### Transpower New Zealand Ltd

#### Designation Schedule - Transpower New Zealand Ltd

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| **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 |
| 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)  |

### 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 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**

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| **Parcel ID** |
| Lot 1 DP 42415 |  |

#### 8501 Penrose Substation

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| --- | --- |
| 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.

**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 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 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**

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| **Parcel ID** |
| Pt Lot 1 DP 14147 |  |

#### 8502 Pakuranga to Penrose Transmission Lines

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| --- | --- |
| 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**

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.

### Attachments

**Schedule of Legal Descriptions**

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| **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 |
| 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

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| --- | --- |
| 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 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 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 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**

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| **Parcel ID** |
| Lot 1 DP 141985 | Lot 2 DP 141985 |

#### 8504 Boundary Road Transmission Lines

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| --- | --- |
| 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 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** |
| Pt Lot 7 DP 43155 |  |

#### 8505 Haycock Avenue Overhead Electricity Transmission Lines

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| --- | --- |
| 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 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**

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| --- |
| **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.

### 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 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 128773 | Lot 2 DP 128773 |
| Lot 3 DP 128773 | Lot 4 DP 128773 |

#### 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;
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 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:
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. Roading 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.

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 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.

**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

**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 NEARVILLAGE OF Panmure |
| Lot 1 DP 67262 | Lot 1 DP 51781 |
| 5256899 | 5212526 |
| 5209116 | Pt Allot 36 Sec 1 SMALL LOTS NEARVILLAGE OF Panmure |
| 5257525 | 5233659 |
| 5207513 | Pt Allot 35 Sec 1 SMALL LOTS NEARVILLAGE 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 |
| 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**

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;

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**

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

### 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) (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 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**

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| --- |
| **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)  |

### 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 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 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**

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| --- |
| **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) |

### 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:
a. Subject to (b), (c), (d) and (e) below, tower height can exceed that shown on the plans and profiles by up to three metres;
b. 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;
c. 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;
d. 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;
e. No tower shall exceed 70 metres in height;
f. Tower sites may be moved up to five metres laterally; and
g. 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:
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 tangata 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.

**Social**
4. 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.

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 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).

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.
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** | **Crietria** |
| 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:

|  |  |
| --- | --- |
| **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.

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 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 conductoring of each tower, not merely the commencement of tower erection or conductoring.

**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 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 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.
 **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.

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:

|  |  |
| --- | --- |
|  **Relevant Towers** |  **Proposed Replacement Planting and Purpose** |
| Span 54A-55(Beale, evidence in chief para 28(b)) | - 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)) | - 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 tānekaha 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 tānekaha that are dependent on a favourable degree of light penetration for growth - Planting along bank of Mangatāwhiri 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 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 Moise**
39. 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.

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. 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

**Maps of the Designation**

**Maps from Appendix V of the Board of Inquiry**

**Schedule of Legal Descriptions**

|  |
| --- |
| **Parcel ID/Appellation** |
|   | 5232658 |
| 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 |
| Pt Allot 21 Parish of Wairoa | Lot 5 DP 127133 |
| 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  |
| 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;
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 Lmax

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

### 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.

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;
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).

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**

**Map 1 of Appendix v of the Board of Inquiry Decision**

**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.

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 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**
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 Lmax;

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 Lmax.

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.

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 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**





**Schedule of Legal Descriptions**

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| --- |
| **Parcel ID** |
| Lot 1 DP 209513 | Lot 3 DP 325254 |

#### 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.

**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;
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;
iii. Eemergencies;
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.

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 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 / Caldwells Road Intersection Sight Line Protection**
29. Transpower shall construct and install the cable in the vicinity of the Sandstone / Caldwells 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/Caldwells 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 of Appendix V.

### Attachments

**Maps from Appendix V of the Board of Inquiry Decision**

**Schedule of Legal Desciptions**

|  |
| --- |
| **Parcel ID/Appellation** |
| 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  |
| 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 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;
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
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;
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, 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
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**

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

**Schedule of Legal Descriptions**

|  |
| --- |
| **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 |

#### 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 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 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 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 |   |

#### 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;
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 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 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 leastcomparable 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.

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**



#### 8520 Takanini Electricity Substation

|  |  |
| --- | --- |
| Designation Number | 8520  |
| Requiring Authority | Transpower New Zealand Ltd |
| Location | 65 Airfield Road, Takanini  |
| Rollover Designation | Yes  |
| 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 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 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  |
| Lapse Date | Given effect to (i.e. no lapse date)  |

### 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.

**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 |  Lmax |
| Monday – Sunday7am – 8pm  | 55 dBA  | -  |
| Monday – Sunday8pm – 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 Lmax 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 n 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 (significan 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 or remains are not further disturbed; and
c. The site supervisor shall notify tangata whenua, the New Zealand Historic Places Trust, the Department of Conservation, the Auckland Council, and, in the case of human remains, the NZ police, that an archaeological or traditional site has been exposed so that appropriate action can be taken. This includes such persons being given reasonable time as determined by the Council to record and recover archaeological features discovered before work may commence.

19. That the requiring authority consult with the Kaitiaki Unit (Te Roopu Kaitiaki O Papakura) in regard to the proposed creation of a wetland and riparian planting to mitigate the diversion of one of the springs on the site.

### Attachments

**Figure 4 - Landscape Plan**



**Schedule of Legal Descriptions**

|  |
| --- |
| **Parcel ID** |
| Pt Lot 1 DP 62333 | Pt Lot 2 DP 62333 |

#### 8522 Wellsford Electricity Substation

|  |  |
| --- | --- |
| Designation Number | 8522  |
| Requiring Authority | Transpower New Zealand Ltd  |
| Location | 69 School Road, Wellsford  |
| Rollover Designation | Yes  |
| Legacy Reference  | Designation 940, Auckland Council District Plan (Rodney Section) 2011  |
| Lapse Date | Given effect to (i.e. no lapse date)  |

### 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:

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**

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 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 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**

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**



**Schedule of Legal Descriptions**

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

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| Pt Alott 285 Parish of Oruawharo |

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| Pt Alott 285 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)  |

### 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 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 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**

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| **Parcel ID** |
| Lot 6 DP 60254 |  |

#### 8524 Huapai Electricity Substation

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| --- | --- |
| 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.

### 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.

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 Lmax

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.

**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**


**Schedule of Legal Descriptions**

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| **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 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.

**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 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**

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**

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| **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  |
| 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 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 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**

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

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; and
c. 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)).

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

3. 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.
a. 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;
b. The maximum height of any development on the site shall be not more than 25 metres above ground level;
c. 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:
i. 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;
ii. Antennae attached to the existing tower or new tower (provided that these do not exceed the overall height limit);
iii. Up to four additional “slim-line” masts of similar design to the three existing masts;
iv. Accessory buildings with a maximum height of 4.5 metres; and
v. The extension of the site access road.
d. Native vegetation alteration (including removal) shall be restricted to:
i. Removal of vegetation from within the “defined development area”; and
ii. Removal or pruning of any vegetation which compromises the operation of the facility.

### 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 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**



#### 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** 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** 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 500m2and/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**

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| --- |
| **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.

### 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 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 500m2and/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**

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| **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) |

### 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).
 **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 500m2and/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**

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

### 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 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 following:
a. An Erosion and Sediment Control Plan for any earthworks that exceed 500m2and/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 Pukekiwiriki 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**

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| **Parcel ID** |
| Lots 502 and 513 DP381745 | Lot 510 DP387222 |