

The Proposed Auckland Unitary Plan (notified 30 September 2013)

Transpower New Zealand Ltd

Designation Schedule - Transpower New Zealand Ltd

Number	Purpose	Location
8500	Electricity transmission - electricity transmission tower site and associated overhead transmission lines...	161 Ash Street, Avondale
8501	Electricity transmission - Penrose electricity substation	19 Gavin Street, Penrose
8502	Electricity transmission - overhead electricity transmission lines ...	Gavin Street (opposite No. 19), Ellerslie to Tamaki River (Panmure Bridge), Panmure
8503	Electricity transmission - Mount Roskill electricity substation	11-39 White Swan Road, Mount Roskill
8504	Electricity transmission - overhead electricity transmission lines ...	37 Boundary Road, Avondale
8505	Electricity transmission - tower site and associated overhead lines ...	39 Haycock Avenue, Mount Roskill
8506	Electricity transmission - tower site and associated overhead lines ...	135A, 137 and 137A Barrack Road, Mount Wellington
8507	Electricity transmission - the construction, operation and maintenance of underground transmission lines ...	19 Gavin Street to 109 Golfland Drive, Pakuranga
8508	Electricity transmission - tower site and associated overhead transmission lines ...	716 Richardson Road, Mount Roskill
8509	Electricity transmission - tower site (Tower 9) and associated overhead transmission lines ...	Luke Street (adjoins State Highway 1), Otahuhu
8510	Electricity transmission - Glenbook electricity substation	Whitham Road, Glenbrook
8511	Electricity transmission - Bombay electricity substation	153 Barber Road, Bombay
8512	Electricity transmission - the construction, operation and maintenance of that part of a 400kV capable transmission line ...	231 Whitford Park Road, Whitford to the vicinity of Paparimu Road (Waikato District Council Boundary), Pokeno
8513	Electricity transmission - the operation, maintenance and upgrade of the existing Otahuhu Substation, the construction of a new 220kV substation, installation of 220kV underground cable circuits ...	1 Gridco Road and 2 Helabys Road, Otara
8514	Electricity transmission - the ongoing use, maintenance and operation of the Pakuranga Electricity Substation, the development of the substation site ...	109 Golfland Drive, Pakuranga
8515	Electricity Transmission - the construction, operation and maintenance of a transition station to connect the underground cable and overhead lines ...	16 Umbria Lane (near Brownhill Road), Whitford
8516	Electricity Transmission - the construction, operation and maintenance of a double circuit underground 220kV cable ...	143 Brownhill Road, Whitford to 109 Golfland Drive, Howick

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8517	Electricity transmission - the construction, operation and maintenance of a double-circuit underground 220kV cable ...	143 Brownhill Road, Whitford to 26-28 Kaitawa Street, Otara
8518	Electricity transmission - Albany electricity substation	29 Bass Road, Albany
8519	Electricity transmission - the installation, maintenance, repair, replacement, inspection and operation of two 220kV underground electricity transmission lines ...	410 Albany Highway to State Highway 1 (Constellation Drive), Rosedale
8520	Electricity transmission - Takanini electricity substation	65 Airfield Road, Takanini
8521	Electricity transmission - the construction, operation, maintenance, replacement, renewal and upgrading of a 220kV switchyard, transmission lines, and ancillary facilities	261 Quarry Road, Drury
8522	Electricity transmission - Wellsford electricity substation	69 School Road, Wellsford
8523	Electricity transmission - Silverdale electricity substation	83-91 Foundry Road, Silverdale
8524	Electricity transmission - Huapai electricity substation	108 Matua Road, Huapai
8525	Electricity transmission - Henderson electricity substation	1-12, 41-49 and 35 Lincoln Park Avenue, Massey
8526	Electricity transmission - Hepburn Road electricity substation	167-217 Hepburn Road, Glendene
8527	Electricity transmission - Rua o te Whenua telecommunications facility	600 Scenic Drive, Waiatarua
8528	Electricity transmission - the Massey North Underground Cable Project, comprising a 110kV underground transmission line ...	167-217 Hepburn Road, Glendene 13 Westgate Drive, Massey to 97D Fred Taylor Drive, Whenuapai
R8529	Electricity transmission - Mangere electricity substation	11, 14 and 16 Driver Road and 307 Massey Road, Mangere
R8530	Electricity transmission - Hobson Street electricity substation	13-21 Hobson Street, Auckland City
R8531	Electricity transmission - Wairau Road electricity substation	4A Wairau Road, Takapuna
R8532	Electricity Transmission - the operation, maintenance and upgrading of underground transmission lines comprising of two 110kV cable circuits and termination structures to convey electricity between Otahuhu and Penrose	Highbrook Business Park, Highbrook

8500 Ash Street Transmission Lines

Designation Number	8500
Requiring Authority	Transpower New Zealand Ltd
Location	161 Ash Street, Avondale
Rollover Designation	Yes
Legacy Reference	Designation F02-01, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

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Purpose

Electricity transmission - electricity transmission tower site (Tower 69) and associated overhead lines of the 220kV Henderson to Otahuhu-A transmission line.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

2. Any new works or equipment shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

3. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Vibration

4. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Construction and Maintenance Noise

5. Subject to condition 6, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
6. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

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Parcel ID	
Lot 1 DP 42415	

8501 Penrose Substation

Designation Number	8501
Requiring Authority	Transpower New Zealand Ltd
Location	19 Gavin Street, Penrose
Rollover Designation	Yes
Legacy Reference	Designation F12-14, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Penrose electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

2. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

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Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

8. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

9. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

12. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

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Schedule of Legal Descriptions

Parcel ID	
Pt Lot 1 DP 14147	

The Proposed Auckland Unitary Plan (notified 30 September 2013)

8502 Pakuranga to Penrose Transmission Lines

Designation Number	8502
Requiring Authority	Transpower New Zealand Ltd
Location	Gavin Street (opposite No. 19), Ellerslie to Tamaki River (Panmure Bridge), Panmure
Rollover Designation	Yes
Legacy Reference	Designation F12-28, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - overhead electricity transmission lines in a corridor between Penrose Substation on Gavin Street and the Tamaki River.

Conditions

1. The Panmure Basin and publicly accessible shoreline is an Outstanding Natural Feature (Schedule 150, Panmure Basin volcano) which shall not be excavated, physically investigated, damaged or altered, other than in accordance with an outline plan of works submitted and processed in terms of section 176A of the Resource Management Act 1991. This condition shall not apply to:
 - a. Routine maintenance and repair of existing structures;
 - b. The carrying out of minor works which in the Council's opinion would not endanger, damage, destroy, or detract from the values for which the feature has been scheduled. In assessing the effect of the works proposed the Council may consult with the New Zealand Historic Places Trust, the Geological Society of New Zealand incorporated or other heritage authority with an interest in the feature.

Cultural / Spiritual

2. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

3. Any new works or equipment shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

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4. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Vibration

5. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Construction and Maintenance Noise

6. Subject to condition 6, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

7. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

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Schedule of Legal Descriptions

Parcel ID/Appellation	
Lot 1 DP 128773	Pt Lot 1 DP 18413
Lot 1 DP 136102	Pt Lot 1 DP 18413
Lot 1 DP 145667	Pt Lot 1 DP 18413
Lot 1 DP 63060	Pt Lot 107 DP 18101
Lot 1 DP 163061	Pt Lot 162 DP 18101
Lot 1 DP 167598	Pt Lot 3 DP 1384
Lot 108 DP 18101	Pt Lot 91 DP 18101
Lot 109 DP 18101	Pt Lot 92 DP 18101
Lot 133 DP 18101	5205090
Lot 134 DP 18101	5215297
Lot 2 DP 128773	5215674
Lot 2 DP 179111	5227489
Lot 2 DP 310596	5237361
Lot 3 DP 128773	5237381
Lot 4 DP 128773	5212526
Lot 4 DP 167598	5264070
Lot 4 DP 310596	5264072
Lot 5 DP 128773	5211511
Lot 79 DP 18101	5261971
Lot 80 DP 18101	6577753

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Pt Allot 17 Sec 12 SUBURBS OF Auckland	Sec 8 SO 70377
Pt Allot 35 Sec 1 Small Lots Near Village of Panmure	Sec 5 SO 70377
Pt Allot 36 Sec 1 Small Lots Near Village of Panmure	Lot 1 DP 51781
Pt Allot 5 Sec 4 Small Lots Near Village of Panmure	

8503 Mount Roskill Substation

Designation Number	8503
Requiring Authority	Transpower New Zealand Ltd
Location	11-39 White Swan Road, Mount Roskill
Rollover Designation	Yes
Legacy Reference	Designation G05-01, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Mount Roskill electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

2. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not

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be unreasonably withheld.

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Hazardous Substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

8. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

9. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

12. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

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Schedule of Legal Descriptions

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Parcel ID	
Lot 1 DP 141985	Lot 2 DP 141985

8504 Boundary Road Transmission Lines

Designation Number	8504
Requiring Authority	Transpower New Zealand Ltd
Location	37 Boundary Road, Avondale
Rollover Designation	Yes
Legacy Reference	Designation G05-04, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - overhead electricity transmission lines that form part of the Hepburn to Mt Roskill-A 110kV transmission line.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

2. Any new works or equipment shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

3. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Vibration

4. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Construction and Maintenance Noise

5. Subject to condition 6, all construction and maintenance work shall be designed, managed and conducted to

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ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

6. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

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Schedule of Legal Descriptions

Parcel ID	
Pt Lot 7 DP 43155	

8505 Haycock Avenue Overhead Electricity Transmission Lines

Designation Number	8505
Requiring Authority	Transpower New Zealand Ltd
Location	39 Haycock Avenue, Mount Roskill
Rollover Designation	Yes
Legacy Reference	Designation G05-05, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - tower site and associated overhead lines of the Henderson to Mt Roskill-A and Hepburn to Mt Roskill-A 110kV transmission lines.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

2. Any new works or equipment shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying

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electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

3. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

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Advice Note

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Schedule of Legal Descriptions

Parcel ID	
Lot 20 DP 48241	

8506 Barrack Road Overhead Electricity Transmission Lines

Designation Number	8506
Requiring Authority	Transpower New Zealand Ltd
Location	135A, 137 and 137A Barrack Road, Mt Wellington
Rollover Designation	Yes
Legacy Reference	Designation G13-13, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission- tower site and associated overhead lines of the Otahuhu to Penrose-A and Penrose-B, and Pakuranga to Penrose A 110kV transmission lines.

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Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
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Electric and Magnetic Fields (EMF)

2. Any new works or equipment shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

3. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Vibration

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6. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 128773	Lot 2 DP 128773
Lot 3 DP 128773	Lot 4 DP 128773

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8507 Pakuranga to Penrose Underground Transmission Cables

Designation Number	8507
Requiring Authority	Transpower New Zealand Ltd
Location	19 Gavin Street to 109 Golfland Drive, Pakuranga
Rollover Designation	Yes
Legacy Reference	Designation G15-10, Auckland Council District Plan (Isthmus Section) 1999; and Designation 304, Auckland Council District Plan (Central Area Section) 2005
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - the construction, operation and maintenance of underground transmission lines comprising of a 220kV cable circuit to convey electricity between Pakuranga and Penrose substations.

Conditions

General

1. For the purpose of these conditions:

- a. "Council" means the Chief Executive Officer or nominee of the council.
- b. "Works" has the same meaning as in the Notice of Requirement by Transpower New Zealand Limited for a designation for "Underground Transmission Lines", dated March 2010 ("Notice of Requirement"). Subject to final design and any modification required to comply with the following conditions, the Works shall be conducted and maintained generally in accordance with the information provided by the Requiring Authority contained in:
 - i. The Notice of Requirement;
 - ii. The Land Requirement Plans; and
 - iii. Section 3 of the Assessment of Environmental Effects.

2. The designation shall lapse on the expiry of a period of 15 years after the date it is included in the District Plan in accordance with section 184(2) of the Resource Management Act 1991 ("the Act"), unless:

- a. It is given effect to before the end of that period; or
- b. The council determines, on an application made within 3 months before the expiry of that period, that substantial progress or effort has been made towards giving effect to the designation and is continuing to be made, and fixes a longer period for the purposes of this subsection.

Overarching Construction Management Plan

3. The Requiring Authority shall prepare an overarching Construction Management Plan ("CMP") and submit it to the Council for its review under condition 5 of this consent. The CMP shall outline the Requiring Authority's intended construction methodology for the Works and set out the framework for other management plans required for the Works or any particular part or stage of the Works to demonstrate compliance with Conditions 5 to 29, including the following matters:

- a. Storage and reuse of topsoil, including stockpiling areas;
- b. On and off site disposal of spoil;
- c. Silt and dust control during earthwork stages;
- d. Contaminated land management procedures;
- e. Land stability management;
- f. Vegetation disturbance/removal and replacement;
- g. Contractor training, including health and safety;
- h. The intended construction programme, including staging if appropriate;

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- i. Temporary activities (including site offices and equipment storage areas, contractor car parking, security, and restrictions on access);
- j. Road and traffic management (noting that Site Specific Traffic Management Plans are required pursuant to conditions 17-20);
- k. Construction noise and vibration management;
- l. Consultation and liaison with key stakeholders and affected parties, including any mitigation works identified to address affected utility operators; and
- m. Construction drawings showing the route alignment (including locations of the cable and joint bays) and any known alterations required to any existing services.

4. Prior to submitting the CMP (including construction drawings) required by condition 3, the Requiring Authority shall consult with Auckland Transport on the progress of the detailed design of the AMETI project.

5. The Requiring Authority shall submit the CMP to the Council at least 3 months prior to construction commencing (unless otherwise agreed by the Council), in order to allow the Council to:

- a. Provide an interim response to the Requiring Authority within 20 working days of receipt; and
- b. Provide a final decision as to the acceptability of the CMP (for the purposes of condition 30) within 30 working days of receipt.

6. The Requiring Authority may submit, or if requested by the Council, shall submit a revised CMP, Construction Noise and Vibration Management Plan ("CNVMP"), Communications Plan ("CP"), or Site Specific Transport Management Plan ("SSTMP") to address any significant unanticipated adverse environmental effects.

Construction Noise and Vibration

7. The Requiring Authority shall prepare a Construction Noise and Vibration Management Plan ("CNVMP") describing the measures adopted, as far as practicable, to meet the requirements of both NZS6803:1999 Acoustics — Construction Noise and the applicable vibration standards in German Standard DIN 4150-3 (1999-02) — Structural Vibration - Effects of Vibration on Structures.

8. The Requiring Authority shall submit the CNVMP to the Council at least 3 months prior to construction commencing (unless otherwise agreed by the Council), in order to allow the Council to:

- a. Provide an interim response within 20 working days of receipt; and
- b. Provide a final decision as to the acceptability of the CNVMP for the purposes of condition 30) within 30 working days of receipt.

9. The CNVMP shall refer to the noise management measures set out in Annexure E of NZS6803:1999, and as a minimum shall address:

- a. The construction sequence which outlines a work programme that will minimise construction duration;
- b. Machinery and equipment to be used, including the use of non-percussive machinery where practicable;
- c. Hours of operation, including times and days when noisy construction work would occur;
- d. The identification of activities and locations that will require the design of noise mitigation measures, such as temporary barriers or enclosures, and the details of such measures, including the period/duration during which they are expected to be implemented;
- e. Construction noise limits for specific areas where these differ from the Standard;
- f. Alternative strategies where full compliance with NZS 6803:1999 cannot be achieved, including consultation with neighbouring owners and occupiers on outcomes acceptable to them;
- g. Methods for monitoring and reporting on construction noise;
- h. Methods for receiving and responding to complaints about construction noise.

10. The CNVMP shall also describe measures adopted, as far as practicable, to meet the vibration standards of DIN4150-3:1999 Structural Vibration – Part 3: Effects of Vibration on Structures, and shall address the following

The Proposed Auckland Unitary Plan (notified 30 September 2013)

aspects:

- a. Vibration monitoring measures;
- b. Criteria;
- c. Possible mitigation measures;
- d. Complaint response;
- e. Reporting procedures;
- f. Notification and information for those in the community likely to be affected by the proposed works;
- g. Vibration testing of equipment to confirm that the vibration limits will not be exceeded;
- h. Location for vibration monitoring when construction activities are adjacent to “at risk” buildings, where for the purposes of this condition an “at risk” building is one at which the levels in the German Standard DIN 4150-3:1999 Structural Vibration — Part 3: Effects of Vibration on Structures are likely to be exceeded;
- i. Operational times; and
- j. Preparation of building condition reports on “at risk” dwellings prior to, during and after completion of works – which reports may comprise a photographic or video record.

11. The noise limits in NZS6803:1999 Acoustics — Construction Noise shall not apply to emergency work required to re-establish continuity of electricity, communications or water supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects particularly at times when the stricter noise limits apply (e.g. at night time).

12. All generators or pumps that may be used overnight proximate to residential receivers shall be acoustically screened unless it can be demonstrated to the satisfaction of the Council that there is sufficient separation distance available, or that the generator or pump will comply with a reasonable noise limit (by reference to NZS6803:1999).

Community Information and Liaison

13. The Requiring Authority shall prepare a Communications Plan setting out:

- a. The method/s of consultation and liaison with key stakeholders and the owners/occupiers of neighbouring properties regarding the likely timing and duration of works, alternative routes, access to properties and any proposed alterations to public transport services; and
- b. Details of prior consultation or community liaison undertaken with the owners/occupiers of neighbouring properties, key stakeholders, schools, public transport providers, emergency services or representative groups regarding proposed road or lane closures, potential diversions and delays, including outlining any measures developed with such persons or groups to manage or to mitigate any adverse effects or inconvenience that may arise.
- c. Full contact details for the person appointed to manage the public information system and be the point of contact for related inquiries.

14. The Requiring Authority shall submit the CP to the Council at least 3 months prior to construction commencing (unless otherwise agreed by the Council), in order to allow the Council to:

- a. Provide an interim response within 20 working days of receipt; and
- b. Provide a final decision as to the acceptability of the CP (for the purposes of condition 30) within 30 working days of receipt.

Code of Practice for Working in the Road

15. During construction, the Requiring Authority shall comply with the Code of Practice for Working in the Road (SNZ HB 2002:2003) at all times.

Construction Hours

16. The construction hours shall be generally as follows, except where the Requiring Authority considers that work is necessary outside the specified days or hours for the purposes specified in (a) to (e) below:

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Monday to Friday: 7am to 9pm;
Saturday: 8am to 1pm; and
Sundays and public holidays: No Work.

The purposes for which work may occur outside of the specified days or hours are:

- a. Where work is required to be planned to be carried out at low traffic times (for example, excavation across busy intersections, along busy roads, or cable installation);
- b. For delivery of large equipment;
- c. In cases of emergency;
- d. For securing of the site or removing a traffic hazard;
- e. For cable jointing in self contained enclosures.

Roading and Traffic Management

17. The Requiring Authority shall:

- a. Undertake and submit a condition survey of the carriageway along the designated route to the Council. The condition survey shall consist of a photographic or video record; and
- b. Prepare Site Specific Traffic Management Plans ("SSTMP"s) for the Works or any part or stage of the Works which are generally consistent with the NZ Transport Agency's Code of Practice for Temporary Traffic Management 2004 ("COPTTM").

18. The SSTMP(s) shall be prepared following consultation with the following key stakeholders:

- a. Roothing Authorities (territorial local authorities);
- b. Emergency services (police, fire and ambulance);
- c. Local business associations (including the Greater East Tamaki Business Association);
- d. Auckland Transport and any bus operators which operate scheduled services along the route; and
- e. Schools and childcare centres with frontage or access to roads where the Works are taking place.

19. The SSTMP(s) shall address and provide details of proposed works and/or mitigation measures relating to the following matters:

- a. The likely routes for heavy construction-related traffic;
- b. Details of any necessary road or lane closures, diversions, or deviations, including the likely date, time and duration of any such actions. As far as practicable, any necessary temporary road or lane closures should occur during off-peak periods. Where diversions or deviations are required, information and recommendations shall be provided by a qualified and experienced traffic engineer of the traffic volumes and capacities of alternative routes and the likely consequent effects in terms of safety and convenience, and any changes to bus routes if required following discussion with the relevant public transport operator(s);
- c. Details of the signs intended to advise of any road or lane closures, diversions and delays. Such signage shall be sufficiently clear to enable easy understanding and be installed at appropriate locations at least 7 days in advance of such road closures, diversions or delays; and
- d. Details of any measures for the mitigation of effects of construction traffic on cyclists, pedestrians, mobility impaired persons, and school children.

20. The SSTMP(s) shall be submitted to the Council at least 15 working days (unless otherwise agreed by the Council) prior to the commencement of any construction work on the road(s) to which the SSTMP relates (and/or works adjacent which will require closure of part or all of the road(s)).

21. During construction the Requiring Authority shall:

- a. At all times provide access to any property temporarily severed by construction at a level that will enable normal operations on the property to continue as far as practicable; and
- b. Inform any neighbouring property owners/occupiers along or adjacent to the cable route at least 5 working days prior to the commencement of planned work that is likely to temporarily prevent or hinder usual on-street parking.

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22. As soon as practicable following completion of any stage of construction the Requiring Authority shall:

- a. Repair any damage to public carriageways and footpaths (and associated road components such as individual road crossings) resulting from the impacts of construction. Such repair may involve short-term maintenance to allow for settling and consolidation of carriageways prior to final repair;
- b. Re-grass areas (including berms) that were previously grassed; and
- c. If requested by the Council, re-instate the planted median along Ti Rakau Drive.

23. Normal road opening procedures shall apply for maintenance, renewal or repair works within the road reserve for which the local authority may impose conditions. The construction of the Works shall be in accordance with the Council's Engineering Quality Standards.

Tree Management

24. Except for those trees that are to be removed as part of the Works, trees in the vicinity of the Works shall be managed as follows:

- a. All excavation work within the dripline or root zone of any tree in a Council street or Council Reserve, any scheduled tree or any tree that would otherwise be generally protected under the District Plan and is located on private land (and extends over or into the work site), shall be supervised by a Council approved arborist;
- b. Any root or limb severance required shall be undertaken by a qualified arborist in accordance with best practice as far as practicable to provide for the long-term health and vitality or stability of the subject tree(s);
- c. Any tree adjacent to a construction area shall be fenced off to minimise and/or avoid any damage to the rootplate area of the tree;
- d. Where a Council-owned tree is damaged by the Works and a Council arborist assesses that remedial work is necessary, the remedial work shall be undertaken by a Council-approved arborist and the Requiring Authority shall be directly liable for all such remedial costs. Should a Council-owned tree be damaged beyond repair or destroyed then the Requiring Authority shall be directly liable for all costs relating to tree removal and replacement planting; and
- e. Where replacement planting is required to remediate the loss of a Council-owned tree, the species, location and planting of the replacement tree shall be undertaken as approved by the Council.

25. Following the completion of construction, the Requiring Authority shall provide a monitoring report to the Council that lists all trees that would otherwise be identified as 'generally protected' or 'scheduled' in the District Plan that were subject to any cutting or damage of the roots, trunk, or canopy to an extent deemed more than minor by the Council approved arborist.

Archaeology and Cultural

26. If any urupa, traditional sites, taonga (significant artefacts) and/or koiwi (human remains) are discovered during the Works, the following procedures shall apply:

- a. Works in the immediate vicinity of the site that has been discovered shall be suspended pending completion of the steps at (b) to (d);
- b. The site supervisor shall secure the area in a way that ensures that any remains or artefacts are untouched;
- c. The site supervisor shall notify representatives of relevant tangata whenua, the New Zealand Historic Places Trust, the Council (or its successor) and, in the case of human remains, the New Zealand Police; and
- d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover any features discovered before work may recommence in the immediate vicinity of the discovery site.

Existing Utilities

27. The Requiring Authority shall consult and liaise with all utility operators whose activities or interests may be affected by the Works prior to undertaking any work pursuant to this designation to confirm that:

- a. The Requiring Authority is aware of the location of all utility services existing at the time of construction in, or adjacent to, the designation and to identify any necessary exploratory excavation and evaluations of potential effects on the proper functioning of the utility services (including potential for earth potential rise or induction

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hazards) that should be undertaken;

- b. As far as practicable, all utility services (existing at 5 March 2010) located in or adjacent to the designated route are protected from the Works and any associated activities that may interfere with the proper functioning of those services; and
- c. Reasonable access to existing utility services located in or adjacent to the designation is maintained during construction.

28. In addition to the requirements of condition 27, prior to the commencement of any Works the Requiring Authority shall:

- a. Seek the approval of Watercare for any works within 10 metres of Watercare facilities; and
- b. Lodge with the Council for its approval (as part of the condition 3(l) requirement for a Construction Management Plan) and serve on Watercare the detailed construction and contingency plans for any crossings of Watercare infrastructure by the Works.

29. If it is not practicable to avoid a reduction in the level of service in accordance with condition 27(b) above, or if services are otherwise damaged, all utility services existing at the time of lodgement located in or adjacent to the affected section of the designation route shall be repaired or relocated:

- a. As identified in conjunction with the affected utility operator;
- b. At the Requiring Authority's expense; and
- c. To the reasonable satisfaction of the affected utility operator.

Outline Plans

30. Where the Council and the Requiring Authority agree on the content and terms of the various Management Plans, that agreement shall be deemed to be a waiver in relation to that Plan or relevant part of that Plan pursuant to section 176A(2) of the Act of the requirement for an Outline Plan under section 176A.

31. If the Council and the Requiring Authority do not agree on the terms of any Management Plans or if the Requiring Authority otherwise elects, the Requiring Authority shall comply with conditions 3, 7, 13 and 17 by submitting an outline plan or plans of Works ("Outline Plan") to the Council pursuant to section 176A of the Act. This Outline Plan shall include such information as would otherwise be required under the above conditions relating to the Management Plans and must be submitted prior to the commencement of construction works.

32. The Requiring Authority shall submit an Outline Plan to the Council pursuant to section 176A of the Act prior to the commencement of any other construction works which are not:

- a. Otherwise approved by the conditions of this designation; or
- b. Set out in section 3.4 of the Assessment of Environmental Effects submitted with the Notice of Requirement.

33. The Works, or stages of Works, shall be undertaken in accordance with an approved Management Plan or Plans or accepted Outline Plan (as the case may be).

Designation Review

34. As soon as practicable following the completion of construction of the Works, the Requiring Authority shall, in consultation with the Council as the road controlling authority:

- a. Review the width of the area designated for the project;
- b. Identify:
 - i. any areas of designated land (including public reserve) that are no longer necessary for the ongoing operation, maintenance, renewal and protection of the underground cables and ancillary activities; and
 - ii. any areas of designated land within the legal road boundaries that are more than 2.5 metres from the centreline of the cables (excluding joint bays and associated link pits); and
- c. Remove the designation over the areas identified in (b) above in accordance with section 182 of the Act and provide a plan of the final designated areas to the Council for inclusion in the District Plan; and
- d. Provide as-built plans to the Council.

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Operational Conditions

Magnetic Fields

35. The Works shall be designed and constructed to limit the magnetic field exposure to the reference levels International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time varying electric, magnetic and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494 — 522) (ICNIRP Guidelines) public exposure of 100µT for magnetic flux density when measured at 1 metre above ground level directly above any cable under normal operating conditions.

Earth Potential Rise / Induced Voltages

36. The Works shall be designed and constructed to comply with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997.

37. The Works shall be designed and constructed so as not to cause existing assets of other utilities to be non-compliant with AS/NZS 4853:2000 — Electrical Hazard on Metallic Pipelines.

Maintenance

38. The Requiring Authority shall:

- a. Meet its own costs associated with reviewing any proposal by the local authority to undertake roading works or activities over, or adjacent to, land designated for underground transmission lines;
- b. Meet any additional costs in respect of roading compaction, construction, renewal or maintenance that are incurred by the local authority where those additional costs are specifically caused due to the presence of the cables, or due to conditions imposed by the Requiring Authority; and
- c. Meet any additional costs where maintenance works undertaken by the Requiring Authority result in additional routine maintenance or remedial related roading costs for the local authority.

39. The Requiring Authority shall advise the Council at least 30 working days prior to commencing major programmed maintenance, renewal or replacement works (unless otherwise agreed in writing with the Road Corridor Access Team, Auckland Transport).

Advice Notes

1. The Requiring Authority is advised that all construction activities occurring within the road reserve are required to obtain Road Opening Notices from the Council prior to construction.

2. An Authority to modify an archaeological site must be obtained from the NZHPT prior to the start of any works that will affect site R11/1664.

3. For the avoidance of doubt the Requiring Authority is advised that nothing in condition 29 requires the Requiring Authority to:

- a. Provide compensation to any affected utility operator for indirect costs, such as for delays and inconvenience caused; and / or
- b. Put the owner of the utility services in a better position than if the Works had not been proposed or installed.

4. Where section 176 approvals are required by utility operators (other than the Requiring Authority) for their works within the designation the requiring authority will provide a timely response, in order to facilitate co-ordination of section 176 approvals sought by the utility operator and the Road Opening Notice process.

5. The requiring authority is reminded of its Agreement with Watercare dated 13 October 2008 in relation to existing and future pipes within the designation area.

Attachments

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Schedule of Legal Descriptions

Parcel ID/Appellation	
5265363	5264070
Pt Lot 13 DP 169911	5209755
Lot 14 DP 169911	5241960
5227266	5230326
5238840	5258537
5248668	5214449
5223374	5258531
5253119	5240958
5208675	5253263
5259571	5261971
5211539	Lot 1 DP 145667
5252892	5205090
	Pt Allot 5 Sec 4 SMALL LOTS NEAR VILLAGE OF Panmure
Lot 1 DP 67262	Lot 1 DP 51781
5256899	5212526
5209116	Pt Allot 36 Sec 1 SMALL LOTS NEAR VILLAGE OF Panmure
5257525	5233659
5207513	Pt Allot 35 Sec 1 SMALL LOTS NEAR VILLAGE OF Panmure
5260000	5237361
5220917	Lot 4 DP 128773
5242716	Lot 2 DP 128773
5224551	Lot 1 DP 128773
5255868	Lot 3 DP 128773
5235624	Lot 5 DP 128773
5255869	Pt Lot 3 DP 1384
5228367	Lot 133 DP 18101
5248672	Lot 134 DP 18101
5221723	5211511
5259728	Lot 109 DP 18101
6590969	Lot 108 DP 18101
5233271	Pt Lot 107 DP 18101
6590968	Pt Lot 162 DP 18101
6590967	Pt Lot 91 DP 18101
6590966	Pt Lot 92 DP 18101
6590965	5215297
6590964	Lot 80 DP 18101
6590963	Lot 79 DP 18101
6590962	Pt Lot 1 DP 18413

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Parcel ID/Appellation	
6591006	5215674
6591005	Pt Lot 1 DP 18413
6591004	5227489
6591003	Pt Lot 1 DP 18413
5238539	Pt Allot 17 Sec 12 SUBURBS OF Auckland
6591002	Sec 2 SO 70581
6591001	Sec 3 SO 70581
6652635	Sec 4 SO 70581
5264072	

8508 Richardson Road Overhead Electricity Transmission Lines

Designation Number	8508
Requiring Authority	Transpower New Zealand Ltd
Location	716 Richardson Road, Mount Roskill
Rollover Designation	Yes
Legacy Reference	Designation H07-01, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - tower site and associated overhead transmission lines of the Mangere to Mt Roskill A 110kV transmission line.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

2. Any new works or equipment shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

The Proposed Auckland Unitary Plan (notified 30 September 2013)

3. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Vibration

4. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Construction and Maintenance Noise

5. Subject to condition 6, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

6. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 6 DP 40357	Lot 1 DP 135028

8509 Luke Street Overhead Electricity Transmission Lines

Designation Number	8509
Requiring Authority	Transpower New Zealand Ltd
Location	Luke Street (adjoins State Highway 1), Otahuhu
Rollover Designation	Yes
Legacy Reference	Designation I14-23, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - tower site (Tower 9) and associated overhead transmission lines of the Henderson to Otahuhu-A 220kV transmission line.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;

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- c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
- d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

2. Any new works or equipment shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

3. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Vibration

4. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Construction and Maintenance Noise

5. Subject to condition 6, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

6. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 133722	

8510 Glenbrook Electricity Substation

Designation Number	8510
Requiring Authority	Transpower New Zealand Ltd
Location	Whitham Road, Glenbrook
Rollover Designation	Yes
Legacy Reference	Designation 84, Auckland Council District Plan (Franklin Section) 2000

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Lapse Date	Given effect to (i.e. no lapse date)
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Purpose

Electricity transmission - Glenbrook electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

2. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

8. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz)

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(Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

9. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

12. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DO 139740	

8511 Bombay Electricity Substation

Designation Number	8511
Requiring Authority	Transpower New Zealand Ltd
Location	153 Barber Road, Bombay
Rollover Designation	Yes
Legacy Reference	Designation 85, Auckland Council District Plan (Franklin Section) 2000
Lapse Date	Given effect to (i.e. no lapse date)

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Purpose

Electricity transmission - Bombay electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

2. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

8. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

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Radio Frequency Interference

9. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

12. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 3 DP 439460	

8512 Brownhill Road to Whakamaru Overhead Transmission Lines

Designation Number	8512
Requiring Authority	Transpower New Zealand Ltd
Location	231 Whitford Park Road, Whitford to the vicinity of Paparimu Road (Waikato District Council Boundary), Pokeno
Rollover Designation	Yes
Legacy Reference	Designation 302, Auckland Council District Plan (Manukau Section) 2002; and Designation 152, Auckland Council District Plan (Franklin Section) 2000
Lapse Date	Given effect to (i.e. no lapse date)

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Purpose

Electricity transmission - the construction, operation and maintenance of that part of a 400kV capable transmission line which is within the Auckland area to convey electricity between the Brownhill Road Substation and the Whakamaru and Whakamaru North Substations in Taupo, and ancillary activities.

Conditions

This designation has two sets of conditions, one for those towers Towers 5 to 33 and one for Towers 33A to 65, as shown in the attached map.

Conditions relating to that part of the line between towers 5 and 33.

Documents

1. Subject to the conditions below, the initial works to give effect to the designation shall be generally in accordance with Maps 40–44 of Appendix V.

Tower Heights and Locations

2. Tower heights and locations shall be generally in accordance with the plans and profiles, except that:
- Subject to (b), (c), (d) and (e) below, tower height can exceed that shown on the plans and profiles by up to three metres;
 - Where tower locations are moved (as provided in (f) and (g) below), tower heights can exceed those in the plans and profiles by up to five metres;
 - Any increase in the height of tower 9 shall not cause it to exceed the height limitations of the Auckland International Airport Obstacle Limitation Surface;
 - Any increase in height of towers 14, 15, 16A and 16B shall not cause a tower to exceed the height limitations of the conical protection surface associated with Ardmore Airport;
 - No tower shall exceed 70 metres in height;
 - Tower sites may be moved up to five metres laterally; and
 - Tower sites may be moved up to 40 metres along the alignment.

Cultural / Spiritual

3. If any urupa, traditional sites, taonga (significant artefacts) or koiwi (human remains) are exposed during site works, then the following procedures shall apply:
- works in the immediate vicinity of the site that has been exposed shall cease;
 - the site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - the site supervisor shall notify representatives of relevant tangata whenua, the New Zealand Historic Places Trust, Auckland Council and, in the case of human remains, the New Zealand Police; and
 - the notification in (c) above shall allow such persons being given a reasonable time to record and resolve archaeological features discovered before work may recommence.

Social

4. Transpower shall prepare a counselling/stress relief plan, after consultation with the territorial authority. The plan shall include:
- An offer of counselling to those persons directly affected by the designation crossing their property to manage undue stress related to implementing the Upper North Island Grid Upgrade Project;
 - An 0800 number for the service;
 - No requirement for contact with Transpower personnel to access the service;
 - Such offer remaining open for acceptance for the period ending six months after confirmation of the designation; and
 - Such offer extending to a maximum of four counselling sessions, which may occur beyond the period referred to in (d) above, but which must be completed within 12 months of confirmation of the designation.

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5. The implementation of the counselling/stress relief plan, and any counselling of directly affected persons, shall be at Transpower's cost.

6. Transpower shall not be in breach of the condition 4 if the offer of counselling is not taken up by any directly affected persons.

Electric and Magnetic Fields (EMF)

7. The works shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time varying electric, magnetic, and electromagnetic fields (up to 300GHz) (Health Physics, 1998 74(4): 494–552) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground under maximum normal operating conditions (ie, when there are no faults in the transmission system).

8. In order to reduce long term public exposure to EMFs no habitable building shall be constructed within the designated corridor for the 400-kV capable transmission line.

Earth Potential Rise / Induced Currents

9. In designing and constructing the line, Transpower shall give consideration to third-party conductive structures and services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

10. The works shall be designed and constructed to comply with AS/NZS4852:2000 Electrical Hazards on Metallic Pipelines.

11. Prior to commissioning, Transpower shall have an appropriately qualified person assess all conductive structures in the vicinity of the transmission line. Any hazards shall undergo a risk assessment in accordance with the Electricity Engineers' Association Guide to Risk-Based Earthing System Design. Transpower will carry associated with the line.

Radio Frequency Interference

12. All works shall be designed to comply with NZS 6869:2004 Limits & Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Operational Noise

13. The operation of the transmission line shall not emanate noise that exceeds 40 dBA Leq beyond the boundaries of the designation. Measurements shall not be undertaken during heavy rain.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1991 Measurement of Sound and NZS6802:1991 Assessment of Environmental Sound.

Landscape Mitigation

15. Within two months of confirmation of the designation, Transpower shall appoint a suitably qualified and experienced landscape architect for the role of certifying that any of the thresholds in conditions 22 and 24 have been reasonably met (the landscape certifier). The person appointed shall be endorsed by the NZ Institute of Landscape Architects in writing as suitable for the role, having been advised of the role and responsibilities.

16. Any decision made by the landscape certifier in relation to the matters addressed in condition 22(b) and 24 shall be in writing (including reasons).

17. Any landowner may ask the landscape certifier to certify that any decision under condition 22(b) and 24 is reasonable given the thresholds in those conditions. The landscape certifier shall set his or her own procedure for any such certification.

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Landscape mitigation: private land

18. Within two months of confirmation of the designation, Transpower shall write to the owners of properties having an occupied house, existing at the date of the Board's draft decision on the Notices of Requirement, within one kilometre of the centre line of the designation.

19. The letter shall inform the landowner/s of the properties referred to in condition 18 of their possible entitlement to a landscape mitigation assessment in accordance with condition 22 (including where relevant, ecological planting). This condition shall not apply to any property where an agreement relating to landscape mitigation has already been reached between Transpower and the landowner.

20. The written offer required by condition 18 shall inform the landowner that he/she may request Transpower to consider landscape mitigation (including where relevant, ecological planting) at his/her option prior to, or after, construction of the overhead line, and outline the process established by these conditions (including the role of the landscape certifier).

21. Within two months of commissioning of the line, Transpower shall repeat the offer required by condition 18 to all landowners who have not already indicated preliminary acceptance of Transpower's offer. Transpower shall expressly state that the offer shall remain valid for 12 months following commissioning of the overhead line.

22. In the case of each landowner who has indicated acceptance of the offer of landscape mitigation assessment (including where relevant ecological planting), the following process shall be adhered to:

- a. An onsite meeting shall be arranged between the landowner and a qualified landscape architect (the landscape architect), and where relevant an ecologist, appointed by Transpower.
- b. The landscape architect shall determine whether mitigation is appropriate in terms of the criteria in Table 1. If the determination is that no mitigation is appropriate, the landscape architect shall advise Transpower with reasons, and Transpower shall advise the landowner in writing.
- c. Subject to (d), if the landscape architect identifies that mitigation is appropriate in terms of the criteria in Table 1, he/she shall prepare a plan (the concept plan) to mitigate the adverse visual effects of the overhead line when viewed from the dwelling and the immediate curtilage of the dwelling. The mitigation techniques shall take into account the factors and criteria in Table 1.
- d. For properties where ecological planting has been identified in Table 2, the concept plan required by (c) shall be prepared by the landscape architect, in consultation with the ecologist, taking into account the criteria in Table 2.

Table 1:

Factors	Criteria
Degree of Likely Visual Amenity Effect	- Moderate to very high degree of effect
Basis for Assessment of Degree of Effect	- Distance from the line and towers - Orientation of the house and outdoor living areas - Existing screening and nature of intervening landscape - Relative elevation
Mitigation Technique	- Planting that may screen or partially screen towers - Planting that may create an alternative foreground focus - Planting that may focus the outlook on an alternative view - Planting that may increase the sense of depth in a view towards the line

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Practicality	<ul style="list-style-type: none"> - Land available in the resident's ownership for - landscape mitigation - Existing garden design or landscape constraints - Farm management constraints
Owner's Preference	- Preferences identified during the consultation and design process

Table 2:

Relevant Towers	Proposed Replacement Planting and Purpose
Span 12 and 13 (Beale, evidence in chief para 28(a))	Establish kahikatea plantings (saplings) in the gully on the downstream or southern side of the designation between towers 12 and 13, so as to extend the riparian cover and offset the loss of the tallest specimens from within the forest remnant.

23. The concept plan shall be prepared in draft and following review by Transpower, shall be submitted to the landowner for comment.

24. The concept plan shall be reviewed by the landscape architect, in consultation with the ecologist (where relevant), following the receipt of comments, and following such further consideration, investigation and discussion with the landowner and Transpower as the landscape architect considers necessary, taking into account the criteria in Table 1 and the cost and practicality of implementing any specific request. The revised plan (the final plan) will be provided to the landowner as soon as reasonably practicable.

25. On receipt of written acceptance of the final plan, Transpower shall implement it within the first planting season following that acceptance, unless otherwise agreed with the landowner.

26. Transpower shall maintain the planting for 12 months after completion of planting.

27. In the event that a landowner advises Transpower that the landowner wishes to implement the final plan themselves, within 30 days following completion of all work specified in the final plan to the reasonable satisfaction of the landscape architect, Transpower shall pay the landowner the sum of money allocated in the approved concept plan. Where this occurs, condition 25 shall not apply.

28. In the event that a landowner advises Transpower that the landowner wishes to maintain the planting themselves, within 30 days following completion of all works specified in the final plan, Transpower shall pay the landowner the sum of money allocated in the approved concept plan for maintenance. Where this occurs, condition 26 shall not apply.

Landscape itigation: Public Land

29. Within 12 months of confirmation of the designation, Transpower shall write to the Auckland Council, and where relevant NZTA, informing it or them of its proposal to provide for landscape mitigation along specific sections or locations of roads and State highways in the Council's district, as shown on Maps 32–39 of Appendix V, and seeking the Auckland Council's involvement in implementing the mitigation. The offer shall be for the purpose of mitigation of adverse visual effects of the overhead line when viewed from the public roads or other viewpoints shown in the plan.

30. On receiving a positive response from the Council and/or NZTA (as applicable), Transpower shall provide a draft development plan, specifications, and costing prepared by a qualified landscape architect as an offer to the Council and/or NZTA. The offer shall remain open for 12 months following commissioning of the line.

31. Transpower shall review any comments provided by the Council and/or NZTA and shall issue a final plan. The final plan shall be provided as soon as practicable to the Council and/or Transit.

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32. On the Council's and/or NZTA's written acceptance of the plan (where relevant) and agreement to implement the mitigation, Transpower shall, within 30 days, pay to the Council and/or NZTA the cost specified in the accepted plan (which shall include an estimate for a year of maintenance).

33. Transpower shall not be in breach of condition 29 in the event the Council and/or NZTA do not undertake the planting as provided in the final plan.

Pre-construction Activities

34. Prior to construction commencing, Transpower shall appoint a Landowner Liaison Officer, who will:

- a. Be responsible for maintaining contact with landowners and occupiers of each property prior to, and during construction; and
- b. Have a contact role with the landowner during the development of the Site Works Plan (SWP) for individual properties.

35. Transpower shall make copies of individual SWPs available to Auckland Council for information purposes, upon request.

Construction Management Plan (CMP)

36. Prior to commencement of any construction activity authorised by the designation, Transpower shall submit a construction management plan to the Council's Consents Officer for approval. The Council's Consents Officer shall respond within 20 working days. Approval shall not be unreasonably withheld. The construction management plan shall outline Transpower's intended approach to:

- a. Land stability management and sediment controls;
- b. Storage and reuse of topsoil;
- c. Management and disposal of spoil;
- d. Groundwater and stormwater management, treatment and disposal;
- e. Silt and dust control, during earthwork stages;
- f. Traffic/access management;
- g. Temporary activities and equipment storage in specified areas;
- h. security and lighting during construction;
- i. Contaminated land management procedures;
- j. Construction noise (as set out in conditions 37–40), dust and vibration;
- k. Hours of work;
- l. Existing network utilities' protocols and guidelines;
- m. Subject to other specific conditions, cultural protocols and archaeological requirements;
- n. Vegetation clearance, disposal and restoration;
- o. The intended construction programme (including staging if appropriate);
- p. Protocols and procedures for road controlling authorities and rail operators, where the line crosses that infrastructure;
- q. Community information and liaison;
- r. Contractor training; and
- s. Generic contents of Site Works Plans (SWPs).

Nothing in this condition allows the Council, or any other party, to require more onerous controls than contained in the designation conditions.

Construction and Maintenance Noise

37. All construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the designated area does not exceed the limits in NZS6803:1999 Acoustics– Construction Noise at locations set out in section 6.2 of that standard.

38. The noise limits required by condition 37 shall not apply to emergency work required to re-establish continuity of supply, urgently required to prevent loss of life or other personal injury or commissioning works, but

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all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night time).

39. Prior to any significant construction work taking place, including any earthworks, a noise management plan applicable to the construction and commissioning stages shall be prepared for the whole of the line, with the assistance of a suitably qualified and experienced person. The plan shall set out the management procedures in terms of section 8 and Annex E of NZS6803:1999, and the works shall be undertaken in accordance with that noise management plan.

40. The noise management plan required by condition 39 shall be submitted to the Council's Consents Manager, at least 20 working days prior to the works commencing.

Vibration

41. Vibration from all construction activities shall not exceed the limits of, and shall be measured in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Aviation

42. Transpower shall, on a monthly basis during the construction of the line, inform the New Zealand Agricultural Aviation Authority, the Civil Aviation Authority and Ardmore Airport Limited (in relation to the towers within the conical surface only, as set out in the Ardmore Aerodrome Protection Measures under Designation 200 in the Auckland Unitary Plan) of the construction activities completed in the previous month, and intended to be undertaken in the following month including:

- a. Erection of specific towers (with locations and heights); and
- b. Stringing of conductor and earthwires between specified towers.

For the avoidance of doubt, the requirement in condition 42 applies to each tower and conductor of each tower, not merely the commencement of tower erection or conductor.

Traffic Management Plan (TMP) for Road Crossings and Local Roads

43. Transpower shall prepare a series of traffic management plans for road crossings and local roads used by heavy traffic (TMPs) in accordance with Transit New Zealand's Code of Practice for Temporary Traffic Management (COPTTM), after consultation with (as relevant):

- a. Auckland Transport (Road Controlling Authority);
- b. The following key stakeholders:
 - i. Emergency services (including police);
 - ii. Bus operators;
 - iii. Schools;
 - iv. Housing New Zealand Corporation; and
- c. Any additional key stakeholders identified by Council.

44. A TMP shall be submitted to the Council and NZTA (where relevant) at least 20 working days prior to the commencement of construction of the relevant road crossing works, or works affecting local roads. The plans may be submitted in stages, with each stage being submitted at least 20 working days prior to the commencement of the work the subject of that stage.

45. The Council shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

46. The TMP prepared by Transpower shall recognise that the paramount purpose of roads is the free passage of the public and its vehicles.

47. The TMPs shall address and provide details of proposed road crossing works and general use of local roads

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by heavy vehicles and/or mitigation measures relating to the following matters:

- a. The likely routes for heavy construction-related traffic;
- b. Details of the installation of any protection measures including, but not limited to, hurdles for subsequent line construction purposes;
- c. Details of any necessary temporary road closures, diversions, or deviations which are likely to be required during road crossing activities, including the likely date, time, and duration of such matters (any necessary temporary road closures should be effected during off-peak periods unless this is impracticable or would have adverse impacts on adjacent properties);
- d. Where diversions or deviations are required, information shall be provided by a suitably qualified and experienced traffic engineer of the traffic volumes and capacities of alternative routes, to ensure that such routes are both convenient and capable of safely accommodating any such diverted or deviated traffic;
- e. Details of the proposed signage to advise motorists, residents, stakeholders, and other road users of any road closures, diversions and delays, such signage to be sufficiently clear to be capable of ready understanding by the general public and installed at appropriate locations at least seven days in advance of such road closures, diversions and delays;
- f. Details of methods of proposed information dissemination regarding construction activities and associated traffic effects, including but not limited to public notices in newspapers, radio announcements, information packages and direct contact with affected persons. (Such information dissemination, and the chosen method of dissemination is to be proportional to the impact);
- g. Details of prior consultation or community liaison undertaken with affected residents, stakeholders, public transport providers, emergency services or representative groups regarding proposed road closures, diversions and delays, and any measures agreed with such groups to address any adverse effects or inconvenience that may arise; and
- h. identification of any measures for the purposes of mitigating adverse traffic effects of construction traffic, including safety matters (such speed restrictions and signage), relating to cyclists, pedestrians, disabled persons, and schoolchildren.

Construction Entrance-ways off Public Roads

48. Prior to the commencement of construction, Transpower shall undertake a survey of the condition of the roads in the immediate vicinity of construction entranceways off public roads (consisting of a photographic record). A copy of the survey will be retained and provided to the council upon request.

49. Transpower shall repair any damage to entranceways and public roads in the vicinity of those entranceways resulting from impacts of its construction traffic within 10 working days of the damage occurring, recognising that temporary repairs may be appropriate where work has not been completed.

General advice note:

1. In relation to the ARI-PAK A towers outside of the designated area, Transpower shall use its best endeavours to establish and follow the procedures in the conditions in relation to cultural/ spiritual matters, construction noise, the preparation of the construction management plan, and pre-construction activities. Conditions relating to that part of the line which falls in Franklin, between towers 33A and 65.

Conditions relating to that part of the line between towers 33A and 65

Documents

1. Subject to the conditions below, the initial works to give effect to the designation shall be generally in accordance with Maps 44–52 of Appendix V.

Tower Heights and Locations

2. Tower heights and locations shall be generally in accordance with the plans and profiles, except that:

- a. Tower height can exceed that shown on the plans and profiles by up to three metres;
- b. Where tower locations are moved in accordance with (d) and (e) below, tower heights can exceed those in

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- the plans and profiles by up to five metres;
- c. No tower shall exceed 70 metres in height;
- d. Tower sites may be moved up to five metres laterally; and
- e. Tower sites may be moved up to 40 metres along the alignment.

Cultural / Spiritual

3. If any urupā, traditional sites, taonga (significant artefacts) or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
- a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. The notification in (c) above shall allow such persons being given a reasonable time to record and resolve archaeological features discovered before work may recommence.

Archaeological Sites: Route Section 4, Towers 33A–45

4. The locations of all towers shall be subject to archaeological survey by a suitably qualified and experienced archaeologist (project archaeologist) prior to finalisation of the relevant Site Works Plans required by conditions 36 and 37, other than the proposed locations for towers 33A to 37, 40, 43 and 44.

Archaeological Sites: Route Section 5

5. Before any works associated with the Upper North Island Grid Upgrade Project are carried out within designated area of route section 5, Transpower shall undertake:
- a. The project archaeologist shall monitor the earthworks at tower 56 to determine whether archaeological evidence is present.
 - b. All of the proposed access routes, and tower locations for towers 63A–69 65 shall be archaeologically surveyed prior to the relevant Site Works Plans required by conditions 36 and 37 being finalised. The Site Works Plans, where practicable, shall accommodate any archaeological findings.

Advice note:

Conditions 4 and 5 are subject to any conditions of any archaeological authority granted under the Historic Places Act 1993.

Social

6. Transpower shall prepare a counselling/stress relief plan, after consultation with the territorial authority. The plan shall include:
- a. An offer of counselling to those persons directly affected by the designation crossing their property to manage undue stress related to implementing the Upper North Island Grid Upgrade Project;
 - b. An 0800 number for the service;
 - c. No requirement for contact with Transpower personnel to access the service;
 - d. Such offer remaining open for acceptance for the period ending six months after confirmation of the designation; and
 - e. Such offer extending to a maximum of four counselling sessions, which may occur beyond the period referred to in (d) above, but which must be completed within 12 months of confirmation of the designation.
7. The implementation of the counselling/stress relief plan, and any counselling of directly affected persons, shall be at Transpower's cost.
8. Transpower shall not be in breach of the condition 6 if the offer of counselling is not taken up by any directly affected persons.

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Electric and Magnetic Fields (EMF)

9. The works shall be designed and constructed to limit the EMF exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time varying electric, magnetic, and electromagnetic fields (up to 300GHZ) (Health Physics, 1998 74(4): 494–552) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground under maximum normal operating conditions (ie, when there are no faults in the transmission system).

10. In order to reduce long-term public exposure to EMFs no habitable building shall be constructed within the designated corridor for the 400-kV capable transmission line.

Earth Potential Rise / Induced Currents

11. In designing and constructing the line, Transpower shall give consideration to third-party conductive structures and services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

12. The works shall be designed and constructed to comply with AS/NZS4852:2000 Electrical Hazards on Metallic Pipelines.

13. Prior to commissioning, Transpower shall have an appropriately qualified person assess all conductive structures in the vicinity of the transmission line. Any hazard shall undergo a risk assessment in accordance with the Electricity Engineers' Association Guide to Risk-Based Earthing System Design. Transpower will carry out mitigation measures to address significant risks relating to earth potential rise and induction effects associated with the line.

Radio Frequency Interference

14. All works shall be designed to comply with NZS 6869:2004 Limits & Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Operational Noise

15. The operation of the transmission line shall not emanate noise that exceeds a limit of 40 dBA Leq beyond the boundaries of the designation. Measurements shall not be undertaken during heavy rain.

16. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Environmental Sound and NZS6802:2008 Assessment of Environmental Sound.

Landscape Mitigation

17. Within two months of confirmation of the designation, Transpower shall appoint a suitably qualified and experienced landscape architect for the role of certifying that any of the thresholds in conditions 24 and 26 have been reasonably met (the landscape certifier). The person appointed shall be endorsed by the NZ Institute of Landscape Architects in writing as suitable for the role, having been advised of the role and responsibilities.

18. Any decision made by the landscape certifier in relation to the matters addressed in condition 24(b) and 26 shall be in writing (including reasons).

19. Any landowner may ask the landscape certifier to certify that any decision under condition 24(b) and 26 is reasonable given the thresholds in those conditions. The landscape certifier shall set his or her own procedure for any such certification.

Landscape Mitigation: Private Land

20. Within two months of confirmation of the designation, Transpower shall write to the owners of properties having an occupied house, existing at the date of the Board's draft decision on the Notices of Requirement, within one kilometre of the centre line of the designation.

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21. The letter shall inform the landowner/s of the properties referred to in condition 20 of their possible entitlement to a landscape mitigation assessment in accordance with condition 24 (including where relevant, ecological planting). This condition shall not apply to any property where an agreement relating to landscape mitigation has already been reached between Transpower and the landowner.

22. The written offer required by condition 20 shall inform the landowner that he/she may request Transpower to consider landscape mitigation (including where relevant, ecological planting) at his/her option prior to, or after, construction of the overhead line, and outline the process established by these conditions (including the role of the landscape certifier).

23. Within two months of commissioning of the line, Transpower shall repeat the offer required by condition 20 to all landowners who have not already indicated preliminary acceptance of Transpower's offer. Transpower shall expressly state that the offer shall remain valid for 12 months following commissioning of the overhead line.

24. In the case of each landowner who has indicated acceptance of the offer of landscape mitigation assessment (including where relevant ecological planting), the following process shall be adhered to:

- a. An onsite meeting shall be arranged between the landowner and a qualified landscape architect (the landscape architect) and where relevant an ecologist, appointed by Transpower.
- b. The landscape architect shall determine whether mitigation is appropriate in terms of the criteria in Table 1. If the determination is that no mitigation is appropriate, the landscape architect shall advise Transpower with reasons, and Transpower shall advise the landowner in writing.
- c. Subject to (d), if the landscape architect identifies that mitigation is appropriate in terms of the criteria in Table 1 he/she shall prepare a plan (the concept plan) to mitigate the adverse visual effects of the overhead line when viewed from the dwelling and the immediate curtilage of the dwelling. The mitigation techniques shall take into account the factors and criteria in Table 1.
- d. For properties where ecological planting has been identified in Table 2, the concept plan required by the concept plan required by (c) shall be prepared by the landscape architect, in consultation with the ecologist, taking into account the criteria in Table 2.

Table 2:

Factors	Criteria
Degree of Likely Visual Amenity Effect	- Moderate to very high degree of effect
Basis for Assessment of Degree of Effect	- Distance from the line and towers - Orientation of the house and outdoor living areas - Existing screening and nature of intervening landscape - Relative elevation
Mitigation Technique	- Planting that may screen or partially screen towers - Planting that may create an alternative foreground focus - Planting that may focus the outlook on an alternative view - Planting that may increase the sense of depth in a view towards the line
Practicality	- Land available in the resident's ownership for landscape mitigation - Existing garden design or landscape constraints - Farm management constraints
Owner's Preference	- Preferences identified during the consultation and design process

Table 2:

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Relevant Towers	Proposed Replacement Planting and Purpose
Span 54A-55 (Beale, evidence in chief para 28(b))	<ul style="list-style-type: none"> - Replacement plantings of kahikatea to offset removal of kahikatea stands. Wherever possible, these plantings should be located so as to enlarge existing stands. - Largest kahikatea stands near Ararimu Road, plant out an area between two existing kahikatea fragments situated immediately to the west of the affected stand so as to eventually form one stand.
Span 65-66 (Beale, evidence in chief para 28(c))	<ul style="list-style-type: none"> - Planting of kauri and podocarps within the forest beyond the designation, to replace trees selectively removed in the vicinity of tower 65. - Establish plantings of kauri, rimu and tãnekaha beneath canopy gaps in the forest adjoining the lay-by area, next to the access road off Paparimu Road. The canopy gaps provide suitable conditions for the plantings of kauri, rimu and tãnekaha that are dependent on a favourable degree of light penetration for growth - Planting along bank of Mangatãwhiri River and on either side of the designation of pioneer tree species, that attain a height of no greater than 14 metres within the designation to maintain connectivity within this riparian stand and linkage with the forested area to the south.

25. The concept plan shall be prepared in draft and following review by Transpower shall be submitted to the landowner for comment.

26. The concept plan shall be reviewed by the landscape architect, in consultation with the ecologist (where relevant), following the receipt of comments, and following such further consideration, investigation and discussion with the landowner and Transpower as the landscape architect considers necessary, taking into account the criteria in Table 1 and the cost and practicality of implementing any specific request. The revised plan (the final plan) will be provided to the landowner as soon as reasonably practicable.

27. On receipt of written acceptance of the final plan, Transpower shall implement it within the first planting season following that acceptance, unless otherwise agreed with the landowner.

28. Transpower shall maintain the planting for 12 months after completion of planting.

29. In the event that a landowner advises Transpower that the landowner wishes to implement the final plan themselves, within 30 days following completion of all work specified in the final plan to the reasonable satisfaction of the landscape architect, Transpower shall pay the landowner the sum of money allocated in the approved concept plan. Where this occurs, condition 27 shall not apply.

30. In the event that a landowner advises Transpower that the landowner wishes to maintain the planting themselves, within 30 days following completion of all works specified in the final plan, Transpower shall pay the landowner the sum of money allocated in the approved concept plan for maintenance. Where this occurs, condition 28 shall not apply.

Landscape Mitigation: Public Land

31. Within 12 months of confirmation of the designation, Transpower shall write to the council, and where relevant NZTA, informing it or them of its proposal to carry out landscape mitigation along specific sections or locations of roads and State highways in the Council's district, as shown on Maps 32–39 of Appendix V and seeking the council's involvement in implementing the mitigation. The offer shall be for the purpose of mitigation of adverse visual effects of the overhead line when viewed from the public roads or other viewpoints shown in Maps 32-39 of Appendix V.

32. On receiving a positive response from the council and/or NZTA (as applicable), Transpower shall provide a draft development plan, specifications, and costing prepared by a qualified landscape architect as an offer to

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the council and/or NZTA. The offer shall remain open for 12 months following commissioning of the line.

33. Transpower shall review any comments provided by the Council and/or NZTA and shall issue a final plan. The final plan shall be provided as soon as practicable to the Council and/or NZTA.

34. On the Council's and/or NZTA's written acceptance of the plan (where relevant) and agreement to implement the mitigation, Transpower shall, within 30 days, pay to the Council and/or NZTA the cost specified in the accepted plan (which shall include an estimate for a year of maintenance).

35. Transpower shall not be in breach of condition 31 to 34 in the event the Council and/or NZTA do not undertake the planting as provided in the final plan.

Pre-construction Activities

36. Prior to construction commencing, Transpower shall appoint a Landowner Liaison Officer, who will:

- a. Be responsible for maintaining contact with landowners and occupiers of each property prior to, and during construction; and
- b. Have a contact role with the landowner during the development of the Site Works Plan for individual properties.

37. Transpower shall make copies of individual SWPs available to council (formerly Franklin District Council) for information purposes, upon request.

Construction Management Plan (CMP)

38. Prior to commencement of any construction activity authorised by the designation, Transpower shall submit a construction management plan to the Group Manager: Environmental Services for approval. The Group Manager: Environmental Services shall respond within 20 working days. Approval shall not be unreasonably withheld. The construction management plan shall outline Transpower's intended approach to:

- a. Land stability management and sediment controls;
- b. Storage and reuse of topsoil;
- c. Management and disposal of spoil;
- d. Groundwater and stormwater management, treatment and disposal;
- e. Silt and dust control, during earthwork stages;
- f. Traffic/access management;
- g. Temporary activities and equipment storage in specified areas;
- h. Security and lighting during construction;
- i. Contaminated land management procedures;
- j. Construction noise (as set out in conditions 39-42), dust and vibration;
- k. Hours of work;
- l. Existing network utilities' protocols and guidelines;
- m. Subject to other specific conditions, cultural protocols and archaeological requirements;
- n. Vegetation clearance, disposal and restoration;
- o. The intended construction programme (including staging if appropriate);
- p. Protocols and procedures for road controlling authorities and rail operators, where the line crosses that infrastructure;
- q. Community information and liaison;
- r. Contractor training; and
- s. Generic contents of Site Works Plans (SWPs).

Nothing in this condition allows the Council, or any other party, to require more onerous controls than contained in the designation conditions.

Construction and Maintenance Noise

39. All construction and maintenance work shall be designed, managed and conducted to ensure that

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construction and maintenance noise from the designated area does not exceed the limits in NZS6803:1999 Acoustics– Construction Noise at locations set out in section 6.2 of that standard.

40. The noise limits required by condition 39 shall not apply to emergency work required to re-establish continuity of supply, urgently required to prevent loss of life or other personal injury or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects particularly at times when the stricter noise limits apply (eg, at night time).

41. Prior to any significant construction work taking place, including any earthworks, a noise management plan applicable to the construction and commissioning stages shall be prepared for the whole of the line, with the assistance of a suitably qualified and experienced person. The plan shall set out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.

42. The noise management plan required by condition 41 shall be submitted to the Group Manager: Environmental Services at least 20 working days prior to the works commencing.

Vibration

43. Vibration from all construction activities shall not exceed the limits of, and shall be measured in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Aviation

44. Transpower shall, on a monthly basis during the construction of the line, inform the New Zealand Agricultural Aviation Authority, the Civil Aviation Authority and Ardmore Airport Limited (in relation to the towers within the conical surface only, as set out in the Ardmore Aerodrome Protection Measures under Designation 200 in the Auckland Unitary Plan) of the construction activities completed in the previous month, and intended to be undertaken in the following month including:

- a. Erection of specific towers (with locations and heights); and
- b. Stringing of conductor and earthwires between specified towers.

For the avoidance of doubt, the requirement in condition 44 applies to each tower and conductoring of each tower, not merely the commencement of tower erection or conductoring.

Traffic Management Plan (TMP) for Road Crossings and Local Roads

45. Transpower shall prepare a series of traffic management plans for road crossings and local roads used by heavy traffic in accordance with Transit New Zealand's Code of Practice for Temporary Traffic Management (COPTTM), after consultation with (as relevant):

- a. The Road Controlling Authority;
- b. New Zealand Transport Agency (NZTA); and
- c. The following key stakeholders:
 - i. Emergency services (including police);
 - ii. Bus operators;
 - iii. Schools;
 - iv. Housing New Zealand Corporation;
- d. Any additional key stakeholders identified by Auckland Council.

46. A TMP shall be submitted to the council and NZTA (where relevant) at least 20 working days prior to the commencement of construction of the relevant road crossing works, or works affecting local roads. The plans may be submitted in stages, with each stage being submitted at least 20 working days prior to the commencement of the work the subject of that stage.

47. The council shall respond within 20 working days indicating whether approval is given or refused.

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Approval shall not be unreasonably withheld.

48. The TMP prepared by Transpower shall recognise that the paramount purpose of roads is the free passage of the public and its vehicles.

49. The TMPs shall address and provide details of proposed road crossing works and general use of local roads by heavy vehicles and/or mitigation measures relating to the following matters:

- a. details of the installation of any protection measures including, but not limited to, hurdles for subsequent line construction purposes;
- b. details of any necessary temporary road closures, diversions, or deviations which are likely to be required during road crossing activities, including the likely date, time, and duration of such matters (any necessary temporary road closures should be effected during off-peak periods unless this is impracticable or would have adverse impacts on adjacent properties);
- c. where diversions or deviations are required, information shall be provided by a suitably qualified and experienced traffic engineer of the traffic volumes and capacities of alternative routes, to ensure that such routes are both convenient and capable of safely accommodating any such diverted or deviated traffic;
- d. Details of the proposed signage to advise motorists, residents, stakeholders, and other road users of any road closures, diversions and delays, such signage to be sufficiently clear to be capable of ready understanding by the general public and installed at appropriate locations at least 7 days in advance of such road closures, diversions and delays;
- e. Details of methods of proposed information dissemination regarding construction activities and associated traffic effects, including but not limited to public notices in newspapers, radio announcements, information packages and direct contact with affected persons. (Such information dissemination, and the chosen method of dissemination is to be proportional to the impact);
- f. Details of prior consultation or community liaison undertaken with affected residents, stakeholders, public transport providers, emergency services or representative groups regarding proposed road closures, diversions and delays, and any measures agreed with such groups to address any adverse effects or inconvenience that may arise; and
- g. identification of any measures for the purposes of mitigating adverse traffic effects of construction traffic, including safety matters (such speed restrictions and signage), relating to cyclists, pedestrians, disabled persons, and schoolchildren.

Advice note:

1. If temporary road closure is required, additional time may be necessary to allow the Road Controlling Authority to complete the consultation and give the public notices required under section 342 and schedule 10 of the Local Government Act 1974.

Construction Entrance-ways Off Public Roads

50. Prior to the commencement of construction, Transpower shall undertake a survey of the condition of the roads in the immediate vicinity of construction entranceways off public roads (consisting of a photographic survey).

51. Transpower shall repair any damage to entranceways and public roads in the vicinity of those entranceways resulting from impacts of its construction traffic.

General Advice Note

1. In relation to the ARI-PAK A towers outside of the designated area, Transpower shall use its best endeavours to establish and follow the procedures in the conditions in relation to cultural/spiritual matters, construction noise, the preparation of the construction management plan and pre-construction activities.

Attachments

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Maps of the Designation



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Maps from Appendix V of the Board of Inquiry

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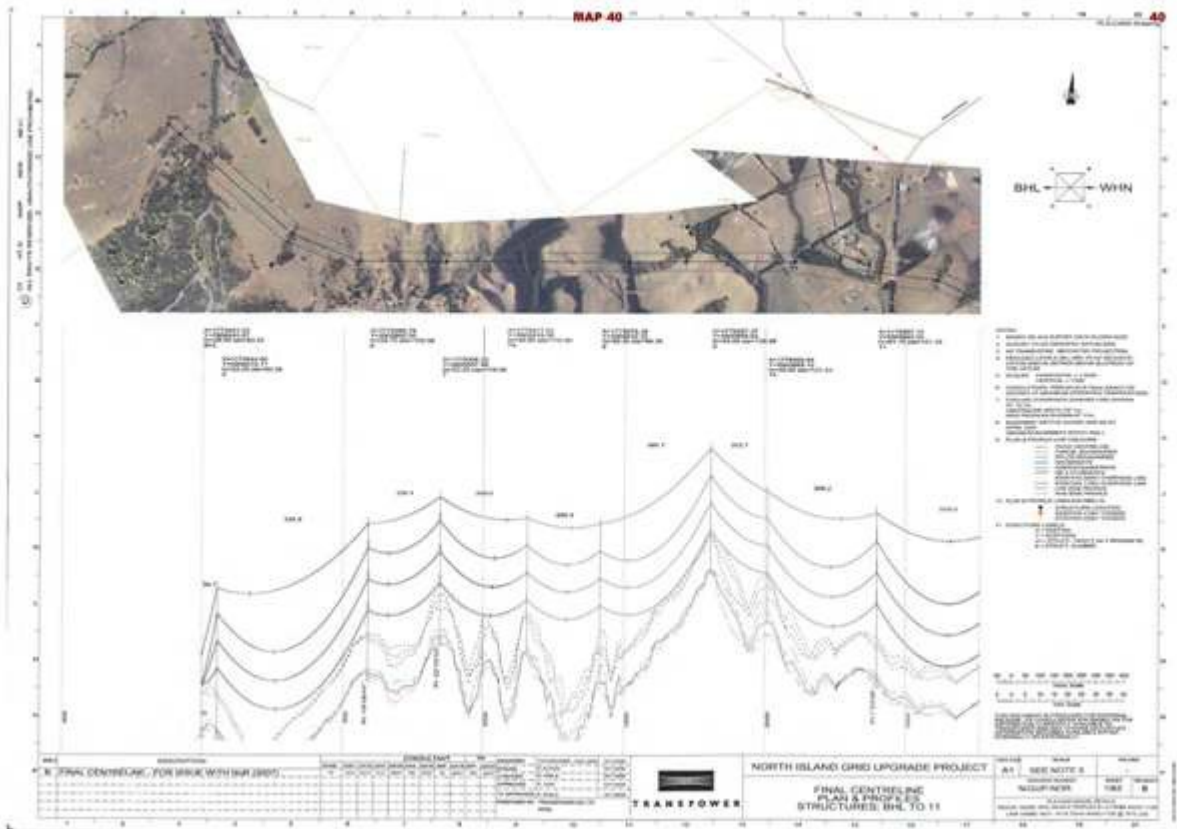
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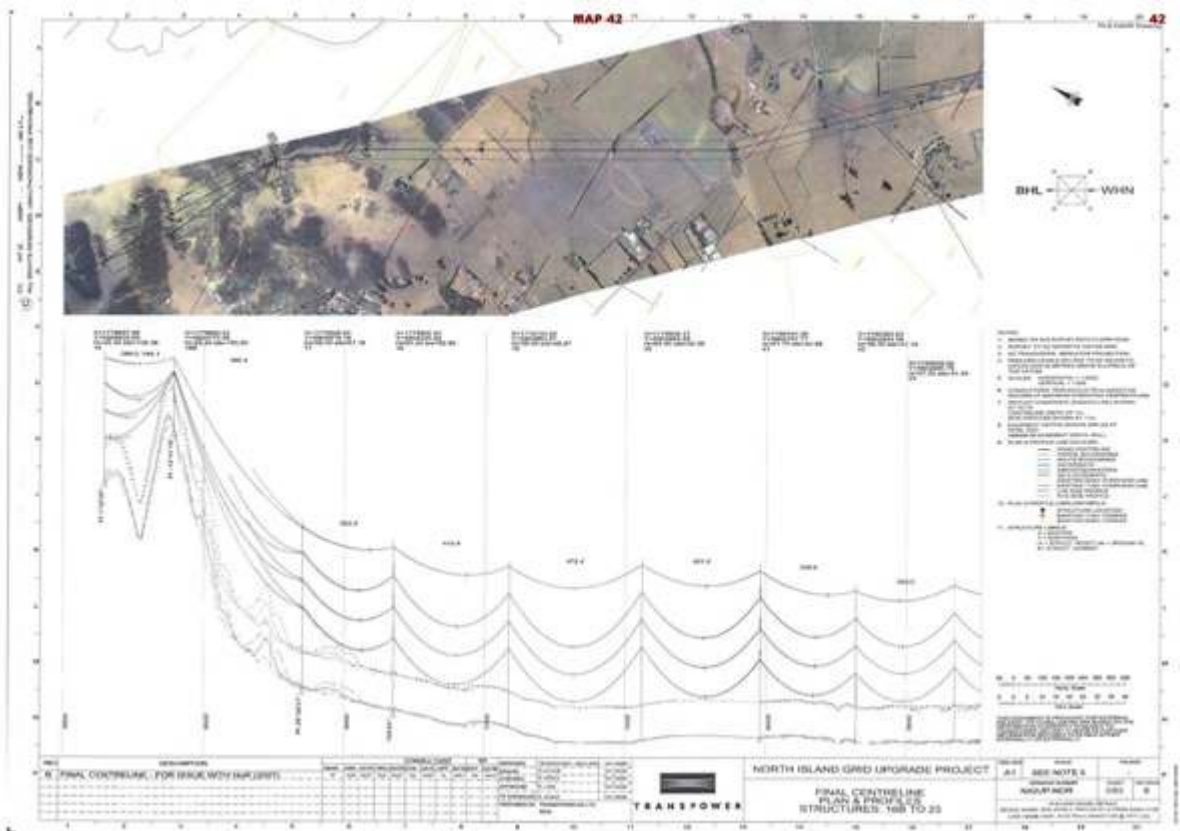
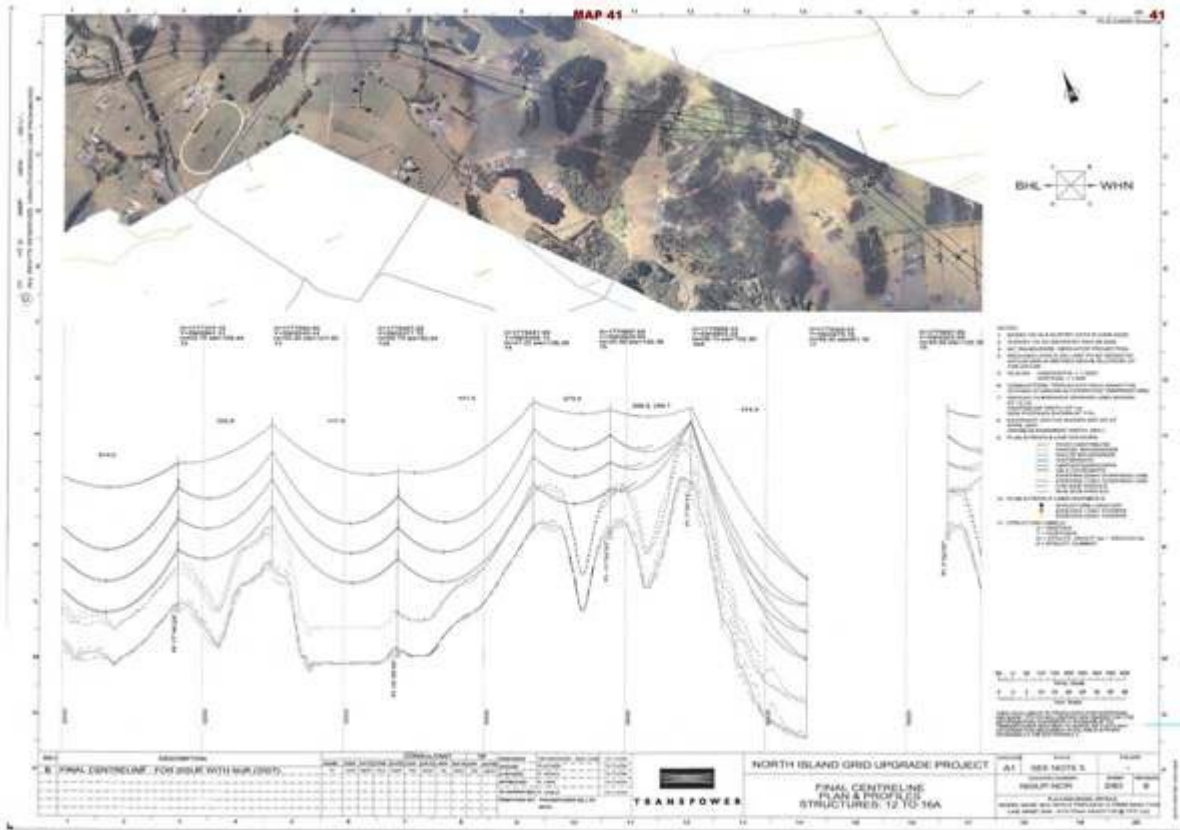
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OVERHEAD LINE SECTION: MANUKAU CITY COUNCIL (Route Sections 1-3, Towers 6-33) CONDITIONS

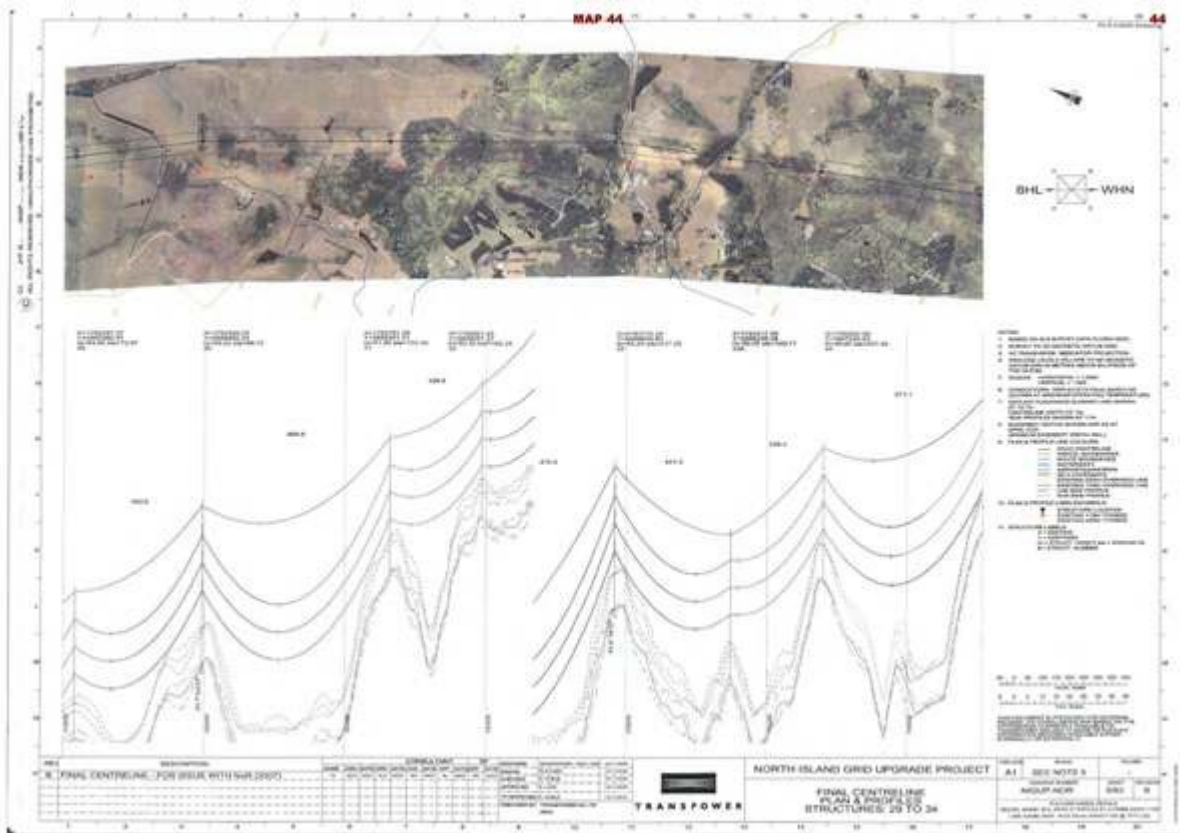
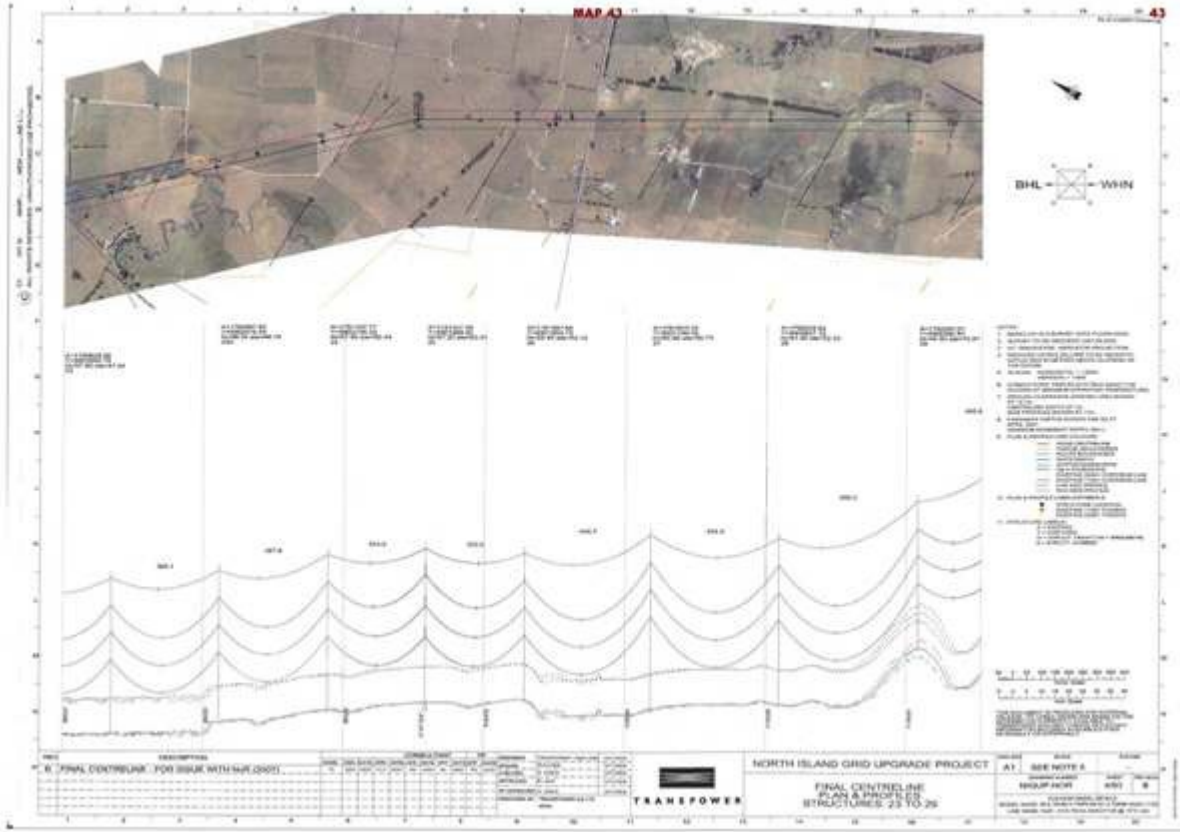
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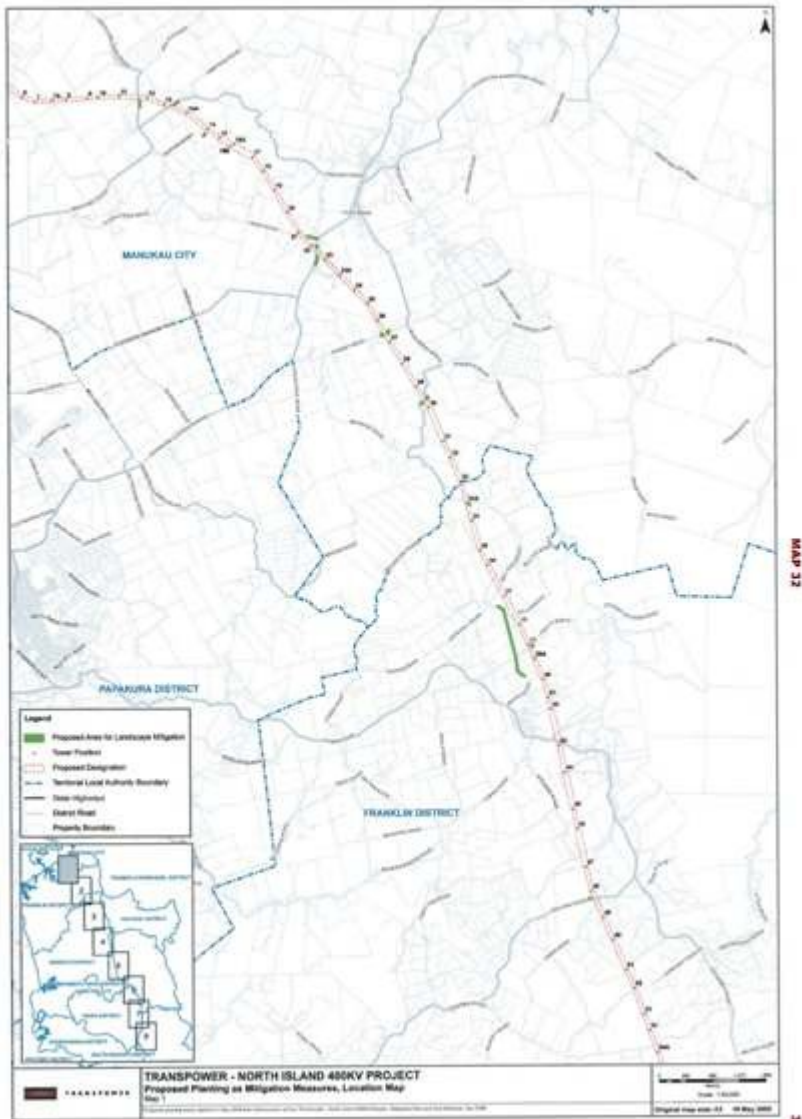
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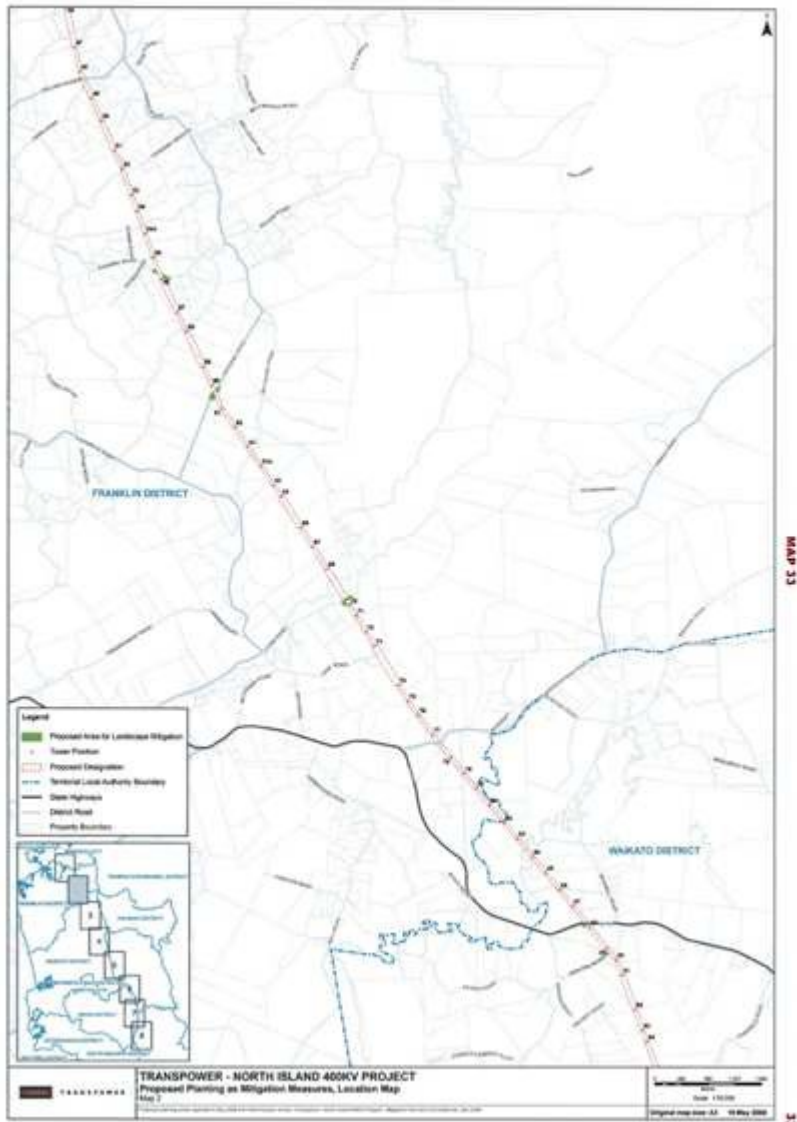
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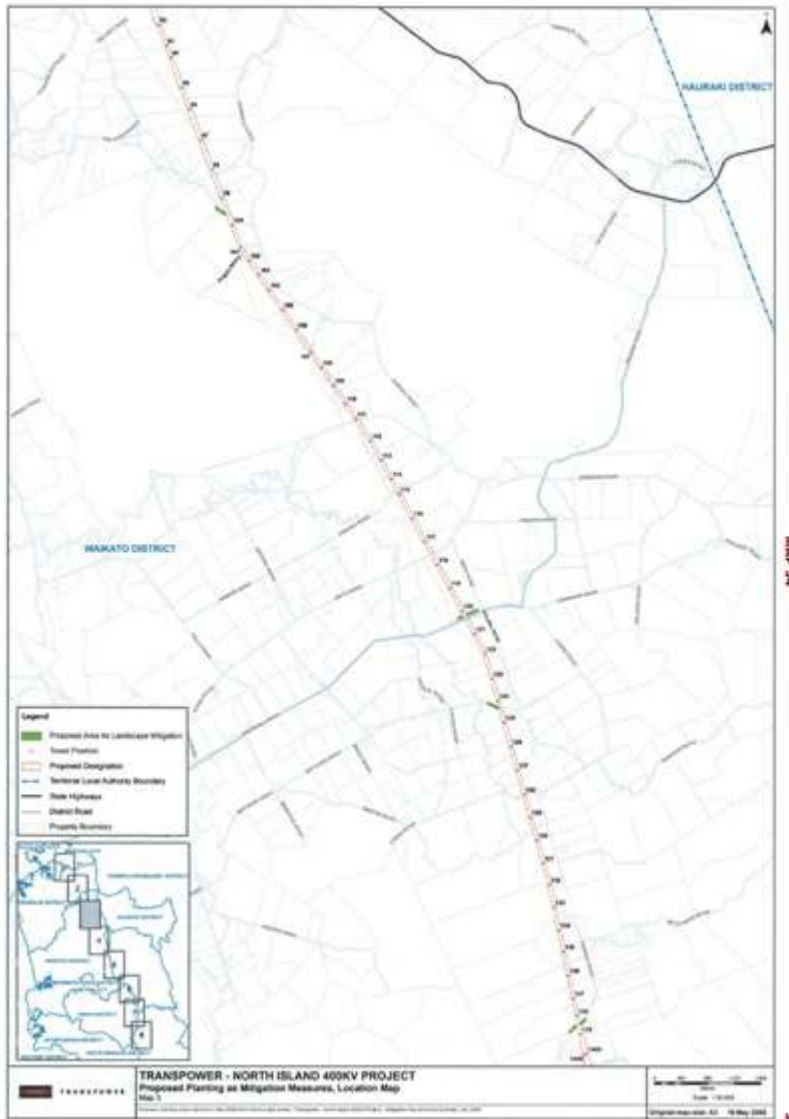
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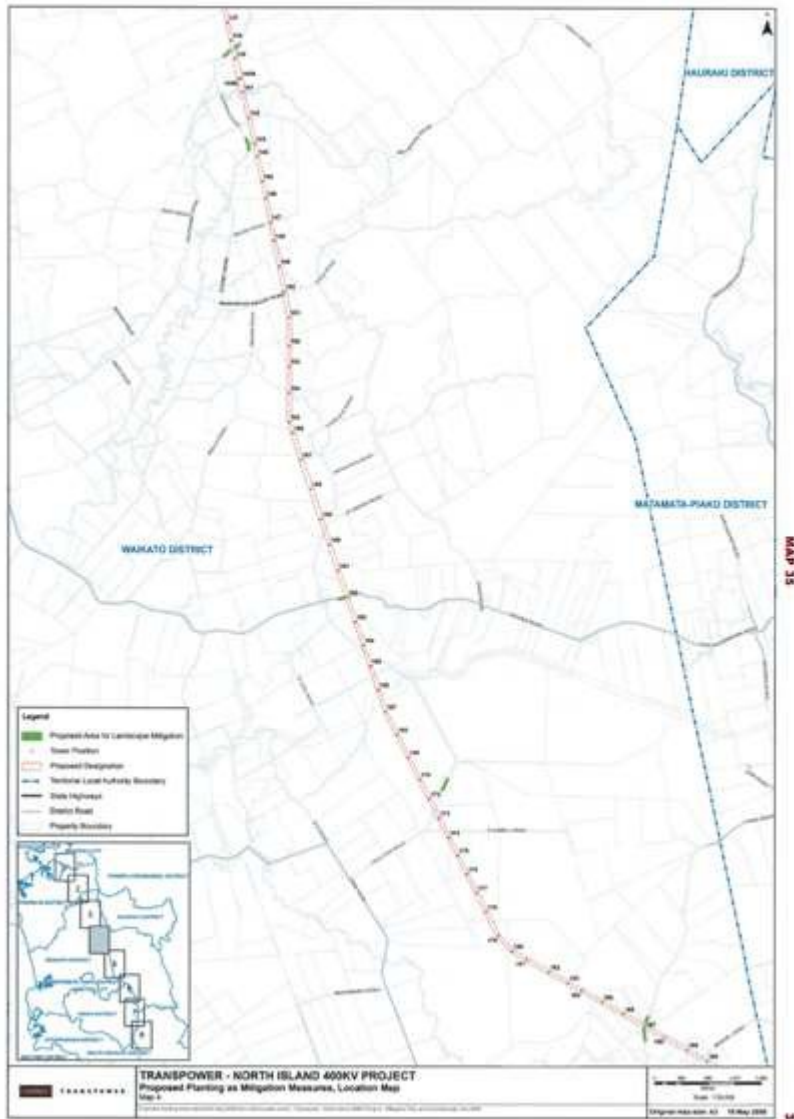
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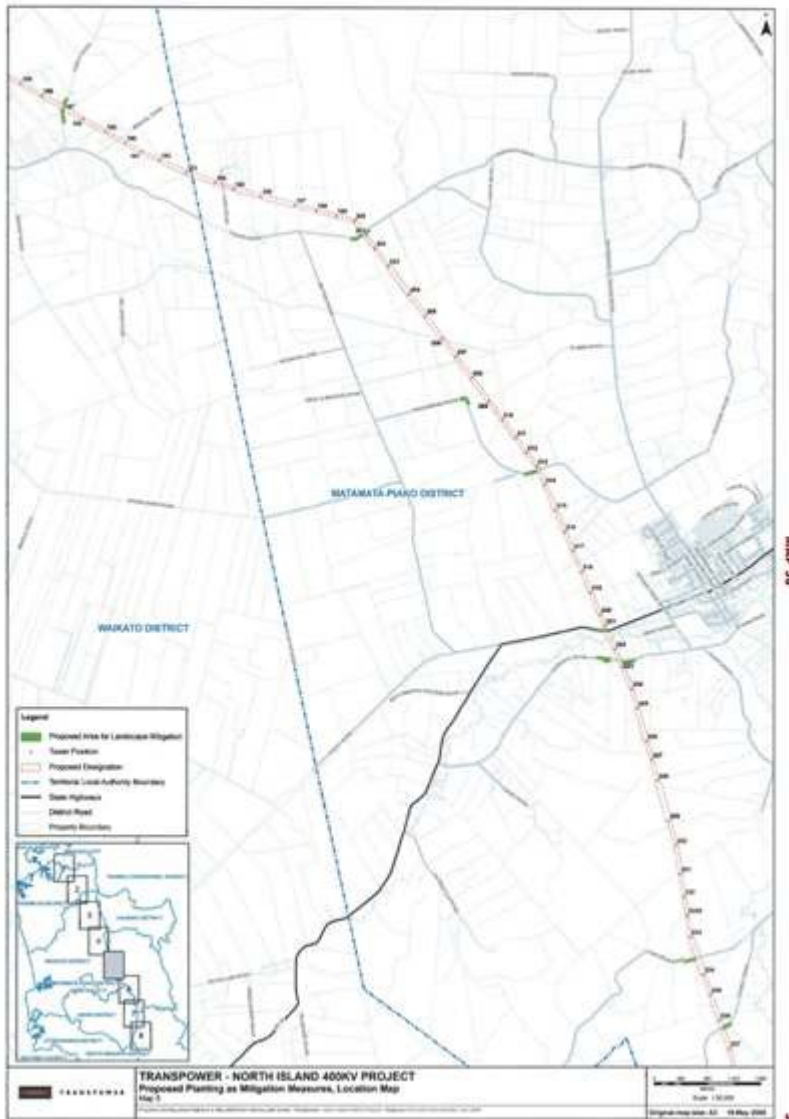
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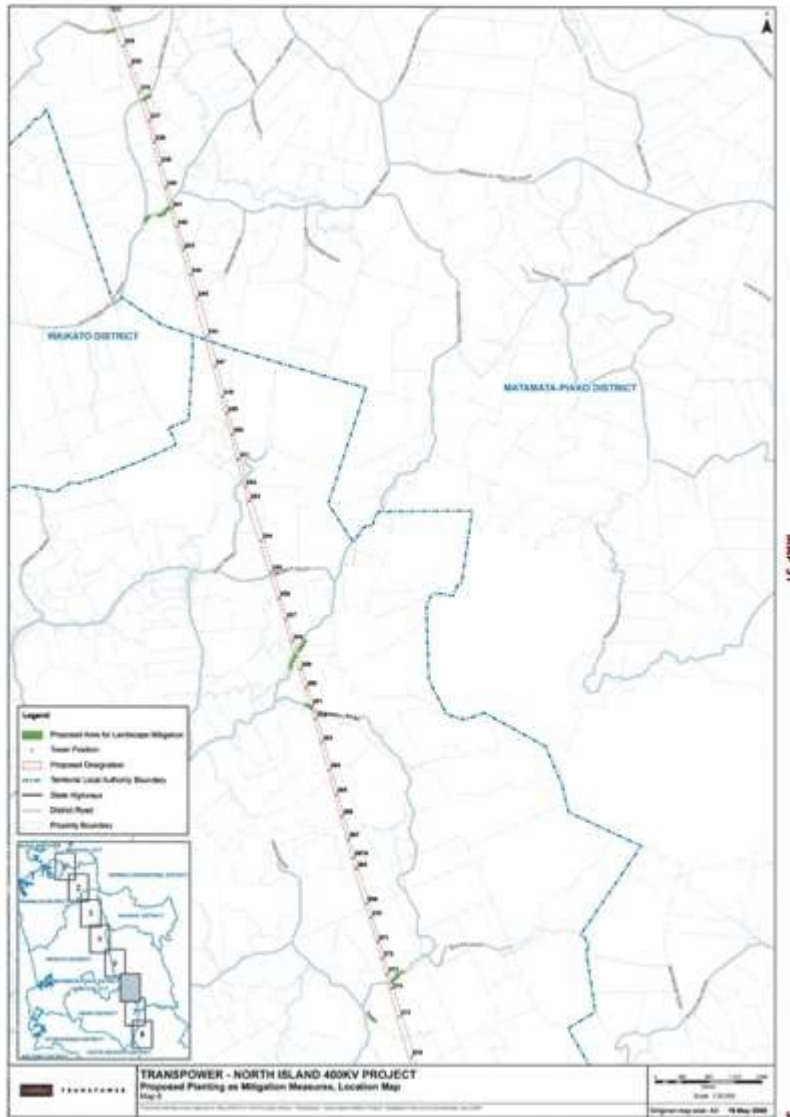
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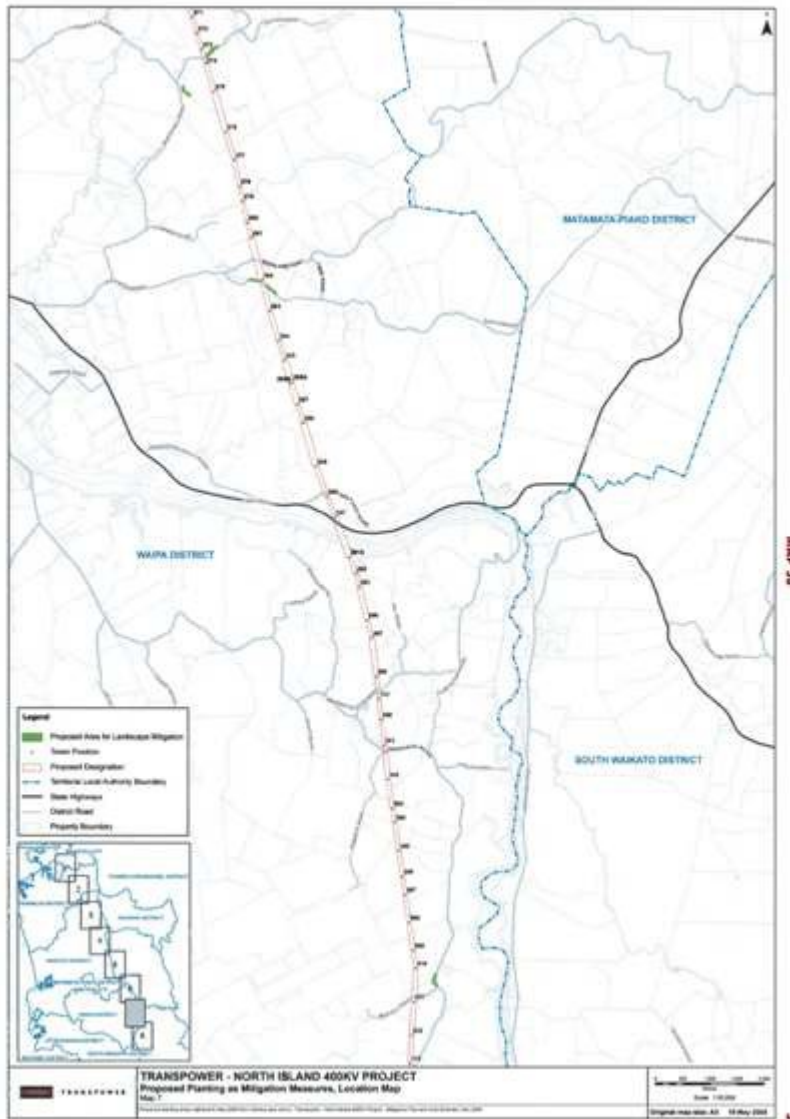
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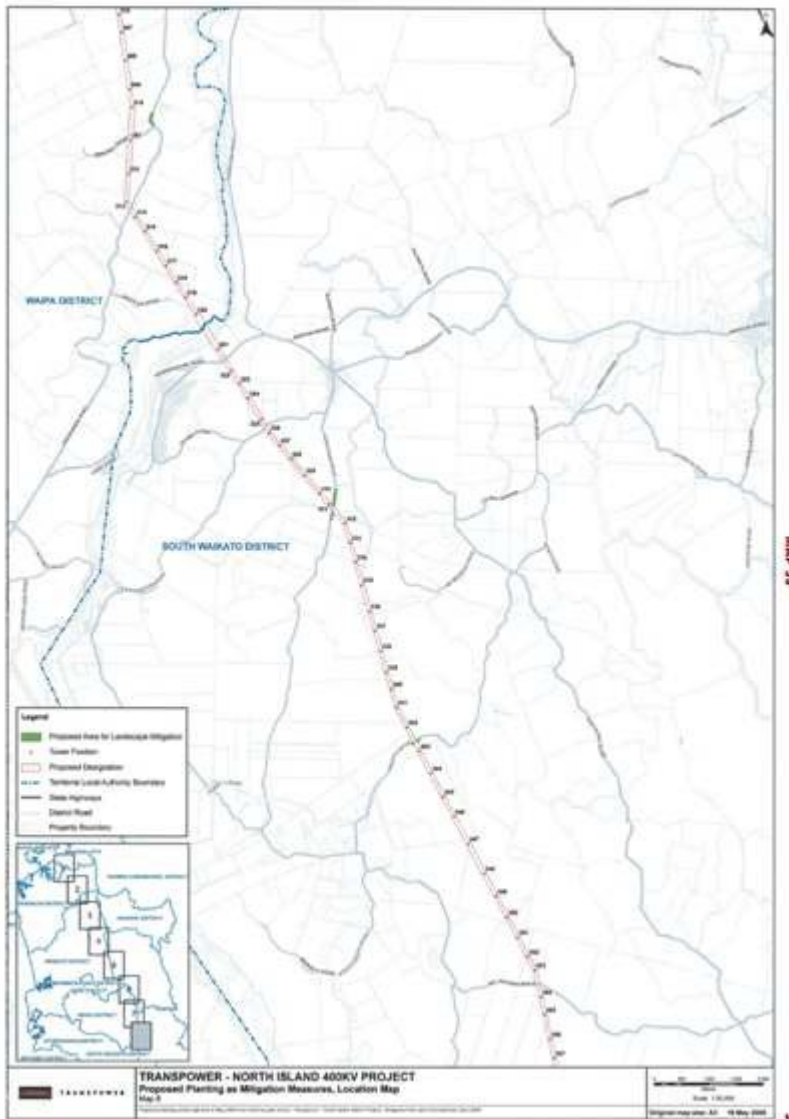
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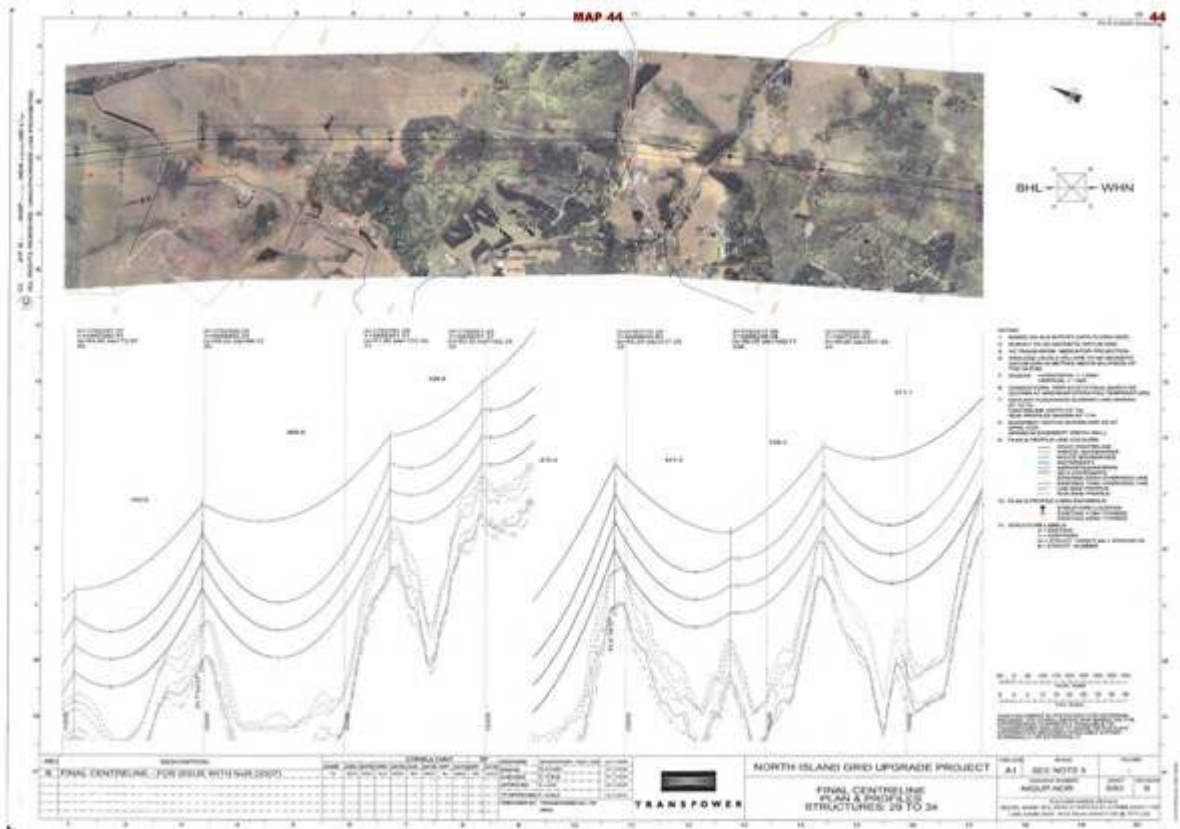


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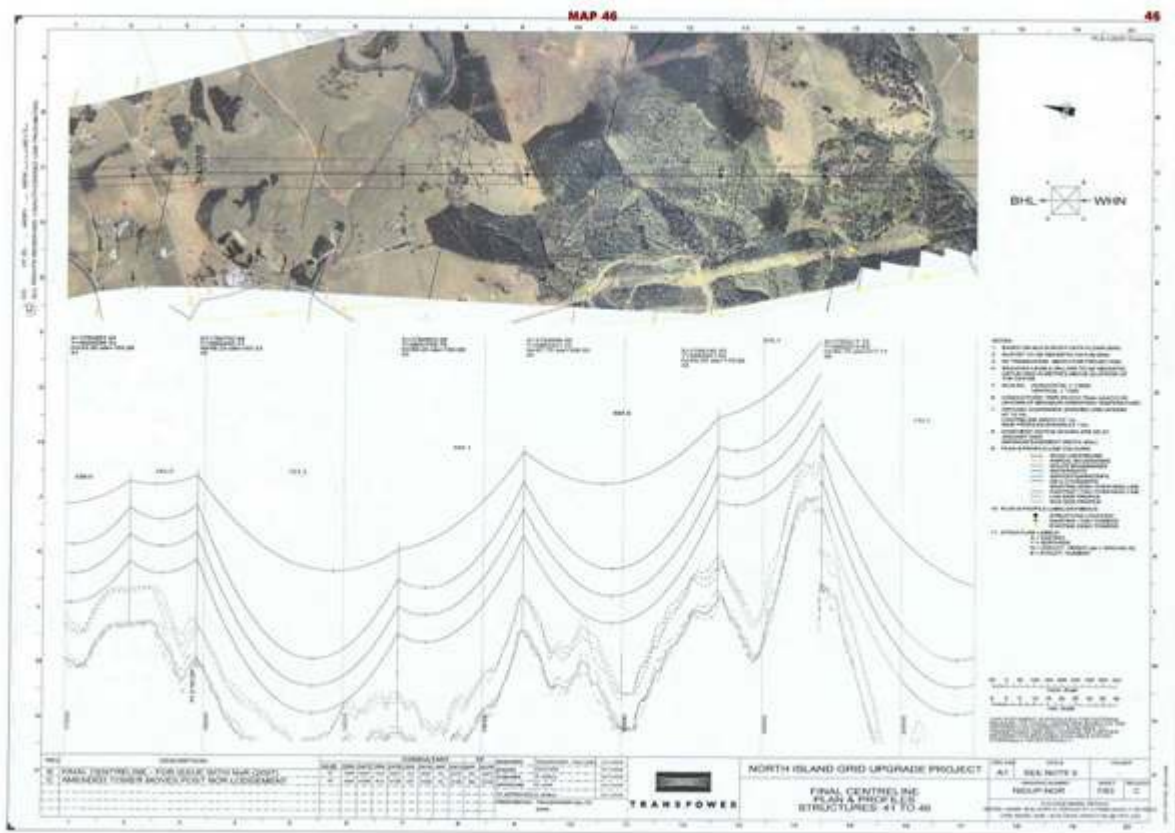
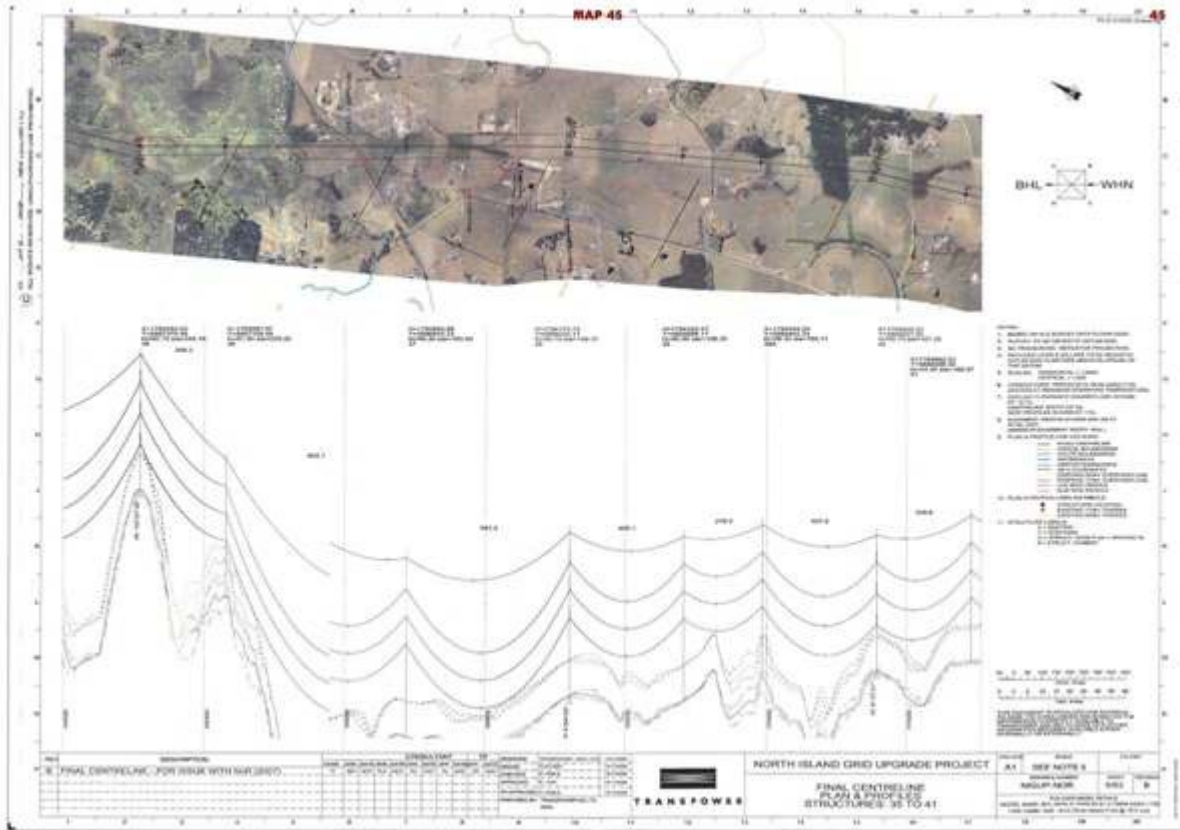
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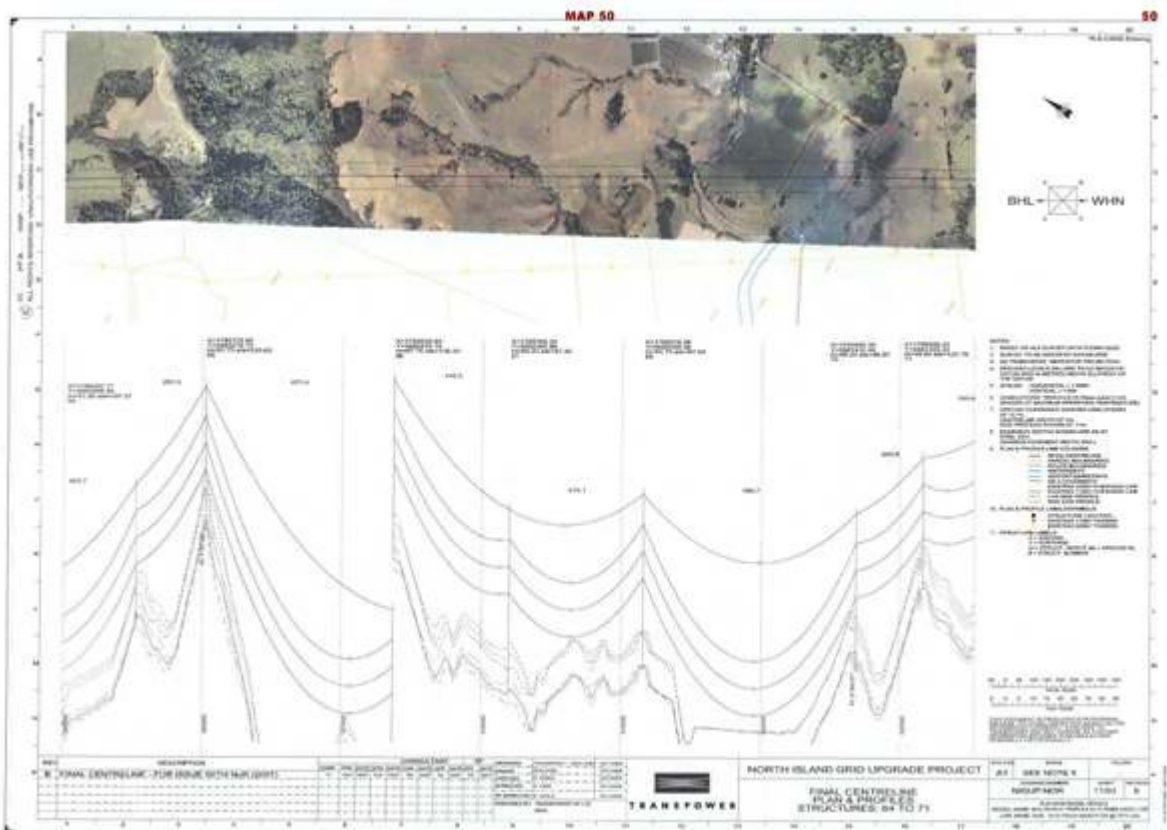
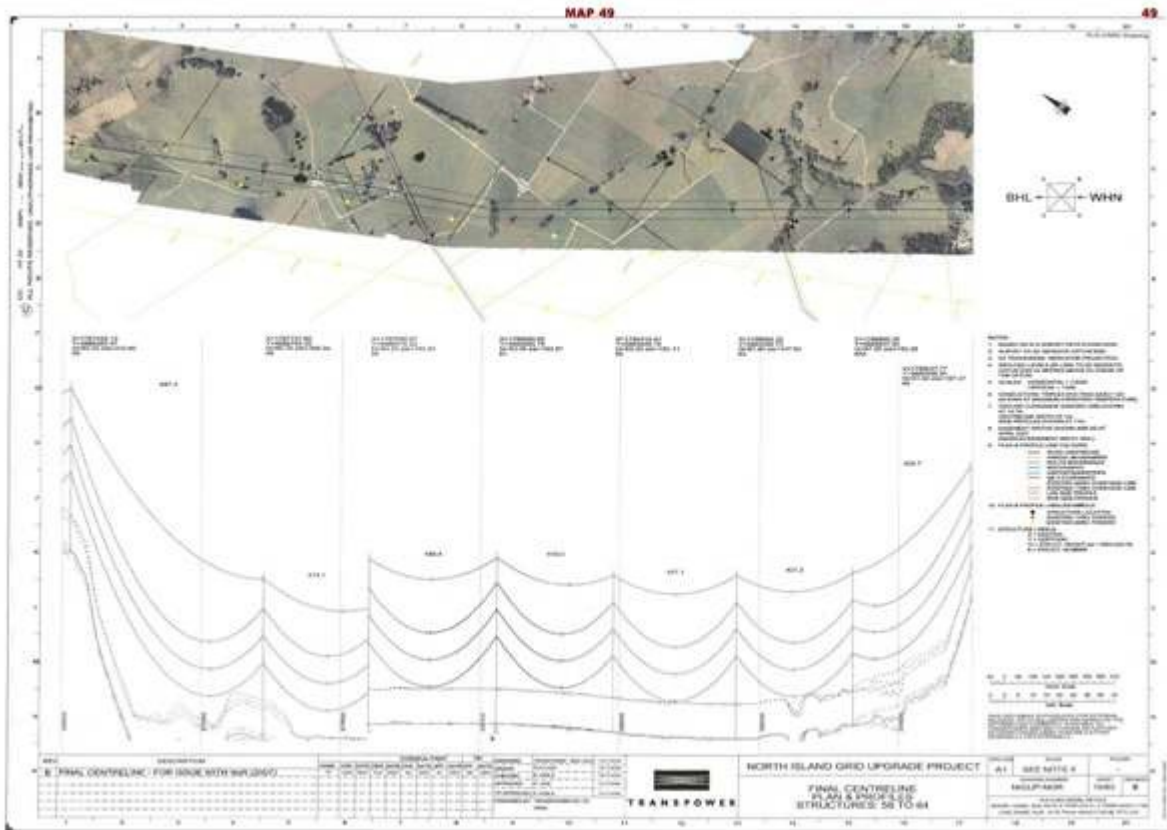
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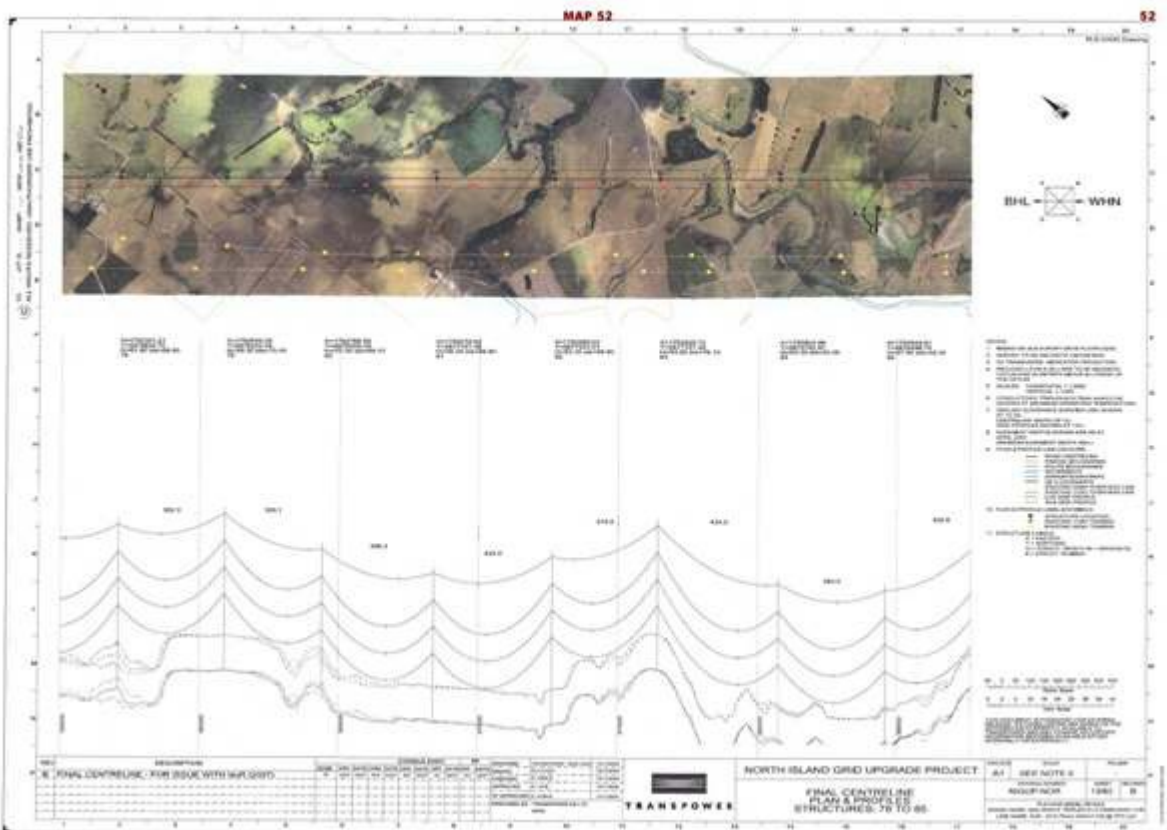
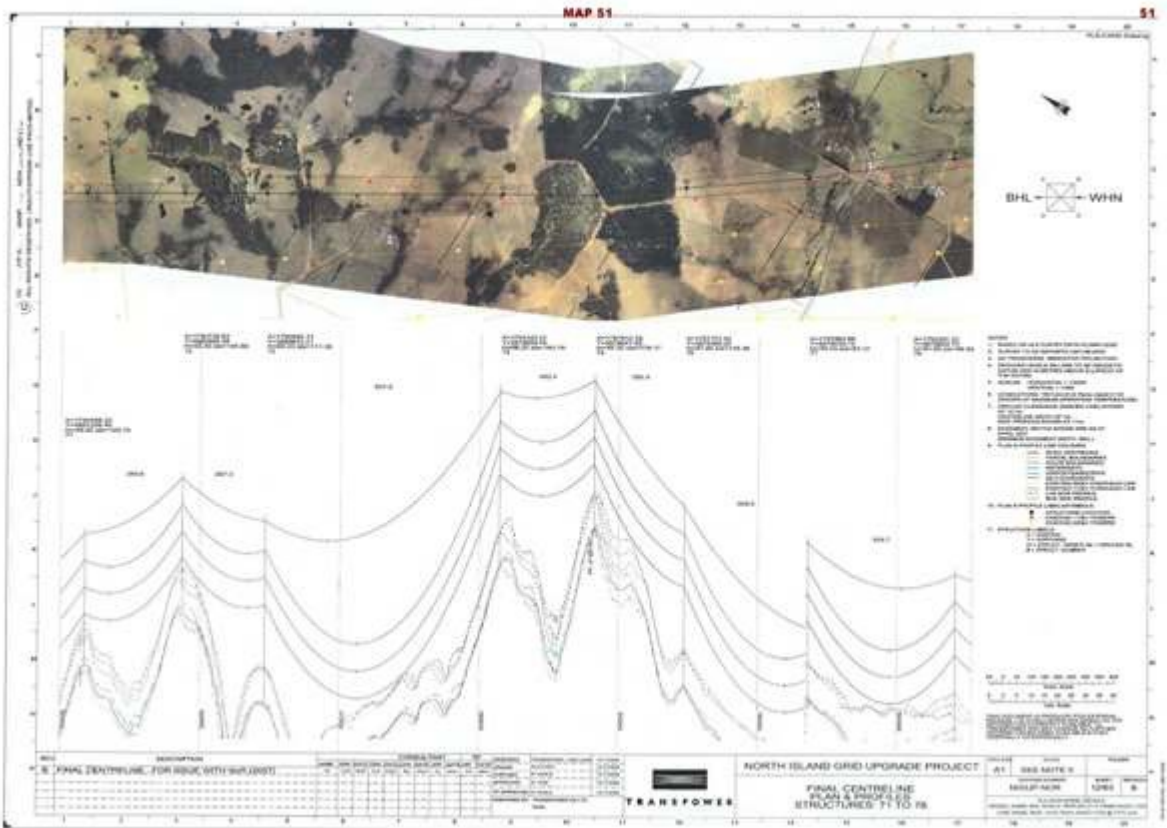
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Schedule of Legal Descriptions

Parcel ID/Appellation	
-	5232658

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Lo t 1 DP 209513	4794052
Lo t 3 DP 325254	Lot 2 DP 120924
Lo t 2 DP 325254	Pt Allot 129 Parish of Hunua
Lo t 2 DP 209513	5214773
Lo t 1 DP 176537	Lot 2 DP 370403
Lo t 1 DP 195884	Lot 1 DP 370403
Lo t 1 DP 146072	Lot 6 DP 120523
Pt Lo t 2 DP 10040	Lot 7 DP 120523
Lo t 1 DP 111461	
Lo t 3 DP 146072	Lot 3 DP 120523
Lo t 2 DP 328163	
5217146	Lot 3 DP 347436
Lo t 1 DP 103034	Lot 2 DP 135571
Pt Lo t 1 Deed s Plan 218	Lot 6 DP 135571
5216214	Pt Allot 52 Parish of Hunua
Lo t 4 DP 169254	Lot 2 DP 182315
Lo t 3 DP 169254	Pt Lot 1 DP 14602
Lo t 2 DP 153991	Lot 5 DP 135571
Pt Lo t 1 DP 73462	Lot 1 DP 135571
Lo t 1 DP 153991	5235233
Pt Allo t 24 Par ish of Wair oa	
Lo t 4 DP 142829	Lot 4 DP 105171
Lo t 3 DP 149875	Allot 50D Parish of Hunua
Sect io n 1 SO 68169	Lot 8 DP 200484
Lo t 4 DP 149875	
Lo t 5 DP 142829	
Lo t 2 DP 153296	Lot 1 DP 84999
Lo t 3 DP 203599	Lot 1 DP 204853
Lo t 2 DP 203599	Sec 1 SO 64526
Lo t 1 DP 203599	
Lot 1 DP 429956	5213027
Lo t 2 DP 203599	5266523
Lo t 1 DP 203599	Lot 2 DP 140864
Lo t 1 DP 142829	Lot 3 DP 140864
5217346	5207236
Pt Allo t 2 Par ish of Wair oa	Pt Allot 96 Parish of Opaheke
	5208904
5239649	Lot 1 DP 127133
Lo t 3 DP 142381	Lot 2 DP 127133
Lo t 1 DP 142381	Lot 3 DP 127133
5265199	Lot 6 DP 127134

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Lo t 2 DP 390056	Lot 4 DP 127133
Lo t 3 DP 390056	Lot 2 DP 141886
Lot 1 DP 442622	Pt Allot 126 Parish of Opaheke
Lo t 1 DP 154672	Lot 9 DP 138548
5212735	5217037
Lot 2 DP 442622	Lot 8 DP 163302
Pt Allot 145 Parish of Hunua	Pt Allot 203 Parish of Opaheke
Pt Lo t 1 DP 60835	5215321
Lot 1 DP 62602	
Lot 1 DP 157726	
5215293	Lot 2 DP 127091
Lot 1 DP 330262	Lot 1 DP 127091
Allot 147 Parish of Hunua	5212061
Lo t 1 DP 157302	Part Lot 2 DP 77813
5213437	5228134
	Lot 8 DP 7824
Lot 2 DP 90235	Lot 2 DP 391823
Lot 2 DP 192322	Lot 9 DP 7824
Lot 2 DP 409706	Lot 10 DP 7824
5227558	Lot 4 DP 314889
Lot 1 DP 440924	5225789
Pt Allot 155 Parish of Hunua	Pt Lot 1 DP 11430
Pt Allot 156 Parish of Hunua	Lot 3 DP 11430
5265327	Lot 11 DP 7824
Lot 1 DP 98276	
Lot 2 DP 383851	5239030
Lot 2 DP 120924	Allot 114 Parish of Otau
Lot 2 DP 383851	PT Allot 138 Otau Parish
5236508	Allot 135 Otau Parish
Lot 2 DP 98276	Pt Allot 129 Parish of Hunua
Pt Allot 92 Parish of Hunua	Pt Allot 87 Parish of Hunua
Pt Allot 88 Parish of Hunua	Lot 2 DP 444182
Pt Allot 234 Parish of Hunua	Lot 1 DP 444182
Lot 1 DP 421355	Lot 2 DP 436634
Lot 1 DP 430006	Lot 2 DP 430006
Lot 2 DP 447178	

8513 Otahuhu Electricity Substation

Designation Number	8513
Requiring Authority	Transpower New Zealand Ltd

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Location	1 Gridco Road and 2 Helabys Road, Otara
Rollover Designation	Yes
Legacy Reference	Manukau 297, Auckland Council District Plan (Manukau Section) 2002
Lapse Date	Given effect to (i.e. no lapse date)

Description

Electricity transmission - the operation, maintenance and upgrade of the existing Otahuhu Substation, the construction of a new 220kV substation, installation of 220kV underground cable circuits, and associated works as part of the upper North Island Grid Upgrade Project, works associated with other upgrade projects, and ancillary activities.

The nature of the works is described more particularly in Part IV (excluding section 12 in relation to suggested conditions), and also in Parts II and X of the Notices of Requirement Documentation (dated April 2007).

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. works in the immediate vicinity of the site that has been exposed shall cease;
 - b. the site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. the site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

2. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (i.e. when there are no faults in the transmission system).

Radio Frequency Interference

3. All works shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

4. In designing and constructing the work, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

5. Substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

6. All exterior lighting shall be designed to comply with:
 - a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1;

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- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

7. Any new equipment (such as transformers, fans and circuit breakers) required as part of the Upper North Island Grid Upgrade Project shall be designed and operated to ensure that the following noise limits shall not be exceeded:

- a. Within the boundary of any Business Zone site or any Open Space Zone outside of the designation:

All times 55 dBA L₁₀; and

- b. At or within the boundary of any residentially zoned site outside of the designated area:

- i. All days 7 am to 10 pm 50 dBA L₁₀;

- ii. All nights 10 pm to 7 am 40 dBA L₁₀; and

- iii. All nights 10 pm to 7 am 70 dBA L_{max}

8. Sound levels shall be assessed in accordance with NZS6802:1991 Assessment of Environmental Sound.

9. A design report shall be provided to the satisfaction of the council prior to the installation of any new noise generating substation equipment that demonstrates compliance with these limits.

10. Within one month of installation, the new equipment shall be assessed at source for its sound power level using EN60076-10:2001-05 Power Transformers Part 10 Determination of Sound Levels. Sound levels shall then be predicted at the designation boundary. Monitoring and prediction shall be undertaken by a suitably qualified and experienced person within one month of the commissioning of any new equipment. The results of the noise monitoring shall be made available to the Council upon request.

11. Transpower shall review the noise levels and report to council at the time of each designation roll-over on progress that has been made to reduce noise levels progressively as a result of any necessary replacement of transformers.

Advice note:

1. The existing noise levels at the Otahuhu Substation (except for construction and maintenance works) have been predicted as 52 dBA L₁₀ at Nos 8, 12 and 16 Waipapa Crescent. These sound levels contain special audible characteristics and an assessment using NZS6802:1998 would cause any performance standard to be reduced by 5 dB.

Vibration

12. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

13. Any part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Construction Management Plan (CMP)

14. At least 30 days prior to commencement of any construction activity on the site, Transpower shall submit a construction management plan to the Council's Consents Officer. The Council's Consents Officer shall respond within 20 working days indicating whether approval is given or refused.

Approval shall not be unreasonably withheld. The construction management plan shall detail:

- a. The proposed earthworks methodology;

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- b. Storage and reuse of topsoil;
- c. On-site and off-site disposal of soil;
- d. Silt and dust control;
- e. Traffic management for delivery of substation equipment and materials (excluding transformers) and general construction activities;
- f. Temporary equipment storage;
- g. Site security and lighting;
- h. Procedures for temporary storage and handling of hazardous substances, including insulation oil;
- i. Compliance with designation conditions, including (where applicable) for:
 - i. Noise;
 - ii. Hours of operation;
 - iii. Accidental discovery protocol;
 - iv. Protection of known archaeological sites;
- j. Community information and liaison (including local marae); and
- k. Procedure for managing the accidental discovery of archaeological sites or sites of significance to Māori, including contractor training prior to commencement of work.

Construction and Maintenance Noise

15. Subject to condition 16, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

16. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).

17. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.

18. The noise management plan required by condition 17 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 204791	Lot 1 DP 201385

8514 Pakuranga Electricity Substation

Designation Number	8514
Requiring Authority	Transpower New Zealand Ltd
Location	109 Golfland Drive, Pakuranga
Rollover Designation	Yes
Legacy Reference	Designation 298, Auckland Council District Plan (Manukau Section) 2002

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Lapse Date	Given effect to (i.e. no lapse date)
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Purpose

Electricity transmission - the ongoing use, maintenance and operation of the Pakuranga Electricity Substation, the development of the substation site as part of the upper North Island Grid Upgrade Project and associated works, and works associated with other upgrade projects, and ancillary activities.

The nature of the works is described more particularly in Part III (excluding section 12 in relation to suggested conditions), and also in Parts II and X of the Notices of Requirement Documentation (dated April 2007).

Conditions

Documents

1. The initial construction works associated with the North Island Grid Upgrade Project shall be generally in accordance with the plan entitled Pakuranga Substation NIGUP–Stage 2 Layout–Isometric, NTS 16/03/2007 PAKSKE1002-1, being page 10 of Part III of the Notices of Requirement Documentation (dated April 2007).

Cultural / Spiritual

2. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:

- a. Works in the immediate vicinity of the site that has been exposed shall cease;
- b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
- c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the council and, in the case of human remains, the New Zealand Police; and
- d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Landscaping

3. A visual mitigation and ecological planting plan shall be prepared for the site and submitted at least two months prior to construction of works associated with the Upper North Island Grid Upgrade Project to Council's Manager-Resource Consents and Compliance, for approval/certification. The Manager-Resource Consents and Compliance shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld. The plan shall be in general accordance with the landscape mitigation concept plan being Map 1 of Appendix V and (subject to archaeological condition 6(d)) shall consist of:

- a. Planting around the south and west sides of the substation site;
- b. Planting native plants indigenous to the locality on the terrace on the south and west sides of the substation site adjacent to the substation platform, to connect with and extend restoration of the headwaters of the Pakuranga Creek, and including species such as kahikatea, tōtara, kānuka and cabbage trees, and such other species as are common to the locality;
- c. A description of the name (including botanical), numbers, location, spacing and size of the plant species to be used in mitigation and ecological planting;
- d. Provided that suitable sources are available, all indigenous plants shall be propagated from a local, naturally occurring, source.

4. Once approved, the visual mitigation and ecological planting plan required under condition 3 may be altered or updated at any time with the approval of the Manager–Resource Consents and Compliance. The Manager shall not unreasonably withhold his or her approval, in particular for any changes to the plan required as a result of expansion of facilities within the substation site, irrespective of whether the extent of landscaping is reduced as a result of that expansion.

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5. Transpower shall implement the visual mitigation and ecological planting plan within the first planting season following completion of bulk earthworks on the site; and shall thereafter maintain the planting to the satisfaction of the Council's Manager—Resource Consents and Compliance.

Archaeology: known archaeological sites R11/2381, R11/2382 and R11/2398

6. Before any works are carried out associated with the underground cable installation within the substation site for the Upper North Island Grid Upgrade Project, Transpower shall undertake the following:

- a. Sites R11/2381 and R11/2382 shall be subject to cadastral survey prior to Site Works Plans being finalised.
- b. Should it be practicable to avoid either or both of the sites, the site or sites should be marked on all construction plans and have temporary fencing or barriers around their extent during construction to avoid accidental damage.
- c. All works in the stormwater management area south-east and adjacent to the Pakuranga Substation, where significant earthworks have not occurred in the past and, involving the stripping of topsoil, should be monitored by an archaeologist.
- d. Any planting plan developed in accordance with condition 3 should either avoid the midden sites, should it be determined that parts of them will remain after construction, or involve replanting with shallow-rooted species.

Advice notes:

1. *Maintaining the archaeological sites in mown grass would be the most desirable outcome.*
2. *This condition is subject to any conditions of any archaeological authority granted under the Historic Places Act 1993.*

Electric and Magnetic Fields (EMF)

7. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

8. All works shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

9. In designing and constructing the work, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

10. Substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

11. All exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy TP GS41.01, Issue 3, April 2006.

Operational Noise

12. All activities within the designation (except for construction and maintenance) shall be designed and operated to ensure that the following noise limits shall not be exceeded at or within the boundary of any residentially zoned site:

- a. All days 7.00 am to 10 pm 45 dBA L10;

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- b. All nights 10 pm to 7 am 35 dBA L10; and
- c. All nights 10 pm to 7 am 70 dBA Lmax.

13. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Environmental Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

14. Sound monitoring shall be undertaken by a suitably qualified and experienced person within one month of the commissioning of any new transformer. The results of the noise monitoring shall be made available to the Council upon request.

Vibration

15. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

16. Any part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Construction Management Plan (CMP)

17. At least 30 days prior to commencement of any construction activity on the site, Transpower shall submit a construction management plan to the Council's Consents Officer. The Council's Consents Officer shall respond within 20 working days indicating whether approval is given or refused.

Approval shall not be unreasonably withheld. The construction management plan shall detail:

- a. The proposed earthworks methodology;
- b. Storage and reuse of topsoil;
- c. On-site and off-site disposal of soil;
- d. Silt and dust control;
- e. Traffic management for delivery of substation equipment and materials (excluding transformers) and general construction activities;
- f. Temporary equipment storage;
- g. Site security and lighting;
- h. Procedures for temporary storage and handling of hazardous substances, including insulation oil;
- i. Compliance with designation conditions, including (where applicable) for:
 - i. Noise;
 - ii. Hours of operation;
 - iii. Accidental discovery protocol;
 - iv. Protection of known archaeological sites;
- j. Community information and liaison (including local marae); and
- k. Procedure for managing the accidental discovery of archaeological sites or sites of significance to Māori, including contractor training prior to commencement of work.

Construction and Maintenance Noise

18. Subject to condition 19, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

19. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).

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20. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999; and the works shall be undertaken in accordance with that noise management plan.

21. The noise management plan required by condition 20 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Traffic Management Plan (TMP)

22. A traffic management plan (TMP) shall be prepared in relation to the transformer transportation from the port of arrival to the substation, after consultation with the following:

- a. The relevant road-controlling authorities;
- b. New Zealand Transport Agency (NZTA);
- c. New Zealand Police; and
- d. Key stakeholders identified by the organisations listed above in (a)–(c).

23. The TMP shall be submitted to the Council and NZTA for approval at least one month prior to transformer transportation to the substation site. The Council and NZTA shall respond within 20 working days indicating whether approval is given or refused (such approval shall not be unreasonably withheld). The TMP shall contain a methodology statement specifying the route and providing full details of:

- a. Deviations to avoid low over-bridges;
- b. Temporary bridge strengthening (where required);
- c. Road closures or other temporary traffic control measures required; and
- d. Contingency plans, should the transporter have mechanical problems.

Construction Traffic

24. During construction associated with the 220-kV switchyard, all access to the substation site associated with construction of the substation equipment shall be via the southern connection of Golfland Drive and Botany Downs Road.

25. All parking associated with construction activities shall be provided within the substation site.

Attachments

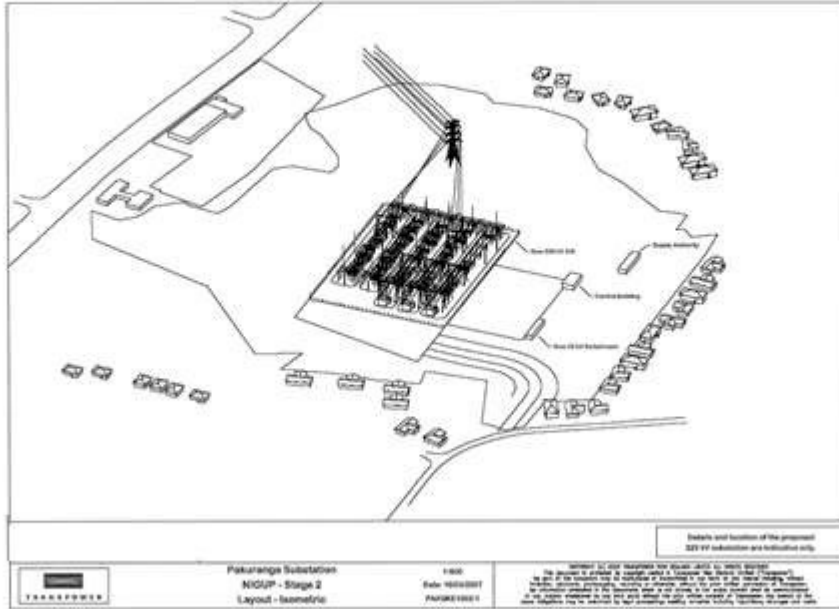
Pakuranga Substation NIGUP Stage 2 Layout Isometric

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Transpower NZ Ltd
North Island Grid Upgrade Project
Pakuranga Substation

Figure 4: Likely Future Development at the Pakuranga Substation



Scale: 1:1000
Map Number: 20000
Page 10
Date: 10/10/2011
Project: NIGUP
Page 10 of 10
Set 1 - Part 1

Map 1 of Appendix v of the Board of Inquiry Decision

INDEX OF MAPS AND PLANS REFERRED TO IN PROPOSED DESIGNATION CONDITIONS

SET 1

MAP	PLAN DESCRIPTION	PAGE
PAKURANGA SUBSTATION CONDITIONS		
Map 1	Landscaping mitigation concept plan (Map Book 6, Section 2)	1

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Schedule of Legal Descriptions

Parcel ID	
Pt Lot 1 DP 143331	Lot 2 DP 167430
Lot 146 DP 168165	Lot 77 DP 168324
Lot 81 DP 168324	Lot 82 DP 168324

8515 Brownhill Road Electricity Substation

Designation Number	8515
Requiring Authority	Transpower New Zealand Ltd
Location	16 Umbria Lane (near Brownhill Road), Whitford
Rollover Designation	Yes
Legacy Reference	Designation 299, Auckland Council District Plan (Manukau Section) 2002
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission- the construction, operation and maintenance of a transition station to connect the underground cable and overhead lines section of the upper North Island Grid Upgrade Project, including Tower 5 of the overhead line and additional support structures, and parts of the underground cables connecting with Pakuranga and Otahuhu Substations. Other works included in the designation on a staged basis are a 220 kV Gas-Insulated Switchgear (GIS) switching station and a 400kV GIS substation and associated works as part of the upper North Island Grid Upgrade Project, and ancillary activities.

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The nature of the works is described more particularly in Part V (excluding section 13 in relation to suggested conditions), and also in Parts II and X, of the Notices of Requirement Documentation (dated April 2007).

Conditions

Documents

1. The initial works to give effect to the designation of the Brownhill Transition Station/Substation shall be generally in accordance with Map 2 of Appendix V.

2. Tower 5 shall be a single-pole structure (monopole) and tower 4 shall be a six-pole termination structure.

Cultural / Spiritual

3. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:

a. Works in the immediate vicinity of the site that has been exposed shall cease;

b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;

c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Council and, in the case of human remains, the New Zealand Police; and

d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

4. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

5. All works shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

6. In designing and constructing the work, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

7. Substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

8. All exterior lighting shall comply with Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006.

Operational noise

9. All activities within the site (except for construction and maintenance) shall be designed and operated to ensure that the following noise limits shall not be exceeded beyond the boundary of the designation:

a. All days 7 am to 10 pm 55 dBA L₁₀;

b. All nights 10 pm to 7 am 45 dBA L₁₀; and

c. All nights 10 pm to 7 am 75 dBA L_{max};

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Except that any standby generators may operate at a noise level not exceeding 55 dBA L₁₀ at all times, measured within the notional boundary of any dwelling. Reliance on this limit should not exceed more than one successive night time period (10 pm to 7 am). Standby generators shall only be operated for maintenance purposes between the hours of 7 am to 10 pm.

10. All activities within the site (except for construction and maintenance) shall be designed and operated to ensure that the following noise limits shall not be exceeded within the notional boundary of any dwelling existing at the date of lodgement of the Notice of Requirement:

- a. All days 7 am to 10 pm 45 dBA L₁₀;
- b. All nights 10 pm to 7 am 35 dBA L₁₀; and
- c. All nights 10 pm to 7 am 65 dBA L_{max}.

11. Sound levels shall be measured and assessed in accordance with NZS6801:1991 Measurement of Sound and NZS6802:1991 Assessment of Environmental Sound.

12. Sound monitoring shall be undertaken by a suitably qualified and experienced person within one month of the commissioning of any new transformer. The results of the noise monitoring shall be made available to the council upon request.

Vibration

13. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

14. Any part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Visual Mitigation and Revegetation Plan

15. A visual mitigation and revegetation planting plan shall be prepared for the site and submitted at least two months prior to the commencement of initial construction on-site to Council's Manager–Resource Consents and Compliance for approval/certification. The Manager, Resource Consents and Compliance shall respond within 20 working days indicating whether approval is given or refused. Such approval shall not be unreasonably withheld. The plan shall be in general accordance with the landscape mitigation concept plan (Map 3 of Appendix V) and shall consist of:

- a. Excess cut and topsoil from the construction site shall be contoured to increase the height of the spur east of the substation platform and improve the growing conditions for screen planting proposed for this spur;
- b. Fast-growing trees typical of rural landscapes shall be planted on the spur, with the intention of reducing visibility of the substation site from the east;
- c. Native revegetation planting shall be carried out on lower slopes of the spur. This planting shall be similar in type to that undertaken in the rural residential subdivision on the opposite side of Brownhill Road. It shall be planted to the property boundary adjacent to the Turanga Creek. The intention of this planting is to provide longer-term screening and ecological and amenity benefit;
- d. Native revegetation planting will be carried out on the spur north-west of the substation platform to provide partial screening from the Regis Park area. Species shall include kānuka, tōtara and rewarewa;
- e. Native revegetation planting shall be carried out in the valley south-west of the substation site. The intention of this planting is to provide ecological and amenity benefits;
- f. A description of the name (including botanical), numbers, location, spacing and size of the plant species to be used in mitigation and ecological planting; and
- g. As far as practicable, all indigenous plants shall be propagated from a local, naturally occurring source.

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16. Once approved, the visual mitigation and revegetation planting plan required under condition 15 may be altered or updated at any time with the approval of the Manager–Resource Consents and Compliance. The Manager shall not unreasonably withhold his or her approval, and in particular for any changes to the plan required as a result of expansion of facilities within the substation site, irrespective of whether the extent of landscaping is reduced as a result of that expansion.

17. Transpower shall implement the visual mitigation and revegetation planting plan within the first planting season following completion of bulk earthworks and shall thereafter maintain the planting to the satisfaction of Council's Manager–Resource Consents and Compliance.

Construction Management Plan (CMP)

18. At least 30 days prior to commencement of any construction activity on the site, Transpower shall submit a construction management plan to the Council's Consents Officer. The Council's Consents Officer shall respond within 20 working days indicating whether approval is given or refused.

Approval shall not be unreasonably withheld. The construction management plan shall detail:

- a. The proposed earthworks methodology;
- b. Storage and reuse of topsoil;
- c. On-site and off-site disposal of soil;
- d. Silt and dust control;
- e. Traffic management for delivery of substation equipment and materials (excluding transformers) and general construction activities;
- f. Temporary equipment storage;
- g. Site security and lighting;
- h. Procedures for temporary storage and handling of hazardous substances, including insulation oil;
- i. Compliance with designation conditions, including (where applicable) for:
 - i. Noise;
 - ii. Hours of operation;
 - iii. Accidental discovery protocol;
 - iv. Protection of known archaeological sites;
- j. Community information and liaison (including local marae); and
- k. Procedure for managing the accidental discovery of archaeological sites or sites of significance to Māori, including contractor training prior to commencement of work.

Construction and Maintenance Noise

19. Subject to condition 20, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

20. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects particularly at times when the stricter noise limits apply (eg, at night-time).

21. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999; and the works shall be undertaken in accordance with that noise management plan.

22. The noise management plan required by condition 21 shall be submitted to Council's Consents Officer for approval, at least 20 working days prior to the works commencing. The Council's Consents Officer shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably

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withheld.

Traffic Management Plan (TMP)

23. A traffic management plan (TMP) shall be prepared in relation to the transformer transportation from the port of arrival to the substation site, after consultation with:

- a. The relevant road-controlling authorities;
- b. New Zealand Transport Agency (NZTA);
- c. New Zealand Police; and
- d. key stakeholders identified by the organisations listed above in (a)–(c).

24. The TMP shall be submitted to the Council and NZTA for approval at least one month prior to transformer transportation to the substation site. The Council and NZTA shall respond within 20 working days indicating whether approval is given or refused (such approval shall not be unreasonably withheld). The TMP shall contain a method statement specifying the route and providing full details of:

- a. Deviations to avoid low over-bridges;
- b. Temporary bridge strengthening (where required);
- c. Road closures or other temporary traffic control measures required; and
- d. Contingency plans, should the transporter have mechanical problems.

Brownhill Road Upgrade

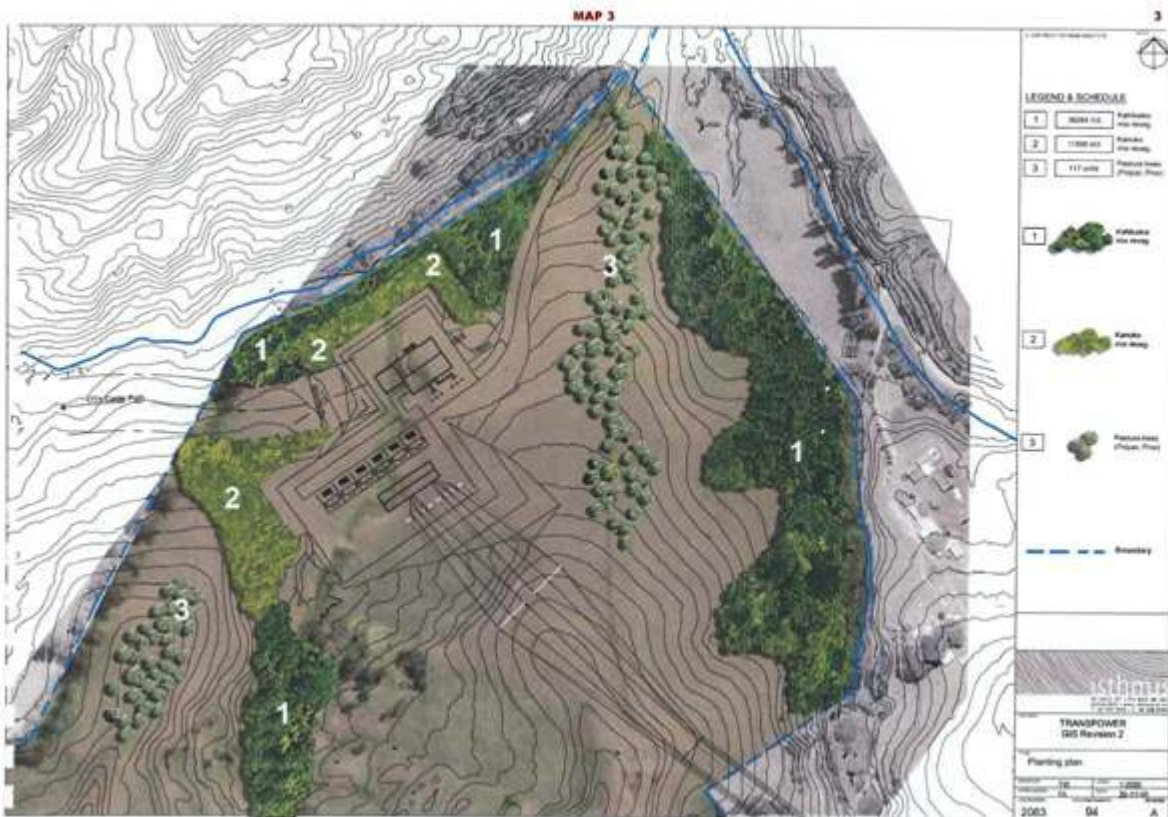
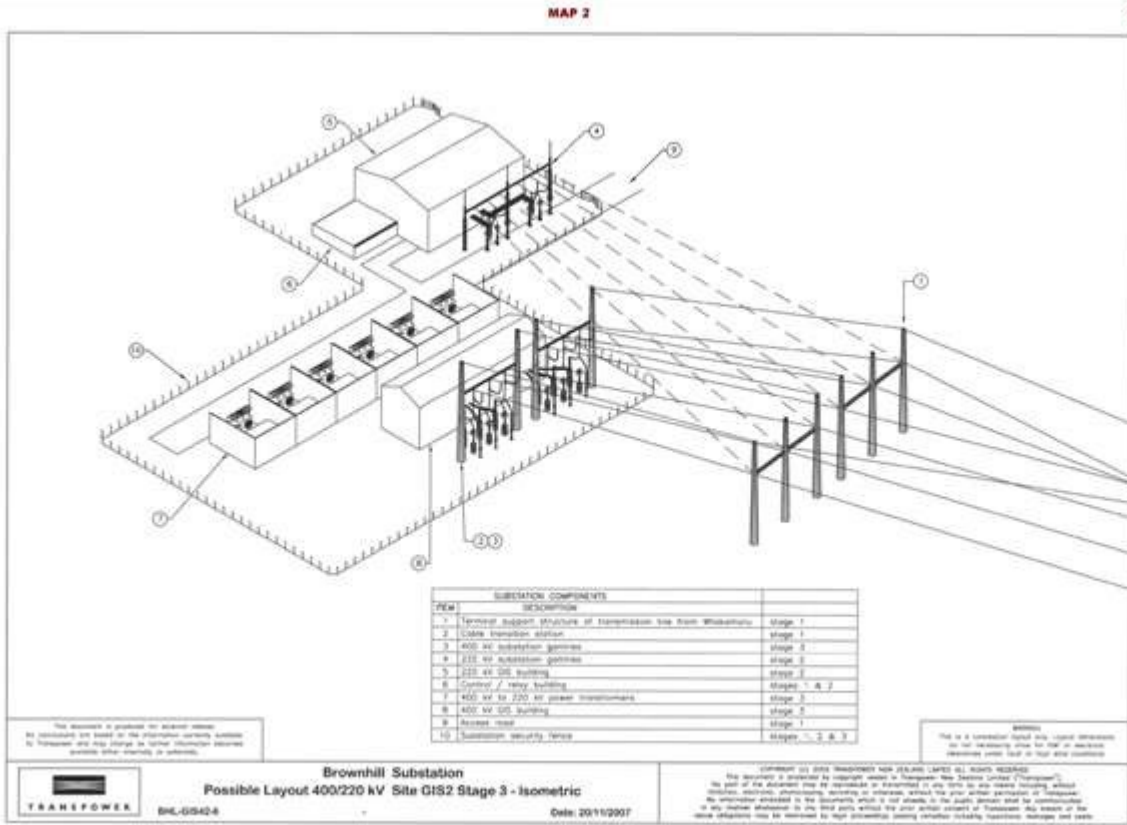
25. After installation of the cables, Transpower shall after consultation with council upgrade the surface of Brownhill Road to the entrance to the substation site to meet council's minimum design standards for rural roads as defined in their Engineering Quality Standard R16–Rural Road “Minimum Standard”.

Attachments

Map 2-3 of Appendix V of the Board of Inquiry

INDEX OF MAPS AND PLANS REFERRED TO IN PROPOSED DESIGNATION CONDITIONS		SET 2
MAP	PLAN DESCRIPTION	PAGE
BROWNHILL SUBSTATION CONDITIONS		
Map 2	Brownhill Substation, Possible Layout 800/220kV Site (D12, Stage 2) – Isometric, Date 20/11/2007	2
Map 3	Landscape mitigation concept plan (Map Book 5, Section 3)	3

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Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 209513	Lot 3 DP 325254

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8516 Brownhill Road to Pakuranga Underground Electricity Transmission Cables

Designation Number	8516
Requiring Authority	Transpower New Zealand Ltd
Location	143 Brownhill Road, Whitford to 109 Golfland Drive, Howick
Rollover Designation	Yes
Legacy Reference	Designation 300, Auckland Council District Plan (Manukau Section) 2002
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission- the construction, operation and maintenance of a double circuit underground 220kV cable as part of the upper North Island Grid Upgrade Project, to convey electricity between the Pakuranga Substation and the substation site at Brownhill Road, and ancillary activities.

The nature of the work is described more particularly in Part VI (excluding section 12 in relation to suggested conditions), and also in Parts II and X of the Notices of Requirement Documentation (dated April 2007).

Conditions

Documents

1. The initial works to give effect to the designation of the Pakuranga to Brownhill underground cable shall be generally in accordance with Maps 8-12 of Appendix V.

Cultural / Spiritual

2. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:

- a. Works in the immediate vicinity of the site that has been exposed shall cease;
- b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
- c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Council and, in the case of human remains, the New Zealand Police; and
- d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Magnetic Fields (MF)

3. The works shall be designed and constructed to limit the magnetic field exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time varying electric, magnetic and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 100 µT for magnetic flux density when measured at one metre above ground level directly above any cable under normal operating conditions (ie, when there are no faults in the transmission system).

4. In order to reduce long-term public exposure to MFs no habitable buildings shall be constructed within the designation corridor for the underground cable.

Radio Frequency Interference

5. All works shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

The Proposed Auckland Unitary Plan (notified 30 September 2013)

Earth Potential Rise / Induced Voltages

6. The works shall be designed and constructed to comply with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

7. The works shall be designed and constructed so as not to cause existing assets of other utilities to be non-compliant with AS/NZS 4852:2000 Electrical Hazard on Metallic Pipelines.

Existing Utilities

8. Transpower shall liaise with all relevant utility operators during the detailed design and subsequent construction processes prior to undertaking any work pursuant to this designation and shall ensure that:

- a. It is aware of the location of all utility services existing at the time of construction in or adjacent to the designation; if necessary, exploratory excavation shall be undertaken;
- b. To the greatest extent practicable, all utility services existing at 28 May 2007 (being the date the Notice of Requirement was lodged) located in or adjacent to the designation are protected from any activity associated with the Upper North Island Grid Upgrade Project which may interfere with the proper functioning of the services;
- c. if it is not practicable to avoid a reduction in the level of service in accordance with (b) above, or if services are otherwise damaged, all utility services existing at 28 May 2007 located in or adjacent to the designation are repaired or relocated at Transpower's expense, to the reasonable satisfaction of the affected utility operator; and
- d. Reasonable access to existing utility services located in or adjacent to the designation are able to be accessed during construction.

9. Nothing in condition 8 (c) requires Transpower to:

- a. Provide compensation to any affected utility operator for indirect costs, such as for delays and inconvenience caused; and
- b. Put the owner of the utility services in a better position than if the Upper North Island Grid Upgrade Project had not been proposed or installed.

Construction Management Plan (CMP)

10. At least 30 working days prior to commencing any construction activity along the designated underground cable route, Transpower shall submit a Construction Management Plan (CMP) to council for approval. The Council shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

The construction management plan shall outline Transpower's intended approach to:

- a. The proposed construction methodology;
- b. Storage and reuse of top soil, including stockpiling areas;
- c. On-site and off-site disposal of spoil;
- d. Silt and dust control, during earthwork stages;
- e. Groundwater and stormwater management, treatment and disposal;
- f. Traffic/property access management;
- g. Contaminated land management procedures;
- h. Construction hours;
- i. Existing network utilities protocols and guidelines;
- j. Access and utilities management;
- k. Subject to other specific conditions, cultural protocols and archaeological requirements;
- l. Land stability management and water quality and sediment controls;
- m. Vegetation disturbance/removal and replacement;
- n. Management of construction activities;
- o. Contractor training, including health and safety;
- p. The intended construction programme, including staging if appropriate;
- q. Management of construction noise;
- r. Community information and liaison;

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- s. Temporary activities and equipment storage in specified areas;
- t. Contractor car parking in specified areas;
- u. Security and lighting during construction; and
- v. Situations where the proposed cable depth could differ from the 1500 mm shown on Maps 6 or 7 of Appendix V, including likely reasons for differing depth and means of resolving any issues arising from that depth.

11. In preparing the CMP in accordance with condition 10, the following minimum requirements shall be met:

- a. Quality soil shall be reused, where appropriate, and suitable stockpiling areas shall be identified;
- b. Spoil which is not reused in construction shall be disposed of at appropriate facilities;
- c. Dust on-site shall be minimised to ensure that there is no dust nuisance off-site as a result of the works. Such minimisation could include spraying with water or covering of areas;
- d. Clean stormwater shall be directed away from bare or earthworked areas and sediment laden runoff shall be properly controlled and managed to minimise any discharge of sediments into watercourses;
- e. As far as practicable, disturbance to riparian areas and stream banks and beds shall be minimised during construction;
- f. Measures for testing and removing any contaminated land along the route shall be developed;
- g. Liaison with existing utility providers with underground services within the designated route shall be undertaken;
- h. adequate measures shall be implemented so as to avoid land slope failure;
- i. When construction is taking place within the dripline of any tree over two metres in height to be retained on a public road or other public or private land, a qualified arborist shall be engaged to advise on the best method of root pruning and for continuing long-term avoidance of root interference with the cable;
- j. Site contractors shall have available at all working times, at an accessible place along the cable route, copies of all designation and consent conditions, the approved Construction Management Plan and the Draft Protocols entitled Transpower Grid Upgrade Project Protocol for Dealing with Kōiwi or Taonga Unearthed During Construction and the Discovery of Sites of Significance, Wāhi Tapu, Heritage Sites and Archaeological Sites (or updated document). Transpower shall ensure that the contractors understand the designation conditions and consent conditions;
- k. Transpower shall notify the Council in writing at least 10 working days before commencing works (including a separate notification for works commencing in Turanga Creek, Mangemangeroa Stream and Otara Creek), and shall notify the Councils that works have been completed within 10 working days following completion of the works;
- l. Parties adjacent to the route shall be notified prior to commencement of works and shall be regularly updated;
- m. Temporary activities, such as equipment storage shall be undertaken in suitably located areas (ie, not within 20 metres of a watercourse);
- n. Contractor car parking shall be suitably located, so as to not prevent property access; and
- o. Work sites shall be secure and illuminated to restrict access as appropriate.

Advice note:

- 1. Where the CMP requires Transpower to give notice to the Council, that notice can be given progressively, as stages of the work are complete.

Construction hours

12. Construction hours shall be as follows:

- a. Monday to Friday: 7 am to 6 pm;
- b. Saturday: 8 am to 1 pm; and
- c. Sundays and public holidays: No work.

Except where work is necessary outside the specified days or hours for the following purposes:

- i. Where work is required to be planned to be carried out at low-traffic times, for example, excavation across busy roads, or cable installation;
- ii. Delivery of large equipment;

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- iii. Emergencies;
- iv. Securing of the site or removing a traffic hazard;
- v. Cable jointing in self-contained enclosures; and
- vi. Where the distance between the work and the nearest residence is 100 metres or more and all other conditions are met.

Construction and maintenance noise

13. Subject to condition 14, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise along the underground cable route does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

14. The noise limits shall not apply to emergency work required to re-establish continuity of electricity, communications or water supply, work urgently required to prevent loss of life or other personal injury, or commissioning works; but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night time).

15. Prior to any significant construction work taking place, a noise management plan shall be prepared with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999; and the works shall be undertaken in accordance with that noise management plan (other than emergency works).

16. The noise management plan required by condition 15 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Advice note:

1. The noise management plan required by condition 15 can be incorporated into, and be part of the construction management plan required by condition 10.

Vibration

17. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Traffic / Roading

18. Transpower shall prepare a Traffic Management Plan (TMP) which is generally consistent with NZTA's Code of Practice for Temporary Traffic Management (COPTTM).

19. The TMP shall be submitted to the Council's Consents Manager for approval at least 20 working days prior to commencement of underground cable construction after consultation with:

- a. The Council;
- b. The following key stakeholders:
 - i. Emergency services (including police);
 - ii. Bus operators;
 - iii. Schools; and
 - iv. Housing New Zealand Corporation; and
- c. Any additional key stakeholders identified by council.

20. The Council shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

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21. The TMP prepared by Transpower shall recognise that the paramount purpose of roads is the free passage of the public and its vehicles.

22. The TMP prepared by Transpower shall address and provide details of proposed works and/or mitigation measures relating to the following matters:

- a. The likely routes for heavy construction-related traffic;
- b. Details of any necessary road closures, diversions, or deviations which are likely to be required during construction activities, including the likely date, time and duration of such actions. As far as practicable, any necessary temporary road closures should be effected during off-peak periods;
- c. Where diversions or deviations are required, information and recommendations shall be provided by a suitably qualified and experienced traffic engineer of the traffic volumes and capacities of alternative routes, and the likely consequent effects in terms of safety and convenience. The traffic engineer shall ensure that recommended alternative routes are reasonably convenient and capable of safely accommodating diverted or deviated traffic. Transpower shall act on the recommendations of the traffic engineer in relation to alternative routes. Where traffic modelling related to specific intersections is required, the results of the modelling shall be included (see condition 23);
- d. Details of the signage intended to advise motorists, residents, stakeholders, and other road users of any road closures, diversions and delays, including examples of signage for diversion routes. Such signage shall be sufficiently clear to enable easy understanding by the general public, and installed at appropriate locations at least seven days in advance of such road closures, diversions and delays. Such signage shall include the use of trailer-mounted electronic signs near the most affected roads;
- e. Details of methods of proposed information dissemination regarding construction activities and associated traffic effects. These details shall include information regarding likely timing and duration of works, alternative routes, access to properties, and any alterations to public transport services. Methods of information dissemination shall include, but not be limited to, public notices in newspapers, radio announcements, signage, information packages, and direct contact with affected properties along those routes;
- f. Inclusion of a communications plan setting out the method of consultation and liaison with key stakeholders and affected parties regarding likely timing and duration of works, alternative routes, access to properties and any alterations to public transport services;
- g. Details of prior consultation or community liaison undertaken with affected residents, key stakeholders, schools, public transport providers, emergency services or representative groups regarding proposed road closures, diversions and delays, and any measures agreed with such groups to address any adverse effects or inconvenience that may arise;
- h. Details of any measures for the purposes of mitigating adverse traffic effects of construction traffic, including safety matters, relating to cyclists, pedestrians, mobility impaired persons, and school children;
- i. Where the cable is proposed to be installed across major intersections and/or arterial roads carrying higher traffic volumes (such as Ti Rakau Drive, Te Irirangi Drive, Chapel Road, Springs Road, East Tamaki Road), three months prior to the commencement of construction an assessment shall be carried out by a suitably qualified and experienced traffic engineer of:
 - i. The traffic volumes using such intersections or roads;
 - ii. The likely levels of delays and disruptions which may be experienced as a result of cable construction; and
 - iii. Identification of locations where such installation works must be carried out in the most timely manner practicable (including where reasonably practicable, the use of alternative methods of installation other than trenching), so as to minimise delays or inconvenience to road users; and
- j. Following consultation with public transport providers, details of proposed alternative temporary changes to public transport services during the construction period including but not limited to any route diversions, timetable adjustments, temporary bus stops, and methods of communicating such matters to public transport users.

23. Transpower shall carry out traffic modelling at the intersections of Chapel Road/Maghera Drive/Armoy Drive and Haven Drive, and the crossings of Te Irirangi and Ti Rakau to assess the impact of the construction works on intersection capacity prior to completing the Construction Management Plan (CMP) and the Traffic

The Proposed Auckland Unitary Plan (notified 30 September 2013)

Management Plan as required by condition 18, and incorporate any necessary specific provisions in the CMP.

Advice note:

1. The traffic management plan required by condition 18 can be incorporated into, and be part of the construction management plan required by condition 10.

Continuation of Access

24. Transpower shall at all times ensure that access to any property temporarily severed by construction is maintained at a level that will enable, as far as practicable, normal operations on the property to continue.

Parking

25. Following consultation with residents, businesses and other directly affected persons, Transpower shall ensure that adequate temporary alternative car parking is provided for residents, businesses and other directly affected persons along or adjacent to the cable route, in the event that construction activity prevents or hinders usual parking. Such arrangements are to be made and advised to affected parties at least five working days prior to the commencement of the work that causes the effect.

Remediation of Property, Roads and Footpaths

26. Other than as provided in conditions 27 and 28, Transpower shall:

- a. Within 10 working days of completion of construction on any land, reinstate any private or public land and property (excluding works in road reserves) as far as practicable to its pre-existing state. Such remediation shall include fences, gardens (excluding trees and grass) and other surface equipment or materials; and
- b. As soon as practicable after the completion of construction re-grass areas that were previously grassed.

27. Prior to commencing construction, Transpower shall undertake a carriageway condition survey of the road network along the designated route, and shall invite appropriate representatives of the Council to attend. The condition survey shall consist of a photographic or video record of the carriageway along the designated route. A copy of the record will be retained and provided to the Council upon request.

28. As soon as practicable after the completion of construction, Transpower shall repair any damage to public carriageways and footpaths (and associated road components) resulting from the impacts of construction. Such repair may involve short-term maintenance to allow for settling and consolidation of carriageways prior to final repair.

Sandstone / Caldwell's Road Intersection Sight Line Protection

29. Transpower shall construct and install the cable in the vicinity of the Sandstone / Caldwell's Road intersection in general accordance with Map 13 of Appendix V, in order to maintain the sight lines for any intersection installed in accordance with Map 14 of Appendix V.

30. Transpower shall ensure that the cable is placed in the Sandstone/Caldwell's Road intersection in general accordance with Map 6 or 7 of Appendix V to a minimum depth of 1500 mm from the surface levels shown on Map 13 of Appendix V.

Brownhill Road Upgrade

31. After installation of the cables, Transpower shall after consultation with Manukau City Council upgrade the surface of Brownhill Road to the entrance to the substation site to meet Manukau City Council's minimum design standards for rural roads as defined in their Engineering Quality Standard R16–Rural Roading "Minimum Standard".

Road widening of Whitford Park Road

32. Transpower shall ensure that the cable is placed in Whitford Park Road at such depth as will not compromise the Council's plans to widen the road and alter its vertical alignment as shown on Maps 15–23

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of Appendix V.

Attachments

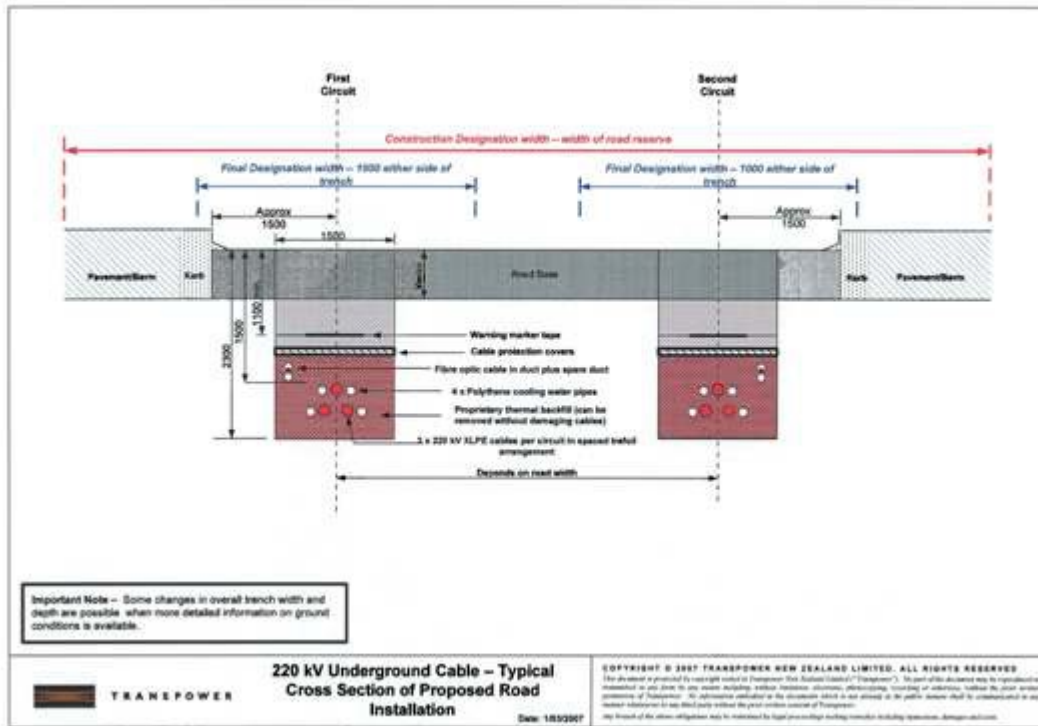
Maps from Appendix V of the Board of Inquiry Decision

INDEX OF MAPS AND PLANS REFERRED TO IN PROPOSED DESIGNATION CONDITIONS

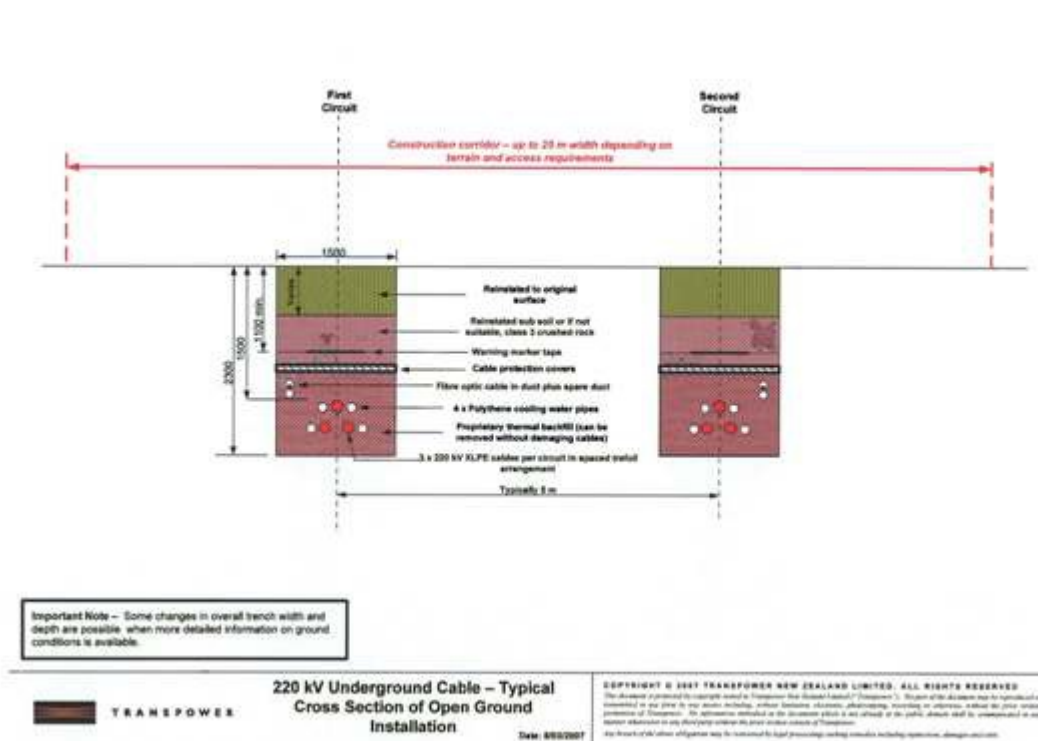
SET 4

MAP	PLAN DESCRIPTION	PAGE
UNDERGROUND CABLE ROUTE: MANUKAU CITY COUNCIL - CONSTRUCTION MANAGEMENT PLAN CONDITIONS		
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Map 7	220kV Underground Cable - Typical Cross Section of Open Ground Installation	7

MAP 6



MAP 7



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Map 13	Sandstone Rd - Caldwells Rd Cable Route Intersection, Drg No. 60019119-SK01, Rev 0	13
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Map 15	Plan and Long Section Chainage - Aerial Photo Overlay Feature Identifier: 1/1027/368; Code: 3124; Sheet 200A	15
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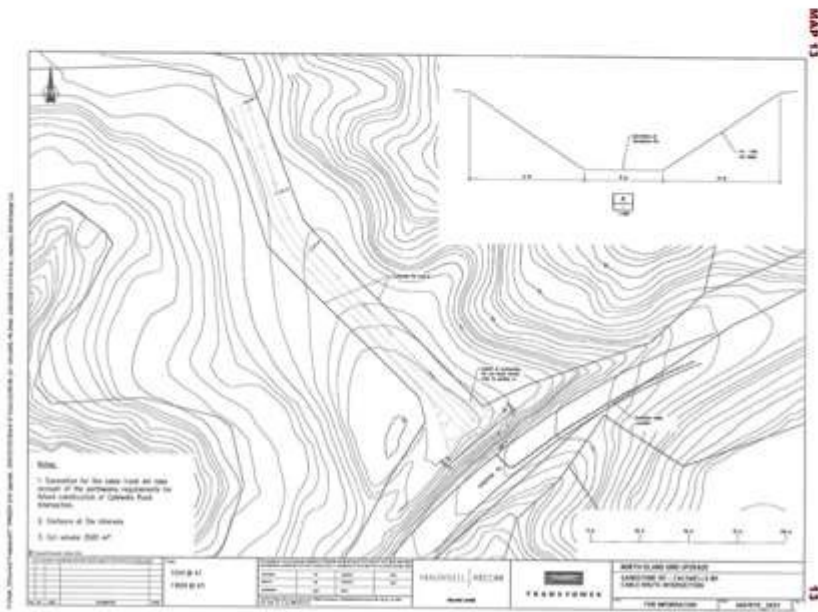
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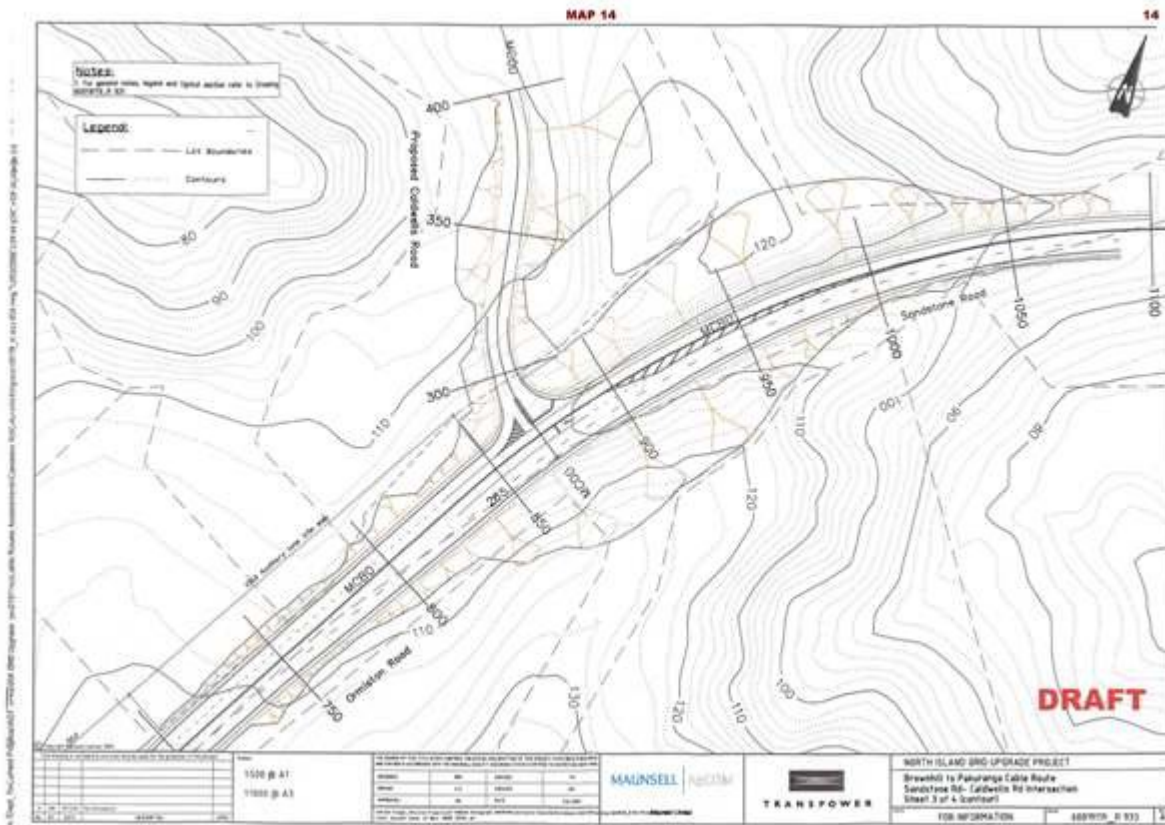
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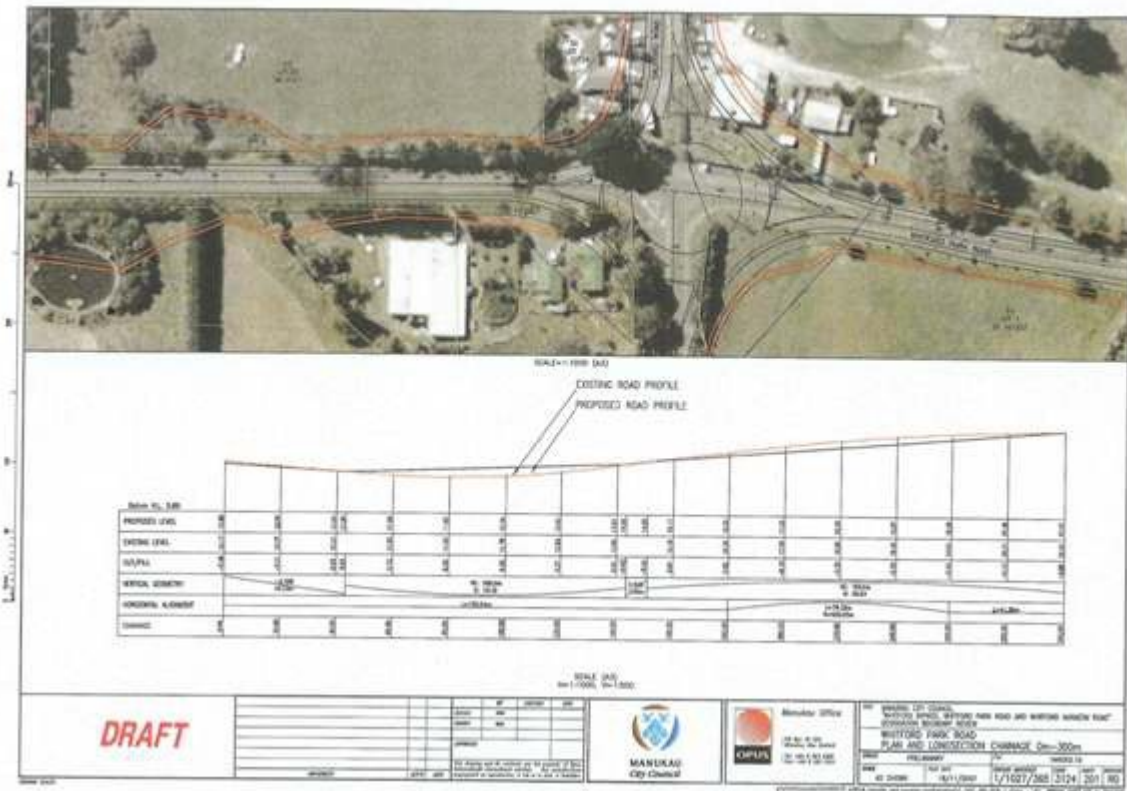
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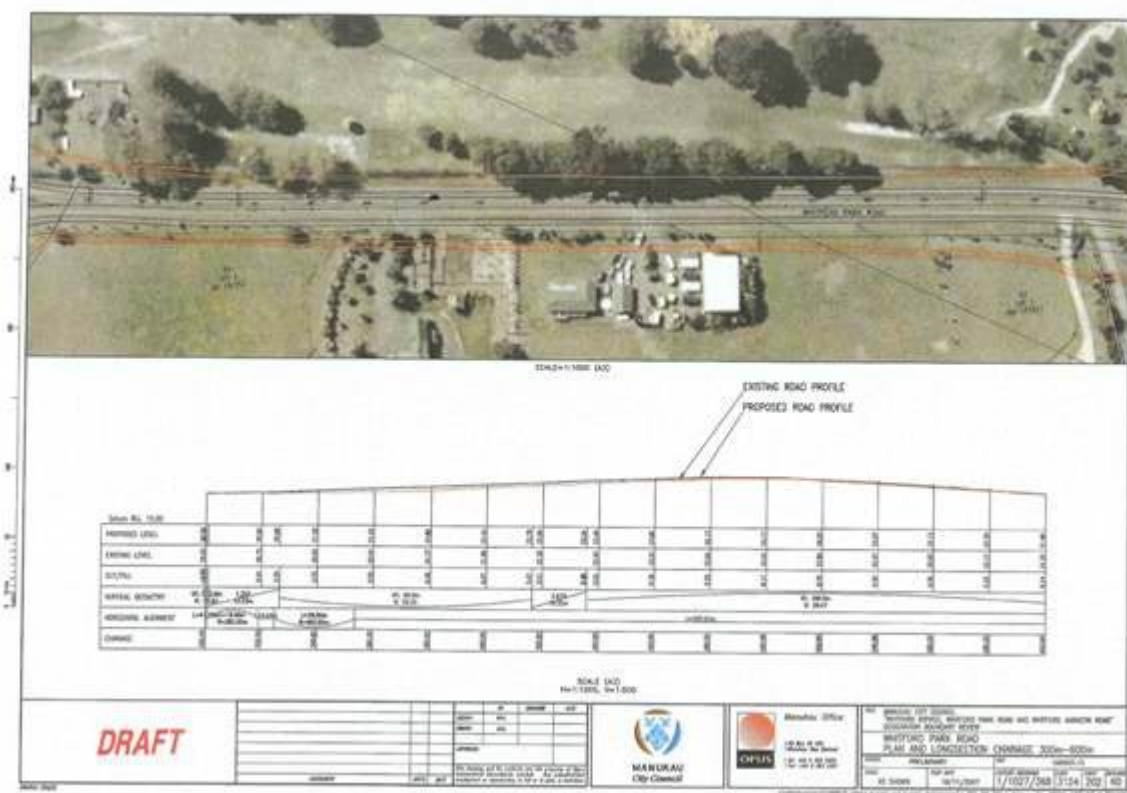
MAP 16

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MAP 17

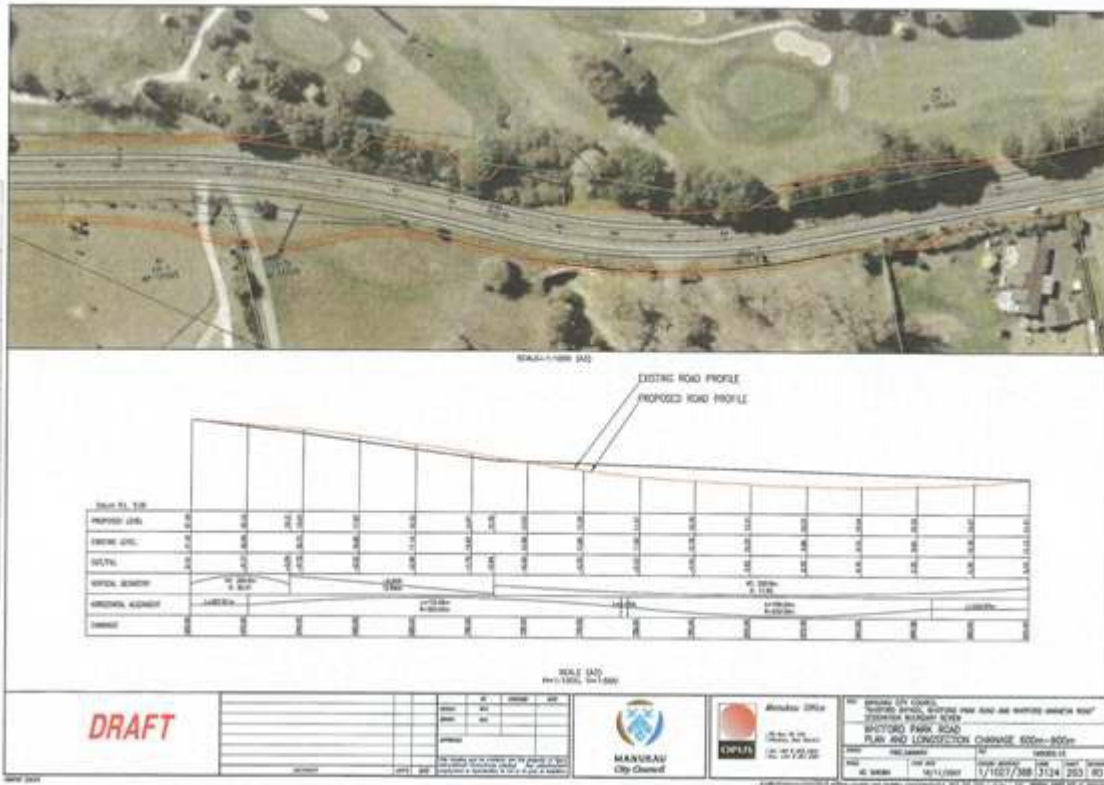
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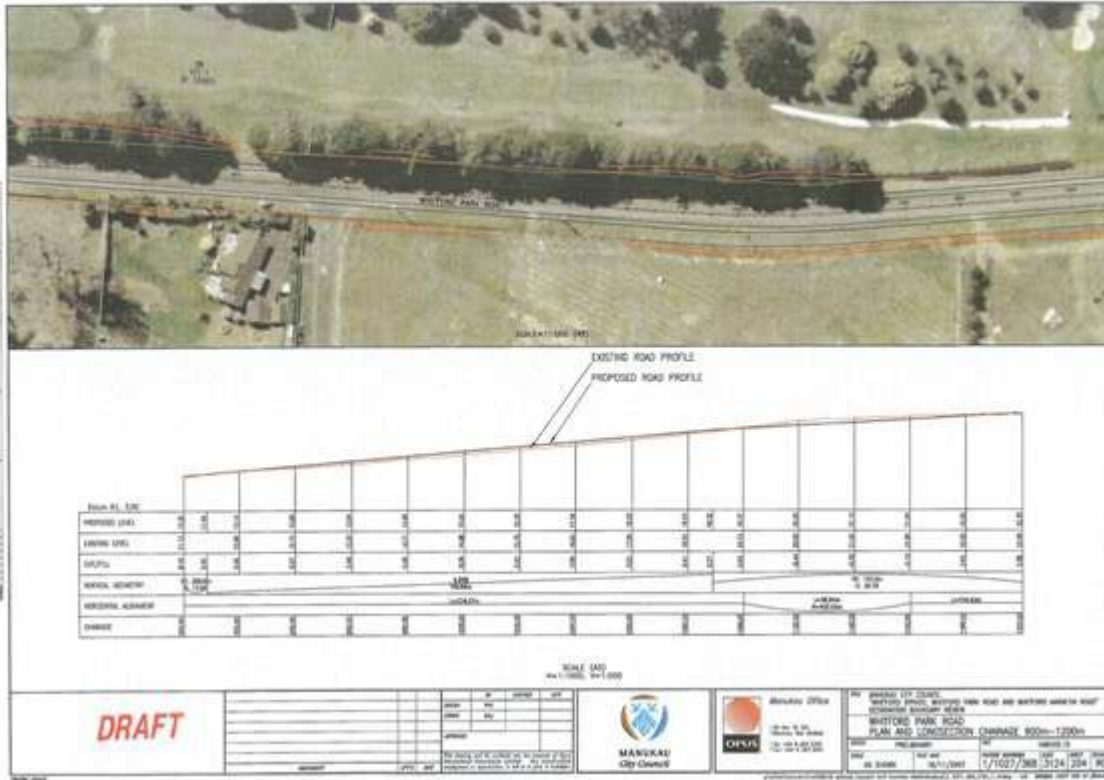
MAP 18

18



MAP 19

19



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Sec 1 SO 68292	5260679
Pt Lot 12 DP 169911	5260590
5219998	5260581
Lot 2 DP 189283	5261354
Lot 1 DP 312445 DP 316651 (Unit Titles)	5260593
Lot 182 DP 180655	5263074
Lot 182 DP 180654	5260594
5260962	5263077
Lot 3 DP 192219	5263075
5261289	6603043
5261291	Lot 1 DP 197985
5264569	Lot 29 DP 374495
5264087	Lot 471 DP 207703
5264572	Lot 472 DP 207703
6720378	Lot 2 DP 97587
5260907	Lot 6 DP 179398
5260911	Lot 2 DP 203233
5260678	Pt Lot 1 DP 64803
5260676	5252243
5260681	5237375
5260683	5215085
5260687	5247732
5261005	5222800
5233051	5252256
5251023	5226902
5236295	5257232
5260181	5227265
5236298	Allot 269 Parish of Pakuranga
5260292	5215085
5248198	5260198
5236292	5220420
5260304	5259600
5260397	5237201
Lot 1001 DP 192648	5217143
5260832	5258742
5260575	5217143
Lot 1 DP 209513	Lot 3 DP 147128
Lot 1 DP 175870	Lot 1 DP 177925

8517 Brownhill Road to Otahuhu Underground Electricity Transmission Cables

Designation Number	8517
Requiring Authority	Transpower New Zealand Ltd

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Location	143 Brownhill Road, Whitford to 26-28 Kaitawa Street, Otara
Rollover Designation	Yes
Legacy Reference	Designation 301, Auckland Council District Plan (Manukau Section) 2002
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - the construction, operation and maintenance of a double-circuit underground 220kV cable as part of the upper North Island Grid Upgrade Project, to convey electricity between the Otahuhu Substation and the substation site at Brownhill Road, and ancillary activities.

The nature of the work is described more particularly in Part VII (excluding section 12 in relation to suggested conditions), and also in Parts II and X of the Notices of Requirement Documentation (dated April 2007).

Conditions

Documents

1. The initial works to give effect to the designation of the Brownhill to Otahuhu underground cable shall be generally in accordance with Maps 24–30 of Appendix V.

Cultural / spiritual

2. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:

- a. Works in the immediate vicinity of the site that has been exposed shall cease;
- b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
- c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Council and, in the case of human remains, the New Zealand Police; and
- d. The notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Magnetic Fields (MF)

3. The works shall be designed and constructed to limit the magnetic field exposure to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time varying electric, magnetic and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 100 µT for magnetic flux density when measured at one metre above ground level directly above any cable under normal operating conditions (ie, when there are no faults in the transmission system).

4. In order to reduce long-term public exposure to MFs, no habitable buildings shall be constructed within the designated corridor for the underground cable.

Radio frequency interference

5. All works shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth potential rise / induced voltages

6. The works shall be designed and constructed to comply with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

7. The works shall be designed and constructed so as not to cause existing assets of other utilities to be

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noncompliant with AS/NZS 4852:2012 Electrical Hazard on Metallic Pipelines.

Existing utilities

8. Transpower shall liaise with all relevant utility operators during the detailed design and subsequent construction

processes prior to undertaking any work pursuant to this designation and shall ensure that:

- a. it is aware of the location of all utility services existing at the time of construction in or adjacent to the designation; if necessary, exploratory excavation shall be undertaken;
- b. to the greatest extent practicable, all utility services existing at 28 May 2007 (being the date the Notice of Requirement was lodged) located in or adjacent to the designation are protected from any activity associated with the Upper North Island Grid Upgrade Project which may interfere with the proper functioning of the services;
- c. if it is not practicable to avoid a reduction in the level of service in accordance with (b) above, or if services are otherwise damaged, all utility services existing at 28 May 2007 located in or adjacent to the designation are repaired or relocated at Transpower's expense, to the reasonable satisfaction of the affected utility operator; and
- d. reasonable access to existing utility services located in or adjacent to the designation are able to be accessed during construction.

9. Nothing in condition 8(c) requires Transpower to:

- a. provide compensation to any affected utility operator for indirect costs, such as for delays and inconvenience caused; and
- b. put the owner of the utility services in a better position than if the Upper North Island Grid Upgrade Project had not been proposed or installed.

Archaeology: known sites R11/2333 and R11/2384

10. Before any works are carried out associated with the Upper North Island Grid Upgrade Project, Transpower shall make any minor adjustments to the location of the cable trench within the corridor to ensure that the sites R11/2333 and R11/2384 are not damaged by construction of the cable trench.

Advice note:

This condition is subject to any conditions of any archaeological authority granted under the Historic Places Act 1993.

Construction Management Plan (CMP)

11. At least 30 working days prior to commencing any construction activity along the designated underground cable route, Transpower shall submit a Construction Management Plan (CMP) to the Council for approval. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or Transpower's intended approach to:

- a. The proposed construction methodology;
- b. Storage and reuse of top soil, including stockpiling areas;
- c. On-site and off-site disposal of spoil;
- d. Silt and dust control, during earthwork stages;
- e. Groundwater and stormwater management, treatment and disposal;
- f. Traffic/property access management;
- g. Contaminated land management procedures;
- h. Construction hours;
- i. Existing network utilities protocols and guidelines;
- j. Access and utilities management;
- k. Subject to other specific conditions, cultural protocols and archaeological requirements;
- l. Land stability management and water quality and sediment controls;
- m. Vegetation disturbance/removal and replacement;
- n. Management of construction activities;
- o. Contractor training, including health and safety;

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- p) The intended construction programme, including staging if appropriate;
- q. Management of construction noise;
- r. Community information and liaison;
- s. Temporary activities and equipment storage in specified areas;
- t. Contractor car parking in specified areas;
- u. Security and lighting during construction; and
- v. Situations where the proposed cable depth could differ from the 1500 mm shown on Map 6 or 7 of Appendix V, including likely reasons for differing depth and means of resolving any issues arising from that depth.

12. In preparing the CMP in accordance with condition 11, the following minimum requirements shall be met:

- a. Quality soil shall be reused, where appropriate, and suitable stockpiling areas shall be identified;
- b. Spoil which is not reused in construction shall be disposed of at appropriate facilities;
- c. Dust on-site shall be minimised to ensure that there is no dust nuisance off-site as a result of the works. Such minimisation could include spraying with water or covering of areas;
- d. Clean stormwater shall be directed away from bare or earthworked areas and sediment laden runoff shall be properly controlled and managed to minimise any discharge of sediments into watercourses;
- e. As far as practicable, disturbance to riparian areas and stream banks and beds shall be minimised during construction;
- f. Measures for testing and removing any contaminated land along the route shall be developed;
- g. Liaison with existing utility providers with underground services within the designated route shall be undertaken;
- h. Adequate measures shall be implemented so as to avoid land slope failure;
- i. When construction is taking place within the dripline of any tree over two metres in height to be retained on a public road or other public or private land, a qualified arborist shall be engaged to advise on the best method of root pruning and for continuing long-term avoidance of root interference with the cable;
- j. Site contractors shall have available at all working times, at an accessible place along the cable route, copies of all designation and consent conditions, the approved Construction Management Plan and the Draft Protocols entitled Transpower Grid Upgrade Project Protocol for Dealing with Kōiwi or Taonga Unearthed During Construction and the Discovery of Sites of Significance, Wāhi Tapu, Heritage Sites and Archaeological Sites (or updated document). Transpower shall ensure that the contractors understand the designation conditions and consent conditions;
- k. Transpower shall notify the Council in writing at least 10 working days before commencing works (including a separate notification for works commencing in Turanga Creek, Mangemangeroa Stream and Otara Creek), and shall notify the Councils that works have been completed within 10 working days following completion of the works;
- l. Parties adjacent to the route shall be notified prior to commencement of works and shall be regularly updated;
- m. Temporary activities, such as equipment storage shall be undertaken in suitably located areas (ie, not within 20 metres of a watercourse);
- n. Contractor car parking shall be suitably located, so as to not prevent property access; and
- o. Work sites shall be secure and illuminated to restrict access as appropriate.

13. In preparing the CMP in accordance with condition 11, Housing New Zealand Corporation shall be consulted.

Advice note:

Where the CMP requires Transpower to give notice to the Council, that notice can be given progressively, as stages of the work are complete.

Construction hours

14. Construction hours shall be as follows:

- a. Monday to Friday: 7 am to 6 pm;
- b. Saturday: 8 am to 1 pm; and

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c. Sundays and public holidays: No work.

Except where work is necessary outside the specified days or hours for the following purposes:

- i. Where work is required to be planned to be carried out at low-traffic times, for example, excavation across busy roads, or cable installation;
- ii. Delivery of large equipment;
- iii. Emergencies;
- iv. Securing of the site or removing a traffic hazard;
- v. Cable jointing in self-contained enclosures; or
- vi. Where the distance between the work and the nearest residence is 100 metres or more and all other conditions are met.

Construction and maintenance noise

15. Subject to condition 16, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise along the underground cable route does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

16. The noise limits shall not apply to emergency work required to re-establish continuity of electricity, communications or water supply, work urgently required to prevent loss of life or other personal injury, or commissioning works, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects particularly at times when the stricter noise limits apply (eg, at night time).

17. Prior to any significant construction work taking place, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999, and the works shall be undertaken in accordance with that noise management plan (other than emergency works).

18. The noise management plan required by condition 17 shall be submitted to the Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Advice note:

The noise management plan required by condition 17 can be incorporated into, and be part of the construction management plan required by condition 11.

Vibration

19. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Traffic / roading

20. Transpower shall prepare a Traffic Management Plan (TMP) which is generally consistent with NZTA's Code of Practice for Temporary Traffic Management (COPTTM).

21. The TMP shall be submitted to the Council's Consents Manager for approval at least 20 working days prior to commencement of underground cable construction after consultation with:

- a. The Council;
- b. The following key stakeholders:
 - i. Emergency services (including police);
 - ii. Bus operators;
 - iii. Schools;

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iv. Housing New Zealand Corporation;

c. Any additional key stakeholders identified by the Council.

22. The council shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

23. The TMP prepared by Transpower shall recognise that the paramount purpose of roads is the free passage of the public and its vehicles.

24. The TMP prepared by Transpower shall address and provide details of proposed works and/or mitigation measures relating to the following matters:

a. The likely routes for heavy construction-related traffic;

b. Details of any necessary road closures, diversions, or deviations which are likely to be required during construction activities, including the likely date, time and duration of such actions. As far as practicable, any necessary temporary road closures should be effected during off-peak periods;

c. Where diversions or deviations are required, information and recommendations shall be provided by a suitably qualified and experienced traffic engineer of the traffic volumes and capacities of alternative routes, and the likely consequent effects in terms of safety and convenience. The traffic engineer shall ensure that recommended alternative routes are reasonably convenient and capable of safely accommodating diverted or deviated traffic.

Transpower shall act on the recommendations of the traffic engineer in relation to alternative routes. Where traffic modelling related to specific intersections is required, the results of the modelling shall be included (see conditions 25 to 27);

d. Details of the signage intended to advise motorists, residents, stakeholders, and other road users of any road closures, diversions and delays, including examples of signage for diversion routes. Such signage shall be sufficiently clear to enable easy understanding by the general public, and installed at appropriate locations at least seven days in advance of such road closures, diversions and delays. Such signage shall include the use of trailer-mounted electronic signs near the most affected roads;

e. Details of methods of proposed information dissemination regarding construction activities and associated traffic effects. These details shall include information regarding likely timing and duration of works, alternative routes, access to properties, and any alterations to public transport services. Methods of information dissemination shall include, but not be limited to, public notices in newspapers, radio announcements, signage, information packages, and direct contact with affected properties along those routes;

f. Inclusion of a communications plan setting out the method of consultation and liaison with key stakeholders and affected parties regarding likely timing and duration of works, alternative routes, access to properties and any alterations to public transport services;

g. Details of prior consultation or community liaison undertaken with affected residents, key stakeholders, schools, public transport providers, emergency services or representative groups regarding proposed road closures, diversions and delays, and any measures agreed with such groups to address any adverse effects or inconvenience that may arise;

h. Details of any measures for the purposes of mitigating adverse traffic effects of construction traffic, including safety matters, relating to cyclists, pedestrians, mobility impaired persons, and school children;

i. Where the cable is proposed to be installed across major intersections and/or arterial roads carrying higher traffic volumes (such as Ti Rakau Drive, Te Irirangi Drive, Chapel Road, Springs Road, East Tamaki Road), three months prior to the commencement of construction an assessment shall be carried out by a suitably qualified and experienced traffic engineer of:

i. The traffic volumes using such intersections or roads;

ii. The likely levels of delays and disruptions which may be experienced as a result of cable construction; and

iii. Identification of locations where such installation works must be carried out in the most timely manner practicable (including where reasonably practicable, the use of alternative methods of installation other than trenching), so as to minimise delays or inconvenience to road users;

j. Following consultation with public transport providers, details of proposed alternative temporary changes to public transport services during the construction period including but not limited to any route diversions,

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timetable adjustments, temporary bus stops, and methods of communicating such matters to public transport users.

25. Following consultation with the Boards and/or principals of Sir Edmund Hillary College and Sancta Maria College (and any schools subsequently established with accesses and/or egresses adjacent to the underground cable route), Transpower shall ensure, as far as practicable, that works avoid school terms so as to minimise disruption to normal school activities. Details of relevant periods shall be included in the TMP.

26. Following consultation with the New Zealand Fire Service, details shall be provided in the TMP of proposed alternative access to and egress from the fire station located at 341 East Tamaki Road.

27. Transpower shall carry out traffic modelling at the intersections of Johnstones Road/Springs Road/East Tamaki Road and Chapel Road/Accent Drive/Stancombe Road to assess the impact of the construction works on intersection capacity prior to completing the Construction Management Plan and the Traffic Management Plan as required by condition 20, and incorporate any necessary specific provisions in the CMP.

Advice note:

The traffic management plan required by condition 20 can be incorporated into, and be part of, the construction management plan required by condition 11.

Continuation of access

28. Transpower shall at all times ensure that access to any property temporarily severed by construction is maintained at a level that will enable, as far as practicable, normal operations on the property to continue.

Parking

29. Following consultation with residents, businesses and other directly affected persons, Transpower shall ensure that adequate temporary alternative car parking is provided for residents, businesses and other directly affected persons along or adjacent to the cable route, in the event that construction activity prevents or hinders usual parking. Such arrangements are to be made and advised to affected parties at least five working days prior to the commencement of the work that causes the effect.

Remediation of property, roads and footpaths

30. Other than as provided in conditions 31 and 32, Transpower shall:

- a. within 10 working days of completion of construction on any land, reinstate any private or public land and property (excluding works in road reserves) as far as practicable to its pre-existing state. Such remediation shall include fences, gardens (excluding trees and grass) and other surface equipment or materials; and
- b. as soon as practicable after the completion of construction, re-grass areas that were previously grassed.

31. Prior to commencing construction, Transpower shall undertake a carriageway condition survey of the road network along the designated route, and shall invite appropriate representatives of the Council to attend. The condition survey shall consist of a photographic or video record of the carriageway along the designated route. A copy of the record will be retained and provided to the council upon request.

32. As soon as practicable after the completion of construction, Transpower shall repair any damage to public carriageways and footpaths (and associated road components) resulting from the impacts of construction. Such repair may involve short-term maintenance to allow for settling and consolidation of carriageways prior to final repair.

Future roading

33. Cable installed in the vicinity of:

- a. The Redoubt Road extension between Regis Lane and Ormiston Road (as shown on maps 49-50, Manukau City Council Operative District Plan 2002; and

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b. The possible future road connection between the Scenic Drive and Brownhill Road (as shown on Map 31 of Appendix V); shall be buried to a depth that does not prevent construction of those roads due to the presence of the cables, in the locations shown on those plans, in the future.

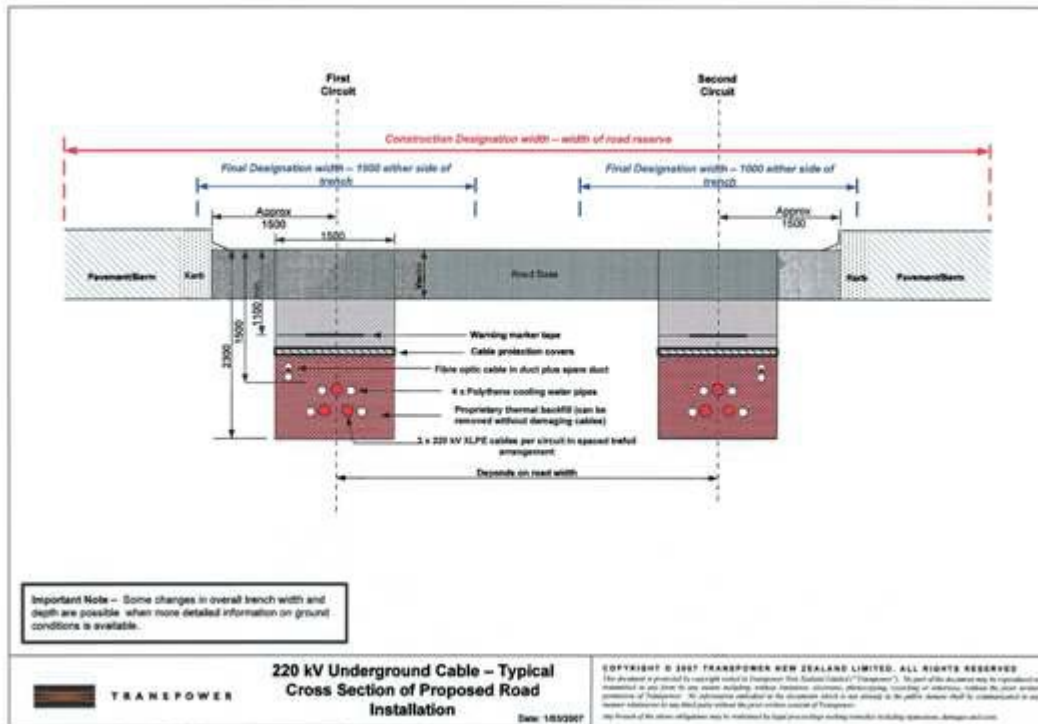
Attachments

Maps from Appendix V of the Board of Inquiry

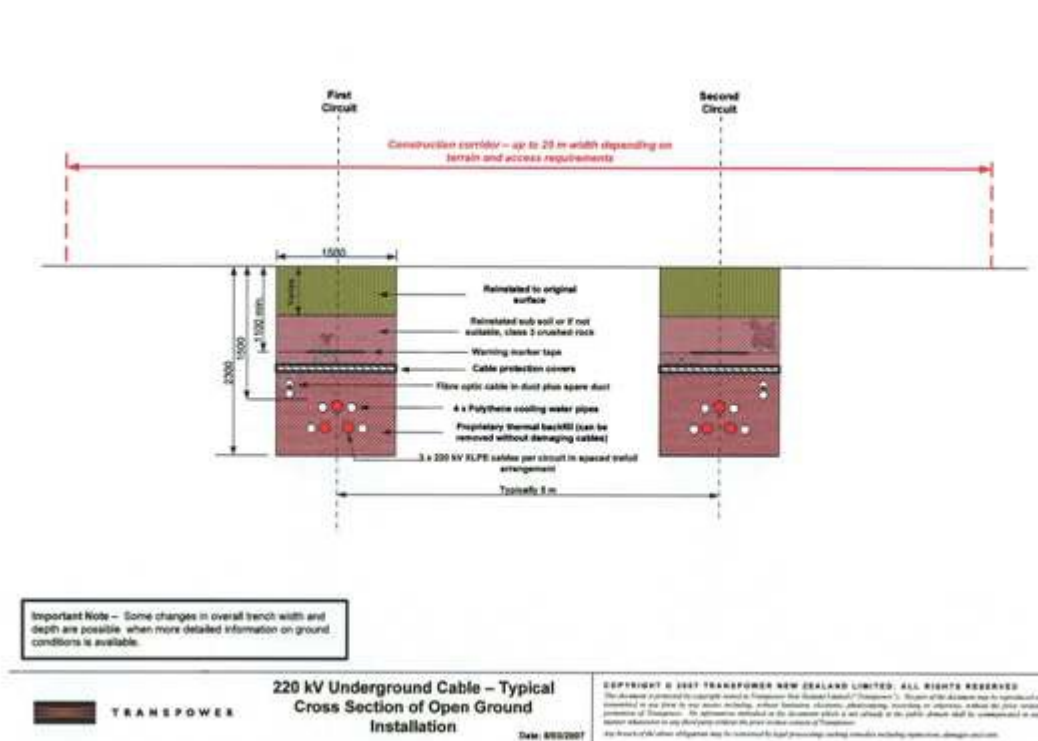
INDEX OF MAPS AND PLANS REFERRED TO IN PROPOSED DESIGNATION CONDITIONS		SET 4
MAP	PLAN DESCRIPTION	PAGE
UNDERGROUND CABLE ROUTE: MANUKAU CITY COUNCIL - CONSTRUCTION MANAGEMENT PLAN CONDITIONS		
Map 6	220kV Underground Cable - Typical Cross Section of Proposed Road Installation	6
Map 7	220kV Underground Cable - Typical Cross Section of Open Ground Installation	7

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MAP 6



MAP 7



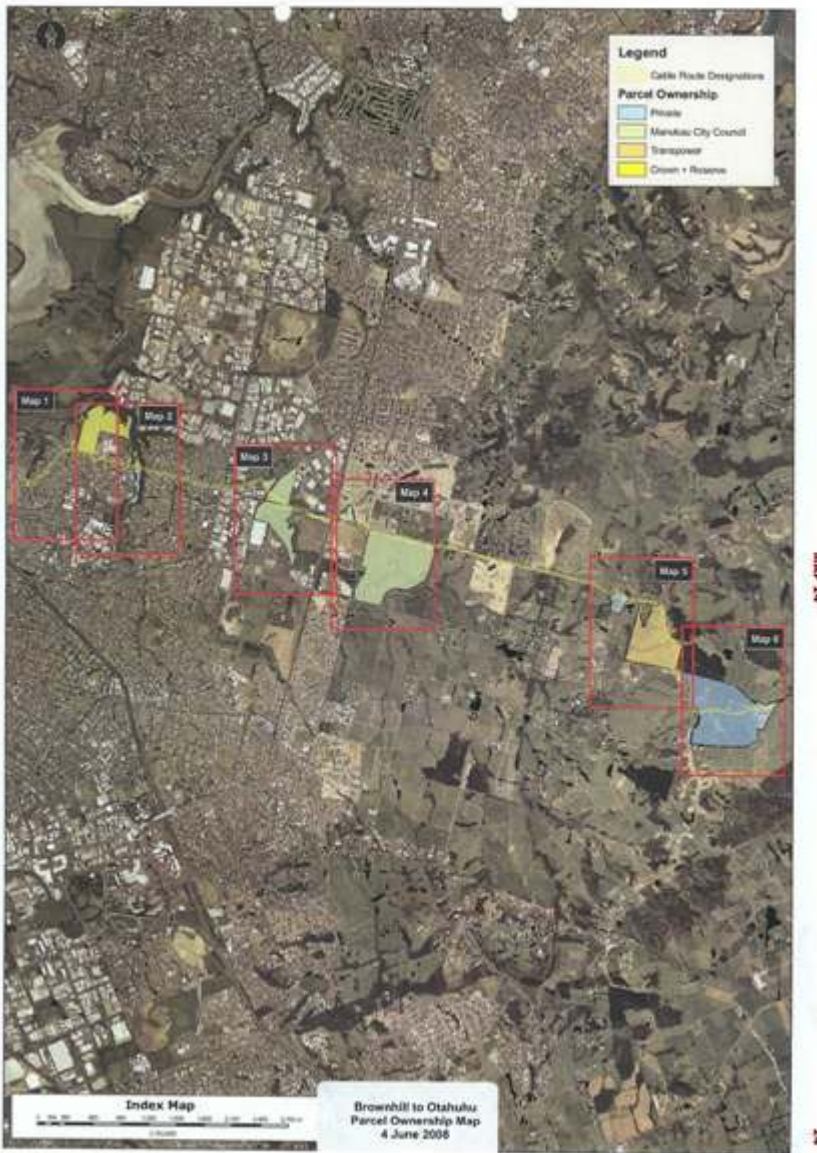
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MAP	PLAN DESCRIPTION	PAGE
BROWNHILL TO OTAHUHU UNDERGROUND CABLE ROUTE CONDITIONS		
Map 24	Brownhill to Otahuhu Parcel Ownership Index Map, 4 June 2008	24
Map 25	Brownhill to Otahuhu Parcel Ownership Map 1 of 6, 4 June 2008	25
Map 26	Brownhill to Otahuhu Parcel Ownership Map 2 of 6, 4 June 2008	26
Map 27	Brownhill to Otahuhu Parcel Ownership Map 3 of 6, 4 June 2008	27
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Map 29	Brownhill to Otahuhu Parcel Ownership Map 5 of 6, 4 June 2008	29
Map 30	Brownhill to Otahuhu Parcel Ownership Map 6 of 6, 4 June 2008	30
Map 31	Kent Subdivision, Drainage & Water Supply Plan - 2, Manukau City Council, issued 07/08/06	31

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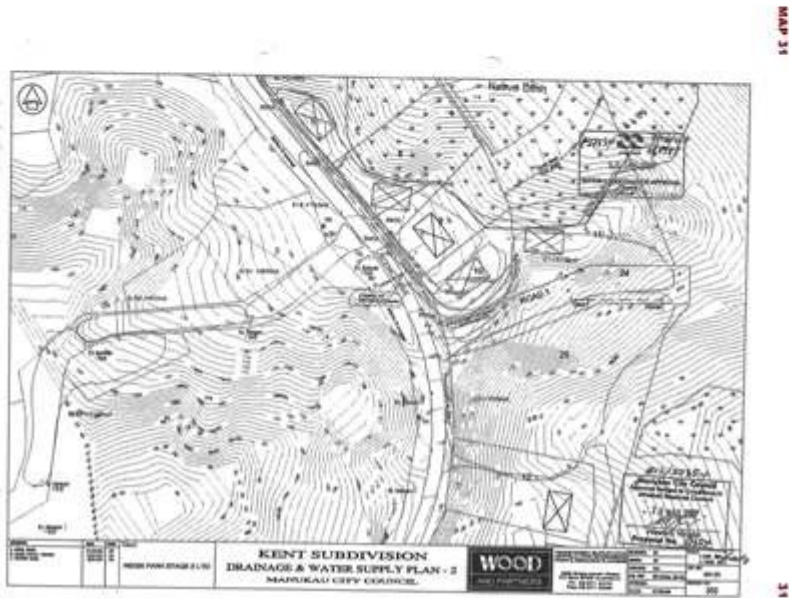
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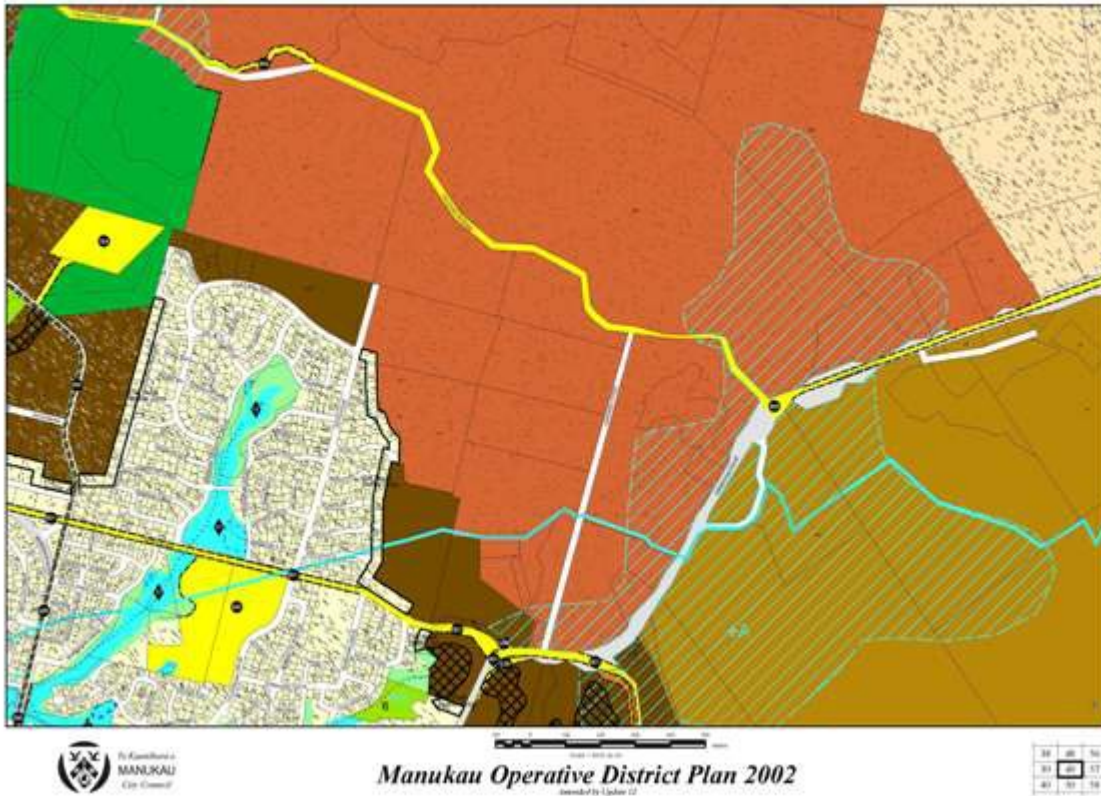


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Maps 49-50, Manukau City Council Operative District Plan 2002

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Manukau Operative District Plan 2002



DOCUMENTATION FOR DISTRICT PLAN MAP 49

Amended by Update 11

Designations

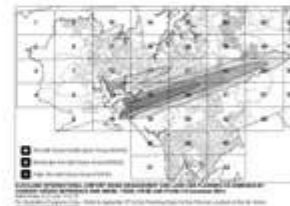
ID No.	Also on Map	Description of Designation	Underlying Zone	Requiring Authority
01		Road Widening - (See Diagram 2 in Appendix 48 of the Planning Map) Varying widths	Flat Bush Countryside Transition	Manukau City Council
02		Watercare Services Ltd. Water Supply Purposes - Reservoir and associated structures	Public Open Space 2	Watercare Services Ltd
20, 30, 39, 40, 41, 50, 51, 52		Gas Transmission Purposes Footways - East Tamaki Gas Pipeline	Various	Vector Gas Ltd
03		Jaffa Road School(s) for Year Levels 1-10 and Early Childhood Centre	Flat Bush Residential 2	Minister of Education
27, 30, 40, 57, 58		Stormfall Substation to Pakuranga Substation Underground Electricity Cable	Various	Transpower
04		Stormfall Substation to Otara Substation Underground Electricity Cable	Various	Transpower

Proposed Road Widening

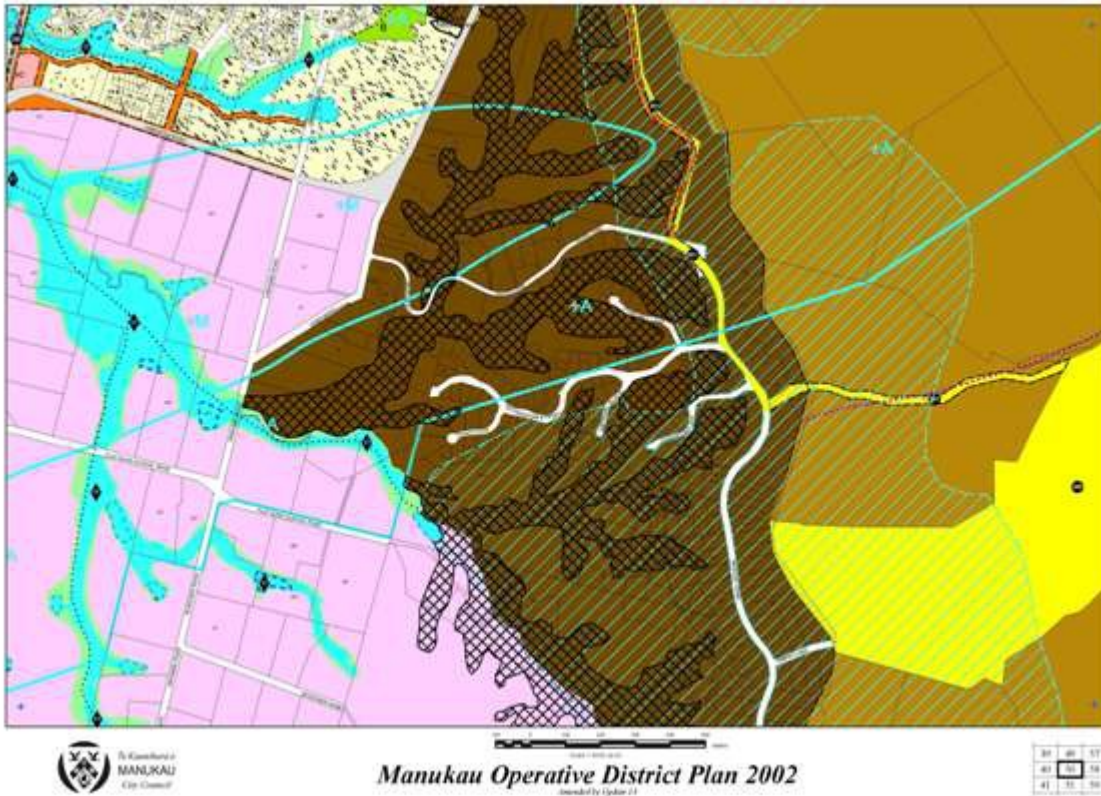
Also on Map	Road Name	Description of Affected Properties	Depth of Land Required for Road Widening Purposes
30, 40, 50	Murphy Road	West side - Lot 2 DP1123377 to Lot 1 DP1025450 included East side - Lot 2 DP347643 to Lot 2 DP104210 inclusive	3.64m

Stormwater Management Areas

ID No.	Also on Map	Description of Affected Properties	Underlying Zone
05	30, 40, 41, 42, 50, 51	All Properties identified as Stormwater Management Area (coloured blue on relevant planning maps)	Refer to Rule 9.5.3.2



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Manukau Operative District Plan 2002



Manukau Operative District Plan 2002



DOCUMENTATION FOR DISTRICT PLAN MAP 50

Amended by Update 11

Designations

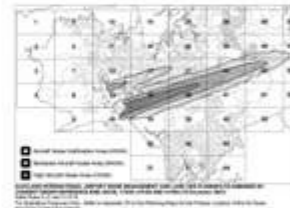
ID No.	Also on Map	Description of Designation	Underlying Zone	Requiring Authority
41, 42, 43, 44, 51, 52, 54, 55, 56, 57, 75, 76, 81, 84		Airborne Aerobics Protection Measures Properties shown on this Planning Map may be subject to controls outlined in Designation 224. Refer to Appendix 8 of the Planning Maps and Schedule 5A.	Various	Airborne Airport Ltd
25, 26, 30, 45, 41, 49, 51, 52		Gas Transmission Purpose Mokoroa - East Tamaki Gas Pipeline	Various	Victor Gas Ltd
58		Stormfall Substation	Whitford Rural A	Transpower
20, 39, 49		Stormfall Substation to Chelmsford Substation (Underground Electricity Cable)	Various	Transpower

Proposed Road Widening

Also on Map	Road Name	Description of Affected Properties	Depth of Land Required for Road Widening Purposes
45	Creston Road	North side - Alignment 318 Parish of Pakaranga to Lot 8 DP54822 inclusive South side - Lot 7 DP153124 to Lot 8 DP54822 inclusive	4.54m
38, 40, 48	Murphy's Road	West side - Lot 2 DP 123277 to Lot 1 DP103348 inclusive East side - Lot 2 DP247843 to Lot 2 DP54210 inclusive	3.84m

Stormwater Management Areas

ID No.	Also on Map	Description of Affected Properties	Underlying Zone
39, 45, 41, 49, 50, 51		All Properties identified as Stormwater Management Area (outlined Blue on relevant planning maps)	Refer to Rule 9.8.3.2



Schedule of Legal Descriptions

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Parcel ID / Appellation	
Lot 38 DP 122457	5214767
Lot 39 DP 122457	5258386
5213395	Lot 1 DP 205294
Lot 44 DP 122457	5226343
Lot 45 DP 122457	Lot 26 DP 615
5220406	Lot 28 DP 317068
5229707	Sec 3 SO 70224
5234114	5212610
5234115	5218779
5242071	5263414
5245483	6755102
5247685	6868736
5253250	6868737
5211477	Sec 2 SO 70224
5253250	5263413
5243048	6576298
5209287	Lot 2 DP 348822
5217576	Lot 5 DP 348822
5235744	6755102
5245975	5247056
5259209	5237233
Lot 185 DP 50993	5218750
Allot 355 Parish of Pakuranga	Lot 1 DP 370733
5099005	5263064
5267324	5208695
Lot 279 DP 50344	5225858
5206109	5244805
5215068	Sec 1 SO 68877
5248339	Lot 1 DP 168092
5228620	5208692
5250436	5208693
5237621	5216198
5256686	5257455
5208934	5257462
5245707	5259600
5210416	7060314
Lot 500 DP 436444	Lot 2 DP 182255
Reclaimed Crown Foreshore Survey Office Plan 47238	Lot 3 DP 348822

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8518 Albany Substation

Designation Number	8518
Requiring Authority	Transpower New Zealand Ltd
Location	29 Bass Road, Albany
Rollover Designation	Yes
Legacy Reference	Designation 85, Auckland Council District Plan (North Shore Section) 2002
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Albany electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

2. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on

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Structures.

Hazardous Substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

8. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

9. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

12. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 135027	Lot 2 DP 135027
Lot 3 DP 135027	

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8519 North Shore Underground Electricity Transmission Cables

Designation Number	8519
Requiring Authority	Transpower New Zealand Ltd
Location	410 Albany Highway to State Highway 1 (Constellation Drive), Rosedale
Rollover Designation	Yes
Legacy Reference	Designation 179A, Auckland Council District Plan (North Shore Section) 2002
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - the installation, maintenance, repair, replacement, inspection and operation of two 220kV underground electricity transmission lines (two cable circuits comprising six single core cables) and associated telecommunication cables and the minor above ground structures associated therewith.

Conditions

General Conditions

1. The alignment and width of the North Shore Transmission Corridor shall be generally in accordance with that described in the 2009 Notice of Requirement and the 2012 Alteration to the Designation and shall be demarcated on the District Plan Maps accordingly.
2. That prior to any works being commenced, Transpower New Zealand Ltd shall obtain all requisite resource consents required by the Auckland Council under the Resource Management Act 1991.
3. Any land taken or held for the works shall be maintained to a reasonable standard until physical works commence.
4. The cables and associated equipment shall be designed, installed and operated so as to meet the NZ National Radiation Laboratory guidelines (as confirmed by the International Commission on Non-Ionizing Radiation Protection, ICNIRP) for general public 24hrs/day exposure.
5. In the event that electricity supply will need to be shut down for planned periods during construction, Transpower New Zealand Ltd shall advise the Council of the time and duration of the intended shut down at least 48 hours in advance.
6. Transpower New Zealand Ltd Limited shall submit an Outline Plan of Works to the Auckland Council in accordance with section 176A of the Resource Management Act 1991. In addition to the matters listed in section 176A(3), the outline plan shall describe and include details on the following:
 - a. The alignment of the cable(s) within the corridor and the width of the corridor.
 - b. The distance that any trench will be located from residential zoned properties and the depth of that trench and any measures to prevent the movement of earth on adjoining properties.
 - c. The location, size, function and effects (including noise) of all above-ground structures.
 - d. Measures to avoid, remedy or mitigate the potential effects of construction and maintenance activities on existing water, stormwater and wastewater services;
 - e. Measures to avoid, remedy or mitigate the potential effects arising from the physical presence of the cables on the operation of water, stormwater and wastewater services;
 - f. Measures to avoid, remedy or mitigate the potential effects arising from the physical presence of the cables on the future construction of water, stormwater and wastewater services;

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- g. The minor extension to the Wairau Road substation; and
- h. Such other matters as required to satisfy the conditions of this designation.

Services

7. During the detailed design and subsequent construction activities, Transpower New Zealand Ltd and its agents shall liaise with Water Services prior to undertaking any work in relation to the designation and shall ensure that all existing utility services located in or adjacent to the designation are:

- a. Protected from any activity which may interfere with the proper functioning of the services; and
- b. If damaged, repaired or replaced in accordance with the Council's Infrastructure Design Standards;

Any costs associated with the protection, repair or replacement of existing services maintained by the Council shall be at Transpower New Zealand Ltd's expense, to the reasonable satisfaction of the General Manager, Water Services.

8. All cables shall be installed in accordance with the relevant New Zealand Codes of Practice, including NZECP 34 and 35.

9. When laying the cables close to existing metallic pipelines Vector Limited shall ensure the associated service does not breach the requirements of AS/NZS 4653:2000.

10. Transpower New Zealand Ltd shall undertake a safety study, as part of the detailed design process, to demonstrate that induced and transferred potentials to other services would not be hazardous to personnel working on those services. An appropriate independent body shall review the study and recommend any relevant design modifications.

11. Transpower New Zealand Ltd shall review the possible effects that electric and magnetic fields may have on other existing underground services within the corridor, ensuring that all practicable measures are taken to minimise those effects.

12. All activities associated with the design and construction of the cables shall comply with Council's Infrastructure Design Standards and the 'as-built' plans (in accordance with the Council's Asset Data Standards manual) shall be submitted to the Council immediately after the completion of all construction.

Property Access

13. Vehicular and pedestrian access shall be maintained to the Wastewater Treatment Plant, Rosedale Park and Rosedale Park South at all times during construction.

14. In the event that Transpower New Zealand Ltd requires access to the North Shore Transmission Corridor via the Wastewater Treatment Plant site for construction and maintenance activities, all personnel and contractors of Transpower New Zealand Ltd are to comply with access controls and health and safety requirements applying to the Wastewater Treatment Plant site.

Trees

15. A Vegetation Mitigation Plan shall be prepared prior to the commencement of construction works within the corridor and shall be subject to the prior approval of the Council. The purpose of the Vegetation Mitigation Plan is to set out the measures for works around any protected trees and shall contain appropriate measures:

- a. To minimise the impact on protected trees, wherever possible;
- b. To develop a staged landscape plan for the remnant orchard trees in the George Pannill Reserve which includes suitable consultation with the Council and with local residents. The purpose of this landscape plan is to retain the general character of the orchard remnant and improve the overall amenity of the area;
- c. To indicate that where trees are required to be removed, these be replaced or replaced in close proximity, on a tree for tree basis, unless otherwise directed by the Council and that the replacement planting is maintained

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in accordance with the design infrastructure manual for a period of 18 months following planting; and
d. To reasonably minimise the need for removal of large trees and other vegetation which provide visual screening of the Wastewater Treatment Plant site from residential areas, Rosedale Park and Rosedale Park South.

The landscape plan for the George Pannill Reserve shall be prepared well in advance of construction to enable discussion with the Parks and Environments Department and reflect suitable consultation with local residents. For the purposes of this condition, the monetary limit of any Transpower New Zealand Ltd contribution under both Designation 179 and this Designation 179A to fruit tree replacement in the George Pannill Reserve shall be \$2500 (plus GST). As part of the Vegetation Mitigation Plan, Transpower New Zealand Ltd shall provide suitable planting within that part of the corridor that adjoins the rear boundary of 16 Jade Court, Albany.

16. In the event that trees providing visual screening to the Wastewater Treatment Plant Site need to be removed as a result of the installation of proposed underground cables, Transpower New Zealand Ltd, in consultation with Council, shall, where practicable, plant suitable replacement trees to provide a similar level of visual screening from residential areas, Rosedale Park and Rosedale Park South as existed prior to the removal of the trees.

Watercourses / Open Channels

17. Crossings over open channels and watercourses will need to be above the 1% AEP flood plain level with an adequate freeboard provided. Alternatively if a cable crossing is proposed to go under a watercourse, then adequate cover and protection will need to be provided to allow for possible future channel erosion and for channel maintenance activities. Adequate cover and protection will also be required where the cables cross pipes and other stormwater assets.

Details of the channel and watercourse crossings shall be submitted to the Stormwater Department for approval.

In particular the following crossings need to be fully assessed:

- a. The Oteha Stream tributary between Albany Highway and Vanderbilt Parade;
- b. The Oteha Stream tributary between Vanderbilt Parade and Northwood Avenue;
- c. The Alexandra Stream near Bush Road;
- d. The concrete lined channels between Sunnynook Road and Porana Road; and
- e. The Wairau channel near the substation.

Traffic Disturbance

18. A Traffic Management Plan shall be submitted to the Council for approval, at least 20 working days prior to the commencement of construction of each cable length. Construction activity shall be undertaken in accordance with the Traffic Management Plan approved by the Council. The primary purpose of the Traffic Management Plan is to set out the mitigation measures that will be put in place for that phase of the project to ensure that traffic disruption associated with construction activities is minimised as far as it is practicable.

Dust

19. Best practicable measures shall be employed (e.g. watering of the construction area) to ensure any dust nuisance beyond the boundary of the corridor is minimised.

20. All spoil shall be removed from the site so that no spoil or construction materials likely to generate dust are stored or stockpiled on site.

Water Quality

21. Best practicable measures shall be employed to ensure that the discharge of sediment into any water body is avoided or minimised.

22. Excess material shall be placed directly into trucks or bins for removal off site thereby minimising the amount of loose sediment bearing materials on the site.

23. Cesspit filters shall be installed prior to the excavations commencing where there is a risk of runoff to an

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existing drainage network. This is to be augmented by the use of silt fences where these are able to be installed or are necessary. It is anticipated that silt fences will be primarily used in areas where the works pass close to an open watercourse.

24. Should the excavation require dewatering, then the contractor shall be expected to either discharge the liquids into another part of the trench (e.g. with scoria backfilling) via a portable settling tank, or across a grassed strip (provided the grass was long and a silt fence or cesspit filter was in place down gradient).

25. Backfilling, compaction and grading shall be undertaken as soon as possible after the laying of trenches, followed by re-sowing to re-instate surfaces to a condition which existed before the trenching.

Distance from Residential Boundaries

26. The trenches for laying underground cables shall be located a minimum distance of 1.5m from any residentially zoned property.

Hours of Work

27. The hours of work shall be restricted to 7 am to 6 pm Monday to Friday, 8 am to 6 pm Saturday, with no construction work undertaken on Sundays and Public Holidays.

Property Access

28. Construction of the cables shall be undertaken in such a manner as to ensure that reasonable access to properties on the cable route shall be maintained at all times.

Construction Noise

29. During construction, New Zealand Noise Standard 6803 NZS: 1999 Acoustics -Construction Noise shall be complied with.

30. Transpower New Zealand Ltd and its contractors shall, in addition to complying with all other construction related conditions, take all reasonable steps to prevent or mitigate any nuisance or damage to adjacent properties during construction.

Archaeological

31. If any archaeological remains are uncovered during construction, Transpower New Zealand Ltd shall immediately notify the Council and engage an archaeologist (to be approved by Council) to investigate and report on the importance of the remains.

32. Transpower New Zealand Ltd shall immediately advise local kaumatua and the New Zealand Historic Places Trust and cease working in the affected area until all necessary authority required by the New Zealand Historic Places Trust is obtained.

Completion of Construction

33. On completion of construction, all carriageways, road markings, signs, property access ways, drainage systems and other structures shall be restored to a standard at least comparable to their condition before the commencement of construction and shall be made good as soon as practicable.

Monitoring

34. Within six (6) months of the commencement of operation of any 220kV underground line, Transpower New Zealand Ltd shall supply to Council the results of a magnetic field survey that measures and appropriately illustrates the combined effect of the existing overhead and new underground lines, such field strength measurements to be taken at one metre above ground level and at intervals of not less than 400m or more than 800m along the length of the corridor (excluding roads). The Council may, depending on the significance of the results compared with recognised acceptable thresholds (see e.g., condition 5), require a repeat of the survey at a future date to be agreed by the parties.

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35. That provision be made for the removal of existing trees located in the corridor directly affected by the proposed location of the cable trenches, and that any replacement planting that may be required be determined by consultation and agreement between Transpower New Zealand Ltd and Council.

Advice Note

1. To assist Council with any telephone inquiries the Requiring Authority should advise the Council's Call-Centre before any work is commenced. The call centre may be contacted on phone number (09) 301 0101.

Attachments

Schedule of Legal Descriptions

Schedule of Legal Descriptions

Parcel ID/Appellation	
Pt Lot 1 DP 98275	Lot 102 DP 183218
Section 2 SO 68566	Pt Lot 1 DP 174315
Section 1 SO 68325	Lot 75 DP 174612
Lot 2 DP 204886	Lot 107 DP 182282
Lot 106 DP 182284	Lot 106 DP 182287
Pt Lot 452 Parish of Paremoremo	Section 1 SO 64438
Lot 303 DP 198381	Lot 202 DP 174280
Lot 300 DP 198382	Lot 300 DP 194881
Lot 153 DP 162064	Lot 152 DP 162064
Lot 153 DP 156385	Lot 152 156385
Pt Lot 1 DP 19750	Lot 1 DP 135027

8520 Takanini Electricity Substation

Designation Number	8520
Requiring Authority	Transpower New Zealand Ltd
Location	65 Airfield Road, Takanini
Rollover Designation	Yes

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Legacy Reference	Designation 40, Auckland Council District Plan (Papakura Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Takanini electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

2. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

8. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the

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secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

9. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

12. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 135030	Lot 2 DP 135030

8521 Drury Switching Station

Designation Number	8521
Requiring Authority	Transpower New Zealand Ltd
Location	261 Quarry Road, Drury
Rollover Designation	Yes
Legacy Reference	Designation 45, Auckland Council District Plan (Papakura Rural Section) 1999

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Lapse Date	Given effect to (i.e. no lapse date)
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Purpose

Electricity transmission - the construction, operation, maintenance, replacement, renewal and upgrading of a 220kV switchyard, transmission lines, and ancillary facilities.

Conditions

General

1. The works to give effect to the designation shall be in general accordance with the plans and information submitted by Beca Carter Hollings and Ferner Ltd on behalf of Transpower New Zealand Ltd [the Requiring Authority] in support of the Notice of Requirement contained in the document 'Notice of Requirement for a Designation' ref. 4260430 dated 9 October 2008, and all being Council approved reference 9410, and as may be modified by specific conditions hereunder.

2. Any upgrading of the switchyard shall include all activities and effects relating to an increase in the carrying capacity, efficiency or security of supply through equipment within the designated site, but excludes an increase in voltage above 220kV.

Electric and Magnetic Fields

3. The electric and magnetic fields shall comply with the guidelines for public exposure to electric and magnetic fields as published in 1998 by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).

4. Within 3 months of the commissioning of the switchyard the requiring authority shall demonstrate compliance with the ICNIRP reference levels by providing to the council written confirmation from a suitably qualified person. Electric field strength and magnetic flux density are to be measured 1 metre above ground level at the switchyard fence and site boundary.

5. The site shall be designed and operated to limit public exposure to electric and magnetic fields, in accordance with the recommendations in Section 1 of the World Health Organisation monograph No. 238.

Advice Note: Policy 9 of the National Policy Statement on Electricity Transmission refers to both the ICNIRP guidelines and the WHO monograph.

Landscaping

6. Landscaping must proceed in general accordance with the Landscaping Plan (figure 4) drawn by Boffa Miskell Ltd and contained within their report entitled Landscape and Visual Effects Assessment dated September 2008.

7. The landscaping plan must be implemented within the first planting season following the completion of works on site.

8. The landscaping is to use screen planting with species capable of providing 15m high evergreen dense continuous screen around the site (with the exception of land underneath the pylons where low native planting will be grown).

9. All landscaping must be maintained in a healthy condition in order to give effect to the Landscaping Plan for the duration of the designation. Once a continuous row and/or canopy has been established, this maintenance shall include the replanting of any gaps created by the death or damage of trees, in order to allow continuous row and/or canopy to re-establish.

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Lighting

10. All exterior on-site lighting shall be positioned and directed downwards within the site, away from adjacent properties, existing dwellings and public roads so as to minimise the level of spill light and glare.

Site Management

11. Stock proof fencing will be provided to exclude stock from all water bodies shown on the Landscaping Plan (figure 4) drawn by Boffa Miskel Ltd and contained within their report entitled Landscape and Visual Effects Assessment dated September 2008, should the site be used for grazing.

Electrical Interference

12. The switchyard shall be operated, managed and controlled so that there is no additional electrical interference with television or radio reception at any existing residence as a consequence of the construction and operation of the switchyard.

Operational Noise of the Switchyard

13. The switchyard shall be designed, constructed and operated in such a manner so that the noise level measured at the site boundaries of 261 Quarry Road shall not exceed the following limits:

	Leq Levels	L _{max}
Monday – Sunday 7am – 8pm	55 dBA	-
Monday – Sunday 8pm – 7am	45 dBA	75 dBA

a. The noise levels shall be measured and assessed in accordance with the requirements of NZS 6801:1999 Measurement of Sound and NZS 6802:1999 Assessment of Environmental Sound.

b. The noise shall be measured by a sound level meter complying with the International Standard IEC 651(1979): Sound Level Meters, Type 1.

c. Should the above standards be superseded then the most up to date standards shall apply.

14. Circuit breaker maintenance noise shall not exceed 75 dBA L_{max} at all times.

Signage

15. No advertising signs shall be placed on any structure, wall or fence within the site (directional and safety signs are exempted).

Earth Potential Rise or Induced Voltage Hazards

16. The requiring authority shall ensure that any earth potential rise or induced voltage hazards caused by the switchyard comply with the NZ Electrical Code of Practice 35 and shall not adversely affect the operation of existing infrastructure.

Construction Noise

17. The requiring authority must comply with the noise standards set out in NZS 6803:1999 Acoustics – Construction Noise at all times while any construction works are being carried out on site.

Archaeological Deposits

18. If any urupa, traditional sites, taonga (significant artefacts), koiwi (human remains) or other archaeological sites are exposed during site works then the following procedures shall apply:

a. Immediately it becomes apparent that an urupa, traditional site, taonga, koiwi or other archaeological site has been exposed, all site works in the immediate vicinity shall cease.

b. The site supervisor shall immediately secure the area in such a way that ensures that any artefacts

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Lapse Date	Given effect to (i.e. no lapse date)
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Purpose

Electricity transmission - Wellsford electricity substation.

Conditions

1. That any extension of substation equipment (not otherwise being a permitted activity) beyond the existing substation footprint, as identified in Appendix 15U(i), is first authorised by way of an alteration of the designation in accordance with section 181 of the Resource Management Act 1991 (or any future equivalent Provision). Until such time as there is an extension to the substation footprint by way of an alteration of the designation, the additional area will be retained as a buffer.

Cultural / Spiritual

2. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:

- Works in the immediate vicinity of the site that has been exposed shall cease;
- The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
- The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
- the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

3. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

4. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).

5. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.

6. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

7. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

8. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill

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Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

9. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

10. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

11. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

12. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

13. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

14. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

15. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

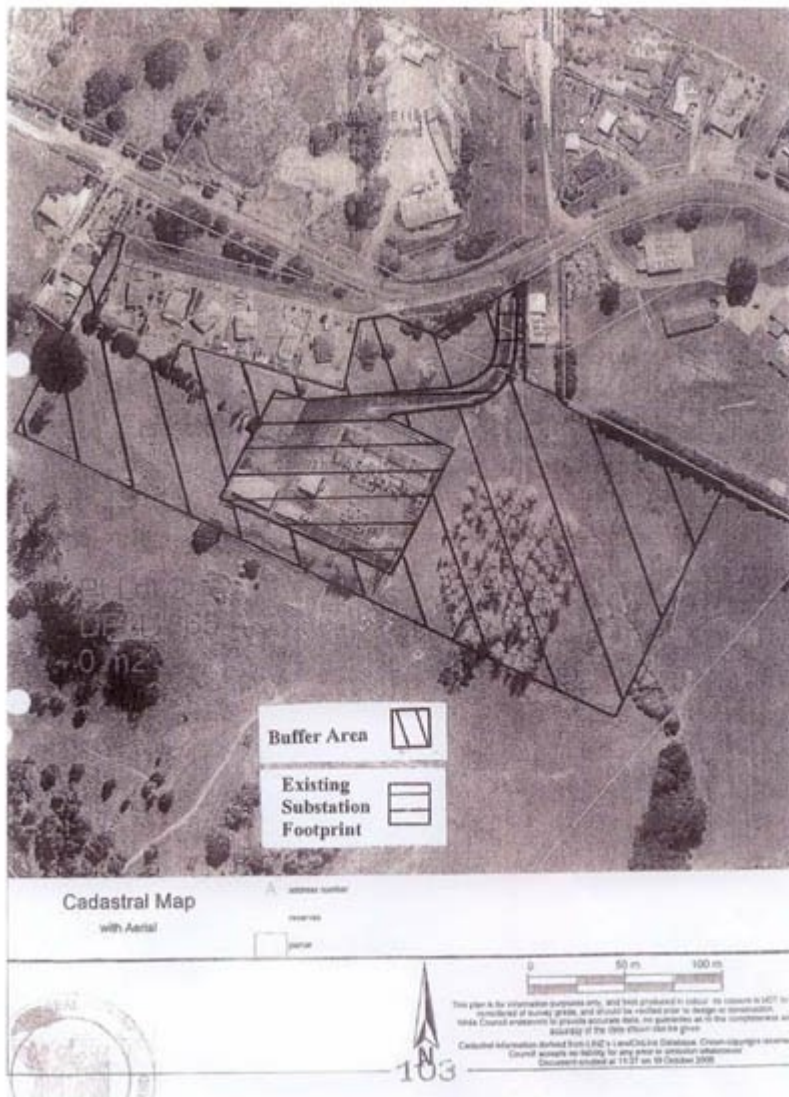
Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Existing Substation Footprint and Buffer Area

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Schedule of Legal Descriptions

Parcel ID	
Pt Lot 2 DP 41865	Pt Alott 285 Parish of Oruawharo
Pt Alott 288 Parish of Oruawharo	

8523 Silverdale Electricity Substation

Designation Number	8523
Requiring Authority	Transpower New Zealand Ltd
Location	83-91 Foundry Road, Silverdale
Rollover Designation	Yes
Legacy Reference	Designation 941, Auckland Council District Plan (Rodney Section) 2011
Lapse Date	Given effect to (i.e. lapse date)

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Purpose

Electricity transmission - Silverdale electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

2. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

8. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

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Radio Frequency Interference

9. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

12. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 6 DP 60254	

8524 Huapai Electricity Substation

Designation Number	8524
Requiring Authority	Transpower New Zealand Ltd
Location	108 Matua Road, Huapai
Rollover Designation	Yes
Legacy Reference	Designation 942, Auckland Council District Plan (Rodney Section) 2011
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Huapai electricity sub-switching station.

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Conditions

General

1. The purpose of the designation is to provide for a switching station at Huapai.
2. The nature of the proposed work is to erect, operate, maintain and upgrade a switching station in accordance with the designation and subject to the conditions set out in the concept plan.
3. The designated site comprises 2.6752 hectares and includes the permanent accessway to the site, the proposed switching station facility and landscape buffers to the river (refer Figure 1 Dwg TX41442B).

Height

4. The maximum height of equipment within the switching station will be as follows:
 - a. Circuits 5 - 7 metres;
 - b. High level bus conductors 9 metres;
 - c. Transmission Pole 18.5 metres;
 - d. Control Room 4.5 metres; and
 - e. Telecommunication Pole 23 metres;

The Height of the two existing towers within the designated area will not be altered as a result of the switching station.

Yards

5. The switching station equipment (including the security fence) is to be sited a minimum of 5 metres from all boundaries of the designated site.

Site Coverage

6. The switching station footprint (demarcated by the security fence) is not to exceed an area of 5650m². This footprint will include all switching station structures except for the earthgrid, which is underground and the 18.5 metre transmission pole securing conductors on the 110kV line.

Security Fence

7. A security fence is to be erected around the switching station. Warning signs are to be placed on this fence and a sign identifying the site as being owned by Transpower New Zealand Ltd (Transpower) is to be erected at the site entrance. The sign at the site entrance shall comply with the Council's signs bylaw.

Landscape Mitigation

8. Planting
 - a. The site will be planted in locations shown in the outline landscape plan (Figure 2 Dwg W00022/01).
 - b. A detailed landscape plan will be submitted for approval by Council as part of the outline plan of works required by section 176A of the Resource Management Act 1991.
 - c. The planting will be completed within the first planting season after the construction of the switching station and shall be maintained (including the replacement of any diseased specimen or failed plantings) in accordance with the approved Plan.
 - d. Landscaping shall be retained and maintained for the duration of the switching station.
9. Screening
 - a. The use of fabric fencing (up to 6m in height) is to be incorporated into the mitigation planting area as a temporary visual mitigation measure.
 - b. The fabric is to be a dark green colour and placed on both sides of screening support structures.
 - c. Locations for the fabric screening and timing of removal is to be confirmed by way of the landscape plan to be submitted for approval by Council as part of the outline plan of works.

The Proposed Auckland Unitary Plan (notified 30 September 2013)

10. Colours of Structures

- a. The 18.5 metre transmission pole and the 23 metre telecommunications pole are to be painted a dark green colour to blend in with the background hills.
- b. The control room and tubular buswork (7m and 9m components) excluding couplings will be a similar colour.
- c. Final colours to be approved by the Manager Resource Consents and Compliance, Auckland Council.
- d. The drop wires and other flexible equipment are to be non-reflective with a matt finish.
- e. The galvanised steel supports are to have a matt or weathered finish.
- f. The switching yard gravel is to be a dark grey colour.

Resource Consents

11. Prior to commencement of construction Transpower will obtain all necessary consents from the Regional and/or District Council and carry out the proposed work in accordance with those consents.

Performance Standards

Lighting

12. The site shall not be illuminated at night except during emergency works or other maintenance work requiring out of hours activity (eg programmed outage). The illuminance of the site lighting installations shall not exceed: 5 lux (lumens per square metre) spill (horizontal or vertical) of light at any window of an adjacent household unit.

Noise

13. The noise level generated by the switching station shall comply at all times with the following noise levels. All activities on the site shall be conducted so as to ensure the following noise limits are not exceeded at any point within the notional boundary of any dwelling:
 - a. Monday to Saturday 7am — 6pm 50dBA L¹⁰;
 - b. At all other times including Public Holidays 45dBA L¹⁰; and
 - c. Monday to Sunday 6pm — 7am 70dBA L^{max}

Notional Boundary is defined as a line 20 metres from the façade of any dwelling or the legal boundary where the boundary is closer than 20 metres to the dwelling. Sound levels shall be measured in accordance with the requirements of NZS 6801:1999 Measurement of Sound and assessed in accordance with the requirements of NZS 6802:2008 Acoustic - Assessment of Environmental Sound except that all measurements shall be carried out within the notional boundary of any dwelling as defined above.

14. Noise levels during the construction period shall comply with the requirements NZS 6803:1999 Acoustics — Construction Noise.

Construction Noise

15. Construction activity shall be undertaken between the hours of 7.30am - 6pm Monday to Saturday. If is essential for construction to be carried out outside these hours, Transpower shall give the occupants of immediately adjoining properties not less than five working days notice of the period during which construction will take place outside the normal construction period, and when those extended hours will commence.

16. Prior to the commencement of work on the site a Construction Management Plan will be prepared and submitted for approval of the Consents Manager. This Plan is to include details of Earthworks and Silt Control Measures. Specifically the management plan will require the following:

- a. The stripping of vegetation, overburden and soil shall be kept to a minimum i.e. cleared areas will be limited to only those areas where work is about to commence; and
- b. A dust management plan.

17. A traffic management plan will be prepared for the construction period and incorporated into the Outline Plan.

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EMF and EMR

18. The switching station shall comply with the guidelines for public exposure to electric and magnetic fields as published in 1998 by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).

19. The telecommunication facility on the site shall be operated so that it satisfies the requirements of NZS 2772.1:1999 in respect of all areas to which the public may have access. A report from a suitably qualified person shall be submitted to the satisfaction of the Consents Manager within three months of the installation commencing operation, confirming that the site is operating in accordance with the guidelines and the requirements of NZS 2772.1:1999. If these levels do not comply with the guidelines site operations will be amended to ensure compliance.

Archaeological Sites

20. In the event of an archaeological site being uncovered, work is to cease immediately in the vicinity of the discovery and the New Zealand Historic Places Trust Regional Archaeologist and Te Tao U ki Ngati Whatua will be contacted so that appropriate action can be taken before work may recommence.

Access

21. The designated access to the site shall not be used for heavy vehicles during the construction period.

Attachments

Figure 1 - Dwg TX41442B

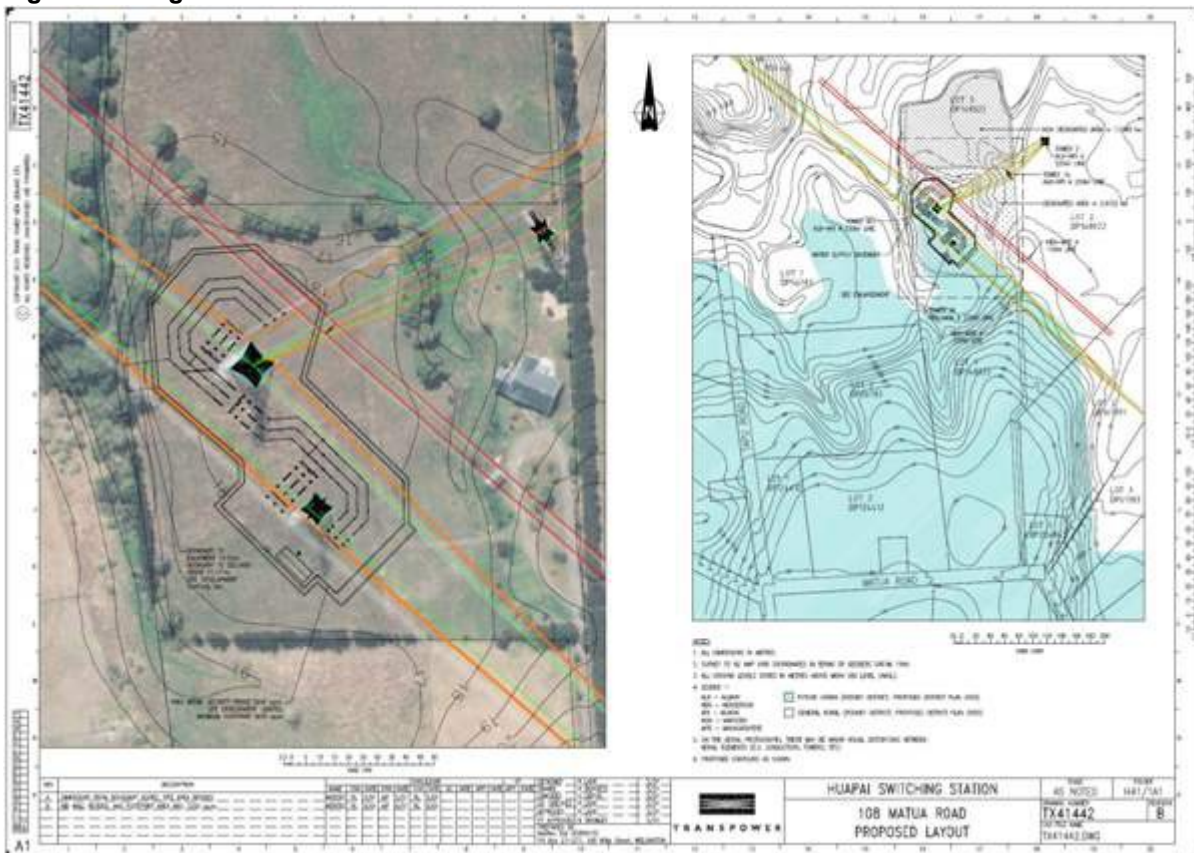
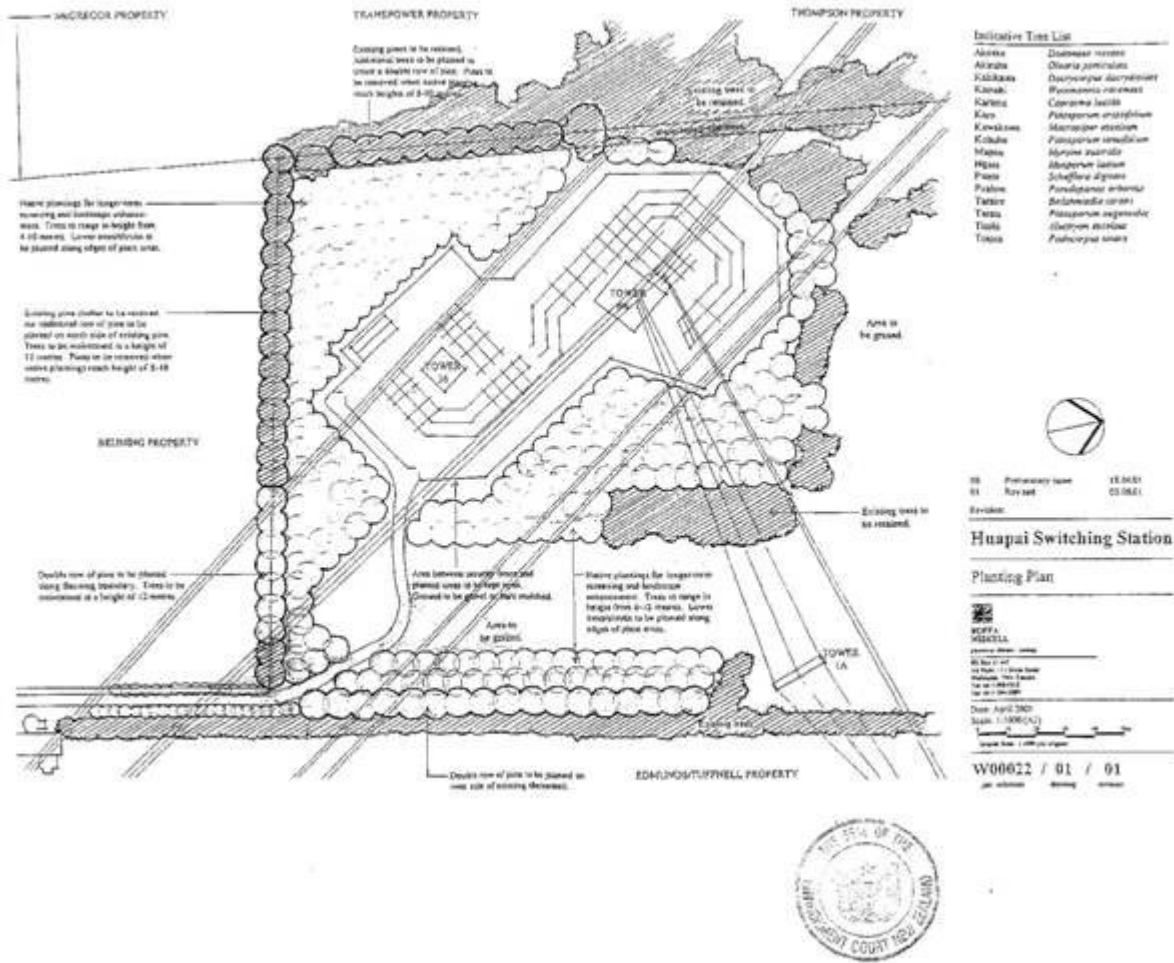


Figure 2 - Dwg W00022/01

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Schedule of Legal Descriptions

Parcel ID	
Lot 3 DP 148022	

8525 Henderson Electricity Substation

Designation Number	8525
Requiring Authority	Transpower New Zealand Ltd
Location	1-12, 41-49 and 35 Lincoln Park Avenue, Massey
Rollover Designation	Yes
Legacy Reference	Designation TP1, Auckland Council District Plan (Waitakere Section) 2003
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Henderson electricity substation.

Conditions

1. To ensure that section 176A 3(f) of the Act has been adequately addressed, an outline plan shall include, as

The Proposed Auckland Unitary Plan (notified 30 September 2013)

appropriate:

- a. A statement on the relevant Plan objectives, policies and rules; and
- b. A statement on any adverse effects the works will have on the environment and the mitigation measures to be carried out

2. Appropriate sedimentation and erosion control measures shall be employed for any earthworks on the designated site.

3. Work which affects the exterior of the group of three buildings located near the site entrance, described in the Heritage Schedule as CH1 1173, shall be limited to repairs, maintenance and works such as security lighting, alarms and cameras which are required for security purposes. Such work may be carried out without an outline plan of works.

Cultural / Spiritual

4. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:

- a. Works in the immediate vicinity of the site that has been exposed shall cease;
- b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
- c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
- d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

5. Subject to condition 3, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

6. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).

7. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.

8. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

9. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

10. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

The Proposed Auckland Unitary Plan (notified 30 September 2013)

Electric and Magnetic Fields (EMF)

11. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

12. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

13. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

14. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

15. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

16. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

17. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 146083	Lot 9 DP 106455
Lot 10 DP 106455	Pt Lot 10 DP 29329
Lot 1 DP 60157	Lot 2 DP 60157
Lot 3 DP 60157	Lot 4 DP 60157
Lot 5 DP 60157	Lot 1 DP 164563

8526 Hepburn Road Electricity Substation

Designation Number	8526
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Requiring Authority	Transpower New Zealand Ltd
Location	167-217 Hepburn Road, Glendene
Rollover Designation	Yes
Legacy Reference	Designation TP2, Auckland Council District Plan (Waitakere Section) 2003
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Hepburn road electricity substation.

Conditions

1. To ensure that section 176A 3(f) of the Act has been adequately addressed, an outline plan shall include, as appropriate:
 - a. A statement on the relevant Plan objectives, policies and rules; and
 - b. A statement on any adverse effects the works will have on the environment and the mitigation measures to be carried out
2. Appropriate sedimentation and erosion control measures shall be employed for any earthworks on the designated site.

Cultural / Spiritual

3. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and
 - d. the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and Maintenance Noise

4. Subject to condition 6, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
5. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).
6. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
7. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents

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Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

8. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous Substances

9. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TPG:GS.54.01), Issue 2, June 2002.

Electric and Magnetic Fields (EMF)

10. Any new works or equipment shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substationsite to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

11. Any new works or equipment shall be designed to comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

12. In designing and constructing any new works or equipment, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

13. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Light Spill

14. Any new exterior lighting shall be designed to comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Requirements for Outdoor Switchyard Lighting Policy, TP GS 41.01, Issue 3, April 2006; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

15. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

16. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic - Assessment of Environmental Sound.

Advice Note

1. Any new works or equipment means those works which were not existing prior to the notification of the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

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Parcel ID	
Lot 1 DP 139739	

8527 Rua o te Whenua Telecommunications Facility

Designation Number	8527
Requiring Authority	Transpower New Zealand Ltd
Location	600 Scenic Drive, Waiatarua
Rollover Designation	Yes
Legacy Reference	Designation TP3, Auckland Council District Plan (Waitakere Section) 2003
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - Rua o te Whenua telecommunications facility.

Conditions

- To ensure that section 176A 3(f) of the Act has been adequately addressed, an outline plan shall include, as appropriate:
 - A statement on the relevant Plan objectives, policies and rules;
 - A statement on any adverse effects the works will have on the environment and the mitigation measures to be carried out; and
 - A visual impact and mitigation assessment where the proposed work is a new tower structure at Rua o te Whenua (Designation 101: Airways Corporation of New Zealand Ltd: Communication facility) (as provided for in condition 4(c)(i)).
- Appropriate sedimentation and erosion control measures shall be employed for any earthworks on the designated site.
- This designation affects a site which is the subject of an earlier designation (AC1) and the following conditions apply to any development on the site.
 - All development on the site shall be within the "defined development area" as defined in Designation 101: Airways Corporation of New Zealand Ltd: Communication facility;
 - The maximum height of any development on the site shall be not more than 25 metres above ground level;
 - Development which is additional to that on the site as at 1 February 2000 (which included a tower structure, three "slim-line" masts, the Airways Corporation equipment building and the Transpower repeater building) shall be limited to:
 - The replacement of the existing tower structure with another facility, provided that when the new facility is completed and commissioned, the existing tower is decommissioned and demolished;
 - Antennae attached to the existing tower or new tower (provided that these do not exceed the overall height limit);
 - Up to four additional "slim-line" masts of similar design to the three existing masts;
 - Accessory buildings with a maximum height of 4.5 metres; and
 - The extension of the site access road.
 - Native vegetation alteration (including removal) shall be restricted to:
 - Removal of vegetation from within the "defined development area"; and
 - Removal or pruning of any vegetation which compromises the operation of the facility.

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Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP 137549	

8528 Massey North Underground Electricity Transmission Cables

Designation Number	8528
Requiring Authority	Transpower New Zealand Ltd
Location	13 Westgate Drive, Massey to 97D Fred Taylor Drive, Whenuapai
Rollover Designation	Yes
Legacy Reference	Designation TP4, Auckland Council District Plan (Waitakere Section) 2003
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission - the Massey North Underground Cable Project, comprising a 110kV underground transmission line for the conveyance of electricity and ancillary structures associated with the works to be located between existing Towers 6 and 12 of the Albany – Henderson A 110kV overhead transmission line.

Conditions

1. To ensure that section 176A 3(f) of the Act has been adequately addressed, an outline plan shall include, as appropriate:
 - a. A statement on the relevant Plan objectives, policies and rules;
 - b. A statement on any adverse effects the works will have on the environment and the mitigation measures to be carried out;
 - c. A visual impact and mitigation assessment where the proposed work is a new tower structure at Rua o te Whenua (Designation TP3 and AC1) (as provided for in condition 4(c)(i)).
2. Appropriate sedimentation and erosion control measures shall be employed for any earthworks on the designated site.
3. "Works" has the same meaning as in the Notice of Requirement by Transpower New Zealand Limited for a designation for "Underground Transmission Line" dated January 2011 ("Notice of Requirement"). Works shall be conducted and maintained generally in accordance with the information provided by the requiring authority as shown on all information and plans titled:
 - a. Form 18 titled 'Notice of Requirement by Transpower New Zealand Limited for designation for "Underground Transmission Line', signed by Brian Warburton – Environmental Strategy and Approvals Group, Transpower NZ Ltd
 - b. Plan Prepared by Beca, titled 'Massey North Underground Cable Project: Land Requirement Plan' Dwg no. GIS-4213785-2-1, GIS-4213785-2-2, GIS-4213785-2-3 all Rev 1.1, all dated 27/05/2011
 - c. Documentation from Beca titled 'Notice of Requirement for a Designation: Massey North Underground Cable Project' dated April 2011
 - d. Letter from Andrew Renton of Transpower titled 'Transpower Approval of Works within Massey North Underground Cable Designation' dated 23 September 2011.
 - e. Letter from Alan Wallace of Auckland Transport titled 'Transpower Approval of Works within Massey North

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Underground Cable Designation v2' dated 28 September 2011.

Designation Review Condition

4. As soon as practicable following completion of the Project, the requiring authority shall:

a. Review the area designated for the Project;

b. Identify:

i. Any areas of designated land (including public reserve) that are no longer necessary for the ongoing operation, maintenance, renewal and protection of the underground cables and ancillary activities;

ii. Any areas of designated land within the legal road boundaries that are more than 1.3 metres from the centreline of the outermost cable (excluding joint bays and associated link pits);

c. Remove the designation over the areas identified in (b) above in accordance with section 182 of the Resource Management Act and provide a plan of the final designated areas to the Council for inclusion in the District Plan; and

d. Provide as-built plans to the Council.

Advice Note

1. Where section 176 approvals under the Resource Management Act 1991 are required by utility operators (other than the Requiring Authority) for their works within the designation, the Requiring Authority will provide a timely response, in order to facilitate co-ordination of section 176 approvals sought by the utility operator and the road opening notice process.

Attachments

Attachment 1: Schedule of Legal Descriptions

The Proposed Auckland Unitary Plan (notified 30 September 2013)

Schedule of Legal Descriptions

Parcel ID/Appellation
Lot 6 DP 96884
Lot 7 DP 105157
Section 3 Block X Waitemata Survey, District
Lot 1-2 DP 117530
Lot 4 DP 117530
Lot 3 DP 117530
Lot 4 DP 117530
Lot 2 DP 127335
Lot 187 DP 191489
Lot 1 DP 200724
Lot 4 DP 205501
Lot 9 DP 105157
Lot 3 and Lot 4 DP 96884
Lot 28 DP 425328

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R8529 Mangere Electricity Substation

Designation Number	R8529
Requiring Authority	Transpower New Zealand Ltd
Location	11, 14 and 16 Driver Road and 307 Massey Road, Mangere
Rollover Designation	No
Legacy Reference	N/A
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission – Mangere electricity substation.

Conditions

Cultural / Spiritual

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1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:

- a. Works in the immediate vicinity of the site that has been exposed shall cease;
- b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
- c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and the notification in (c.) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and maintenance noise

2. Subject to condition 3 below, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).

4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.

5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TP: GS.54.01), Issue 3, December 2011.

Electric and Magnetic Fields (EMF)

8. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

9. Any new works or equipment shall comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

The Proposed Auckland Unitary Plan (notified 30 September 2013)

10. In designing and constructing new works, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard Design of Substation Earthing TP.DS.52.01, Issue 2, January 2005.

Light spill

12. All exterior lighting shall comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Guidelines and Information for Switchyard and Grounds Lighting, TP DS 40.03, Issue 1, April 2012; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic – Assessment of Environmental Sound. Note: Any new works or equipment means those works or equipment which did not exist prior to the notification of the Auckland Unitary Plan.

Outline Plan of Works

15. At the time of submitting an Outline Plan of Works to the Auckland Council Transpower will provide the following:

- a. An Erosion and Sediment Control Plan for any earthworks that exceed 500m² and/or 250m³;
- b. A Construction Management Plan; and
- c. An arboricultural report where any future works will occur within the dripline of any tree and/or any tree trimming is proposed.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP143110	Lots 4 and 5 DP21796

R8530 Hobson Street Electricity Substation

Designation Number	R8530
Requiring Authority	Transpower New Zealand Ltd
Location	13-21 Hobson Street, Auckland City
Rollover Designation	No
Legacy Reference	N/A
Lapse Date	Given effect to (i.e. no lapse date)

Purpose

Electricity transmission – Hobson Street electricity substation.

The Proposed Auckland Unitary Plan (notified 30 September 2013)

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and the notification in (c.) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and maintenance noise

2. Subject to condition 3 below, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TP: GS.54.01), Issue 3, December 2011.

Electric and Magnetic Fields (EMF)

8. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio Frequency Interference

9. Any new works or equipment shall comply with NZS 6869:2004 Limits and Measurement Methods of

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Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing new works, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard Design of Substation Earthing TP.DS.52.01, Issue 2, January 2005.

Light spill

12. All exterior lighting shall comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Guidelines and Information for Switchyard and Grounds Lighting, TP DS 40.03, Issue 1, April 2012; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic – Assessment of Environmental Sound. Note: Any new works or equipment means those works or equipment which did not exist prior to the notification of the Auckland Unitary Plan.

Outline Plan of Works

15. At the time of submitting an Outline Plan of Works to the Auckland Council Transpower will provide the following:

- a. An Erosion and Sediment Control Plan for any earthworks that exceed 500m² and/or 250m³;
- b. A Construction Management Plan; and
- c. An arboricultural report where any future works will occur within the dripline of any tree and/or any tree trimming is proposed.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lot 1 DP91179	

R8531 Wairau Road Electricity Substation

Designation Number	R8531
Requiring Authority	Transpower New Zealand Ltd
Location	4A Wairau Road, Takapuna
Rollover Designation	No
Legacy Reference	N/A
Lapse Date	Given effect to (i.e. no lapse date)

The Proposed Auckland Unitary Plan (notified 30 September 2013)

Purpose

Electricity transmission – Wairau Road electricity substation.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and the notification in (c.) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Construction and maintenance noise

2. Subject to condition 3 below, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.
3. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g. at night-time).
4. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.
5. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Vibration

6. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) Structural Vibration – Effects of Vibration on Structures.

Hazardous substances

7. Any new part of the facility containing oil shall be designed to comply with Transpower's Oil Spill Management Policy (TP: GS.54.01), Issue 3, December 2011.

Electric and Magnetic Fields (EMF)

8. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

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Radio Frequency Interference

9. Any new works or equipment shall comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Earth Potential Rise

10. In designing and constructing new works, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.

11. Any new substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard Design of Substation Earthing TP.DS.52.01, Issue 2, January 2005.

Light spill

12. All exterior lighting shall comply with:

- a. AS/NZS 1158 Lighting for Roads and Public Spaces 2005 Part 3.1; and
- b. Transpower's Guidelines and Information for Switchyard and Grounds Lighting, TP DS 40.03, Issue 1, April 2012; and
- c. AS 4282 1997, Control of Obtrusive Effects of Outdoor Lighting.

Operational Noise

13. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.

14. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic – Assessment of Environmental Sound. Note: Any new works or equipment means those works or equipment which did not exist prior to the notification of the Auckland Unitary Plan.

Outline Plan of Works

15. At the time of submitting an Outline Plan of Works to the Auckland Council Transpower will provide the following:

- a. An Erosion and Sediment Control Plan for any earthworks that exceed 500m² and/or 250m³;
- b. A Construction Management Plan; and
- c. An arboricultural report where any future works will occur within the dripline of any tree and/or any tree trimming is proposed.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Allotment 563 Parish of Takapuna.	

R8532 Highbrook Business Park Underground Electricity Transmission Cable

Designation Number	R8532
Requiring Authority	Transpower New Zealand Ltd
Location	Highbrook Business Park
Rollover Designation	No
Legacy Reference	N/A

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Lapse Date	Given effect to (i.e. no lapse date)
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Purpose

Electricity Transmission – the operation, maintenance and upgrading of underground transmission lines comprising of two 110kV cable circuits and termination structures to convey electricity between Otahuhu and Penrose.

Conditions

Cultural / Spiritual

1. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - a. Works in the immediate vicinity of the site that has been exposed shall cease;
 - b. The site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - c. The site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Auckland Council and, in the case of human remains, the New Zealand Police; and the notification in (c.) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Electric and Magnetic Fields (EMF)

2. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz) (Health Physics, 1998, 74(4): 494–522) (ICNIRP Guidelines) public reference levels of 5 kV/m for electric fields and 100 µT for magnetic flux density at one metre above ground level under maximum normal operating conditions (i.e., when there are no faults in the transmission system).

Earth Potential Rise / Induced Voltages

3. The works shall be designed and constructed to comply with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997.

Radio frequency interference

4. Any new works or equipment shall comply with NZS 6869:2004 Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz.

Operational noise

5. A noise management plan shall be submitted for any new equipment (such as transformers, fans and circuit breakers) that is likely to generate noise audible at the designation site boundary.
6. Sound levels shall be measured and assessed in accordance with NZS6801:1999 Measurement of Sound and NZS6802:2008 Acoustic – Assessment of Environmental Sound. Note: Any new works or equipment means those works or equipment which did not exist prior to the notification of the Auckland Unitary Plan.

Construction and maintenance noise

7. Subject to condition 8 below, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 Acoustics–Construction Noise at locations set out in section 6.2 of that standard.

8. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all

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practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (e.g., at night-time).

9. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999 and the works shall be undertaken in accordance with that noise management plan.

10. The noise management plan required by the above condition 4 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Existing Utilities

11. The Requiring Authority shall consult and liaise with all utility operators whose activities or interests may be affected by proposed construction or maintenance works prior to undertaking any work pursuant to this designation to confirm that:

a. The Requiring Authority is aware of the location of all utility services existing at the time of construction in, or adjacent to, the designation and to identify any necessary exploratory excavation and evaluations of potential effects on the proper functioning of the utility services (including potential for earth potential rise or induction hazards) that should be undertaken;

b. As far as practicable, all utility services (existing at 30 July 2013) located in or adjacent to the designated route are protected from the Works and any associated activities that may interfere with the proper functioning of those services; and

c. Reasonable access to existing utility services located in or adjacent to the designation is maintained during construction.

12. Construction or maintenance works shall be designed and constructed so as not to cause existing assets of other utilities to be non-compliant with AS/NZS 4853:2000 — Electrical Hazard on Metallic Pipelines.

Hours of Work

13. The hours of work shall be restricted to 7 am to 6 pm Monday to Friday, 8 am to 6 pm Saturday, with no construction or maintenance work undertaken on Sundays and Public Holidays.

Property Access

14. Construction and maintenance of the cables shall be undertaken in such a manner as to ensure that reasonable access to properties on the cable route shall be maintained at all times.

Laying of Cables

15. All new cables shall be installed in accordance with the relevant New Zealand Codes of Practice, including NZECP 34 and 35.

16. When laying new cables close to existing metallic pipelines Transpower shall ensure the associated service does not breach the requirements of AS/NZS 4853:2000 - Electrical Hazards on Metallic Pipelines.

Completion of Construction

17. On completion of works, all carriageways, road markings, signs, property access ways, drainage systems and other structures shall be restored to a standard at least comparable to their condition before the commencement of construction and shall be made good as soon as practicable.

Outline Plan of Works

18. At the time of submitting an Outline Plan of Works to the Auckland Council Transpower will provide the

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following:

- a. An Erosion and Sediment Control Plan for any earthworks that exceed 500m² and/or 250m³;
- b. A Construction Management Plan;
- c. An arboricultural report where any future works will occur within the dripline of any tree and/or any tree trimming is proposed; and
- d. Visual assessment, if the works are to be located within 200 metres of Pukekiwiri Volcanic Crater.

Designation Review

19. The Requiring Authority may, in consultation with the Council, as the road controlling authority:

- a. Review the width of the area designated for the project;
- b. Identify:
 - i. Any areas of designated land that are no longer necessary for the ongoing operation, maintenance, renewal and protection of the underground cables and ancillary activities; and
 - ii. Any areas of designated land within the legal road boundaries that are more than 2.5 metres from the centreline of the cables (excluding joint bays, which should be 3 metres in width) ; and
- c. Remove the designation over the areas identified in (b) above in accordance with section 182 of the Act and provide a plan of the final designated areas to the Council for inclusion in the Auckland Unitary Plan.

Attachments

Schedule of Legal Descriptions

Parcel ID	
Lots 502 and 513 DP381745	Lot 510 DP387222