Te Kaunihera o Te Hiku o te Ika
Far North District Council

Office Use Only
Application Number:

# Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Form 9). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — both available on the Council's web page.

## 1. Pre-Lodgement Meeting

Have you met with a council Resource Covnsent representative to discuss this application prior to lodgement?

◯ **Yes** ✔ **No**

## 2. Type of consent being applied for

*(more than one circle can be ticked):*

✔ **Land Use**
◯ **Fast Track Land Use***
◯ **Subdivision**
◯ **Consent under National Environmental Standard**
(e.g. Assessing and Managing Contaminants in Soil)
◯ **Discharge**
◯ **Change of Consent Notice (s.221(3))**
◯ **Extension of time (s.125)**
◯ **Other (please specify)** _____

**The fast track is for simple land use consents and is restricted to consents with a controlled activity status.*

## 3. Would you like to opt out of the fast track process?

✔ **Yes** ◯ **No**

## 4. Consultation

Have you consulted with Iwi/Hapū? ◯ **Yes** ✔ **No**

| | |
|---|---|
| If yes, which groups have you consulted with? | NA |
| Who else have you consulted with? | Far North District Council - Roading team |

*For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council, **tehonosupport@fndc.govt.nz***

## 5. Applicant details

**Name/s:** Meghana Muthappa

**Email:** [redacted]

**Phone number:** Work [redacted] Home

**Postal address:**
(or alternative method of service under section 352 of the act)

PO Box 91362 Victoria Steet West, Auckland 1142

Postcode 1142

Have you been the subject of abatement notices, enforcement orders, infringement notices and/or convictions under the Resource Management Act 1991? ◯ **Yes** ✔ **No**

If yes, please provide details.

## 6. Address for correspondence

***Name and address for service and correspondence (if using an Agent write their details here)***

**Name/s:** Meghana Muthappa

**Email:** [redacted]

**Phone number:** Work [redacted] Home

**Postal address:**
(or alternative method of service under section 352 of the act)

PO Box 91362 Victoria Steet West, Auckland 1142

Postcode 1142

All correspondence will be sent by email in the first instance. Please advise us if you would prefer an alternative means of communication.

## 7. Details of property owner/s and occupier/s

***Name and Address of the owner/occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)***

**Name/s:** Far North District Council

Property address/
location: Road Reserve adjoining 5 Wihongi Street, Kaikohe

Postcode

## 8. Application site details

*Location and/or property street address of the proposed activity:*

**Name/s:** Far North District Council

**Site address/ location:** Road Reserve adjoining 5 Wihongi Street, Kaikohe

Postcode

**Legal description:** **Val Number:**

**Certificate of title:**

Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

**Site visit requirements:**

Is there a locked gate or security system restricting access by Council staff? ◯ **Yes** ✔ **No**

Is there a dog on the property? ◯ **Yes** ✔ **No**

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

## 9. Description of the proposal

Please enter a brief description of the proposal here. Please refer to Chapter 4 of the *District Plan, and Guidance Notes*, for further details of information requirements.

The proposal is to install a new telecommunication facility to facilitate for a new antenna and a cabinet within Road Reser

If this is an application for a Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s), with reasons for requesting them.

## 10. Would you like to request public notification?

◯ **Yes** ✔ **No**

## 11. Other consent required/being applied for under different legislation

*(more than one circle can be ticked):*

◯ **Building Consent** Enter BC ref # here (if known)

◯ **Regional Council Consent (ref # if known)** Ref # here (if known)

◯ **National Environmental Standard Consent** Consent here (if known)

◯ **Other (please specify)** Specify 'other' here

## 12. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health:

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following:

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL)? ◯ **Yes** ☑ **No** ◯ **Don't know**

Is the proposed activity an activity covered by the NES? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result? ◯ **Yes** ☑ **No** ◯ **Don't know**

◯ **Subdividing land**

◯ **Changing the use of a piece of land**

◯ **Disturbing, removing or sampling soil**

◯ **Removing or replacing a fuel storage system**

## 13. Assessment of environmental effects:

*Every application for resource consent must be accompanied by an Assessment of Environmental Effects (AEE). This is a requirement of Schedule 4 of the Resource Management Act 1991 and an application can be rejected if an adequate AEE is not provided. The information in an AEE must be specified in sufficient detail to satisfy the purpose for which it is required. Your AEE may include additional information such as written approvals from adjoining property owners, or affected parties.*

**Your AEE is attached to this application** ☑ **Yes**

## 14. Draft conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? ☑ **Yes** ◯ **No**

If yes, please be advised that the timeframe will be suspended for 5 working days as per s107G of the RMA to enable consideration for the draft conditions.

## 15. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

**Name/s:** **(please write in full)** Connexa Limited

**Email:** [redacted]

**Phone number:** Work [redacted] Home

**Postal address:**
(or alternative method of service under section 352 of the act)

PO Box 91362 Victoria Steet West, Auckland 1142

Postcode 1142

**Fees Information**

An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

## *15. Billing details* continued...

**Declaration concerning Payment of Fees**

I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

**Name:** (please write in full) Meghana Muthappa

**Signature:** (signature of bill payer) [redacted] **Date** 24-Nov-2025

**MANDATORY**

## 16. Important Information:

**Note to applicant**

You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.

You may apply for 2 or more resource consents that are needed for the same activity on the same form.

You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

**Fast-track application**

Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement.

A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

**Privacy Information:**

Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

## 17. Declaration

The information I have supplied with this application is true and complete to the best of my knowledge.

**Name** (please write in full) Meghana Muthappa

**Signature** [redacted] **Date** 24-Nov-2025

***A signature is not required if the application is made by electronic means***

*See overleaf for a checklist of your information...*

## Checklist

***Please tick if information is provided***

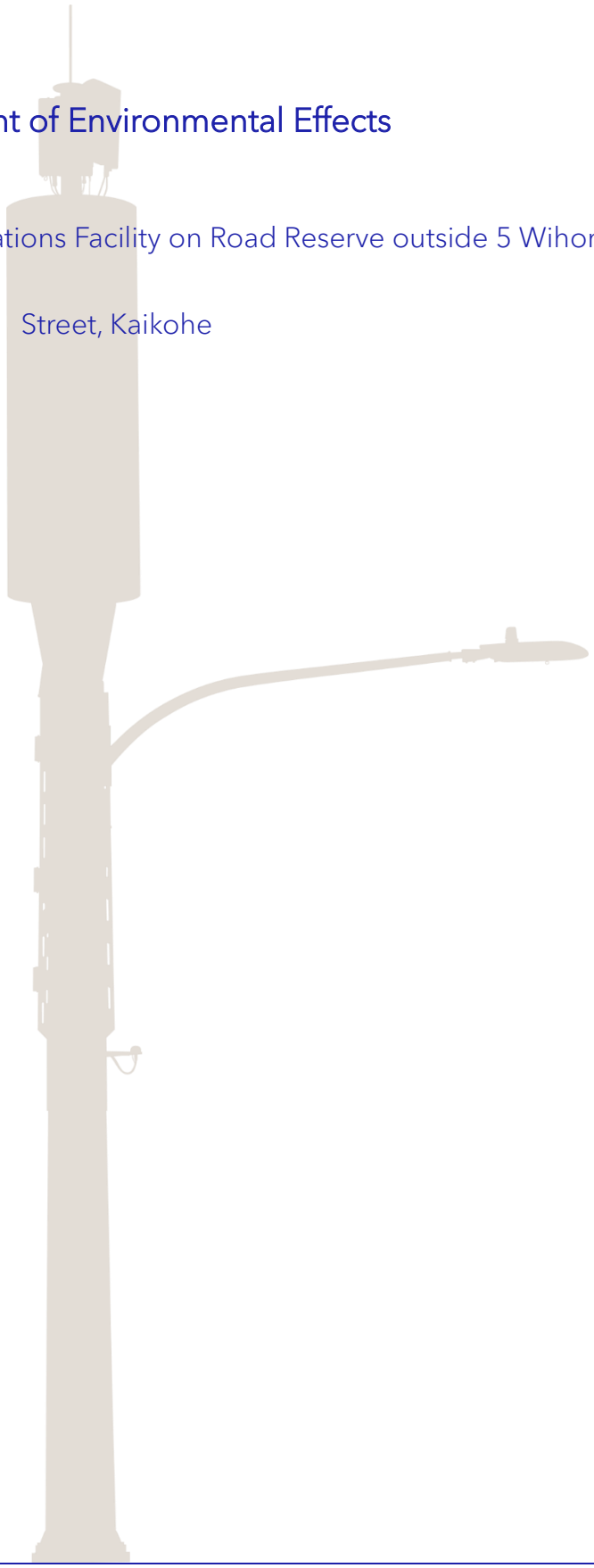
- ☐ Payment (cheques payable to Far North District Council)
- ☐ A current Certificate of Title (Search Copy not more than 6 months old)
- ☐ Details of your consultation with Iwi and hapū
- ☐ Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- ☑ Applicant / Agent / Property Owner / Bill Payer details provided
- ☑ Location of property and description of proposal
- ☑ Assessment of Environmental Effects
- ☐ Written Approvals / correspondence from consulted parties
- ☑ Reports from technical experts (if required)
- ☐ Copies of other relevant consents associated with this application
- ☑ Location and Site plans (land use) AND/OR
- ☐ Location and Scheme Plan (subdivision)
- ☑ Elevations / Floor plans
- ☐ Topographical / contour plans

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.

# Connexa Limited

## Assessment of Environmental Effects

Proposed New Telecommunications Facility on Road Reserve outside 5 Wihongi Street, Kaikohe



| | |
|---|---|
| Title: | Assessment of Environmental Effects for the proposed new Telecommunications Facility on Road Reserve outside 5 Wihongi Street, Kaikohe |
| Site Address: | Road Reserve at 5 Wihongi Street, Kaikohe |
| Legal Description: | NA |
| Version: | 1.0 |
| Date: | 06 November 2025 |
| Connexa reference number: | FARKKHT – Kaikohe Town - P-001114 |
| Prepared by: | Meghana Muthappa - Planning and Engagement Manager |
| Reviewed by: | Tommy Ma<br>Planning and Engagement Manager<br>M: +6427 295 2671<br>E: tommy.ma@connexa.co.nz<br>A: Level 2, 34 Sale St Auckland 1010<br>PO Box 91362 Victoria Steet West, Auckland 1010 |
| First point of contact: | Meghana Muthappa<br>Planning and Engagement Manager<br>M: +64273908767<br>E: meghana.muthappa@connexa.co.nz<br>A: Level 2, 34 Sale St Auckland 1010<br>PO Box 91362 Victoria Steet West, Auckland 1010 |

## Contents







# 1.0 Introduction

This assessment is provided in support of the resource consent application, in accordance with the requirements of section 88 of the Resource Management Act 1991, the Fourth Schedule to the Act and relevant requirements set out within the Far North District Plan (FNDP). The resource consent application is made by Connexa Limited (Connexa) to install a mobile phone facility on Road Reserve outside 5 Wihongi Street, Kaikohe. The proposal does not meet all the permitted standards under NESTF regulations and under the Far North District Plan, therefore resource consent as a discretionary activity is needed. The proposed cabinets fully comply with the NESTF.

Connexa is an independent mobile towers and infrastructure business having purchased the passive assets (towers, mounts, cabling, leasing) from both Spark and 2degrees. Connexa operates a nationwide portfolio of over 2600 mobile sites and is responsible for ongoing growth of the passive infrastructure upon which mobile network operators install active mobile equipment.

The Connexa facility Is required to provide enhanced coverage and capacity for 2 degrees mobile phone and wireless services including wireless broadband throughout the area.

# 2.0 Description of the proposal

## I. Locality Plan


*Figure 1: Zoning Maps – proposed works site area (in red) (Source: far North District Plan (GIS))*


*Figure 2: Figure 2 – Proposed works site area (in red)*

## I. The site and locality description

The proposal involves installing a new pole with an antenna, along with associated cabinets, within the road reserve adjoining the Commercial Zone at 5 Wihongi Street, Kaikohe. The wider environment includes the Residential Zone (RZ). The immediate surroundings comprise a variety of commercial activities, including storage facilities, construction yards, service centres, and retail uses. To the south of the subject site are single-storey dwellings along Wihongi Street, located at least 30 metres from the proposed pole.

Common boundary features between properties and the road reserve include vegetation along the front boundary for residential properties and parking yards along the boundary for commercial activities, and fencing. Residential properties adjoining the Commercial Zone are separated by a fixed 1.8-metre-high fence, which effectively screens outdoor living areas and outlook spaces as attached in appendix A site and land plans


*Figure 2: Site photo taken by Connexa team*

## II. The Proposal

The proposal is to install a new telecommunication facility to facilitate for a new antenna and a cabinet within Road Reserve adjoining Commercial Zone located at 5 Wihongi Street Kaikohe. The Connexa facility will provide equipment for 2 degrees. Site and Land Plans are provided in Appendix A.

The proposal will consist of the following:

a. To install a new pole structure measuring 16m in height inclusive of antennas but excluding the lightning rod. The width of the pole will measure approximately 0.468m at its base.
b. Install and operate a non–dish antenna with measuring 3.5m in length and 0.6m is diameter.
c. Install associated ancillary equipment on the pole below the antenna
d. Install new equipment cabinets on a concrete foundation with a total footprint area of 0.84m which is less than 1.5m$^2$ (excluding the foundation).
e. Minor ancillary earthworks for foundations and service trenches.

The choice of each telecommunication facility (location, height, positioning) is the result of a careful site selection process. A computer model of the cellular network

using radio propagation software and digitised terrain maps first identifies a search area. Site options, which have the necessary technical and physical characteristics, are then identified within the search area. In order to fit within the existing cell network, sites often need to be located within a very defined area. Those site options are evaluated in terms of the following criteria:

- Local topography and the occurrence of radio frequency shadows.
- Availability of suitable sites for lease;
- Proximity to existing utility services, both above and below ground.
- Relevant regulatory provisions; and
- Environmental and heritage/cultural constraints.

This includes a site visit of potential sites with willing landowners by a team of experts including radiofrequency engineers, property experts, civil engineers and planners. Each expert identifies fatal flaws with any sites and also ranks their preference.

This process was followed when seeking this new site, with the proposed location being the best available when considering the above process.

The proposal intends to establish a new telecommunication facility along roadside adjoining Commercial Zone. The proposal aims to improve the network coverage in the area for network operator. It gains clearance over local obstructions such as the tall commercial buildings and various large street trees. The average height of the all the neighbouring poles (as indicated below) is 7.55m and plus 3.5m. The permitted height limit of the pole is 11.05m.

The permitted 11.05m height would not achieve appropriate coverage or support to the network operator. The result of this new location will benefit the existing and growing community through improved connectivity to the local networks, essential to the surrounding businesses and residents.


*Figure 3: Site Plan*

# 3.0 Background

Zoning

The site is subject to Road Reserve adjoining Commercial zone.

# 4.0 Reason for Consent

In order to determine the activity status of the proposal, it must first be considered against the regulations provided for under the Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 (NESTF). If the regulations of the NESTF cannot be met, or the activity is not regulated, then the Far North District Plan requires consideration.

## I. Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 (NESTF)

The Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 (NESTF) provide national standards for telecommunication utilities. The NESTF came into effect on 1 January 2017 and replaces the previous 2008 regulations. The new regulations have broader application than the previous regulations and now also cover a range of new facilities and upgrades outside of roads, as well as providing for new poles and a larger development envelope for equipment inside roads. The NESTF applies to Connexa as they fall within the definition of a "facility operator"

because they have been declared a "network operator" under section 5 of the Telecommunications Act 2001. The following table outlines the provisions of the NESTF[1] relevant to the proposal.

*Table 1: Assessment of relevant NESTF regulations*

| Regulations | Compliance Assessment |
|---|---|
| 11: Activity complying with standard is a permitted activity | Does not comply:<br>As set out below, the proposed works in regard to the pole and antennas do not comply with all of the relevant permitted activity conditions. See assessment of Regulation 29 below. |
| 16: Discretionary activities | A regulated activity is a Discretionary activity if the proposal is not carried out in accordance with the national environmental standard; and<br>The proposal is a discretionary activity under 17.2.6.4. As the proposed pole in road is discretionary activity under 17.2.6.4 and Telecommunication poles not complying with Reg 29, not in General Coastal zone or a electricity line and complies with other standards is a discretionary Activity. |
| 19: Cabinets – regulated activity and standard | Complies:<br>The equipment cabinets are a regulated activity. All relevant standards applying to the cabinets are complied with as set out below. |
| 20: Cabinets not servicing antenna on building | Complies:<br>1. The regulation applies as the cabinets are not subject to regulation 21 (cabinets serving antenna on building).<br>2. The height and footprint rules in sub clause 3 are met and the power supply is connected underground.<br>3. Sub Clause 3(b) is relevant to cabinets is in any other road reserve (other than residential zone). The height of the cabinets does not exceed 2m and the footprint of each individual cabinet will not exceed 2m$^2$. The proposal complies with group rules in regulation 22. |
| 22: Group rules for cabinets in road reserves | Complies:<br>1. The cabinets will be located at least 30m away from any other telecommunication cabinet on the same side of the road and are in a group.<br>2. The cabinets will be located at least 30m away from any other telecommunication cabinets on the same side of the road that are not part of the group. |

[1] https://www.legislation.govt.nz/regulation/public/2016/0281/30.0/DLM6697001.html#DLM6985647

| | |
|---|---|
| | 3. The cabinets will have a total footprint of $2m^2$.<br>4. The cabinets will be no more than 0.5m apart. |
| 24: Noise limits for cabinets not in road reserve | **Complies:** This regulation applies as the for any cabinet in road reserve. The relevant noise limits are:<br><br>Attached to **Appendix C** is a noise report for the proposed cabinet which confirms that the cabinet will comply with these noise limits at the relevant measurement point. |
| 28: Pole and Antennas – regulated activity and standard | **Does not Comply:**<br>The proposed pole height and width will be installed in road reserve. There are existing poles within 100m of the proposed pole.<br><br>The proposed pole is being erected for the purpose of installing antennas. The proposed pole is not a replacement for an existing pole. Regulation 29 is not complied with, as assessed below.<br><br>There is no relevant subpart 5 matters. As the proposal does not intrude into the scheduled viewshaft.<br><br>Regulation 54 & 55 are complied with, as assessed below. |
| 29: Antenna on new pole in road reserve | **Does not comply:**<br>1. This regulation applies as the proposed activity is subject to regulation 28.<br>2. The proposed pole will not have headframe. Hence, the proposal complies with Reg 29 (2(a)).<br>3. The proposed non-dish antenna, notional envelope measures 3.5m in length and 0.6m in diameter. Hence, the proposal does not comply with Reg 29 (2(b) & 29 (3(a)).<br>4. The proposal exceeds the permitted pole height limit by 4.95m. The average height of the all the neighbouring poles is 7.55m and plus 3.5m. The permitted height limit of the pole is 11.05m. The proposed pole height measures 16m. Hence, the proposal does not comply with Subclause (4(b)). |

| | |
|---|---|
| | 5. The proposal does not comply with the permitted pole width. The average permitted width of the pole is 460mm and the average width is multiplied with 2 (as the nearest pole does not consist of antennas). The proposed width of the pole is 468.5mm. Hence, the proposal exceeds the permitted limit by 0.008m and does not comply with subclause (5(b(ii))). |
| 44: Trees and vegetation in road reserve<br>45: Significant trees<br>46: Historic Heritage Values<br>47: Visual amenity landscapes<br>48: Significant habitats for indigenous vegetation<br>49: Significant habitats for indigenous fauna<br>50: Outstanding natural features and landscapes<br>51: Places adjoining the Coastal Marine Area<br>52: Rivers and lakes | N/A: No overlays apply to the subjected site protecting the values set out in these regulations. |
| 53: Earthworks associated with certain antennas | N/A: Not relevant to regulated activities under Regulation 53. |
| 54: Earthworks: regional rules apply | Complies: The proposal will not undertake earthworks and will not trigger a regional earthworks consent. |
| 55. Radiofrequency fields | Complies:<br>The facility is to be operated in accordance with NZS 2772: Part 1: 1999 Radiofrequency Fields Part 1 – Maximum Exposure Levels – 3 kHz to 300 GHz. It is confirmed that radiofrequency exposures from the proposed Spark antennas to be used on the pole will comply with this standard. The radio frequency assessment in Appendix D meets the requirements for a pre-commencement report as stipulated in Regulation 55(2)(b)(ii).<br><br>Other transmitting facilities in the immediate locality have been considered in regard to cumulative exposures.<br><br>As the pre-commencement prediction concludes that the radio frequency exposures from the panel antennas, including any cumulative effects, are not predicted to exceed 25% of the NZS2772.1.1999 standard, no post-commencement monitoring is required. |

Based on the above assessment, the proposal does not comply with Regulation 29 which relates to the height of the pole and non-dish antenna exceeds the permitted diameter. As outlined in the District Plan assessment below, the proposed facility is a Discretionary activity under Far North District Plan. Therefore, under Regulation 16 of the NESTF the proposed pole requires a resource consent as a discretionary activity. All matters relating to the cabinets comply with the NESTF and do not require resource consent.

### II. Far North District Plan (FNDP) Assessment

The proposed site is located in Road Reserve adjoining Commercial Zone. No other relevant overlays or controls apply as discussed under Section 3 of this report.

As per 17.2.6.1.4(d) telecommunication facilities located in road reserve comply with the National Environmental Standard for Telecommunication Facilities (NESTF) is a permitted activity.

To install a new pole not complying with NESTF is a discretionary activity as per 17.2.6.4. As the proposal does not comply with NESTF for telecommunication facilities in Road Reserve and the proposal is not an electricity line in the General Coastal Zone. The proposal complies with all other standards for permitted or controlled activities in the Part 3 - District Wide Provisions.

### III. Overall status of the activity

As the proposal does not comply with NESTF 2016 regulations 28 and 29. The new pole with attached antenna in Road reserve not complying with NESTF and not in General Coastal Zone and is not an electricity Line. The proposal complies with all other standards for permitted or controlled activities in the Part 3 - District Wide Provisions of FNDP. Hence, the proposal is a Discretionary activity under FNDP 17.2.6.4. The overall status of the activity is a Discretionary activity as per Regulation 16 of the NESTF.

# 5.0 Assessment of Environmental Effects a. Notification Assessment

## 5.1 Public Notification Assessment – s95A

Under step 1, Connexa does not request that the application to be publicly notified and and the application does not involve any exchange of recreation reserve land under s15AA of the Reserves Act 1977.

Under step 2, It is noted that the application is not precluded from public notification because:



- the activity is not subject to a rule or national environmental standard (NES) which precludes public notification.
- the activity does not involve one or more of the following activities exclusively: a restricted discretionary or discretionary activity for a boundary activity (S95A(5)(b)

Under step 3, Public notification required in certain circumstances

- The application is not required to be publicly notified as the activity is not subject to a rule or national environmental standard that requires public notification.
- The following assessment addresses the adverse effects of the activity on the environment, as public notification is required if the activity will have or likely to have adverse effects on the environment that are more than minor (S95A (8)(b)).

Public notification is not required as the adverse effects will be less than minor on the environment as a result of the activity for the following reasons:

Permitted Baseline:
The permitted baseline refers to the effects of permitted activities on the subject site. The permitted baseline may be taken into account. In this case the permitted baseline includes:

The relevant rule in Far North District Plan for the proposal is Rule 17.2.6.1.4 in which telecommunication facilities along a road reserve shall comply with the permitted activity status subject to NES-TF. In this case the proposal does not comply with three relevant standards 29.4(b) and 29.5(b) and so the proposed facility is a Discretionary activity under rule 17.2.6.4. NES-TF standard 29 allows for an antenna on a new pole in the road reserve that is no more than 3.5m higher than the average of the adjacent poles (within 100m) and no more than twice the width of the average of the adjacent poles (Given the adjacent poles have no antennas on them). The NES-TF standard 29 allows for a pole which is 11.05m tall and 0.46m wide. The proposed pole will be 16m tall and 0.468m wide which exceeds the permitted height by 4.95m and exceeds the permitted width by 0.008m (8mm). For the purpose of the assessment of the permitted baseline, only the infringement of the permitted standards will be assessed.

Receiving Environment

The receiving environment beyond the subject site includes permitted activities under the relevant plans, lawfully established activities (via existing use rights or resource consent), and any unimplemented resource consents that are likely to be implemented. In this case, the receiving environment within which the proposal will occur is made up of:

- The adjacent commercial sites are characterized by large parking area along the street frontage with wider vehicle crossings. The commercial retail centres



have main retail frontage along Broadway with services areas along Wihongi street. The residential dwellings along Wihongi street consists of fixed timber fencing along the street frontage which screens the dwellings.

- The receiving environment is characterised as a predominantly commercial in nature to the north of the subjected site and to the south consists of one storey dwellings located at least 30m away (approximately) , to the west and east of the subjected site consists of a retail units and construction related Yards within it.
- Further, Wihongi street consists of wider pedestrian pathway with road signs, power pole and light poles.
- Broadway is the state highway subject to road widening designation held by NZTA. The Wihongi street is a local road has large berms with streetlights and power poles placed at regular intervals.

Within the context of the receiving environment described above, the proposal will have or is likely to have adverse effects on the environment that is not more than minor (s95A(8)(b)) for the following reasons:

- The proposed pole height exceeds the permitted NESTF standard by 4.95 metres. However, I note the wider road reserve allows for a generous height-to-width relationship supports the establishment of taller structures without creating a sense of visual dominance and over-scaling. It should also be noted that Wihongi Street is not an arterial and as such, visibility of the proposed pole will not be a prominent one. As noted above, the proposed pole is located within road reserve adjoining commercial-retail centres which is well setback by the car parking areas and will be visible from service areas which is particularly not sensitive to visual effects from the proposed pole.
- The proposal exceeds the permitted height limit by 4.95m and permitted width by 0.008m. The proposed pole is of recessive colours (grey) on the pole and attachments minimises visibility and bulk and mitigates any adverse effects on the wider environment.
- The proposed pole will be located in the road reserve with light poles, power poles and road signs, and it is common for telecommunication facilities to be located in the road reserve. The pole and cabinets will not impact the operation and function of the road for pedestrians or traffic, or compromise access.
- Further, the proposed pole will not block access to the adjoining sites and it is well setback from the vehicle crossings.
- The Noise and Radio frequency generated from the proposal will be compliant with NESTF. The attached appendix B and C Noise and RF report prepared by suitably qualified specialist provides relevant technical information to identify that the proposal is able to be undertaken as a permitted activity in this regard. Hence, the proposal will have less than minor adverse effects on public health and safety.



Overall, the proposed new pole has less than minor effects on the wider environment.

## 5.2 Limited Notification Assessment – s95B

Under step 1, there are no affected customary rights groups or customary marine title groups, and the land is not subject to a statutory acknowledgement.

Under Step 2, It is noted that the application is not precluded from limited notification because:

- there is no rule or national environmental standard that precludes limited notification of the application.

Under step 3, limited notification is not required as there will be no adversely affected persons as a result of the activity for the following reasons:

Adverse Effects

- The immediate receiving environment to the proposed telecommunication facility will be 2, 5, 9,10 & 11 Wihongi Street, 65 Broadway and 88 Broadway.
- The commercial zone activities consist of outdoor areas providing for activities such as parking, loading, outdoor storage and other outdoor activities associated with non-residential activities on the site which is not sensitive to visual effects. Hence, the proposed pole will be visible from 5 Wihongi Street however the proposed activity is not sensitive to visual effects as it is construction yard with car parking area along the street frontage. Hence, the proposal will have less than minor adverse effects to 5 Wihongi Street.
- The proposal will not be visible to 2 Wihongi Street and for 88 Broadway Street will only be visible from the car parking area and will be visible from 9 Wihongi street and the proposal is not sensitive to the visual effects. Hence, the proposal will have less than minor effects to these properties listed.
- The proposal will partially screen for residents at 10 Wihongi Street with the existing fixed fence measuring 1.8m.. But however, proposed pole is of recessive colour (grey) which minimises bulk of the antenna at the top and visibility and the physical separation will result in less than minor visual impact on the residential amenity of the residents. Hence, the proposal will have less than minor effects to 10 Wihongi street.
- The proposal will not impact on 11 Wihongi Street as whilst residential, the outdoor living and orientation of the property is away from the facility towards the North.
- Further, the proposed pole is of recessive colours (grey) on the pole and equipment which blends with sky background minimizing the visibility of the pole and the antenna to the adjacent sites.
- The proposed pole and cabinet located in the Road Reserve are well setback from the existing building and does restrict access to the building located at 5 Wihongi street and does not impede the pedestrian access as per telco act notice provided (appendix D). Hence, the proposal will not impact the operation and



function of the road for pedestrians or traffic, or compromise access to the adjacent sites.

Overall, the any effects from the proposed installation of new pole and antennas are considered to be less than minor in the proposed location given the zoning, nature of existing activities and the overall context of the environment.

Under step 4, there are no special circumstances to warrant the application being limited notified to any persons. In this instance, there is nothing exceptional or unusual about the application.

# 6.0 Statutory Assessment

## 1 Resource Management Act (RMA)

As per Section 104B of the RMA, the consent authority may grant the resource consent as the proposal is a discretionary activity.

In accordance with an assessment under s104(1)(a) and (ab) of the RMA the actual and potential effects from the proposal will be acceptable because:

- With regards to FNDP - Infrastructure, the proposal will be maintaining an acceptable level of amenity and visual impact while continuing to provide an essential telecommunications service, attract ongoing investment, promote commercial activity, and provide employment while avoiding any detrimental effects on the surroundings.
- The adverse effects on the users of the Wihongi Street and adjacent properties will be less than minor. This is because the proposed structures are consistent with the surrounding environment, and there are existing similar structures in the vicinity such as light poles, power poles and road signs, ensuring that the proposal aligns with the existing environment.
- The proposed pole is of recessive colour (grey) which minimises bulk of the antenna at the top and visibility and will result in less than minor effects in terms of visual impact.
- The proposal does not result in radio-frequency fields that exceed the maximum exposure levels set out for the general public in the New Zealand standard NZS 2772:1999 Radiofrequency fields – Maximum exposure levels – 3 kHz to 300 GHz and meet Regulation 55 of the NESTF as a permitted activity.

<u>Positive Effects</u>

In terms of positive effects, the proposal will have a number of positive effects for the Kaikohe community as it forms a part of essential infrastructure providing secure and simple telecommunication and wireless broadband services to improve safety. It will enhance disaster resilience by providing more comprehensive and robust



telecommunications network for the health and safety of the community. The telecommunication facility will provide social and economic benefits by improving mobile connectivity and data speeds for the community, thereby assisting businesses and households alike.

With reference to s104(1)(ab), there are no specific offsetting or environmental compensation measures proposed or agreed to by Connexa..

Overall, it is considered on balance that any actual and potential effects generated by the proposal are acceptable within the context and character of the surrounding environment.

## 2 Relevant Objectives and Policies

As per section S104(1)(b) of the RMA the proposal is consistent with the relevant statutory documents, being National Environmental Standards for Telecommunication Facilities Regulations 2016 and Far North District Plan.
The proposal meets all the permitted standards under the NESTF and the FNDP, except for the height and width of the pole. The objectives and policies of the FNDP is discussed below.

| Objectives | Assessment |
|---|---|
| 17.2.3.1: To provide for the efficient development, use, maintenance and upgrading of utility services to meet the reasonable needs of residents and businesses throughout the District while ensuring that significant adverse effects are avoided, remedied or mitigated. | As notes in section 2 of this report, the proposed activity is proposed to provide network connectivity for current and future needs of the Kaikohe community.<br>The potential adverse effects associated with the proposed pole will be visual in nature. It is anticipated that over time, the significance of the visual impact will reduce as its presence becomes a norm.<br>The need for and benefit of the infrastructure on the local community and beyond is around connectivity. |
| Policies | Assessment |
| 17.2.4.2: That any significant adverse effects of proposed utility services and radio communications on amenity values is avoided, remedied or mitigated. | The proposed pole is located within the road reserve which integrates with other utility services. The proposal maintains the landscape and amenity values associated with the site and surrounding area. |



| | |
|---|---|
| 17.2.4.3: That provision be made to enable new/upgraded utility services to meet growth demand | The proposal supports the existing, ongoing and future development in Kaikohe community with improved network connectivity. |
| 17.2.4.4: That provision be made for utility services corridors (such as roads) and the co-siting of telecommunication and radio communication equipment where technically and commercially practicable. | The proposed pole is located within the road reserve which integrates with other utility services. |
| 17.2.4.5: That the safe and efficient development, operation and maintenance of existing utility services is not compromised by incompatible land development. | The proposal has a functional and operational need to enhance communication and provide for public health and safety, avoids any adverse effects related to noise and radiofrequency. |

# 7.0 Consultation

For the reasons outlined in the assessment of environmental effects above, the adverse effects of this proposal, when considering the location, siting and design of the equipment, are considered to be less than minor, and no consultation has been undertaken.

Connexa will fulfil their consultation obligations under the New Zealand Telecommunications Forum Inc (TCF). Connexa has sent out Telecommunication Forum (TCF) letters 1 on 6th of November 2025 to adjacent sites located within 50m radius of the proposed site informing the need for wireless network and the location of new telecommunication facilities and a TCF letter 2 will be sent out prior to construction commencing to all adjacent land owners within 50m radius informing the estimated timeframe for commencement and completion of construction of the Wireless Telecommunications Facility .

In accordance with an assessment under s104(1)(c) of the RMA, no other matters are considered relevant.

# 8.0 Conclusion

The proposed project is a well-designed facility that is necessary to provide enhanced telecommunication and wireless broadband services to the area. The cabinets are a permitted activity in the NESTF, and whilst the installation of pole height and width does not meet all permitted activity standards in the NESTF and is not permitted under FNDP, the infringements have been assessed as having less than minor

adverse effects. The proposal will have positive social and economic effects for the community through provision of enhanced telecommunication and wireless broadband services.

Accordingly, the proposal is considered to promote the sustainable management of natural and physical resources as embodied in Part 2 of the Resource Management Act 1991.



Appendix A - Site and Land Plans

Appendix B –Noise report

Appendix C - RF Report

Appendix D – Telco Act Notice

CONNEXA

Far North District Council
andy.finch@fndc.govt.nz
Andy Finch

8th October 2025

Dear Andy,

**Telecommunications Act 2001: Notice of intention to install telecommunications equipment on road reserve.**

This is a notice pursuant to sections 136 and 142 of the Telecommunications Act 2001 (**Act**).

Connexa gives notice that it intends to construct, place, and maintain wireless works, lines, and cabinets in and on a road, and to carry out work for those purposes (Work).

**Location of the Work:**
*Next to 5 Wihongi Street, Kaikohe, Far North, Northland*
Mast GPS Co-ordinates: -35.40616, 173.80191

Site location and equipment layout is shown in the attached planning drawing FARKKHT-SL-01 Revision 2.

**Nature of the Work:**
*Work involves the following:*

- *Replace the existing 7.2 metre street light pole with a new 16 metre dual purpose lighting and telecommunication pole.*
- *A new cellular pole will be installed.*
- *New cabinets will be installed to the west of the pole.*
- *The 16 metre new pole will support the antennas and ancillary equipment.*
- *Power and telecommunications fibre will be connected to the Telecommunication Facility.*
- *The work will require opening of the road in order to extend the foundations and other supporting infrastructure.*

CONNEXA

**Reason for the work:**
The work is to construct, place and maintain a cell site to provide wireless and mobile telecommunications services to mobile network customers and roaming customers in the vicinity of the site.

Please advise within 15 working days of receipt of this notice if you require any reasonable conditions in relation to the work.

We acknowledge that a corridor access request and approved traffic management plan are required prior to construction. We agree to comply in full with the requirements of the Code: *Utility Operators' Access to the Transport Corridors*, and any other reasonable conditions required by the Corridor Manager and to keep this notice on site while work is in progress.

If you wish to discuss this notice, please contact me at the email address or contact number below.

Yours sincerely

Abby Rowling
Property Acquisition Manager
**Connexa Limited**

+64 027 454 6327
Abby.Rowling@connexa.co.nz

**Appendix A.**
*Connexa Site and Land Plans* - Drawing Number: FARKKHT-SL-01 Revision 2.

21 November 2025

Far North District Council
Private Bag 752
Kaikohe 0440
New Zealand

**RE: Cumulative RF Emissions at Two Degrees Networks Limited Telecommunications facility, next to 5 Wihongi Street, Kaikoke. (ref. NTH-001-111)**

This report is to address the cumulative effects of radio emissions (at the above-mentioned address) to further the information submitted to Council as required in the NES Regulations (2016), Regulation 55. It is also prepared in accordance with AS/NZS 2772.2:2016 Radiofrequency fields - Part 2: Principles and methods of measurement and computation - 3 kHz to 300 GHz. Please note all Two Degrees Networks Limited site installations are planned and operated in accordance with NZS 2772.1:1999 Radiofrequency fields – Maximum exposure levels - 3kHz to 300 GHz.

2degrees intend to install, operate, and maintain a facility at a total height of 16m at the above address.

I have examined the above site in terms of the proposed Two Degrees Networks Limited facility antennas, public access to and uses of the surrounding physical environment, and the predicted RF emission levels of the proposed antennas and those of any existing service providers. I am satisfied that if the proposed antennas were to become operational today the predicted cumulative radiofrequency field levels at places in the vicinity of the facility that are reasonably accessible to the general public will not reach or exceed 25% of the maximum level authorised by NZS 2772: Part 1:1999 Radiofrequency Fields Part 1 – Maximum Exposure Levels – 3 kHz to 300 GHz. Please refer to Appendix A for power outputs, antenna gains and operational frequencies.

RF exposure calculations have considered antennas for each technology that result in the worst-case compliance distances. Please refer to Appendix B for the RF Lobe diagram and compliance distances.

Sector-by-Sector Assessment:

Sector 1:
Pointing to 2 Wihongi Street and 86 Broadway - buildings and the street level will not reach or exceed 25%

Sector 2:
Pointing to 90, 92 and 94 Broadway - buildings and the street level will not reach or exceed 25%

Sector 3:
Pointing to 10 Wihongi Street - buildings and the street level will not reach or exceed 25%

Yours sincerely,

Verapol Glumglai
Senior RAN Engineer
**Two Degrees Networks Limited**



Two Degrees Networks Limited 136 Fanshawe Street, Auckland CBD, Auckland 1010
PO Box 8365 Symonds Street, Auckland 1150 | +64 9 919 7000

## Appendix A:
## 2degrees Power Outputs, Antenna Gains, Operational Frequencies:

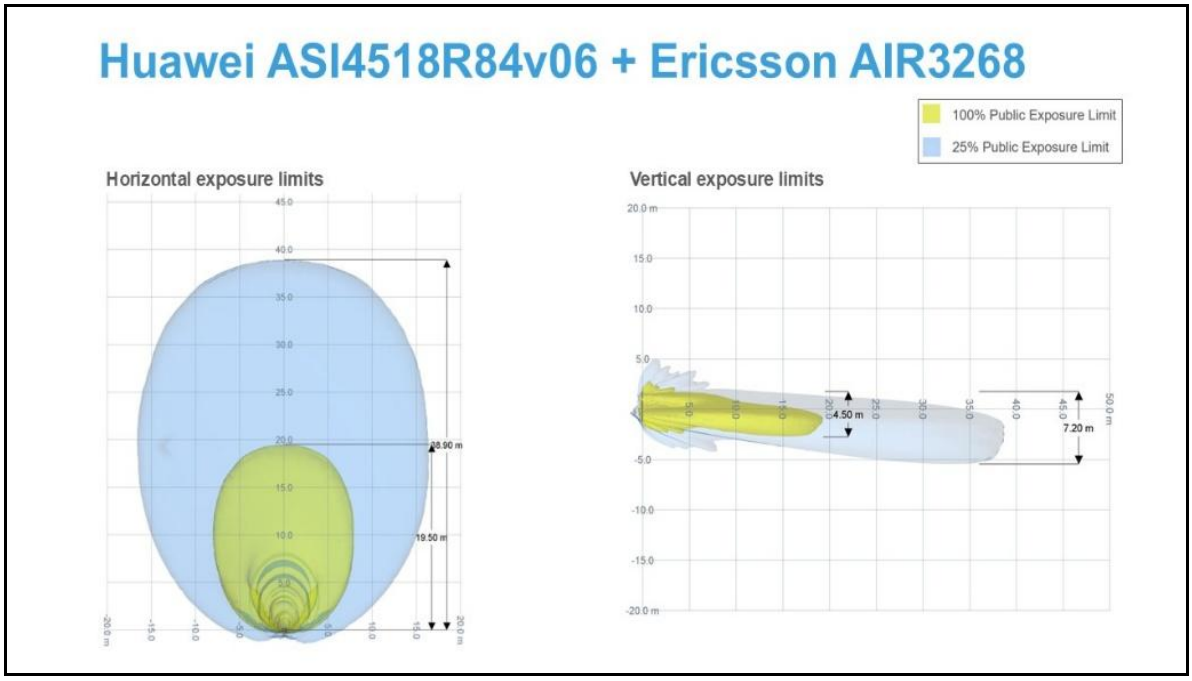
| ASI4518R84v06+AIR3268 | | | | | | |
|---|---|---|---|---|---|---|
| Frequency | 758 | 935 | 1805 | 2155 | 3700 | MHz |
| Allowed Power Flux Density (100% Public) | 3.79 | 4.68 | 9.03 | 10.00 | 10.00 | $W/m^2$ |
| Antenna Gain | 14.9 | 15.6 | 17.5 | 17.9 | 25.8 | dBi |
| Peak Power Factor | 100% | 100% | 100% | 100% | 25% | |
| TDD Factor | 100% | 100% | 100% | 100% | 100% | |
| TRX Power | 49.0 | 49.0 | 52.0 | 53.0 | 47.0 | dBm |
| Total Losses | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | dB |
| EIRP | 63.9 | 64.6 | 69.5 | 70.9 | 72.8 | dBm |



Two Degrees Networks Limited 136 Fanshawe Street, Auckland CBD, Auckland 1010
PO Box 8365 Symonds Street, Auckland 1150 | +64 9 919 7000

**Appendix B:**

**2degrees RF Lobe diagram and compliance distances:**






Two Degrees Networks Limited 136 Fanshawe Street, Auckland CBD, Auckland 1010
PO Box 8365 Symonds Street, Auckland 1150 | +64 9 919 7000

StylesGroup
Acoustics & Vibration Consultants

# ERICSSON 6140 TELECOMMUNICATIONS CABINET

## GENERIC NOISE ASSESSMENT

PREPARED FOR

Two Degrees

DATE

22 November 2021

Generic telecommunications cabinet assessment prepared by Styles Group for Two Degrees.

## REVISION HISTORY

| Rev: | Date: | Comment: | Version: | Prepared by: | |
|---|---|---|---|---|---|
| 1 | 22/11/21 | | Final | Olivier Ghysel, MASNZ<br>Senior Consultant<br>Styles Group | Jon Styles, MASNZ<br>Director and Principal<br>Styles Group |

# Table of contents



# Appendices

# Executive summary

Two Degrees has engaged Styles Group to undertake noise measurements of the Ericsson 6140 telecommunications cabinet (the **Cabinet**) to inform the site-selection and consenting of future Cabinets.

Styles Group have undertaken a combination of noise measurements and analysis of manufacturer test data to determine the noise emissions of the Cabinet operating under its various fan speeds. The fans speeds vary to maintain an internal cabinet temperature that is generally within 5 degrees Celsius of the ambient outdoor temperature.

Styles Group have assessed the noise emissions of the Cabinet and have prepared noise level predictions and contours to determine the distances at which the noise limits of the Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 (**NESTF 2016**) or any District Plan standard or condition of resource consent or designation will be complied with.

The noise level contours in Appendix A display the Cabinet noise emissions operating at ambient temperatures of 15 ˚C, 20˚C and 25˚ on a grid with the Cabinet positioned at the centre. The user of this advice can apply the noise contours and the corresponding grid to estimate the Cabinet noise emissions at the relevant assessment location prescribed by the relevant noise standard.

# 1.0 Introduction

Two Degrees has engaged Styles Group to undertake noise measurements of the Ericsson 6140 telecommunication cabinet (the **Cabinet**).

This advice is intended to inform the site-selection and consenting of future Cabinets by:

i. Identifying the noise emissions of the Cabinet when its fans operate at various ambient temperatures.

ii. Enabling the Cabinet noise emissions to be compared to any telecommunications noise limit prescribed in the Resource Management (National Environmental Standards for Telecommunication Facilities) Regulations 2016 (**NESTF 2016**) or any District Plan standard or condition of resource consent or designation.

# 2.0 Cabinet noise measurements

Styles Group have undertaken a combination of noise measurements and analysis of manufacturer test data to determine the noise emissions of the Cabinet when operating under its various fan speeds. The fans speeds vary to maintain an internal cabinet temperature that is generally within 5 degrees Celsius of the ambient outdoor temperature.

The cooling fans are the only appreciable noise source from a Cabinet whilst in operation. There are no other sources associated with a Cabinet that would normally be present in a field installation that would otherwise influence the noise levels.

Styles Group undertook noise measurements of the Cabinet operating at an ambient temperature of 15°C. Manufacturer test data was relied on to determine the noise emissions from the Cabinet operating at higher ambient temperatures.

Some telecommunications cabinets are capable of being manipulated to run at fan speeds representative of different ambient temperatures, without the ambient temperature actually changing. This was not possible with this Cabinet. We have conducted a detailed analysis of manufacturer test data to calculate noise levels at ambient temperatures of 20°C and 25°C. The manufacturer has provided detailed test data and fan speed curves for our analysis.

## 2.1 Noise measurements- Cabinet operating at 15°C

Styles Group undertook noise measurements of the Cabinet with its cooling fans operating at a speed corresponding to an ambient temperature of 15°C on 14 July 2021.

All measurements were conducted using a 2250 Bruel & Kjaer Type 1 sound level meter. The meter and microphone were calibrated in an accredited laboratory and were field-calibrated both before and after the measurements using a Bruel & Kjaer 4231 calibrator.

We performed reverberation time measurements to determine the reverberation time of the test environment (a large atrium in a commercial building). These reverberation measurements have been used to correct the final measured levels to represent an open-air environment. Styles Group used a Norsonic dodecahedron loudspeaker Nor276 with its power amplifier Nor280 and a calibrated Sound Level Meter Nor 140 to determine the reverberation time.

All measurements were conducted in accordance with NZS6801:2008 *Acoustics - Measurement of Environmental Sound* and ISO 3744:2010(E) *Determination of sound power levels of noise sources using sound pressure- Engineering methods for an essentially free field over a reflecting plane*.

## 2.2 Testing methodology

Styles Group's noise measurements were undertaken in a large indoor environment during the night (when ambient noise levels are sufficiently low) and were conducted according to the provisions of ISO 3744:2010(E).

We applied the provisions of clause Annex C.1 of ISO 3744:2010(E) to determine the microphone measurement positions using the parallelepiped method. The provisions of clauses 8.2.3 and Annex A.3.2 of ISO 3744:2010(E) were used to provide the appropriate adjustments to the raw measured data based on the reverberation time and background noise within the space in which the measurements were made. This required measurement of the reverberation time within the space and background noise measurements of the space with no cabinets running.

Noise measurements were undertaken with the cooling fans in the Cabinet operating at a speed corresponding to an ambient temperature of 15°C. We understand that the fans typically run at this speed during night-time operation in most parts of New Zealand for most of the year.

## 2.3 Methodology for calculation of fan speed noise levels at 25°C

Styles Group have reviewed the noise test report prepared by Ericsson (the **Ericsson Report**) to understand the Cabinet noise emissions operating under higher ambient temperatures than the test conditions. A copy of the Ericsson Report is provided in Appendix B.

The Ericsson Report provides test results of a Cabinet operating at ambient temperatures of 15°C, 20°C, 35°C and 45°C. The tests were conducted in accordance with ISO 3744:2010(E).

The Ericsson Report does not provide test results for a Cabinet operating at an ambient temperature of 25°C. Styles Group has used Ericsson measurement data and specific fan speed curves to determine the Cabinet noise levels operating at an ambient temperature of 25°C. The same calculation procedure was used to calculate the noise levels at an ambient temperature of 15°C to compare to our measurements. The agreement was good, with the calculated levels within approximately 1 decibel of the measured levels.

Ericsson have provided the graph below demonstrating the relationship between the ambient temperature and fan running speeds.

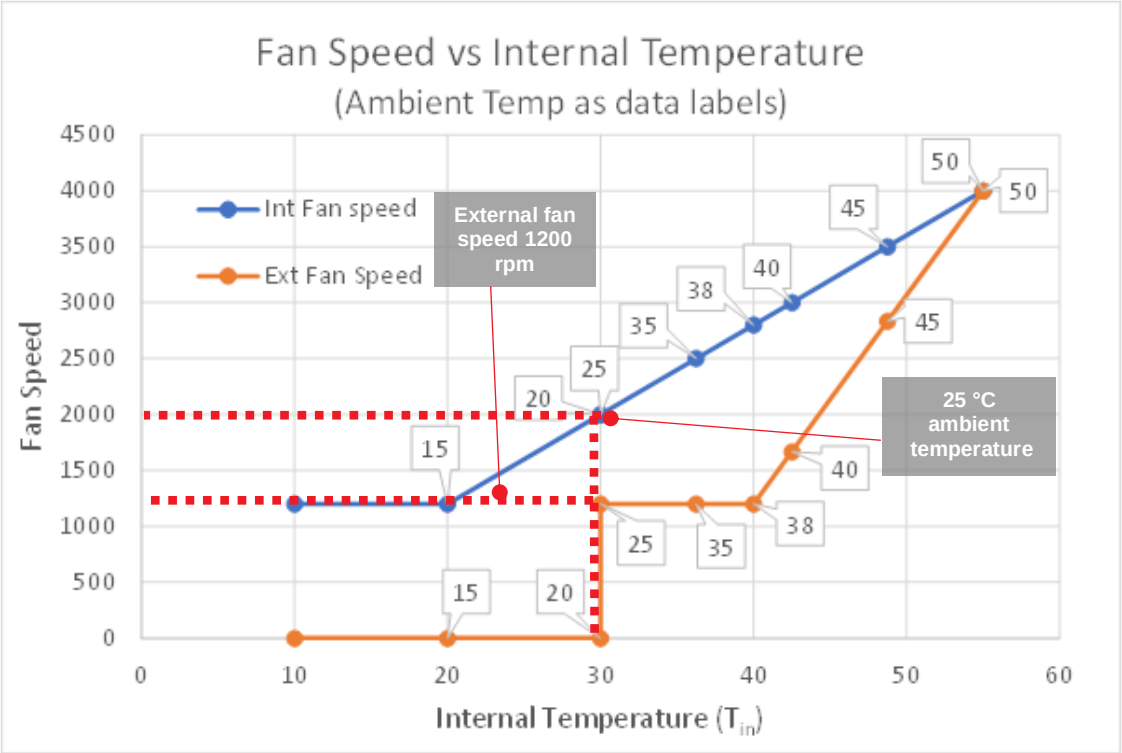



**Figure 1 Relationship between internal fan and ambient temperatures and fan speed**

Source: Ericsson

Figure 1 shows that the external fans (orange curve) run at the same speed (1200 rpm) whether the ambient temperature is 25°C or 35°C. It also shows that the external fans do not run at up to 20°C of ambient temperature. This means that the measurements taken at ambient temperatures of 20°C or below represent the contribution from the internal fans only.

Based on this information, we determined the daytime noise levels (25°C fan setting) following the methodology detailed below:

1. We identified the noise levels measured at 35°C from Ericsson data (*x*),
2. We calculate the difference in noise levels generated by the internal fans only between 35°C and 25°C (*y*) based on fan speed data and measurements at temperatures below 20°C,
3. We subtracted (*y*) from (*x*) to get the overall noise level generated by the cabinet at an ambient temperature of 25°C.

# 3.0 Cabinet measurement results and predicted noise levels

The sound power levels for the Cabinet with its fans operating at a speed corresponding to an ambient temperature of 15°C, 20°C and 25°C are presented in Table 2.

**Table 1 Calculated Sound Power Levels (LWA) in accordance with ISO 3744: 2010(E)**

| Ambient temperature | dBA $L_W$ |
|---|---|
| 15°C | 53 dB |
| 20°C | 59 dB |
| 25°C | 63 dB |

The fan noise source is very steady and the levels do not fluctuate with time. The $L_{A10}$ (or $L_{10}$) noise levels are typically within 1dB of the $L_{Aeq}$ values. This means the $L_{Aeq}$ values can also be used for comparison against any noise limits specified using the $L_{A10}$ descriptor. The $L_{AFMax}$ noise levels are no more than 3dB higher than the $L_{Aeq}$ noise levels.

We note that the minimum signal to noise ratio (SNR) of 6dB, in accordance with clause 8.2.3 of ISO 3744: 2010(E) was not achieved in all frequency bands for measurements of the cabinets off axis from the cooling fans. This was due to the low noise level of the cabinets relative to the background noise levels of the measurement space. However, the fundamental frequencies that control the overall noise output of the cabinets were well above the minimum SNR requirements and are sufficiently robust for the purpose of environmental noise predictions.

Figure 2 displays a typical spectrum of the noise from the Cabinets measured at 1m from the cabinet cooling fan at an ambient temperature of 15°C. We note that both objectively and subjectively, the spectrum does not exhibit any special audible characteristics or have any notable tonal qualities. The objective tonality test for special audible characteristics in accordance with clause B4.3 of NZS 6802: 2008 was performed to confirm the absence of tonality.

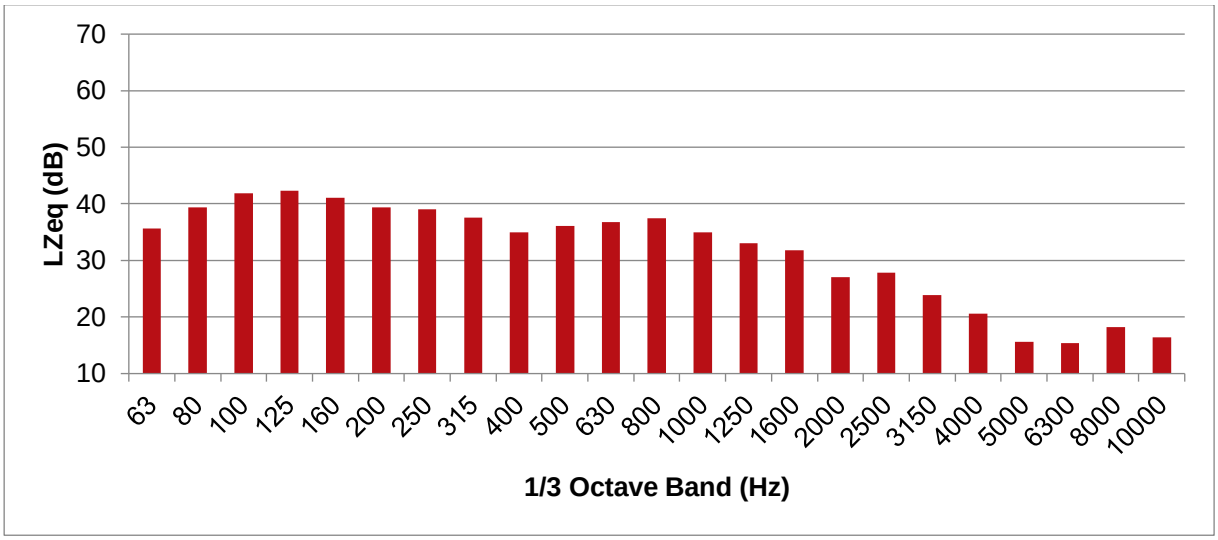



**Figure 2 Typical Sound Pressure Level (SPL) spectrum at 1m from Cabinet (cooling fan operating at an ambient temperature of 15°C)**

The predicted noise level for any given scenario can be determined by reference to the noise level contour plots presented in Appendix A for the temperature setting(s) that is relevant to the proposed installation. The noise contours presented in Appendix A incorporate two reflecting planes (floor and cabinets themselves).

# 4.0 Noise limits for telecommunications cabinets

The NESTF 2016 provides nationwide regulations for the installation of telecommunications facilities. The NESTF 2016 controls the noise emissions from a cabinet when installed in locations within and outside of the road reserve.

We have reproduced the NESTF 2016 noise limits for cabinets in road reserves below. We understand the NESTF 2016 enables a local authority to prescribe District Plan noise standards for telecommunications cabinets installed outside the road reserve that are more stringent than the regulations. The relevant noise standards applying to cabinets outside the road reserve, or cabinets subject to a designation condition or condition of resource consent should be confirmed with the relevant local authority.

## 4.1.1 NESTF 2016 noise limits for a cabinet in a road reserve

Regulation 24 of the NESTF 2016 prescribes noise limits for a cabinet in the road reserve. Regulation 24 requires:

(3) If the cabinet is located in a residential zone[1] or an adjoining road reserve[2], the noise limits for the cabinet are, -

(a) between 7am and 10pm, 50 dB $L_{Aeq(5min)}$; and

(b) between 10pm and 7am,-

(i) 40 dB $L_{Aeq(5min)}$; and

(ii) 65 dB $L_{AFMax}$,

(4) For any other cabinet, the noise limits for the cabinet are,-

(a) at any time, 60 dB $L_{Aeq(5min)}$; and

(b) between 10pm and 7am, 65 dB $L_{AFMax}$

Regulation 24(6) requires the noise levels must be measured and assessed:

a) 1m from the side of the building (or on the vertical plane of the side of the building) if a building containing a habitable room is within 4m of the road reserve where the cabinet is located

b) Or, in all other cases, at least 3m from the cabinet and within the boundaries of land adjoining the road reserve where the cabinet is located.

### 4.1.2 Measurement and assessment of noise levels

Regulation 24(5) of the NESTF 2016 requires the measurement of noise from a cabinet must be:

a) made in accordance with NZS 6801:2008 Acoustics – Measurement of environmental sound (**NZS 6801**); and

b) adjusted in accordance with NZS 6801 to a free field incident sound level; and

c) assessed in accordance with NZS 6802:2008 Acoustics – Environmental noise (**NZS 6802**).

Styles Group has adhered to NZS 6801 and NZS 6802 in the measurement and assessment of noise from the Cabinet.

## 4.2 Compliance distances for NESTF 2016 noise limits

Styles Group have measured and assessed the Cabinet noise emissions to determine the distances at which the maximum permitted noise levels of the NESTF 2016 will be complied with.

[1] Defined in the NESTF 2016 as "…an area identified in a district plan or proposed district plan as being zoned primarily for residential activities, but not an area zoned for rural/residential or countryside living activities (however described)."

[2] Defined in the NESTF 2016 as a "formed legal road and any land next to it up to the legal boundary of the adjoining land".

The noise level contours in Appendix A display the Cabinet noise emissions operating at ambient temperatures of 15˚C, 20˚C and 25˚ on a grid with the Cabinet positioned at the centre. The user of this advice can apply the noise contours and the corresponding grid to estimate the Cabinet noise emissions at the relevant assessment location prescribed by the relevant noise standard.

### 4.3 Vibration

We have not encountered any vibration effects from telecommunications cabinets. We did not observe any noticeable or readily measurable vibration effects beyond the Cabinet during the testing. We note that the only moving parts inside telecommunications cabinets are light weight cooling fans. The fans do not have sufficient mass to vibrate the enclosure or the ground around them. The generation of any perceptible vibration effects would require a significantly greater amount of moving mass inside the enclosure.

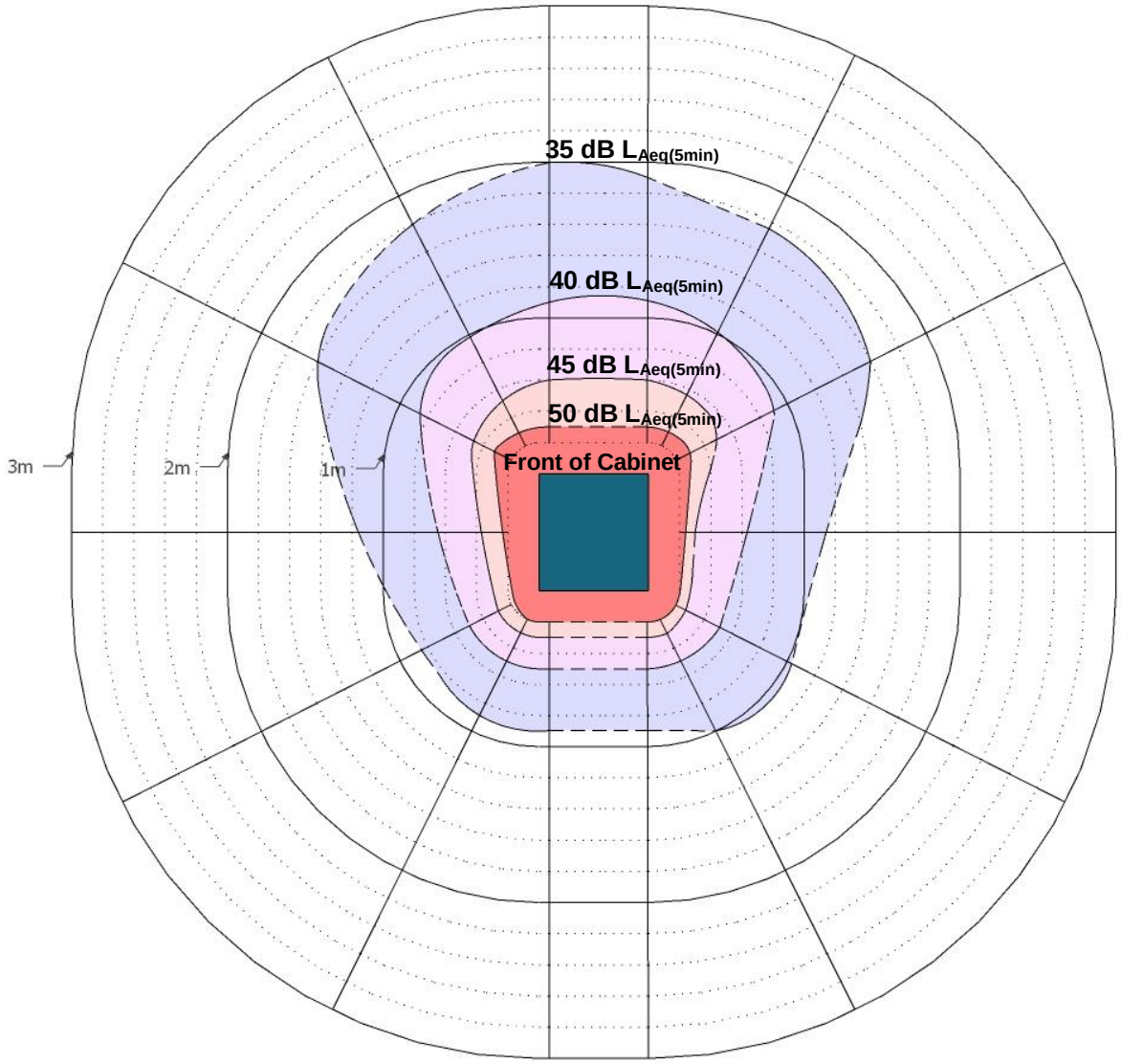
## 5.0 Conclusion

Styles Group have measured and assessed the noise emissions of a Cabinet and have prepared noise level predictions and contours to determine the distances at which the maximum permitted noise levels of the NESTF 2016 (or noise limit prescribed in a District Plan standard or condition in a designation of resource consent) will be complied with.

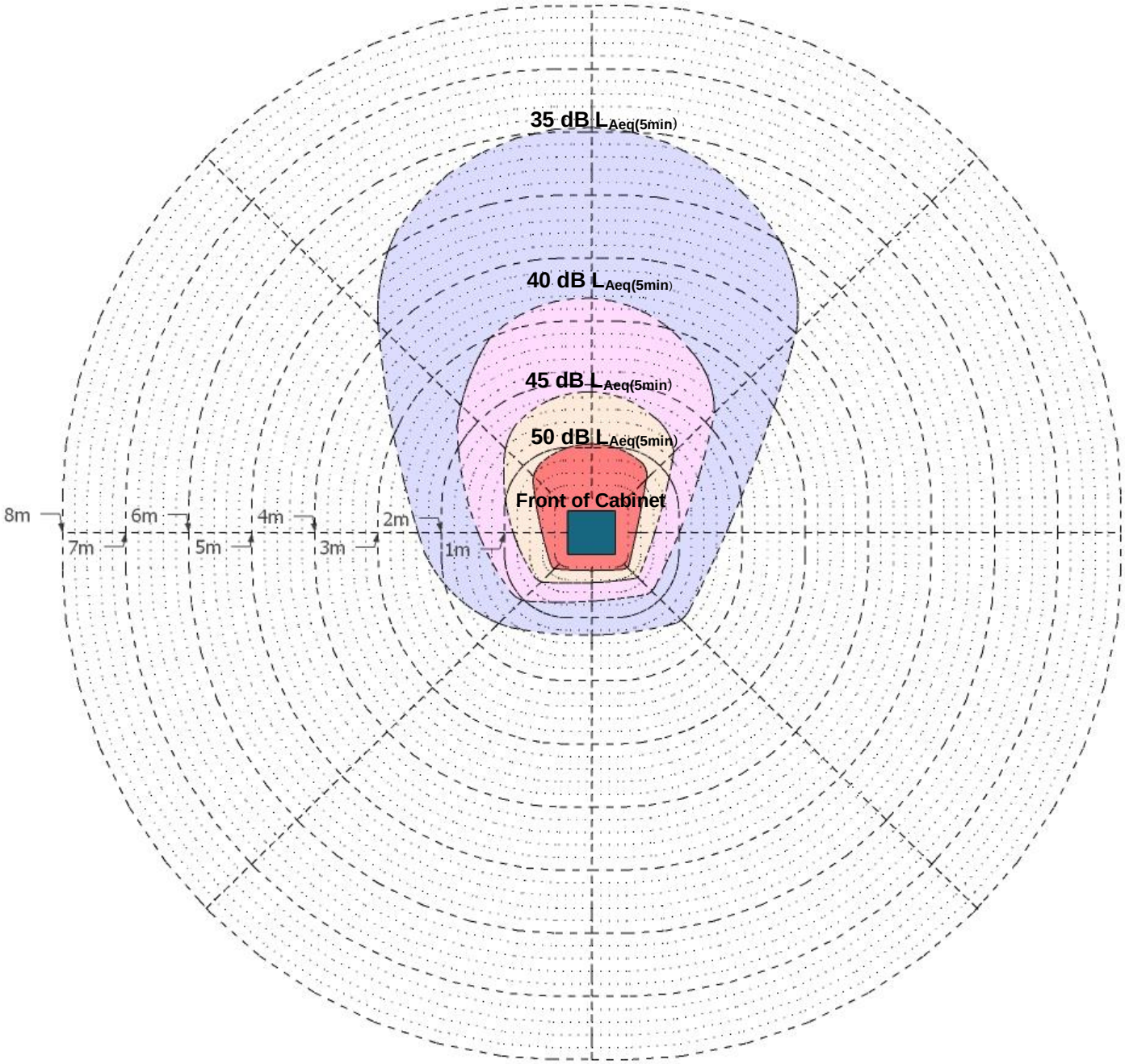
The noise level contours in Appendix A display the Cabinet noise emissions operating at ambient temperatures of 15˚C, 20˚C and 25˚ on a grid with the Cabinet positioned at the centre. The user of this advice can apply the noise contours and the corresponding grid to estimate the Cabinet noise emissions at the relevant assessment location prescribed by the relevant noise standard.

# Appendix A Cabinet noise level contours

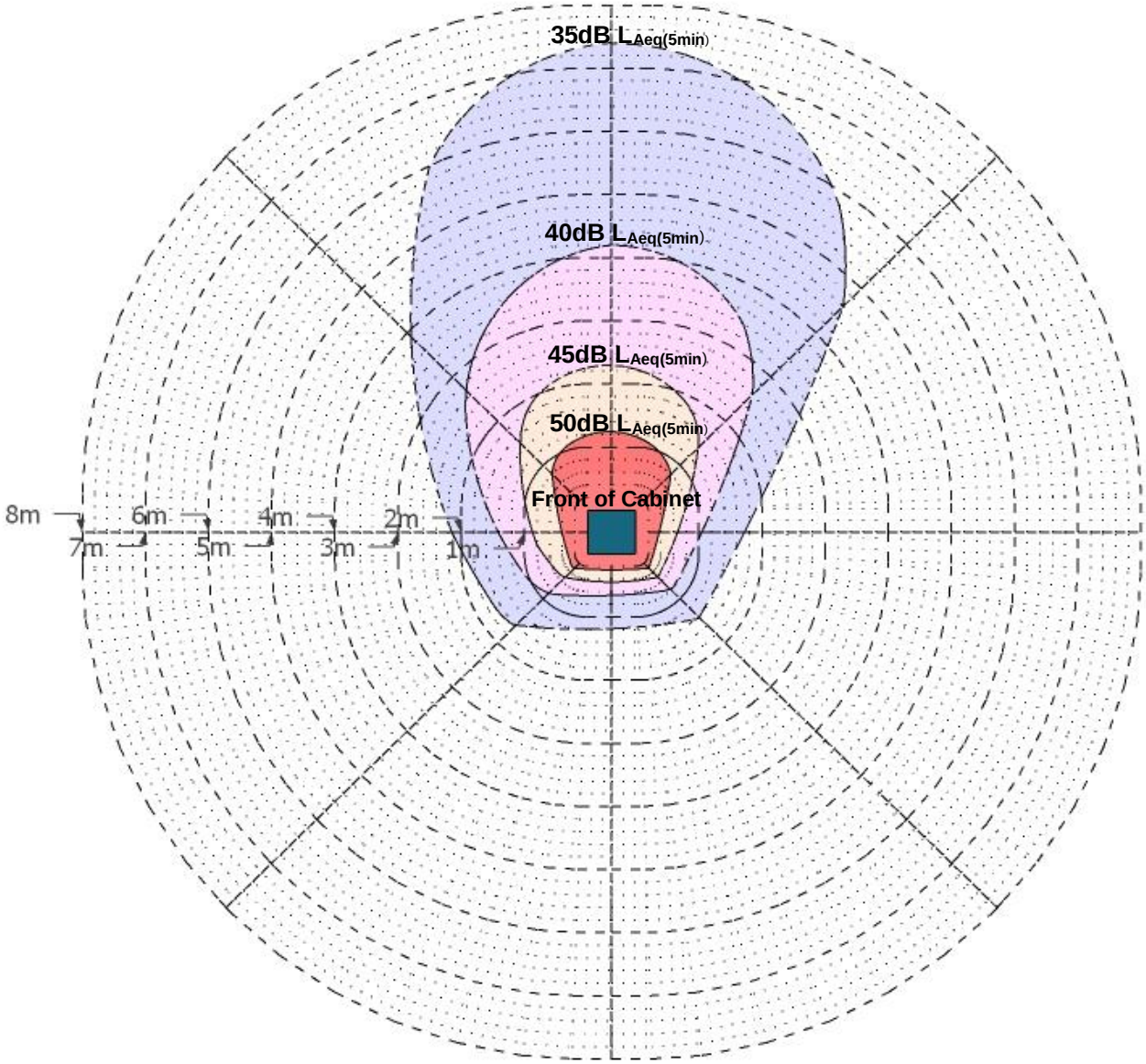
Ambient temperature 15°C



Ambient temperature 20°C



Ambient temperature 25°C



# Appendix B Ericsson Test Report

# Test summary - Noise test Enclosure 6130/6140

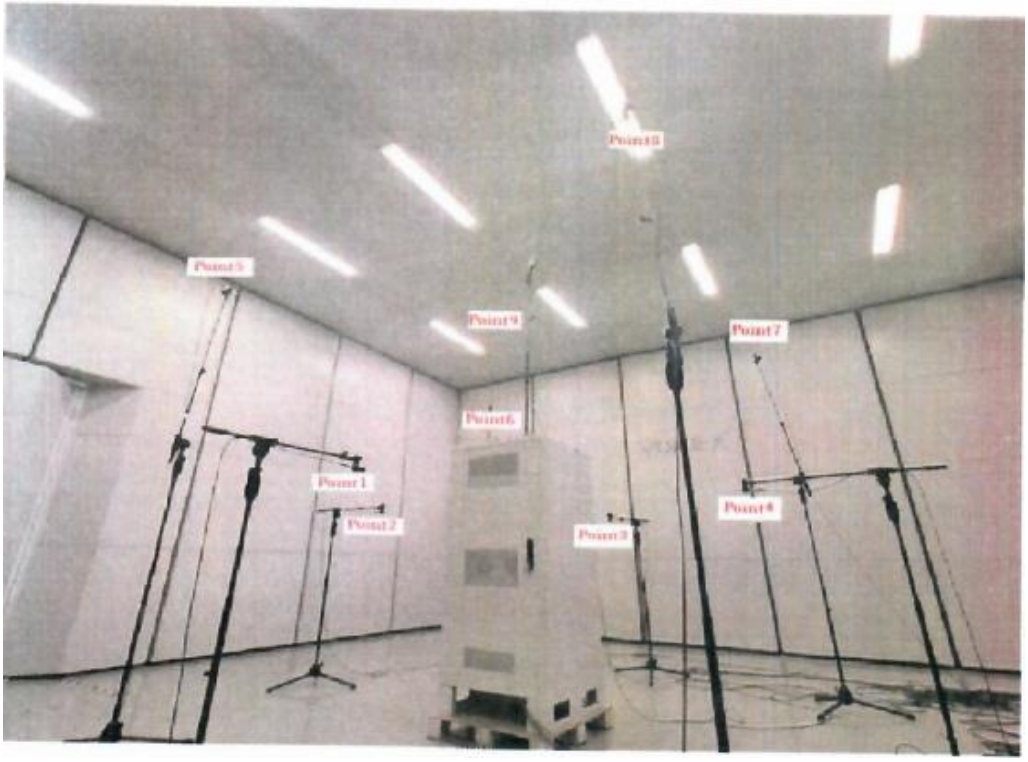
## Test Report

NOTE! Enclosure 6130 and Enclosure 6140 utilizes same fan units and fan curve. Noise profile is same. Difference in cooling capacity is dependent on HEX core size. Noise test conducted for characterization only.

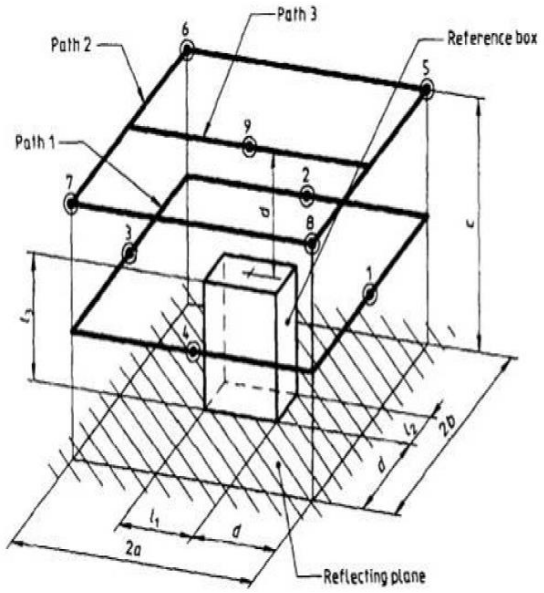
### 1 Test specimen

| | | | |
|---|---|---|---|
| **Test unit** | Enclosure 6140 AC 21kW | **Model** | BMK 905 073/1 |
| **Product revision** | R1A | **Purpose** | New product verification |
| **Test qty** | 1 pcs | **Test purpose** | Noise |
| | | **Test location** | Shenzhen, China |
| **Start date** | 2020-10-20 | **End date** | 2020-10-20 |
| **Room ambient** | 26degC | **Test spec.** | IS0 3744:2010 GB/T 3767-1996 |
| **Relative hum.** | 55-56% | **Ambient press.** | 100.5kPa |
| **Background noise** | 7.1dBA | **Test Sound Field** | Free field over reflecting plane (semi-anechoic room) |
| **Criteria** | | Noise characterization | |
| **Conclusion** | | N/A | |
| **Remarks** | | N/A | |

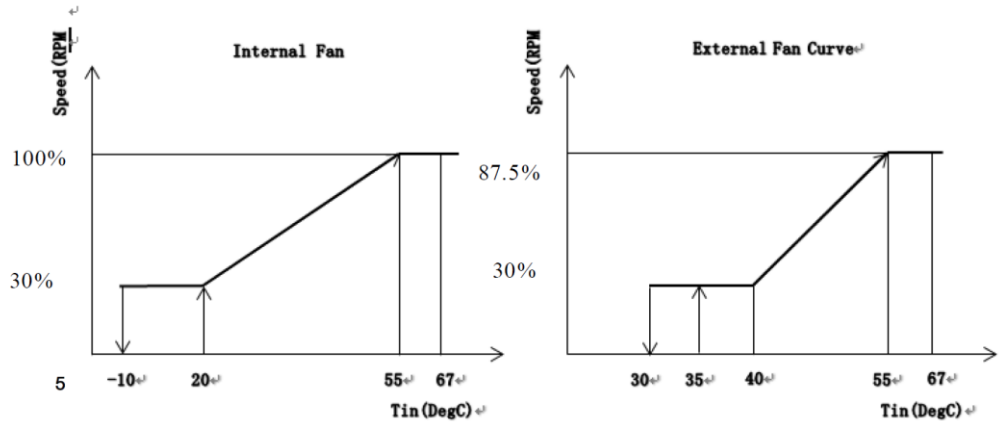
## 1.1 Test setup




Equipment in noise chamber




Microphone setup (measurement distances = 1m)




Fan curves

## 1.2 Test cases

| | Ambient temp. | Internal fan 1/2 (rpm) | Internal fan 1/2 (rpm) |
|---|---|---|---|
| 1 | 15degC | 1200/0 | 0/0 |
| 2 | 15degC | 1200/1200 | 0/0 |
| 3 | 20degC | 2000/2000 | 0/0 |
| 4 | 35degC | 2500/2500 | 1200/1200 |
| 5 | 45degC | 3500/3500 | 3000/3000 |

## 1.3 Results

A-weighted measurements points on each MP, sound pressure level $L_{PA}$ (dB)

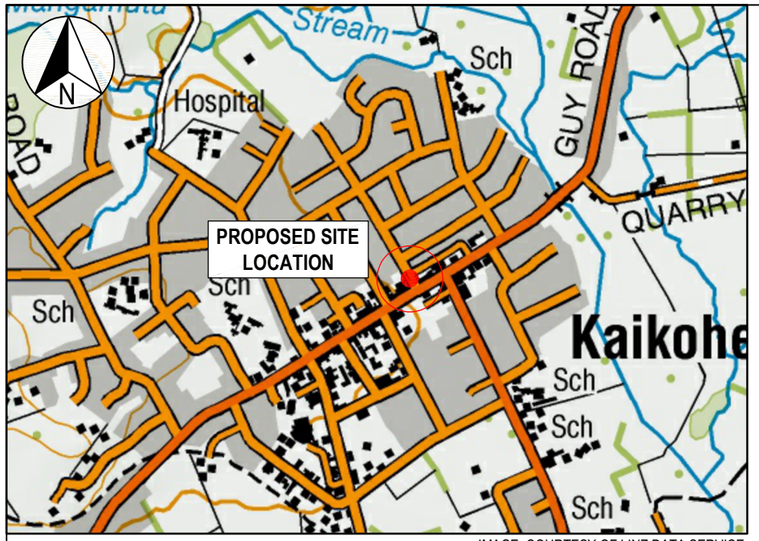
*MP = Microphone position*

| | **15degC (1)** | **15degC (2)** | **20degC** | **35degC** | **45degC** |
|---|---|---|---|---|---|
| **MP1** | 35.5 | 37.6 | 50.7 | 56.8 | 66.6 |
| **MP2** | 31.1 | 31.8 | 39.9 | 44.1 | 54.8 |
| **MP3** | 29.3 | 29.6 | 36.8 | 40.7 | 48.7 |
| **MP4** | 31.7 | 32.2 | 42.5 | 45.4 | 54.7 |

| | | | | | |
|---|---|---|---|---|---|
| **MP5** | 30.9 | 31.9 | 41.4 | 50.1 | 58.0 |
| **MP6** | 29.4 | 29.7 | 33.2 | 41.2 | 46.5 |
| **MP7** | 30.2 | 30.5 | 33.9 | 41.1 | 47.5 |
| **MP8** | 31.5 | 32.3 | 40.8 | 49.0 | 57.8 |
| **MP9** | 31.4 | 31.9 | 39.9 | 44.7 | 52.1 |

A-weighted sound power level $L_{WA}$ (dB)

| | **15degC (1)** | **15degC (2)** | **20degC** | **35degC** | **45degC** |
|---|---|---|---|---|---|
| **A-weighting** | 47.3 | 48.4 | 58.9 | 65.3 | 74.4 |

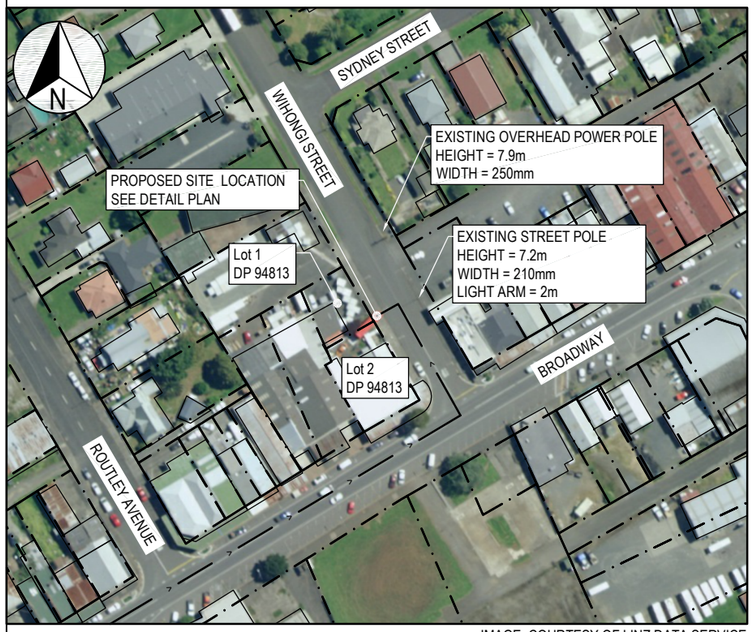



## LOCATION PLAN
NOT TO SCALE

IMAGE: COURTESY OF LINZ DATA SERVICE

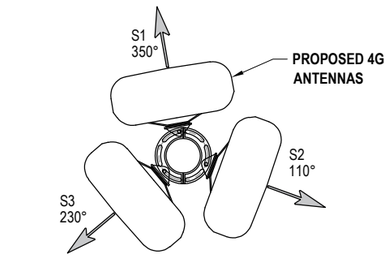
## NOTES:
1. THE NORTH POINT IS INDICATIVE ONLY.
2. BOUNDARIES, BEARINGS AND DISTANCES SHOWN ARE APPROXIMATE AND SUBJECT TO SURVEY.
3. ACCESS ROUTE FROM WIHONGI STREET.
4. PROPOSED POWER & FIBRE ROUTE - TO BE CONFIRMED ON SITE BY BUILD CONTRACTOR, OWNER AND/OR LOCAL AUTHORITY.

| APPROXIMATE LOCATION | |
|---|---|
| LONGITUDE | 173.80191 |
| LATITUDE | -35.40616 |
| NZTM EASTING | 1672812.98 |
| NZTM NORTHING | 6081618.6 |
| NZMG EASTING | 2583596.86 |
| NZMG NORTHING | 6643563.37 |

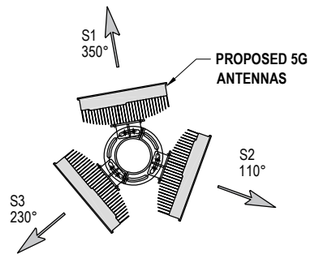



## SITE PLAN
SCALE 1:2000

IMAGE: COURTESY OF LINZ DATA SERVICE

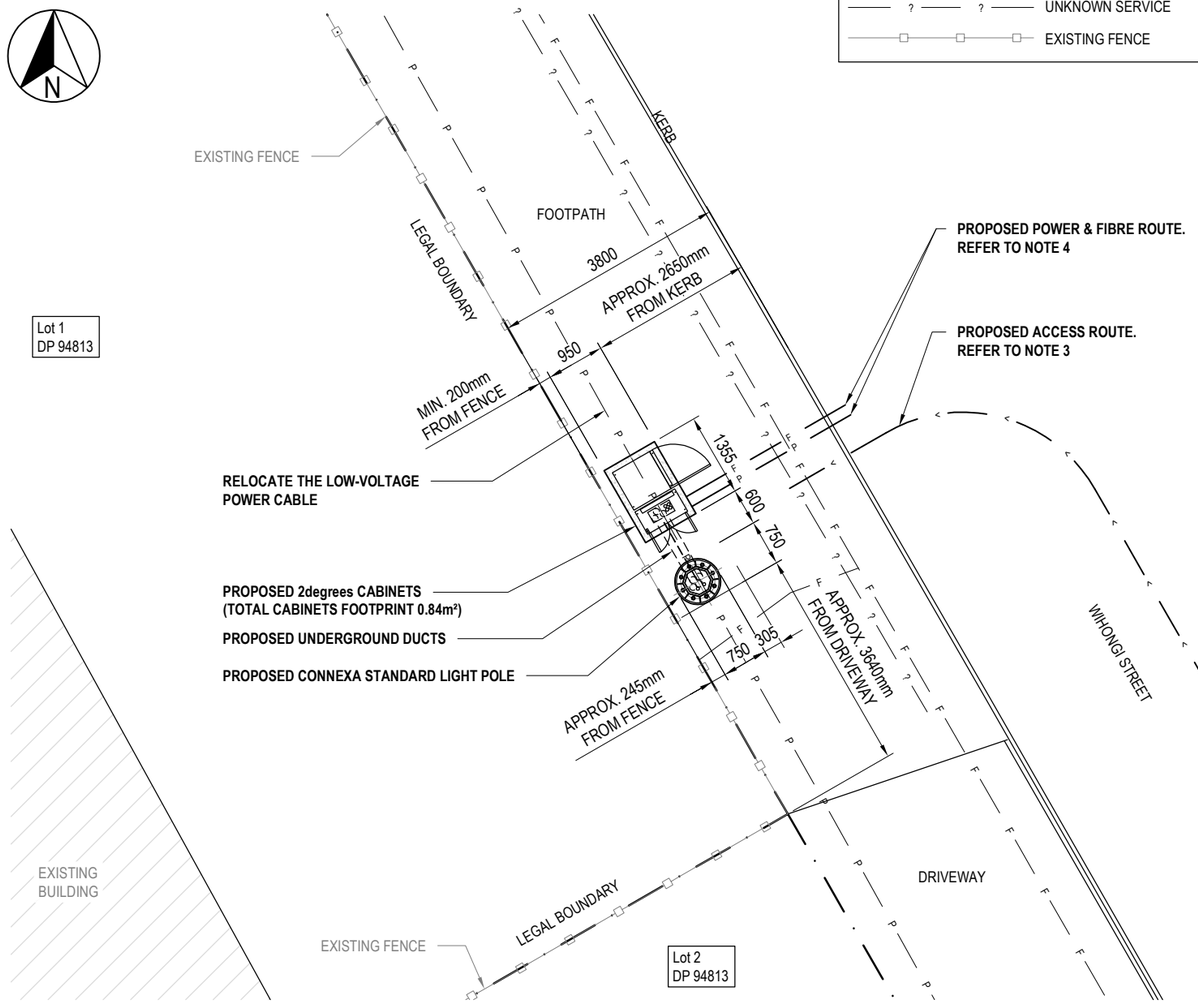



## PROPOSED 4G ANTENNA PLAN
SCALE 1:25



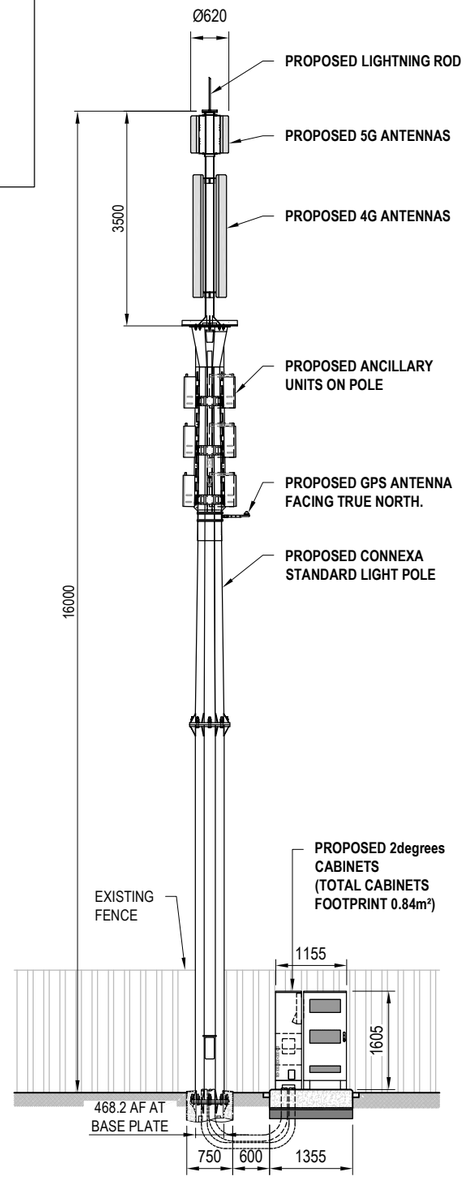

## PROPOSED 5G ANTENNA PLAN
SCALE 1:25

## LEGEND
- BOUNDARY
- LEASE AREA
- ACCESS ROUTE
- POWER ROUTE
- OVERHEAD POWER LINES
- TELECOMMUNICATIONS ROUTE
- FIBRE ROUTE
- GAS ROUTE
- EXISTING STORMWATER
- EXISTING WASTE WATER
- EXISTING WATER
- UNKNOWN SERVICE
- EXISTING FENCE




Lot 1
DP 94813

## PROPOSED SITE DETAIL PLAN
SCALE 1:100




## PROPOSED NORTH WEST ELEVATION
SCALE 1:100

40 20 0 40 80m — SCALE 1:2000

2 1 0 2 4m — SCALE 1:100

500 0 500 1000mm — SCALE 1:25



**DO NOT SCALE DRAWING**

CONNEXA

| REVISION | DESCRIPTION | CHECKED | DATE |
|---|---|---|---|
| A | FOR COMMENTS | AV | 23.09.25 |
| B | REISSUED FOR COMMENTS | AV | 24.09.25 |
| C | REISSUED FOR COMMENTS | AV | 24.09.25 |
| 1 | FOR APPROVAL | AV | 30.09.25 |
| 2 | REISSUED FOR APPROVAL | AV | 02.10.25 |
| 3 | REISSUED FOR APPROVAL | AV | 20.11.25 |

DESIGNED: ST
DRAWN: AV
CHECKED: TS
APPROVED: ST

PROJECT:
KAIKOHE TOWN MOBILE SITE
NEXT TO 5 WIHONGI STREET
KAIKOHE, FAR NORTH
NORTHLAND

TITLE:
LOCALITY & SITE PLAN

STATUS: FINAL

| CONNEXA SITE CODE: | DATE: | SHEET SIZE: |
|---|---|---|
| FARKKHT | 18.09.25 | A3 |
| 2degrees SITE CODE: NTH-001-111 | DRAWING No: SL01 | SCALE: AS SHOWN | REVISION: 3 |