bay Regional Council

ITEM 2.1 DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 - A17671559 (Cont.)

	remove any references to the removal of these trees from the Vegetation Management Plan document.	
B	Obtain approval from Council for the amended Vegetation Management Plan in accordance with (A) above.	Prior to works commencing on site.
C	Implement the requirements and recommendations of the approved plan/s. The approved amended plan/s will form part of the approval.	Prior to and during site works and to be maintained at all times.
3	Colour of Telecommunications Facility	
	<p>Ensure that the telecommunications facility and associated equipment shelter is painted with a colour that blends with the adjacent bushland vegetation and complies with the colour range detailed as follows unless otherwise approved by Council in writing:</p> <p>(a) Registered Colourbound 'Pale Eucalypt' non-reflective paint;</p> <p>OR</p> <p>(b) Acceptable colours from Australian Standard AS2700s - 1996 or equivalent that are appropriate for highly visible surfaces as they are harmonious with the natural landscape colours listed below.</p> <ul style="list-style-type: none"> • G52 - Eucalyptus • G53 - Banksia • N45 - Koala Grey • N32 - Green Grey • G54 - Mist Green • Y63 - Khaki • N - 35 Light Grey • G56 - Sage Green • G55 - Lichen 	Prior to commencement of use and to be maintained at all times.
4	Warning Sign	
	Provide a warning information sign at the entrance to the lease area to prevent unauthorised entry.	To be maintained at all times after the commencement of the use.
5	Security Fencing	
	Erect a black, chain wire mesh, security fence without barbed wire, with a maximum height of 2.4m, along all sides of the lease area, unless otherwise approved by Council in writing.	Prior to the commencement of the use and to be maintained at all times.
6	Noise	
	<p>Ensure air conditioning equipment is located, designed, installed and maintained to achieve a component noise level of 0dB(A) above background noise level when measured at an affected building for a noise sensitive use.</p> <p>Notes:</p> <p>The component noise level for the equipment is to be measured as an LA90, T.</p> <p>'Background Noise Level' means LA90, T being the A-weighted</p>	

Moreton Bay Regional Council

ITEM 2.1 DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 - A17671559 (Cont.)

	sound pressure level exceeded for 90 percent of the time period not less than 15 minutes using fast response.	
CONDITION		TIMING
MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT		
ENVIRONMENTAL PLANNING		
7	Management of Wildlife	
A	Carry out approved vegetation clearing under the supervision of a Fauna Spotter Catcher holding a valid Rehabilitation Permit from the relevant State Government Agency.	Prior to and during site works.
B	Provide an activity report, to be completed by the supervising Fauna Spotter Catcher, including: <ul style="list-style-type: none"> i. The number and species of any animals observed during clearing; ii. The actions taken to deal with observed animals; iii. The number of any animals that were required to be relocated; iv. The release site for any relocated animals; v. The number (if any) of animals injured during clearing; vi. The treatment provided; vii. The outcome of any treatment; and viii. The location of the treatment. 	Within fourteen (14) days of completion of clearing.
8	Extent of Vegetation Clearing	
	Carry out works in accordance with an approved Vegetation Management Plan. Clearing of native vegetation must be limited to that which is necessary for the development as shown on an approved Vegetation Management Plan.	Prior to and during site works and to be maintained.
9	Disposal of Cleared Vegetation	
	Chip, shred or tub grind cleared native vegetation and spread as mulch or dispose of at an authorised waste facility. Any hollows observed in cleared vegetation must be salvaged and installed as nest boxes in trees within the property.	At all times.
10	Stockpiles of Construction and Landscaping Materials	
	Locate any stockpiles of construction and landscaping materials and other site debris clear of drainage lines and clear of any position from which it could be washed onto any nature strip, roadway or into any drain, wetland or watercourse.	At all times.
11	Temporary Exclusion Fencing	
	Delineate areas where vegetation is proposed to be retained with exclusion fencing to prevent accidental felling. Clearing is to be undertaken in accordance with AS 4970-2009 Protection of Trees on Development Sites.	During site works.

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CONDITION		TIMING
12	Ecological Restoration Plan	
A	<p>Submit to Council for approval an Ecological Restoration Plan. The 'Development Footprint' and another suitable area/s on site must be planted out with appropriate tree species (ie found locally) at a ratio of at least 2:1 of the number to be removed.</p> <p>A suitable area/s must be identified in the Ecological Restoration Plan for the necessary restoration works (eg riparian areas typically on rural properties can be degraded). The establishment period must be no less than two years.</p> <p>The plan must be prepared by a suitably qualified person and in accordance with Planning Scheme Policy - Environmental Areas and Corridors.</p>	Prior to the commencement of site works.
B	Implement the requirements of the approved plan.	During site works and to be maintained at all times.

CONDITION		TIMING
MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT		
DEVELOPMENT ENGINEERING		
13	Landslide Hazard - Certification	
A	The Landslide Risk Assessment Hazard report provided in support of the application is accepted.	Note only.
B	Undertake all works on site in accordance with the accepted report.	Prior to the commencement of the use.
C	Provide certification to Council from a Registered Professional Engineer Queensland (RPEQ) that any civil work and/or building work has been designed and constructed in accordance with the recommendations of the Landslide Risk Assessment Report accepted by Council.	Prior to the commencement of the use.
14	Replace Existing Council Infrastructure	
	Replace existing Council infrastructure (including but not limited to street trees and footpaths) that is damaged as part of construction works, to a standard which is consistent with Council's standards.	Prior to the commencement of the use.
15	Alterations and Relocation of Existing Services	
	Any alteration or relocation in connection with or arising from the development to any service, installation, plant, equipment or other item belonging to or under the control of the telecommunications authority, electricity authorities, the Council or other person engaged in the provision of public utility services is to be carried with the development and at no cost to Council.	Prior to the commencement of the use.

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CONCURRENCE AGENCY		
1	Concurrence Agency	
A	Comply with the conditions of the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) amended response dated 7 June 2018 (reference: 1801-3267 SRA) or as amended.	At all times.
B	Provide certification to Council prepared by a suitably qualified person or the agency demonstrating the requirements of the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) have been met.	At all times.

ADVICES	
1	Aboriginal Cultural Heritage Act 2003
	<p>The <i>Aboriginal Cultural Heritage Act 2003</i> commenced in Queensland on April 16, 2004. The Act provides blanket protection of Aboriginal cultural heritage sites and places, including significant areas and objects, as well as archaeological remains. The Act also recognises that Aboriginal cultural heritage parties are key stakeholders in the assessment and management of Aboriginal cultural heritage.</p> <p>Under the Act, if a proposed activity involves disturbance of the ground surface, cultural heritage Duty of Care must be considered. This involves consideration of whether an activity is <i>likely</i> to harm Aboriginal cultural heritage. This may require involvement from the relevant Aboriginal cultural heritage party.</p> <p>Cultural heritage Duty of Care compliance ultimately lies with the person or entity conducting the activity, and penalty provisions apply for failing to fulfil this Duty of Care.</p> <p>Council strongly advises that before undertaking the land use activity, you refer to the cultural heritage duty of care - Department of Aboriginal and Torres Strait Islander Partnerships (Queensland Government) for further information regarding the responsibilities of the developer.</p>
2	Adopted Charges
	In accordance with section 8 and Schedule 3 of the Infrastructure Charges Resolution (No. 8) dated 14 August 2018 or as amended, there is no Adopted Charge applicable for Council's Trunk Infrastructure Networks.

- B. That the Council report for this application be published to the website as Council's statement of reasons in accordance with Section 63 (5) of the *Planning Act 2016*.
- C. That all external Referral Agencies for the development application be provided with a copy of the Council's Decision Notice.
- D. That the following information be included in the Decision Notice.

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Decision Notice information

	Details to Insert
Application Type	Material Change of Use - Development Permit for Telecommunication Facility
Relevant Period of Approval	Material Change of Use – 6 years
Section 64(5) Deemed Approval	Not applicable
Superseded Planning Scheme	Not applicable
Variation approval affecting the Planning Scheme	Not applicable
Other Necessary Permits	Building Works – Development Permit
Codes for Accepted Development	Not applicable
Referral Agencies	Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP)
Submissions	There was one (1) properly made submission about this application.

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REPORT DETAIL

1. Background

Nil

2. Explanation of Item

2.1 Proposal Details

An application has been received for a Telecommunications Facility at 300 Dwane Road, Delaneys Creek, described as Lot 21 C31989.

The applicant proposes to establish a Telecommunication Facility to service the greater locality. The proposed facility consists of a 51 metre high (including all structures) lattice tower within a fenced compound with an area of approximately 108m². The Telecommunications Facility is proposed to be located in the northern portion of the property, approximately 65 metres from the Dwane Road frontage. Access to the proposed compound area will be provided via an upgrade to the existing track located off Dwane Road.

The components of the proposed NBN installation comprise the following:

- A 50 metre tall lattice tower;
- One (1) parabolic dish (0.6 metres in diameter) for transmission purposes;
- Two (2) panel antennas (Dimensions: 0.75 metres high x 0.30 metres wide x 0.115 metres deep), located at an elevation of 50 metres;
- A 2.4 metre high chain link security compound fence (compound area 9 m x 12 m), with a three (3) metre wide access gate;
- Two (2) outdoor equipment cabinets (dimensions: 1.5 metres high x 0.65 metres wide x 0.65 metres deep) at ground level. The outdoor cabinets will be installed on a concrete slab and will be metallic grey in colour; and
- Associated feeder cables that will run underground from the equipment cabinet, and then vertically inside the tower to the antennas.

The applicant has advised that a fire break will be provided in accordance with the exempt clearing work provisions identified by the Department of Natural Resources, Mines and Energy.

The proposed development involves the clearing of Category B Remnant Vegetation and vegetation mapped as Matters of State Environmental Significance (MSES). The application was referred to the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) in accordance with Schedule 10 of the *Planning Regulation 2017*.

An Electromagnetic Energy (EME) Report has been provided with the application in support of establishing the facility.

2.2 Description of the Site and Surrounds

The subject site occupies an area of approximately 64.75 hectares and has frontage to Dwane Road and an unconstructed portion of McLeod Lane. The site is generally vegetated and mountainous and contains some small areas subject to rural uses (horticulture). The subject site is surrounded by the following land uses and zones:

Directions	Planning Scheme Zone	Current Land Use
North	Rural Zone	Detached Dwellings
South	Rural Zone	Detached Dwelling, Agricultural Uses
East	Extractive Industry Zone	Detached Dwelling, Quarry

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Directions	Planning Scheme Zone	Current Land Use
West	Rural Zone	Vacant land

2.3 Assessment Benchmarks related to the *Planning Regulation 2017*

The *Planning Regulation 2017* (the Regulation) prescribes Assessment Benchmarks that the application must be carried out against, which are additional or alternative to the Assessment Benchmarks contained in Council's Planning Scheme.

These Assessment Benchmarks are prescribed as being contained in:

- the South East Queensland Regional Plan and Part E of the State Planning Policy; and
- Schedule 10 of the Regulation.

Applicable Assessment Benchmarks:	<p><u>State Planning Policy</u></p> <ul style="list-style-type: none"> • State Planning Policy, Part E <p><u>Regional Plan</u></p> <ul style="list-style-type: none"> • South East Queensland Regional Plan
SEQ Regional Plan Designation:	<ul style="list-style-type: none"> • Regional Landscape and Rural Production Area
Koala Habitat Designation:	<ul style="list-style-type: none"> • Medium Value Bushland • Low Value Bushland • Low Value Rehabilitation

2.3.1 State Planning Policy

A new State Planning Policy came into effect on 3 July 2017 and is not currently integrated into the MBRC Planning Scheme. The following assessment benchmarks are to be applied to the assessment of development applications until the State interests have been appropriately integrated into Council's planning scheme. Assessment against the SPP assessment benchmarks is as follows:

Assessment Benchmark - Livable Communities		
Applicable to Development	SPP requirement	Comment
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None	Not applicable
Assessment Benchmark - Mining and Extractive Resources		
Applicable to Development	SPP requirement	Comment
<input type="checkbox"/> Yes	None	Not applicable.

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<input checked="" type="checkbox"/> No		The location of the proposed Telecommunications Facility is not within the Separation area for the Key Resource Area to the east of the site.
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Assessment Benchmark - Water Quality		
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Applicable to Development	SPP requirement	Comment
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(1) Development is located, designed, constructed and operated to avoid or minimize adverse impacts on environmental values arising from <ul style="list-style-type: none"> (a) altered stormwater quality and hydrology (b) waste water (c) the creation or expansion of non-tidal artificial waterways (d) the release and mobilization of nutrients and sediments. (2) Development achieves the applicable stormwater management design objectives outlined in tables A and B (appendix 2) (3) Development in a water supply buffer area avoids adverse impacts on drinking water supply environmental values.	An assessment of the proposed development has been undertaken against the applicable SPP requirements and the proposal has been determined to comply.

Assessment Benchmark - Natural Hazards, Risk and Resilience		
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Applicable to Development	SPP Requirement	Comment
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Bushfire, flood, landslide, storm tide inundation, and erosion prone areas outside the coastal management district: <ul style="list-style-type: none"> (1) Development other than that assessed against (1) above, avoids natural hazard areas, or where it is not possible to avoid the natural hazard area, development mitigates the risks to people and property to an acceptable or tolerable level. All natural hazard areas: <ul style="list-style-type: none"> (2) Development supports and does not hinder disaster management response or recovery capacity and capabilities. (3) Development directly, indirectly and cumulatively avoids an 	An assessment of the proposed development has been undertaken against the applicable SPP requirements and the proposal has been determined to comply.

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	<p>increase in the severity of the natural hazard and the potential for damage on the site or to other properties.</p> <p>(4) Risks to public safety and the environment from the location of hazardous materials and the release of these materials as a result of a natural hazard are avoided.</p> <p>(5) The natural processes and the protective function of landforms and the vegetation that can mitigate risks associated with the natural hazard are maintained or enhanced.</p>	
Assessment Benchmark - Strategic Airports and Aviation Facilities		
Applicable to Development	SPP Requirement	Comment
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None	Not applicable

2.3.2 South East Queensland Regional Plan

The site is located in the Regional Landscape and Rural Production Area. The development proposal is for a Material Change of Use in the Regional Landscape and Rural Production Area. An assessment against the applicable assessment criteria of the SEQRP has been undertaken, and the proposal is consistent.

2.4 Assessment Against Local Categorising Instrument - Moreton Bay Regional Council Planning Scheme

An assessment against the relevant parts of the planning scheme is set out below.

2.4.1 Strategic Framework

An assessment against the Strategic Framework is not required by the development proposal.

2.4.2 Assessment of Applicable Codes

Code Compliance Summary

The assessment below identifies how the development proposal achieves the assessment benchmarks and where the development proposal;

- (a) proposes an alternative 'Example' satisfying or not satisfying the corresponding Performance Outcome; and
- (b) proposes an outcome where no 'Example' is stated in the code and the proposed outcome does not satisfy the corresponding Performance Outcome.

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Assessment Benchmarks	Compliance with Overall Outcomes	Performance Outcomes assessment is required
Zone/ Local Plan Code		
Rural Zone Code	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	PO3, PO10, PO76, PO77, PO95, PO96, PO121, PO143
Overlay Codes		
Flood Hazard Overlay Code	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

The assessment of the development proposal against the Performance Outcomes of the applicable code(s) is discussed below in section 2.4.3.

2.4.3 Performance Outcome Assessment

Performance Outcome	Example
Rural Zone Code	
<p>PO3 Height of buildings and structures:</p> <ul style="list-style-type: none"> a. is consistent with the existing low rise, open area and low density character and amenity of the Rural zone and its precincts; b. does not unduly impact on access to daylight, sunlight, overshadowing or privacy experienced by adjoining premises; c. for buildings in the Hamlet precinct, the height of buildings reflect the individual character of the area; d. does not adversely affect the operation of aviation facility at Mt Glorious by adopting design or on-site management measures that: <ul style="list-style-type: none"> i. ensures a physical line-of-sight between transmitting or receiving devices. ii. ensure electromagnetic fields do not interfere with the functioning of the aviation facility. 	<p>E3 Building height and all structures do not exceed the maximum height identified on Overlay map - Building heights; except in the Hamlet precinct, where outbuildings, free standing car ports or garages do not exceed 3.5m.</p>
<i>Performance Outcome Assessment</i>	
<p>The applicant proposes an Alternative Solution to Example E3 of the Rural Zone Code. The proposed structure comprises a total height of 51 metres (when measured from the ground) exceeding the maximum building height of 8.5m indicated on the Building Heights Overlay Map.</p> <p>The proposed facility by its necessity requires a line of sight from tower to tower to complete a functional network. Consequently, the structure will not be situated below the predominant</p>	

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Performance Outcome	Example
<p>tree canopy level. As such, the proposed facility is not consistent with the existing low rise character of the Rural Zone.</p> <p>As the proposal does not comply with this Performance Outcome, an assessment against the Overall Outcomes is required and discussed in the following section of this report.</p>	
<p>PO10 On-site car parking associated with an activity provides safe and convenient on-site parking and manoeuvring to meet anticipated parking demand.</p> <p>Note - Refer to Planning scheme policy - Integrated transport assessment for guidance on how to achieve compliance with this outcome.</p>	<p>E10 On-site car parking is provided in accordance with Schedule 7 - Car parking.</p>
<p><i>Performance Outcome Assessment</i></p>	
<p>Schedule 7 - Car parking requires that one (1) parking space is provided per staff member and visitor.</p> <p>The applicant seeks an Alternative Solution for the provision of permanent on-site car parking spaces. Vehicular access will only be required during the construction of the facility and maintenance periods which are envisaged to occur approximately 3-4 times a year. Nevertheless, there is sufficient parking and manoeuvring space on-site for vehicles during these periods.</p> <p>Given the circumstances noted above, it is not considered reasonable that any permanent car parking spaces be required. Therefore, the proposal complies with the Performance Outcome.</p>	
<p>PO76 The Telecommunications facility⁽⁸¹⁾ does not have an adverse impact on the visual amenity of a locality and is:</p> <ul style="list-style-type: none"> a. high quality design and construction; b. visually integrated with the surrounding area; c. not visually dominant or intrusive; d. located behind the main building line; e. below the level of the predominant tree canopy or the level of the surrounding buildings and structures; f. camouflaged through the use of colours and materials which blend into the landscape; g. treated to eliminate glare and reflectivity; h. landscaped; i. otherwise consistent with the amenity and character of the zone and surrounding area. 	<p>E76.2 In all other areas towers do not exceed 35m in height.</p> <p>E76.4 All structures and buildings are setback behind the main building line and a minimum of 10m from side and rear boundaries, except where in the Industry and Extractive industry zones, the minimum side and rear setback is 3m. Where there is no established building line the facility is located at the rear of the site.</p> <p>E76.6 A minimum 3m wide strip of dense planting is provided around the perimeter of the fenced area, between the facility and street frontage and adjoining uses.</p>

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Performance Outcome	Example
<i>Performance Outcome Assessment</i>	
<p>The applicant proposes Alternative Solutions to Examples E76.2, E76.4, and E76.6.</p> <p>The facility includes a 50 metre tall lattice tower and antennas with an overall height of 51 metres, being 16 metres greater in height than the 35 metres nominated by Example 76.2. Furthermore, there is no established building line for the site as the proposed telecommunications facility will be located in a large, heavily vegetated rural parcel of land. As the facility is proposed within a large rural property with significant vegetation, a fire break around the compound is permitted as exempt clearing (in accordance with DRNME), in the location subject to the dense planting required by Example 76.6.</p> <p>The retention of the existing mature vegetation around the proposed facility and fire break screens the compound and lower portion of the tower to reduce the impacts on visual amenity in the area. However, as the proposed tower by its very function is required to be above the level of the predominant tree canopy, it does not comply with the Performance Outcome.</p> <p>As the proposal does not comply with this Performance Outcome, an assessment against the Overall Outcomes is required and discussed in the following section of this report.</p>	
<p>PO77 Lawful access is maintained to the site at all times that does not alter the amenity of the landscape or surrounding uses.</p>	<p>E77 An Access and Landscape Plan demonstrates how 24 hour vehicular access will be obtained and maintained to the facility in a manner that is appropriate to the site's context.</p>
<i>Performance Outcome Assessment</i>	
<p>The development application has not included an Access and Landscape Plan demonstrating how 24 hour vehicular access to the site is to be obtained.</p> <p>It is proposed to obtain access to the facility by upgrading and utilising the existing driveway on site from Dwane Road located approximately 65m to the north of the proposed compound area. Notably, the use of the driveway will constitute lawful and unobstructed access to the property and the proposed telecommunications facility at all times. This access arrangement does not alter the amenity or landscape of the surrounding area and will not result in any adverse impacts on adjoining land uses. If 24 hour access was required for unplanned maintenance or repairs associated with the facility, any impact on the amenity of the surrounding area would be negligible.</p> <p>The proposed alternative solution complies with Performance Outcome PO77 in this instance.</p>	
<p>PO95 Development:</p> <ul style="list-style-type: none"> a. minimises the number of buildings and people working and living on a site exposed to bushfire risk; b. ensures the protection of life during the passage of a fire front; 	<p>E95.1 Buildings and structures are:</p> <ul style="list-style-type: none"> a. not located on a ridgeline; b. not located on land with a slope greater than 15% (see Overlay map - Landslide hazard); c. dwellings are located on east to south facing slopes.

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Performance Outcome	Example
<ul style="list-style-type: none"> c. is located and designed to increase the chance of survival of buildings and structures during a bushfire; d. minimises bushfire risk from build up of fuels around buildings and structures; e. ensure safe and effective access for emergency services during a bushfire. 	<p>E95.2 Buildings and structures have contained within the site:</p> <ul style="list-style-type: none"> a. a separation from classified vegetation of 20m or the distance required to achieve a bushfire attack level (BAL) at the building, roofed structure or fire fighting water supply of no more than 29, whichever is the greater; b. a separation from low threat vegetation of 10m or the distance required to achieve a bushfire attack level (BAL) at the building, roofed structure or fire fighting water supply of no more than 29, whichever is the greater; c. a separation of no less than 10m between a fire fighting water supply extraction point and any classified vegetation, buildings and other roofed structures; d. an area suitable for a standard fire fighting appliance to stand within 3m of a fire fighting water supply extraction point; and e. an access path suitable for use by a standard fire fighting appliance having a formed width of at least 4m, a cross-fall of no greater than 5%, and a longitudinal gradient of no greater than 25%: <ul style="list-style-type: none"> i. to, and around, each building and other roofed structure; and ii. to each fire fighting water supply extraction point.
<i>Performance Outcome Assessment</i>	
<p>The applicant proposes an alternative solution to Example E95.1 and E95.2 of the Rural Zone Code. The proposed Telecommunications Facility is on land with a slope greater than 15%.</p> <p>The proposed development comprises a non-habitable use, with access to the Telecommunications Facility being infrequent and restricted to the installation of equipment and for purposes of maintenance. Significantly, the proposed facility will not result in an increase to the number of people living or working in the area, nor will it accommodate the storage of hazardous materials. In addition, given the nature and purpose of the proposed development, the number of people working and living on the site exposed to any bushfire risk is extremely minimal.</p>	

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Performance Outcome	Example
<p>The Telecommunications Facility will not involve hazardous materials, nor will it result in the emissions of undue heat, sparks or open flame. As such, the facility will not increase the bushfire risk and consequently contribute to the build up of fuels around buildings and structures. In any event, emergency services will have safe and effective access to the subject site.</p> <p>It is also noted that the Telecommunications Facility has been designed to be resilient to bushfire damage, with cable trays enclosed by galvanised casing and the equipment cabinet and meter board designed to resist ember penetration.</p> <p>The proposed alternative solution complies with Performance Outcome PO95 of the Rural Zone Code and is accepted in this instance.</p>	
<p>PO96 Development and associated driveways and access ways:</p> <ol style="list-style-type: none"> a. avoid potential for entrapment during a bushfire; b. ensure safe and effective access for emergency services during a bushfire; c. enable safe evacuation for occupants of a site during a bushfire. 	<p>E96 A length of driveway:</p> <ol style="list-style-type: none"> a. to a road does not exceed 100m between the most distant part of a building used for any purpose other than storage and the nearest part of a public road; b. has a maximum gradient no greater than 12.5%; c. have a minimum width of 3.5m; d. accommodate turning areas for fire fighting appliances in accordance with Qld Fire and Emergency Services' Fire Hydrant and Vehicle Access Guideline.
<p><i>Performance Outcome Assessment</i></p>	
<p>The applicant seeks an Alternative Solution as portion of the access driveway has a gradient greater than 12.5%.</p> <p>The proposed development comprises a non-habitable use, with access to the Telecommunication Facility being infrequent and restricted to the installation of equipment and during maintenance periods. The proposed Telecommunication Facility will not increase the number of people living or regularly working in the area and will not increase the potential for entrapment during a bushfire.</p> <p>Furthermore, the applicant is proposing to upgrade the driveway to accommodate heavy vehicles during the construction of the facility. This will create safe and effective access for emergency services if required.</p> <p>The proposed alternative solution complies with Performance Outcome PO96 of the Rural Zone Code and is accepted in this instance.</p>	
<p>PO121 Development:</p> <ol style="list-style-type: none"> a. maintains the safety of people and property on a site and neighbouring sites from landslides; 	<p>E121 Development does not:</p> <ol style="list-style-type: none"> a. involve earthworks exceeding 50m³;

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Performance Outcome	Example
<ul style="list-style-type: none"> b. ensures the long-term stability of the site considering the full nature and end use of the development; c. ensures site stability during all phases of construction and development; d. minimises disturbance of natural drainage patterns of the site and does not result in the redirection or alteration of the existing flow of surface or groundwater; e. minimises adverse visual impacts on the amenity of adjoining residents and provides a positive interface with the streetscape. 	<ul style="list-style-type: none"> b. involve cut and fill having a height greater than 600mm; c. involve any retaining wall having a height greater than 600mm; d. redirect or alter the existing flow of surface or groundwater.
<i>Performance Outcome Assessment</i>	
<p>The applicant seeks an Alternative Solution to Example E121 as the construction of the facility involves earthworks that will exceed 50m³ to facilitate the laying of the foundations for the tower. Significantly, no retaining walls are proposed and additionally, the development has been sited to ensure that groundwater will not be redirected.</p> <p>The applicant has provided a Geotechnical Report and Landslide Risk Assessment which demonstrates that the proposed earthworks will maintain the safety of people and property, will not significantly alter the existing flow of surface waters and will not cause any adverse visual impacts on the amenity of the area.</p> <p>The extent of earthworks proposed complies with the Performance Outcome.</p>	
<p>PO143 Development:</p> <ul style="list-style-type: none"> a. avoids being viewed as a visually conspicuous built form on a hill top or ridgeline; b. retain the natural character or bushland settings as the dominant landscape characteristic; c. is viewed as being visually consistent with the natural landscape setting and does not diminish the scenic and visual qualities present in the environment. 	<p>E143 Where located in the Regionally significant (Hills) scenic amenity overlay, buildings and structures are not:</p> <ul style="list-style-type: none"> a. located on a hill top or ridge line; b. all parts of the building and structure are located below the hill top or ridge line.
<i>Performance Outcome Assessment</i>	
<p>The applicant proposes an Alternative Solution to Performance Outcome PO143 of the Rural Zone Code. It is proposed to establish a Telecommunications Facility at the top of a ridgeline located on the site.</p> <p>Due to the existing mature vegetation, the proposed development is unlikely to be visible from a significant section of Dwane Road. The hill to the south of the proposed compound will form a backdrop to the portion of the tower that extends past the existing vegetation when viewed from Chappel Road to the north and northwest. Notwithstanding this, the proposed monopole will extend approximately 25 metres higher than the existing vegetation within the area surrounding the proposed compound, and as such, could potentially be visually discernible.</p> <p>As the proposal does not comply with this Performance Outcome, an assessment against the Overall Outcomes is required and discussed in the following section of this report.</p>	

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2.4.4 Overall Outcome Assessment

The development proposal does not comply with Performance Outcomes PO3, PO76, and PO143 of the Rural Zone Code. Therefore, the proposal is required to be assessed against the applicable Overall Outcomes of the code as follows;

Rural Zone Code - Section 6.2.10		
Overall Outcomes	Complies Y/N	Comments
a. A wide range of rural uses, as identified in the table below, are established.	Y	A Telecommunications Facility is identified as a consistent use within the Rural Zone, as per the table in Overall Outcome t.
b. Rural activities and primary production activities are protected from intrusion by incompatible development.	Y	The siting of the Telecommunications Facility is distinctly separate from the areas on the site that are used for rural activities. The proposed facility is situated in the northern portion of the property and surrounded by existing mature vegetation. Notably, the Telecommunications Facility will not have an adverse impact on the rural uses currently occurring on the subject site.
c. Intensive rural activities such as animal keeping, aquaculture, and intensive animal industry: <ul style="list-style-type: none"> i. provide appropriate separation distance to sensitive land uses; ii. avoid odour, dust, noise and visual impacts on sensitive land uses; iii. avoid adversely affecting water quality in waterways and water catchments; and iv. are not located adjacent to sensitive land uses or land zoned for residential and rural residential purposes. 	N/A	Intensive animal keeping, aquaculture and intensive animal industry are not proposed. Overall Outcome c is not applicable.
d. Residential uses are limited to a single dwelling house per allotment. A secondary dwelling is permitted provided it functions and appears subordinate to the principal dwelling house.	N/A	The development proposal is not for a residential use.
e. A range of housing options provide short-term accommodation for tourists in proximity to tourist attractions.	N/A	The development proposal is not for short term accommodation.

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f. Accommodation for rural workers is provided on or in close proximity to rural activities.	N/A	The development proposal is not for rural workers accommodation.
g. Active and passive outdoor recreational opportunities for residents and visitors to the region are established.	N/A	The development proposal is for a Telecommunications Facility and therefore the establishment of active or passive recreational opportunities are not applicable in this instance. However, the proposed development does not, in any way, impact on the operation of the surrounding existing uses.
h. Intensification of existing and new commercial and retail development does not occur.	N/A	The development proposal does not include commercial or retail development.
i. Development maintains the open area character and scenic amenity, including the low density, low intensity and dispersed built form which defines the rural place type.	Y	<p>The proposed facility consists of a total overall height of 51 metres and is surrounded by an area comprising extensive vegetation.</p> <p>The development proposal represents a confined, lattice tower structure, that allows for visual permeability and a reduction of any protrusion within the landscape. The siting of the facility in proximity to the existing mature trees also assists to reduce the visual presence of the development.</p> <p>Notably, the recommendations of this report include a condition that requires the painting and treatment of the structure to be of colours that are compatible with the surrounding area (i.e natural landscape type colours including green and khaki) to further reduce the overall recognition of the facility. In addition, the colour selection and treatment to be conditioned will also ensure that the structure is not reflective in an adverse way.</p> <p>Given the predominantly permeable built form of the development, the siting of the facility does not result in negative impacts on the surrounding Rural locality. More specifically, the ability for the surrounding area to maintain an open and dispersed built form is not in any way compromised by the development proposal.</p>

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		The proposed development is consistent with Overall Outcome i.
j. Development does not adversely affect the operation of aviation facilities at Mt Glorious (See Overlay map - Infrastructure buffers). This aviation facility comprises a VHF beacon.	N/A	Development will not compromise the Mt Glorious aviation facility. The subject site is not identified within the Aviation Facility Area of Interest within the Infrastructure Buffers Overlay.
k. Development does not result in adverse or nuisance impacts on adjoining properties or the wider rural environment. Any adverse or nuisance impacts are contained and internalised to the lot through location, design, operation and on-site management practices.	Y	Due to the location of the proposed Telecommunications Facility within a large rural parcel of land, any potential adverse impacts will be sufficiently contained.
l. Development generating high volumes of traffic or involving heavy vehicle traffic movements is located on roads of a standard and capacity to accommodate traffic demand.	N/A	The development proposal will not generate high traffic volumes and the existing roads are of sufficient standard to accommodate the initial construction of the facility and future maintenance which will be infrequent in any event.
m. Development does not result in the establishment of industrial activities, other than rural industry.	N/A	The development proposal is for a Telecommunications Facility. Industry uses are not proposed.
n. General works associated with the development achieves the following: <ul style="list-style-type: none"> i. a high standard of electricity, telecommunications, roads, sewerage, water supply and street lighting services is provided to new developments to meet the current and future needs of users of the site; ii. the development manages stormwater to: <ul style="list-style-type: none"> A. ensure the discharge of stormwater does not adversely affect the quality, environmental values or ecosystem functions of downstream receiving waters; B. prevent stormwater contamination and the release of pollutants; 	Y	<p>The proposed works include the provision of a new underground electricity line that will retain the existing amenity of the site.</p> <p>Given the overall nature and scale of the development, any stormwater impacts will be minimal.</p>

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<p>C. maintain or improve the structure and condition of drainage lines and riparian areas;</p> <p>D. avoid off-site adverse impacts from stormwater.</p> <p>iii. the development does not result in unacceptable impacts on the capacity on the capacity and safety of the external road network;</p> <p>iv. the development ensures the safety, efficiency and useability of access ways and parking areas;</p> <p>v. site works including earthworks are managed to be safe and have minimal impacts on adjoining or adjacent premises, the streetscape or the environment.</p>		<p>The development proposal will not generate traffic numbers that will impact the safety and capacity of the external road network in an unacceptable way.</p> <p>The proposed access to and from the site is safe and efficient.</p> <p>A detailed outline of the construction process has been included with the development application. It is considered that the required site works will have minimal impacts on any of the adjoining or adjacent properties in the immediate locality.</p>
<p>o. Activities associated with the use do not cause a nuisance by way of aerosols, fumes, light, noise, odour, particles or smoke.</p>	Y	<p>The development proposal will not result in the emission of aerosols, fumes, odour, particles or smoke. The recommendations of this report include a condition to ensure that the noise associated with the Telecommunications Facility does not cause any nuisance to the surrounding area.</p>
<p>p. Noise generating uses are designed, sited and constructed to minimise the transmission of noise to appropriate levels and do not cause environmental harm or nuisance.</p>	N/A	<p>The proposed development is not a noise generating use. Notwithstanding this, the recommendations of this report include a condition to ensure that any noise associated with the Telecommunication Facility does not cause nuisance.</p>
<p>q. Noise sensitive uses are designed, sited and constructed so as not to be subject to levels of noise expected from rural activities.</p>	N/A	<p>The proposed development is not a noise sensitive use.</p>
<p>r. Development in a Water supply buffer is undertaken in a manner which contributes to the maintenance and enhancement where possible of water quality to</p>	Y	<p>The development proposal is for a Telecommunications Facility. As such, the development proposal will not have any impact on the water quality or aquatic ecosystem</p>

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<p>protect the drinking water and aquatic ecosystem environmental values in those catchments.</p>		<p>environmental values in the surrounding area.</p>
<p>s. Development avoids areas subject to constraint, limitation, or environmental value. Where development cannot avoid these identified areas, it responds by:</p> <ul style="list-style-type: none"> i. adopting a 'least risk, least impact' approach when designing, siting and locating development in any area subject to a constraint, limitation or environmental value to minimise the potential risk to people, property and the environment; ii. ensuring no further instability, erosion or degradation of the land, water or soil resource; iii. when located within a Water buffer area, complying with the Water Quality Vision and Objectives contained in the Seqwater Development Guidelines: Development Guidelines for Water Quality Management in Drinking Water Catchments 2012. iv. maintaining, restoring and rehabilitating environmental values, including natural, ecological, biological, aquatic, hydrological and amenity values, and enhancing these values through the provision of planting and landscaping, and facilitating safe wildlife movement and connectivity through: <ul style="list-style-type: none"> A. the provision of replacement, restoration, rehabilitation planting and landscaping; B. the location, design and management of development to avoid or 	<p>Y</p>	<p>The development proposal is located within the Bushfire Hazard Overlay area. However, the proposed development constitutes a non-habitable use, and consequently, will not increase the number of people living or working in the area. As such, exposure to the risk of natural hazards is minimal.</p> <p>A fire break has been included around the proposed facility. The location of this fire break has been approved by the Department of Natural Resources, Mines and Energy, as the referral agency for this application.</p> <p>The proposed Telecommunications Facility does not involve hazardous materials, nor will it result in any emissions of undue heat, sparks or open flames. It is also noted that the facility has been designed to be resilient to bushfire damage, with cable trays to be enclosed in galvanised casing and the equipment cabinet and meter board designed to resist ember penetration. Therefore, the facility will not increase the bushfire risk from the build up of fuels around buildings and structures. Furthermore, emergency services will have safe and effective access to the subject site.</p> <p>The proposed development, including the proposed fire break, is partially located within an area mapped as Matters of State Environmental Significance (MSES). Notably, the proposal has been sited near the Dwane Road frontage to reduce the required clearing of MSES vegetation. As such, a least risk approach has been adopted to facilitate the development.</p> <p>If supported, a recommendation of this report requires an Ecological Restoration Plan to be submitted and approved by Council prior to any works being undertaken at the site. The Ecological Restoration Plan is to</p>

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<p>minimise adverse impacts on ecological systems and processes;</p> <p>C. the requiring of environmental offsets in accordance with the Environmental Offsets Act 2014.</p> <p>v. protecting native species and protecting and enhancing species habitat;</p> <p>vi. protecting and preserving the natural, aesthetic, architectural historic and cultural values of significant trees, places, objects and buildings of heritage and cultural significance;</p> <p>vii. establishing effective separation distances, buffers and mitigation measures associated with identified infrastructure to minimise adverse effects on sensitive land uses from odour, noise, dust and other nuisance generating activities;</p> <p>viii. establishing, maintaining and protecting appropriate buffers to waterways, wetlands, native vegetation and significant fauna habitat;</p> <p>ix. ensuring it promotes and does not undermine the ongoing viability, integrity, operation, maintenance and safety of identified infrastructure;</p> <p>x. ensuring effective and efficient disaster management response and recovery capabilities;</p> <p>xi. where located in an overland flow path:</p> <p>A. development siting, built form, layout and access responds to the risk presented by the overland</p>	<p>include planting of appropriate species at a ratio of at least 2:1 to rehabilitate and restore the environmental values of the area.</p> <p>The applicant has provided a Geotechnical Report and Landslide Risk Assessment which demonstrates that the proposed earthworks will protect the land from further degradation and therefore maintain the safety of people and property.</p> <p>The proposed development is consistent with Overall Outcome s.</p>
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<p>flow and minimises risk to personal safety;</p> <p>B. development is resilient to the impacts of overland flow by ensuring the siting and design accounts for the potential risks to property associated with the overland flow;</p> <p>C. development does not impact on the conveyance of the overland flow for any event up to and including the 1% AEP for the fully developed upstream catchment;</p> <p>D. development directly, indirectly and cumulatively avoid an increase in the severity of overland flow and potential for damage on the premises or other premises, public lands, watercourses, roads or infrastructure.</p>		
<p>t. Development in the Rural Zone includes one or more of the following:</p> <ul style="list-style-type: none"> • Animal husbandry • Animal keeping (excluding catteries and kennels) • Aquaculture (if water area associated with ponds and dams are less than 200m² or housed tanks less than 50m²) • Community residence • Cropping, where not forestry for wood production • Cropping, where forestry for wood production • Dwelling house • Emergency services • Environment facility • Home based business • Intensive animal industry • Intensive horticulture • Outdoor sports and recreation (if located on Council owned or controlled land and in accordance with a Council approved Master Plan) 	<p>Y</p>	<p>The development proposal is for a Telecommunications Facility and therefore complies with Overall Outcome t.</p>

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<ul style="list-style-type: none"> • Non-resident workforce accommodation • Park • Permanent plantation • Roadside stall • Rural industry • Rural workers' accommodation • Sales office • Telecommunication facility • Transport depot (where on lots 16 ha or more) • Veterinary services • Wholesale nursery • Winery 		
<p>u. Development in the Rural zone does not include any of the following:</p> <ul style="list-style-type: none"> • Adult store • Bar • Brothel • Caretaker's accommodation • Car wash • Child care centre • Community care centre • Detention facility • Dual occupancy • Dwelling unit • Funeral parlour • Hardware and trade supplies • Health care services • High impact industry • Hospital • Hotel • Indoor sport and recreation • Low impact industry • Major sports, recreation and entertainment facility • Marine industry • Medium impact industry • Multiple dwelling • Nightclub entertainment facility • Office • Outdoor sales • Parking station • Port services • Relocatable home park • Research and technology industry • Residential care facility • Retirement facility • Rooming accommodation • Shop 	Y	<p>The proposed development is for a Telecommunications Facility and is listed as a consistent use in Overall Outcome t.</p>

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<ul style="list-style-type: none"> • Shopping centre • Showroom • Special industry • Theatre • Warehouse 		
<p>v. Development not listed in the tables above will be considered on its merit and where it reflects and supports the outcomes of the zone.</p>	NA	<p>The proposed development is for a Telecommunications Facility and is listed as a consistent use in Overall Outcome t.</p>

Based on the assessment above, the proposal is consistent with all of the Overall Outcomes of the code(s) and is therefore taken to be consistent with the purposes of the code(s).

2.5 Trunk Infrastructure

In accordance with section 4 of the Moreton Bay Regional Council Planning Scheme, the subject site is not located in the identified Priority Infrastructure Area. Infrastructure charges applying to the land, where applicable, are to be applied in accordance with the Council's Charges Resolution No. 8 commencing on 14 August 2018 (CR).

2.5.1 Levied Charge

A Telecommunications Facility is classified as a Minor Use in accordance with the CR 8. In accordance with the CR 8, a Minor Use has a nil charge. As such, there are no applicable Infrastructure Charges for the proposed Telecommunications Facility.

2.5.2 Levied Charge Credit

As no charge is applicable, no credit will be applied.

2.5.3 Levied Charge Offset or Refund

The site is not affected by a Trunk Infrastructure requirement and therefore there is no offset or refund applicable to the development proposal.

2.5.4 Additional Trunk Infrastructure Costs

In accordance with section 130 of the *Planning Act 2016*, an additional payment condition may be imposed if the proposed development;

- (a) generates infrastructure demand of more than what is required to service the type or scale of future development assumed in the LGIP; or
- (b) requires new trunk infrastructure earlier than when identified in the LGIP; or
- (c) is for premises located completely or partly outside the Priority Infrastructure Area; and

The development will impose additional trunk infrastructure costs on Council after taking into account the levied charge and any trunk infrastructure provided, or to be provided by the development.

In this instance, having assessed the proposed development, it does not warrant the imposition of an additional payment condition.

2.6 Recording of particular approvals on the MBRC Planning Scheme

Not applicable in this instance.

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2.7 Referrals

2.7.1 Council Referrals

2.7.1.1 Development Engineering

Landslide Hazard

The site is located within the Landslide Hazard Overlay Area and the applicant has submitted a Landslide Risk Assessment Report in support of the development proposal. The report identified potential issues with soil creep and included recommendations to facilitate appropriate tower foundations and surface stormwater drainage. It is recommended that the development be conditioned to address the approved Landslide Risk Assessment Report.

Access

An access road has not been conditioned as the applicant's drawings indicate an acceptable layout which also includes proposed upgrades to the gravel track.

2.7.1.2 Environmental Planning

Environmental Constraints

A major portion of the property is within the Environmental areas - High Value Area (MSES and a small area of MLES in the south western portion of the site) overlay. Two waterways exist on the subject property (W3 Waterway (20m Buffer)) with one located in the south western section of the site and the other flowing centrally from the site. These waterways are also shown on the Riparian and wetland setbacks overlay as Waterways - W3-Waterway (20m Riparian Setback).

The property also contains Category B vegetation which is RE12.11.3/12.11.18 under the *Vegetation Management Act (1999)*. The application was referred to the State Assessment Referral Agency (SARA) as the property is over 5 ha in area and is located outside the urban footprint under the South East Queensland Regional Plan.

Overview and Issues

It is understood that the proposed Telecommunications Facility is to be partially located within the Environmental areas - High Value Area (MSES) and Category B vegetation area.

The application was referred to the State Assessment Referral Agency (SARA) where the Department of Natural Resources, Mines and Energy (NRME) was the concurrence agency. Conditions have been imposed allowing an area of vegetation to be removed which must be in accordance with the approved plans (Technical Agency Response (Vegetation) Plan of Area A & B in Lot 21 on C31989 TARP 1801-3267 SRA Sheet 1 of 2 and Technical Agency Response (Vegetation) Plan of Area A & B in Lot 21 on C31989 TARP1801-3267 SRA Sheet 2 of 2). This allows the removal of a prescribed area of vegetation within the regulated vegetation area which is also located within Council's High Value Area (MSES) overlay area. While Council's planning scheme is a separate instrument which regulates development within this overlay, the requirements imposed by the State Assessment Referral Agency (SARA) prevail.

The planning scheme provisions identified in PO99 to PO103 of the Rural Zone Code however still apply and the High Value Area (MSES) Overlay Area needs to be given consideration with regards to the rehabilitation of vegetation and fauna management during the works phase. Specifically, it states:

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Development avoids locating in a High Value Area and where it is not practicable or reasonable for development to avoid establishing in these areas, development must ensure that: a. the quality and integrity of the biodiversity and ecological values inherent to a High Value Area is maintained and not lost or degraded; b. on-site mitigation measures, mechanisms or processes are in place demonstrating the quality and integrity of the biodiversity and ecological values inherent to a High Value Area and a Value Offset Area are maintained. For example, this can be achieved through replacement, restoration or rehabilitation planting as part of any proposed covenant, the development of a Vegetation Management Plan, a Fauna Management Plan, and any other on-site mitigation options identified in the Planning scheme policy - Environmental areas.

The latest Vegetation Management Plan (Aurecon Aust. P/L, Property Vegetation Management Plan, Ref. 247473, Rev.1, 30 April 2018) includes a redundant layout with respect to the access alignment superimposed on the Category B regulated vegetation mapping for the site (Fig 1: Proposed Development). The tree survey plan (Fig 2: Development footprint and Trees to be Removed) shows the trees and tree species to be removed within the development footprint. The plan however depicts Trees 002 to 017 located outside of the 'Development Footprint' which could potentially cause confusion with the contractor interpreting the plan in a manner which could lead to these trees being removed. It should also be noted it is stated in the Vegetation Management Plan that 'trees in Table 1 and Figure 2 are to be removed'. These trees therefore, need to be removed from the tree survey plan as they must be retained for screening purposes. It is recommended that any approval include a condition to require an amended Vegetation Management Plan to address the abovementioned issues.

It is acknowledged that the Vegetation Management Plan provides a commitment to rehabilitate in and around the 'Development Footprint' however this is limited to disturbance from earthworks and the construction phase. It is identified that the location of the tower and associated infrastructure would result in 100 trees to be removed.

The applicant needs to demonstrate compensatory measures for the significant number of trees earmarked for removal. Areas other than the 'Development Footprint' on site should be investigated for planting out of trees at a ratio of at least 2:1 to the total number being removed. Areas such as riparian areas typically on rural properties can be degraded and could be targeted for the necessary restoration or rehabilitation program. The establishment period should be no less than two years and should provide all the required management measures to ensure the success of such a program. A condition has been recommended with respect to this requirement.

2.7.2 Referral Agencies

2.7.2.1 Concurrence Agencies - Department of State Development, Manufacturing, Infrastructure and Planning

The application was referred to the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) for the following;

- (a) Matters relating to Vegetation Clearing. Council was advised on 7 June 2018 that DSDMIP has no objection to the development application subject to a condition being attached to Council's Decision Notice.

2.7.2.2 Advice Agencies

There were no Advice Agencies involved in assessing this application.

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2.7.2.3 Third Party Agencies

There were no Third Party Agencies involved in assessing this application.

2.8 Public Consultation

2.8.1 Public Notification Requirements under the Development Assessment Rules

- (a) Public Notification was served on all adjoining landowners on 23 March 2018.
- (b) The development application was advertised in the Kilcoy Sentinel on 29 March 2018.
- (c) A notice in the prescribed form was posted on the relevant land on 29 March 2018 and maintained for a period of 15 business days until 26 April 2018.

2.8.2 Submissions Received

Council received the following types of submissions in respect to this development application.

Type		Number of Signatures	Number of Submissions
Properly Made	Letter, Email, Fax		1
	Petition	0	0
Not Properly Made	Letter, Email, Fax		0
	Petition	0	0
Total			1

The matters raised within the submission(s) are outlined below:

<p>Assessment of Submissions</p> <p><u>Issue - Visual Amenity</u></p> <p>Concerns were raised regarding the visual amenity of the proposed structure, given the proposed vegetation clearing to facilitate access and the construction of the Telecommunications Facility. It was particularly noted that in the event vegetation is cleared on the western side of the access track, all screening of the tower will be lost.</p> <p>It was also noted that there was a conflict in the submitted material both suggesting the existing vegetation would screen the proposed development but would be required to be removed to facilitate access and construction.</p> <p><u>Discussion</u></p> <p>In response to the above concerns, the applicant has revised development footprints and construction plans to significantly reduce the clearing proposed along the western side of the access track, with clearing instead to occur on the eastern side of the path.</p> <p>The revised area identified for clearing ensures that a large portion of the existing vegetation adjacent to the road frontage will be retained. This ensures that more of the existing mature vegetation between the submitter's residence and the proposed development area is retained, which screens the base of the tower and compound, and lessens the visual impact of the site from potentially affected properties. The applicant has since submitted an amended Property Vegetation Management Plan (PVMP) to the referral agency. On 7 June 2018, the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) provided an amended referral agency response, approving the amended extent and location of the proposed vegetation clearing.</p>
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If supported, the recommendations of this report include a condition requiring the facility be painted a non-reflective finish and colour that is compatible to the surrounding area, ensuring the development is visually consistent with the bushland setting of the site.

This is not sufficient grounds for refusal of the application.

Issue - Site Location

Concerns were raised with regards to the suitability of the location on the site, with a suggestion that the proposed Telecommunications Facility be located 180m south of the current proposed location, to increase the separation distance and lessen the visual impact of the facility.

Discussion

The proposed facility is to be located approximately 210m from the submitter's dwelling. The PVMP has been amended in direct response to the submission to ensure that natural screening of the facility is maintained. It is therefore anticipated that the visual impact of the proposal towards the adjoining properties will be greatly reduced.

The submission suggested an alternative location for the facility approximately 180m further south of the proposed site. The applicant has advised that the construction of the Telecommunications Facility in this location would result in a significant amount of additional regulated vegetation clearing (including vegetation classified as 'essential habitat').

The applicant states that NBN undertook a preliminary site survey of the property in order to establish the extent of additional clearing that would be required if the facility was to be located at the alternative site suggested by the submitter. The survey identified that approximately 22 trees, most of which are located within the essential habitat overlay, would need to be removed to extend the access from the original location to the alternative location.

The submitter (in a further submission) notes that the location of the Telecommunications Facility proposed by the applicant would result in 0.35ha of Category B vegetation being removed. Furthermore, the submitter has identified that the alternative location for the facility would result in 0.43ha of Category B vegetation being cleared which is greater than that required to be removed at the original location. Notably, both the applicant and the submitter have identified that the alternative proposed location would result in the removal of additional Category B vegetation.

Notwithstanding the additional clearing required if the site for the Telecommunications Facility was relocated, the applicant has also highlighted the following points in favour of retaining the original proposed location:

- The applicant has relocated the proposed clearing location for the access track to ensure that a buffer of existing mature vegetation is retained between the submitter's residence and the proposed Telecommunications site. An amended Technical Agency Response Plan (TARP) to reflect the change to the access driveway was approved by the State Assessment Referral Agency (SARA).
- The construction of the Telecommunications Facility at the alternative site would be considered hazardous because of the gradient of the land and potential landslide hazard. The applicant has also noted that a section of land between the current proposed location and the suggested alternative location exhibits a substantially steeper gradient (over 30% in areas), whereas the current average access gradient does not exceed 20%. In addition, the extended access to the alternative location is located entirely within the Landslide Hazard Overlay Area

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consequently increasing the risk associated with heavy vehicle access during construction and maintenance.

- There would be a significantly greater cost in public funds required to install an all-weather access track and to ensure additional personnel are available to implement the appropriate safety procedures. With regards to the additional expenditure required to make construction access safe to the alternative site, the access to the alternative location would have an average gradient of 22%, outside their normal design parameters of 15% for sealed access tracks.

NBN has advised that they do not intend to relocate the facility. Consequently, NBN has requested that Council proceed with the assessment of the current proposal.

The alternative location suggested by the submitter would result in additional clearing of native vegetation in the areas mapped as Category B vegetation and as Matters of State Environmental Significance (MSES) vegetation.

Additionally, the revised proposed clearing location for the access track to facilitate the retention of the existing vegetation ensures that a significant vegetated screen buffer is maintained between the nearest dwelling (approximately 210 metres from the proposed compound location).

This is not sufficient grounds for refusal of the application.

2.8.3 Notice of Compliance

The Notice of Compliance was received by Council on 27 April 2018. The Notice of Compliance identifies that the public notification requirements for the development application were correctly undertaken in accordance with the requirements of Part 4, of the Development Assessment Rules.

2.9 Other Matters

None identified.

3. **Strategic Implications**

3.1 Legislative/Legal Implications

The applicant (and submitter) have appeal rights in accordance with the *Planning Act 2016*.

3.2 Corporate Plan / Operational Plan

Creating Opportunities: Well-planned growth - a sustainable and well-planned community.

3.3 Policy Implications

The proposal is consistent with the existing Moreton Bay Regional Council planning provisions and relevant policies.

3.4 Risk Management Implications

Development occurs efficiently and effectively in the region in a manner that reduces the potential risk implications to Council and the community.

3.5 Delegated Authority Implications

There are no delegated authority implications arising as a direct result of this report.

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3.6 Financial Implications

In the event that an appeal is made to the Planning & Environment Court against Council's decision, the Council will incur additional costs in defending its position.

3.7 Economic Benefit

The development supports the connectivity of the fixed broadband network within the Rural Zone and surrounding Rural Residential Zone.

3.8 Environmental Implications

The proposal involves the clearing of vegetation mapped as Matters of State Environmental Significance (MSES).

3.9 Social Implications

There are no social implications arising from this development application.

3.10 Consultation / Communication

Refer to clause 2.7.

SUPPORTING INFORMATION

Ref: A17689980

The following list of supporting information is provided for:

ITEM 2.1

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#1 Locality Plan

#2 Zoning Map

#3 Approved Plans

#4 Approved Documents

#5 Documents to be Amended

#6 Referral Agency Response

#7 Submissions

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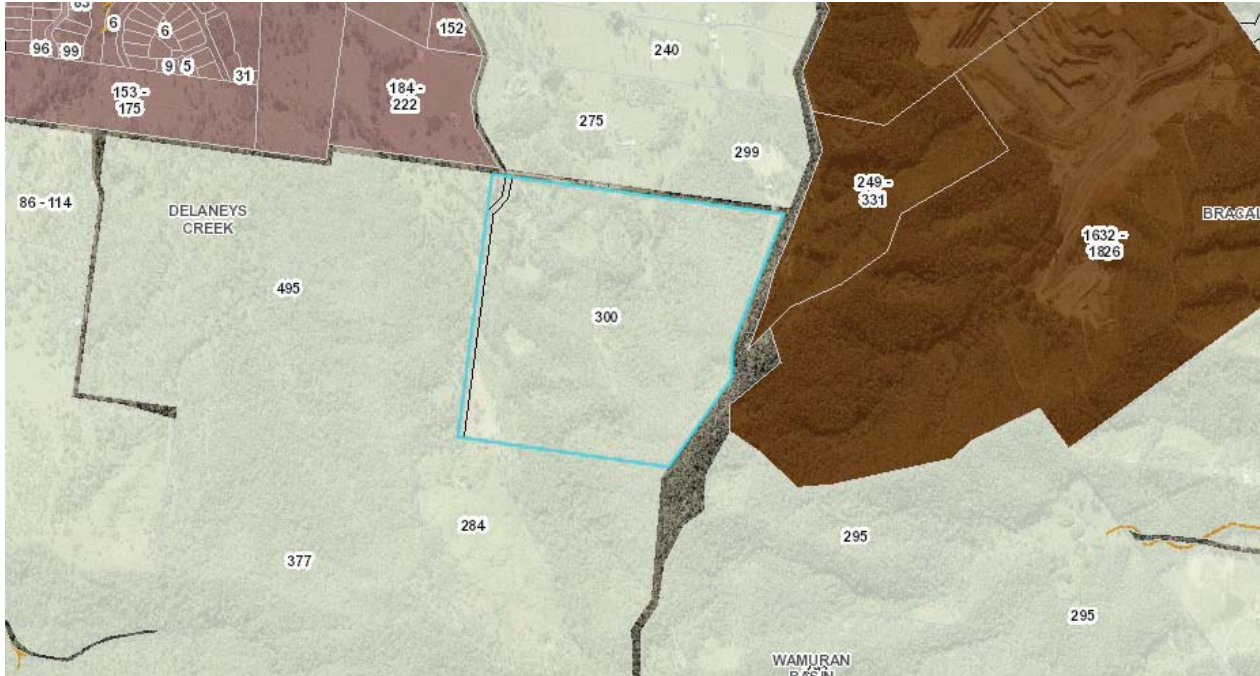
#1 Locality Plan



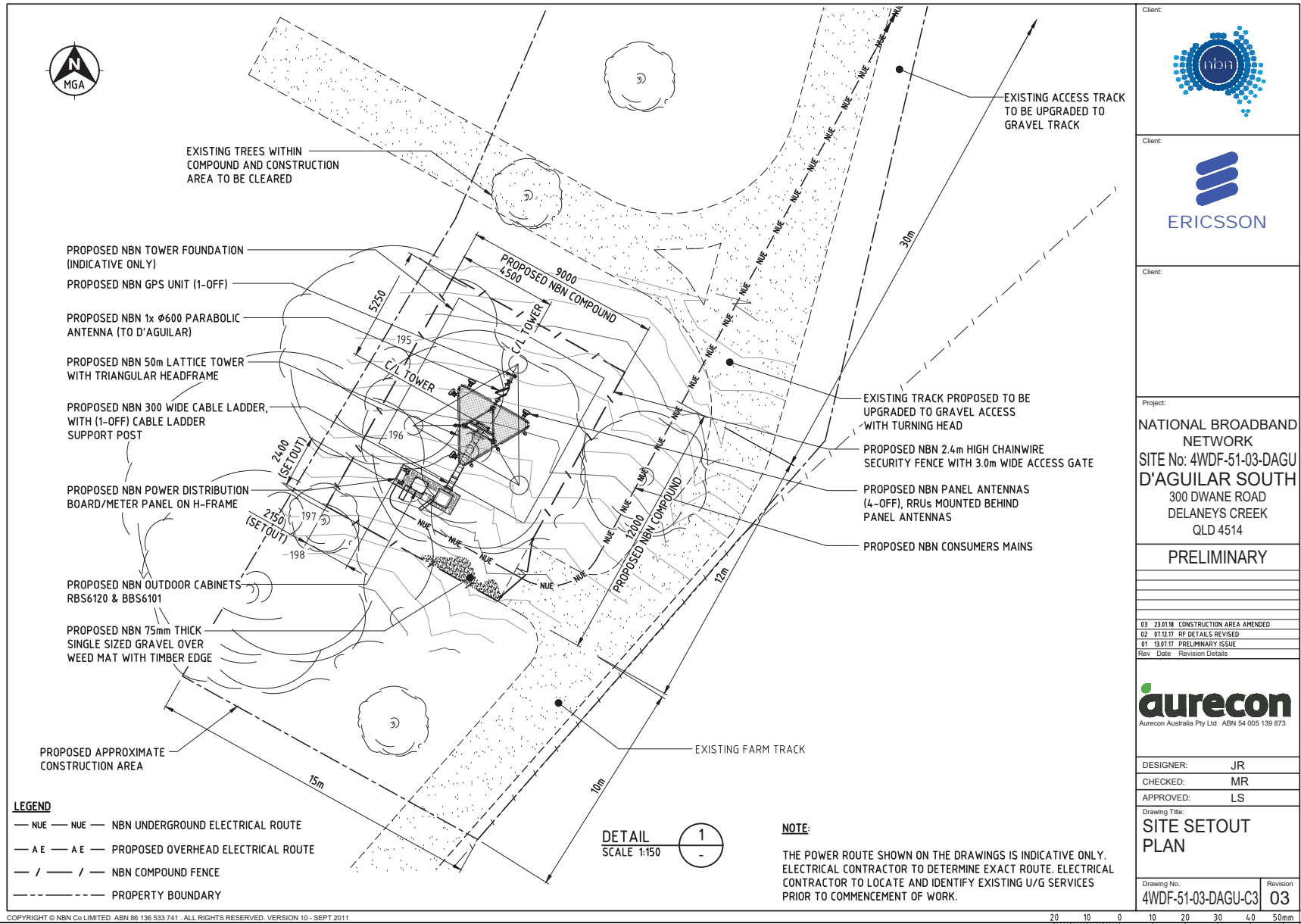
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#2 Zoning Map



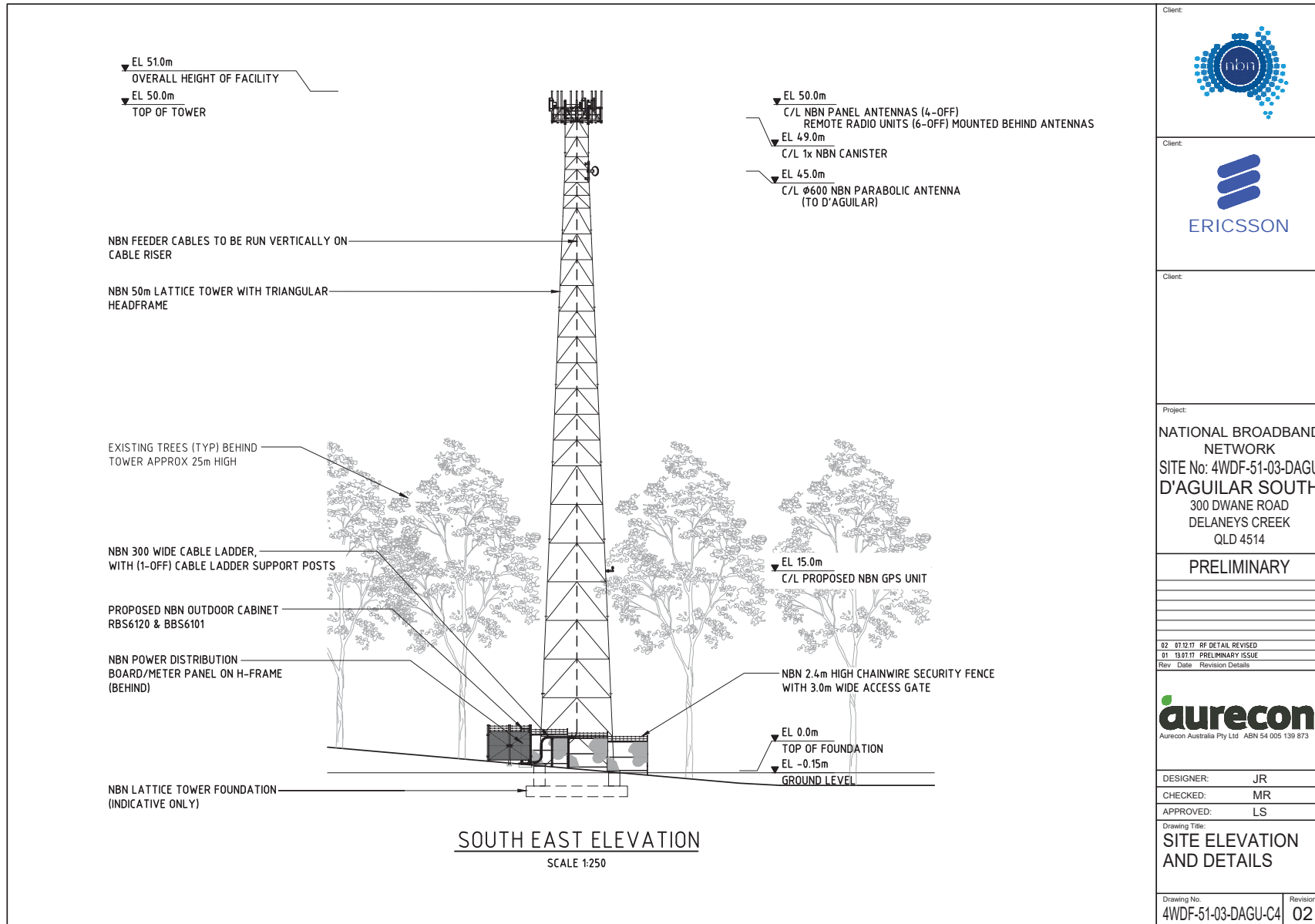
ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



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20 10 0 10 20 30 40 50mm

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20 10 0 10 20 30 40 50mm A3

Moreton Bay Regional Council

COORDINATION COMMITTEE MEETING
23 October 2018

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Agenda

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

NBN ANTENNA CONFIGURATION - 34.00MHz																					
SECTOR	SYMBOL	PANEL ANTENNA DETAIL								MAIN FEEDER DETAIL				RRU DETAIL				RF TAIL H&S 1/2" BIRD PROOFED LUSCA CABLE	RET CABLE 1/TSR 484 21/2000		
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	P1 & P2 E-TILT	P3 & P4 E-TILT	MECH TILT	ANTENNA ACTION REQ	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	FEEDER ACTION REQ	TYPE	LOCATION	C/L HEIGHT	ANTENNA PORT	RRU ACTION REQ	LENGTH	LENGTH
B1		AW3497	957x320x100	50m	310°	6°	6°	0°	INSTALL	H&S HYBRID MKII 6x6 (ø27.5mm)	60m	49m	3m	INSTALL	RRUS2218	BEHIND	50m	1 & 2	INSTALL	1.5m	2m
B2		AW3497	957x320x100	50m	315°	6°	6°	0°	INSTALL				3m	INSTALL	RRUS2218 RRUS2218	BEHIND	50m	1 & 2 3 & 4	INSTALL	1.5m 1.5m	2m
B3		AW3497	957x320x100	50m	25°	7°	7°	0°	INSTALL				3m	INSTALL	RRUS2218	BEHIND	50m	1 & 2	INSTALL	1.5m	2m
B4		AW3497	957x320x100	50m	30°	7°	7°	0°	INSTALL				3m	INSTALL	RRUS2218 RRUS2218	BEHIND	50m	1 & 2 3 & 4	INSTALL	1.5m 1.5m	2m

NBN TRANSMISSION & GPS ANTENNA CONFIGURATION												
ANTENNA	SYMBOL	ANTENNA DETAIL						MAIN FEEDER DETAIL			RAU DETAIL	
		TYPE	DIMENSION	C/L HEIGHT	AZIMUTH (TN)	DESTINATION	ANTENNA ACTION REQ	TYPE	OVERALL LENGTH	FEEDER ACTION REQ	QTY RAU	RAU ACTION REQ
A		PARABOLIC	ø600	45m	341°	D'AGUILAR	INSTALL	2xLDF1-50	55m	INSTALL	2	INSTALL
B												
C												
GPS		KRE 1012 182/1	ø69x96	15m	N/A		INSTALL	LDF1-50	25m	INSTALL		

NOTE:
RRU HEIGHT TO BE +/- 250mm FROM SPECIFIED HEIGHTS. OFFSETS REQUIRED DUE TO MOUNTING ARRANGEMENT BACK TO BACK.

ANTENNA SETOUT PLAN
SCALE 1:100

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
DELANEYS CREEK
QLD 4514

PRELIMINARY

02 07.12.17 RF DETAIL REVISED
01 13.01.17 PRELIMINARY ISSUE
Rev Date Revision Details

Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER: JR

CHECKED: MR

APPROVED: LS

Drawing Title:
NBN ANTENNA CONFIGURATION & SETOUT PLAN

Drawing No. 4WDF-51-03-DAGU-A1	Revision 02
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#4 Approved Documents



**National Broadband Network Fixed
Wireless Project**

4WDF-51-03-DAGU – D’Aguilar South-Landslide
Risk Assessment Report

Ericsson Australia Pty Ltd

31 May 2018
Revision: 0
Reference: 247473

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to life*

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Document control record

Document prepared by:

Aurecon Australasia Pty Ltd

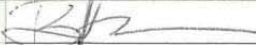
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Document ID		4WDF-51-03-DAGU-02	Project number		247473	
File path		P:\WP\Admin\Geotech\Tenders, Proposals and Projects\Projects\NBN D'Aguliar South Landslide Assessment\04. Reporting\Example\D'aguliar report andslide Risk Assessment Report - Copy.docx				
Client		Ericsson Australia Pty Ltd				
Client contact		Client reference				
Rev	Date	Revision details/status	Author	Reviewer	Verifier (if required)	Approver
0	31 May 201	Final	B Thomas	-	B Aery	L Shields
Current revision		0				

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Author signature				Approver signature			
Name		Bari Thomas		Name		Lisa Shields	
Title		Associate		Title		Project Manager	

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

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Appendices

Appendix A

Development Drawings

Appendix B

Geotechnical Investigation Report (Rev 0, 30/11/17)

Appendix C

Site Mapping Records & Photographs

Appendix D

AGS (2007) Structure Importance Levels and Qualitative Risk Rating Categories Extract

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

1 Introduction

Aurecon Australia Pty Ltd was commissioned by Ericsson Australia Pty Ltd to undertake a Landslide Risk Assessment for the mobile network site at D'Aguilar South, Queensland 4514 (4WDF-51-03-DAGU) as part of the National Broadband Network Fixed Wireless project.

The site was identified on the Morton Bay Regional Council Planning Scheme, Landslide Hazard – Overlay Map as a location of concern based on a site slope angle of 15% (or more). Therefore, an assessment was required to determine the landslide risks and potential mitigation measures (if applicable) as per the Moreton Bay Regional Council's Planning Scheme Policy, Landslide Hazard (2015)

It is understood that the following structures are proposed at the site based on the preliminary drawings provided (refer Appendix A):

- 50 m lattice tower
- Outdoor cabinet on concrete base slab
- Access track works to facilitate construction and allow access for maintenance in the future

This report summarises the findings of a landslide risk assessment carried out for the site considering the development referenced above.

2 Scope of Assessment

The scope of the assessment presented in this report is limited to a landslide risk assessment for the proposed works and its potential impact on surrounding infrastructure. This is to satisfy the requirements of Moreton Bay Regional Council's Planning Scheme Policy, Landslide Hazard (2015). The assessment was carried out in accordance with Australian Geomechanics Society, Practice Note Guidelines for Landslide Risk Management (AGS 2007). It includes recommendations on additional works that, where necessary, should be included as part of the development to mitigate the landslide risk at the site.

The assessment does not include assessment of other aspects such as bearing capacity or site erosion characteristics unless they relate to the landslide risk. It specifically excludes a detailed assessment of the stability of the existing dam other than noting whether the development is likely to have an adverse impact on the dam's existing performance.

3 Methodology

The landslide risk assessment was carried out in accordance with AGS, Practice Note Guidelines for Landslide Risk Management (AGS 2007).

The assessment was carried out using the "Degree of Belief" methodology based on qualitative terminology due to the lack of quantitative data available. A qualitative approach was also deemed appropriate as the structure was not deemed to be of a high importance level and was at also at reasonable offset from existing infrastructure.

4 Information Used in Assessment

The following information was used in the assessment:

- Drawings 4WDF-51-03-DAGU-T1 – Rev A (Appendix A)
- 4WDF-51-03-DAGU – D'Aguilar South - Geotechnical Report (Rev 0, 16/03/18) (Aurecon 2018) (Appendix B)

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- Aerial photography available via ArcGIS Earth (v1.3)
- Site inspection/mapping was carried out on the 09/05/18 by a suitably qualified geotechnical engineer (field mapping is included in Appendix C)

No historical information describing or categorising past landslides at the site was made available at the time of this assessment. It should be noted that according to the Moreton Bay Regional Council's Planning Scheme Policy, Landslide Hazard (2015) (Section 1.1 and 2) that a site is classified as a "Landslide Hazard Area" when the land has a slope of 15% (1V:6.6H) or greater. Therefore the site doesn't necessarily have a history of landslides even though the site has been identified as a "Landslide Hazard Area".

5 Site Characterisation

5.1 Desktop Study

5.1.1 General site description

The proposed site is located on a private rural property with residential address 300 Dwane Road, Delaneys Creek, QLD 4514.

The property is located approximately 16 km north-west of the Caboolture Township. The surrounding region consists of farmland and densely vegetated forests. The regional topography is typically rolling terrain with some local steep hills.

The proposed NBN lease area is situated on a crest of a north-south trending ridge line off a larger local mountain, approximately 800m south-east. The ridge line slopes down towards the north / north-east at approximately 20% in gradient. Approximately 30m to the east and west of the site, the terrain steeply slopes away, towards local creek lines. There are no structures within the general vicinity of the site, with the closest associated dwelling approximately 250m west of the proposed lease area. At the time of the assessment, the site was heavily vegetated with small to medium shrubs and large trees up to 15m in height, with the surface sparsely littered with loose cobbles, boulders and tree logs.

Figure 1 and Figure 2 provide a typical site photograph of the main lease area. Additional site photographs are included in Appendix C.



Figure 1 | Site photograph showing lease area (looking approx. south-west) (09/05/2018)

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Figure 2 | Site photograph showing site and surrounding area (looking approx. south-west) (09/05/2018)

5.1.2 Geological map

According to the 1:100,000 detailed surface online geology map extracted from the Department of Mines and Energy website (retrieved 17 January 2018), the site is situated near the geological contact between the Neurum Tonalite and Kurwongbah beds formations. The site is likely to be underlain by the Kurwongbah beds formation from the Early Carboniferous age, typically comprises phyllite, slate and basic metavolcanics; refer Figure 3.

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Map Symbol	Rock Unit Name	Age	Lithological Summary
Pgm	Neurum Tonalite	Late Triassic	Quartz monzonite; granodiorite to quartz monzonite; granodiorite; granite
CCkh	Kurwongbah beds/h	Early Carboniferous	Phyllite, slate, basic metavolcanics (hornfelsed zone)
CCk	Kurwongbah beds	Early Carboniferous	Phyllite, slat, basic metavolcanics
Qha1	Qha/1-QLD	Holocene	Gravel, sand, silt, clay; lowest alluvial terrace
CC/b	Rocksberg Greenstone/b	Late Devonian – Early Carboniferous	Blueschist - greenschist
Qa	Qa-QLD	Quaternary	Clay, silt, sand and gravel; flood-plain alluvium

Figure 3 | Surface geological map extract (NTS)

5.2 Existing Geotechnical Investigation Data

An investigation was carried out by Aurecon on the 24/01/18 to inform design of the lattice tower footing and cabinet located within the main lease area. This consisted of borehole drilling and resistivity testing.

The borehole logs indicate that the subsurface profile at the D'Aguilar South site comprised a stiff low to medium plasticity Silty CLAY soil from surface, underlain by low plasticity Clayey SILT at 0.7 bgl. At 1.1m depth, a low plasticity, very stiff to hard Gravelly SILT soil was encountered, underlain by a high plasticity hard Gravelly CLAY unit at 2.0m bgl. The gravel component was described as fine to medium angular to sub-angular gravels. This material was described as having a residual origin however during the landslide assessment of the site, the material was identified as a historical colluvium material.

This material graded into a weathered PHYLLITE / META SILTSTONE bedrock formation at 3.8m bgl. The bedrock formation was typically highly weathered, and generally medium to high strength within the depth of investigation. It is noted that a low strength band was present between 5.9m and 6.55m depth.

No groundwater was encountered at the time of the investigation, however groundwater levels may vary both seasonally and after periods of heavy rainfall with groundwater likely to flow along the soil bedrock interface following heavy or prolonged rainfall events.

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The results of the borehole investigation are summarised in Table 1. It should be noted that the borehole was positioned approximately 5m north-east of the proposed lease area due to access constraints and is shown in plans in Appendix B as part of the original geotechnical investigation report which includes more details.

Table 1 | Summary of borehole investigation

Soil Layers	Material	Depth (m) BGL		Consistency / Strength	SPT 'N' (blows) @ Depth BGL
		From	To		
Residual	Silty CLAY	0.0	0.7	Stiff	-
	Clayey SILT	1.0	1.15	Stiff	-
	Gravelly CLAY	1.1	2.0	Very stiff to hard	40 @ 1.0m
	Gravelly CLAY	2.0	3.8	Hard	N* = 60 @ 2.5m
Bedrock	HW PHYLLITE/META SILTSTONE	3.8	5.9	Medium to high strength	-
		5.9	6.55	Low Strength	-
		6.55	7.4(TD)	Medium to high strength	-

Notes: a) "BGL" - Below Ground Level b) "TD" – Termination Depth; N* - Extrapolated SPT N value, (1); Where no in situ testing available for granular material, the strength has been inferred from engineering judgement.

5.3 Mapping from Site Inspection

A site inspection was carried out by Aurecon on the 09/05/18 as part of the landslide risk assessment. This consisted of a walk-over of the site mapping the key features (eg geological, surface hydraulics) that could be observed at surface. Despite being a sunny day, heavy rain had occurred over the previous two days. The results of this mapping are summarised below and presented in Appendix C.

5.3.1 Typical Topography

The proposed telco tower is located on the northern toe of a relatively small north-south trending spur which is associated with a much larger mountain complex. An arcuate, north facing ridgeline directly to the south and behind the smaller spur forms the northern extent of this mountain with a plateau housing Mount Mee within the Waraba Creek Conservation Park. (Figure 2 of 4, Appendix C).

The small north-south spur rises from road level toward the site at a grade of approximately 10° to 15°. At approximately 100m to the south of the proposed site, a notable change in elevation and ground shape forms a plateau within the ridge. The ridge itself is narrow at approximately 40 wide to the south of the site, and slopes steeply either side to the east and west at approximately 30°.

The site of the proposed tower is located toward the toe of the spur and is greater than 50m width.

Hummocky ground was observed near the proposed site, upslope to the south of the proposed site and to the east and west of the site.

To the east and west, soil ripples, terraces and changes in slope angle were observed in cleared vegetation. However, it is not clear whether these features are the result of mechanical intervention, or soil creep or old slope failures.

Refer Appendix C, Figure 1 and Figure 2 and photographs.

5.3.2 Inferred Subsurface Conditions

No rock outcrops were observed during the site assessment. Some broken rock fragments were observed on the ground surface and just below ground surface where local water erosion had removed the surficial soil.

Borehole (DS-01) was recovered as soil material to approximately 3.8m depth, over pyhyllite material which is interpreted as being rock of the Kurwongbah beds (hornfelsed zone) (DCkh) which comprises phyllite, slate and basic metavolcanics.

It is likely that, due to the shape and observed topography of the spur, some shallow slope failures and possibly soil creep have occurred within the spur to the south of the site. The subangular

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description of the gravels within the soil may suggest the soils are colluvial in origin. However, the limited particle size and presence of angular material does suggest the soil is in fact wither in situ residual material or, if the product of very limited transport.

Given that coring of the DCkh rock (Kurwongbah beds) continued from 4m to 7.4m (end of borehole) it is reasonable to assume that "bedrock", and not a boulder or "floater" associated colluvial activity, was encountered and correctly recorded.

An idealised long section through the north-south spur is presented in Appendix C. This shows a simple geological profile through the spur, based on the borehole DS-01.

5.3.3 Vegetation Characteristics

The vegetation cover over the lease area consisted of a mixture of tall mature gum and eucalypt trees over 25m with some smaller re-growth trees up to approximately 10m in height. Medium dense lantana was also generally observed over the area.

No bent or fallen trees or other sign of past or present slope instability were observed from the vegetation.

5.3.4 Surface Drainage Characteristics

Surface water, puddles or waterlogged ground were not observed during the site walkover, which was undertaken during a dry spell in May 2018. Some private dams were observed within the property, but they are several hundred metres from the site and would not impact the tower if breached.

From a combination of aerial photographs and site observations, seasonal or ephemeral drainage lines would likely exist emanating from the arcuate ridgeline above the smaller spur in times of heavy rainfall.

Closer to the proposed tower, exposed cobbles and small boulders of phyllite at the ground surface at the path near and upslope from the lease suggests that in times of heavy rain, the path would also be a drainage path. Given the angle of the slope above the site, surface storm water would be expected to impact the site in time of heavy rainfall.

5.3.5 Surrounding Infrastructure/Property

Infrastructure/property surrounding the development was limited to dwellings and farm buildings several hundred metres from the lease. An overgrown and informal track was present along the spur and to the east of the site.

6 Landslide Risk Assessment

6.1 Overview

The landslide risk assessment was carried out in accordance with AGS, Practice Note Guidelines for Landslide Risk Management (AGS 2007).

The assessment was carried out using the "Degree of Belief" methodology based on qualitative terminology due to the lack of quantitative data available. A qualitative approach was also deemed appropriate as the proposed structure is not deemed to be of q high importance level and is not close to existing infrastructure.

6.1.1 Key Assumptions

Key assumptions are described below; reference should also be made to the scope in Section 2.

- This assessment is based on the development drawings provided to date (refer Appendix A). These drawings show:
 - The tower is supported on shallow foundations at a maximum depth of approximately 1500mm below ground level (i.e. within the soil horizon) (drawing J3133/3/1 dated 20-04-2018).

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- A small unsupported 45° (1V:1H) batter forms the southern (upslope) boundary of the lease
- An open spoon drain (0.5m wide and 0.1m deep) collects storm water along the southern boundary on the crest of the 1V:1H batter and discharges to the north west.
- A design life of 50 years for the development was assumed
- The qualitative descriptors for “Importance Level of Structure”, “Likelihood”, “Consequence”, and “Risk” provided in the AGS, Practice Note Guidelines (2007) are assumed to be acceptable for this assessment (Appendix D).
- A “Tolerable Risk Level” of “Low” was acceptable for the works
- There will be no future development upslope of the site.

6.2 Landslide mechanism

The description of landslide is taken from Appendix B of the AGS Practice Note Guidelines For Landslide Risk Management 2007 and denotes “the movement of a mass of rock, debris or earth down a slope”. The phenomena described as landslides are not limited to either the “land” or to “sliding”, and usage of the word has implied a much more extensive meaning than its component parts suggest. Ground subsidence and collapse are excluded.

The mechanisms of landslide at the site of the proposed telco tower are considered to be creep or rotational landslide and are based on the gravelly very stiff to hard site soils becoming saturated and slowly sliding over the existing site bedrock by means of water and gravity along a slope in the order of 10° to 15° (Figure 4).

A larger, fast moving event impacting on the proposed tower, such as a debris avalanche or earthflow originating from the arcuate, north facing ridgeline impacting on the proposed development is considered very unlikely.

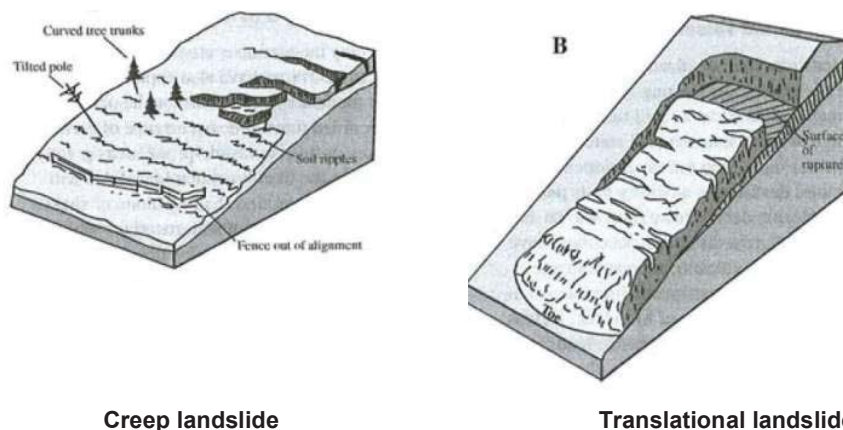


Figure 4: Potential landslide mechanisms considered appropriate for this site (from AGS 2007)

The origin of the soil ripples and creep instability observed around the site are debatable and may have been created by machines rather than by gravity over time. In addition, no curved trees or tilted tree trunks were observed. No evidence of a translational landslides, including surface rupture, were observed around the site during the site visit.

The above notwithstanding, we consider that the occurrence of creep soil movement is likely over the 50-year design life of the proposed tower.

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6.3 Controls to Reduce Landslide Risk

The drawings in Appendix A suggest that the tower will be constructed on a raft footing within the soil material at 1.5m. The landslide mechanisms discussed in Section 6.2 are slow moving events that would incrementally affect the tower over time by applying additional load to the shallow footings supporting the tower, results in damage and potential buckling of the lattice structure.

Potential controls to reduce this risk are:

■ Tower foundations

- The tower could be constructed on three separate bored piers, thus negating the effects of soil creep over time. Horizontal load from creep of soil on the pile cap / pile should be considered during pile design.
- Depending upon the size of the lease area, the site could be excavated to a level whereby the tower was supporting on foundations directly laid onto the underlying rock, again negating the effect of soil creep. A retaining structure may also be required to support the batter to the rear (south) of this excavation.

■ Site drainage

- Drawing (4WDF-51-03-DAGU-C3 Rev A in Appendix A) shows the location of an open spoon drain 500mm wide, 100mm deep and approximately 20m in length. The drain is intended to capture stormwater runoff from upslope and divert to the west away from the lease area. It is recommended that, given the expected high runoff downslope and toward the site in times of heavy rainfall, this drain be upgraded to a higher capacity concrete drain such as a VSpoonDrain system, or concrete canvas-lined 300mm wide by 300mm deep channel.

6.4 Access Track

The existing site access track is poorly defined and overgrown but is passable using 4WD equipment. It is understood that the track will be upgraded to a gravel access, using NBN-STD-0028, Spec 3 as per 4WDF-51-03-DAGU-C2 -REVA (Appendix A).

Even though the track would be likely subject to soil creep movement over the life of the tower, the track has not been considered as part of the landslide risk assessment. Any damage to the track caused by creep or translational movement should be rectified during routine maintenance.

The proposed upgrade of the access track should however be constructed with drainage in mind, noting that the existing track likely becomes a drainage path in times of heavy rain.

6.5 Assessed Landslide Risk Level

The assessed landslide risk levels for the site without and with controls (identified in Section 3) are summarised in Table 2. These risk levels were based on the qualitative risk classifications presented in AGS, Practice Note Guidelines (2007) and included in Appendix D.

The results of the assessment are provided in Table 2.

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Table 2 | Summary of landslide risk assessment

Controls (Y/N) ^(a)	Likelihood	Consequence	Risk Rating
N	<p>B - Likely</p> <p>The event (i.e. soil creep affecting the tower footings in soil) will probably occur under adverse conditions over the design life.</p>	<p>3 – Medium</p> <p>Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works.</p>	H - High
<p>Y</p> <p>(tower footings supported on pile foundation or founded on rock, improved drainage)</p>	<p>E - Rare</p> <p>The event (i.e. soil creep affecting the tower footings) is conceivable but only under exceptional circumstances over the design life.</p>	<p>5 – Insignificant</p> <p>Little damage</p>	VL – Very Low

Notes: a. Refer Section 6.3 for description of controls

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7 Conclusions and Recommended Controls

A landslide risk assessment was carried out as per the Moreton Bay Regional Council's Planning Scheme Policy, Landslide Hazard (2015) for the proposed mobile network site at D'Aguilar South, at Delaneys Creek, Queensland 4514 (4WDF-51-03-DAGU). This was in accordance with the AGS, Practice Note Guidelines for Landslide Risk Management (AGS 2007) and based on the development drawings appended to this report.

The landslide risk ratings and proposed controls from this process are summarised below.

7.1 Landslide Risk Rating

The following risk ratings were determined for key features related to the development based on the AGS, Practice note Guidelines (2007) presented in Appendix D.

Based on a **LIKELY** scenario of landslide activity in the form soil creep at the site (that is, the event will probably occur under adverse conditions within a recurrence interval of between 20 and 200 years), and a **MEDIUM** consequence assessment based on moderate damage to the tower costing between 10% and 40% of the total construction cost, the Landslide Risk Assessment for the development is currently **HIGH RISK**.

The implications of this are that the proposed design is considered unacceptable without treatment and implementation of treatment options or controls are required to reduce the risk to Low or better.

7.2 Controls to Reduce Landslide Risk

The following controls are required to reduce the risk ratings at the site:

■ Foundation Design:

- It is recommended that the proposed tower foundations are redesigned to fix the structure into the underlying bedrock, rather than within the soil that is likely to be subject to slope creep during the design life of the structure (50 years).

■ Site Drainage

- It is recommended that the southern perimeter drain be upgraded from an open spoon drain 500mm wide, 100mm deep to a VSpoolDrain system, or concrete canvas-lined 300mm wide by 300mm deep channel or similar. This will decrease the likelihood of erosion and riling of the 1H:1V slope and lessen the chance of erosion of the leasehold.

The above controls are considered to reduce the landslide risk rating to **VERY LOW**.

There is no increased landslide risk to nearby land and adjoining properties as a result of the proposed development.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

8 References

AGS 2007, Practice Note Guidelines for Landslide Risk Management, Australian Geomechanics Society (AGS), Vol 42, No 1.

Aurecon 2018 4MCH-51-03-DRAP – Draper – Geotechnical Investigation Report, Ericsson Australia Pty Ltd.

Moreton Bay Regional Council 2015, Planning Scheme Policy – Landslide Hazard

9 Limitations

This report has been prepared for the use of the client, Ericsson Australia Pty Ltd. This report has not been prepared for use by parties other than the client, and the client's respective consulting advisors. The landslide risk assessment has been based on experience and understanding of the geotechnical processes relevant to the site, bearing in mind the practical limitations of acquiring information including the frequency of inspections, cost and time constraints. Should conditions exposed at the site vary significantly from the interpretation provided in this report during construction works, or the works themselves vary significantly from those considered in this report it is requested that Aurecon be informed and have the opportunity to review any of the findings of this report.

This report has been written with the express intent of providing sufficient information for the purpose of assessing the landslide risk at the site. Subsurface conditions relevant to construction works should be assessed by contractors who can make their own interpretation of the factual and perform any additional tests as necessary for their own purposes.

It is strongly recommended that any plans and specifications prepared by others and relating to the content of this report or amendments to the original plans and specifications be reviewed by Aurecon to verify that the intent of our recommendations is properly reflected in the design.

There are always some variations in subsurface conditions across a site that cannot be defined even by exhaustive investigation. Hence, it is possible that the measurements and values obtained from sampling, testing and site mapping may not represent the extremes of conditions which exist within the site.

Further, conditions may change at the site over time, including subsurface conditions, groundwater levels, vegetation coverage or surrounding development/infrastructure. This should be borne in mind, particularly if the report is used after a protracted delay.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Appendix A

Development Drawings

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

DATE OF ISSUE	13.07.17	07.12.17	23.01.18	15.05.18		
DRAWING PACKAGE VERSION	1	2	3	4		


NBN STANDARD DOCUMENTS

NBN-STD-0001	STANDARD CONSTRUCTION NOTES	-	-	-	E		
NBN-STD-0012	STANDARD COMPOUND FENCING DETAILS	-	-	-	E		
NBN-STD-0013	STANDARD CABLE LADDER WATERFALL DETAILS	-	-	-	E		
NBN-STD-0014	STANDARD ELEVATED CABLE LADDER SUPPORT POST DETAIL	-	-	-	E		
NBN-STD-0015	STANDARD ELEVATED CABLE LADDER DETAILS	-	-	-	D		
NBN-STD-0016-SHT 1	STANDARD ODC BASE FRAME DETAILS	-	-	-	E		
NBN-STD-0016-SHT 2	RBS 6120 BASE FRAME DETAILS	-	-	-	B		
NBN-STD-0021-SHT 1	STANDARD EARTH BAR DETAILS	-	-	-	D		
NBN-STD-0021-SHT 2	SEB ALLOCATION TABLE - SHEET 1	-	-	-	B		
NBN-STD-0021-SHT 3	SEB ALLOCATION TABLE - SHEET 2	-	-	-	A		
NBN-STD-0022	STANDARD METER BOX H-FRAME DETAILS	-	-	-	E		
NBN-STD-0023	TYPICAL EQUIPMENT SHELTER FOUNDATION DETAIL	-	-	-	E		
NBN-STD-0025-SHT 1	STANDARD EME SIGNAGE DETAILS SHEET 1	-	-	-	D		
NBN-STD-0025-SHT 2	STANDARD EME SIGNAGE DETAILS SHEET 2	-	-	-	B		
NBN-STD-0027-SHT 2	STANDARD PDB/METERING SCHEMATIC - RBS 6120	-	-	-	C		
NBN-STD-0027-SHT 5	PDB LAYOUT	-	-	-	B		
NBN-STD-0028	STANDARD ACCESS TRACK DETAILS	-	-	-	C		
NBN-STD-0029-SHT 8	STANDARD NBN ANTENNA EME PATTERNS - AW3497 (4x40W)	-	-	-	B		
NBN-STD-0034-SHT 3	STANDARD ODC SLAB - RBS 6120	-	-	-	B		


REFERENCE DOCUMENTS

247473	GEOTECHNICAL INVESTIGATION REPORT (D'AGUILAR SOUTH 4WDF-51-03-DAGU)				0		
DA/35446/2017/V2U	DECISION NOTICE BY MORETONBAY REGIONAL COUNCIL				-		
1056-4/FPC 121 UEN	NBN RAN INSTALLATION MANUAL				F		

Client:



Client:



Client:


Project:

NATIONAL BROADBAND NETWORK
SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
DELANEYS CREEK
QLD 4514

FOR CONSTRUCTION

A 15.05.18 FOR CONSTRUCTION ISSUE

Rev	Date	Revision Details



DESIGNER: JR
CHECKED: MR
APPROVED: LS

Drawing Title:
REFERENCE DOCUMENTS

Drawing No: 4WDF-51-03-DAGU-T2	Revision A
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DRAFT

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

SITE INFORMATION:

1. SITE ADDRESS

300 DWANE ROAD, DELANEYS CREEK, QLD 4514. (LOT 21 C31989)

2. GENERAL

THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS, CURRENT AUSTRALIAN STANDARDS AND SPECIFICATIONS.

3. SITE ACCESS

USE OF EXISTING DRIVEWAY OFF DWANE ROAD AND EXISTING SITE ACCESS TRACK INSIDE SITE LOT.
UPGRADE TO GRAVEL TRACK AND TREE CLEARING REQUIRED.

4. EQUIPMENT

NBN OUTDOOR CABINETS TO BE INSTALLED ON CONCRETE SLAB ON GROUND WITHIN NBN LEASE AREA.

5. STRUCTURE

NEW NBN 50m LATTICE TOWER WITH HEADFRAME BY FEC.

6. ANTENNA ACCESS

ANTENNA ACCESS VIA TOWER ACCESS LADDER WITH LADSAF FALL ARREST SYSTEM BY RIGGER QUALIFIED PERSONNEL ONLY.

7. EXISTING SERVICES

THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT EXISTING SERVICES AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS. SERVICES INDICATED ON DBYD REPORTS AND LOCATED ON SITE.

8. EXISTING SITE HAZARDS

- WORK ON RURAL FARM PROPERTY
- WORK IN REMOTE LOCATION
- WORK NEAR DENSE VEGETATION

9. POWER SUPPLY

REFER TO 4WDF-51-03-DAGU-C2, C3, E0 & E1

10. TRANSMISSION LINK & RF CONFIGURATION

REFER 4WDF-51-03-DAGU-A1 FOR DETAILS.

11. SITE SPECIFIC INFORMATION

- VEGETATION CLEARING IS REQUIRED FOR SITE ACCESS, COMPOUND AND CONSTRUCTION AREA. CLEANING TO BE UNDERTAKEN IN ACCORDANCE WITH THE APPROVED PROPERTY VEGETATION MANAGEMENT PLAN (PVMT). NO CLEANING TO OCCUR WEST OF THE EXISTING ACCESS TRACK OUTSIDE OF THE FIREBREAK.
- EASEMENTS DO EXIST ON SITE PROPERTY, NO NEW PROPOSED EASEMENTS ARE REQUIRED
- NO LANDSCAPING PROPOSED
- STORMWATER TO BE DISSIPATED THROUGH GRAVEL FINISH WITHIN COMPOUND
- EXCAVATED MATERIAL TO BE DISPOSED OF ON SITE LOT AT DIRECTION OF LANDLORD, CONTRACTOR TO LIAISE
- DN CONDITIONS TBC.

12. WIND LOAD PARAMETERS




SITE TOPOGRAPHIC DATA		
REGION	TERRAIN CATEGORY	TOPOGRAPHIC MULTIPLIER (M)
B	2.1	1.20

13. DIAL BEFORE YOU DIG

DBYD JOB No.1254.6360
ENQUIRY DATE 28.06.2017
EXISTING SERVICES ARE REPORTED ON SITE LOT. ALL CONTRACTORS TO REVALIDATE AND VERIFY AT THE TIME OF FIELD WORK

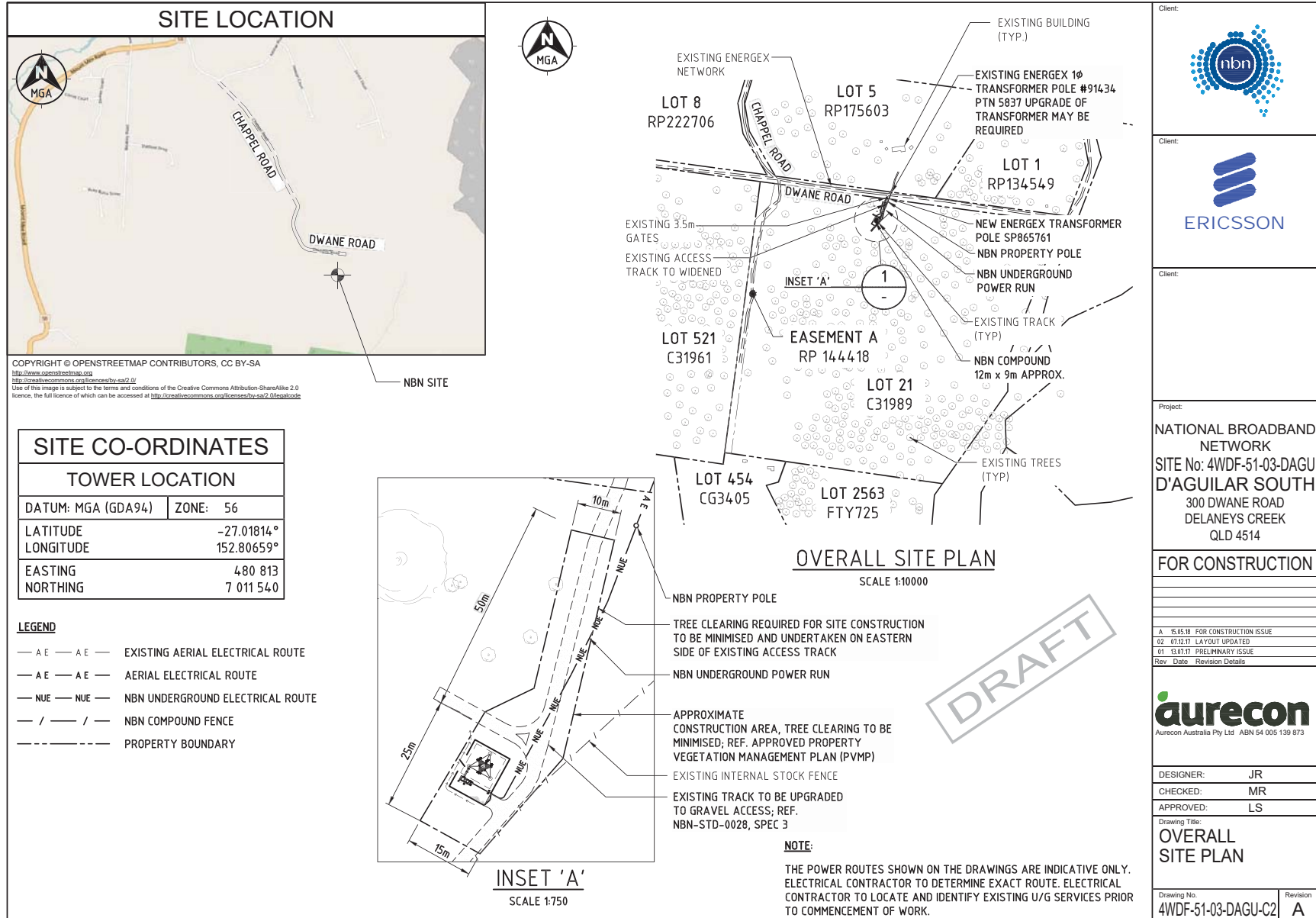
14. SITE SIGNAGE AND LOCATION

- SITE ENQUIRY SIGN, ON THE NBN ODC DOOR
- HAZARDOUS VOLTAGE SIGN, ON NBN METER PANEL/PDB
- CLIMBING FALL ARREST SIGNAGE, CLOSE TO CLIMBING RUNG OR TO LADDER LOCATION (REFER RAN HANDBOOK SECTION 15.4 FOR FURTHER DETAILS) EME SIGNAGE, REFER NBN-STD-0025 SHT 1 & 2

Client:	
Client:	
Project:	<p>NATIONAL BROADBAND NETWORK SITE No: 4WDF-51-03-DAGU D'AGUILAR SOUTH 300 DWANE ROAD DELANEYS CREEK QLD 4514</p> <p>FOR CONSTRUCTION</p>
A 15.05.18 FOR CONSTRUCTION ISSUE	
01 13.07.17 PRELIMINARY ISSUE	
Rev Date Revision Details	
	
DESIGNER: JR	
CHECKED: MR	
APPROVED: LS	
Drawing Title:	SITE SPECIFIC NOTES
Drawing No: 4WDF-51-03-DAGU-C1	Revision A

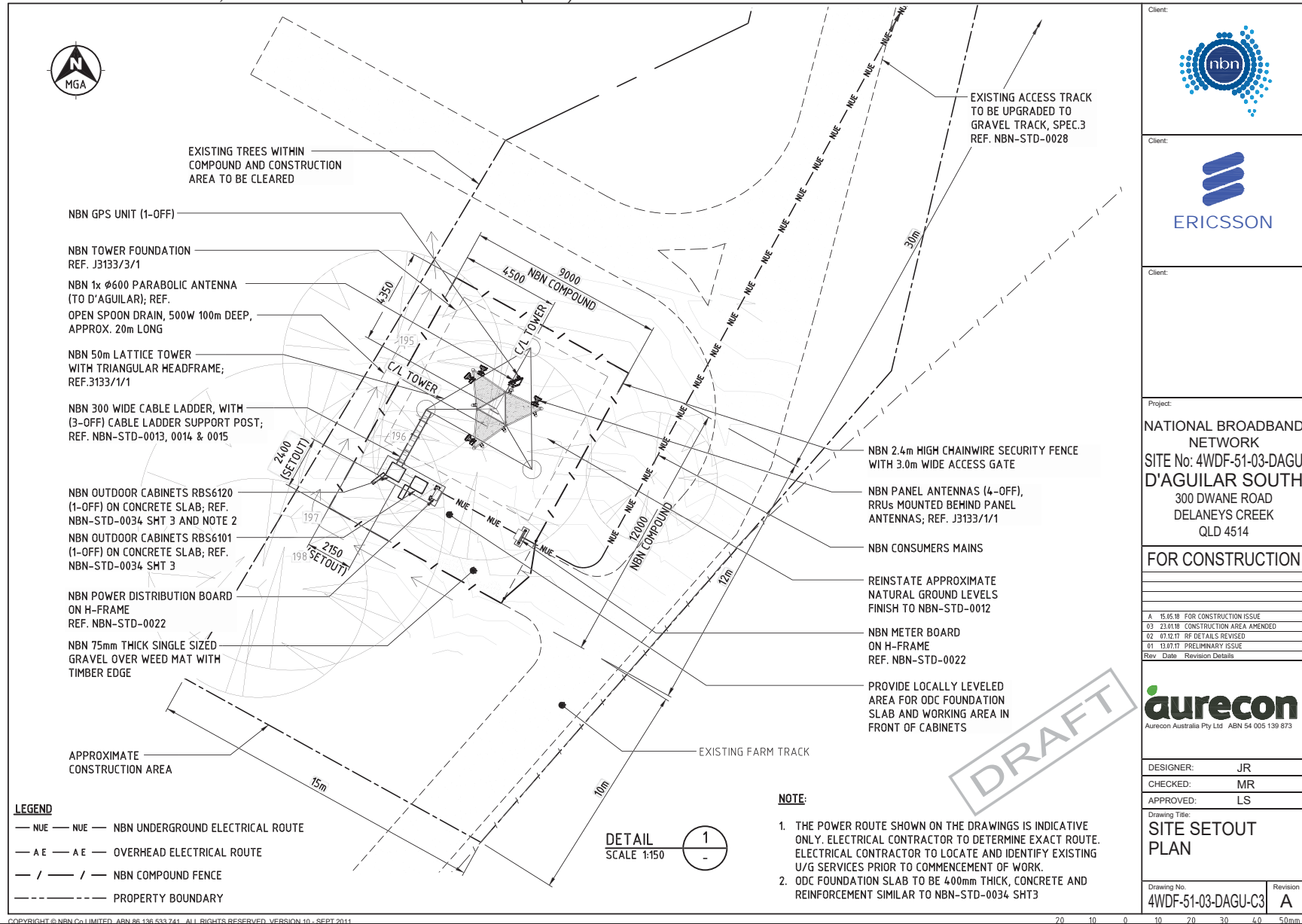
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

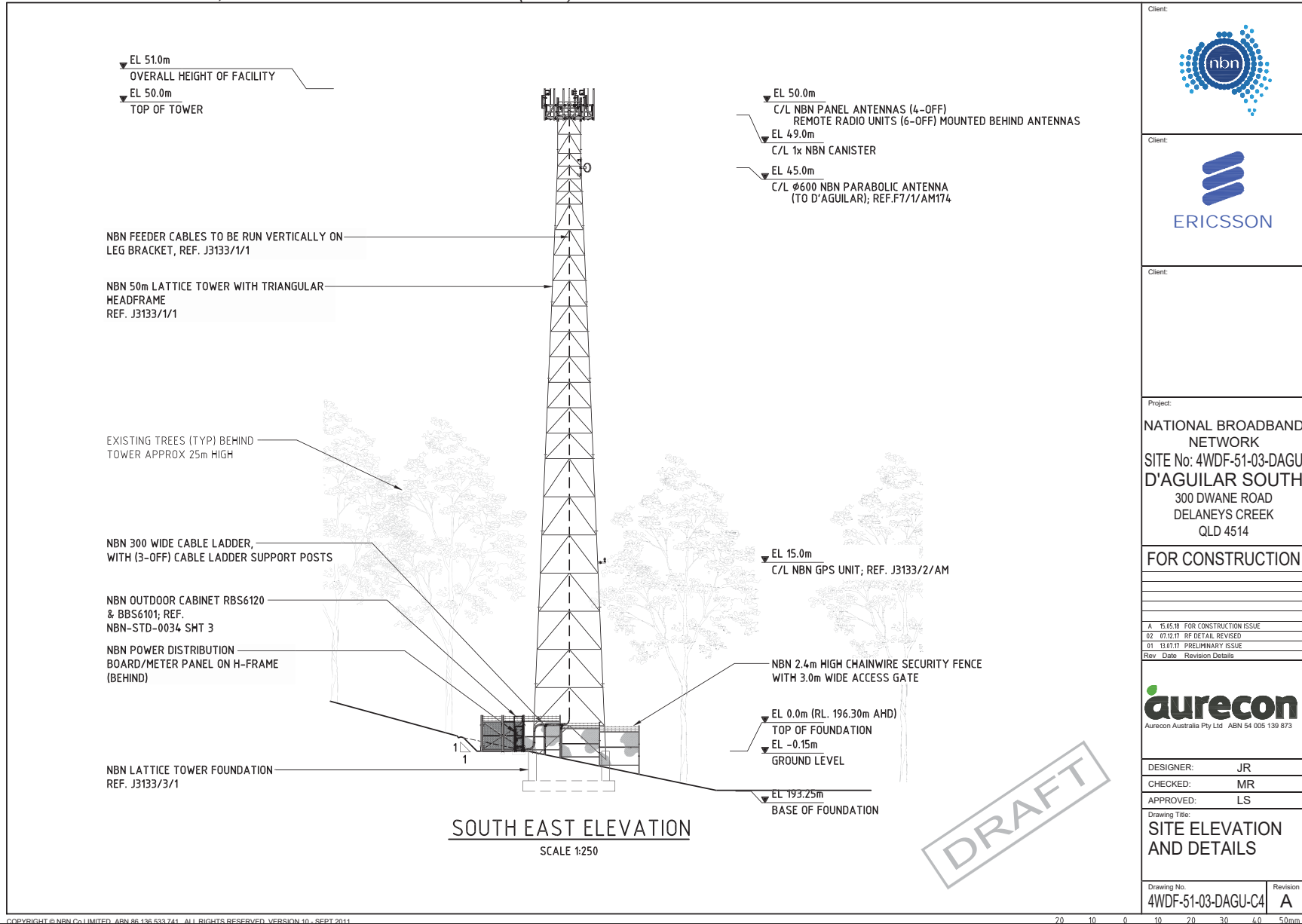


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Project:	NATIONAL BROADBAND NETWORK SITE No: 4WDF-51-03-DAGU D'AGUILAR SOUTH 300 DWANE ROAD DELANEYS CREEK QLD 4514												
FOR CONSTRUCTION													
<table border="1"> <tr> <td>Rev</td> <td>Date</td> <td>Revision Details</td> </tr> <tr> <td>A</td> <td>15.05.18</td> <td>FOR CONSTRUCTION ISSUE</td> </tr> <tr> <td>02</td> <td>01.12.17</td> <td>LAYOUT UPDATED</td> </tr> <tr> <td>01</td> <td>13.07.17</td> <td>PRELIMINARY ISSUE</td> </tr> </table>		Rev	Date	Revision Details	A	15.05.18	FOR CONSTRUCTION ISSUE	02	01.12.17	LAYOUT UPDATED	01	13.07.17	PRELIMINARY ISSUE
Rev	Date	Revision Details											
A	15.05.18	FOR CONSTRUCTION ISSUE											
02	01.12.17	LAYOUT UPDATED											
01	13.07.17	PRELIMINARY ISSUE											
 Aurecon Australia Pty Ltd ABN 54 005 139 873													
DESIGNER:	JR												
CHECKED:	MR												
APPROVED:	LS												
Drawing Title:	OVERALL SITE PLAN												
Drawing No:	4WDF-51-03-DAGU-C2												
Revision:	A												

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

ELECTRICAL SPECIFICATION:-

GENERAL

THE INSTALLATION SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3000 WIRING RULES, AS/ACIF S009 INSTALLATION REQUIREMENTS FOR CUSTOMER CABLING, AS/NZS 3010 FOR ALTERNATE GENERATOR SUPPLY, AS/NZS 1768 FOR LIGHTNING PROTECTION, AS/NZS 3015 FOR EXTRA-LOW VOLTAGE D.C POWER SUPPLIES & SERVICE EARTHING WITHIN PUBLIC TELECOMMUNICATIONS NETWORKS, AS/NZS 3439 LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES, NBN STANDARD CONSTRUCTION NOTES NBN-STD-0001, NBN RAN INSTALLATION (DESIGN/CONSTRUCTION SPECIFICATION), QUEENSLAND ELECTRICITY CONNECTION AND METERING MANUAL (QECMM) AND ALL OTHER REGIONAL AND LOCAL REQUIREMENTS OF THE POWER SUPPLY AUTHORITY. CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION TO BECOME FAMILIAR WITH THE SCOPE OF WORK AND SHALL PROVIDE ALL MATERIALS AND PERFORM ALL RECTIFICATION WORKS REQUIRED AT THE PROPERTY TO COMPLY WITH ALL RELEVANT STANDARDS AND LOCAL AUTHORITY SPECIFICATIONS TO ALLOW THE ELECTRICITY TO BE CONNECTED AT THE SITE. EXACT LOCATIONS, HEIGHTS OF THE ELECTRICAL INSTALLATION SHALL BE DETERMINED ON SITE TO SUIT THE CLIENT AND THE SERVICE. THIS ELECTRICAL SPECIFICATION IS TO BE READ IN CONJUNCTION WITH DRAWINGS C2, C3, E1 AND E2.

STANDARD OF WORK

ALL INSTALLATION WORK SHALL BE CARRIED OUT BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH SAFE AND SOUND WORK PRACTICES. LIAISE AND COORDINATE WITH THE POWER SUPPLY AUTHORITY BEFORE COMMENCEMENT OF ANY WORK.

APPLICATION FOR ELECTRICAL SUPPLY

SUPPLY AUTHORITY IS ENERGEX.

AN APPLICATION FOR SUPPLY AVAILABILITY HAS BEEN SUBMITTED TO SUPPLY AUTHORITY. WORK REQUEST IS WR715194. SUPPLY AUTHORITY ADVISED A MAXIMUM DEMAND OF SINGLE PHASE 80A WILL BE AVAILABLE FOR NBN BY INSTALLING A NEW 25kVA POLE MOUNTED TRANSFORMER. CONTRACTOR SHALL COORDINATE WITH SUPPLY AUTHORITY AND PROPERTY OWNER PRIOR TO THE ELECTRICAL INSTALLATION. NBN SHALL ADVISE CONTRACTOR THE PREFERRED ELECTRICITY RETAILER. CONTRACTOR SHALL OPEN ELECTRICITY RETAILER ACCOUNT PRIOR TO COMPLETION OF ELECTRICAL INSTALLATION.

SERVICE MAINS

SUPPLY AUTHORITY SHALL INSTALL NEW SERVICE MAINS WHEN CONTRACTOR SUBMITS THE 'EWR'. CONTRACTOR SHALL INSTALL A NEW PROPERTY POLE FOR THE NEW SERVICE MAINS. CONTRACTOR SHALL COORDINATE WITH SUPPLY AUTHORITY FOR INSTALLATION TO MEET PROJECT PROGRAM.

CONSUMER MAINS

SUPPLY AND INSTALL NEW CONSUMER MAINS BETWEEN THE NBN PROPERTY POLE AND THE NBN METER ENCLOSURE. REFER DRAWINGS C3 AND E1 FOR DETAILS.

METER PANEL / POWER DISTRIBUTION BOARD

SUPPLY AND INSTALL NBN METER PANEL/POWER DISTRIBUTION BOARD ENCLOSURE. SUPPLY AND INSTALL NBN SUPPLY AUTHORITY ENERGY METER AND ASSOCIATED EQUIPMENT IN THE NBN ENCLOSURE. REFER DRAWINGS C3 AND E1 FOR DETAILS.

SUPPLY AND INSTALL NEW SUPPLY AUTHORITY PADLOCK FOR THE NBN METER PANEL AND ALL ACCESS GATES. OBTAIN COPIES OF THE KEY OF THE SUPPLY AUTHORITY PADLOCK AND HANDOVER TO NBN FOR FUTURE ACCESS.

ALTERNATE SUPPLY ARRANGEMENT

SUPPLY AND INSTALL GENERATOR INLET SOCKET ON NBN DISTRIBUTION BOARD ENCLOSURE. REFER DRAWINGS C3 AND E1 FOR DETAILS. THE CONTRACTOR SHOULD BE AWARE OF AND ADHERE TO THE SUPPLY AUTHORITY REQUIREMENTS FOR PORTABLE GENERATORS CONNECTED TO PERMANENT INSTALLATIONS. REFER TO DRAWING E1 FOR DETAILS.

LABELLING


FIX STANDARD LABELS TO ALL FUSE, METER, CIRCUIT BREAKER AND SWITCH POSITIONS. LABELS SHALL BE "TRAFFOLYTE" BLACK LETTERING ON WHITE BACKGROUND. LETTERING SHALL BE MINIMUM 8mm HIGH. TEXT IS TO READ "NBN". PROVIDE A SKETCH OF ELECTRICAL SUPPLY ROUTE IN 'NBN METER PANEL/POWER DISTRIBUTION BOARD ENCLOSURE' INDICATING SIZE AND DIRECTION OF ALL SERVICES.


UNDERGROUND SERVICES

ELECTRICAL SERVICES ROUTES SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. CONTRACTOR SHALL DETERMINE A POSSIBLE/ECONOMICAL ROUTE BEFORE THE COMMENCEMENT OF WORK. ELECTRICAL CONTRACTOR SHALL IDENTIFY AND CONFIRM EXACT LOCATION OF ALL RELEVANT EXISTING UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORK. SEARCHES SHOULD BE CONDUCTED BY "DIAL BEFORE YOU DIG" AND ACCREDITED UNDERGROUND SERVICE LOCATORS. ALL WIRING SYSTEMS SHALL BE INSTALLED AND ENCLOSED BY APPROVED METHODS WHICH WILL READILY PERMIT CABLES TO BE DRAWN IN OR REPLACED AFTER COMPLETION OF CONSTRUCTION.

EARTHING

PROVIDE EARTHING GENERALLY IN ACCORDANCE WITH DRAWING E2. NBN OUTDOOR UNITS SHALL ALSO BE EARTHED ACCORDING TO MANUFACTURERS SPECIFICATIONS. REFER TO NBN STANDARD DRAWING NBN-STD-0021-SHT 1 FOR STANDARD EARTH BAR DETAILS. ELECTRICIAN SHALL ENSURE CONNECTIONS & METHODS COMPLY WITH AS/NZS 1768 FOR LIGHTNING PROTECTION. REFER NBN RAN INSTALLATION (DESIGN/CONSTRUCTION SPECIFICATION) SECTION-12 EARTHING FOR GENERAL RULES, REQUIREMENTS AND GUIDANCE.

Client:



Client:


Client:

Project:
NATIONAL BROADBAND NETWORK
SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
DELANEYS CREEK
QLD 4514

FOR CONSTRUCTION

Rev	Date	Revision Details
A	15.08.15	FOR CONSTRUCTION ISSUE


Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER: PL
CHECKED: JL
APPROVED: LS

Drawing Title:
ELECTRICAL SPECIFICATION

Drawing No: 4WDF-51-03-DAGU-E0
Revision: A

DRAFT

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

CABLE SCHEDULE							
CABLE	LENGTH (ESTIMATED)	CABLE TYPE	CORES	ACTIVE (SIZE)	NEUTRAL (SIZE)	EARTH (SIZE)	INSTALLATION METHOD
Ⓐ	80m	Cu XLPE/PVC	2 x 1C	35mm ²	35mm ²	-	UNDERGROUND IN ϕ 50mm HD uPVC ELECTRICAL CONDUIT C/W DRAW WIRE
Ⓑ	5m	Cu R-HF-110/PVC FLEXIBLE	1 x 4C + E	25mm ²	25mm ²	6mm ²	UNDERGROUND IN ϕ 50mm HD uPVC ELECTRICAL CONDUIT C/W DRAW WIRE

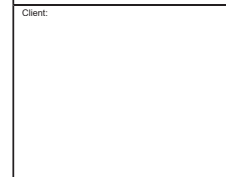
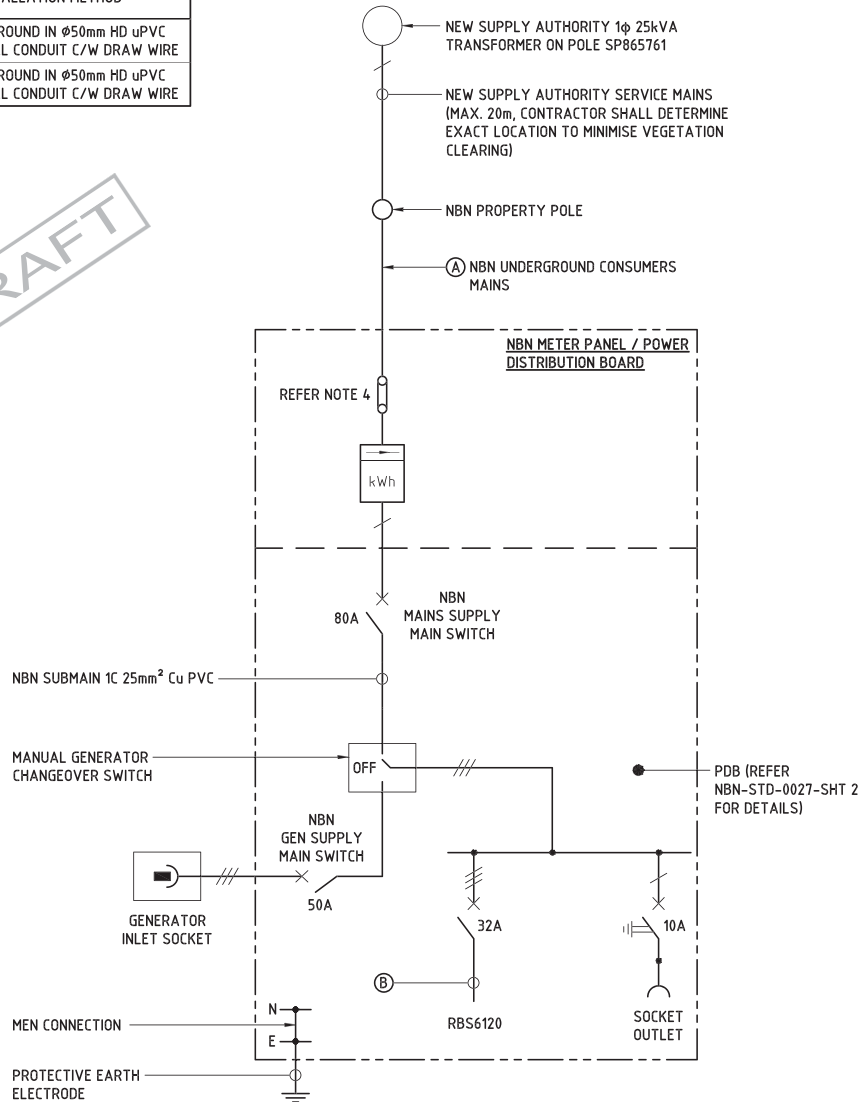
LEGEND:-

- MINIATURE CIRCUIT BREAKER (MCB) OR MOULDED CASE CIRCUIT BREAKER (MCCB)
- RESIDUAL CURRENT CIRCUIT BREAKER
- MAIN SWITCH/ISOLATOR
- HRC FUSE, CARTRIDGE AND CARRIER
100A 100A DENOTES 100A HRC FUSE CARTRIDGE
100A 100A DENOTES SIZE OF CARRIER
- METERING ISOLATION LINK
- SINGLE PHASE CIRCUIT
- THREE PHASE CIRCUIT
- NEUTRAL
- EARTH
- SUPPLY AUTHORITY STANDARD KILOWATT-HOUR METER
- ACTIVE LINK
- N NEUTRAL BAR
- E EARTH BAR

NOTES:

- SUPPLY AUTHORITY IS ENERX.
- LIAISE AND COORDINATE WITH SUPPLY AUTHORITY FOR CONNECTION OF NBN METER PANEL AND ALL WORK.
- ELECTRICAL CONTRACTOR SHALL INFORM/COORDINATE/SEEK PERMISSIONS FROM LANDLORD FOR THE NBN ELECTRICAL INSTALLATION.
- WHERE SERVICE FUSES ARE GREATER THAN 100A THE METERING ISOLATION LINKS ARE TO BE REPLACED BY 100A HRC FUSE CARTRIDGES.

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Project:
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SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
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FOR CONSTRUCTION

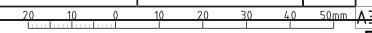
Rev	Date	Revision Details
A	15.05.18	FOR CONSTRUCTION ISSUE



DESIGNER:	PL
CHECKED:	JL
APPROVED:	LS

Drawing Title:
ELECTRICAL SINGLE LINE DIAGRAM & PDB SCHEMATIC

Drawing No. 4WDF-51-03-DAGU-E1	Revision A
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

SPECIAL EARTHING NOTES:
IF THE MEASURED EARTH RESISTANCE IS GREATER THAN 5Ω THEN THE CIVIL ASP SHALL CONTACT THE DESIGN ASP FOR FURTHER INSTRUCTION.

TYPE	DIAMETER	QUANTITY	DEPTH	THEORETICAL EARTH RESISTANCE
COPPER BONDED HARDENED STEEL ROD	13mm	4	3m	1.78Ω

LEGEND:

- PROTECTIVE EARTH ELECTRODE
- ⊙ EARTHING ELECTRODE IN INSPECTION SLEEVE
- 16mm² STRANDED COPPER GREEN / YELLOW PVC CABLE
- 35mm² STRANDED COPPER GREEN / YELLOW PVC CABLE
- EA - 25x3 mm COPPER TAPE
- - - - 70mm² STRANDED COPPER GREEN / YELLOW PVC CABLE
- ~~~~~ FLEXIBLE BRAIDED STRAP
- MAIN EARTH CONDUCTOR (REFER TO E1 FOR CABLE SIZE)
- ⓔ EARTH BAR (RRU, FEEDER AND RAU EARTHING)
- ⓓ LINK BAR LOCATION BELOW PDB/METER PANEL IN CABLE LADDER ON H-FRAME
- / — NEW NBN COMPOUND FENCE

EARTHING INSTALLATION
ALL ITEMS SHALL BE EARTHED GENERALLY AS SHOWN ON THIS DRAWING. FOR CONNECTION REFERENCE NUMBER, CABLE SIZE, REFER BELOW AND SITE DESIGN DRAWINGS. FOR SPECIFICATIONS AND CONNECTION DETAILS REFER TO "NBN RAN INSTALLATION" DESIGN/CONSTRUCTION SPECIFICATION, SECTION 12 "SITE EARTHING".

ITEM	DESCRIPTION
(A)	SEB TO POWER SYSTEM EARTH BAR VIA LINK BAR
(B)	BASE FRAME TO SEB
(C)	EQUIPMENT EARTH TO SEB
(D)	CONCRETE SLAB REO TO SEB
(E)	EARTH BAR TO SEB
(F)	SEB TO ELECTRODE (SEE NOTE 12)
(G)	TOWER TO ELECTRODE
(I)	FENCING AND GATES (SEE NOTE 10 & 11)
(J)	H-FRAME STEELWORK TO ELECTRODE (SEE NOTE 12)
(K)	GANTRY SUPPORT TO ELECTRODE (SEE NOTE 13)

NOTES:

- ALL EARTHING TO COMPLY WITH AS/NZS 1768 & AS/NZS 3000 SECTION 5.3.2.
- ALL EARTHING ELECTRODES SHALL BE DRIVEN TO DEPTH AS SHOWN IN TABLE.
- IF EARTHING ELECTRODES ARE INSTALLED BY DRILLING, INSTALL ELECTRODES IN 75mm MINIMUM DIAMETER HOLES AND BACKFILL WITH APPROPRIATE EARTHING ENHANCING COMPOUND SUCH AS SAND-CEMENT MIX, BENTONITE GYPSUM MIX OR GRAPHITE MIX (GEM).
- PROVIDE MINIMUM OF 3-OFF EARTH BARS: AT TOP OF TOWER, AT BOTTOM OF TOWER AND AT THE ODC.
- TOP AND BOTTOM EARTH BARS ON TOWER AS PER NBN-STD-0021-SHT 1. EARTH BARS SHALL BE DIRECTLY CONNECTED TO THE TOWER AND SHALL NOT BE INSULATED.
- SERVICE EARTH BAR SHALL BE FACE FIXED TO ODC BASE FRAME VIA INSULATORS.
- WHERE LANDSCAPING IS REQUIRED, THE CONTRACTOR SHALL ENSURE THAT EXCAVATION FOR LANDSCAPING IS COMPLETE BEFORE INSTALLATION OF THE EARTH TAPE AND LEADS TO AVOID DAMAGE TO THE EARTHING SYSTEM.
- INSTALL NEW EARTH BAR CONNECTED TO TOWER CLEAT IF INSUFFICIENT HOLES.
- PROVIDE LINK BAR "TRAFFOLYTE" LABEL WHITE BACKGROUND AND MINIMUM 8mm HIGH BLACK LETTERING "BONDING TERMINAL / LINK BAR BEHIND"
- MAKE 1-HOLE LUG CONNECTION TO FENCE/SUPPORT POSTS (WITH TAPPED HOLE) FOR EARTHING BONDS.
- 2mm MINIMUM THICKNESS ON 35mm² EQUIVALENT FLEXIBLE BRAIDED STRAP FOR FENCE AND GATE BONDING.
- CABLES F AND J SHALL BE INSTALLED IN ELECTRICAL CONDUIT AS IDENTIFIED IN NBN-STD-0034-SHT 3. REFER SITE SETOUT PLAN FOR LOCATION AND DIRECTION.
- ALL CABLE LADDER POSTS SHALL BE EARTHED VIA EARTH LEAD TO THE NEAREST ELECTRODE.

Client:

Client:

Client:

Project: NATIONAL BROADBAND NETWORK
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QLD 4514

FOR CONSTRUCTION

Rev	Date	Revision Details
A	15.05.18	FOR CONSTRUCTION ISSUE

Designer: PL
Checked: JL
Approved: LS

Drawing Title: SITE EARTHING PLAN

Drawing No: 4WDF-51-03-DAGU-E2
Revision: A

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

NBN ANTENNA CONFIGURATION - 3400MHz																					
SECTOR	SYMBOL	PANEL ANTENNA DETAIL							MAIN FEEDER DETAIL				RRU DETAIL				RF TAIL H&S 1/2" BIRD PROOFED LISCA CABLE	RET CABLE 1/TSR 484 21/2000			
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	P1 & P2 E-TILT	P3 & P4 E-TILT	MECH TILT	ANTENNA ACTION REQ	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	FEEDER ACTION REQ	TYPE	LOCATION	C/L HEIGHT	ANTENNA PORT	RRU ACTION REQ	LENGTH	LENGTH
B1		AW3497	957x319x100	50m	310°	6°	6°	0°	INSTALL	H&S HYBRID MKII 6x6 (ø27.5mm)	60m	49m	3m	INSTALL	RRUS2218	BEHIND	50.7m	1 & 2	INSTALL	1.5m	2m
B2		AW3497	957x319x100	50m	315°	6°	6°	0°	INSTALL				3m	INSTALL	RRUS2218 RRUS2218	BEHIND	50.7m	1 & 2 3 & 4	INSTALL	1.5m 1.5m	2m
B3		AW3497	957x319x100	50m	25°	7°	7°	0°	INSTALL				3m	INSTALL	RRUS2218	BEHIND	50.7m	1 & 2	INSTALL	1.5m	2m
B4		AW3497	957x319x100	50m	30°	7°	7°	0°	INSTALL				3m	INSTALL	RRUS2218 RRUS2218	BEHIND	50.7m	1 & 2 3 & 4	INSTALL	1.5m 1.5m	2m

NBN TRANSMISSION & GPS ANTENNA CONFIGURATION												
ANTENNA	SYMBOL	ANTENNA DETAIL					MAIN FEEDER DETAIL			RAU DETAIL		
		TYPE	DIMENSION	C/L HEIGHT	AZIMUTH (TN)	DESTINATION	ANTENNA ACTION REQ	TYPE	OVERALL LENGTH	FEEDER ACTION REQ	QTY RAU	RAU ACTION REQ
A		PARABOLIC	ø600	45m	341°	D'AGUILAR	INSTALL	2xLDF1-50	55m	INSTALL	2	INSTALL
B												
C												
GPS		KRE 1012 182/1	ø69x96	15m	N/A		INSTALL	LDF1-50	25m	INSTALL		

NOTE:
RRU HEIGHT TO BE +/- 250mm FROM SPECIFIED HEIGHTS. OFFSETS
REQUIRED DUE TO MOUNTING ARRANGEMENT BACK TO BACK.

ANTENNA SETOUT PLAN
SCALE 1:100

DRAFT

Client:

Client:

Project:
NATIONAL BROADBAND NETWORK
SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
DELANEYS CREEK
QLD 4514

FOR CONSTRUCTION

A 15.05.18 FOR CONSTRUCTION ISSUE	
01 13.07.17 PRELIMINARY ISSUE	
Rev	Date
	Revision Details

Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER: JR
CHECKED: MR
APPROVED: LS

Drawing Title:
NBN ANTENNA CONFIGURATION & SETOUT PLAN

Drawing No. 4WDF-51-03-DAGU-A1 Revision A

COORDINATION COMMITTEE MEETING
23 October 2018

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Agenda

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

FE296



Future Engineering and Communication Pty Ltd ACN 050 840 321 as trustee
for the Future Engineering & Communication Unit Trust ABN 73 037 646 279
7 Tamara Drive Cockburn Central Western Australia 6164
Phone: +61 8 9417 4999 Facsimile: +61 8 9417 5666
Email: admin@futureau.com.au Web: www.futureau.com.au

STRUCTURE DESIGN CERTIFICATION

Structure Data

Structure Type:	FEC Self Supporting Tower	Job Number:	J3133
Height:	50.0m	Date:	20/04/2018
Site ID:	4WDF-51-03-DAGU	Client:	Ericsson
Site Name:	D'Aguilar South		
Site Address:	300 Dwane Road, Delaneys Creek, QLD 4514		

Site Parameters

Wind loading standard:	AS1170.2-2011/Amdt4	Terrain Category:	2.10
Wind region:	B	Topographical Multiplier, M_t:	1.20
Wind return period:	500 years	Wind Direction Multiplier, M_d:	0.95

Structural design standards:

AS4100-1998/Amdt1, AS3995-1994 & AS3600-2009/Amdt2

Serviceability Criteria:

Maximum microwave rotation <1° @27m/s

Antenna Loading Data - NBN Generic (Height is measured from base of structure to centre line of antenna)

ID	Height AGL	Antenna Type	Azimuth (°)	Effective area (m ²)	Feeder cable	Status (P/E)	Carrier
1	50.00	Triangular headframe	-	1.960*	-	P	NBN
2	50.00	9 x NBN Panels	0 - 360	3.645*	3 x H&S Hybrid MK11 6/6 Ø27.5mm	P	NBN
3	50.70	18 x RRUS61	-	4.267*		P	NBN
4	46.00	5 x Ø600 RTD	-	3.000*	5 x LDF1-50	P	NBN
5	43.00	5 x Ø600 RTD	-	3.000*	5 x LDF1-50	P	NBN

Antenna Loading Data - Site Specific (Height is measured from base of structure to centre line of antenna)

ID	Height AGL	Antenna Type	Azimuth (°)	Effective area (m ²)	Feeder cable	Status (P/E)	Carrier
1	50.00	Triangular headframe	-	1.960*	-	P	NBN
2	50.00	9 x AW3497 Panels	0 - 360	3.013*	1 x H&S Hybrid MK11 6/6 Ø27.5mm	P	NBN
3	50.70	18 x RRUS2218	-	2.195*		P	NBN
4	49.00	1 x NBN Cannister	-	0.100*	-	P	NBN
5	45.00	1 x Ø600mm ANT2 0.6 18 HPX + 2 x RAUs	341	0.494*	2 x LDF1-50	P	NBN
6	15.00	1 x GPS KRE 1012 182/1	-	0.100*	1 x LDF1-50	P	NBN

* RRU's height can be adjusted on headframe to suit any obstructions.

Ancillary Loading Data

Tower Access:	Internal climbing ladder c/w safety climb.
Feeder arrangement:	V-type feeder bracket.
Assumptions:	All feeders assumed fully effective.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

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Email: admin@futureau.com.au Web: www.futureau.com.au

STRUCTURE DESIGN CERTIFICATION

Work covered by this certificate:

Design of 50m self-supporting tower, associated headframe, antenna mounts and foundation.

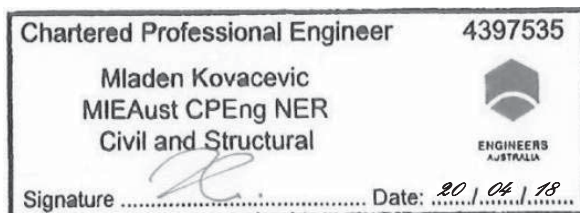
Work Specified on the following document's:

Analysis Data: Aurecon email dated 03/04/2018.
Geotech Report: Aurecon geotechnical report reference No: 247473 dated 16/03/2018.

FEC Drawings: J3133/1/1
J3133/3/1
F119/2/HF9
F7/1/AM27
F7/1/AM174
J3133/2/AM
F1/1/SN

Prepared by: David Ristevski

Approved by:



On behalf of: Future Engineering & Communication Pty Ltd.

Note

- Design is based on information provided in client supplied data unless shown by "**". See FEC Structural Review Information Form FE275.
- The recommendation given here is valid only for the site conditions, antenna data and tower type shown here, and is subject to any new antenna mounting steelwork being either supplied or reviewed by FEC for suitability.
- Unless stated otherwise, microwave dishes are assumed to be planar shielded.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Version 3 – March 2013

Form 15—Compliance Certificate for building Design or Specification

<p>NOTE</p>	<p>This is to be used for the purposes of section 10 of the <i>Building Act 1975</i> and/or section 46 of the <i>Building Regulation 2006</i>.</p> <p>RESTRICTION: A building certifier (class B) can only give a compliance certificate about whether building work complies with the BCA or a provision of the QDC. A building certifier (Class B) can not give a certificate regarding QDC boundary clearance and site cover provisions.</p>
<p>1. Property description This section need only be completed if details of street address and property description are applicable. EG. In the case of (standard/generic) pool design/shell manufacture and/or patio and carport systems this section may not be applicable.</p> <p>The description must identify all land the subject of the application. The lot & plan details (eg. SP / RP) are shown on title documents or a rates notice. If the plan is not registered by title, provide previous lot and plan details.</p>	<p>Street address <i>(include no., street, suburb / locality & postcode)</i></p> <p>300 Dwane Road Delaneys Creek, QLD Postcode: 4514</p> <p>Lot & plan details <i>(attach list if necessary)</i></p> <p>Lot 21 C31989</p> <p>In which local government area is the land situated?</p> <p>MORETON BAY REGIONAL COUNCIL</p>
<p>2. Description of component/s certified Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.</p>	<p>Desing of self-supporting tower, associated headframe, antenna mounts and foundation.</p>
<p>3. Basis of certification Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.</p>	<p>AS1170.0 – 2002 – Structural Design Actions – General Principles</p> <p>AS1170.2 – 2016 – Structural Design Actions – Wind Actions</p> <p>AS3600 – 2009 – Concrete Structures</p> <p>AS3995 – 1994 – Design of Steel Lattice Towers and Masts</p> <p>AS4100 – 1998 – Steel Structures</p>
<p>4. Reference documentation Clearly identify any relevant documentation, e.g. numbered structural engineering plans.</p>	<p>J3133 – Structure Design Certification</p> <p>J3133/1/1 – General Arrangement</p> <p>J3133/3/1 – Foundation Details</p> <p>F119/2/HF9 – Headframe Details</p> <p>F7/1/AM27 – Antenna Mounts on Headframe Details</p> <p>F7/1/AM174 – Microwave Mount on Leg Erection Details</p> <p>J3133/2/AM – GPS Mount on Leg Erection Details</p> <p>F1/1/SN – Standard Notes</p>

LOCAL GOVERNMENT USE ONLY

Date received		Reference Number/s	
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The *Building Act 1975* is administered by the Department of Housing and Public Works



Moreton Bay Regional Council

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

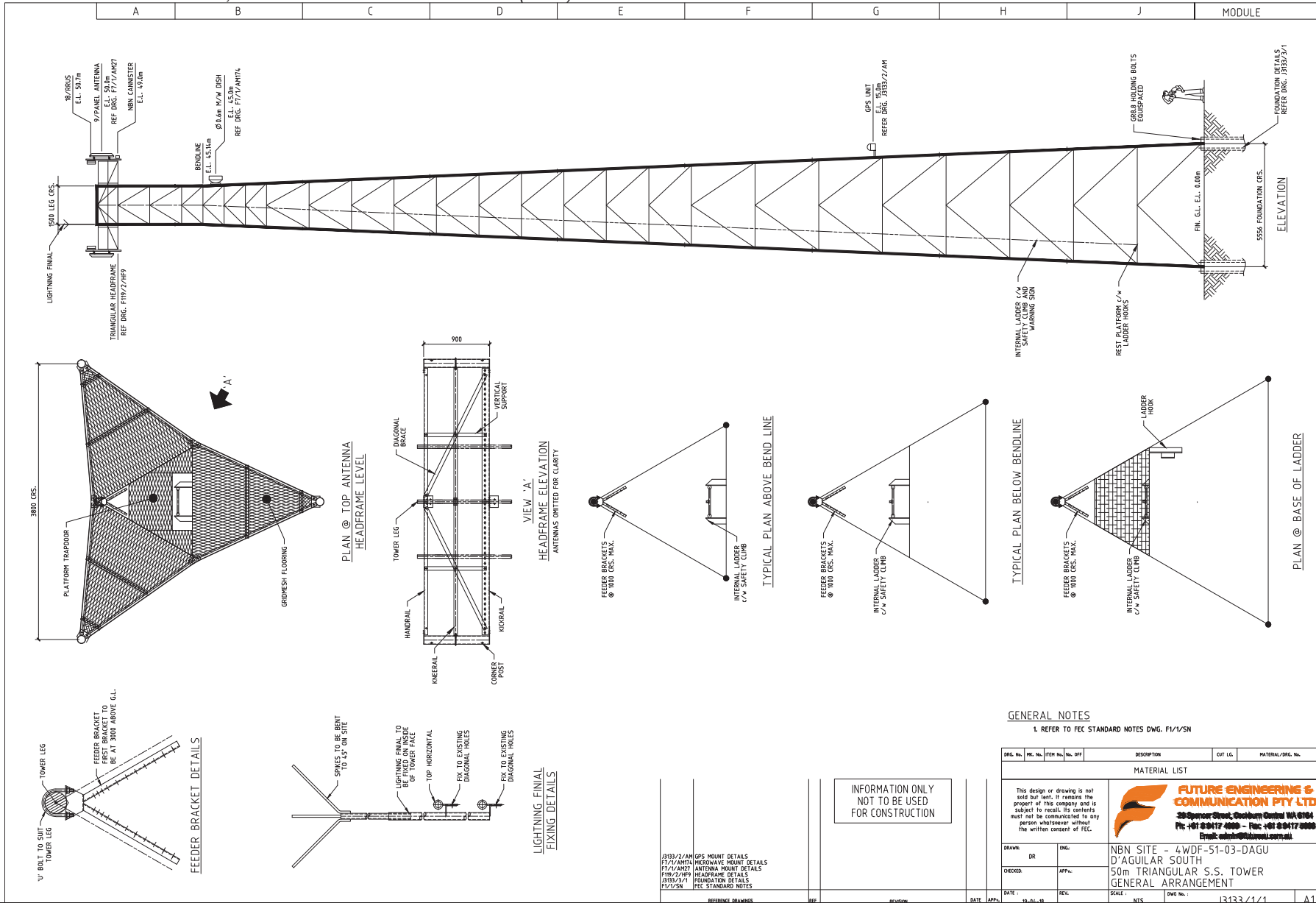
<p>5. Building certifier reference number</p>	<p>Building certifier reference number</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>		
<p>6. Competent person details A competent person for building work, means a person who is assessed by the building certifier for the work as competent to practise in an aspect of the building and specification design, of the building work because of the individual's skill, experience and qualifications in the aspect. The competent person must also be registered or licensed under a law applying in the State to practice the aspect.</p> <p>If no relevant law requires the individual to be licensed or registered to be able to give the help, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help.</p> <p>If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.</p>	<p>Name (<i>in full</i>)</p> <div style="border: 1px solid black; padding: 2px;">Mladen Kovacevic</div> <p>Company name (<i>if applicable</i>)</p> <div style="border: 1px solid black; padding: 2px;">Future Engineering & Communication Pty Ltd</div> <p>Contact person</p> <div style="border: 1px solid black; padding: 2px;">Mladen Kovacevic</div> <p>Phone no. <i>business hours</i></p> <div style="border: 1px solid black; padding: 2px;">08-9417 4999</div> <p>Mobile no.</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>Fax no.</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p>Email address</p> <div style="border: 1px solid black; padding: 2px;">Mladen.Kovacevic@futureau.com.au</div> <p>Postal address</p> <div style="border: 1px solid black; padding: 2px;">7 Tamara Drive, Cockburn Central, Western Australia</div> <div style="border: 1px solid black; padding: 2px; text-align: right;">Postcode: 6164</div> <p>Licence or registration number (<i>if applicable</i>)</p> <div style="border: 1px solid black; padding: 2px;">RPEQ: 19946</div>		
<p>7. Signature of competent person This certificate must be signed by the individual assessed by the building certifier as competent.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; border: 1px solid black; padding: 5px;"> <p>Signature</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> </div> </td> <td style="width: 40%; border: 1px solid black; padding: 5px;"> <p>Date</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">10/05/2018</div> </td> </tr> </table>	<p>Signature</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> </div>	<p>Date</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">10/05/2018</div>
<p>Signature</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> </div>	<p>Date</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">10/05/2018</div>		

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**Queensland
Government**

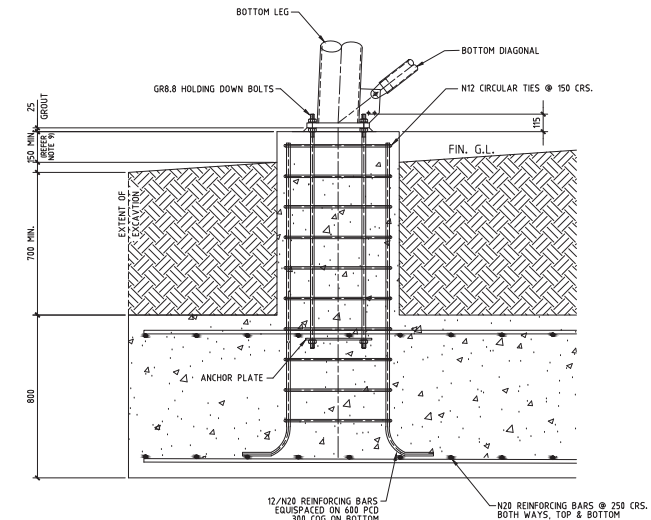
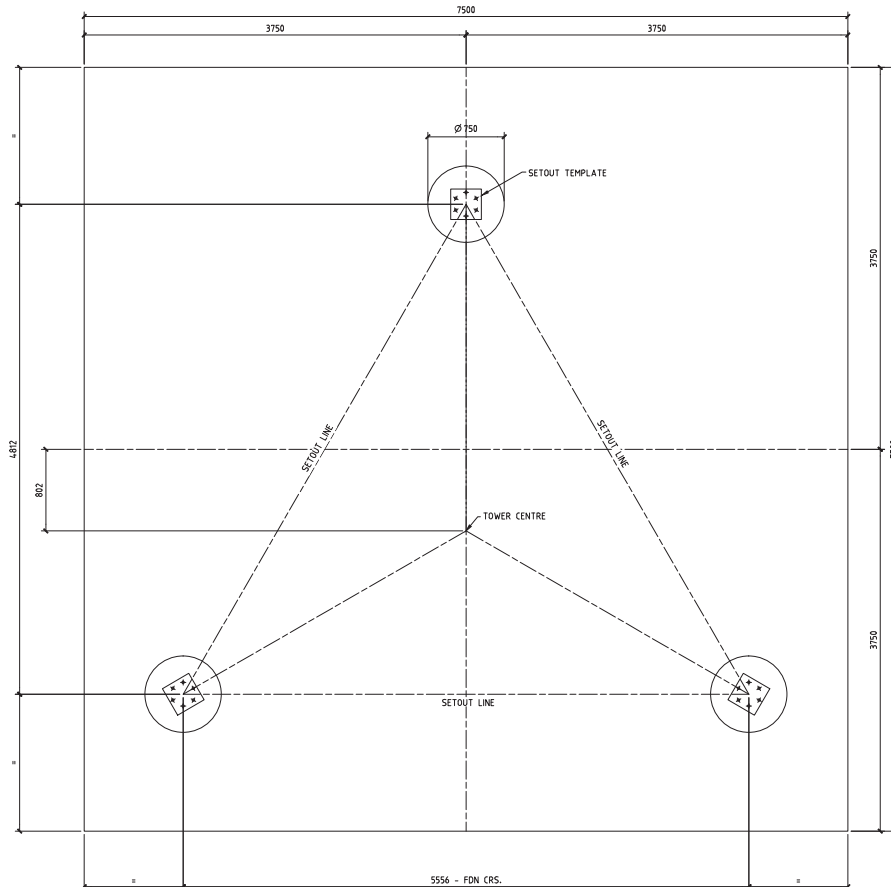
ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

EXCAVATION VOLUME (m ³)	REINFORCEMENT WEIGHT (kg)	CONCRETE VOLUME (m ³)
VARIES**	2300 *	4.9 *

* NOTE QUANTITIES ARE APPROXIMATE ONLY AND MUST BE CHECKED & VERIFIED BY CONTRACTOR.
** EXCAVATION QUANTITY DOES NOT ALLOW FOR BENCHING (IF REQUIRED)



FOUNDATION DETAILS

GENERAL NOTES

- REFER TO FEC STANDARD NOTES F1/1/SN.
- CONCRETE DESIGNED TO AS3600.
COMPRESSIVE STRENGTH = 32 MPa.
COVER = 75mm MIN.
- GEOTECHNICAL PARAMETERS: GRAVELLY SILT $\gamma = 19kN/m^3$, $\phi = 30^\circ$, $c_u = 200kPa$, MIN. REQUIRED ULT. BEARING CAPACITY $q_{ult} = 400kPa$
- REFER TO AURECON GEOTECHNICAL INVESTIGATION REPORT REF. No. 247473 DATED 16/03/2018 FOR SOIL PARAMETERS AND RECOMMENDATIONS.
- GROUT TO BE 3:1 SAND CEMENT DRY PACK MORTAR OR NON-SHINKING GROUT.
- EACH HOLDING DOWN BOLT SHALL HAVE A LEVELLING NUT UNDER THE BASE PLATE AND A NUT AND FLAT WASHER ABOVE THE BASE PLATE AND A NUT UNDER THE ANCHOR PLATE.
- A GEOTECHNICAL ENGINEER TO BE PRESENT ON SITE TO CONFIRM THE GEOTECHNICAL DESIGN PARAMETERS.
- EXTENT OF EXCAVATION LINE SHOWN IS INDICATIVE ONLY. FOR EXCAVATION VOLUME PURPOSES. ACTUAL METHOD OF EXCAVATION TO BE DETERMINED BY CONTRACTOR TO SATISFY CONSTRUCTION REQUIREMENTS.
- MINIMUM SOIL COVER TO BE 700mm. MAXIMUM PEDESTAL LENGTH TO BE 2300mm.

ORG. NO.	REV. NO.	ITEM NO.	NO. OF	DESCRIPTION	UNIT LG.	MATERIAL/ORG. NO.
MATERIAL LIST						

This design or drawing is not sold but lent. It remains the property of this company and is subject to recall. Its contents must not be communicated to any person whatsoever without the written consent of FEC.



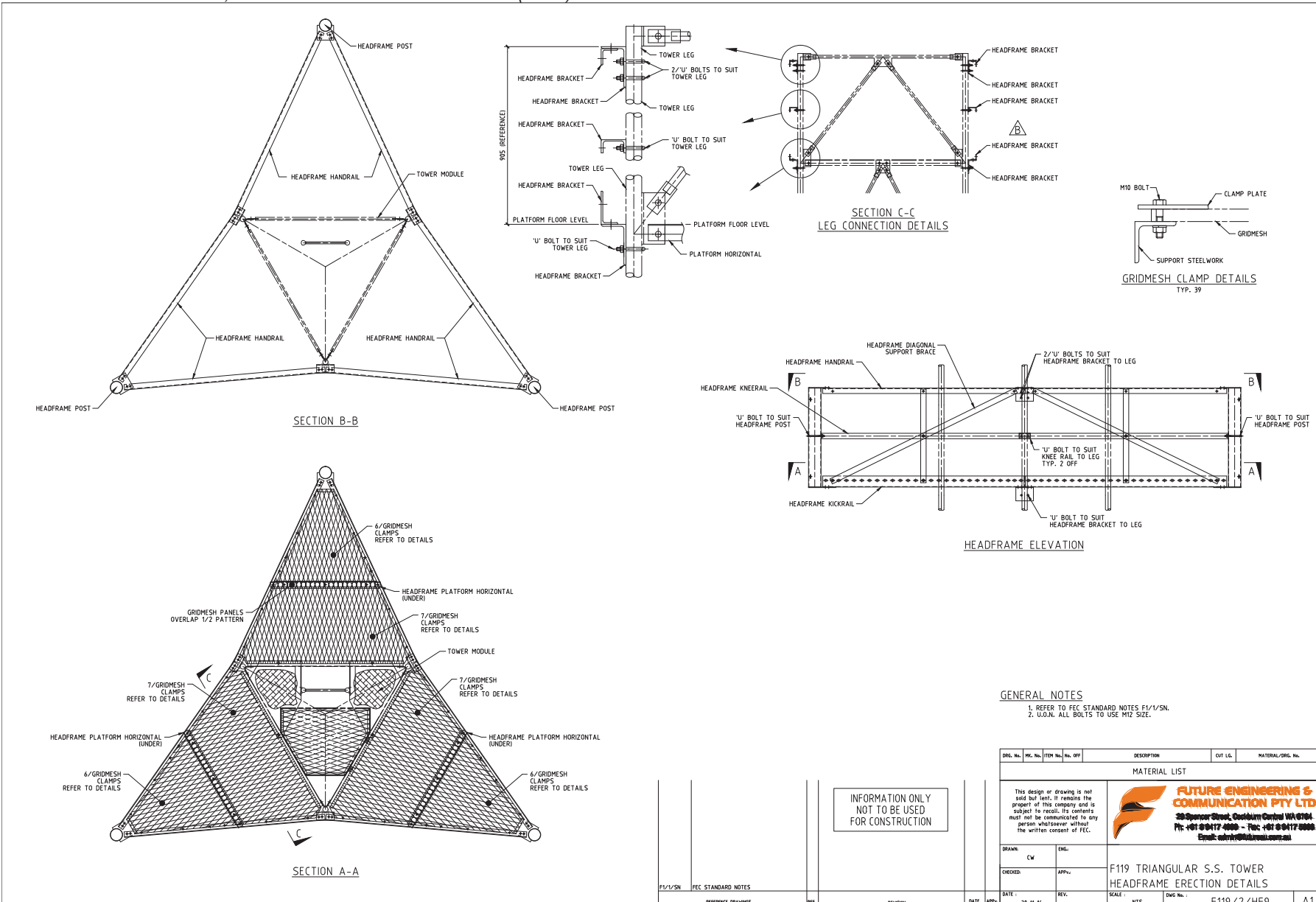
DRAWN: KT	ENL:	NBN SITE - 4WDF-51-03-DAGU D'AGUILAR SOUTH
CHECKED:	APP:	50m TRIANGULAR S.S. TOWER RAFT FOUNDATION DETAILS
DATE: 20.04.18	REV:	SCALE: NTS

INFORMATION ONLY
NOT TO BE USED
FOR CONSTRUCTION

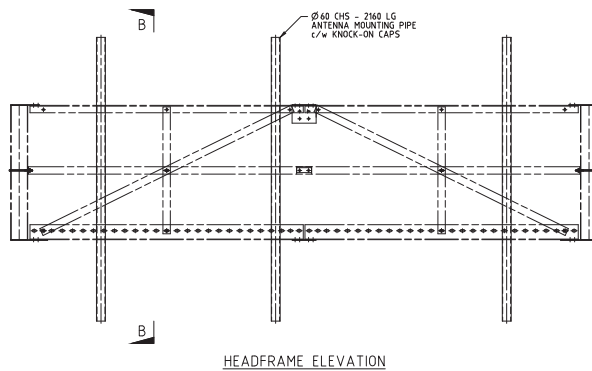
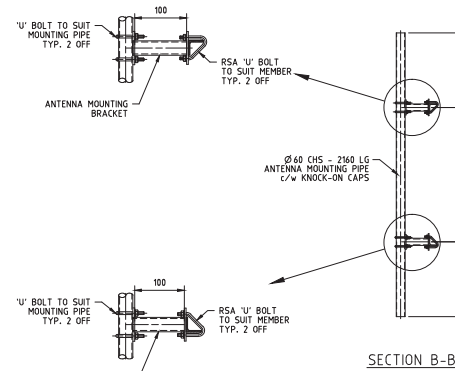
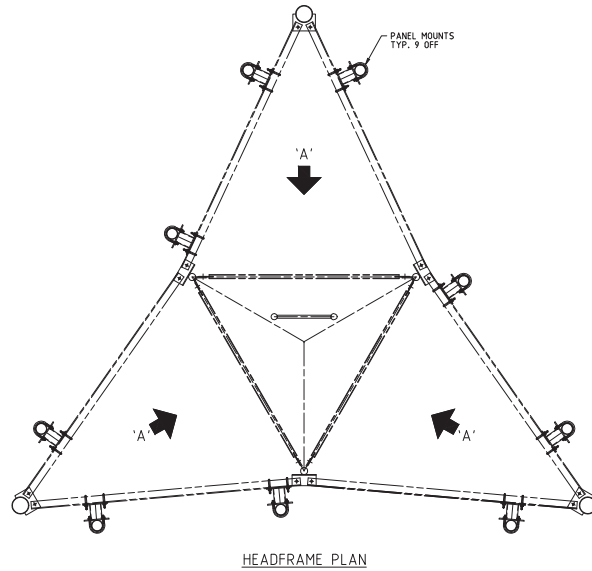
J3133/3/1
FV/1/SN
GENERAL ARRANGEMENT
FEC STANDARD NOTES

REV	REVISION	DATE	APP:	REV:	SCALE:	PAGE NO.:	J3133/3/1	A1
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



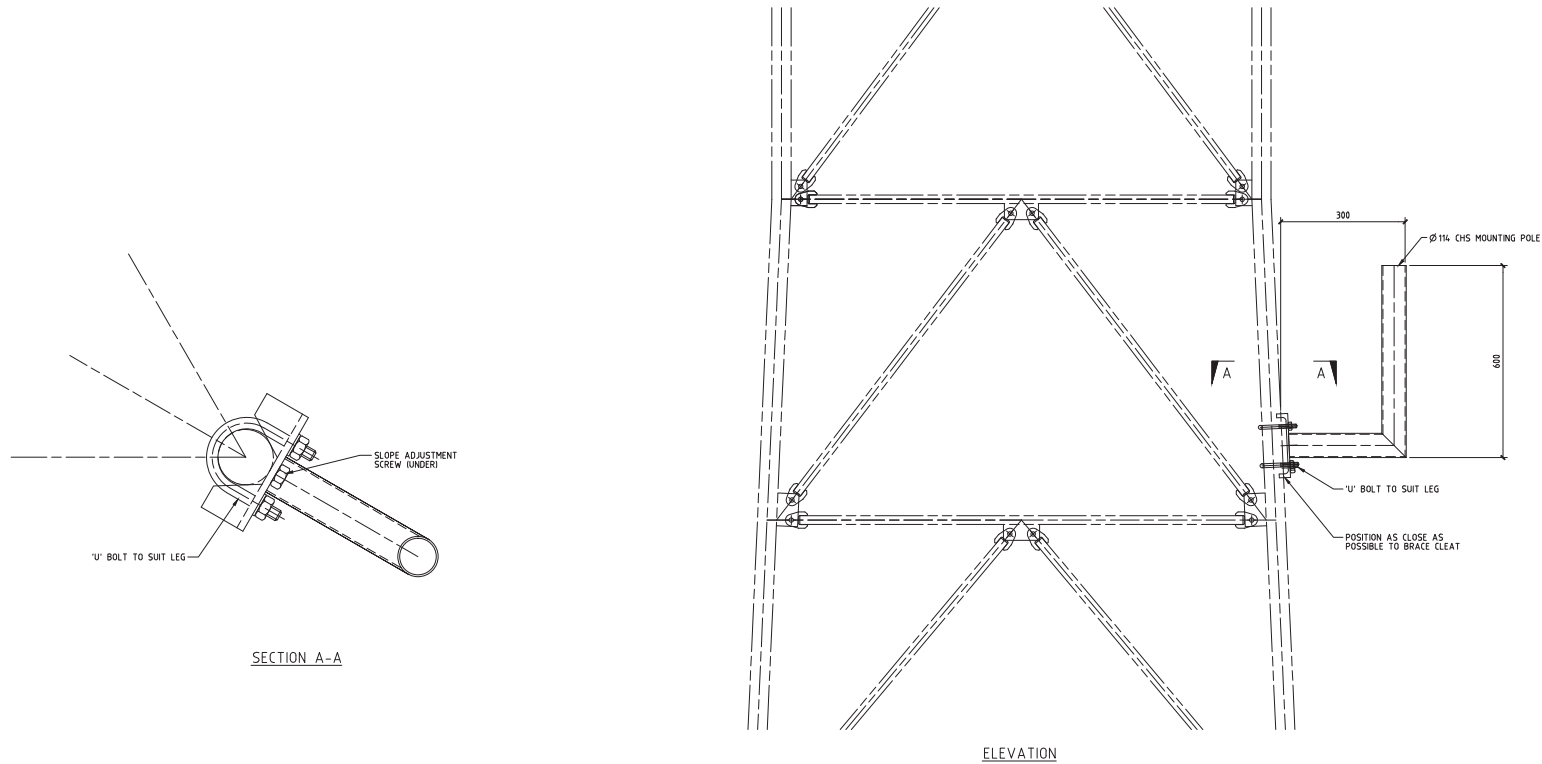
MOUNTING PIPE DETAILS				
SIZE	LENGTH	QUANTITY	'U' BOLT	QUANTITY
Ø 60 x 2.9 CHS	2160	9	M10 x 72 CRS.	36

GENERAL NOTES
1. REFER TO FEC STANDARD NOTES F1/1/SN.


DRG. No.	REV. No.	ITEM No.	OFF	DESCRIPTION	QTY	U.G.	MATERIAL/DRG. No.
MATERIAL LIST							
<p>This design or drawing is not sold but lent. It remains the property of this company and is subject to recall. Its contents must not be communicated to any person whatsoever without the written consent of FEC.</p>				<p>FUTURE ENGINEERING & COMMUNICATION PTY LTD 30 Spencer Street, Queensland Central WA 6704 Ph: +61 8 9417 4800 - Fax: +61 8 9417 4800 Email: info@future.com.au</p>			
DRAWN:	DB	ENCL:		PANEL ANTENNA MOUNTING DETAILS			
CHECKED:		APPV:					

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

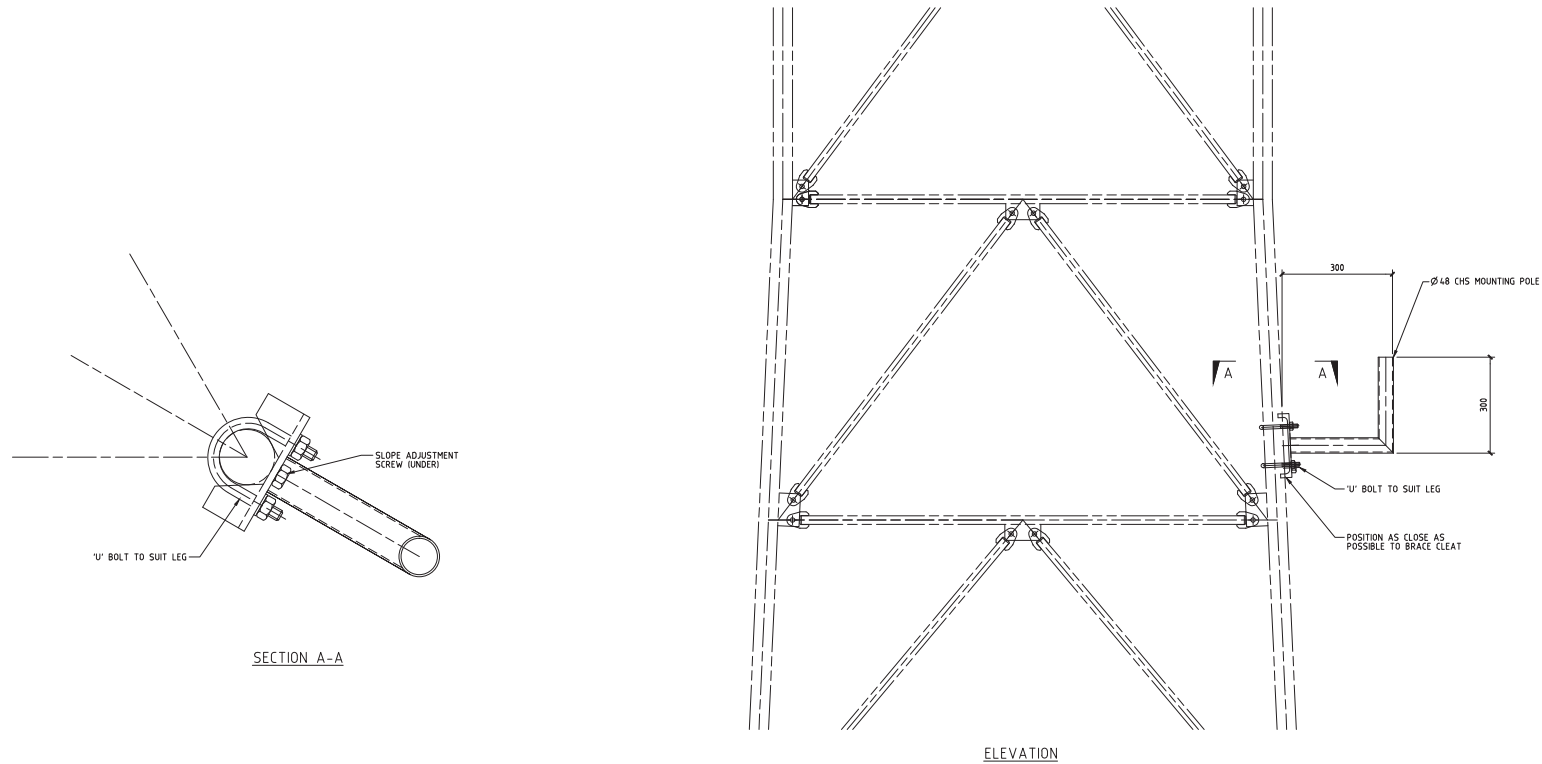


GENERAL NOTES
1. REFER TO FEC STANDARD NOTES F1/1/SN.

DRG. No.	REV. No.	ITEM No.	QTY	DESCRIPTION	UNIT	MATERIAL/DRG. No.
MATERIAL LIST						
<p>This design or drawing is not sold but lent. It remains the property of this company and is subject to recall. Its contents must not be communicated to any person whatsoever without the written consent of FEC.</p>						
 FUTURE ENGINEERING & COMMUNICATION PTY LTD 33 Spencer Street, Queensland Central WA 6704 Ph: +61 8 9417 4000 - Fax: +61 8 9417 4000 Email: info@future.com.au		TRIANGULAR S.S. TOWERS Ø 600 MICROWAVE ANTENNA MOUNT ON LEG ERECTION DETAILS				
DRAWN:	CW	ENGR:				
CHECKED:		APPV:				
DATE:	3.7.14	REV:		SCALE:	NTS	DRG. No.: E7/1/AM17/
						A1

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



GENERAL NOTES
1. REFER TO FEC STANDARD NOTES F1/1/SN.

DRG. No.	REV. No.	ITEM No.	QTY	DESCRIPTION	UNIT	MATERIAL/DRG. No.
MATERIAL LIST						
<p>This design or drawing is not sold but lent. It remains the property of this company and is subject to recall. Its contents must not be communicated to any person whatsoever without the written consent of FEC.</p> <p>FUTURE ENGINEERING & COMMUNICATION PTY LTD 39 Spencer Street, Coolburn Central WA 6104 Ph: +61 8 9417 4000 - Fax: +61 8 9417 3000 Email: enquiries@futurecomm.com.au</p>						
DRAWN	DR	ENGR		NBN SITE - 4WDF-51-03-DAGU		
CHECKED		APPR.		D'AGUILAR SOUTH		
				50m TRIANGULAR S.S. TOWER		
				GPS MOUNT ON LEG ERECTION DETAILS		
DATE	19.01.18	REV.		SCALE	NTS	DWG No. J3133/2/AM
						A1

INFORMATION ONLY
NOT TO BE USED
FOR CONSTRUCTION

Moreton Bay Regional Council

COORDINATION COMMITTEE MEETING
23 October 2018

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Agenda

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

GENERAL NOTES

1. ANY DISCREPANCIES IN THE DRAWINGS SHALL BE REFERRED TO FEC BEFORE PROCEEDING.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH RELEVANT SAA CODES AND THE BYLAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES.
3. ALL SITEWORKS, INCLUDING DEMOLITION IF REQUIRED, SHALL BE UNDERTAKEN IN ACCORDANCE WITH AN APPROVED SAFETY DOCUMENTATION.
4. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A SAFE AND STABLE CONDITION. NO PART OF THE NEW STRUCTURE OR EXISTING STRUCTURE, INCLUDING FOUNDATIONS, SHALL BE OVERSTRESSED. TEMPORARY WORKS SHALL BE UNDERTAKEN AS REQUIRED TO KEEP THE WORKS STABLE AT ALL TIMES.
5. THE INSTALLER SHALL LIASE WITH THE RELEVANT AUTHORITIES AND/OR THE PROPERTY OWNER FOR ANY SPECIAL REQUIREMENTS WITH REGARDS TO THE SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. PRIOR TO COMMENCING GROUND WORKS, CHECK FOR UNDERGROUND SERVICES.
7. ALL WORKS ON SITE SHALL ONLY BE UNDERTAKEN BY TRAINED & EXPERIENCED PERSONNEL. ALL ABOVE GROUND WORK MUST ONLY BE UNDERTAKEN UNDER THE SUPERVISION OF A LICENSED RIGGER.
8. PRIOR TO COMPLETION, ACCESS BY UNAUTHORISED PERSONNEL MUST BE BARRED.
9. ON COMPLETION ALL ACCESS SYSTEMS SHALL BE IN WORKING ORDER AND ALL SAFETY SIGNAGE INSTALLED.
10. APPROVAL BY FEC SHALL MEAN APPROVAL IN WRITING.

SETOUT

1. ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES U.N.O.
2. NORTH POINT AS SHOWN INDICATES TRUE NORTH U.N.O.
3. IF SETOUT TEMPLATES ARE PROVIDED THEY SHALL BE USED.
4. ALWAYS CHECK SETOUT PRIOR TO POURING CONCRETE EVEN IF TEMPLATES ARE USED.

EARTHWORKS

1. REMOVE ALL TOP SOIL AND VEGETATION.
2. ALL FILL AREAS SHALL BE FULLY COMPACTED GRANULAR FILL IN 150mm MAXI. LAYERS. U.N.O. FOUNDATION GRANULAR BACKFILL SOIL PARAMETERS SHALL BE $\gamma = 19kN/m^3$, $\phi = 35^\circ$, $c = 0kPa$
3. FILL OVER SLOPING GROUND ISLOPE GREATER THAN 1 VERTICAL IN 8 HORIZONTAL SHALL HAVE BENCHES CUT INTO NATURAL GROUND TO A MINIMUM DEPTH OF 100mm.
4. BATTER AND CUT SLOPES TO BE A MAXIMUM OF 1 VERTICAL IN 3 HORIZONTAL. BATTER FACES SHALL BE OVER FILLED AND CUT BACK 5. FOUNDATION BASE TO BE COMPACTED IF GRANULAR SOIL OR UNDISTURBED IF CLAY.

CONCRETE

1. ALL WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH AS3600.
 2. CONCRETE QUALITY U.N.O.
- | ELEMENT | SLUMP | MAX. SIZE AGGREGATE | CEMENT TYPE | CONCRETE GRADE |
|--------------|-------|---------------------|-------------|----------------|
| ALL CONCRETE | 80 | 20 | GP | Z5MPa |

3. ALL CONCRETE SHALL BE DESIGNED TO REACH A MINIMUM OF 15 MPa @ 3 DAYS.
3. PRODUCT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS3600
4. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED BY FEC
5. CLEAR CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS U.N.O.

EXPOSURE CLASSIFICATION TO AS3600	CONCRETE GRADE	CAST AGAINST FORMS	CAST IN FORMS
A1 & A2	N25	50mm	30mm
B1	N32	60mm	40mm
B2	N40	65mm	45mm

6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENOUS MASS THAT COMPLETELY FILLS THE FORMWORK & FREE OF STONE POCKETS
- ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED WITH MECHANICAL VIBRATORS UNLESS OTHERWISE APPROVED
7. EXPOSED CONCRETE SURFACES ARE TO BE PROTECTED USING A SPRAYED CURING COMPOUND OR PLASTIC SHEETING FOR A MINIMUM 7 DAYS AFTER POURING.
8. NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE WITHOUT THE APPROVAL OF FEC.
9. CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE LOCATED TO THE APPROVAL OF FEC.
10. DO NOT LOAD SLABS OR FOUNDATIONS PRIOR TO THE REQUIRED CONCRETE STRENGTH BEING ACHIEVED.

STRUCTURAL STEEL

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554.
2. WHERE STEELWORK HAS NOT BEEN DETAILED TO WORKSHOP STANDARDS, COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO FEC FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION.
3. BOLT DESIGNATION:
BOLT TYPE COMMENTS
4.6/5 COMMERCIAL BOLTS OF GRADE 4.6 TO AS 1111 SMUG TIGHTENED
8.8/5 HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 SMUG TIGHTENED
8.8/1B HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A BEARING JOINT
8.8/1F HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED
U U BOLT GRADE 4.6
RSA RSA U BOLT GRADE 4.6
4. ALL BOLTS AND WASHERS SHALL BE HOT DIP GALVANISED U.N.O.
5. ALL BOLTS M16 AND LARGER 8.8/5 U.N.O. ALL BOLTS M12 UP TO 50 LONG 8.8/5 U.N.O. ALL BOLTS M12 X 95 AND LONGER 4.6/5 U.N.O.
6. U.N.O. ALL BOLTS AND SMALLER 4.6/5 U.N.O. BOLTS IN SLOTTED HOLES TO HAVE 1xP.W. & 1xSW UNDER EACH NUT
7. IF SEAL PLATES ARE REQUIRED FOR HOLLOW STEEL SECTIONS, BREATHER HOLES SHALL BE PROVIDED IF MEMBER IS TO BE HOT DIP GALVANISED.
8. ALL STRUCTURAL STEELWORK SHALL BE HOT DIP GALVANISED TO AS 4680, WITH AN AVERAGE COATING MASS OF 400g/m² AND A MINIMUM COATING MASS OF 550g/m². ALL SITE WELDS SHALL BE TREATED TO ENSURE ALL SURFACE CONTAMINANTS ARE REMOVED BEFORE APPLYING 2 COATS OF ZINC RICH PRIMER.
9. ALL STEELWORK TO BE IN ACCORDANCE WITH THE FOLLOWING U.N.O. ON THE DRAWINGS

TYPE OF STEEL	MIN. GRADE
UNIVERSAL BEAMS & COLUMNS, ANGLES, PARALLEL & TAPERED FLANGE CHANNELS TO AS/NZS 3679:1	300
PLATES TO AS/NZS 3678	250
CHS SECTIONS TO AS 1163 - C350	250
CHS SECTIONS TO AS 1163 - C350	350
PLATE TO AS3678	250/250 AS NOTED
11. U.N.O. ALL BOLTS SHALL BE M16 GRADE 8.8/5 WITH SPRING WASHER.
12. U.N.O. ALL GUSSET PLATES SHALL BE 6mm. GR250
13. ALL STEELWORK SHALL BE FULLY ASSEMBLED ON SITE AT GROUND LEVEL TO CHECK FIT UP PRIOR TO ARRANGING ERECTION PERSONNEL & EQUIPMENT.
14. GROUT UNDER BASEPLATES IF REQUIRED SHALL BE 3:1 SAND/CEMENT DRY PACK MORTAR. IF GROUT IS NOT SPECIFIED H.D. BOLTS SHALL HAVE A NUT AND FLAT WASHER UNDER THE BASEPLATE AND A NUT, SPRING WASHER AND A FLAT WASHER ABOVE. H.D. BOLT THREADS ARE TO BE DEFORMED AFTER THE STRUCTURE HAS BEEN PLUMBED.

REINFORCEMENT

1. ALL STEELWORK SHALL BE FIRMLY SUPPORTED ON PLASTIC CHAIRS OR CONCRETE BLOCKS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED/WELDED AT ALTERNATE INTERSECTIONS.
2. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 24 HOURS NOTICE FOR REINFORCEMENT INSPECTION. CONCRETE SHALL NOT BE DELIVERED UNTIL FINAL APPROVAL IS OBTAINED.
3. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
4. SLAB REINFORCEMENT SHALL EXTEND AT LEAST 65mm ONTO SUPPORTS.
5. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITION SHOWN OR OTHERWISE APPROVED. MINIMUM SPLICE LENGTH TO BE 50 BAR Ø'S U.N.O.
6. FABRIC SHALL BE LAPPED TWO TRANSVERSE WIRES PLUS 50mm.
7. IN TRUE PROJECTION.
7. REINFORCEMENT SYMBOLS:
R DENOTES GRADE 500 Y BARS TO AS/NZS 4671
N DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS/NZS 1302.
SLBR. DENOTES GR500 H.D. DRAWN WIRE REINFORCING FABRIC TO AS/NZS 4671
W DENOTES HARD DRAWN PLAIN WIRE TO AS 1302
THE FIGURE FOLLOWING THE FABRIC SYMBOL, RL OR SL IS THE REFERENCE NUMBER FOR FABRIC TO AS/NZS 4671.

FOUNDATIONS

1. U.N.O. SOIL PARAMETERS SHALL BE DRY SAND $\gamma = 16kN/m^3$, $\phi = 30^\circ$, $c = 0kPa$, OR DRY CLAY $\gamma = 20kN/m^3$, $\phi = 30^\circ$, $c = 50kPa$
2. FEC SHALL BE INFORMED IF THE SOIL DIFFERS FROM THAT STATED. APPROVAL TO PROCEED MUST BE OBTAINED.
3. FOOTINGS SHALL BE CONSTRUCTED AND BACKFILLED AS SOON AS POSSIBLE FOLLOWING EXCAVATION TO AVOID SOFTENING OR DRYING OUT OF THE SOIL.
4. U.N.O. ANCHOR RODS FOR ROCK FOUNDATIONS ARE TO BE SET IN NEAT CEMENT GROUT USING THE DISPLACEMENT METHOD. GROUT IS TO BE POURED STEADILY INTO THE PREPARED AND CLEANED OUT HOLE AND THEN THE ANCHOR BAR IS TO BE PUSHED INTO POSITION CARE SHOULD BE TAKEN TO ENSURE THAT THE BAR IS SLIGHTLY AGITATED DURING PLACEMENT TO ACHIEVE A COMPLETE BOND. AFTER THE FULL DEPTH OF PENETRATION IS REACHED AND GROUT OVERFLOWS FROM THE TOP OF THE HOLE THE ANCHOR MUST BE LEFT UNDISTURBED UNTIL THE GROUT IS SET. THE ANCHOR SHOULD NOT BE BENT OR DISTURBED FOR 12 HOURS AFTER COMPLETION OF ANCHORAGE.
5. HOLDING DOWN BOLTS SHALL BE SECURED BY TEMPLATES OR TIE WIRE. WELDING IS NOT PERMITTED.
6. WHEN PIERS HAVE PERMANENT LINERS, THE LINER MUST BE PUSHED AHEAD OF EXCAVATION AND SO MAINTAIN SOIL COMPACTION ON THE OUTSIDE OF THE LINER.

GUYED MASTS

1. ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS3600, AS4100 AND AS2041
2. U.N.O. ALL GUY STRANDS SHALL BE MINIMUM GR1320 MPa, GALVANISED AND FREE FROM ANY DEFECT OR CORROSION.
3. U.N.O. GUY TERMINATION SHALL COMPLY WITH TABLE 3.4.2.3 AS3995 PRODUCING CORRECTION FACTOR k_{1-1} . IF APPLIED TERMINATION IS NOT LISTED IN THE TABLE MANUFACTURER CERTIFICATION IS REQUIRED.
4. ON COMPLETION THE GUYED MAST SHALL BE VERTICAL WITHIN A TOLERANCE OF ±25mm. GUY TENSIONS UNDER STILL AIR SHALL BE WITHIN ±5% OF THE NOMINATED INITIAL TENSION (I.T.I.).
5. THE INITIAL TENSIONS (I.T.I.) SPECIFIED ARE APPLICABLE FOR THE SHOWN DESIGN LOADING AND ANTENNA ARRANGEMENT. IF THE LOADING/ANTENNA ARRANGEMENT TO BE INSTALLED IS DIFFERENT TO THAT SHOWN ON THE DRAWING, THE INITIAL TENSIONS (I.T.I.) ARE TO BE VERIFIED AND CONFIRMED BY FEC PRIOR TO ANY ANTENNA INSTALLATION.
6. MAINTENANCE OR MODIFICATION WORK ON GUYED MASTS SHALL ONLY BE UNDERTAKEN IN ACCORDANCE WITH AN APPROVED METHOD OF PROCEDURE.

ALUMINIUM


1. GENERAL
SHOP DRAWINGS ARE REQUIRED TO BE SUBMITTED TO FEC AND APPROVAL OBTAINED PRIOR TO THE COMMENCEMENT OF FABRICATION. APPROVAL OF THE SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY OF HIS RESPONSIBILITY UNDER THE CONDITIONS OF THE CONTRACT.
2. MATERIALS
UNLESS OTHERWISE NOTED ALL ALUMINIUM SHALL BE ALLOY 6061 T6.
3. FINISH
ALL ALUMINIUM COMPONENTS SHALL BE FREE OF EXCESSIVE TOOL MARKS, BURRS AND ALL OTHER MANUFACTURING DEFECTS. ALL EXTRUDED COMPONENTS SHALL HAVE A MINIMUM ANODIC FILM THICKNESS OF 25 MICRONS. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO PROTECT THE FINISH FROM UNSIGHTLY SCRATCHES, NICKS, GUGGES, DENTS AND WATER STAINS DURING STORAGE, TRANSPORT, ASSEMBLY AND INSTALLATION.
4. SITE STORAGE
ADEQUATE FACILITIES ARE TO BE PROVIDED FOR STORAGE OF COMPONENTS TO PREVENT MECHANICAL DAMAGE OR WATER STAINS PRIOR TO INSTALLATION. COMPONENTS NOT TO BE IMMEDIATELY INSTALLED ARE TO BE STORED CLEAR OF THE FLOOR UNDER COVER OR IN A WATERTIGHT WRAPPING. COMPONENTS ARE NOT TO COME IN CONTACT WITH WATER OR OTHER SUBSTANCES THAT CAUSE STAINING OF THE ALUMINIUM, OR PLACED WHERE CONDENSATION MAY BE TRAPPED BETWEEN ALUMINIUM SURFACES.
5. INSTALLATION AND WORKMANSHIP
INSTALLATION SHALL COMPLY WITH ALUMINIUM SUPPLIERS RECOMMENDATIONS. COAT BASE OR POSTS WITH 2 COATS OF TAR EPOXY, TO PREVENT ANY LONG TERM REACTION BETWEEN THE GROUT AND THE ALUMINIUM. IT IS IMPORTANT THAT ANY GROUT SPLASHED ON THE ALUMINIUM IS IMMEDIATELY REMOVED WITH CLEAN WATER AS THE GREEN GROUT WILL QUICKLY ETCH THE SURFACE AND PERMANENTLY STAIN THE ALUMINIUM. ALL GROUT SHALL BE CLEAN AND STRAIGHT, FREE OF BURRS AND NICKS. ALL WELDS SHALL BE FILLET WELDS AS REQUIRED BY S.A.A. ALUMINIUM WELDING CODE, AS 1665 MIG/TIG WELDING PROCESS USING 5356 ALLOY FILLER ROD OR AS INDICATED ON THE DRAWINGS. THERE SHALL BE NO GAPS BETWEEN COMPONENTS AFTER WELDING. WELDING SHALL BE CARRIED OUT BY COMPETENT WELDERS EXPERIENCED IN WELDING ALUMINIUM ALLOYS. ALL CONTINUOUS FILLET WELDS TO BE 6mm U.N.O.

LIFETIME INSPECTION & MAINTENANCE

ALL INSTALLATIONS SHALL BE FULLY INSPECTED FOR STRUCTURAL INTEGRITY WITHIN 12 MONTHS OF COMPLETION. PARTICULAR ATTENTION SHALL BE PAID TO PERSONNEL ACCESS & SIGNAGE. DEFECTS SHALL BE ADDRESSED AND FEC ADVISED OF REMEDIAL ACTION TAKEN. ONGOING INSPECTION AND MAINTENANCE SHALL BE UNDERTAKEN AFTER NEW WORKS ON THE STRUCTURE. SEVERE WEATHER, VANDALISM OR AT MAXIMUM INTERVALS OF 12 MONTHS. RECORDS OF ALL INSPECTIONS AND REMEDIAL ACTION SHALL BE KEPT.

STANDARD ABBREVIATIONS

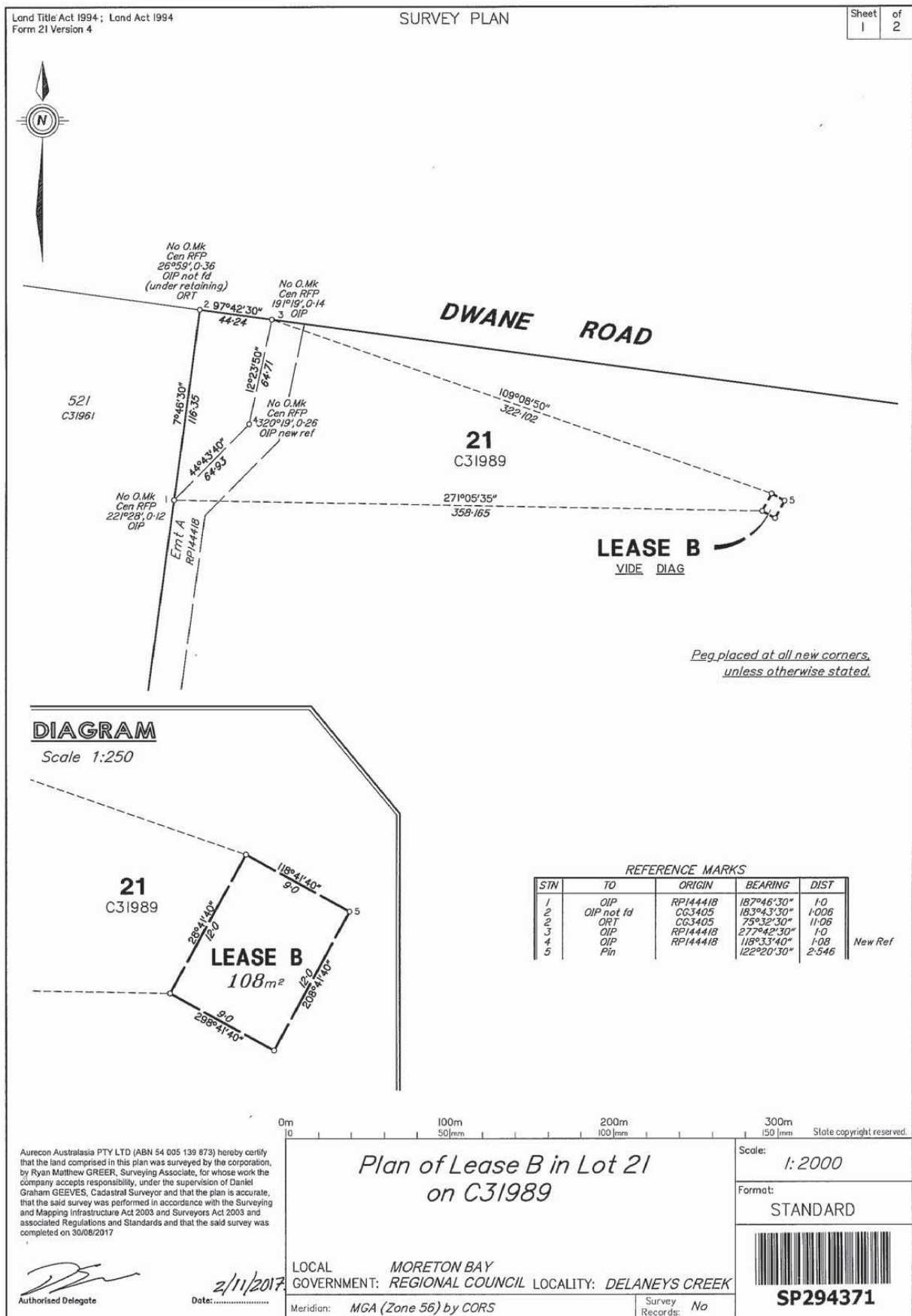
CRS	CENTRES	CFW	CONTINUOUS FILLET WELD
AHD	AUSTRALIAN HEIGHT DATUM	N.I.S.	NOT TO SCALE
RL	REDUCED LEVEL	T.B.C.	TO BE CONFIRMED
GL	GROUND LEVEL	U.N.O.	UNLESS NOTED OTHERWISE
F5W	FULL STRENGTH BUTT WELD	V.O.S.	VERIFY ON SITE
FW	FLAT WASHER		

DOC. NO.	REV. NO.	ITEM NO.	OFF	DESCRIPTION	OFF. I.G.	MATERIAL/DOC. NO.
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<p>J. GENERAL REVISION 13-7-15 K. EARTHWORKS NOTES REVISED 17-3-15 L. GENERAL REVISION 16-7-15 M. GENERAL REVISION 18-5-15 N. FOUNDATION NOTES ADDED 16-7-15 O. GENERAL REVISION 18-9-15 P. GENERAL REVISION 15-10-15 Q. GENERAL REVISION 17-3-15 R. FINAL LOG REVISED 17-3-15 S. GENERAL REVISION 19-6-15</p>				<p>DRAWN: JLI ENCL: CHECKED: APPR:</p>	<p>FUTURE ENGINEERING & COMMUNICATION STANDARD NOTES</p>	
F1/1/SN	FEC STANDARD NOTES	REV	DATE	DATE	REV	SCALE
	REFERENCE DRAWING	REV	REVISED	DATE	DATE	SCALE
				18-09-16	J	F1/1/SN A1

COORDINATION COMMITTEE MEETING
23 October 2018

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Agenda

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Moreton Bay Regional Council

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Land Title Act 1994 : Land Act 1994 Form 21B Version 1 (Dealing No.)		WARNING : Folded or Mutilated Plans will not be accepted. Plans may be rolled. Information may not be placed in the outer margins.			Sheet 2	of 2																
5. Lodged by (Include address, phone number, reference, and Lodger Code)																						
1. Certificate of Registered Owners or Lessees. I/We <u> AILSA DAWN MASTERS </u> (Names in full) * as Registered Owners of this land agree to this plan and dedicate the Public Use Land as shown hereon in accordance with Section 50 of the Land Title Act 1994. * as Lessees of this land agree to this plan. Signature of * Registered Owners * Lessees * Rule out whichever is inapplicable		6. Existing <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Title Reference</th> <th>Description</th> <th>New Lots</th> <th>Road</th> <th>Secondary Interests</th> </tr> </thead> <tbody> <tr> <td>13057230</td> <td>Lot 21 on C31989</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">Lease B</td> </tr> </tbody> </table>		Title Reference	Description	New Lots	Road	Secondary Interests	13057230	Lot 21 on C31989	_____	_____	Lease B	Created <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>New Lots</th> <th>Road</th> <th>Secondary Interests</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">Lease B</td> </tr> </tbody> </table>			New Lots	Road	Secondary Interests	_____	_____	Lease B
Title Reference	Description	New Lots	Road	Secondary Interests																		
13057230	Lot 21 on C31989	_____	_____	Lease B																		
New Lots	Road	Secondary Interests																				
_____	_____	Lease B																				
2. Planning Body Approval. * hereby approves this plan in accordance with the : % Dated this day of # # * Insert the name of the Local Government. % Insert Integrated Planning Act 1997 or # Insert designation of signatory or delegation Local Government (Planning & Environment) Act 1990		7. Orig Grant Allocation : <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Orig</th> <th>Lots</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </tbody> </table>		Orig	Lots			9. Building Format Plans only. I certify that : * As far as it is practical to determine, no part of the building shown on this plan encroaches onto adjoining lots or road; * Part of the building shown on this plan encroaches onto adjoining *lots and road * Date Cadastral Surveyor/Director *delete words not required														
Orig	Lots																					
3. Plans with Community Management Statement : CMS Number : Name :		4. References : Dept File : Local Govt : Surveyor : 247473		8. Passed & Endorsed : By : Daniel Graham Geeves Date : Signed : Designation : Cadastral Surveyor																		
				10. Lodgement Fees : Survey Deposit \$ Lodgement \$ New Titles \$ Photocopy \$ Postage \$ TOTAL \$																		
				11. Insert Plan Number <b style="font-size: 1.2em;">SP294371																		

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Appendix B

Geotechnical Investigation Report (Rev 0, 30/11/17)

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



**National Broadband Network Fixed
Wireless Project**

4WDF-51-03-DAGU – D’Aguilar South -
Geotechnical Report

Ericsson Australia Pty Ltd

16 March 2018
Revision: 0
Reference: 247473

*Bringing ideas
to life*

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



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Current revision		0				

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Author signature		Approver signature	
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



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Appendices

Appendix A

Borehole location plan

Appendix B

Borehole logs

Appendix C

Site photos

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

1 Introduction

Aurecon Australia Pty Ltd was commissioned by Ericsson Australia Pty Ltd to undertake a geotechnical investigation for the mobile network site titled D'Aguilar South, at Delaneys Creek, Queensland 4514 (4WDF-51-03-DAGU) as part of the National Broadband Network Fixed Wireless project. It is understood that the following structures are proposed at the site:

- Construction of a 50m lattice tower,
- Outdoor cabinets on concrete slab on ground.

This report summarises the findings of a geotechnical investigation carried out at the site on 24 January 2018. Geotechnical recommendations have been provided based on the investigation.

It should be noted that the borehole was positioned approximately 5m north-east of the proposed lease area due to access constraints. The location of the site and borehole undertaken is presented on the site plan included as Appendix A.

2 Objectives

The objectives of the site investigation included the following:

- Characterisation of the subsurface conditions on site;
- Classification of the site according to AS2870-2011: Residential Slabs and Footings;
- Obtaining in situ earth resistivity measurements at the proposed location of the lattice tower;
- Provision of a preliminary acid sulphate assessment; and
- Provide soil parameters for foundation design for the proposed lattice tower and outdoor cabinet.

3 Methodology

The site investigation was carried out on 24 January 2018 under the full time supervision of an Aurecon Geotechnical Engineer. The site investigation comprised one borehole drilled to a depth of 7.4m below the existing ground level (bgl) using a Hydropower Scout track mounted drill rig.

Earth resistivity testing was undertaken with the R1 and R2 traverses heading perpendicular in general north to south and east to west directions, adjacent to the borehole drilled. The location of the earth resistivity testing and borehole are shown on the site plan included in Appendix A.

Soil descriptions have been determined by an experienced geotechnical engineer in the field by tactile assessments and in situ testing results during the investigation.

Laboratory testing is not part of the scope for this project and therefore no laboratory testing was conducted as part of the investigation.

3.1 Borehole drilling

The borehole was advanced to 2.5 m bgl using solid flight augers equipped with a tungsten-carbide drill bit, followed by washboring techniques to 4.0m bgl. This was followed by NMLC rock coring which extended to the termination depth of 7.4m bgl. In situ Standard Penetration Tests (SPTs) were conducted at depths of 1.0m and 2.5m, in accordance with AS1289.6.3.1-2004.

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The borehole log and accompanying explanatory notes are presented in Appendix B.

4 Results of the investigation

4.1 Site geology

According to the 1:100,000 detailed surface online geology map extracted from the Department of Mines and Energy website (retrieved 17 January 2018), the site is situated near the geological contact between the Neurum Tonalite and Kurwongbah beds formations. The site is likely to be underlain by the Kurwongbah beds formation from the Early Carboniferous age, typically comprises phyllite, slate and basic metavolcanics.



Map Symbol	Rock Unit Name	Age	Lithological Summary
Tom	Neurum Tonalite	Late Triassic	Quartz monzonite; granodiorite to quartz monzonite; granodiorite, granite
DCkh	Kurwongbah beds/h	Early Carboniferous	Phyllite, slate, basic metavolcanics (hornfelsed zone)
DCk	Kurwongbah beds	Early Carboniferous	Phyllite, silt, basic metavolcanics
Qha1	Qha/1-QLD	Holocene	Gravel, sand, silt, clay; lowest alluvial terrace
DC/b	Rocksberg Greenstone/b	Late Devonian – Early Carboniferous	Blueschist - greenschist
Qa	Qa-QLD	Quaternary	Clay, silt, sand and gravel; flood-plain alluvium

4.2 Site description

The proposed site is located on a private property with residential address 300 Dwane Road, Delaneys Creek, QLD 4514.

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The property is located approximately 16 km north-west of the Caboolture Township. The surrounding region consists of farmland and densely vegetated forests. The regional topography is typically rolling terrain with some local steep hills.

The proposed NBN lease area is situated on the side of a hill, sloping down towards the north / north-east at approximately 20% in gradient. Approximately 20m east of the site, the terrain appears to slope down steeply, eastward towards a creek line. There are no structures within the general vicinity of the site, with the closest associated dwelling approximately 250m west of the proposed lease area. At the time of the investigation, the site was heavily vegetated with small to medium shrubs and large trees up to 15m in height, with the surface sparsely littered with loose boulders and tree logs. The drill rig was unable to establish a safe drilling position within the proposed lease area given the terrain and existing vegetation. Subsequently, the borehole was positioned approximately 5m north-west of the proposed NBN site.

Trafficability across the site was found to be sufficient for light vehicles (4WD) and the track mounted drilling rig at the time of the investigation. Trafficability was deemed not suitable for heavy vehicles given the steep and uneven terrain, as well as the height clearance due to nearby trees. Caution should be taken when considering access for heavy machinery given the difficult terrain, particularly after rainfall.

A Dial Before You Dig search did not indicate the presence of underground services within the general vicinity of the subject NBN site. However, overhead powerlines exist along the access road to the property, and height clearance should be ensured for construction plant and equipment.

A photograph taken at the time of investigation is provided below in Figure 1 for reference. Additional photographs of the site are included as Appendix C.



Figure 1: View facing north towards the site, depicting dense vegetation at time of investigation.

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4.3 Sub-surface profile

The borehole logs indicate that the subsurface profile at the D’Aguilar South site comprised Silty CLAY soil from surface, underlain by Clayey SILT at 0.7 bgl. At 1.1m depth, Gravelly SILT soil was encountered, underlain by a Gravelly CLAY unit at 2.0m bgl. This graded into a weathered PHYLLITE / META SILTSTONE bedrock formation at 3.8m bgl. The bedrock formation was typically highly weathered, and generally medium to high strength within the depth of investigation. It is noted that a low strength band was present between 5.9m and 6.55m depth.

Groundwater was not observed during site investigation throughout the depth in which solid flight augers were utilised (2.5 m). Groundwater flow is likely to fluctuate over time and flow along the soil-bedrock interface following heavy or prolonged rainfall events.

The subsurface profile encountered within the borehole is summarised in Table 1 and the borehole log is included in Appendix B.

Table 1: Summary of ground conditions

Soil Layers	Material	Depth (m) bgl		Consistency / Strength ⁽¹⁾	SPT ‘N’ (blows)
		From	To		
Residual	Silty CLAY	0.0	0.7	Stiff	--
	Clayey SILT	0.7	1.1	Stiff	--
	Gravelly SILT	1.1	2.0	Very stiff to hard	N = 40 @ 1.0m
	Gravelly CLAY	2.0	3.8	Hard	N* = 60 @ 2.5m
Bedrock	HW PHYLLITE / META SILTSTONE	3.8	5.9	Medium to high strength	--
		5.9	6.55	Low strength	--
		6.55	7.4 (TD)	Medium to high strength	--

Notes: **TD** – Termination Depth; **N*** - Extrapolated SPT N value, ⁽¹⁾: Where no in situ testing available for granular material, the strength has been inferred from engineering judgement.

4.4 Earth resistivity testing

Earth resistivity testing was undertaken on site with a DET5/4R Megger Earth Tester using the Wenner Array method. A series of electrodes (steel spikes) were inserted into the ground along two orthogonal traverse lines (R1) and (R2), with a total length of 24 m. The electrode spacing along R1 and R2 ranged between 1 m and 8 m.

The soil resistivity testing traverses, R1 and R2, are indicated on the site plan included as Appendix A. The results of the earth resistivity testing are presented in Table 2.

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Table 2: Earth resistivity test results

Test	Electrode spacing (m)	Resistance R (Ω)		Resistivity ρ (Ω-m)	
		R1	R2	ρ1	ρ2
1	1.0	5.24	6	32.92	37.70
2	2.0	2	3.17	25.13	39.84
3	4.0	1	1.91	25.13	48.00
4	8.0	0.27	1.29	13.57	64.84

Note: Resistivity is calculated assuming homogeneous ground $\rho = 2\pi aR$, where 'a' is in metres and 'R' is in ohms (Wenner Array method)

The calculated earth resistivity values are based on the assumption of homogeneous ground conditions from the surface to a depth approximately equal to the electrode spacing. Non-homogeneous ground conditions may affect the calculated earth resistivity values. The electrical resistance of the ground can also be affected by moisture.

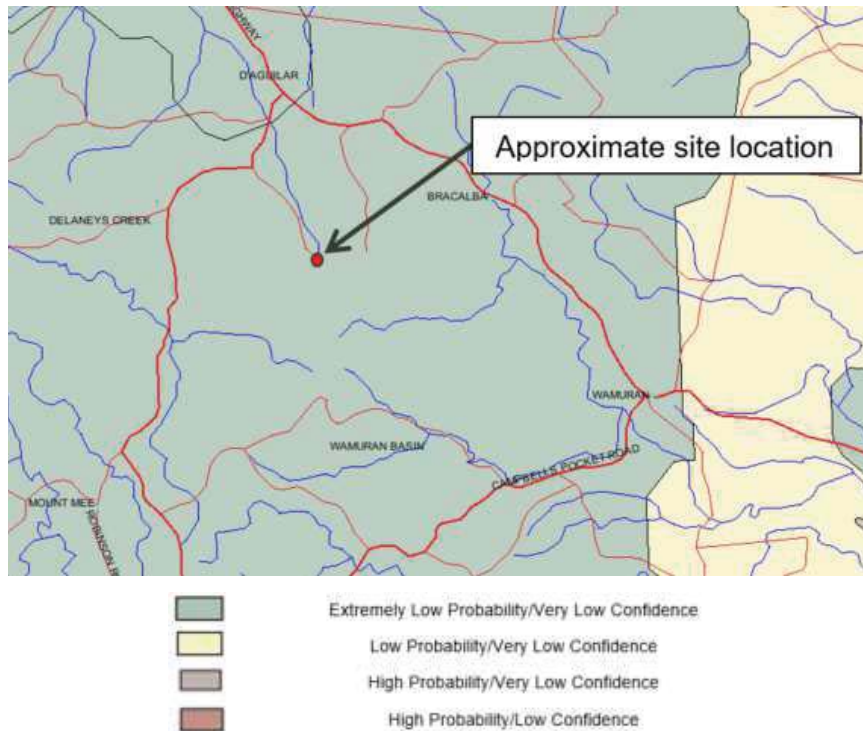
At the time of geotechnical investigations, the ground conditions were typically described as dry. Resistivity of the upper soil profile may change according to the prevailing moisture condition.

4.5 Acid Sulphate Soils

A desktop study was conducted to establish whether acid sulphate soils (ASS) may be present within the area. The ASS risk map, as published by the Australian Soil Resource Information System, showed the site to have an Extremely Low Probability of Occurrence for ASS. Thus, ASS sampling and testing was not undertaken for this site.

Should subsurface profile conditions change from those encountered during the investigation, further advice should be sought from Aurecon's ground engineering team.

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5 Geotechnical Assessment

5.1 Site classification

The characteristic surface movement (y_s) has been calculated in accordance with AS 2870-2011 'Residential Slabs and Footings' in order to determine the site classification.

Soil classifications and plasticity's were based on qualitative descriptions as recorded on the borehole logs. The soil within the depth of design soil suction change (H_s) was identified as:

- Silty CLAY, low to medium plasticity (0.0 – 0.7 m bgl)
- Clayey SILT, low plasticity (0.7 – 1.1m bgl)
- Gravelly SILT, low plasticity (1.1 – 2.0m bgl)
- Gravelly CLAY, high plasticity (2.0 – 3.8m bgl)

Climate zone was selected using the Thornthwaite Moisture Index (TMI) map of Queensland by Fox (2002). Depth of design soil suction change (H_s) was determined based on AS 2870-2011 Table 2.5 considering the selected climate zone.

The following parameters have been utilised in the calculation of characteristic surface movements:

- Climate Zone 1
- Depth of design soil suction change (H_s) 1.5 m
- Change in suction at soil surface (Δu) 1.2 pF
- Maximum design drying depth close to trees (H_t) 3.0 m

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- A maximum extra suction change due to tree group influences (Δu_{base}) 0.38 pF

Due to the surrounding trees, allowances for additional tree induced suction effects have been factored in the characteristic surface movement calculations. Taking into consideration tree effects, the site is found to have a site classification of Class M. As a Class M site, the site may experience moderate ground movement from moisture changes. Ground movements due to changes in moisture condition between 20mm to 40mm are expected.

5.2 Geotechnical design parameters

Geotechnical soil and rock parameters were derived from typical values, empirical formulae and correlations. Methods used for obtaining parameters are outlined below.

Bulk unit weights of soil layers (γ) were based on AS 4678-2002 Table D1 'Unit weights of soils (and similar materials)', whilst rock unit weights were based on Look (2014, Table 9.2).

Correlations between undrained shear strength (c_u) and SPT 'N' values typically vary between 2N and 8N (Look, 2014); where N is the uncorrected field blow count. c_u was estimated as 5N for cohesive soils.

The effective cohesion (c') is typically found to be a maximum 25% – 50% of c_u for cohesive soils. For this site, values of c' were estimated based on engineering judgement.

The effective friction angle (ϕ') in cohesive soil types have been estimated with respect to plasticity soil state (AS4678-2002). Normally consolidated materials were assumed and typical plasticity index values were assigned base on the plasticity descriptions of each material.

The recommended value for Poisson's ratio, for both undrained and drained conditions (ν_u, ν'), were taken from typical values with respect to the observed soil plasticity (Look, 2014, Table 11.17).

The undrained and drained modulus of elasticity have been estimated with respect to strength of soil, from both a tactile assessment and in-situ testing (Look, 2014, Table 11.7).

Using the methods outlined, the recommended soil design parameters obtained are shown in Table 3.

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Table 3: Recommended design geotechnical parameters

Material	Depth (m bgl)		Consistency / Strength	γ (kN/m ³)	C_u (kPa)	c' (kPa)	ϕ' (deg)	E_u (MPa)	E' (MPa)	ν_u	ν'
	From	To									
Silty CLAY & Clayey SILT	0.0	1.1	Stiff	19	50	6	26	10	7	0.35	0.3
Gravelly SILT	1.1	2.0	Very stiff to hard	19	200	5	30	50	40	0.35	0.3
Gravelly CLAY	2.0	3.8	Hard	20	250	10	32	60	45	0.35	0.3
HW PHYLLITE / META SILTSTONE	3.8	5.9	Medium to high strength	See Table 4 for rock parameters							
	5.9	6.55	Low strength								
	6.55	7.4 (TD)	Medium to high strength								

Notes: γ : Bulk unit weight; C_u : undrained shear strength; c' : drained cohesion; ϕ' : drained friction angle; E_u : undrained elastic modulus; E' : drained elastic modulus; ν_u : undrained Poisson's ratio; ν' : drained Poisson's Ratio, TD: Termination Depth. ⁽¹⁾: inferred strength based on engineering judgement

Should the horizontal modulus of subgrade reaction (k_s) be required, it can be calculated using parameters as provided in Table 3 by the following formula (Vesic, 1961):

$$k_s = E / (B (1-\nu^2))$$

Where: E = Young's modulus

B = Pile diameter

ν = Poisson's ratio

For a shallow footing, a value of B=1 would be appropriate assuming a spring spacing of 1 m. The appropriate value of E (E_u or E') will depend on the nature of the loading and whether it is a sustained load or transient load. In general, for short duration or transient loads, E_u is applicable.

Please note this provides a lower bound for the horizontal modulus of subgrade reaction and the designer should consider a range of k values for determination of worst case due to soil variability. It is recommended to consider +30% when checking deflection, bending and shear forces.

The estimated Point Load Strength Index, $Is(50)$, was interpreted based on the SPT data and field observations in accordance with in house site investigation manual (Aurecon,2012). The Unconfined Compressive Strength (UCS) has been estimated to be 10 times the $Is(50)$ value, in accordance with Look (2014).

Recommended values of Poisson's ratio for rock are based on Look (2014) Table 11.23 'Poisson's ratio for rock' using a correlation of rock type.

The deformation modulus (E) of the rock mass was based on the following relationship from Tomlinson (1996):

$$E = j \cdot Mr \cdot q_{uc}$$

Where: j = Mass factor related to the discontinuity spacing in the rock mass, adopted as 0.2 for RQD < 50%

Mr = Modulus ratio, adopted as 300 for metamorphic rocks

q_{uc} = Unconfined Compressive Strength (MPa)

Recommended rock design parameters are shown in Table 4.

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Table 4: Recommended design geotechnical parameters - rock

Material	Depth (m) bgl		Rock Strength	γ (kN/m ³)	ν	RQD (%)	Is(50) (MPa)	UCS (MPa)	E (MPa)
	From	To							
HW PHYLLITE / META SILTSTONE	3.8	5.9	Medium to high strength	24	0.3	0	0.8	8	480
	5.9	6.55	Low strength	24	0.3	0	0.1	1	60
	6.55	7.4 (TD)	Medium to high strength	24	0.3	41	0.8	8	480

Notes: γ : Bulk unit weight; ν : Poisson's ratio; RQD: Rock Quality Designation; Is(50): Point Load Index (50mm core); UCS: Unconfined Compressive Strength; E: Elastic modulus

5.3 Foundation design parameters

For the prevailing site conditions, pad footing and piling options have been considered as founding systems for the lattice tower and capacities are indicated in the proceeding sections. Where pull out and lateral resistance is found to be inadequate with a shallow pad footing, rock anchors can be implemented in the design.

The following section presents a preliminary assessment of foundation parameters. At the time of detailed design, these analyses may need to be revised to reflect actual loading conditions and construction preferences.

The foundation should be designed in accordance with applicable Australian/New Zealand standards including AS/NZS 4676-2000: *Structural Design Requirements for Utility Services Poles*.

Groundwater was assumed to exist from surface level for the purposes of bearing capacity calculations.

5.3.1 Shallow foundation

Shallow foundations have been considered for the lattice tower and the outdoor cabinet. Where a shallow footing is not feasible, deep foundation (piles) or rock anchors shall be considered.

Where a shallow pad footing is adopted, the designer shall carry out analyses on overturning and sliding stability in addition to long-term settlement, in accordance with AS/NZS 4676-2000. If the analyses show excess deformation or overturning instability a more deeply embedded or larger foundation shall be considered.

Typical footing size for a lattice tower foundation is considered to be 7.0 x 7.0 m, and when calculating the bearing capacity, the depth of the pad footing is assumed to be at the top of each respective soil layer. For the cabinet structure, a standard size of 1.0 x 2.4 m (W x L), embedded at a depth of 0.3 m is assumed. The load applied to the footing is taken to be in the vertical direction only.

Lateral restraint from the soils (passive resistance) should be ignored in shallow foundation design calculations due to the degree of movement necessary to fully mobilise passive resistance.

For short-term loads, the ultimate unfactored sliding resistance at the base of the foundation was estimated using the following formula:

$$F_s = \alpha \times C_u$$

Where:

- F_s = Unfactored ultimate sliding resisting friction (kPa)
- α = interpolated values based on Terzaghi, Peck and Mesri, 1996
- C_u = undrained shear strength (kPa)

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For long-term loads, the ultimate sliding resistance at the base of the foundation was estimated based on Das (2007) Section 8.6 'Checks for sliding along the base', using the following equation:

$$R_{ugs} = (V) \tan (k_1 \phi') + k_2 c' A$$

- Where:
- R_{ugs} = Unfactored ultimate sliding resisting friction (kN)
 - V = Unfactored vertical load on footing (kN)
 - k_1, k_2 = range from $1/2$ to $2/3$ (k_1 and k_2 are assumed to be both $2/3$)
 - c' = Effective cohesion (kPa)
 - A = Contact area (sq.m)

Estimated values for the ultimate unfactored bearing capacity (q_b) and sliding resistance (q_s and R_{ugs}) are presented in Table 5.

Overturning or lateral pile loads need to be considered by the designer once the structural (wind load) forces are known.

Table 5: Estimated design parameters – Shallow pad footing

Material	Depth (m bgl)		Ultimate Unfactored Bearing Capacity, q_b (kPa)	Short Term Ultimate Unfactored Sliding Resistance q_s (kPa)	Long Term Ultimate Unfactored Sliding Resistance, R_{ugs} (kN)
	From	To			
Silty Clay & Clayey SILT	0.0	1.1	Lattice Tower – 350 Cabinet – 240	34	$0.31 \cdot V + 4 \cdot A$
Gravelly SILT	1.1	2.0	940	70	$0.36 \cdot V + 3.33 \cdot A$
Gravelly CLAY	2.0	3.8	1,800	85	$0.39 \cdot V + 6.66 \cdot A$

For limit state design, a geotechnical strength reduction factor of 0.35 and 0.45 should be applied to the ultimate unfactored bearing capacity and sliding resistance, respectively.

Under working stress analysis, a factor of safety of 3 would be appropriate for both cases.

AS5100.3-2004 'Bridge design – foundations and soil supporting structures' and AS2159 'Piling – Design and installation' were utilised to obtain geotechnical strength reduction factors (ϕ_g) for shallow pad footings.

If the footing size and shear strength of substrata material is different from the assumptions discussed in this report, or if during the excavation phase the ground conditions vary from those indicated at the time of investigation, further advice should be sought from Aurecon's ground engineering team.

5.3.2 Piled foundation

This report provides capacity values for bored piles at the D'Aguilar South site. The designer may consider raking piles for lateral stability if required.

Piles should have an embedded length of at least 4 x pile diameter ($D/B=4$) to allow distribution of both vertical and horizontal loads to the ground and be designed in accordance with the requirements of AS2159-2009. It is recommended that each pile be inspected by a geotechnical professional to confirm the geotechnical profile and pile capacity.

Bored pile capacity calculations consider single pile theory only. Where more than one pile is required to achieve capacity, a minimum centre-to-centre spacing of 3 x pile diameter, D , is recommended.

To allow for gapping, in accordance with AS 2159, side friction capacities shall be ignored to a depth which is equal to the greater of 1.5 times the pile diameter below the pile cap or 0.5 m bgl.

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Values for the ultimate unfactored bearing capacity (q_b) and side friction (q_s) are provided in Table 6 for a bored pile foundation solution. These values provided assume pile depth to be at the top of the respective layer, and where required, have taken into account the effect of the weaker strata below to arrive at an appropriate design value.

The upper Silty CLAY and Clayey SILT unit (0.0 – 1.1m) has not been considered in pile design due to the shallow depth of the soil unit.

Table 6: Recommended design parameters – Bored Piled foundation

Material	Depth (m bgl)		Ultimate Unfactored Bearing Capacity, q_b (kPa)	Ultimate Unfactored Side friction, $q_s^{(1)}$ (kPa)
	From	To	D/B > 4	
Silty CLAY & Clayey SILT	0.0	1.1	<i>Not recommended</i>	
Gravelly SILT	1.1	2.0	1,800	70
Gravelly CLAY	2.0	3.8	2,250	85
HW PHYLLITE / META SILTSTONE	3.8	5.9	5,000	550
	5.9	6.55	2,500	200
	6.55	7.4 (TD)	5,000	1,200

Notes: ⁽¹⁾ Where piles are to develop resistance to pull out then the ultimate shaft capacity should be factored down in accordance with the relevant standard. ⁽²⁾ shaft friction for about top 0.9m pile length is excluded to place the pile top cap.

Given the quality of the RHYOLITE bedrock formation between 3.8m and 5.9m depth, and below 6.55m depth, the F_b can be assumed to be greater than the values presented above in Table 6. However, from a practical point of view, the F_b of 5 MPa is recommended for a clean surface. In addition, during detailed design consideration is required for the impact of the weaker layer between 5.9m and 6.55m below ground level.

In absence of pile testing, a geotechnical strength reduction factor (ϕ_g) of 0.40 is recommended to be applied to the ultimate capacity for piled foundation design in accordance with AS 2159-2009.

Screw piles are not expected to penetrate the bedrock formation encountered below 3.8 m and hence the screw pile foundation option to support the structure has been discarded.

5.3.3 Rock anchors

If resistance to pull out and lateral force is not adequate using a shallow pad footing, rock anchors can be used to provide non-vertical load resistance and adhesion between the concrete footing and the bedrock. The depth, spacing, and size of the anchors shall be designed with consideration to the rock mass condition, strength, fracture intensity and condition, and properties of the anchors. The rock anchors should be designed in accordance with applicable Australian/New Zealand standards including AS/NZS 4678-2002: *Earth Retaining Structures*.

A minimum fixed anchor length is recommended to be 3.0 m in accordance with AS 4678-2002 to account for variable rock quality and constructional imperfections. Ultimate unfactored bond adhesion is recommended in Table 7 for rock anchor design. It should be noted that cone pull-out may control anchor capacity and should also be checked.

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The designer should apply reduction factors (ϕ_g) to the ultimate unfactored strength for the importance category, material factor, and structure classification in accordance with AS 4678-2002.

Table 7: Recommended design parameters – Rock anchors

Material	Depth (m bgl)		Ultimate Unfactored Bond adhesion, $F_s^{(1)}$ (kPa)
	From	To	
HW PHYLLITE / META SILTSTONE	3.8	5.9	550
	5.9	6.55	200
	6.55	7.4 (TD)	1,200

Notes: **TD** Termination Depth, (1) Where piles are to develop resistance to pull out then the ultimate shaft capacity should be factored down in accordance with the relevant standard.

Where rock anchors are to develop resistance to pull out then the ultimate shaft capacity shall be based on 70% of the values given for F_s above. The total uplift capacity should also consider an upper bound to uplift capacity based on a pullout cone with an apex angle of 90°. With evidence of vertical joints, consideration is required during design and installation of rock anchors to address the potential for pullout.

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6 Construction considerations

Trafficability across the site was found to be sufficient for light vehicles (4WD) and the track mounted drilling rig at the time of the investigation. Trafficability was deemed not suitable for heavy vehicles given the steep and uneven terrain, as well as the height clearance due to nearby trees. Caution should be taken when considering access for heavy machinery given the difficult terrain, particularly after rainfall.

Allowances for groundwater seepage and the effects of pore water pressure should be considered during the constructability assessment.

Conventional earthmoving equipment is expected to be sufficient at this site based on the soil profile to 3.8m bgl as encountered during the geotechnical investigations. However, if excavation is to extend below this depth, rock-breaking equipment may be necessary.

Excavation work should be conducted in accordance with Safe Work Australia Code of Practice for Excavation (2012). Open trench type excavations deeper than 1.5 m deep should be stepped, battered, or appropriately shored in accordance with the requirements by the Code of Practice.

If groundwater is encountered temporary shoring, and/or dewatering may be required. Materials, plant and equipment should not be located behind the crest of any excavation within an offset from the crest that is equal to the depth of the excavation, since surcharging effects may reduce slope instability.

It is recommended that the ground stratification and materials encountered during installation of the foundation(s) be inspected and approved by an experienced geotechnical professional to confirm the design intent and provided geotechnical design parameters.

It is further recommended that the borehole information be provided to potential contractors to assist them in choosing appropriate construction plant and methodologies for the project.

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7 References

AS 1289.6.3.1-2004. Australian Standard: Methods of Testing Soils for Engineering Purposes – Soil Strength and Consolidation Tests – Determination of the Penetration Resistance of a Soil – Standard Penetration Test. Standards Australia.

AS 2159-1978. Australian Standard: SAA Piling Code. Standards Australia.

AS 2159-2009. Australian Standard: Piling Design and Installation. Standards Australia, Sydney, NSW, Australia.

AS 2870-2011. Australian Standard: Residential Slabs and Footings. Standards Australia, Sydney, NSW, Australia.

AS 4676-2000. Australian/New Zealand Standard: Structural Design Requirements for Utility Services Poles. Standards Australia, Sydney, NSW, Australia.

AS 5100.3-2004. Australian Standard: Bridge Design Part 3 Foundations and Soil-Supporting Structures. Standards Australia, Sydney, NSW, Australia.

Aurecon Australia Pty Ltd, 2012: Geotechnical Site Investigation Manual. Revision No. 5. Aurecon Australia, Neutral Bay, NSW, Australia

Das, B.M. 1999: Principles of Foundation Engineering. 4th edition. Cengage Learning.

Das, B.M. 2007: Principles of Foundation Engineering. 7th edition. Cengage Learning.

Department of Mines and Resources. (2017). 1:100 000 Detailed Surface Geology Map Extract, Available: <http://minesonlinemaps.business.qld.gov.au>. Last accessed 11 November 2017.

Fox, E. 2002. Development of a Map of Thornthwaite Moisture Index Isopleths for Queensland. Australian Geomechanics.

Look, B.G. 2014: Handbook of Geotechnical Investigation and Design Tables. 2nd edition. Taylor & Francis.

Mitchell, P.W. 1984: The Design of Shallow Footings on Expansive Soil, PhD thesis, Department of Civil Engineering, University of Adelaide, Australia.

Vesic, A. S. 1961. Beams on elastic subgrade and the Winkler's hypothesis, fifth ICSMFE, Vol. 1, pp 845-850.

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8 Limitations

This report has been prepared for the use of the client, Ericsson Australia Pty Ltd. This report has not been prepared for use by parties other than the client, and the client's respective consulting advisors. As subsurface conditions may vary, the borehole log(s) represents subsurface conditions at the specific test location only. The interpretation has been based on experience and understanding of the geotechnical processes relevant to the site, bearing in mind the necessary limitations in frequency of drilling and sampling due to cost and time constraints. Should conditions exposed at the site during excavation vary significantly from the interpretation provided in this report based on the project specific factors cited in the introductory scope of the report, it is requested that Aurecon be informed and have the opportunity to review any of the findings of this report.

This report has been written with the express intent of providing sufficient information for design purposes. Subsurface conditions relevant to construction works should be assessed by contractors who can make their own interpretation of the factual data provided as a borehole log and perform any additional tests as necessary for their own purposes.

It is strongly recommended that any plans and specifications prepared by others and relating to the content of this report or amendments to the original plans and specifications be reviewed by Aurecon to verify that the intent of our recommendations is properly reflected in the design.

There are always some variations in subsurface conditions across a site that cannot be defined even by exhaustive investigation. Hence, it is unlikely that the measurements and values obtained from sampling and testing during the investigation will represent the extremes of conditions which exist within the site. In addition, consideration is required due to the borehole drilled approximately 5m north-east of the proposed lease area due to access constraints.

Further, subsurface conditions, including groundwater levels and apparent resistivity, can change over time. This should be borne in mind, particularly if the report is used after a protracted delay.

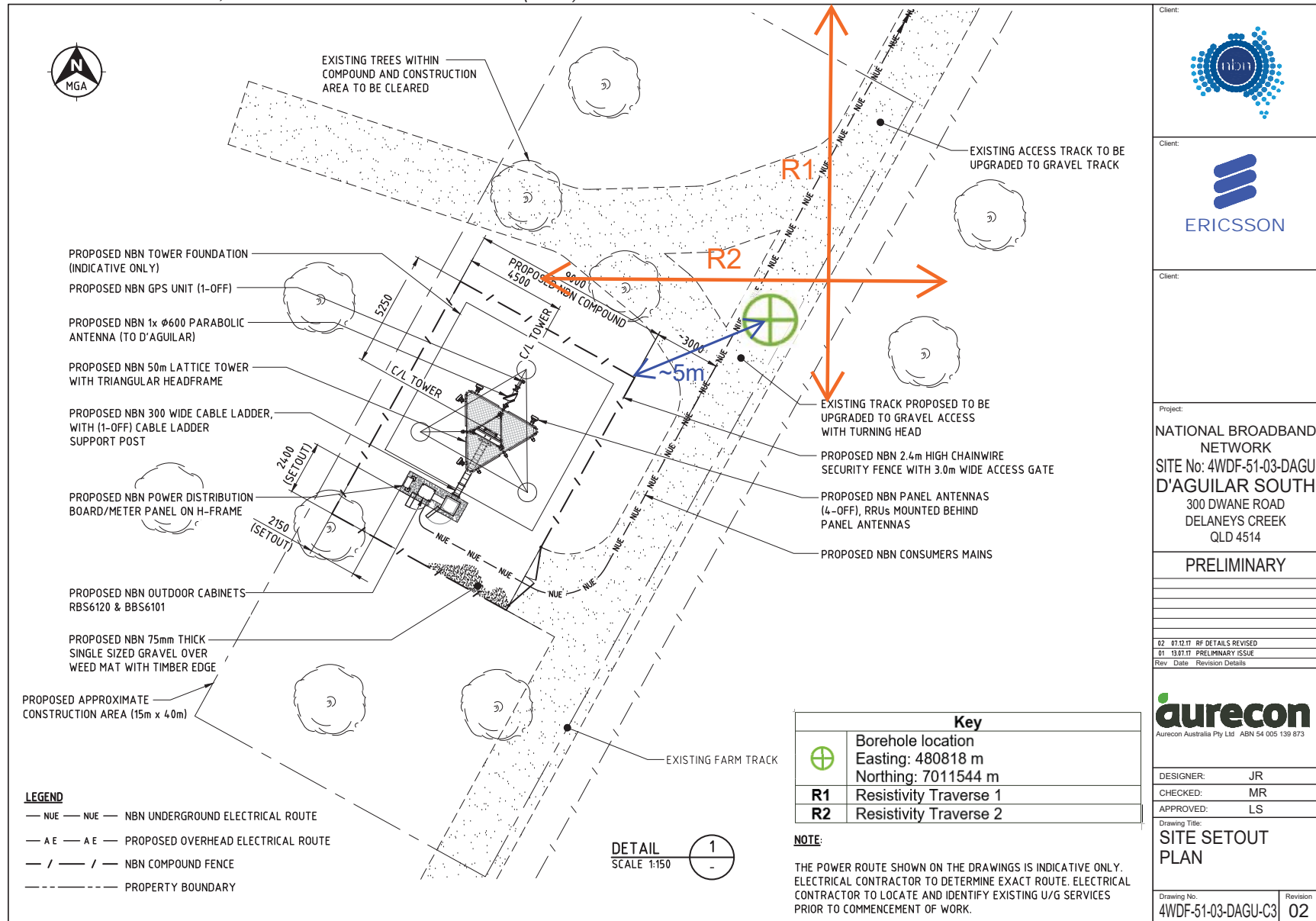
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Appendix A

Borehole location plan

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Client:

Client:

Client:

Project:
NATIONAL BROADBAND NETWORK
SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
DELANEYS CREEK
QLD 4514

PRELIMINARY

02 07.12.17 RF DETAILS REVISED
01 13.07.17 PRELIMINARY ISSUE
Rev Date Revision Details

Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER: JR
CHECKED: MR
APPROVED: LS

Drawing Title:
SITE SETOUT PLAN

Drawing No. 4WDF-51-03-DAGU-C3
Revision 02

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Appendix B

Borehole logs

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EXPLANATORY NOTES AND ABBREVIATIONS

The following information provides the terms and abbreviations used in Aurecon geotechnical borelogs and reports. Description of soil and rock are generally in accordance with the Unified Soil Classification System and Australian Standard AS1726-1993, Geotechnical Site Investigations. Soil and rock descriptions using established field techniques have been recorded independent of any laboratory test results. As far as is practicable the data contained on the log sheets is factual. Some interpretation is inevitable in the assessment of conditions between samples and of the origin of the materials. Standard colour charts have not been used.

Assessment of potential site contamination does not form part of this geotechnical report. Any reference to potential contaminants is for information only, and does not necessarily indicate the presence or absence of soil or groundwater contamination.

Soil Description

Soils are generally described in the borelog using the following sequence of terms:

[Drilling Information]; [USC Symbol]; [Soil Type, Colour, Plasticity/Particle Description, Structure]; [Moisture Condition]; [Consistency]

Unified Soil Classification Group Symbols

Typical Names	USC Symbol	Typical Names	USC Symbol
Well graded gravels	GW	Well graded sands	SW
Poorly graded gravels	GP	Poorly graded sands	SP
Silty gravels	GM	Silty sands	SM
Clayey gravels	GC	Clayey sands	SC
Inorganic silts of low plasticity.	ML	Inorganic clay of low plasticity	CL
Inorganic silts of high plasticity	MH	Inorganic clay of medium plasticity	CI
Organic silts of low plasticity	OL	Inorganic clays of high plasticity	CH
Organic clays of high plasticity	OH	Peat and other highly organic soils	Pt

Soil Type and Particle Size

Major Divisions		Symbols	Subdivision	Particle Size
Coarse Grained Soils (more than half of material is larger than 0.075mm)	Boulders	G		> 200 mm
	Cobbles			63 mm – 200 mm
	Gravels (more than half of coarse fraction is larger than 2.36mm)	G	Coarse	20 mm – 63 mm
			Medium	6 mm – 20 mm
			Fine	2.36 mm – 6 mm
	Sands (more than half of coarse fraction is smaller than 2.36mm)	S	Coarse	0.6 mm – 2.36 mm
Medium			0.2 mm – 0.6 mm	
Fine			75 µm – 0.2 mm	
Fine Grained Soils (more than half of material is smaller than 0.075mm)	Silts	M		< 75 µm
	Clays	C		
	Organic	O		

Soil Plasticity

Term	Symbol	Field Assessment	
Low Plasticity	L	Cannot be rolled into threads when moist	
Medium Plasticity	I ; L / H	Can be rolled into threads when moist.	Shows some shrinkage on drying
High Plasticity	H	Considerable shrinkage on drying. Greasy to touch. Cracks in dry material	

Moisture Content

Term	Symbol	Field Assessment	
		Cohesive Soils	Granular Soils
Dry	D	Hard and friable or powdery	Runs freely through hands.
Moist	M	Feels cool, darkened in colour	
		Can be moulded	Tend to cohere.
Wet	W	Feels cool, darkened in colour	
		Free water forms on hands when handling	Tend to cohere

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Consistency of Cohesive Soil

Term	Symbol	Field Assessment	Undrained Shear Strength (kPa)
Very Soft	VS	Exudes between fingers when squeezed.	< 12
Soft	S	Can be moulded by light finger pressure.	12 – 25
Firm	F	Can be moulded by strong finger pressure.	25 – 50
Stiff	St	Cannot be moulded by fingers. Can be indented by thumb pressure.	50 – 100
Very Stiff	VSt	Can be indented by thumb nail.	100 – 200
Hard	H	Difficult to indented by thumb nail.	> 200

Consistency of Non-cohesive Soil

Term	Symbol	Field Assessment	SPT N – Value	Density Index (%)
Very Loose	VL	Foot Imprints easily.	< 4	< 15
Loose	L	Can be excavated with spade. 50mm peg easily driven	4 – 10	15 – 35
Medium Dense	MD	Shovelling difficult	10 – 30	35 – 65
Dense	D	Needs pick for excavation. 50mm peg hard to drive.	30 – 50	65 – 85
Very Dense	VD	Picking difficult	> 50	> 85
Cemented	C	Cemented, indurated or large size particles	> 50	N / A

Rock Description

Rocks are generally described in the borelog using the following sequence of terms:

[Drilling Information]; [Weathering]; [Rock Type, Colour, Structure]; [Rock Quality Designation]; [Strength]; [Defects]

Rock Weathering Classification

Term	Symbol	Field Assessment
Residual Soil	RS	Soil developed on extremely weathered rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
Extremely Weathered	XW	Soil is weathered to such an extent that it has 'soil' properties ie it either disintegrates or can be remoulded, in water.
Distinctly Weathered	DW	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by ironstaining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in spores.
Slightly Weathered	SW	Rock is slightly discoloured but shows little or no change of strength from fresh rock.
Fresh	FR	Rock shows no sign of decomposition or staining.

Rock Strength

Strength	Symbol	Field Assessment		Point Load Index I _s (50) (MPa)
		By Hand	Hammer with Hand Held Specimen	
Extremely Low	EL	Easily remoulded to a material with soil properties.		< 0.03
Very Low	VL	Easily crumbled in 1 hand.	Easily broken with light blow (thud).	0.03 – 0.1
Low	L	Broken into pieces in 1 hand.		0.1 – 0.3
Medium	M	Broken with difficulty in 2 hands.		0.3 – 1.0
High	H		1 firm blow to break (rings).	1.0 – 3.0
Very High	VH		> 1 blow to break (rings)	3.0 – 10
Extremely High	EH		Many blows to break (rings).	> 10

Notes on rock strength

- These items refer to the strength of the rock material and not to the strength of the rock mass which may be considerably weaker due to the effect of rock defects.
- Anisotropy of rock material samples may affect the field assessment of strength
- The unconfined compressive strength is typically about 20 x I_s (50), but the multiplier may vary widely for different rock types.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Rock Defects

Defects are generally described using the following sequence of terms: [Defect Spacing]; [Depth (metres from surface), Defect Type, Defect Angle (degrees from horizontal), Surface roughness, Infill, Defect thickness (mm)]

Defect Spacing

Description	Spacing
Extremely closely spaced	< 20mm
Very closely spaced	20mm to 60mm
Closely spaced	60mm to 200mm
Medium spaced	0.2m to 0.6m
Widely spaced	0.6m to 2.0m
Very widely spaced	2.0m to 6.0m
Extremely widely spaced	> 6.0m

Defect Description

Defect Type	Surface Roughness		Coating or Infill
	Macro-surface geometry	Micro-surface geometry	
Bp – Bedding Parting	St – Stepped	Ro – Rough	cn – clean
Fp – Foliation Parting	Cu – Curved	Sm – Smooth	sn – stained
Jo – Joint	Un – Undulating	Sl – Slickensided	vn – veneer
Sh – Sheared Zone	Ir – Irregular		cg – coating
Cs – Crushed Seam	Pl – Planar		
Ds – Decomposed seam			
Is – Infilled Seam			

Water

▼	Measurement standing water level and date
▽	Water Noted
▶	Water inflow
◀	Water / drilling fluid loss
Method	
BH	Backhoe bucket (rubber tyred machine)
EX	Excavator bucket (tracked machine)
HA	Hand Auger
AV	Auger drilling with steel "V" bit
AT	Auger drilling with Tungsten Carbide (TC) bit
HOA	Hollow Auger

Support

C	Casing
M	Mud
W	Water
RA	Rotary drilling with flushing of cuttings using
RM	- air circulation
RC	- bentonite or polymer mud circulation
	- water circulation
NMLC	Coring using an NMLC core barrel
RR	Tricone (Rock Roller) Bit
DB	Drag(Blade) Bit

Field Sampling and Testing

Symbol	Sample or Test
W	Water Sample
D	Disturbed Sample
B	Bulk Disturbed Sample
SPT	Standard Penetration Test
- 7, 11, 12 (eg)	Example of blows per 150mm penetration
- N = 23 (eg)	Penetration Resistance (blows for 300mm penetration following 150mm seating driven, Example of 11 + 12 = 23)
- 25/20mm (eg)	Partial Penetration, example of blow for the measured penetration
- N*	Inferred SPT Value

Symbol	Sample or Test
- RW	Rod Weight only causing penetration (N < I)
- HW	Hammer and rod weight only causing full penetration (N < I)
- HB	Hammer Bouncing (N* > 50)
U (50)	Undisturbed Sample (50mm diameter tube)
PP	Pocket Penetrometer Test (kPa)
FV	Field Shear Vane (kPa)
RQD	Rock Quality Designation expressed as : <u>Sum of lengths of sound core pieces > 100mm</u> Total Length of core section considered
DCP	Dynamic Cone Penetrometer measured in blows / 100mm

Moreton Bay Regional Council

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

 <p>Leading. Vibrant. Global. www.aurecongroup.com</p>	32 Turbot St Brisbane QLD 4000 ph: +61 7 3173 8000 e: brisbane@aurecongroup.com	<h2 style="margin: 0;">SOIL DS-01</h2>
Client: NBN Fixed Wireless Project: NBN Location: D'Aguiar South Project Number: 247473	Driller: GeoDrill Rig: Hydropower Scout Easting: 480818 m Northing: 7011544 m Elevation: (Unknown) mAHD	Commenced: 24/01/2018 Completed: 24/01/2018
Sheet: 1 of 3		

Drilling Information		Soil Description				Testing		Strata Information					
Groundwater	Drilling Method	Sample Type	Depth (m)	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic, Secondary and Minor Components	USC	Moisture Content	Consistency / Relative Density	Comments / Origin	In-situ Testing	Graphic Log	Elevation (mAHD)	Depth (m)	Installation
		D	0 m	Silty CLAY Orange-brown, low to medium plasticity, trace fine grained sand, rootlets, stiff, <PL	CL-CI	<PL		RESIDUAL				0.5	
		D	0.7 m	Clayey SILT Orange-brown, low plasticity, stiff, <PL	ML	<PL						1.0	
		SPT	1.1 m	Gravelly SILT Brown / blue-grey, low plasticity, fine to medium angular to sub angular gravels, very stiff to hard, <PL	ML	<PL			SPT@ 1.00 to 1.45m 10 / 17, 23 (N=40)			1.5	
		SPT	2.0 m	Gravelly CLAY Brown / blue-grey, high plasticity, fine to medium angular to sub angular gravels, hard, <PL	CH	<PL			SPT@ 2.50 to 2.80m 22 / 30 (N*=60)			2.0	
		SPT	2.5 m									2.5	
			3.8 m	PHYLLITE / META SILTSTONE Dark grey, highly fractured, highly weathered with estimated medium strength <i>Continued as Cored Drill Hole</i>				blade bit refusal at 3.8m BEDROCK				4.0	
			4.5 m									4.5	


Remarks: 1. Borehole coordinates obtained using handheld GPS with accuracy +/- 6m. 2. Elevation obtained with handheld GPS, elevation approximately only. 3. No groundwater observed during augering. 4. Borehole backfilled with cuttings immediately upon completion of drilling.	Logged: AC Logged Date: 24/01/2018 Checked: BT Checked Date: 29/01/2018
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

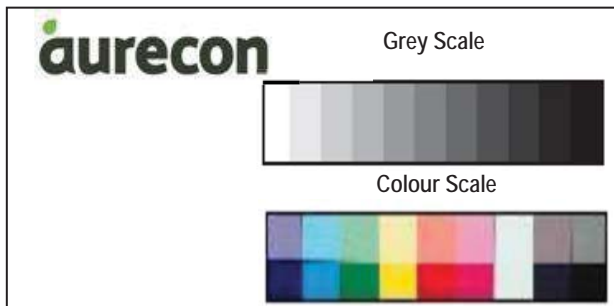
 <p>Leading. Vibrant. Global. www.aurecongroup.com</p>	<p>32 Turbot St Brisbane QLD 4000 ph: +61 7 3173 8000 e: brisbane@aurecongroup.com</p>	<h2 style="margin: 0;">CORED DS-01</h2>
<p>Client: NBN Fixed Wireless Project: NBN Location: D'Aguilar South Project Number: 247473</p>	<p>Driller: GeoDrill Rig: Hydropower Scout Easting: 480818 m Northing: 7011544 m Elevation: (Unknown) mAHD</p>	<p>Commenced: 24/01/2018 Completed: 24/01/2018</p> <p style="text-align: right;">Sheet: 3 of 3</p>

Drilling Information				Rock Description	Intact Strength	Rock Mass Defects	Strata Information														
Groundwater	Drilling Method	TCR (%)	SCR (%)	ROD (%)	Depth (m)	Weathering	Is ₅₀ AIr/D (MPa)	UCS (MPa)	ESTIMATED STRENGTH Is(50)						Defect Spacing (mm)	Defect Description (depth, type, angle, shape, roughness, infill)	Graphic Log	Elevation (mAHD)	Depth (m)		
									EL	VL	L	M	H	VH						EH	20
	NMLC	100		0	4 m: PHYLLITE / META SILTSTONE Dark grey, some blue-grey and brown, highly fractured, minor ironstaining (<i>continued</i>)	HW									4.90-5.10m: FZ						
		100		0											5.10-5.40m: JT, 80°, IR, SM, Clay						
					5.5	5.5 m: predominantly dark grey													5.5		
		100			0											5.60-5.85m: SZ, 70°, PL, SM, Clay					
					6.0	5.9 m: dark grey / dark brown, with some ironstaining													6.0		
		100			0											6.08-6.29m: SZ, 70°, PL, SM, Fe Clay 6.34m: JT, 45°, PL, SM, Clay 6.42-6.45m: SM, Clay			6.5		
				6.5	6.45 m: indistinct flow banding obvious 6.55 m: predominantly dark grey	XW HW									6.62-6.65m: VN, Qz						
		100		41		XW HW									6.87-7.25m: JT, 90°, PL, SM, Fe Clay			7.0			
					7.5													7.5			
					7.5	DS-01 Terminated at 7.40 m (Target depth)															7.5
					8.0														8.0		
					8.5														8.5		
					9.0														9.0		
					9.5														9.5		

<p>Remarks:</p> <ol style="list-style-type: none"> Borehole coordinates obtained using handheld GPS with accuracy +/- 6m. Elevation obtained with handheld GPS, elevation approximately only. No groundwater observed during augering. Borehole backfilled with cuttings immediately upon completion of drilling. 	<p>Logged: AC Logged Date: 24/01/2018 Checked: BT Checked Date: 29/01/2018</p>
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Moreton Bay Regional Council

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Location		D'Aguilar South	
Borehole Number		DS-01	
Box	1	of	1
Depth	4.0m	to	7.4m
Project Number	National Broadband Network Fixed Wireless 247473		
Client	Ericsson		



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Appendix C

Site photos

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS
FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Site Pictures
D'Aguilar South 24/01/2018



Picture 1: East of the proposed NBN site, facing south



Picture 2: East of the proposed NBN site, facing south-west

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



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Swaziland, Tanzania, Thailand, Uganda,
United Arab Emirates, Vietnam,

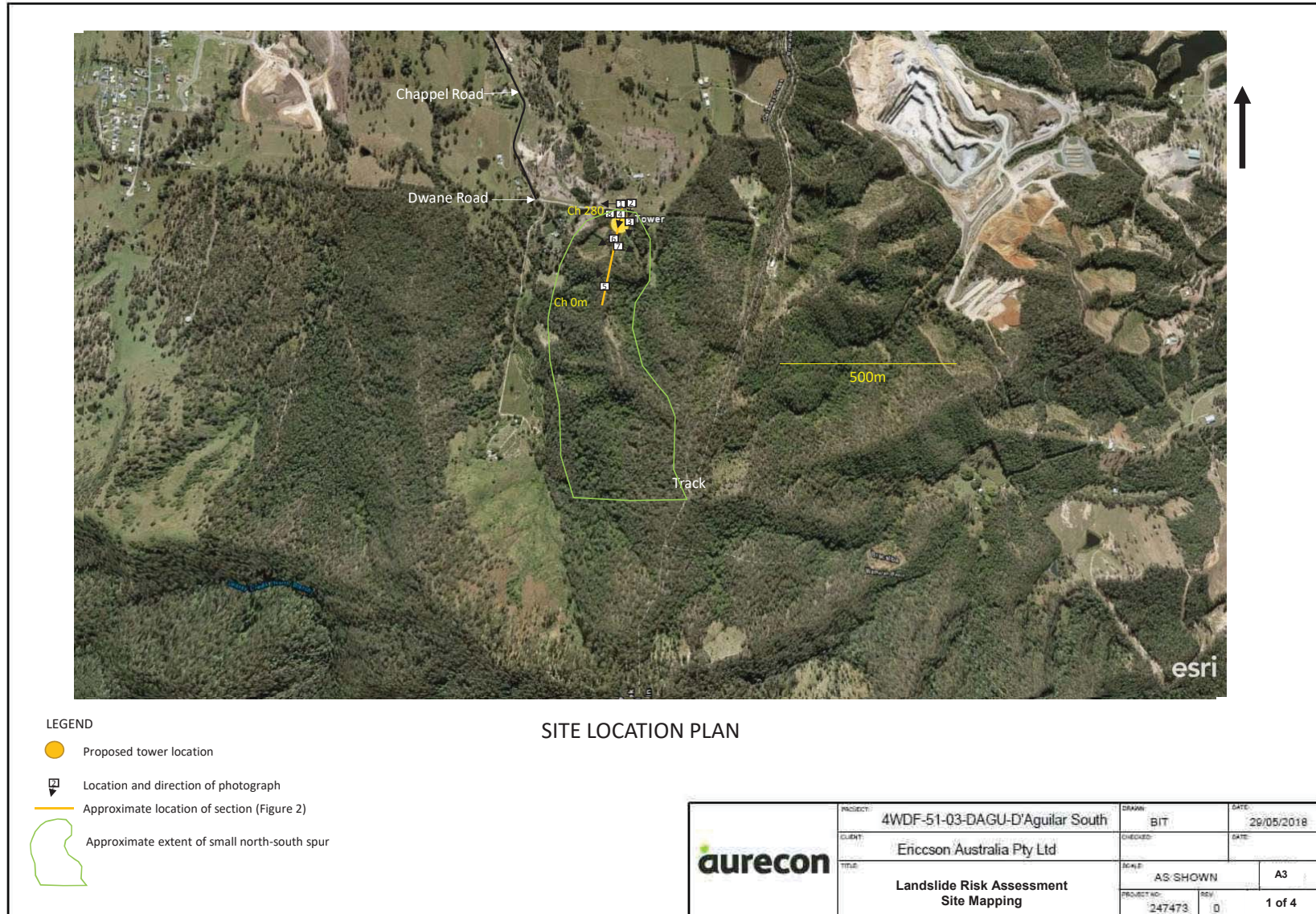
ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



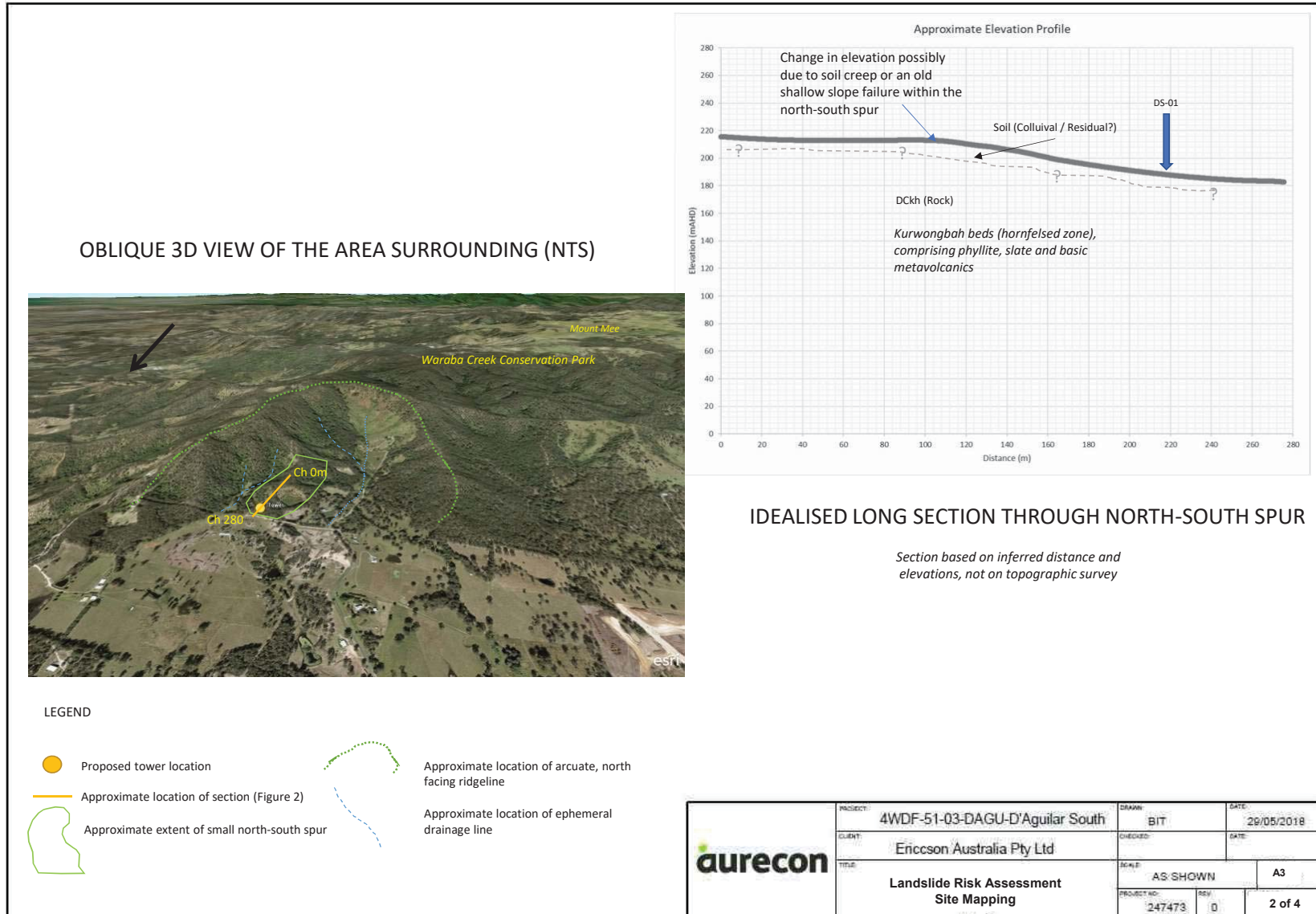
Appendix C

Site Mapping Records & Photographs

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Location 1: View of Dawes Road from the entrance to the site, looking east



Location 2: Entrance to the site, looking south



Location 3: Access track running to the east of the proposed telco tower, looking north – i.e. back toward the entrance gate



Location 4: View of the development site, showing survey peg. Note the terrain sloping circa 15°, looking south

Refer Figure 1 for location of photographs:

	PROJECT:	4WDF-51-03-DAGU-D'Aguilar South	DRAWN:	BIT	DATE:	29/05/2018
	CLIENT:	Ericsson Australia Pty Ltd	CHECKED:		DATE:	
	TITLE:	Landslide Risk Assessment Site Mapping	SCALE:		SHEET SIZE:	A3
	PROJECT NO:	247473	REV:	0		3 of 4

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Location 5: View from the first plateau on the spur looking north west



Location 6: View of the cleared area to the west of the spur. It is unclear whether the terracing and elevation changes within the slope were created by machine or occur naturally due to soil creep and old slope failures



Location 7: View of the cleared area to the east of the spur. Terracing and elevation changes, together with hummocky ground, were observed here also. Again it is unclear whether



Location 8: View of the development site, showing survey peg. Note the terrain sloping circa 15°, looking south

Refer Figure 1 for location of photographs:

	PROJECT:	4WDF-51-03-DAGU-D'Aguilar South	DRAWN:	BIT	DATE:	29/05/2018
	CLIENT:	Ericsson Australia Pty Ltd	CHECKED:		SATE:	
	TITLE:	Landslide Risk Assessment Site Mapping	SCALE:		SHEET NO.:	A3
			PROJECT NO:	247473	REV:	0

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Appendix D

AGS (2007) Structure

Importance Levels and

Qualitative Risk Rating

Categories Extract

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

Importance Level of Structure	Explanation	Examples (Regulatory authorities may designate any structure to any classification type when local conditions make such desirable)
1	Buildings or structures generally presenting a low risk to life and property (including other property).	Farm buildings. Isolated minor storage facilities. Minor temporary facilities. Towers in rural situations.
2	Buildings and structures not covered by Importance Levels 1, 3 or 4.	Low-rise residential construction. Buildings and facilities below the limits set for Importance Level 3.
3	Buildings or structures that as a whole may contain people in crowds, or contents of high value to the community, or that pose hazards to people in crowds.	Buildings and facilities where more than 300 people can congregate in one area. Buildings and facilities with primary school, secondary school or day-care facilities with capacity greater than 250. Buildings and facilities for colleges or adult education facilities with a capacity greater than 500. Health care facilities with a capacity of 50 or more residents but no having surgery or emergency treatment facilities. Jails and detention facilities. Any occupancy with an occupant load greater than 5,000. Power generating facilities, water treatment and waste water treatment facilities, any other public utilities not included in Importance Level 4. Buildings and facilities not included in Importance Level 4 containing hazardous materials capable of causing hazardous conditions that do not extend beyond property boundaries.
4	Buildings or structures that are essential to post-disaster recovery, or with significant post-disaster functions, or that contain hazardous materials.	Buildings and facilities designated as essential facilities. Buildings and facilities with special post-disaster functions. Medical emergency or surgery facilities. Emergency service facilities: fire, rescue, police station and emergency vehicle garages. Utilities required as back-up for buildings and facilities of Importance Level 4. Designated emergency shelters. Designated emergency centres and ancillary facilities. Buildings and facilities containing hazardous (toxic or explosive) materials in sufficient quantities capable of causing hazardous conditions that extend beyond property boundaries.

(from BCA Guidelines)

Practitioner – A specialist Geotechnical Engineer or Engineering Geologist who is degree qualified, is a member of a professional institute and who has achieved chartered professional status – being either Chartered Professional Engineer (CPEng) within the Institution of Engineers Australia, Chartered Professional Geologist (CPGeo) within the Australasian Institute of Mining & Metallurgy, or Registered Professional Geoscientist (RPGeo) within the Australian Institute of Geoscientists – specifically with Landslide Risk Management as a core competency.

A Practitioner will include persons qualified under the Institution of Engineers Australia NPER – LRM register.

It would normally be required that the Practitioner can demonstrate an appropriate minimum period of experience in the practice of landslide risk assessment and management in the geographic region, or can demonstrate relevant experience in similar geological settings.

Regulator – The regulatory authority [Federal Government/ State Government/ Instrumentality/ Regional/Local.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

APPENDIX C: LANDSLIDE RISK ASSESSMENT

QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY

QUALITATIVE MEASURES OF LIKELIHOOD

Approximate Annual Probability		Implied Indicative Landslide Recurrence Interval		Description	Descriptor	Level
Indicative Value	Notional Boundary					
10 ⁻¹	5x10 ⁻²	10 years	20 years	The event is expected to occur over the design life.	ALMOST CERTAIN	A
10 ⁻²		100 years		The event will probably occur under adverse conditions over the design life.	LIKELY	B
10 ⁻³	5x10 ⁻³	1000 years	200 years	The event could occur under adverse conditions over the design life.	POSSIBLE	C
10 ⁻⁴	5x10 ⁻⁴	10,000 years	2000 years	The event might occur under very adverse circumstances over the design life.	UNLIKELY	D
10 ⁻⁵	5x10 ⁻⁵	100,000 years	20,000 years	The event is conceivable but only under exceptional circumstances over the design life.	RARE	E
10 ⁻⁶	5x10 ⁻⁶	1,000,000 years	200,000 years	The event is inconceivable or fanciful over the design life.	BARELY CREDIBLE	F

Note: (1) The table should be used from left to right; use Approximate Annual Probability or Description to assign Descriptor, not *vice versa*.

QUALITATIVE MEASURES OF CONSEQUENCES TO PROPERTY

Approximate Cost of Damage		Description	Descriptor	Level
Indicative Value	Notional Boundary			
200%	100%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequence damage.	CATASTROPHIC	1
60%		Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequence damage.	MAJOR	2
20%	40%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequence damage.	MEDIUM	3
5%	10%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works.	MINOR	4
0.5%	1%	Little damage. (Note for high probability event (Almost Certain), this category may be subdivided at a notional boundary of 0.1%. See Risk Matrix.)	INSIGNIFICANT	5

- Notes:**
- (2) The Approximate Cost of Damage is expressed as a percentage of market value, being the cost of the improved value of the unaffected property which includes the land plus the unaffected structures.
 - (3) The Approximate Cost is to be an estimate of the direct cost of the damage, such as the cost of reinstatement of the damaged portion of the property (land plus structures), stabilisation works required to render the site to tolerable risk level for the landslide which has occurred and professional design fees, and consequential costs such as legal fees, temporary accommodation. It does not include additional stabilisation works to address other landslides which may affect the property.
 - (4) The table should be used from left to right; use Approximate Cost of Damage or Description to assign Descriptor, not *vice versa*

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

APPENDIX C: – QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY (CONTINUED)

QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD		CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
	Indicative Value of Approximate Annual Probability	1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
A – ALMOST CERTAIN	10 ⁻¹	VH	VH	VH	H	M or L (5)
B – LIKELY	10 ⁻²	VH	VH	H	M	L
C – POSSIBLE	10 ⁻³	VH	H	M	M	VL
D – UNLIKELY	10 ⁻⁴	H	M	L	L	VL
E – RARE	10 ⁻⁵	M	L	L	VL	VL
F – BARELY CREDIBLE	10 ⁻⁶	L	VL	VL	VL	VL

- Notes: (5) For Cell A5, may be subdivided such that a consequence of less than 0.1% is Low Risk.
(6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time.

RISK LEVEL IMPLICATIONS

Risk Level	Example Implications (7)
VH VERY HIGH RISK	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than value of the property.
H HIGH RISK	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M MODERATE RISK	May be tolerated in certain circumstances (subject to regulator’s approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L LOW RISK	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL VERY LOW RISK	Acceptable. Manage by normal slope maintenance procedures.

- Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide.

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#5 Documents to be Amended

Property Vegetation Management Plan

300 Dwane Road, Delaneys Creek QLD (Lot 21 on C31989) (D'Aguilar South)

NBN Co

Reference: 247473

Revision: 1

30 April 2018



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Document control record

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Appendix A

General Arrangement Drawing

Figures

- Figure 1 Proposed development
- Figure 2 Development footprint and Trees to be removed
- Figure 3 Location of proposed monopole and associated ancillary components (south-west)
- Figure 4 Existing access track from the compound to Dwane Road (facing north)

Tables

- Table 1 Trees with a DBH > 15cm, contained within the Project Plan of Layout (refer Figure 2 for a tree plot)
- Table 2 Vegetation management measures

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1 Introduction

1.1 Project background

The National Broadband Network (nbn™) has engaged Ericsson as the equipment vendor and Project Manager to establish the infrastructure required to facilitate the fixed wireless component of the nbn. Ericsson has in turn engaged Aurecon to act on its behalf in relation to the establishment of the required fixed wireless network infrastructure.

The national broadband network (nbn) is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

nbn™ plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

To support the Fixed Wireless component of this network, nbn™ requires a Fixed Wireless transmission site to provide Fixed Wireless internet coverage to the D'Aguilar South area.

An in-depth site selection process was undertaken in the area prior to confirming the site as the preferred location. This process matched potential candidates against four key factors, namely:

- Town planning considerations (such as zoning, surrounding land uses, environmental significance and visual impact)
- The ability of the site to provide acceptable coverage levels to the area
- Construction feasibility
- The ability for nbn™ to secure a lease agreement with the landowner

The nbn™ is proposing to establish a fixed wireless facility at 300 Dwane Road, Delaneys Creek QLD (Lot 21 on C31989) (D'Aguilar South) (refer Figure 1). The proposed "D'Aguilar South" fixed wireless facility (henceforth referred to as the "the Project") comprises a new 50 m high lattice tower, along with ancillary components. It is proposed that the facility will be located on Lot 21 on C31989, with entry to the facility through existing access tracks from Dwane Road, located to the north of the Project.

1.2 Purpose of the plan

Aurecon, on behalf of nbn™, are responding to information requested by Moreton Bay Regional Council (MBRC) (DA/32442/2016/V2U) and the State Assessment Referral Agency (SARA) (1801-3267 SRA) dated 18 February 2018.

Specifically, SARA has requested the following: "*Please supply a Property Vegetation Management Plan (PVMP) showing the extent of Category B area to be cleared for access to the construction site and for construction of the tower and associated infrastructure. The PVMP must also include the firebreak area regardless of whether it is to be cleared or not.*"

In addition, MBRC has requested the following: "*...it is requested that a plan, explicitly denoting the trees that are to be removed be submitted. The plan should identify the habitat status of each of the trees*"

It is the purpose of this plan to combine the information requested by SARA and by MBRC as a single document to satisfy their information request.

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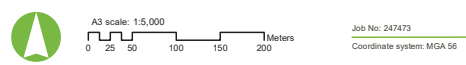


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- Legend**
- Proposed development
 - Property boundary
 - Cadastre
- Regulated Vegetation Management**
- Category B area (Remnant vegetation)

Source:
Aerial Imagery: NearMap
Regulated Vegetation Management v1.48: Department of Natural Resources and Mines, 2017

Date: 05/03/2018 Version: 0



NBN Co Property Vegetation Management Plan - 300 Dwane Road, Delaneys Creek QLD (Lot 21 on C31989) (D'Aguiar South)

Figure 1: Proposed development

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2 Project layout

The Development Footprint (ie Plan of Layout) is presented in Figure 2. The Development Footprint has been prepared to illustrate:

- The location and extent of the site works
- Areas of proposed infrastructure
- Illustrate the location of vegetation to be cleared or potentially cleared (that within the proposed development and firebreak) and retained (that contained outside of the disturbance footprint)

3 Tree species within the area of impact and fire break area

The location of trees contained within the Development Footprint is presented in Figure 2. In total, one-hundred and twenty-one (121) trees with a Diameter of Breast Height (DBH) greater than, or equal to 15cm are contained within or directly adjacent to the Development Footprint. Trees identified within the Development footprint (incl. the fire break area), including comments related to their size and fauna habitat values, are presented in Table 1.

Table 1 Trees with a DBH > 15cm, contained within the Development Footprint (refer Figure 2 for a tree plot)

Tree Number	Scientific Name	Common Name	DBH (cm)	Height (m)	Co-ordinates		Comments/Fauna features
					Latitude	Longitude	
1	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	50	16	-27.0176	152.807	No hollows present
2	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	40	16	-27.0176	152.8069	No hollows present
3	<i>Corymbia tessellaris</i>	Moreton-Bay Ash	15	8	-27.0176	152.8069	No hollows present
4	<i>Corymbia tessellaris</i>	Moreton-Bay Ash	10	5	-27.0177	152.8069	No hollows present
5	<i>Allocasuarina littoralis</i>	Black She-Oak	30	12	-27.0176	152.8067	No hollows present
6	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	30	18	-27.0176	152.8067	No hollows present
7	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	35	18	-27.0177	152.8067	No hollows present
8	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	25	14	-27.0177	152.8068	No hollows present
9	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	35	15	-27.0177	152.8068	No hollows present
10	<i>Eucalyptus siderophloia</i>	Grey Ironbark	40	18	-27.0177	152.8068	No hollows present
11	<i>Corymbia intermedia</i>	Pink Bloodwood	30	15	-27.0178	152.8068	No hollows present
12	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	35	18	-27.0178	152.8069	No hollows present
13	<i>Corymbia intermedia</i>	Pink Bloodwood	40	20	-27.0178	152.8068	No hollows present
14	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	25	14	-27.0178	152.8068	No hollows present
15	<i>Corymbia tessellaris</i>	Moreton-Bay Ash	45	18	-27.0178	152.8067	No hollows present
16	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	30	18	-27.0178	152.8067	No hollows present

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Tree Number	Scientific Name	Common Name	DBH (cm)	Height (m)	Co-ordinates		Comments/Fauna features
					Latitude	Longitude	
17	Dead Tree	Stag Tree	45	14	-27.0178	152.8068	Multi-stemmed, small hollows present, decorticated bark, potential habitat for microbats and gliders
18	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	50	20	-27.0179	152.8068	Small hollows in upper limbs. Knots in trunk
19	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	40	18	-27.0179	152.8068	No hollows present
20	<i>Eucalyptus siderophloia</i>	Grey Ironbark	15	12	-27.0179	152.8068	No hollows present
21	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	20	13	-27.0179	152.8068	No hollows present
22	<i>Macaranga tanarius</i>	Macaranga	15	6	-27.0179	152.8068	No hollows present
23	<i>Mallotus philipensis</i>	Red Kamala	12	6	-27.0179	152.8067	No hollows present
24	<i>Corymbia intermedia</i>	Pink Bloodwood	40	20	-27.0179	152.8067	Small hollows in upper limbs
25	<i>Corymbia tessellaris</i>	Moreton-Bay Ash	20	14	-27.0179	152.8067	hollow in trunk
26	<i>Allocasuarina littoralis</i>	Black She-Oak	15	15	-27.0179	152.8066	No hollows present
27	<i>Corymbia intermedia</i>	Pink Bloodwood	35	19	-27.018	152.8066	No hollows present
28	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	40	22	-27.018	152.8066	No hollows present
29	<i>Corymbia trachyphloia</i>	Brown Bloodwood	20	16	-27.018	152.8066	No hollows present
30	<i>Allocasuarina torulosa</i>	Forest She-Oak	20	12	-27.0179	152.8066	No hollows present
31	<i>Corymbia tessellaris</i>	Moreton-Bay Ash	30	16	-27.0179	152.8065	No hollows present
32	<i>Corymbia tessellaris</i>	Moreton-Bay Ash	15	12	-27.0179	152.8065	No hollows present
33	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	50	24	-27.0179	152.8065	Small hollows in upper branches
34	<i>Corymbia intermedia</i>	Pink Bloodwood	15	14	-27.0179	152.8065	
35	<i>Corymbia intermedia</i>	Pink Bloodwood	35	19	-27.0179	152.8065	Small hollows in upper branches
36	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	20	15	-27.0179	152.8065	No hollows present
37	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	45	20	-27.018	152.8065	Termite nest within tree, some hollows in upper branches
38	<i>Corymbia intermedia</i>	Pink Bloodwood	20	18	-27.018	152.8064	Dead branches may contain some hollows
39	<i>Jagera pseudorhus</i>	Foambark	25	13	-27.018	152.8063	No hollows present
40	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	30	18	-27.018	152.8063	No hollows present
41	<i>Corymbia intermedia</i>	Pink Bloodwood	35	16	-27.018	152.8063	No hollows present
42	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	45	21	-27.018	152.8063	Hollow limbs present
43	<i>Eucalyptus acmenoides</i>	Stringy-Bark	25	16	-27.0181	152.8063	No hollows present

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Tree Number	Scientific Name	Common Name	DBH (cm)	Height (m)	Co-ordinates		Comments/Fauna features
					Latitude	Longitude	
44	<i>Eucalyptus crebra</i> (dead)	Narrow-leaved Ironbark	50	20	-27.0181	152.8063	Dead Tree. Hollows and decortivating bark present
45	<i>Corymbia intermedia</i>	Pink Bloodwood	40	18	-27.0181	152.8062	No hollows present
46	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	45	16	-27.0181	152.8062	No hollows present
47	<i>Corymbia trachyphloia</i>	Brown Bloodwood	40	18	-27.018	152.8063	No hollows present
48	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	40	16	-27.018	152.8063	Foliage in canopy appears to have been grazed (eg. Possum of Koala)
49	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	30	23	-27.018	152.8064	No hollows present
50	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	50	20	-27.018	152.8065	Termite nest present within tree
51	<i>Allocasuarina littoralis</i>	Black She-Oak	15	8	-27.018	152.8065	No hollows present
52	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	15	12	-27.018	152.8065	No hollows present
53	<i>Allocasuarina littoralis</i>	Black She-Oak	20	14	-27.018	152.8065	No hollows present
54	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	60	18	-27.0181	152.8065	Feral bees (<i>Apis mellifera</i>) present near tree, may contain a bee-hive
55	Dead Tree	Stag Tree	30	15	-27.0181	152.8066	No hollows present
56	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	40	22	-27.0181	152.8065	No hollows present
57	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	40	25	-27.0182	152.8066	No hollows present
58	<i>Corymbia intermedia</i>	Pink Bloodwood	15	14	-27.018	152.8066	No hollows present
59	<i>Allocasuarina littoralis</i>	Black She-Oak	20	12	-27.0181	152.8066	No hollows present
60	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	25	16	-27.0181	152.8066	No hollows present
61	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	30	17	-27.0181	152.8067	No hollows present
62	<i>Corymbia intermedia</i>	Pink Bloodwood	35	18	-27.018	152.8066	Termite nest present within tree
63	<i>Eucalyptus tereticornis</i> (dead)	Queensland Blue-Gum	60	15	-27.018	152.8067	Dead Tree. Multiple hollows and decortivating bark present
64	<i>Mallotus phillipensis</i>	Red Kamala	25	10	-27.0181	152.8067	No hollows present
65	<i>Corymbia intermedia</i>	Pink Bloodwood	50	16	-27.0181	152.8068	Termite nest present within tree
66	<i>Corymbia intermedia</i>	Pink Bloodwood	25	10	-27.0181	152.8068	No hollows present
67	<i>Corymbia intermedia</i>	Pink Bloodwood	15	10	-27.0181	152.8068	No hollows present
68	<i>Eucalyptus tereticornis</i> x	Queensland Blue-Gum	35	18	-27.0181	152.8068	Tree is a hybrid between <i>T. tessellaris</i> and <i>E. tereticornis</i>
69	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	20	8	-27.0182	152.8067	No hollows present

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Tree Number	Scientific Name	Common Name	DBH (cm)	Height (m)	Co-ordinates		Comments/Fauna features
					Latitude	Longitude	
70	<i>Acacia</i> sp. (dead)	Wattle	40	15	-27.0181	152.8068	No hollows present
71	<i>Mangifera indica</i>	Mango	50	16	-27.0181	152.8069	No hollows present
72	<i>Acacia</i> sp.	Wattle	15	12	-27.0182	152.8068	No hollows present
73	<i>Acacia</i> sp.	Wattle	15	12	-27.0184	152.8067	No hollows present
74	<i>Acacia</i> sp.	Wattle	15	12	-27.0184	152.8066	No hollows present
75	<i>Lophostemon suaveolens</i>	Swamp Box	18	12	-27.0183	152.8066	No hollows present
76	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	40	16	-27.0182	152.8066	No hollows present
77	<i>Eucalyptus tereticornis</i>	Queensland Blue-Gum	20	14	-27.0182	152.8066	No hollows present
78	<i>Corymbia tessellaris</i>	Moreton-Bay Ash	15	16	-27.0182	152.8065	No hollows present
79	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	20	17	-27.0182	152.8065	Termite nest within tree
80	<i>Corymbia intermedia</i>	Pink Bloodwood	80	23	-27.0182	152.8065	Small hollows present in upper branches
81	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	20	15	-27.0182	152.8065	No hollows present
82	<i>Corymbia trachyphloia</i>	Brown Bloodwood	35	17	-27.0182	152.8065	No hollows present
83	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	50	19	-27.0182	152.8065	Small hollows present in trunk
84	<i>Melia azedarach</i>	White Cedar	15	12	-27.0182	152.8065	No hollows present
85	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	65	22	-27.0182	152.8065	No hollows present
86	<i>Corymbia intermedia</i>	Pink Bloodwood	45	18	-27.0182	152.8065	No hollows present
87	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	60	23	-27.0182	152.8063	1 small hollow present
88	<i>Corymbia intermedia</i>	Pink Bloodwood	60	23	-27.0182	152.8063	No hollows present
89	<i>Corymbia intermedia</i>	Pink Bloodwood	15	16	-27.0182	152.8063	No hollows present
90	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	20	18	-27.0182	152.8063	No hollows present
91	<i>Corymbia intermedia</i>	Pink Bloodwood	15	18	-27.0182	152.8064	No hollows present
92	<i>Allocasuarina littoralis</i>	Black She-Oak	23	12	-27.0183	152.8065	No hollows present
93	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	10	18	-27.0183	152.8065	Termite nest present within tree
94	<i>Corymbia intermedia</i>	Pink Bloodwood	20	15	-27.0183	152.8065	No hollows present
95	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	40	23	-27.0183	152.8065	No hollows present
96	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	45	20	-27.0184	152.8064	Some hollow limbs in upper canopy
97	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	35	16	-27.0183	152.8064	No hollows present
98	<i>Corymbia intermedia</i>	Pink Bloodwood	30	18	-27.0183	152.8064	No hollows present
99	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	65	25	-27.0183	152.8064	No hollows present

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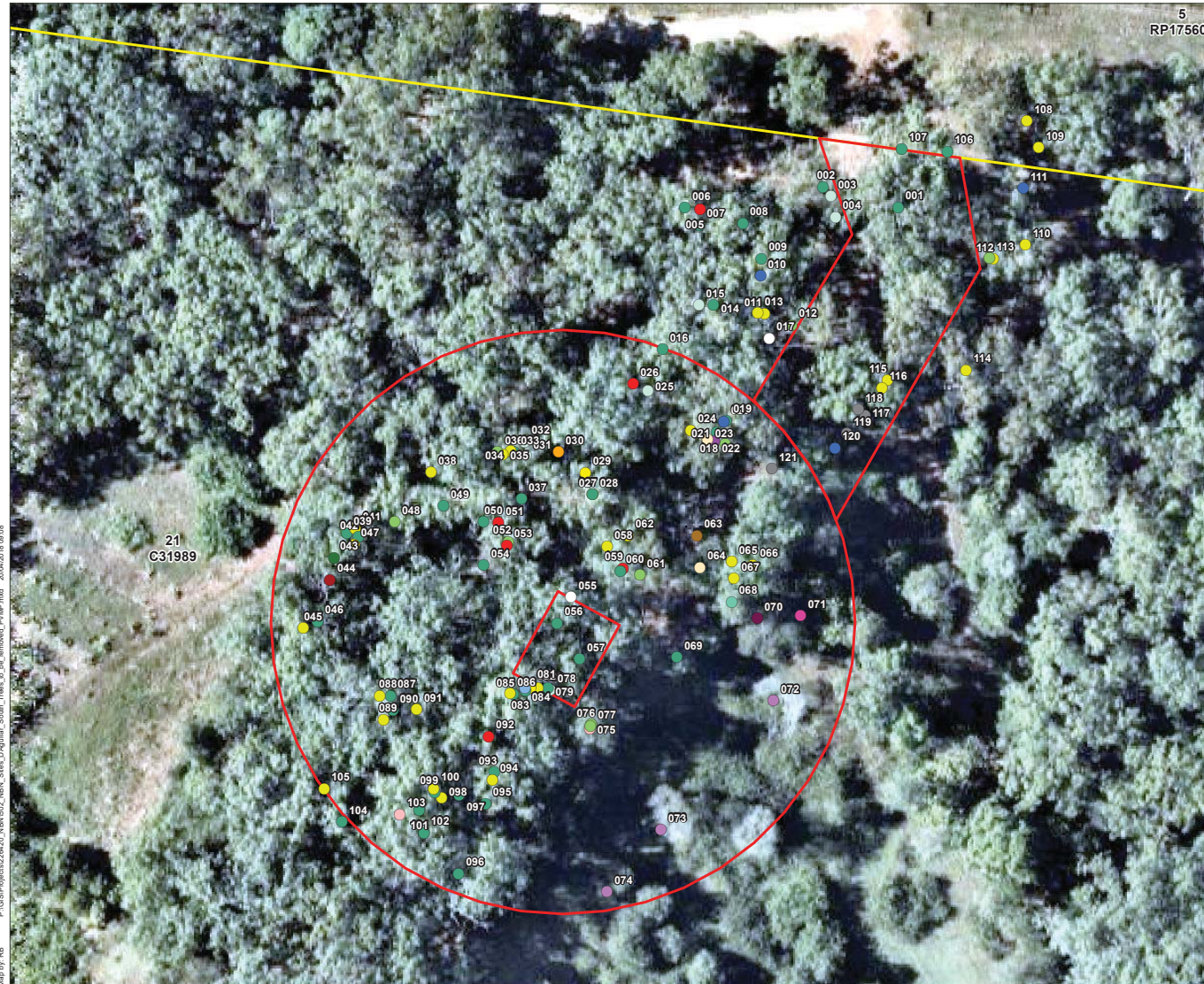
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Tree Number	Scientific Name	Common Name	DBH (cm)	Height (m)	Co-ordinates		Comments/Fauna features
					Latitude	Longitude	
100	<i>Corymbia intermedia</i>	Pink Bloodwood	15	16	-27.0183	152.8064	No hollows present
101	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	70	25	-27.0183	152.8064	No hollows present
102	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	40	18	-27.0184	152.8064	No hollows present
103	<i>Lophostemon suaveolens</i>	Swamp Box	15	12	-27.0184	152.8063	No hollows present
104	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	65	21	-27.0184	152.8063	No hollows present
105	<i>Corymbia intermedia</i>	Pink Bloodwood	40	18	-27.0183	152.8062	No hollows present
106	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	60	20	-27.0175	152.8070	No Hollows Present
107	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	50	20	-27.0175	152.8069	No Hollows Present
108	<i>Corymbia intermedia</i>	Pink Bloodwood	50	15	-27.0175	152.8071	No Hollows Present
109	<i>Corymbia intermedia</i>	Pink Bloodwood	35	12	-27.0175	152.8071	No Hollows Present
110	<i>Corymbia intermedia</i>	Pink Bloodwood	50	19	-27.0176	152.8071	No Hollows Present
111	<i>Eucalyptus siderophloia</i>	Grey Ironbark	50	19	-27.0176	152.8071	No Hollows Present
112	<i>Corymbia intermedia</i>	Pink Bloodwood	30	16	-27.0177	152.8071	No Hollows Present
113	<i>Eucalyptus tereticornis</i>	Qld Blue Gum	50	22	-27.0177	152.8071	No Hollows Present
114	<i>Corymbia intermedia</i>	Pink Bloodwood	60 (2 stems)	15	-27.0178	152.8070	Arboreal Termite Mound present
115	<i>Corymbia intermedia</i>	Pink Bloodwood	40	20	-27.0178	152.8069	Arboreal Termite Mound present
116	<i>Corymbia intermedia</i>	Pink Bloodwood	40	18	-27.0178	152.8069	No Hollows Present
117	<i>Angophora woodsiana</i>	Smudgy	30	15	-27.0178	152.8069	No Hollows Present
118	<i>Angophora woodsiana</i>	Smudgy	15	10	-27.0178	152.8069	No Hollows Present
119	<i>Angophora woodsiana</i>	Smudgy	20	10	-27.0179	152.8069	No Hollows Present
120	<i>Eucalyptus siderophloia</i>	Grey Ironbark	20	8	-27.0179	152.8069	No Hollows Present
121	<i>Angophora woodsiana</i>	Smudgy	70 (3 stems)	15	-27.01795	152.8068	No Hollows Present

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aurecon

Legend

- Proposed development
- Property boundary
- Cadastre

Trees within Development footprint

- Black She-Oak (*Allocasuarina littoralis*)
- Brown Bloodwood (*Corymbia trachyphloia*)
- Foambark (*Jagera pseudorhus*)
- Forest She-Oak (*Allocasuarina torulosa*)
- Grey Ironbark (*Eucalyptus siderophloia*)
- Macaranga (*Macaranga tanarius*)
- Mango (*Mangifera indica*)
- Moreton-Bay Ash (*Corymbia tessellaris*)
- Narrow-leaved Ironbark (*Eucalyptus crebra*)
- Narrow-leaved Ironbark (*Eucalyptus crebra*) (dead)
- Pink Bloodwood (*Corymbia intermedia*)
- Queensland Blue-Gum (*Eucalyptus tereticornis*)
- Queensland Blue-Gum (*Eucalyptus tereticornis*) (dead)
- Queensland Blue-Gum (*Eucalyptus tereticornis* x)
- Red Kamala (*Mallotus philippensis*)
- Smudgy (*Angophora woodsiana*)
- Stag Tree (Dead)
- Stringy-Bark (*Eucalyptus acmenoides*)
- Swamp Box (*Lophostemon suaveolens*)
- Wattle (*Acacia* sp.)
- Wattle (*Acacia* sp.) (dead)
- White Cedar (*Melia azedarach*)

Source:
Aerial Imagery: NearMap

Date: 20/04/2018 Version: 3



A3 scale: 1:500
0 2.75 5.5 11 16.5 22 Meters

Job No: 247473
Coordinate system: MGA 56

NBN Co Property Vegetation Management Plan - 300 Dwane Road, Delaneys Creek QLD (Lot 21 on C31989) (D'Aguiar South)

Figure 2: Development footprint and Trees to be removed

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

4 Project management

4.1 Key aims and outcomes

- To formulate and implement vegetation management actions
- To clearly identify objectives, methodologies and reporting lines
- To inform all relevant stakeholders of their responsibilities

4.2 Approach

This Property Vegetation Management Plan will form an integral part of the Project's construction phase. Any vegetation clearing works associated with the Project are to follow the measures stipulated in this plan. Should vegetation clearing works be required to extend beyond the limits specified in this plan (shown on Figure 2 as the Development Footprint), approval must be sought from the appropriate authorities and relevant amendments made to this plan prior to works commencing.

The vegetation management actions and the methods to be employed to monitor the implementation and success of the actions are provided in section 4.0 of this plan.

4.2.1 Training and awareness

All staff personnel, contractor staff, consultants and subcontractors will be made aware of their role in vegetation management on the Project site prior to the commencement of clearing activities.

All staff personnel, contractor staff, consultants and subcontractors will be required to complete a site induction prior to commencing any site work. The site induction will include, but will not be limited to, the following points:

- Site personnel will be informed that vegetation clearing must only occur in areas that have been marked for clearing and approved by the relevant agencies
- Site personnel will be advised of areas that are to be retained and remain undamaged by the project activities
- Vehicle traffic must remain on designated tracks only and not disturb surrounding vegetation unless authorised to do so
- Contractors shall not knowingly introduce any Restricted Matter as listed in Schedule 2 of the *Biosecurity Act 2015*. Contractors will be responsible for ensuring all machinery under their control is pest and weed free
- Site personnel will be informed that all native wildlife is protected and shall not be intentionally harmed, stressed or otherwise impacted as a result of works or workers' actions
- Site personnel will not interfere with any fauna in any way. If an animal is impeding project works, staff will not be permitted to interfere with the animal in any way. In such cases staff must wait for the animal to move on or contact a qualified and registered spotter/catcher to relocate the animal.
- Site personnel are to be made aware of the species inhabiting the area and any potential risk the animals may pose (eg snakes)
- Site personnel will be educated in relation to the risks of fauna deaths and how to manage animals that are injured, displaced or orphaned species. Site personnel must contact a certified spotter catcher should the situation arise, and any injured fauna must be safely taken to the nearest vet by the spotter catcher.
- An inspection of any trenches and other structures that have the potential to act as fauna traps, is to be undertaken on a daily basis where applicable, to determine whether there are any trapped or injured fauna species present and employ the relevant action as appropriate to ensure the health/wellbeing of the animal

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4.2.2 Point of contact

The contact details of the person nominated to oversee the vegetation clearing works and responsible for implementing the vegetation management actions on site are provided below:

Name: Cezary Szablowski
Position: Field Manager
Company: Visionstream
Phone: 0429 389 225
Email: Cezary.Szablowski@visionstream.com.au

5 Vegetation protection

5.1 Key aims and outcomes

- To limit vegetation clearing to that which is necessary for the construction of the nbn Project and protect and reduce environmental impacts

5.2 Approach

Table 2 presents the vegetation protection measures to be implemented during the Project construction phase.

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Table 2 Vegetation management measures

Management measure ID	Control activity	Timing	Responsibility	Monitoring and reporting compliance		
				Activity	Activity timing	Activity performed by
Vegetation management						
VM 1	Comply with the mitigation measures outlined in this Plan	PD	All staff	PI/CL	PD	All staff
VM 2	In the instance where undertaking an action identified in this Plan represents a threat to human safety, the action is not to be undertaken. Records are to be kept detailing why the action was not undertaken and ensure that these records are made available to any relevant administering authority upon request	PD	SM	PI/CL	PD	All staff
VM 3	Ensure that vegetation clearing boundaries are established with visible and physical markings delineating the disturbance footprint and ensure that all contractors are aware of these boundaries	Pre C	SM/HSER	PI	WR	SM/HSER or delegate
VM 4	The clearing of all areas will be restricted to the areas contained within the disturbance footprint as indicated on Figure 2 (also see Appendix A) to enable safe construction, operation and maintenance of the project infrastructure. These areas are also to incorporate an appropriate fire break as indicated in Figure 2.	PD	SM	PI/CL	PD	SM
VM 5	No vegetation clearing is to take place without the appropriate vegetation clearing permits issued by the relevant government authority in place	PD	SM	PI/VI/CL	PD	SM/PE/HSER
VM 6	No vegetation is to be burned as a form of removal or disposal	PD	PE/HSER/SM	PI	PD	PE/SM
VM 7	Native tree species which are cleared, damaged or unintentionally removed during construction activities, this must be replaced by the proponent or relevant contractor, at a ratio of 1:1. The identification of trees to be removed is provided in Figure 2 and Table 1. Vegetation will be planted, where practical, on the subject lot following final profiling. Specimens planted as part of the compensatory planting will be sufficiently watered and maintained until establishment (ie. 6 months). Plants that die during this 6-month period are to be replaced (replanted) at a ratio of 1:1.	PD	HSER/SM	PI	WR	HSER/SM
VM 8	Where practical, cleared vegetation will be recycled on site as mulch and used for purposes such as landscaping and rehabilitation	PD	HSER/SM	PI	WR	HSER/SM

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Management measure ID	Control activity	Timing	Responsibility	Monitoring and reporting compliance		
				Activity	Activity timing	Activity performed by
VM 9	Rehabilitation monitoring will occur post disturbance, to ensure that ground stability has been achieved with no instances of erosion or scouring. The viability of planted vegetation will be assessed at this time. In instances where planted specimens have died within 6 months of planting, these specimens will be replaced using the same species. Plants will be watered and tendered sufficiently to ensure their establishment. In instances where erosion and/or scouring has occurred remediation works must be undertaken as soon as reasonably practical.	WR	HSER/SM	PI/VI	WR	HSER/SM
Fauna management						
VM 10	All site personnel are to be made aware of local fauna that could occur on site. Fauna are only to be handled by suitably qualified personnel	PD	SM/HSER	PI/VI	WR	HSER
VM 11	Implement fauna escape devices such as planks within trenches where practical to enable fauna to exit hazardous areas within the construction site.	PD	PM/HSER	VI	WR	PM
VM 12	<p>A certified fauna spotter/catcher (ie holding a Damage Mitigation Permit (Removal and Relocation of Wildlife) and/or Rehabilitation Permit (issued by the <i>Department of Environment and Science</i> [DES]) will be engaged, as needed (ie where fauna habitat is identified such as trees containing hollows, or in instances where there is a likelihood that fauna may be adversely impacted by the clearing activities). The fauna spotter/catcher is to inspect the project area immediately prior to vegetation clearing. The Contractor will give notice to the Principal prior to commencing any clearing within the project area. The fauna spotter/catcher will:</p> <ul style="list-style-type: none"> ■ Identify and clearly mark (onsite with flagging tape or similar) and map all hollow bearing and potentially hollow bearing trees, as well as hollow logs, immediately prior to vegetation clearing. These will be retained wherever practicable. Identification of all habitat trees requiring specific management measures will occur prior to developing a clearing schedule for the project so that sufficient time is allowed for removal of hollow bearing trees ■ Clearly identify clearing boundaries within the approved disturbance footprint. No clearing or disturbance is to occur outside these boundaries ■ Where practical, active breeding nests will be relocated prior to clearing ■ Identify infrastructure which is used by fauna (eg culverts may be used by some species for shelter/roosting). This is to be tagged and to remain undisturbed until the spotter/catcher has relocated any fauna inhabiting such areas 	Pre C	HSER/SM	PI/CL	WR	HSER

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Management measure ID	Control activity	Timing	Responsibility	Monitoring and reporting compliance		
				Activity	Activity timing	Activity performed by
VM 13	<p>Ensure any trees proposed for disturbance containing hollows, have the timber containing hollows removed (as outlined below) by a qualified arborist and a certified spotter/catcher prior to the commencement of any clearing in order to safely remove any fauna species which might be located inside. Actions to be implemented include:</p> <ul style="list-style-type: none"> ■ Hollows identified as containing fauna shall be plugged with a suitable material such as a towel, the section removed from the tree and gently lowered to the ground using ropes. Measures will be taken to avoid injuring animals. ■ Displaced fauna shall then be relocated (within their hollows) to a suitable, previously identified recipient site, provided the animal did not sustain any injuries. Any injured animals (native or introduced) are to be taken to receive veterinary attention immediately. Once recovered, animals will be relocated to an area of similar habitat adjoining the project area ■ All removed hollows not containing fauna shall be reattached to suitable trees in suitable recipient sites or adjacent to the project area ■ In the case of the presence of other fauna species, the spotter/catcher will encourage the fauna to leave by reasonable means or capture and relocate it in the local environment prior to felling and trimming. If the spotter/catcher determines that a fauna species is present in a tree he/she will remove the animal prior to the felling of that tree or any tree of which the crown overlaps that tree. All members of staff have an obligation to report any fauna species seen in areas to be cleared to the fauna spotter/catcher prior to clearing ■ A method of removing the hollows will be implemented which ensures that hollows are gently lowered to the ground and the chance of fauna mortality is minimised 	Pre C	HSER/SM	PI/CL	WR	HSER
VM 14	Where practical, any fauna to be relocated will be moved to an area of similar habitat adjoining the project area. Suitable relocation areas will be identified prior to the commencement of clearing	Construction	HSER/SM	PI/CL	WR	HSER
VM 15	The Principal will report any environmental incidents, including those which involve harm to native wildlife, to DES within 24 hours of the incident occurring. The report will include details on the location and cause of the incident, extent of impact and corrective action taken. Report are to be submitted to: wildlife.management@ehp.qld.gov.au	PD	SM	PI	PD	SM

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Management measure ID	Control activity	Timing	Responsibility	Monitoring and reporting compliance		
				Activity	Activity timing	Activity performed by
Vehicle movement and storage						
VM 16	All vehicles will remain on designated tracks and roadways within the project footprint	PD	All Staff	PI/CL	PD	SM
VM 17	Exclude parking of vehicles, storage of plant and equipment and stockpiling from the drip zones of trees (to avoid soil compaction)	PD	All Staff	PI/CL	PD	SM
VM 18	Place appropriate signage as required in prominent positions within the project area to reduce speed, promote awareness and provide safety for fauna crossing or inhabiting the area	Pre C	PE/HSER/SM	PI	WR	SM
VM 19	Storage of machinery, materials or equipment shall be within designated areas that have already been disturbed and outside of the drip zone of any trees. Areas outside of the Project footprint must not be disturbed in order to create storage areas	PD	All Staff	PI/CL	PD	SM
VM 20	Ensure all contractors are aware that all waste must be discarded in suitable waste receptacles that cannot be accessed by wildlife and must be removed from site following project completion	PD	SM/PE	VI	Daily	PE
Pest and weed management						
VM 21	Fill and imported soil materials if required for use on site, are to be sourced from weed free areas or suppliers	PD	HSER/SM	PI/VI/CL	Weekly	HSER/SM
VM 22	Weekly visual inspections are to be conducted by the HSER to identify any significant weed infestation. Any restricted matter as identified in Schedule 2 of the <i>Biosecurity Act 2015</i> , are to be controlled as necessary	PD	HSER	VI	Weekly	HSER
VM 23	Any vehicles or machinery coming onto site from an area known to contain a restricted matter as identified in Schedule 2 of the <i>Biosecurity Act 2015</i> , are to be washed down prior to entry to site.	PD	HSER/SM	Monitoring	Daily	HSER/SM
VM 24	A weed audit/inspection will be undertaken at the completion of construction and again 3 months after construction is complete to ensure that weed infestations do not increase as a result of the construction works. Where weeds are detected treatment must be undertaken to control outbreaks	WR	HSER/SM	PI/VI	WR	HSER/SM
Erosion, drainage and sediment control						
VM 25	No stormwater will be discharged from the site without passing through appropriate treatment devices.	PD	HSER/SM	VI	Weekly and daily during rainfall event	PE

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Management measure ID	Control activity	Timing	Responsibility	Monitoring and reporting compliance		
				Activity	Activity timing	Activity performed by
VM 26	Material stockpile areas shall be located as far as practicable from sensitive receptors such as drainage lines, creeks and roads	PD	HSER/SM	PI	As required during earthworks	PE and sub-contractors
VM 27	Sediment fences shall be located along the downslope construction boundary fence as required. Sediment fence posts should have maximum spacing of 2m and be installed appropriately.	PD	HSER/SM	VI/PI	Weekly	Sub-contractors PE and HSER
VM 28	Sediment fences must be inspected daily for UV degradation, effectiveness and capacity (maintained at greater than 60%). Sediment fences must not be removed until disturbed areas have been stabilised. Replacement is to occur as required.	PD	HSER/SM	VI/PI	Weekly	HSER/Sub contractor
VM 29	All truck loads will be covered as required for potentially dusty materials exiting the site.	PD	SM	VI	WR	HSER/PE

Table notes:

Pre C Pre Construction WR When Required PE Project Engineer HSER Environmental Representative PI Practical Implementation CL Checklist
 PD Project Duration SM Site Manager VI Visual inspection

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

6 Clearing and disposal

6.1 Key aims and outcomes

- To minimise the adverse impacts of vegetation clearance
- To maximise recycling or reuse of cleared vegetation

6.2 Approach

Figure 1 illustrates the proposed development area. Figure 2 illustrates the location and extent of the site works, and Table 1 identifies trees and their associated habitat features contained within the development area, including the proposed fire break. Table 2 provides a number of mitigation measures which will be implemented to minimise adverse impacts associated with vegetation clearing, including the clear demarcation of vegetation clearing limits and the recycling of cleared vegetation on site for mulch where appropriate.

The following sections provide further information relating to the existing vegetation structure and habitat value of the proposed clearing area and the areas of vegetation to be retained on the subject lot.

6.2.1 Proposed clearing area

The subject lot upon which the project is contained is predominantly vacant, with much of the property dominated by stands of native vegetation (refer Figure 3) and agricultural plantations (ie. Mango, Banana, Mulberry and Dragon fruit orchids). A single dwelling is located on Lot 21 (C31989). The subject land contains steep topography that slopes towards the north and east.

The site is located to the south of Dwane Road and located within a rural setting (refer to Figures 1 and 2). Access to the subject site will be provided via the existing property access from Dwane Road (Figure 4).

A number of trees are required to be removed for the proposed compound area and access route. In addition, multiple native trees may need to be cleared to create a fire-break. These trees are indicated in Figure 2 and identified in Table 1. Section 3 provides further details related to trees contained within the disturbance footprint.

6.2.1 Vegetation to be retained

Vegetation to be retained is indicated in Figure 2 as all vegetation located outside of the disturbance footprint will remain untouched (ie vegetation contained outside of the proposed area and associated access routes).

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Figure 3 Location of proposed monopole and associated ancillary components (south-west)



Figure 4 Existing access track from the compound to Dwane Road (facing north)

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7 Rehabilitation and maintenance

7.1 Key aims and outcomes

- To restore landforms and topsoil to facilitate natural recruitment processes post construction phase
- To maximise survival opportunities of retained vegetation adjacent to areas disturbed as part of the project construction activities

7.2 Approach

Earth disturbance and vegetation proposed for removal has been limited to that which is considered necessary to facilitate project construction and safe operation, with the inclusion of a mandatory firebreak (Figure 1 and Figure 2).

Areas within the Project Footprint that are disturbed during construction and do not support infrastructure will be rehabilitated in relation to landform and topsoil to facilitate the natural recruitment of locally occurring flora species.

The following maintenance works will be undertaken on site, following construction, to ensure the cleared areas are suitably rehabilitated and maintained:

- Rehabilitation monitoring post disturbance to ensure that ground stability has been achieved with no instances of erosion or scouring shall be undertaken. In addition, the viability of planted vegetation will be assessed. In instances where planted specimens have died within 6 months of planting, these specimens will be replaced using the same species. Plants will be watered and tendered sufficiently to ensure their establishment. In instances where erosion and/or scouring has occurred remediation works must be undertaken as soon as reasonably practical.
- A weed audit/inspection will be undertaken at the completion of construction and again 3 months after construction is complete to ensure that weed infestations do not occur as a result of the construction works. Where weeds are detected treatment must be undertaken to control outbreaks of species listed under the *Biosecurity Act 2015*.

8 Conclusion

This PVMP provides mitigation strategies to reduce impacts to extant flora and fauna species located within and adjacent to the Project area.

Compliance with the mitigations strategies contained within this PVMP will ensure that the proposed works are conducted in a sustainable manner.

Should situations arise in relation to flora and fauna that have not been addressed in this PVMP, works are to cease until such time and this PVMP is amended to address the unforeseen circumstance.

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A

General Arrangement Drawing

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	13.07.17	07.12.17	23.01.18			
DATE OF ISSUE						
DRAWING PACKAGE VERSION	1	2	3			
GENERAL						
4WDF-51-03-DAGU-T1 COVER SHEET	01	02	03			
4WDF-51-03-DAGU-C1 SITE SPECIFIC NOTES	01	01	01			
4WDF-51-03-DAGU-C2 OVERALL SITE PLAN	01	02	02			
4WDF-51-03-DAGU-C3 SITE SETOUT PLAN	01	02	03			
4WDF-51-03-DAGU-C4 SITE ELEVATION AND DETAILS	01	02	02			
ELECTRICAL						
RF AND TX CONFIGURATIONS						
4WDF-51-03-DAGU-A1 NBN ANTENNA CONFIGURATION & SETOUT PLAN	01	02	02			
STRUCTURAL						
CIVIL						
LATTICE TOWER DOCUMENTATION						
LEASE						
DISTRIBUTION						
ERICSSON	KATE DOUGHAN	1	1	1		
AURECON	LISA SHIELDS	1	1	1		

SITE CODE: 4WDF-51-03-DAGU

D'AGUILAR SOUTH

300 DWANE ROAD
DELANEYS CREEK
QLD 4514

RFNSA No: 4514012



Australia's
broadband
network

PROJECT SUMMARY

PROPOSED NBN 50m GREENFIELD LATTICE TOWER
PROPOSED NBN OUTDOOR CABINETS ON CONCRETE SLAB ON GROUND

Client: 	
Client: 	
Client:	
Project: NATIONAL BROADBAND NETWORK SITE No: 4WDF-51-03-DAGU D'AGUILAR SOUTH 300 DWANE ROAD DELANEYS CREEK QLD 4514	
PRELIMINARY	
03 23.01.18 LAYOUT UPDATED	
02 07.12.17 RF DESIGN REVISED	
01 13.07.17 PRELIMINARY ISSUE	
Rev Date Revision Details	
 Aurecon Australia Pty Ltd ABN 54 005 139 873	
DESIGNER: JR	
CHECKED: MR	
APPROVED: LS	
Drawing Title: COVER SHEET	
Drawing No: 4WDF-51-03-DAGU-T1	Revision 03

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

SITE INFORMATION:

1. SITE ADDRESS

300 DWANE ROAD, DELANEYS CREEK, QLD 4514. (LOT 21 C31989)

2. GENERAL

THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS, CURRENT AUSTRALIAN STANDARDS AND SPECIFICATIONS.

3. SITE ACCESS

PROPOSED USE OF EXISTING DRIVEWAY OFF DWANE ROAD AND EXISTING SITE ACCESS TRACK INSIDE SITE LOT. UPGRADE TO GRAVEL TRACK AND MINOR TREE CLEARING PROPOSED.

4. EQUIPMENT

PROPOSED NBN OUTDOOR CABINETS TO BE INSTALLED ON CONCRETE SLAB ON GROUND WITHIN NBN LEASE AREA.

5. STRUCTURE

NEW NBN 50m LATTICE TOWER WITH HEADFRAME.

6. ANTENNA ACCESS

PROPOSED ANTENNA ACCESS VIA TOWER ACCESS LADDER WITH LADSAF FALL ARREST SYSTEM BY RIGGER QUALIFIED PERSONNEL ONLY.

7. EXISTING SERVICES

THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT EXISTING SERVICES AS REQUIRED PRIOR TO COMMENCEMENT OF WORKS. SERVICES INDICATED ON DBYD REPORTS AND LOCATED ON SITE.

8. EXISTING SITE HAZARDS

- WORK ON RURAL FARM PROPERTY
- WORK IN REMOTE LOCATION
- WORK NEAR DENSE VEGETATION

9. POWER SUPPLY

SECOND POINT OF SUPPLY PROPOSED OFF EXISTING GRID ALONG DWANE ROAD, SUBJECT TO FURTHER INVESTIGATION

10. TRANSMISSION LINK & RF CONFIGURATION

REFER TABLE ON DRAWING 4-WDF-51-03-DAGU-A1 FOR DETAILS.

11. SITE SPECIFIC INFORMATION




- VEGETATION CLEARING IS REQUIRED FOR SITE ACCESS, PROPOSED COMPOUND AND CONSTRUCTION AREA
- EASEMENTS DO EXIST ON SITE PROPERTY, NO NEW PROPOSED EASEMENTS ARE REQUIRED
- NO LANDSCAPING PROPOSED
- STORMWATER TO BE DISSIPATED THROUGH GRAVEL FINISH WITHIN COMPOUND
- EXCAVATED MATERIAL TO BE DISPOSED OF ON SITE LOT AT DIRECTION OF LANDLORD, CONTRACTOR TO LIAISE

12. DIAL BEFORE YOU DIG

DBYD JOB No.12546360

ENQUIRY DATE 28.06.2017

EXISTING SERVICES ARE REPORTED ON SITE LOT. ALL CONTRACTORS TO REVALIDATE AND VERIFY AT THE TIME OF FIELD WORK

Client: 	
Client: 	
Client:	
Project: NATIONAL BROADBAND NETWORK SITE No: 4WDF-51-03-DAGU D'AGUILAR SOUTH 300 DWANE ROAD DELANEYS CREEK QLD 4514	
PRELIMINARY	
01 13.07.17 PRELIMINARY ISSUE	
Rev Date Revision Details	
 <small>Aurecon Australia Pty Ltd ABN 54 005 139 873</small>	
DESIGNER: JR	
CHECKED: MR	
APPROVED: LS	
Drawing Title: SITE SPECIFIC NOTES	
Drawing No: 4WDF-51-03-DAGU-C1	Revision 01

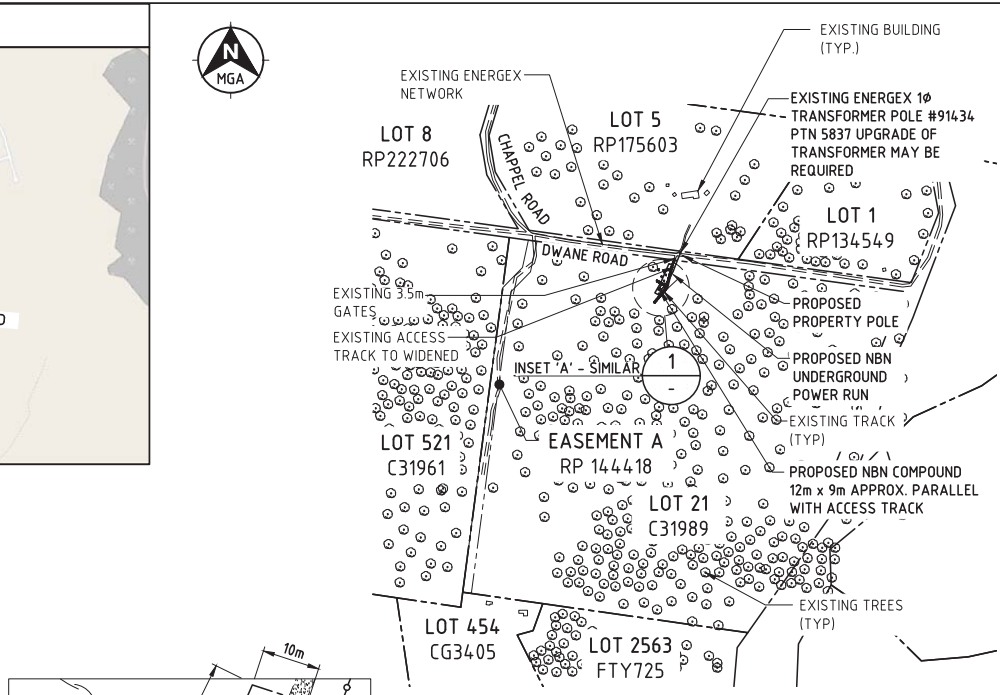
ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



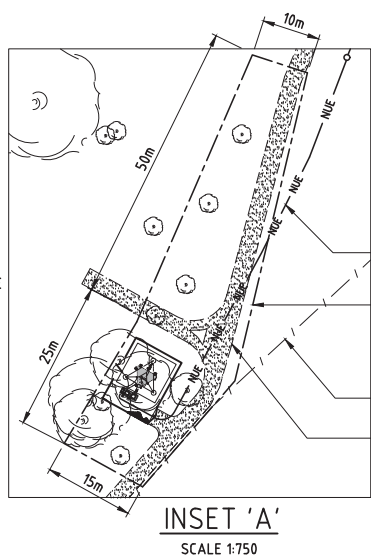
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SITE CO-ORDINATES	
TOWER LOCATION	
DATUM: MGA (GDA94)	ZONE: 56
LATITUDE	-27.01814°
LONGITUDE	152.80659°
EASTING	4 80 813
NORTHING	7 011 540

- LEGEND**
- AE — AE — EXISTING AERIAL ELECTRICAL ROUTE
 - AE — AE — PROPOSED AERIAL ELECTRICAL ROUTE
 - NUE — NUE — PROPOSED NBN UNDERGROUND ELECTRICAL ROUTE
 - / - / - PROPOSED NBN COMPOUND FENCE
 - - - - - PROPERTY BOUNDARY



OVERALL SITE PLAN
SCALE 1:10000



INSET 'A'
SCALE 1:750

- PROPOSED NBN UNDERGROUND POWER RUN
- PROPOSED APPROXIMATE CONSTRUCTION AREA
- EXISTING INTERNAL STOCK FENCE
- EXISTING TRACK PROPOSED TO BE UPGRADED TO GRAVEL ACCESS

NOTE:
 THE POWER ROUTES SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. ELECTRICAL CONTRACTOR TO DETERMINE EXACT ROUTE. ELECTRICAL CONTRACTOR TO LOCATE AND IDENTIFY EXISTING U/G SERVICES PRIOR TO COMMENCEMENT OF WORK.



Client:
 Project:
 NATIONAL BROADBAND NETWORK
 SITE No: 4WDF-51-03-DAGU
 D'AGUILAR SOUTH
 300 DWANE ROAD
 DELANEYS CREEK
 QLD 4514

PRELIMINARY

02	07.12.17	LAYOUT UPDATED
01	13.07.17	PRELIMINARY ISSUE
Rev	Date	Revision Details

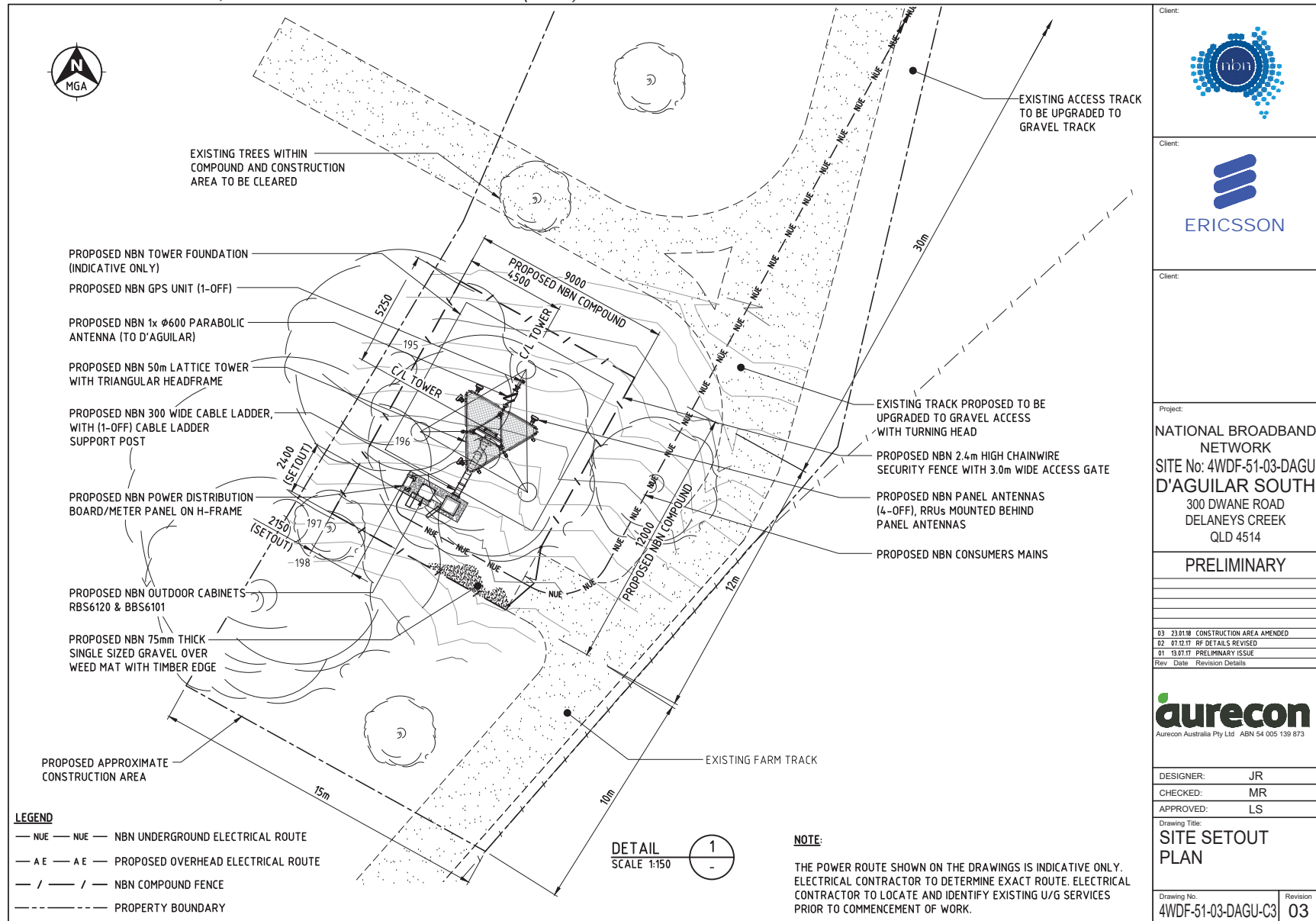


DESIGNER: JR
 CHECKED: MR
 APPROVED: LS

Drawing Title:
OVERALL SITE PLAN

Drawing No.	Revision
4WDF-51-03-DAGU-C2	02

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Client:

Client:

Client:

Project:
NATIONAL BROADBAND NETWORK
SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
DELANEYS CREEK
QLD 4514

PRELIMINARY

03	23.01.18	CONSTRUCTION AREA AMENDED
02	07.12.17	RF DETAILS REVISED
01	13.07.17	PRELIMINARY ISSUE

Rev Date Revision Details

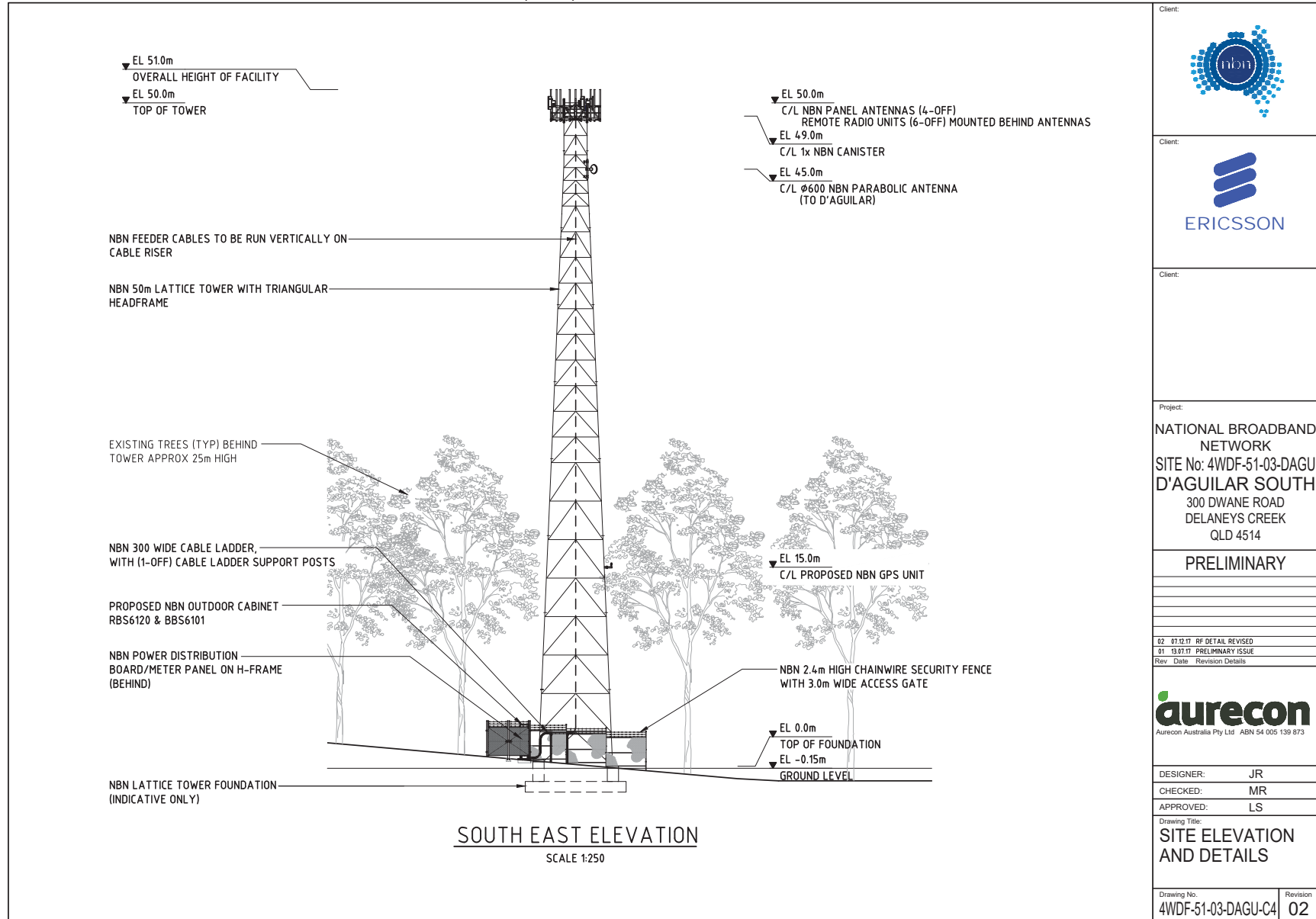
Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER: JR
CHECKED: MR
APPROVED: LS

Drawing Title:
SITE SETOUT PLAN

Drawing No: 4WDF-51-03-DAGU-C3
Revision: 03

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



SOUTH EAST ELEVATION
SCALE 1:250

Moreton Bay Regional Council

COORDINATION COMMITTEE MEETING
23 October 2018

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

NBN ANTENNA CONFIGURATION - 3400MHz																					
SECTOR	SYMBOL	PANEL ANTENNA DETAIL								MAIN FEEDER DETAIL				RRU DETAIL				RF TAIL H&S 1/2" BRD PROOFED LISCA CABLE	RET CABLE 1/TSR 484 21/2000		
		TYPE	DIMENSION HxWxD	C/L HEIGHT	AZIMUTH (TN)	P1 & P2 E-TILT	P3 & P4 E-TILT	MECH TILT	ANTENNA ACTION REQ	TYPE	OVERALL LENGTH	CANISTER HEIGHT	CANISTER TO RRU LENGTH	FEEDER ACTION REQ	TYPE	LOCATION	C/L HEIGHT	ANTENNA PORT	RRU ACTION REQ	LENGTH	LENGTH
B1		AW3497	957x320x100	50m	310°	6°	6°	0°	INSTALL	H&S HYBRID MKII 6x6 (ø27.5mm)	60m	49m	3m	INSTALL	RRUS2218	BEHIND	50m	1 & 2	INSTALL	1.5m	2m
B2		AW3497	957x320x100	50m	315°	6°	6°	0°	INSTALL				3m	INSTALL	RRUS2218 RRUS2218	BEHIND	50m	1 & 2 3 & 4	INSTALL	1.5m 1.5m	2m
B3		AW3497	957x320x100	50m	25°	7°	7°	0°	INSTALL				3m	INSTALL	RRUS2218	BEHIND	50m	1 & 2	INSTALL	1.5m	2m
B4		AW3497	957x320x100	50m	30°	7°	7°	0°	INSTALL				3m	INSTALL	RRUS2218 RRUS2218	BEHIND	50m	1 & 2 3 & 4	INSTALL	1.5m 1.5m	2m

NBN TRANSMISSION & GPS ANTENNA CONFIGURATION												
ANTENNA	SYMBOL	ANTENNA DETAIL						MAIN FEEDER DETAIL			RAU DETAIL	
		TYPE	DIMENSION	C/L HEIGHT	AZIMUTH (TN)	DESTINATION	ANTENNA ACTION REQ	TYPE	OVERALL LENGTH	FEEDER ACTION REQ	QTY RAU	RAU ACTION REQ
A		PARABOLIC	ø600	45m	341°	D'AGUILAR	INSTALL	2xLDF1-50	55m	INSTALL	2	INSTALL
B												
C												
GPS		KRE 1012 182/1	ø69x96	15m	N/A		INSTALL	LDF1-50	25m	INSTALL		

NOTE:
RRU HEIGHT TO BE +/- 250mm FROM SPECIFIED HEIGHTS. OFFSETS REQUIRED DUE TO MOUNTING ARRANGEMENT BACK TO BACK.

ANTENNA SETOUT PLAN
SCALE 1:100

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 4WDF-51-03-DAGU
D'AGUILAR SOUTH
300 DWANE ROAD
DELANEYS CREEK
QLD 4514

PRELIMINARY

02 01.12.17 RF DETAIL REVISED
01 13.07.17 PRELIMINARY ISSUE
Rev Date Revision Details

Aurecon Australia Pty Ltd ABN 54 005 139 873

DESIGNER: JR
CHECKED: MR
APPROVED: LS

Drawing Title:
NBN ANTENNA CONFIGURATION & SETOUT PLAN

Drawing No. 4WDF-51-03-DAGU-A1 Revision 02

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Document prepared by

Aurecon Australasia Pty Ltd

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Aurecon offices are located in:

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Ghana, Hong Kong, Indonesia, Kenya,
Lesotho, Macau, Mozambique,
Namibia, New Zealand, Nigeria,
Philippines, Qatar, Singapore, South Africa,
Swaziland, Tanzania, Thailand, Uganda,
United Arab Emirates, Vietnam.

Moreton Bay Regional Council

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

#6 Referral Agency Response



Department of
**State Development,
Manufacturing,
Infrastructure and Planning**

RA6-N
Our reference: 1801-3267 SRA
Your reference: DA/35446/2017/GEN
Applicant reference: NBN-4NIZ-4WDF-5103-D'AGUILAR SOUTH

7 June 2018

The Chief Executive Officer
Moreton Bay Regional Council
PO Box 159
CABOOLTURE QLD 4510
mbrc@moretonbay.qld.gov.au

Attention: Mr Tom Auckland

Dear Mr Auckland

Amended referral agency response—with conditions

(Given under Section 56 of the *Planning Act 2016*)

The development application described below was properly referred to the Department of State Development, Manufacturing, Infrastructure and Planning (the department) on 16 January 2018. This amended referral agency response incorporates revisions to the approved Technical Agency Response Plan (TARP) and replaces the previous referral agency response issued by the department on 11 April 2018.

Applicant details

Applicant name:	NBN C/- Aurecon Australasia
Applicant contact details:	Locked Bag 331 BRISBANE QLD 4001 max.peel@aurecongroup.com

Location details

Street address:	300 Dwane Road, DELANEYS CREEK
Real property description:	Lot 21 on C31989
Local government area:	Moreton Bay Regional Council

Application details

Development Permit	Material Change of Use – Telecommunications Facility
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Moreton Bay Regional Council

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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

1801-3267 SRA

Referral triggers

The development application was referred to the department under the following provisions of the *Planning Regulation 2017*:

- 10.3.4.3.1 Clearing native vegetation

Conditions

Under Section 56(1)(b)(i) of the *Planning Act 2016* (the Act), the conditions set out in Attachment 1 must be attached to any development approval.

Reasons for decision to impose conditions

The Department must provide reasons for the decision to impose conditions. These reasons are set out in Attachment 2.

Approved plans and specifications

The Department requires that the plans and specifications set out below and enclosed must be attached to any development approval.

Drawing/report title	Prepared by	Date	Reference no.	Version/issue
Material Change of Use – Telecommunications Facility				
<i>Technical Agency Response Plan (TARP)</i>	Department of Natural Resources, Mines and Energy	6 June 2018	File Reference: 2018/000253 Sheets 1 & 2	-

A copy of this response has been sent to the applicant for their information.

For further information please contact Peter Mulcahy, Principal Planning Officer, on (07) 4331 5614 or via email WBBSARA@dsmip.qld.gov.au who will be pleased to assist.

Yours sincerely



Luke Lankowski
Manager, Planning

cc NBN
C/- Aurecon Australasia
max.peel@aurecongroup.com

Department of Natural Resources, Mines and Energy
vegsouthregion@dnrme.qld.gov.au

enc Attachment 1—Conditions to be imposed
Attachment 2—Reasons for decision to impose conditions
Approved plans and specifications

Moreton Bay Regional Council

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

1801-3267 SRA

Attachment 1—Conditions to be imposed

No.	Conditions	Condition timing
Material Change of Use – Telecommunications Facility		
Schedule 10, Part 3, Division 4, Table 3, Item 1 – State transport corridors and future State transport corridors—The Chief Executive administering the <i>Planning Act 2016</i> nominates the Director-General of the Department of Natural Resources, Mines and Energy to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
Native vegetation clearing		
1.	The clearing of vegetation under this development approval is limited to the areas identified as Area A, for the construction of infrastructure, and Area B, for a firebreak, as shown on the attached Technical Agency Response Plan (TARP) 1802-3276 SRA Sheets 1 & 2 dated 6 June 2018.	At all times.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

1801-3267 SRA

Attachment 2—Reasons for decision to impose conditions

The reasons for this decision are:

- To ensure that the proposed development minimises the impacts of vegetation clearing

Moreton Bay Regional Council

COORDINATION COMMITTEE MEETING
23 October 2018

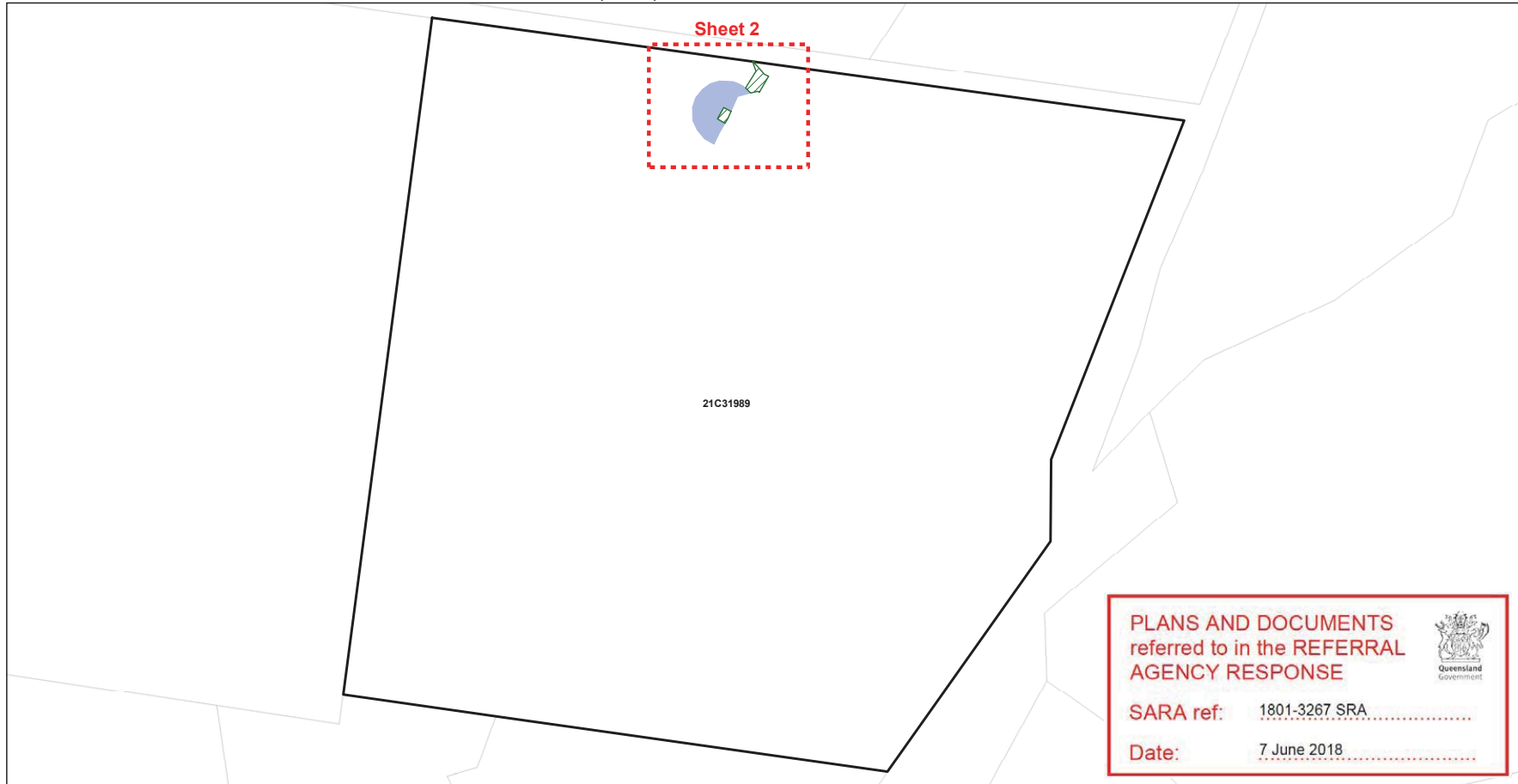
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

1801-3267 SRA

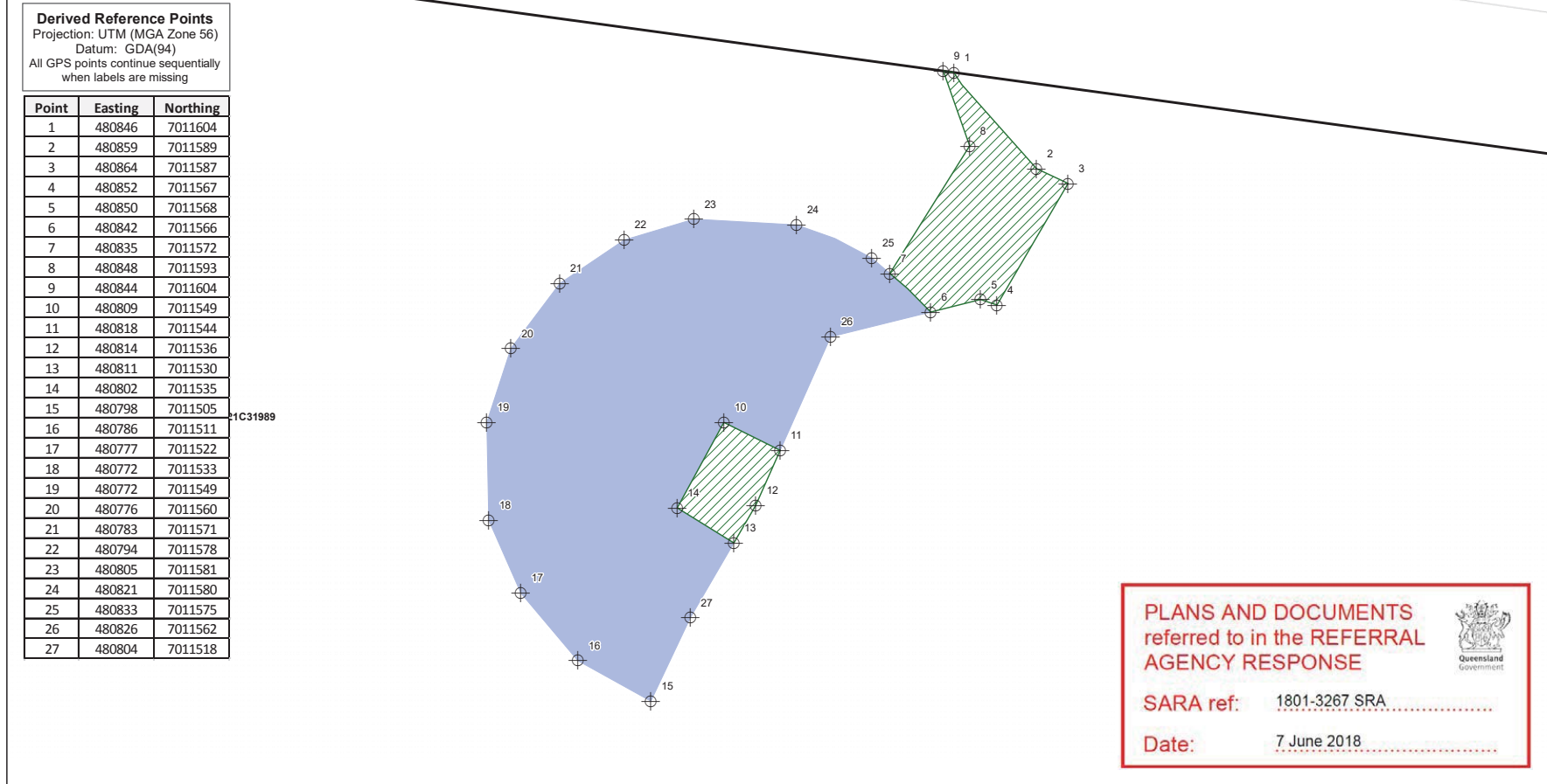
Approved plans and specifications

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



<p>1:4500 @ A3 size</p> <p>0 0.1 0.2 0.3 0.4 Kilometers</p> <p>Projection: UTM (MGA Zone 56) Datum: GDA94</p> <p>Note: Derived Reference Points are provided to assist in the location of the Referral Agency Response boundaries. Responsibility for locating these boundaries lies solely with the landholder and delegated contractor(s).</p> <p><i>The property boundaries shown on this plan are APPROXIMATE ONLY. They are NOT an accurate representation of the legal boundaries.</i></p> <p>Note: This plan must be read in conjunction with the Technical Agency Response 1801-3267 SRA</p>	<p>LEGEND</p> <ul style="list-style-type: none"> Derived Reference Points for GPS Subject Lot(s) Area A Area B 	<p>Technical Agency Response (Vegetation) Plan</p> <p>Plan of Area A & B in Lot 21 on C31989</p> <hr/> <p>CENTRE: TOOWOOMBA LOCALITY OF DELANEYS CREEK REGION: SOUTH LOCAL GOVT: MORETON BAY REGIONAL</p> <p>Map Reference: 9542 Compiled from: DCDB, PVMP & VMO Notes</p> <p>File Reference: 2018/000253 Prepared by: JDC Date: 6 June 2018</p>	<p style="text-align: center;"> N</p> <p style="text-align: center;"></p> <hr/> <p style="text-align: center;">TARP 1801-3267 SRA Sheet 1 of 2</p>
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



<p>1:600 @ A3 size</p> <p>Projection: UTM (MGA Zone 56) Datum: GDA94 Note: Derived Reference Points are provided to assist in the location of the Referral Agency Response boundaries. Responsibility for locating these boundaries lies solely with the landholder and delegated contractor(s). <i>The property boundaries shown on this plan are APPROXIMATE ONLY. They are NOT an accurate representation of the legal boundaries.</i> Note: This plan must be read in conjunction with the Technical Agency Response 1801-3267 SRA</p>	<p>LEGEND</p> <ul style="list-style-type: none"> Derived Reference Points for GPS Subject Lot(s) Area A Area B 	<p style="text-align: center;">Technical Agency Response (Vegetation) Plan</p> <p style="text-align: center;">Plan of Area A & B in Lot 21 on C31989</p> <hr/> <p>CENTRE: TOOWOOMBA REGION: SOUTH LOCALITY OF DELANEYS CREEK LOCAL GOVT: MORETON BAY REGIONAL</p> <table style="width: 100%; font-size: small;"> <tr> <td>Map Reference: 9542</td> <td>Compiled from: DCDB, PVMP & VMO Notes</td> </tr> <tr> <td>File Reference: 2018/000253</td> <td>Prepared by: JDC Date: 6 June 2018</td> </tr> </table>	Map Reference: 9542	Compiled from: DCDB, PVMP & VMO Notes	File Reference: 2018/000253	Prepared by: JDC Date: 6 June 2018	
Map Reference: 9542	Compiled from: DCDB, PVMP & VMO Notes						
File Reference: 2018/000253	Prepared by: JDC Date: 6 June 2018						
<p>TARP 1801-3267 SRA Sheet 2 of 2</p>							

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



Department of
**State Development,
Manufacturing,
Infrastructure and Planning**

Department of State Development, Manufacturing, Infrastructure and Planning

Statement of reasons for application 1801-3267 SRA

(Given under Section 56 of the *Planning Act 2016*)

Departmental role: Referral agency

Applicant details

Applicant name: NBN
C/- Aurecon Australasia

Applicant contact details: max.peel@aurecongroup.com
Locked Bag 331
BRISBANE QLD 4001

Location details

Street address: 300 Dwane Road, DELANEYS CREEK

Real property description: Lot 21 on C31989

Local government area: Moreton Bay Regional Council

Development details and assessment matters

Nature of Approval	Level of Assessment	Development Description	Applicable State Development Assessment Provisions
Development Permit	Impact Assessable	Telecommunications Facility	State Code 16: Native vegetation clearing

Reasons for the Department of State Development, Manufacturing, Infrastructure and Planning decision

The reasons for the decision are:

- the proposed development demonstrates that any vegetation clearing has been minimised to the greatest extent practicable and complies with State Code 16.

Moreton Bay Regional Council

COORDINATION COMMITTEE MEETING
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ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

1801-3267 SRA

Decision:

- The development application to establish a Telecommunication Facility on the subject site
- A condition has been applied to ensure that vegetation clearing does not exceed the area identified on the Technical Agency Response Plan (TARP) prepared by the Department of Natural Resources, Mines and Energy

Relevant material:

- *Planning Act 2016*
- *Planning Regulation 2017*
- DA Rules
- State Development Assessment Provisions, Version 2.1
- common material

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

#7 Submissions

To: [Andrew Micallef](#)
Subject: [MBRC Incoming Mail](#)
Date: Public Submission DA/35446/2017/V2U
Tuesday, 17 April 2018 2:38:48 PM
Attachments: [NBN Tower.pdf](#)

To the Assessment Manager,

I wish to raise two concerns I have with Development Application 2017 / 35446 / V2U, namely visual impact and site location. Whilst I am not completely opposed to the general concept of constructing a NBN tower at the nominated address, my residence is the closest to the proposed site and as such I request that reasonable changes be made to allow for an acceptable outcome. All changes are requested in order to achieve the visual impact mitigation goals specified in Planning Report NBN-4NIZ-4WDF-5103 – D’Aguilar South, Section 8 (commencing from page 62). Please see the attached presentation for a detailed explanation of my concerns as well as the requested reasonable changes.

In summary it is requested that the following reasonable changes be made in order to suitably address my concerns regarding visual impact and site location;

1. Clearing along the western side of the existing track be limited to between the existing track and the dashed red line identified on slide 7 of the attached presentation, resulting in the requirement to remove only one tree (Moreton Bay Ash, Tree #004).
2. Screening vegetation be planted post construction in the area of Tree #004 (as identified in Figure 2 of the NBN Co Property Vegetation Management Plan – 300 Dwane Road, Delaneys Creek QLD (Lot 21 on C31989) (D’Aguilar South)) to obscure the line of sight between my residence and the bottom half of the proposed NBN tower.
3. That the proposed NBN tower site be relocated 180m further South where a long flat ridge exists.

Kind Regards,
Andrew Micallef
275 Dwane Road
Delaneys Creek 4514
0408 872 670

*ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS
FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)*

Change Request For D'Aguilar South Proposed NBN Tower DA/35446/2017/V2U

Located at
300 Dwane Road
Delaneys Creek, 4514 QLD

Complied by
Andrew Micallef
275 Dwane Road
Delaneys Creek, QLD 4514

0408 872 670

*ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS
FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)*

My name is Andrew Micallef and I live at 275 Dwane Road Delaneys Creek, Qld. I have compiled this presentation to highlight two concerns regarding the currently proposed NBN Tower at 300 Dwane Road Delaneys Creek, QLD.

These concerns are:

1. Visual impact
2. Site location

Whilst I am not opposed to the general concept of constructing the proposed tower at the nominated address, I am of the opinion that reasonable changes are required to allow for an acceptable outcome.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Visual Impact

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Visual Impact

Given that my residence is located nearest the proposed site I am requesting that some of the design parameters be adjusted to meet the desired visual impact mitigation goals specified in Planning Report NBN-4NIZ-4WDF-5103 – D’Aguilar South, Section 8 (commencing from page 62).

Of most concern is the contradicting messaging between page 65 and illustrated in Figure 8.5 (extract image to right) of the above mentioned report and page 9 of the Property Vegetation Management Plan Ref 247473 Rev 0.

In summary the former report states that the existence of mature vegetation between the Proposed NBN Compound and the northern property boundary will provide sufficient screening to my residence. Whilst this is correct, The latter report (extract image on next slide) identifies that the same screening vegetation will be cleared and therefore expose the entire vertical height of the compound and tower to the front of my residence.

My front gate and my residence front door are located 85m and 208m from Proposed NBN Compound respectively.

It is unlikely that the proposed facility will be visually intrusive to the closest dwellings to the north considering the mature vegetation and undulating topography between the uses **Figure 8.5**.



Figure 8.5: View looking south from property boundary illustrating the steep slope and existing mature vegetation.

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Visual Impact

As per the plan provided by Aurecon (image extract to right), the red lines represent the development footprint to be cleared. The white line represents the line of site from my front gate and residence front door.

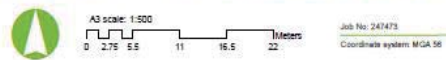
The clearing of the vegetation along the western side of the existing access track (contained within the yellow circle) will result in the entire vertical height of the compound and tower being visible.



Legend

- Development footprint (incl. fire-break area)
 - Property boundary
 - Cadastre
- Trees within Development footprint**
- Black She-Oak (*Allocasuarina littoralis*)
 - Brown Bloodwood (*Corymbia trachyphloia*)
 - Foambark (*Jagera pseudorhus*)
 - Forest She-Oak (*Allocasuarina torulosa*)
 - Grey Ironbark (*Eucalyptus siderophloia*)
 - Macaranga (*Macaranga tanarius*)
 - Mango (*Mangifera indica*)
 - Moreton-Bay Ash (*Corymbia tessellaris*)
 - Narrow-leaved Ironbark (*Eucalyptus crebra*)
 - Narrow-leaved Ironbark (*Eucalyptus crebra* (dead))
 - Pink Bloodwood (*Corymbia intermedia*)
 - Queensland Blue-Gum (*Eucalyptus tereticornis*)
 - Queensland Blue-Gum (*Eucalyptus tereticornis* (dead))
 - Queensland Blue-Gum (*Eucalyptus tereticornis* x)
 - Red Kamala (*Mallotus philippensis*)
 - Stag Tree (Dead)
 - Stringy-Bark (*Eucalyptus acmenoides*)
 - Swamp Box (*Lophocostemon suaveolens*)
 - Wattle (*Acacia* sp.)
 - Wattle (*Acacia* sp. (dead))
 - White Cedar (*Melia azedarach*)

Source: Aerial Imagery: Nearmap
Date: 05/03/2018 Version: 0



NBN Co Property Vegetation Management Plan - 300 Dwane Road, Delaneys Creek QLD (Lot 21 on C31989) (D'Aguilar South)

Figure 2: Development footprint and Trees to be removed

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Visual Impact

If the vegetation clearing and construction proceeds as currently planned it will negatively impact the scenic amenity from the front of my residence. The entire tower and compound will be in full view, dominating the area and not in keeping with the existing surrounds.

The image on the right is a picture from the front of my residence with the proposed tower superimposed (red triangle).



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Visual Impact

To align with the visual impact mitigation goals specified in Planning Report NBN-4NIZ-4WDF-5103 – D’Aguilar South, it is requested that **clearing along the western side of the existing track be limited to between the existing track and the dashed red line**. This would result in the requirement to only clear one tree (Moreton Bay Ash, Tree #004). Any requirement to create construction work area or parking space should be undertaken on the southern side of the Proposed NBN Compound.

It is further requested that **screening vegetation be planted post construction in the area of Tree #004 to obscure the line of sight between my residence and the bottom half of the Proposed NBN Tower**.



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Site Location

*ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS
FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)*

Site Location

The current proposed site is located 85m from my property boundary and 208m from my residence. This is unacceptably close.

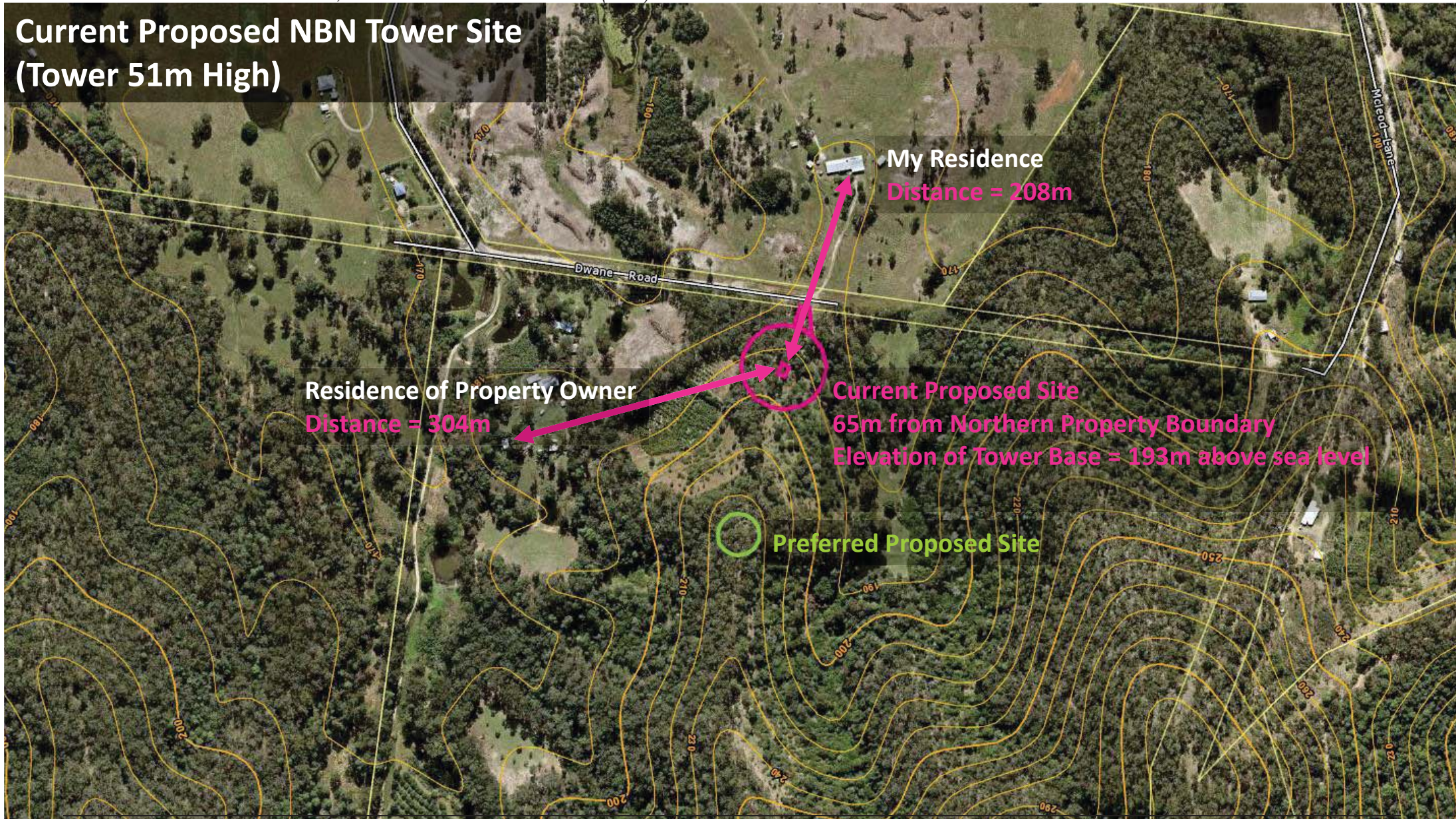
Relocation of the Current Proposed Site 180m further south (Preferred Proposed Site), where a long flat ridge exists, would be acceptable. It would also better align with the visual impact mitigation goals specified in Planning Report NBN-4NIZ-4WDF-5103 – D’Aguilar South.

As the Preferred Proposed Site is 20m higher in elevation, a lower tower height (nominally 35m high tower) could be used to reduce the project cost and offset the additional access track upgrade and underground power costs.

The next three slides provide further details on the comparison of the Current Proposed Site and the Preferred Proposed Site.

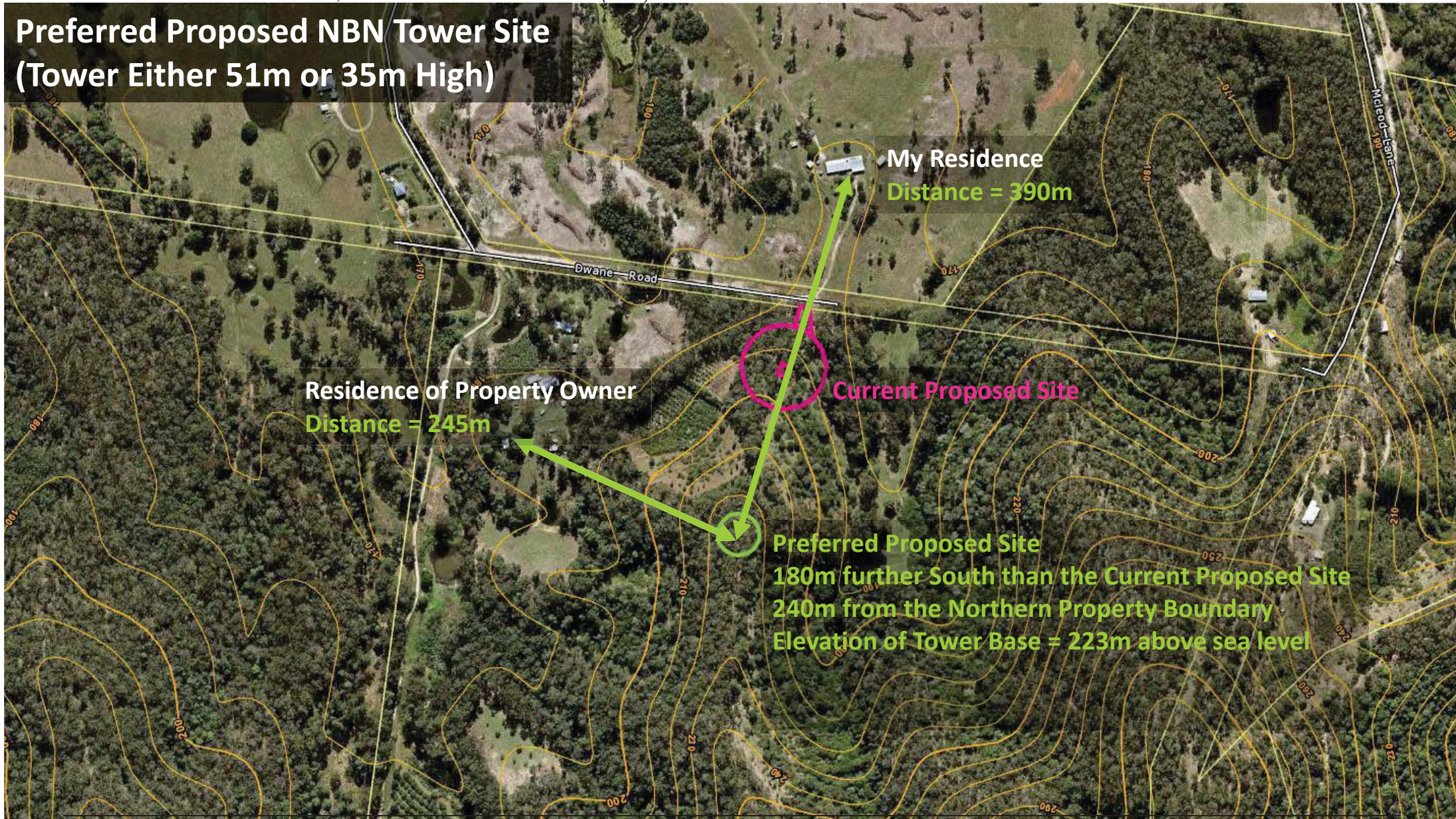
ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Current Proposed NBN Tower Site (Tower 51m High)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

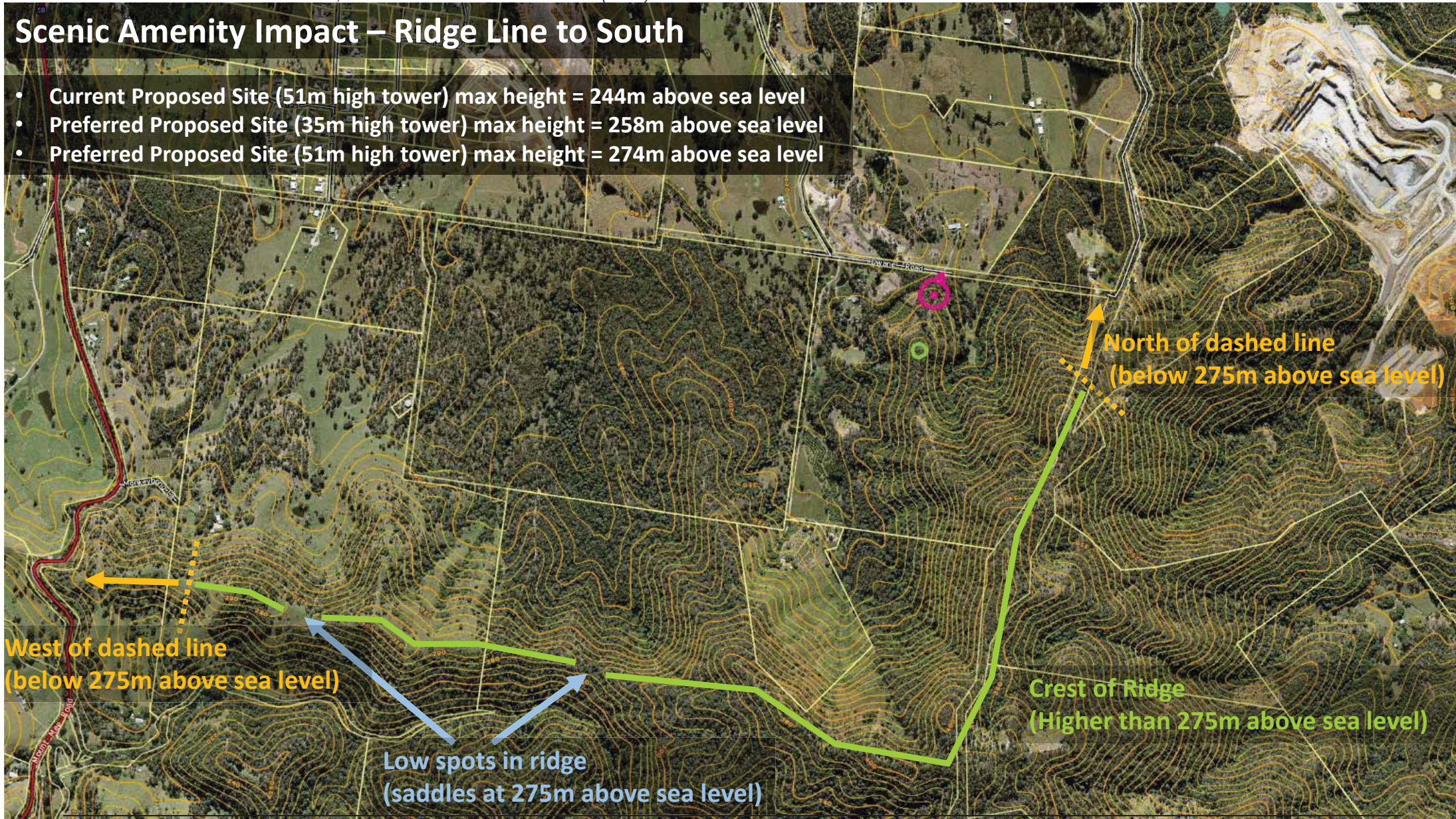
Preferred Proposed NBN Tower Site (Tower Either 51m or 35m High)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Scenic Amenity Impact – Ridge Line to South

- Current Proposed Site (51m high tower) max height = 244m above sea level
- Preferred Proposed Site (35m high tower) max height = 258m above sea level
- Preferred Proposed Site (51m high tower) max height = 274m above sea level



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Site Location

The image on the right is a picture from the front of my residence with the proposed tower superimposed (red triangle) at the Preferred Proposed Site.

The visual impact to the front of my residence from the Preferred Proposed Site is improved greatly and therefore is an acceptable outcome.

It is requested that **the proposed site be relocated 180m further South.**



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Summary

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

Summary

It is requested that following changes be made to the design parameters of the D'Aguilar South Proposed NBN Tower.

1. That clearing along the western side of the existing track be limited to between the existing track and the dashed red line identified on slide 7, resulting in the requirement to remove only one tree (Moreton Bay Ash, Tree #004).
2. Screening vegetation be planted post construction in the area of Tree #004 to obscure the line of sight between my residence and the bottom half of the Proposed NBN Tower.
3. That the proposed site be relocated 180m further South.

Moreton Bay Regional Council

COORDINATION COMMITTEE MEETING
23 October 2018

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Agenda

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)

From: [Andrew Micallef](#)
To: [Tom Auckland](#)
Subject: DA/35446/2017/V2U - Additional Response
Date: Monday, 25 June 2018 9:18:20 PM
Attachments: [NBN Tower 2.pdf](#)

Hi Tom,

Thanks for your call today and for providing me with the latest information regarding the DA/35446/2017/V2U at 300 Dwane Road, Delaneys Creek. Having read through that information I would like to bring to your attention the attached PowerPoint presentation which reviews the response from Aurecon regarding my concern about the location of the NBN Tower. Aurecon's response stated that my request to relocate the NBN Tower further south and further up the ridge line, could not be accommodated based solely on the premise that to do so would require a clearing of regulated vegetation in excess of 0.5ha. I have tested this concern and have identified that their response is not correct.

The current proposed site is covered by Category B (Blue Zone) and Category X (White Zone) vegetation. My review of their proposal identifies that 0.35ha of Category B would be required to be cleared, not 0.49ha as per their response. Category X vegetation is not subject to approval from the State for clearing and therefore need not be included in the calculation.

With a minor amendment to my proposed alternate location (tower base placed at 220m above sea level, instead of 223m above sea level) a suitable area does exist which would only require 0.43ha of Category B to be cleared (with the same fire break allowance and access road corridor width). Given this fact, the response from Aurecon to Moreton Bay Regional Council as to why my alternative location can not be used is not a suitable argument. Alternatively another site located wholly within the substantial length of Category X vegetation between the two before mentioned sites is also available, although not preferred by me.

As per my previous submission the current proposed site is unacceptable to me. Given that Aurecon are not correct in their response to my request to locate the NBN Tower further to the south, I request that they be required to make this amendment to their DA.

If you require any further information please contact me.

Kind Regards,
Andrew Micallef

0408 872 670

*ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS
FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)*

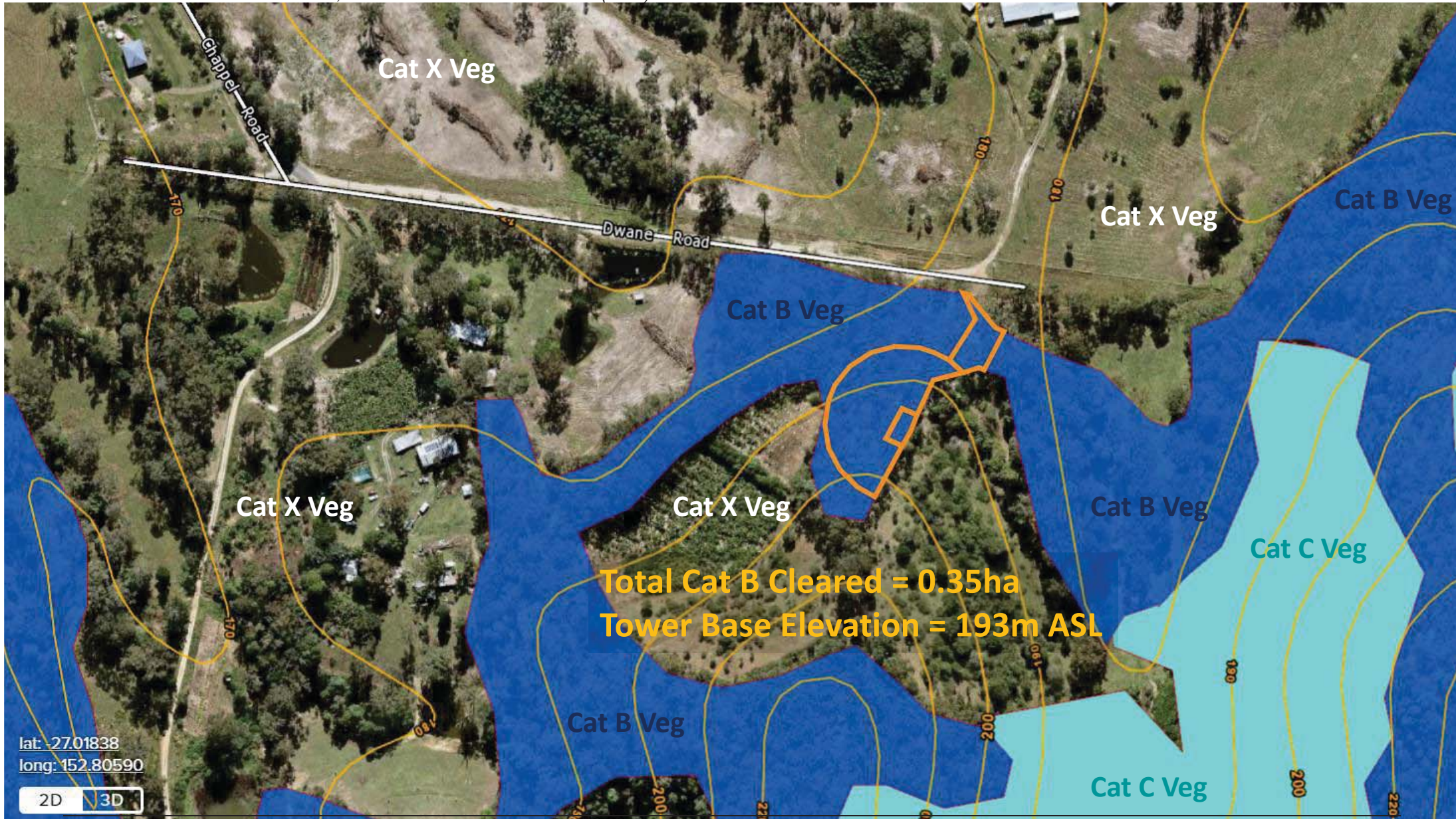
Additional Information To Support Change Request For D'Aguilar South Proposed NBN Tower DA/35446/2017/V2U

Located at
300 Dwane Road
Delaneys Creek, 4514 QLD

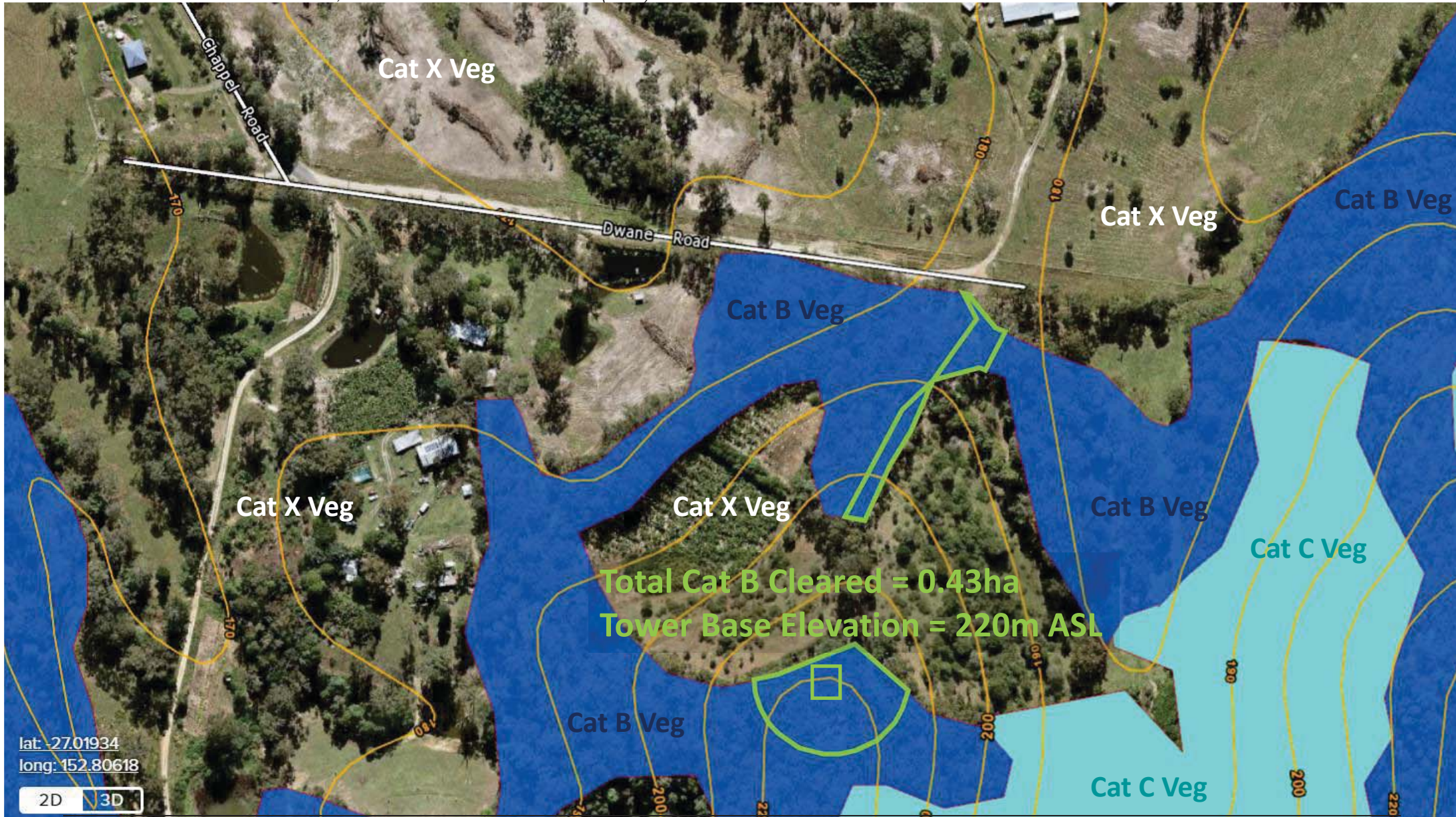
Complied by
Andrew Micallef
275 Dwane Road
Delaneys Creek, QLD 4514

0408 872 670

ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



ITEM 2.1 - DA/35446/2017/V2U - MATERIAL CHANGE OF USE - DEVELOPMENT PERMIT FOR TELECOMMUNICATIONS FACILITY AT 300 DWANE ROAD, DELANEYS CREEK - DIVISION 12 (Cont.)



3 CORPORATE SERVICES SESSION

(Cr M Constance)

No items for consideration.

4 ASSET CONSTRUCTION & MAINTENANCE SESSION

(Cr A Hain)

No items for consideration.

5 PARKS, RECREATION & SPORT SESSION

(Cr K Winchester)

ITEM 5.1

NEW LEASE - QUEENSLAND MEALS ON WHEELS LTD - DIVISION 3

Meeting / Session: 5 PARKS, RECREATION & SPORT
Reference: A17621571 : 11 October 2018 - **Refer Supporting Information A17689980**
Responsible Officer: CM, Acting Supervisor Community Leasing (CES Community Services, Sport & Recreation)

Executive Summary

This report seeks Council's approval for the provision of a lease to Queensland Meals on Wheels Ltd over part of the community facility located at 21 Hayes Street, Caboolture (refer Supporting Information #1). The proposed lease would enable the continued delivery of Meals on Wheels services within the Caboolture area.

OFFICER'S RECOMMENDATION

1. That the exception contained in section 236(1)(b)(ii) of the Local Government Regulation 2012 applies to the Council regarding the disposal of the land referred to in this report.
2. That Queensland Meals on Wheels Ltd be granted a lease over part of the community facility located at 21 Hayes Street, Caboolture (refer Supporting Information #1) for a period of five years.
3. That the terms and conditions of this lease be in accordance with Council's Community Leasing Policy, with annual rental commencing at \$1.00 per annum.
4. That the Chief Executive Officer be authorised to take all action necessary including but not limited to, negotiating, making, amending, signing and discharging the lease and any required variations of the lease on the Council's behalf, as described in this report.

ITEM 5.1 NEW LEASE - QUEENSLAND MEALS ON WHEELS LTD - DIVISION 3 - A17621571 (Cont.)

REPORT DETAIL

1. Background

Since 1 December 2015, the Caboolture Meals on Wheels Association Inc. (CMOW) has held a lease with Council over part of a community facility located at 21 Hayes Street, Caboolture (refer Supporting Information #1). The balance of this facility is utilised as a community hall (Caboolture Combined Services Hall) and operated by a community organisation under a hall management agreement with Council.

Due to various sustainability issues, in June 2018 CMOW formally handed over its operations to its peak body Queensland Meals on Wheels Ltd (QMOW) and subsequently wound-up as an incorporated entity.

QMOW continues to deliver Meals on Wheels services within the Caboolture area and intends to continue this delivery for the foreseeable future.

2. Explanation of Item

Council received a request from QMOW for the community lease between Council and CMOW to be transferred to QMOW, however, as CMOW has since been dissolved as an entity, the previous lease is considered terminated and unable to be transferred.

To enable QMOW to continue the delivery of Meals on Wheels services within the Caboolture area, Council would need to provide the organisation with a new lease over the same area (refer Supporting Information #1). Accordingly, this report recommends that Council approve the provision of this lease, under the terms and conditions of Council's Community Leasing Policy.

3. Strategic Implications

3.1 Legislative/Legal Implications

The Council must comply with the *Local Government Act 2009* and Local Government Regulation 2012 when it disposes of valuable non-current assets. Resolving to rely on the exception provided under section 236(1)(b)(ii) of the Regulation will allow the Council to complete the disposal to a community organisation by means other than tender or auction.

3.2 Corporate Plan / Operational Plan

Strengthening Communities: Healthy and Supportive Communities - a healthy and inclusive community

3.3 Policy Implications

The terms and conditions of the proposed lease agreement will be in accordance with Council's Community Leasing Policy (14-2150-079).

3.4 Risk Management Implications

There are no risk management implications arising as a direct result of this report.

3.5 Delegated Authority Implications

As per Officer's Recommendation 4 of this report, it is proposed that the Chief Executive Officer be authorised to take all action necessary to execute the new lease.

3.6 Financial Implications

There are no financial implications arising as a direct result of this report.

3.7 Economic Benefit

There are no economic benefit implications arising as a direct result of this report.

3.8 Environmental Implications

There are no environmental implications arising as a direct result of this report.

ITEM 5.1 NEW LEASE - QUEENSLAND MEALS ON WHEELS LTD - DIVISION 3 - A17621571 (Cont.)

3.9 Social Implications

The issuing of a lease to Queensland Meals on Wheels Ltd will provide the organisation the ability to continue its operations.

3.10 Consultation / Communication

Queensland Meals on Wheels Ltd

SUPPORTING INFORMATION

Ref: A17689980

The following list of supporting information is provided for:

ITEM 5.1

NEW LEASE - QUEENSLAND MEALS ON WHEELS LTD - DIVISION 3

#1 Proposed lease area

ITEM 5.1 - NEW LEASE - QUEENSLAND MEALS ON WHEELS LTD (Cont.)

#1 Proposed lease area



**ITEM 5.2
LES HUGHES SPORTING COMPLEX - PCYC BASKETBALL COURT FLOOR AND
BUILDING RENEWAL - DIVISION 8**

Meeting / Session: 5 PARKS, RECREATION & SPORT
Reference: A17697345 : 28 September 2018 - Refer **Confidential Supporting
Information A17549606**
Responsible Officer: MG, Graduate Engineer (ECM Directorate)

Executive Summary

Tenders were invited for works associated with the Les Hughes Sporting Complex - PCYC building. Tenders closed on 4 September 2018, with two tenders received, one of which was conforming.

It is recommended that Council award the contract to Leaf Building Group Pty Ltd for the sum of \$1,020,759.35 (excl. GST).

OFFICER'S RECOMMENDATION

That the tender for 'Les Hughes Sporting Complex - PCYC Basketball Court Floor and Building renewal (MBRC007825)' be awarded to Leaf Building Group Pty Ltd for the amount of \$1,020,759.35 (excluding GST).

ITEM 5.2 LES HUGHES SPORTING COMPLEX - PCYC BASKETBALL COURT FLOOR AND BUILDING RENEWAL
- DIVISION 8 - A17697345 (Cont.)

REPORT DETAIL

1. Background

This PCYC facility is located within the Les Hughes Sporting Complex at Bray Park. This project concerns the eastern side of the complex which encloses a multiuse sports facility.



Figure 1 - Location of works

The project includes the following broad scope of works: replacement of building footpaths, improvement of the existing perimeter building foundation, installation of new concrete slab and foundation, Hi-Impact Pulastic sport floor covering, internal painting and male and female amenities' waterproofing.

The building has a history of foundation movement. Two previous attempts to remediate the building foundation within the work zone have provided a partial short-term solution. This project will provide a long-term solution to prevent further deterioration of the building and provide the community with a renewed multiuse indoor sports facility.

The tender construction program is 28 weeks from the date of possession of site.

ITEM 5.2 LES HUGHES SPORTING COMPLEX - PCYC BASKETBALL COURT FLOOR AND BUILDING RENEWAL - DIVISION 8 - A17697345 (Cont.)

2. Explanation of Item

Tenders for the Les Hughes Sporting Complex - PCYC facility works closed on 4 September 2018 with two tenders received, one of which was conforming. The tender was assessed by the evaluation panel in accordance with Council's Purchasing Policy and the selection criteria set out in the tender documentation.

RANK	TENDERER	EVALUATION SCORE
1	Leaf Building Group Pty Ltd	100.00
2	M J Ferguson Group Pty Ltd	Non-conforming

Leaf Building Group Pty Ltd submitted a comprehensive tender and at a tender clarification meeting held on 21 September 2018, demonstrated their relevant experience, methodology and understanding of the project and their capability in delivering the project. Leaf Building Group have successfully undertaken projects for Council, including the extension to the Queensland State Equestrian Centre and are currently rehabilitating the Caboolture Regional Aquatic Leisure Centre.

M J Ferguson Group's tender was deemed non-conforming due to not satisfying Council's financial status requirements.

3. Strategic Implications

3.1 Legislative/Legal Implications

Due to the value of the services being greater than \$200,000, Council called a public tender for the services through the LG Tenderbox system in accordance with the *Local Government Act 2009*.

3.2 Corporate Plan / Operational Plan

This project is consistent with the Corporate Plan outcome - Valuing Lifestyle: Quality recreation and cultural opportunities - active recreation opportunities.

3.3 Policy Implications

This project has been sourced in accordance with the provisions of the following documents:

- Council's Procurement Policy 10-2150-006
- *Local Government Act 2009*
- Local Government Regulation 2012 Chapter 6.

3.4 Risk Management Implications

The project risk has been assessed and the following issues identified. The manner in which the possible impact of these risks are minimised is detailed below.

Financial Risks:

A third party review of financial status has been carried out and the successful tenderer was rated 'strong'.

Construction Risks:

- (a) The contractor has demonstrated their understanding of the project and the need to manage the impact of the works on the activities that will remain functional during the works, in accordance with the tender conditions.

ITEM 5.2 LES HUGHES SPORTING COMPLEX - PCYC BASKETBALL COURT FLOOR AND BUILDING RENEWAL - DIVISION 8 - A17697345 (Cont.)

- (b) The contractor will provide a program of works, temporary works design, inspection and test plans, site survey data and certification, demolition plan in accordance with AS2601 and Safe Work Australia Code of Practice 2013, traffic management plan, and safety plan. Mandatory fencing of areas where construction is being undertaken is part of the contract including internal physical demarcation barriers.

Wet weather delays:

- (a) The tender document required tenderers to include an allowance for inclement weather within their tendered construction time line. The allowance is based upon the Bureau of Meteorology Rainfall Graph for the Brisbane area. The contractor has provided an initial program of works with an inclusion of estimated wet weather days.

3.5 Delegated Authority Implications

No delegated authority implications arising as a direct result of this report.

3.6 Financial Implications

Council has allocated a total of \$1,000,000 (excl. GST) in the 2018/19 Capital program for the construction phase of this project. This comprises of:

- \$500,000 (excl. GST) 106671 'Bray Park - Les Hughes Sporting Complex - PCYC Basketball Floor and Building Renewal'
- \$500,000 (excl. GST) 105166 'Bray Park - Les Hughes Sporting Complex - PCYC Building Renewal'

Tender price	\$	1,020,759.35
Qleave	\$	4,848.61
Contingency (10%)	\$	102,075.94

Total Project Costs	\$	1,127,683.90
 Estimated ongoing operational/maintenance costs	 \$	 3,000 per F/Y.

The budget amount for this project is insufficient. Additional funds will be required at the next quarterly review.

3.7 Economic Benefit

The completion of the project will prolong the life of the facility and reduce potential future maintenance costs regarding structural building work.

3.8 Environmental Implications

The successful tenderer will be required to submit an environmental management plan for the works.

3.9 Social Implications

The project will have positive recreational benefits to the community while enhancing and prolonging the life of the building facility, and minimising possible future safety related incidents.

3.10 Consultation / Communication

Extensive consultation has been undertaken with 'Sport and Recreation Department' and building facility operators to make patrons aware of the proposed works and the facilities which will remain operational and those facilities which will be impacted by the works.

The Divisional Councillor has been consulted and is supportive of the project.

SUPPORTING INFORMATION

Ref: A17549606

The following list of supporting information is provided for:

ITEM 5.2

**LES HUGHES SPORTING COMPLEX - PCYC BASKETBALL COURT FLOOR AND BUILDING
RENEWAL - DIVISION 8**

Confidential #1 Tender Evaluation

6 LIFESTYLE & AMENITY SESSION

(Cr D Sims)

No items for consideration.

7 ECONOMIC DEVELOPMENT, EVENTS & TOURISM SESSION

(Cr P Flannery)

No items for consideration.

8 REGIONAL INNOVATION

(Cr D Grimwade)

No items for consideration.

9 GENERAL BUSINESS

ANY OTHER BUSINESS AS PERMITTED BY THE MEETING CHAIRPERSON.