

Appendix 5

Appendix 5a- Vector Emails

Chris Maday

From: Campbell McGregor <C.McGregor@harrisingrierson.com>
Sent: Friday, 24 October 2025 8:52 am
To: Hanisha Vallabh
Cc: John Dobrowolski; Don GAMAGE; Chris Maday
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Morning Hanisha,

It has been a few months since we last touch based, however, we have now been asked to commence work on a Fast Track Consent application for the Beachlands development. Our programme will see us lodge the consent in May next year, but we would appreciate some of your time just to discuss the contents of your email in particular around the external network upgrades and how this might work from a timing perspective. We are currently progressing development of the masterplan and once this is in a more advanced state, we will then be able to seek a specific design from you for the internal network.

Could you please provide me with some availability times over the next fortnight to schedule a meeting?

Regards
Campbell

Campbell McGregor
National Land Development Manager

M +64 21 244 1989
D +64 9 212 6502
P +64 9 917 5000

harrisingrierson.com



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From: Hanisha Vallabh [REDACTED]
Sent: Tuesday, 10 June 2025 4:46 pm
To: Campbell McGregor <C.McGregor@harrisingrierson.com>
Cc: John Dobrowolski [REDACTED] Johnny Tik [REDACTED] Don GAMAGE [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Hi Campbell,

Our network planner has advised the below:

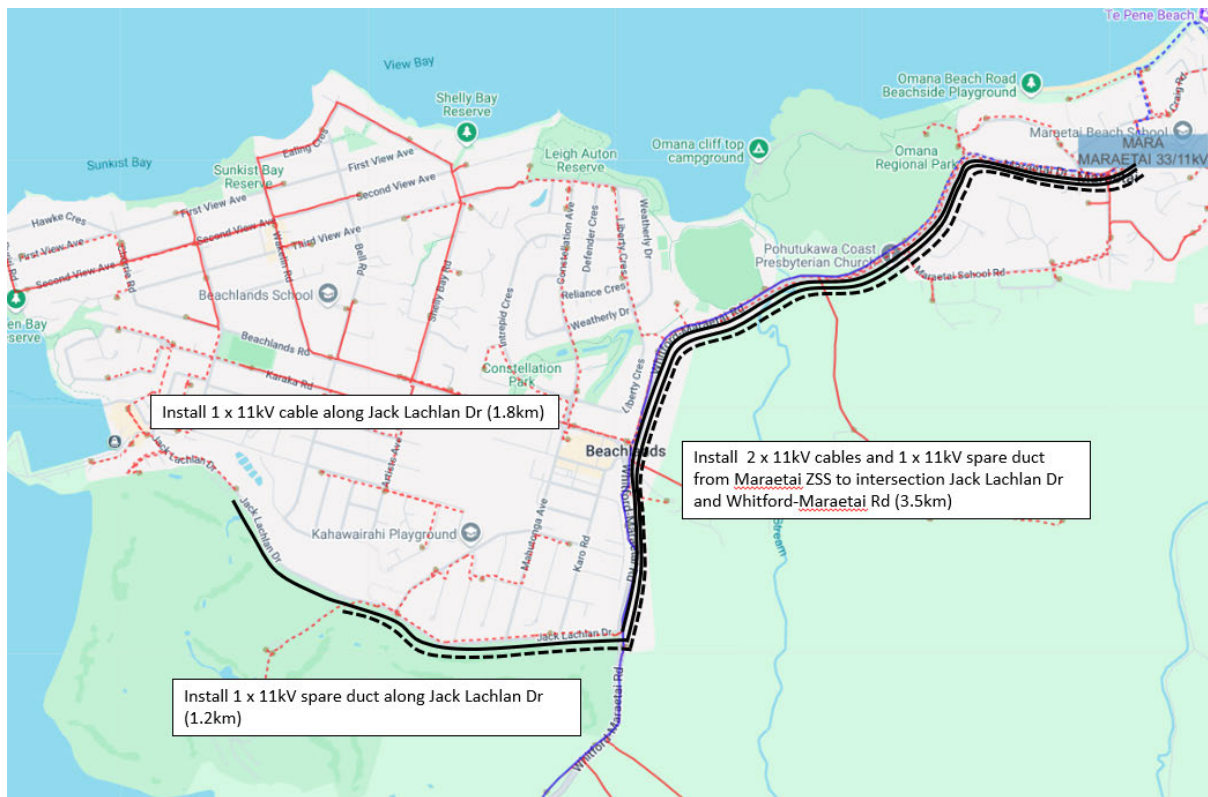
Vector projects and budget have been set for FY26 (July 2025 to June 2026) and this project cannot be added at this stage.

At the end of this year, I can add this project for the next financial year FY27 which is July 2026 to June 2027.

To have things work in parallel, the customer can start the design and build for their internal reticulation of the development. This can be connected to the existing feeders in the area with the condition that capacity is limited. Full capacity will be available once the new feeders are commissioned.

The two years timeframe is for design and construction.

Below is the high-level plan for the feeders from Maraetai zone substation.



Thank you,

Hanisha Vallabh

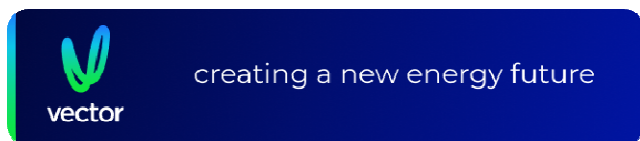
Senior Customer Contracts Advisor

DDI: [REDACTED]

Mob: [REDACTED]

vector.co.nz

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From: Hanisha Vallabh [REDACTED]

Sent: Tuesday, 13 May 2025 12:52 pm

To: Campbell McGregor <C.McGregor@harrisongrierson.com>

Cc: John Dobrowolski [REDACTED] Johnny Tik [REDACTED] Don GAMAGE [REDACTED]

Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Hi Campbell,

Thank you for your email, I have forwarded your questions to the planning engineer and will come back to you.

Hanisha Vallabh | Senior Customer Contracts Advisor



Our network engineer has looked into the development plan and provided the below information.

- Additionally, the following sections (underground and overhead network) will need to be upgraded and the customer will need to install 1.3km of cable along Jack Lachlan Drive for backstopping for this new load as part of the customer works to provide supply.

Approx. 240m of underground cable on Maraetai Drive,
Approx. 95m of overhead line on Shelly Bay Road,
Approx. 450m of underground cable near Pine Harbour Marina,
Approx. 300m of overhead line on Secon View Avenue.

- [illegible]

- Do feel free to reach out if you have any questions or queries regarding the above.

Thank you,

Hanisha Vallabh | Senior Customer Contracts Advisor
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023

[REDACTED]
[REDACTED] | www.vector.co.nz



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From: Hanisha Vallabh [REDACTED]
Sent: Thursday, 1 May 2025 3:09 pm
To: Campbell McGregor <C.McGregor@harrisingrierson.com>
Cc: John Dobrowolski <[REDACTED]>; [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Hi Campbell,

This is with our Network Engineer and she should hopefully have some initial information to us by tomorrow.

- Have you completed the resource consenting for this development?
- Is there a roading plan in place?
- What is it you require from us in regards to the mass civils and roading works?

Thanks,

Hanisha Vallabh | Senior Customer Contracts Advisor
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023

[REDACTED]
[REDACTED] | www.vector.co.nz



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From: Campbell McGregor <C.McGregor@harrisingrierson.com>
Sent: Monday, 28 April 2025 4:37 pm
To: Hanisha Vallabh [REDACTED]
Cc: John Dobrowolski [REDACTED]; Johnny Tik [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Afternoon Hanisha,

I hope you had a nice Easter break. I was just wondering when we can expect to receive your report given this was in the process of being finalised by Renalla as of 11th April?

Thanks
Campbell

Campbell McGregor
National Land Development Manager

M +64 21 244 1989
D +64 9 212 6502
P +64 9 917 5000

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From: Hanisha Vallabh [REDACTED]
Sent: Friday, 11 April 2025 12:16 pm
To: Campbell McGregor <C.McGregor@harrisingrierson.com>
Cc: John Dobrowolski [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Hi Campbell,

Thank you for your email and apologies for the delay in getting back to you.

Thank you for sharing the wider scope/plans with us, it definitely helped with the overall scope of what may be required.

Our network planner Renella is finalising a report and we will come back to you with how this scope may be approached from a network perspective.

Thank you and have a lovely weekend.

Hanisha Vallabh | Senior Customer Contracts Advisor
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023
[REDACTED]
[REDACTED] | www.vector.co.nz



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From: Campbell McGregor <C.McGregor@harrisingrierson.com>
Sent: Monday, April 7, 2025 11:53 AM
To: Hanisha Vallabh [REDACTED]
Cc: John Dobrowolski <[REDACTED]>
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Morning Hanisha,

Just following up on our meeting the other week, can you please provide me with a progress update and an indication as to when we might receive something?

If you have any outstanding queries please feel free to get in touch.

Thanks
Campbell

Campbell McGregor
National Land Development Manager

M +64 21 244 1989
D +64 9 212 6502
P +64 9 917 5000

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From: Hanisha Vallabh <Hanisha.Vallabh@vector.co.nz>
Sent: Friday, 21 March 2025 9:19 am
To: Campbell McGregor [REDACTED]
Cc: John Dobrowolski [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Hi Campbell,

Are you able to make the meeting today at 11:30am? If not, please let me know if you have availability on Monday. I am available between 9:30am and 2pm.

Thank you,

Hanisha Vallabh | Senior Customer Contracts Advisor
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023
[REDACTED]
[REDACTED] | www.vector.co.nz



From: Campbell McGregor <C.McGregor@harrisingrierson.com>
Sent: Wednesday, March 19, 2025 8:32 AM
To: Hanisha Vallabh [REDACTED]
Cc: John Dobrowolski [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Hi Hanisha,
Can you do 1030am? If not lets leave it at 10am and I will just attend without John.

Thanks
Campbell

Campbell McGregor
National Land Development Manager

M +64 21 244 1989
D +64 9 212 6502
P +64 9 917 5000

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From: Hanisha Vallabh <Hanisha.Vallabh@vector.co.nz>
Sent: Wednesday, 19 March 2025 7:54 am
To: Campbell McGregor <C.McGregor@harrisingrierson.com>
Cc: John Dobrowolski <John.Dobrowolski@russellgroup.co.nz>
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Morning Campbell,

I am available after 12pm tomorrow.
Let me know what time suits and I can reschedule the meeting.

Thanks,
Hanisha Vallabh | Senior Customer Contracts Advisor
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023
DDI: +6499788191 | Mob: 021487533
hanisha.vallabh@vector.co.nz | www.vector.co.nz

From: Campbell McGregor <C.McGregor@harrisingrierson.com>
Sent: Wednesday, March 19, 2025 7:29 AM
To: Hanisha Vallabh [REDACTED]
Cc: John Dobrowolski [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Morning Hanisha,

Sorry John has come back to me and asked whether we could do 11am? If you are available then that would be great.

Thanks
Campbell

Campbell McGregor
National Land Development Manager

M +64 21 244 1989
D +64 9 212 6502
P +64 9 917 5000

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From: Hanisha Vallabh <Hanisha.Vallabh@vector.co.nz>
Sent: Tuesday, 18 March 2025 5:18 pm
To: Campbell McGregor [REDACTED]
Cc: John Dobrowolski [REDACTED]
Subject: RE: 620 Whitford Maraetai Road, Beachlands - 1-6050466216

Hi Campbell,

Thank you for your email. I am available from 10-10:30am on Thursday to have a chat on teams. I will send out the meeting invite shortly.

Thanks again,

Hanisha Vallabh | Senior Customer Contracts Advisor
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023

Do you know if/how this development will be staged? If yes, can you please advise the various stages.

I look forward to working with you on this project.

Please contact me if you have any questions.

Kind Regards,

Hanisha Vallabh | Senior Customer Contracts Advisor
Vector Limited | PO Box 99882, Newmarket 1149 | Auckland 1023

[REDACTED]
[REDACTED] | www.vector.co.nz



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Chris Maday

From: Hanisha Vallabh [REDACTED]
Sent: Thursday, 18 December 2025 3:09 pm
To: Chris Maday
Cc: Don GAMAGE; SACHINTH SILVA
Subject: RE: Beachlands -260 620 Whitford Maraetai Road,- 1-6050466216

Hi Chris,

I apologise for the delay in getting the LNTP to you. I had a family emergency last week and only just got back to work on Wednesday this week. I am still working through catching up on things before I sign off for the year tomorrow.

I have drafted the LNTP agreement and it's with my manager for approval. I can send to you once approved, hopefully tomorrow. If not, it will be early next year. I will be back at work from the 5th of January.

Thank you, Merry Christmas and hope you have a lovely break.

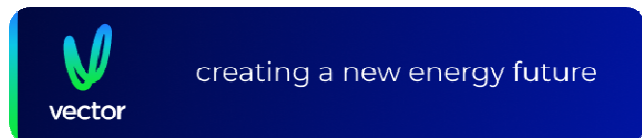
Kind regards,

Hanisha Vallabh

Senior Customer Contracts Advisor
[REDACTED]
[REDACTED]
[REDACTED]

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Please be advised that Vector offices will be closed from Wednesday, 24 December 2025, with staff returning on Monday, 29 December 2025. Our Service Providers will be closed from Monday, 22 December 2025, and will resume work on Thursday, 8 January 2026. During this period, only a skeleton crew will be available to manage emergency works only.

We will endeavour to design, contract, and commence build activities for your request within reasonable timeframes. Please be aware that in certain circumstances we are constrained by Auckland Council moratoriums, scheduling restrictions, supplier lead times, outage closures which may impact your project timeframes.

Only projects for which we have received the signed agreement and full payment prior to **Friday, 17th October 2025** will be scheduled for work during the 2025 year shutdown period. This is subject to volumes and availability of our crews, and you will be informed of your project timeframes.

From: Chris Maday <C.Maday@harrisingrierson.com>
Sent: Friday, 5 December 2025 10:45 am
To: Hanisha Vallabh <Hanisha.Vallabh@vector.co.nz>
Cc: Don GAMAGE <Don.Gamage@northpower.com>; SACHINTH SILVA <SACHINTH.SILVA@NORTHPOWER.COM>
Subject: RE: Beachlands -260 620 Whitford Maraetai Road,- 1-6050466216

Hi Hanisha

Please proceed with the agreement for high level design

The Customer is “**Beachlands South Limited Partnership** “

Can you also please send through your easement details for transformers, switchgear and link pillars

Regards

Chris Maday
Technical Director

M [+64 21 292 0850](tel:+64212920850)

D [+64 9 212 6476](tel:+6492126476)

P [+64 9 917 5000](tel:+6499175000)

[Level 4, 96 St Georges Bay Road](#)

Parnell, Auckland 1052

PO Box 5760, Victoria St West

Auckland 1142

harrisingrierson.com



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From: Hanisha Vallabh [REDACTED]
Sent: Thursday, 4 December 2025 11:09 am
To: Chris Maday <C.Maday@harrisingrierson.com>
Cc: Don GAMAGE [REDACTED] SACHINTH SILVA [REDACTED]
Subject: RE: Beachlands -260 620 Whitford Maraetai Road,- 1-6050466216

Hi Chris,

For the high level designs etc required, a design initiation fee of **\$5,000.00 plus GST** is required. This will be linked into a Limited Notice To Proceed agreement which I will arrange shortly.

The customer will be required to sign the agreement and I can then raise an invoice for payment.

Please let me know who the customer should be on the agreement for signature and payment, please note the name on the agreement must match the name on the invoice for the person/entity paying.

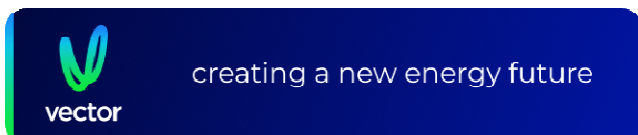
Thank you,

Hanisha Vallabh
Senior Customer Contracts Advisor



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We will endeavour to design, contract, and commence build activities for your request within reasonable timeframes. Please be aware that in certain circumstances we are constrained by Auckland Council moratoriums, scheduling restrictions, supplier lead times, outage periods, and site closures which may impact your project timeframes.

Only projects for which we have received the signed agreement and full payment prior to **Friday, 17th October 2025** will be considered for scheduling prior to the end of 2025 year shutdown period. This is subject to volumes and availability of our crews, and we will keep you informed of your project timeframes.

From: Chris Maday <C.Maday@harrisingrierson.com>

Sent: Thursday, 13 November 2025 1:17 pm

To: Hanisha Vallabh [REDACTED]

Cc: Don GAMAGE [REDACTED]; SACHINTH SILVA [REDACTED]

Subject: RE: Beachlands -260 620 Whitford Maraetai Road,- 1-6050466216

Hi Hanisha

Thanks for your response – we will get back to you on items 6 and 7 in due course

Regards

Chris Maday
Technical Director

M [+64 21 292 0850](tel:+64212920850)

D [+64 9 212 6476](tel:+6492126476)

P [+64 9 917 5000](tel:+6499175000)

[Level 4, 96 St Georges Bay Road](#)

Parnell, Auckland 1052

PO Box 5760, Victoria St West

Auckland 1142

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From: Hanisha Vallabh [REDACTED]

Sent: Wednesday, 12 November 2025 4:54 pm

To: Chris Maday <C.Maday@harrisingrierson.com>

Cc: Don GAMAGE [REDACTED]; SACHINTH SILVA [REDACTED]

Subject: FW: Beachlands -260 620 Whitford Maraetai Road,- 1-6050466216

Hi Chris,

Thank you once again for your time last week. It was great to meet in person to further discuss the planning around this project.

As discussed:

1. Network Planning has confirmed that new feeders will be required to provide capacity for this development. There is a possibility for these works to start in 2027 with estimated completion in FY2028. Commitment to the network upgrade can be made once consent is granted to give certainty.
2. There is currently some capacity on the network where we can provide supply for approx. 40 residential lots.
3. Your works are proposed to start in about 3 years time
4. The electric ferries will need to be taken into consideration for future capacity demands
5. For the builders temporary supply you will be using the existing connection located at the gym at the start of the development.
6. Staging plan identified and discussions on where to bring supply to the site will be
7. You will come back to us regarding EV charging and Solar (it should be assumed that all houses would have solar panels within the next 50yrs).

Next steps:

- Northpower to provide easement drawings please for switch and transformers, combined and also separate
- Northpower to provide a high level ducting design based on the attached plan.
- Vector to provide a supply availability letter once network planners confirms available capacity and for the future developments as well.

I have attached my previous email conversation with Campbell leading up to our meeting last week.

Please feel free to contact me if there is anything else you require from us at this stage.

Thanks again,

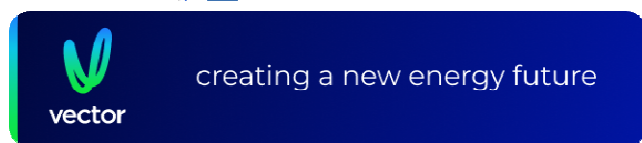
Hanisha Vallabh

Senior Customer Contracts Advisor

[Redacted]
[Redacted]
[Redacted]

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We will endeavour to design, contract, and commence build activities for your request within reasonable timeframes. Please be aware that in certain circumstances we are constrained by Auckland Council moratoriums, scheduling restrictions, supplier lead times, outage closures which may impact your project timeframes.

Only projects for which we have received the signed agreement and full payment prior to **Friday, 17th October 2025** will be scheduled for work prior to the end of 2025 year shutdown period. This is subject to volumes and availability of our crews, and you will be informed of your project timeframes.

From: Chris Maday <C.Maday@harrisongrierson.com>

Sent: Thursday, 6 November 2025 4:33 pm

To: Hanisha Vallabh [Redacted]

Subject: Beachlands -260 620 Whitford Maraetai Road,- 1-6050466216

Hi Hanisha

It was good to meet you this afternoon. Please find attached the plan you requested.

I was wondering if you could please send me Vectors easement requirements and ducting requirements so we can include in our plans

In addition are you able to forward copies of emails regarding servicing which you briefly displayed so I can gain an understanding of previous discussions

Thanks in advance

Regards

Chris Maday
Technical Director

M [+64 21 292 0850](tel:+64212920850)

D [+64 9 212 6476](tel:+6492126476)

P [+64 9 917 5000](tel:+6499175000)

[Level 4, 96 St Georges Bay Road](#)

Parnell, Auckland 1052

PO Box 5760, Victoria St West

Auckland 1142

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Appendix 5b– Telecommunications Servicing Confirmation

Chorus NZ Ltd
4 Graham Street
Auckland CBD

Graeme Harvey
Pre-Construction & Build Manager
Beachlands South Limited Partnership
PO Box 17254
Greenland 1546

2nd February 2026

Attention Graeme Harvey,

Thank you for providing an indication of your development plans in this area.

I can confirm that we have UFB fibre infrastructure in the area that you are proposing to develop. Chorus will be able to extend our network to provide connection availability to **"Beachlands South Limited Partnership"**.

However, please note that this undertaking would of course be subject to Chorus understanding the final total property connections that we would be providing, roll-out of future property releases/dates and what investment may or may not be required from yourselves and Chorus to deliver any further infrastructure to and throughout the site in as seamless and practical way as possible.

The costs for any future works involved can only be finalised at the time that you are ready to proceed.

Chorus is happy to work with you on this project as the network infrastructure provider of choice. What this ultimately means is that the end customers (business and home owners) will have their choice of any retail service providers to take their end use services from once we work with you to provide the physical infrastructure.

Please reapply with a detailed site plan when you are ready to proceed.

Thanks

Kind Regards,

Danny Masterson
Business Development Manager
[REDACTED]
Chorus NZ Ltd

2ND February 2026

CONDITIONAL ACCEPTANCE BY TUATAHI FIRST FIBRE LIMITED AS TELECOMMUNICATIONS OPERATOR

Development: Beachlands South
Legal Name: 110 Jack Lachlan Drive, Beachlands – Lot 2 DP 501271

1. Tuatahi First Fibre Limited (TFF) confirms that a TFF telecommunications connection will be made available for each lot in the development, **providing the developer was to sign a TFF Installation Agreement**. Upon approval of this agreement, TFF will undertake to become the telecommunications operator of the telecommunications reticulation in the proposed development (the “**Subdivision**”), to provide network connections to the lots, in the Subdivision (the “**Reticulation**”).
2. The Reticulation will be installed in accordance with:
 - (a) the requirements and standards set by the Auckland Council and advised to TFF via the Council’s website; and
 - (b) the requirements of the Telecommunications Act 2001 and all other applicable laws, regulations and codes (as amended).
3. The Reticulation will be installed by our preferred provider to TFF’s satisfaction.
4. TFF will be the owner, operator and maintainer of the Reticulation.
5. One or more retail service providers will be available to supply telecommunications services over the completed Reticulation when service is available, provided that TFF shall not be responsible if the retail service provider’s offer to supply such telecommunications services or the number of such providers varies from time to time.

SIGNED for and on behalf of **TUATAHI FIRST FIBRE LIMITED** by:

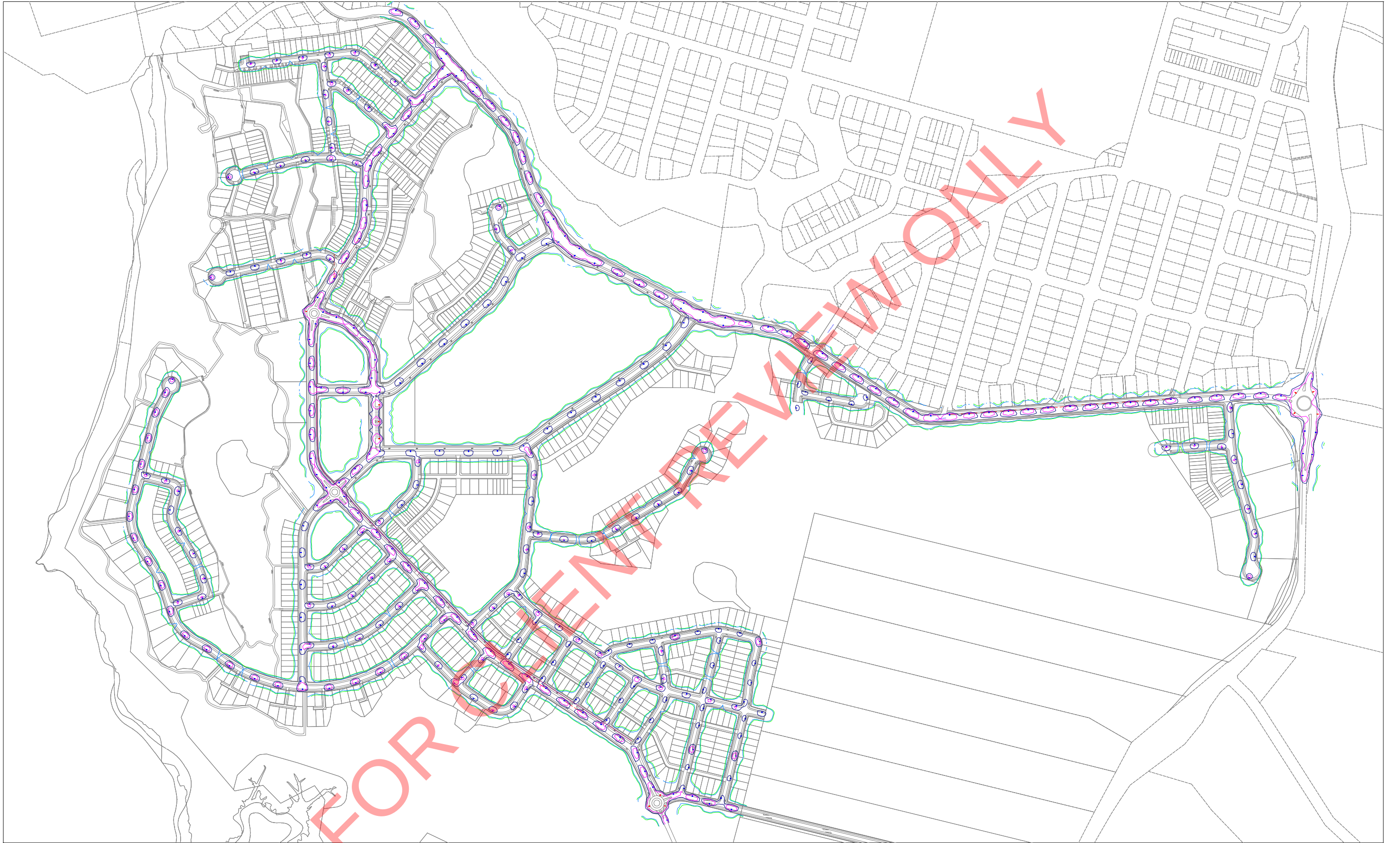
Signature: 

Name: Jonathan Campbell

Phone: 

Email: 

Appendix 5c– IBEX Lighting Design



PROJECT NUMBER		PROJECT	DRAWING INFORMATION		COMPANY	AS PREPARED FOR
10188		BEACHLANDS SOUTH 110 JACK LACHLIN DRIVE BEACHLANDS	ROADWAY LIGHTING PLAN - ISOLUX PLOTS		IBEX LIGHTING L1 THE PRECINCT 40 ONEHUNGA MALL AUCKLAND 1061 NZ FREEPHONE 0800 63 65 67 www.ibexlighting.com	HARRISON GRIERSON
DRAWING NO. :	REVISION:		Scale : 1 : 6500 @ A3	DESIGNED BY: SF		
1	B		Date:07-May-2026	CHECKED BY: /		



Luminaire Schedule					
Project: 10 - Luminaires - Proposed					
Symbol	Qty	Label	Mounting Height	Outreach Length	Lum. Tilt Angle
	42	NOX S 2000	6 metres	N/A	0 degrees
	106	NOX S 2600	6 metres	N/A	0 degrees
	26	NOX S 3200	6 metres	N/A	0 degrees
	6	NOX SC4 2600	6 metres	N/A	0 degrees
	29	NOX S 3900	8 metres	1 metre	0 degrees
	92	NOX M 5400	8 metres	1 metre	0 degrees
	35	NOX M 7800	8 metres	1 metre	0 degrees
	7	NOX MC4 7500	8 metres	1 metre	0 degrees
	4	NOX MC4 11200	10 metres	2 metres	0 degrees

Luminaire Details	"NOX S 2000"	"NOX S 2600"	"NOX SC 2600"	"NOX S 3200"	
Manufacturer and Product Name	NSS-08-020-740-P1	NSS-08-026-740-P1	NI-26-740-P1-C4	NSS-08-032-740-P1	
Lamp type and Rating	LED 14.0W	LED 18.6W	LED 17.8W	LED 23.2W	
Luminous flux	2031 Lumens (4000K)	2636 Lumens (4000K)	2600 Lumens (4000K)	3209 Lumens (4000K)	
Origin of Photometric Data	NSS-08-014-740-P1	NSS-08-014-740-P1	NI-40-740-P1-C4 scaled	NSS-08-014-740-P1	
Upward Waste Light Ratio	0.0% at 0 degree tilt	0.0% at 0 degree tilt	0.0% at 0 degree tilt	0.0% at 0 degree tilt	
Maintenance factor used	0.80	0.80	0.80	0.80	
Peak Luminous Intensity (Glare) : 60-80 degrees	953 Candela	1236 Candela	1289 Candela	1505 Candela	
Peak Luminous Intensity (Glare) : 80 degrees	263 Candela	342 Candela	225 Candela	398 Candela	
Luminaire Details	"NOX S 3900"	"NOX M 5400"	"NOX M 7800"	"NOX MC4 7500"	"NOX MC4 11200"
Manufacturer and Product Name	NSS-16-039-740-P1	NMS-32-054-740-V2	NMS-32-078-740-V2	NMS-32-075-740-C4	NMS-32-122-740-V2
Lamp type and Rating	LED 26.6W	LED 33.6W	LED 51.4W	LED 51.7W	LED 86.8W
Luminous flux	3907 Lumens (4000K)	5389 Lumens (4000K)	7840 Lumens (4000K)	7524 Lumens (4000K)	12183 Lumens (4000K)
Origin of Photometric Data	NSS-16-027-740-P1	NMS-32-101-740-V2	NMS-32-101-740-V2	NMS-32-097-740-C4	NMS-32-101-740-V2
Upward Waste Light Ratio	0.0% at 0 degree tilt	0.0% at 0 degree tilt	0.0% at 0 degree tilt	0.0% at 0 degree tilt	0.0% at 0 degree tilt
Maintenance factor used	0.80	0.80	0.80	0.80	0.80
Peak Luminous Intensity (Glare) : 60-80 degrees	1804 Candela	3629 Candela	5279.4 Candela	5816.4 Candela	8204.4 Candela
Peak Luminous Intensity (Glare) : 80 degrees	396 Candela	1697.9 Candela	2470 Candela	677.7 Candela	3838.5 Candela
Calculation of Maintenance Factor:					
* Lamp Lumen Maintenance Factor (LLMF) =		0.964	from TM21 / ISTMT / LM80 test data		
* Luminaire Electronic Failure (LEF) =		0.99	A.T. specified figure		
* Luminaire Optical Depreciation for Visor (LODV) =		1.00	A.T. figure for Toughened Glass Visor		
* Luminaire Optical Depreciation for Reflector (LODR) =		0.99	A.T. figure for Aluminium Reflector behind Glass Visor		
* Luminaire Optical Depreciation for Lens (LODL) =		0.99	A.T. figure for UVS-PMMA behind Glass Visor		
* Luminaire Maintenance Factor (LMF) =		0.92	A.T. figure for Visor equipped luminaire		
MF = LLMF x LEF x LODV x LODR x LODL x LMF = 0.860					
Maintenance Factor for calculations is capped at 0.80					

GENERAL NOTES

- Liaise with Vector with regard to extending the existing street lighting circuit to supply the new installation.
- All work shall conform to the requirements of Vector or Counties Power (as appropriate), Auckland Transport and the requirements of Electrical (Safety) Regulations 2010, AS/NZS 3008 and AS/NZS 1158.
- Liaise with Vector / Counties Power (as appropriate) to ensure all poles are well clear of underground services. If necessary, positions may be altered up to 1m while retaining general pole arrangement to avoid clashes with underground services. Confirm with engineer first.
- The contractor shall be a Auckland Transport accredited contractor and approved by Auckland Transport to install assets on the appropriate network.
- Ensure the RAMM and SLIM database is accurately updated for every new or modified streetlight location, and liaise with Auckland Transport to ensure records are appropriately completed.
- These works shall include the removal and disposal of old luminaires/mounting brackets and lamps. Remove all existing concrete columns and luminaires.
- All columns and luminaires specified in this design are listed on the Auckland Transport Approved product lists. Luminaires are to be labelled as per the requirements of setion 12.5.1 of version 11 of the AT-TDM.

DESIGN NOTES:

- These lighting calculations are based on the Initial Lamp Lumens as described in the product information tables(s) with the appropriate Maintenance Factor applied (in accordance with AS/NZS1158).
- The Isoplots shown are the representation of the Illuminance value at Ground Level.
- The Luminaire Mounting Height and Tilt Angle (Upcast) are indicated on the drawing.
- The typical luminaire Tilt Angle for this design is 0 (zero) degrees, i.e. horizontal.
- Final design locations will have been agreed to by the client and the appropriate local authority (council).

INSTALLATION NOTES

- The contractor shall be responsible for the fixing of outreaches taking into account work on or near existing services. The contractor shall liaise with the appropriate service provider in relation to working on or near services, giving appropriate notice period.
- The internal wiring between the terminal blocks and the luminaire shall be circular 2C 2.5sq.mm Neutral Screen cable.
- Wiring shall be in accordance with AS/NZS3000 and AS/NZS3008:1.2
- Minimum street lighting supply cable shall be 1C 10sq.mm Neutral Screen cable.
- Cable protection shall be implemented as per Vector / Counties Power requirements.
- Each column must be earthed by means of 10mm² copper insulated wire, exothermically welded to a driven earth electrode (16mm diameter copper-bonded steel earth rod) located 300mm from the column base. Sherlock Connectors are approved for burying. The connector must be buried 300mm below the pavement surface. AS/NZS 3000 applies. (See diagram on this page)
Where it is not possible to install a driven earth electrode due to rock for example, the following horizontal earth electrode is acceptable:
 - a six metre (6m) length of 35mm² (19/16) bare (uninsulated) copper conductor buried to a depth of 600mm below the surface. The conductor must be embedded in Bentonite slurry or Ground Enhancement Material (GEM). The buried conductor should be placed with 3m either side of the lighting column. The horizontal earth electrode to column connection shall be the same as described above for the driven earth electrode.
- The contractor is responsible for all cable design, liaison with Vector / Counties Power, and updating of Vector / Counties Power and Auckland Transport records.
- Final pole locations are to be confirmed on site prior to installation.
- Mounting heights are to be measured with respect to the luminaires above the carriageway. Final location to be coordinated on site.
- Where a pole is within five metres of a tree, assess whether the tree requires trimming to minimise shadowing, and notify the engineer for further action if required.
- A minimum ten (10) year warranty from date of on site installation shall be provided for the luminaire and electronic control gear.
- In general, columns are to be installed 1.0m behind kerb (between kerb face and the face of the column). Variations to this may be required to meet the requirements of AT-TDM Volume 4 Chapter12 section 12.4.2 and/or AS/NZS 1158. Columns should also have at least 1.0m clearance to driveways to prevent damage by manoeuvring vehicles.
- The contractor shall be responsible for the final location of the lighting poles taking into account
 - Location of existing services. The contractor shall be responsible for locating all underground services and Land Information NZ markers before work commences. Any damage caused to underground services shall be repaired at the contractor's expense.
 - Work on or near existing services. The contractor shall liaise with the appropriate service provider in relation to working on or near services, giving appropriate notice period.
 - Permitted location tolerance
 - 0.5m parallel to the carriageway
 - 0.2m perpendicular to the carriageway
 - 0.2m verticallyIf the final pole location exceeds the permitted tolerance further lighting design may be required.
- Pole details shall be as per Auckland Transport Engineering Standards. Departing from the standard installation due to ground conditions shall be confirmed by a written approval prior to installation.
- Each luminaire must be fitted with either a 5 or 7 contact NEMA receptacle, compliant with ANSI C136.41:2013. The NEMA receptacle shall be fitted with blanking cap at the time of installation. The Light Point Controller will be installed at the time the streetlights are entered into RAMM by AT approved contractor.
- New LED luminaires shall be provided with electronic DALI dimmable control gear.
- As per AT requirements, columns are to be supplied with a 6 Amp Type C HRC Fuse link for connection of the luminaire to the incoming supply. (Wiring diagram on this page)

Design Revision Summary		
Rev.	Date	Comment
-	27/03/26	Original design
A	20/04/26	Redesign the collector roads for cycle way
B	07/05/26	Redesign the collector roads for cycle way

PROJECT NUMBER		PROJECT	DRAWING INFORMATION		COMPANY	AS PREPARED FOR
10188		BEACHLANDS SOUTH 110 JACK LACHLIN DRIVE BEACHLANDS	ROADWAY LIGHTING PLAN - ISOLUX PLOTS		IBEX LIGHTING L1 THE PRECINCT 40 ONEHUNGA MALL AUCKLAND 1061 2 MATARAWA PLACE TAURIKO TAURANGA 3171 NZ FREEPHONE 0800 63 65 67 www.ibexlighting.com	
DRAWING NO. :	REVISION:		Scale : n / a	DESIGNED BY: SF		
2	B		Date:07-May-2026	CHECKED BY: /		

