



30 September 2016

Stephen Town
Chief Executive
Auckland Council
Private Bag 92300
Victoria Street West
AUCKLAND 1142

By email: Stephen.town@aucklandcouncil.govt.nz

cc: Legal Department
C/- Mike Wakefield

By email: mike.wakefield@aucklandcouncil.govt.nz

cc: Unitary Plan Team

By email: unitaryplan@aucklandcouncil.govt.nz

**DECISION ON HEARING TOPIC 074 DESIGNATIONS - TELEVISION NEW ZEALAND LIMITED -
MODIFICATIONS TO DESIGNATIONS 8300, 8301 AND 8302 INCLUDED IN PROPOSED
AUCKLAND UNITARY PLAN**

Summary/overview of decision

- 1 These are the decisions by Television New Zealand Limited (**TVNZ**) in its capacity as a requiring authority, on recommendations made by Auckland Council. The recommendations relate to existing designations, which have been 'rolled over' with modifications into the Proposed Auckland Unitary Plan.
- 2 The Council's recommendations were publicly notified on 19 August 2016. The Council has recommended that TVNZ confirm the notice of requirement (**NOR**) for the modifications to Designations 8300 - Television Broadcasting Centre, 8301 - Microwave Transmission Corridor and 8302 - Satellite Earth Station Transmission Path, which were included in the Proposed Auckland Unitary Plan.
- 3 In accordance with section 151(2) of the Local Government (Auckland Transitional Provisions) Act 2010 (**LGATPA**), the decision of TVNZ is to accept the Council's recommendations in full, and to confirm the designations with all modifications.

- 4 TVNZ adopts the recommendations of the Council and the Independent Hearings Panel, including the conclusions and reasons contained in the report entitled "Report to Auckland Council Hearing Topic 074 Designations - Television New Zealand Ltd - Minor Matters and Errors, May 2016."
- 5 The reasons for TVNZ's decisions can be summarised as follows:
 - 5.1 The modifications to Designation 8300, which were included in the Proposed Auckland Unitary Plan as notified are minor changes that avoid cross-referencing legacy plan provisions by replacement with self-contained conditions. Inclusion of self-contained conditions improves the readability of the designation. The conditions proposed are similar in effect to the legacy provisions. There is no alteration or change to the effects of the designation.
 - 5.2 The modifications to Designation 8301, which were included in the Proposed Auckland Unitary Plan as notified, are minor changes of a technical nature. The changes are an expanded designation description, correction of references to current New Zealand Standards and inclusion of additional technical information to improve the readability and understanding of the purpose of the corridor. There is no alteration or change to the effects of the designation, which protects an existing transmission corridor.
 - 5.3 The modifications to Designation 8302, which were included in the Proposed Auckland Unitary Plan as notified, are minor changes of a technical nature. The changes are correction of references to current New Zealand Standards and substitution of a higher quality plan of the entire transmission path for previous fragmented plans. The readability of the designation is improved. There is no alteration or change to the effects of the designation, which protects an existing transmission path.

Decision on Designation 8300, 100 Victoria Street West

Purpose: Television broadcasting centre, including offices, studios, production facilities, technical services and facilities, transmission equipment, and associated storage and car parking.

- 6 TVNZ's decision is that:
 - 6.1 The Council's recommendation that the NOR for modifications to Designation 8300 be confirmed is accepted in full.

- 6.2 Designation 8300 is confirmed, subject to the conditions contained in Schedule A to this decision, which are the same conditions as those which were included in the Proposed Auckland Unitary Plan as notified and recommended by the Council.

Decision on Designation 8301, Microwave Transmission Corridor - 100 Victoria Street West to Ponsonby Road, Ponsonby *

Purpose: Microwave Transmission Corridor - a protection corridor of specified height (elevation above sea level) and width through which no building, structure or tree can pass to ensure continuity of a microwave linking / transmission path from the TVNZ Broadcasting Centre at 100 Victoria Street West, Central Auckland to the Waiatarua Transmission Station at 539 Scenic Drive, Waiatarua

*Joint Television New Zealand Ltd and Kordia Ltd (Designation 3300) designation from 100 Victoria Street West, Auckland Central to Ponsonby Road, Ponsonby. Kordia Ltd designation only from Ponsonby Road to 501 Scenic Drive, Waiatarua.

7 TVNZ's decision is that:

- 7.1 The Council's recommendation that the NOR for modifications to Designation 8301 be confirmed is accepted in full.
- 7.2 Designation 8301 is confirmed, subject to the conditions and attachments contained in Schedule B to this decision, which are the same conditions as those which were included in the Proposed Auckland Unitary Plan as notified and recommended by the Council.

Decision on Designation 8302, Satellite Earth Station Transmission Path - 100 Victoria Street West to airspace north and west, Auckland Central

Purpose: Satellite earth station transmission path - areas subject to height restrictions

8 TVNZ's decision is that:

- 8.1 The Council's recommendation that the NOR for modifications to Designation 8302 be confirmed is accepted in full.
- 8.2 Designation 8302 is confirmed, subject to the conditions and attachment contained in Schedule C to this decision, which are the same conditions as those which were included in the Proposed Auckland Unitary Plan as notified and recommended by the Council.



We note that under section 151 of the LGATPA Council has 15 working days to publicly notify the decisions.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Brent McNulty', written in a cursive style.

Brent McNulty

General Counsel and Corporate Affairs Director



SCHEDULE A
Designation 8300 Television Broadcasting Centre



SCHEDULE B
Designation 8301 Microwave Transmission Corridor



SCHEDULE C
Designation 8302 Satellite Earth Station Transmission Path



SCHEDULE A
Designation 8300 Television Broadcasting Centre

Designation Number	8300
Requiring Authority	Television New Zealand Ltd
Location	100 Victoria Street, Auckland Central
Rollover Designation	Yes
Legacy Reference	Designation 300, Auckland Council District Plan (Central Area Section) 2005
Lapse Date	Given effect to (i.e. no lapse date)

Description

Television broadcasting centre including offices, studios, production facilities, technical services and facilities, transmission equipment, and associated storage and car parking.

Conditions

1 Maximum height

The height of any building shall not exceed 50m except that a transmission tower not exceeding 25m² in plan area may be erected to a height not exceeding 72m above mean sea level.

2 Rooftop control

- a) Rooftop projections including towers, turrets, chimneys, lift towers, machinery rooms and water towers which exceed the height of all parts of a parapet surrounding the roof on which the projections are located, shall be enclosed in either a single structure or a maximum of three structures.
- b) All floor space forming part of rooftop projections that meet the requirements of this rule is excluded from the calculation of gross floor area for the development.

3 Floor area ratio

The floor area ratio for the site shall not exceed 4:1 provided that it may be increased to a maximum total floor area ratio of 6:1 through the provision of bonuses in accordance with condition 4 below.

4 Bonus floor area

- a) The amount of bonus floor area shall be calculated in accordance with Figure A and, where appropriate, conditions 4.1, 4.2 and 4.3 below.
- b) The area of a feature for which a bonus is obtained cannot be claimed for twice.

Figure A

Bonus Feature	Bonus Floor Area Available per Square Metre of Feature Provided	Maximum Floor Area Ratio Limit to Bonuses on a Site
Accommodation (including Non Permanent Accommodation)	2m ²	2:1
Pre-school facility	3m ²	1:1
Rest room	3m ²	1:1
Plaza	3m ²	1:1
Escalators	500m ² per pair	0:5:1
Light and outlook	See condition 4.1	
Through-site links	See condition 4.2	0.5:1
Works of art	See condition 4.3	1:1

4.1 Light and outlook

A bonus will be awarded where that part of a building to which CFA relates is reduced in coverage as set out in Figure B.

Figure B

Where:	Bonus FAR equals
(a) $\frac{CFA}{SA} < 0.3$	1.5:1
(b) $0.3 \leq \frac{CFA}{SA} \leq 0.8$	$2.4 - \frac{(3 \times CFA)}{SA} : 1$
(c) $\frac{CFA}{SA} \geq 8.0$	Nil

SA = site area

4.2 Through-site links

- a) The through-site link bonus applies to lanes, arcades and covered links which provide a separately defined, continuous and clearly identifiable public walkway taking the most direct route and providing a shorter and more convenient route than the existing alternative.
- b) The bonus floor area achievable per square metre of through-site link provided shall be calculated in accordance with the ratio L1:L2 where:

L1 = The shortest distance between points A and B measured along the road boundary.

L2 = The shortest pedestrian route between points A and B.

- c) Subject to the maximum FAR limited for a through-site link bonus set out in Figure A:
- i) the bonus floor area available per square metre of through-site link provided shall not exceed 10m² (ie where L1:L2 = 10:1); and
 - ii) the bonus floor area available per square metre of through-site link provided shall be no less than 5m² (ie where L1:L2 = 5:1 or less) provided that through-site links that attain less than 2m² shall not be eligible for a bonus.
- d) For the purpose of these measurements the following terms apply:
- i) Road boundary includes the shortest distance between points at either end of a pedestrian access which is protected by a registered easement or similar form of dedication.
 - ii) No part of a through-site link is counted more than once for the measurement of L2.
 - iii) Where escalator pairs are included in the through-site link they count as having zero distance except that the separate bonus available for escalator pairs still applies.
 - iv) Where a single escalator is included in a through-site link, the calculation of L2 includes the plan distance of the escalator.
 - v) Where stairs are included in a through-site link their actual travel distance applies.

4.3 Works of art

- a) Bonus floor area is available at the ratio of 5% extra floor area for each 1% of total construction cost spent on the commission and execution of the work of art.
- b) For the purpose of calculating the extra floor area which can be claimed, 5% shall be taken off the total floor area which has resulted from the addition of:
 - iii) the floor area permitted by the basic floor area ratio;
 - iv) all bonus floor area claimed and awarded (apart from the extra floor area claimed for provision of a work of art);
 - v) areas contained within a building occupied by pedestrian facilities for which consent has been granted;
 - vi) areas in entrance foyer/lobby or part thereof being a primary means of access to a building which is open to the public, is

accessed directly from a public place and has an overhead clearance of not less than 6m.

- c) A certificate prepared and signed by a registered quantity surveyor or registered architect shall be supplied to the Council to verify the total construction cost, land cost and cost of the proposed work of art.
- d) If a fraction of the 1% of total construction cost is spent on the commission and execution of the work, the amount of extra floor area granted shall be increased or reduced in the same proportion.

5 Screening

Where any outdoor storage, service or refuse disposal area adjoins or directly faces a road or other public open space or a residential precinct, such areas, excluding access ways to off street loading bays, shall be screened from the road, public open space or residential precinct by a solid wall or fence not less than 1.8m in height.

6 Parking and loading

- 6.1 The maximum number of parking spaces shall not exceed one space per 200 sqm of GFA.
- 6.2 The following shall be the minimum number of loading spaces to be provided:

Gross Floor Area of Activity (sq m)	Number of Loading Spaces
0 - 20,000	1
20,001 - 50,000	2 (one on-street for courier services)
Over 50,000	3 + 1 per 37,160 sq m (one on-street for courier services)

- 6.3 The area of any required loading and permitted parking space(s), vehicular access drives and aisles provided within a building shall be excluded from the assessment of gross floor area of that building for the purpose of ascertaining the total number of spaces required.
- 6.4 Where an assessment of the permitted parking or required loading standards results in a fractional space, any fraction under one half shall be disregarded and any fraction of one half or more shall be counted as one space.

7 Formation of parking and loading areas

- 7.1 Every permitted parking and/or required loading space shall:
 - a) have dimensions in accordance with Table A Manoeuvring & Parking Space Dimensions;

- b) be provided with such access drives and aisles as necessary for vehicles travelling to and from the road, and for the manoeuvring of vehicles within the site.
 - c) be located on the same site as the activity to which it relates, be available at all times and shall have adequate useable access to that activity or building. Each loading space shall be adjacent to an adequate area for goods handling and shall be convenient to any service area or service lift.
- 7.2 In addition, every loading space shall be of useable shape and shall be of the following dimensions
- a) not less than 8m in depth
 - b) notwithstanding anything to the contrary in paragraph a) above, for articulated vehicles, not less than 11m in depth
 - c) for adequate manoeuvring, not less than 3.5m in width, or such greater width as is required
 - d) not less than 3.8m in height
- 7.3 All parking and loading spaces, access drives, manoeuvring areas and aisles shall be formed, provided with an all-weather surface, drained, marked out or delineated, and maintained.
- 7.4 Required loading areas must be kept clear and available at all times, free of charge and impediment, for vehicles used in conjunction with the particular activity to which the loading spaces relate on the site, and shall not be used for the depositing or storage of any goods or materials or for any other purpose.
- 7.5 The maximum gradients for parking surfaces and floors shall be 1:16 transversely, and 1:20 longitudinally along the direction of the space. For service and manoeuvring areas the gradient shall not exceed 1:12.5 and shall be kept to a minimum.
- 7.6 Where a parking or manoeuvring area is adjacent to a road, a kerb or similar barrier, not less than 150mm high and at least 600mm from the road boundary, shall be provided on those parts of the frontage not used for vehicular access.

Table A - Manoeuvring and parking space dimensions

Parking Angle	Width of Parking Space	Kerb Overhang	Depth of Parking Space	Manoeuvring Space	Total Depth One Row	Total Depth Two Rows
90° Regular Users*	2.3(a)	1.0	4.9	8.3	13.2	18.1
	2.4(b)	"	"	7.1	12.0	16.9
	2.5	"	"	6.7	11.6	16.5
	2.6	"	"	6.3	11.2	16.1
	2.7	"	"	5.9	10.8	15.7
	≥2.75	"	"	5.9	10.8	15.7
90° Casual Users*	2.5	1.0	4.9	8.1	13.0	17.9
	2.6	"	"	7.1	12.0	16.9
	2.7	"	"	6.7	11.6	16.5
	≥2.75	"	"	6.6	11.5	16.4
75°	2.3(a)	1.0	5.2	7.0	12.2	17.4
	2.4(b)	"	"	6.5	11.7	16.9
	2.5	"	"	6.0	11.2	16.4
	2.6	"	"	5.7	10.9	16.1
	2.7	"	"	5.0	10.2	15.4
	≥2.75	"	"	4.3	9.5	14.7
60° (3)	2.3(a)	1.0	5.2	5.0	10.2	15.4
	2.4(b)	"	"	4.6	9.8	15.0
	2.5	"	"	4.1	9.3	14.5
	2.6	"	"	3.5	8.7	13.9
	2.7	"	"	3.3	8.5	13.7
	≥2.75	"	"	3.2	8.4	13.6
45° (3)	2.3(a)	0.8	4.9	3.3	8.2	13.1
	2.4(b)	"	"	2.9	7.8	12.7
	2.5	"	"	2.7	7.6	12.5
	2.6	"	"	2.5	7.4	12.3
	2.7	"	"	2.4	7.3	12.2
	≥2.75	"	"	2.3	7.2	12.1
30° (3)	2.3(a)	0.6	4.0	2.5	6.5	10.5
	2.4(b)	"	"	2.4	6.4	10.4
	2.5	"	"	2.4	6.4	10.4
	2.6	"	"	2.4	6.4	10.4
	2.7	"	"	2.3	6.3	10.3
	≥2.75	"	"	2.3	6.3	10.3
Parallel (3)	5.9	0.4	2.5	3.6	6.1	8.6
	6.1	"	"	3.3	5.8	8.3
	6.3	"	"	3.0	5.5	8.0

* *Regular users are people whose regular use gives them a familiarity with the building that permits smaller safe clearances between vehicles and parts of buildings. Casual users are people (usually short-term visitors) who would not be familiar with the building layout.*

NOTES:

- a) *Stall widths of 2.3m should only be used where users are familiar with the carpark, and parking is long term. This stall width does not meet the requirements of the Building Code.*
- b) *Stall widths of 2.4m should generally only be used where users are familiar with the carpark. This stall width does not meet the requirements of the Building Code for Casual Users.*

- c) *Minimum aisle widths are 3.5m for a one-way aisle, and 5.5m for a two-way aisle. Where an aisle serves more than 50 spaces, it should be designed as a circulation route in which case the minimum width for a two-way aisle increases to 6.5m. Note that the Building Code requires an extra 0.8m width where pedestrians use a vehicle circulation route.*
- d) *Stall widths shall be increased by 0.3m where they abut obstructions such as columns or walls.*
- e) *All overhang areas shall be kept clear of objects greater than 150mm in height.*
- f) *Where parallel end spaces have direct access through the end of the stall the length of the stall may be reduced to 5.4m.*
- g) *One-way traffic is assumed for angle spaces.*
- h) *Carparks shall have a height of at least 2.3m over the full area of the space, except where special provision is made to divert 'over-height' vehicles, in which case the minimum height may be reduced to 2.1m.*
- i) *Linear interpolation is permitted for stall width, parking angle and aisle width.*

8 Access

8.1 Access to Site

- a) Every parking and loading space shall have access from a road, in accordance with the following standards:
 - (i) For carparks not providing access to loading, an unobstructed carriageway not less than 4.5m wide or entrance and exit carriageways, each not less than 2.4m wide.
 - (ii) For access to loading, an unobstructed carriageway not less than 6m wide or entrance and exit carriageways, each not less than 3m wide.
- b) All bends in the carriageway are to be designed in accordance with the appropriate design vehicle.
- c) The grade of access shall not be steeper than 1 in 4 for carparks not providing access to loading, and 1 in 8 for access to loading. For curved ramps and driveways, the gradient is measured along the inside radius.

Ramps or driveways terminating on a grade steeper than 1 in 20 prior to the road reserve shall be provided with a platform not steeper than 1 in 20, located adjacent to the road boundary. For land not providing access to loading, the length of the platform shall not be less than 4m, and for land providing access to loading, not less than 6m. Where the driveway gradient is steeper than 1 in 8, a transition section will be required to avoid inadequate ground clearance.
- d) No building or building platform served by the access is to be more than 90m from a fire hydrant.

- e) Where the width of a carriageway is less than 3m it is to be contained within a corridor 4.5m high and clear of buildings or parts of buildings.

8.2 Vehicular access over footpaths

- a) Vehicular crossing over footpaths shall comply with the following:
 - (i) No more than one crossing will be permitted. However, additional crossings may be approved as a restricted discretionary activity.
 - (ii) The maximum width of any crossing at the road frontage boundary of the site shall be 6m.
 - (iii) the total crossing width for any front or corner site shall not exceed 50% of the frontage to any road in which it is placed.
 - (iv) any access shall be so graded as to abut the road boundary at the relative level of the existing footpath.
- b) Where entrance locations are altered, crossings no longer required shall be reinstated as verge and/or footpath and the kerbs replaced.

8.3 Reverse manoeuvring

Sufficient space shall be provided on the site so that no reverse manoeuvring on or off the road is necessary by the vehicles using the parking or loading space.

9 Definitions

Average floor area

Average Floor Area (**AFA**) is the average of the horizontal areas measured at 1.5 metres above all floor levels from the external faces of the building, including all voids and the thickness of external and internal walls, provided that:

- a) basement space as defined in this rule shall be exempt from the AFA calculation
- b) approved pedestrian amenities and facilities such as through-site links, footpaths widening and escalators shall be exempt from the calculation
- c) for sites with a gross site area greater than 2,000 square metres, where the horizontal area at any floor level totals less than 400 square metres, then the horizontal area at that level shall be deemed to be 400 square metres for the purpose of calculating AFA
- d) a void forming an integral part of an entrance lobby - foyer (being a primary means of public access to a building) which is open to the public and accessed directly from a public place, shall be exempt from the AFA calculation.

Basement

Basement means any building storey the greater part of the volume of which is below mean street level. Except that for the purpose of calculating average floor area (AFA) and gross floor area (GFA) for a building on a through-site basement means for AFA and GFA:

- i) any space within any building storey where the greater part of the volume of that storey is below the mean street level of the lower frontage
- ii) any space used for carparking (including manoeuvring areas, access aisles and access ramps) occupying any building storey the greater part of the volume of which is below mean street level of the upper frontage to the midpoint measured horizontally between the upper frontage and the lower frontage (see diagram below).

Calculated floor area (CFA)

Average floor area calculated by averaging the area of that floor or part of the floor immediately below a horizontal plane 12.5 metres above mean street level and all floors above that plane.

Floor area ratio

Floor area ratio (**FAR**) means the relationship between building gross floor area and land area of the site, and is expressed by the formula:

$$\text{FAR} = \frac{\text{gross floor area}}{\text{land area of the site}}$$

For the purpose of computing FAR, land area of the site excludes:

- a) any part of adjoining roads and any portion of the site affected by building lines for the purpose of future road widening unless specifically provided for in this Plan.
- b) any part of the site which is made up of the an interest in any airspace above or subsoil below a road.

Gross floor area

Gross floor area (**GFA**) is the sum of the gross of the several floors of all buildings on a site measured from the exterior faces of the exterior walls, or from the centre lines of walls separating two buildings or, in the absence of walls, from the exterior edge of the floor. The measurement point shall be at 1.5 metres above floor level, except for terraces (open or roofed), external balconies and porches when the measurement point shall be at floor level.

In particular gross floor area includes:

- a) Voids except as otherwise provided, where vertical distance between storey levels exceeds 6.0 metres, the gross floor area of the building or part of the building so affected shall be taken as the volume of that airspace in cubic metres divided by 3.6.
- b) Basement space except as specifically excluded by this definition.
- c) Elevator shafts, stairwells and lobbies at each floor unless specifically excluded by this definition.
- d) Interior roof space providing headroom of 2.0 metres or more whether or not a floor has been laid.
- e) Floor spaces in interior balconies and mezzanines.
- f) Floor space in terraces (open or roofed), external balconies, porches if more than 75% of the perimeter of these spaces is enclosed, except that a parapet not higher than 1.2 metres or a railing not higher than 1.4 metres shall not constitute an enclosure.

- g) Car parking spaces permitted including driveways, aisles and manoeuvring aisles other than car parking in basement space.
- h) All other floor space not specifically excluded.

The gross floor area of the building shall not include:

- i) uncovered steps
- ii) interior roof space and storage areas having less than 2.0 metres headroom
- iii) floor space in terraces (open or roofed), external balconies, or porches where not more than 75% of the perimeter of these spaces is enclosed and where a parapet not higher than 1.2 metres or a railing not higher than 1.4 metres does not constitute an enclosure
- iv) pedestrian facilities approved by the Council and eligible for bonus floor space
- v) pedestrian circulation space
- vi) basement space for stairs, escalators and elevators essential to the operation of a through-site link whether or not such a link qualifies for bonus floor space, or servicing a floor used primarily for car parking or loading
- vii) other basement space to an equivalent maximum FAR of 1 except that the space excluded shall not be used in the calculation of permitted parking
- viii) required off-street loading spaces
- ix) car parking in basement space (including manoeuvring areas, access aisles and access ramps) except that the space excluded shall not be used in the calculation of permitted parking
- x) non-habitable floor space in rooftop structures
- xi) any entrance foyer/lobby or part of it including the void forming an integral part of it (being a primary means of access to a building), which is open to the public, is accessed directly from a public place and has an over-head clearance of not less than 6.0 metres.

Rooftop

Rooftop includes the roof of building podiums in addition to its ordinary meaning. Rooftop projections do not include:

- i) Any part of a building included in the definition of gross floor area.
- ii) Any roof top ornamental projections including finials, turrets, towers, cupola, pediments and cornices integral to the design of the building; and
- iii) Telecommunications antennas and aerials.

Total construction cost

For the purposes of condition 4.3 Total Construction Cost means the total cost of completing the development (or in the case of an existing development, the replacement cost of that development) for which extra floor area is claimed to be an initial tenantable condition, including

all external and internal structural walls of the building to a finished standard (but excluding non-structural partitioning and furnishings); all building services; floor coverings; and all site works but not including land cost or the cost of the proposed work of art.

Attachments

No attachments.



SCHEDULE B
Designation 8301 Microwave Transmission Corridor

Designation Number	8301*
Requiring Authority	Television New Zealand Ltd
Location	100 Victoria Street West, Auckland Central to Ponsonby Road, Ponsonby
Rollover Designation	Yes
Legacy Reference	Designation 301, Auckland Council District Plan (Central Area Section) 2005
Lapse Date	Given effect to (i.e. no lapse date)

*Joint Television New Zealand Ltd and Kordia Ltd (Designation 3300) designation from 100 Victoria Street West, Auckland Central to Ponsonby Road, Ponsonby. Kordia Ltd designation from Ponsonby Road to 501 Scenic Drive, Waiatarua.

Description

Microwave Transmission Corridor - a protection corridor of specified height (elevation above sea level) and width through which no building, structure or tree can pass to ensure continuity of a microwave linking / transmission path from the TVNZ Broadcasting Centre at 100 Victoria Street West, Central Auckland to the Waiatarua Transmission Station at 539 Scenic Drive, Waiatarua.

Conditions

1. All masts, antennas, aerials and other facilities must comply with New Zealand Standard NZS2772.1:1999 or any amendments, at all times.

The following table shows, at specific points along the path of the corridor, the width of the corridor and the base-height of the corridor. Intermediate widths and heights shall be determined by extending straight lines between adjacent points.

Path Length (KM)	Corridor Width (m)	Maximum Obstruction Height above Mean Sea Level (m)
0.000 (a)	6.8	62.6
0.025	6.8	63.0
0.050	6.8	63.4
0.075	6.8	63.8
0.100	6.8	64.2
0.125	6.8	64.6

Path Length (KM)	Corridor Width (m)	Maximum Obstruction Height above Mean Sea Level (m)
0.150	6.8	65.0
0.175	6.8	65.4
0.200	6.8	65.8
0.225	6.8	66.2
0.250	6.8	66.6
0.275	6.8	67.0
0.300	6.8	67.3
0.325	6.8	67.7
0.350	6.8	68.1
0.375	6.8	68.5
0.400	6.8	68.9
0.425	6.8	69.3
0.450	6.8	69.7
0.475	6.8	70.1
0.500	6.8	70.5
0.525	6.8	70.9
0.550	6.8	71.3
0.575	6.8	71.7
0.600	6.8	72.1
0.625	6.8	72.5
0.650	6.8	72.9
0.675	6.8	73.3
0.700	6.8	73.7
0.725	6.8	74.1
0.750	6.8	74.5
0.775	6.8	74.9

Path Length (KM)	Corridor Width (m)	Maximum Obstruction Height above Mean Sea Level (m)
0.800	6.8	75.3
0.825	6.8	75.7
0.850	6.8	76.1
0.875	6.8	76.5
0.900	6.9	76.8
0.925	7.0	77.2
0.950	7.1	77.6
0.975	7.2	77.9
1.000	7.3	78.3
1.10	7.6	79.7
1.20	7.9	81.1
1.30	8.2	82.6
1.40	8.5	84.1
1.50(b)	8.8	85.5
1.60	9.1	87.0
1.70	9.3	88.5
1.80	9.6	90.0
1.90	9.8	91.5
2.00	10.0	93.0
2.10 (c)	10.2	94.5
2.20	10.4	96.1
2.30	10.6	97.6
2.40	10.8	99.1
2.50	11.0	100.7
2.60	11.2	102.2
2.70	11.4	103.8

Path Length (KM)	Corridor Width (m)	Maximum Obstruction Height above Mean Sea Level (m)
2.80	11.6	105.3
2.90	11.7	106.9
3.00	11.9	108.4
3.10	12.1	110.0
3.20	12.2	111.6
3.30	12.4	113.2
3.40	12.5	114.7
3.50 (d)	12.7	116.3
3.60	12.8	117.9
3.70	12.9	119.5
3.80	13.1	121.1
3.90	13.2	122.7
4.00	13.3	124.3
4.5	13.9	132.4
5.0	14.4	140.6
5.5	14.8	148.8
6.0	15.2	157.2
6.5	15.5	165.6
7.0	15.8	174.2
7.5	16.0	182.8
8.0	16.2	191.4
8.5	16.3	200.2
9.0	16.4	209.0
9.5	16.4	218.0
10.0	16.4	227.0
10.5	16.4	236.0

Path Length (KM)	Corridor Width (m)	Maximum Obstruction Height above Mean Sea Level (m)
11.0	16.3	245.2
11.5	16.1	254.4
12.0	15.9	263.7
12.5	15.7	273.1
13.0	15.4	282.6
13.5	15.1	292.1
14.0	14.7	301.8
14.5	14.2	311.5
15.0	13.7	321.3
15.5	13.1	331.2
16.0	12.4	341.2
16.5	11.6	351.4
17.0	10.6	361.6
17.5	9.6	372.0
18.0	8.2	382.5
18.5	6.8	393.2
19.0	6.8	403.2
19.1	6.8	405.2
19.2	6.8	407.2
19.3 (e)	6.8	409.2

Key specific points:

- a. Network Centre;
- b. Ponsonby Road;
- c. Corner of Richmond Road and Chamberlain Street;
- d. Corner of Old Mill Road and West View Road; and
- e. Waiaataru.

2. Any significant increase in radio frequency energy levels from this source shall comply with any statutory regulation controlling radio frequency exposure levels.

Attachments

Attachment 1: Cross-sections of Land Contour and Path Height (provided by Kordia for designation 3300)

Attachment 2: Kordia Technical Paper on Corridor Dimension and Radio Frequency Emissions (to be included in the Proposed Unitary Plan) (provided by Kordia for designation 3300).



SCHEDULE C
Designation 8302 Satellite Earth Station Transmission Path

Chapter K Designations»Television New Zealand Ltd»8302 Satellite Earth Station Transmission Path

Designation Number	8302
Requiring Authority	Television New Zealand Ltd (TVNZ)
Location	100 Victoria Street West to airspace north and west, Auckland Central
Rollover Designation	Yes
Legacy Reference	Designation 302, Auckland Council District Plan (Central Area Section) 2005 Designation B07-90, Auckland Council District Plan (Isthmus Section) 1999
Lapse Date	Given effect to (i.e. no lapse date)

Description

Satellite earth station transmission path - areas subject to height restrictions.

The areas subject to height restrictions are shown in diagram in Attachment 1.

Conditions

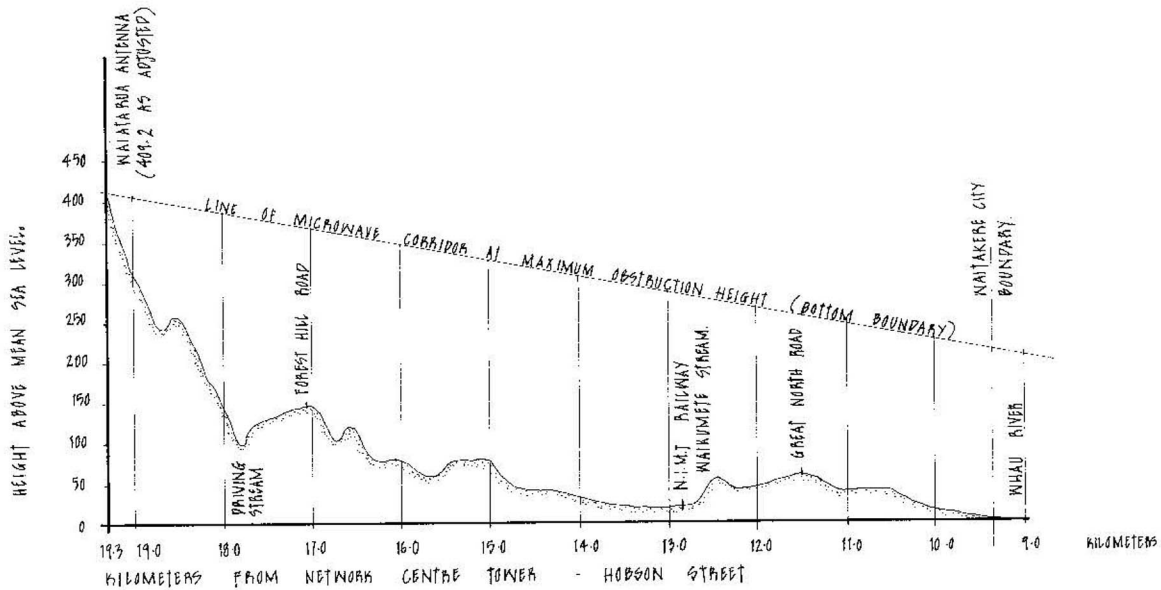
1. All masts, antennas, aerials and other radiocommunication facilities must comply with New Zealand Standard NZS2772.1:1999 or any amendments, at all times.

Attachments

Attachment 1: TVNZ Satellite Earth Station Transmission Path - Proposed Building Height Limits (Drawing 134706-SC01 RevA).

ATTACHMENT 1

Designation 8301 Television Broadcasting Centre



LONG SECTION OF MICROWAVE CORRIDOR.

Diagram BCL2

ATTACHMENT 2

Designation 8301 Television Broadcasting Centre

TVC Microwave Transmission Corridor: Technical Briefing Paper

Statement of Professional Experience

1. My full name is Robert Ian Goodwin. I am employed by Kordia™ Limited as a Senior Engineering Consultant.
2. I hold the qualification of Bachelor of Engineering (Electrical) and was a registered engineer in terms of the (now replaced) Engineer's Registration Act 1924 from 1971 until 2004.
3. I have over 30 years experience in the design and implementation engineering of television, radio and satellite transmission systems and frequently undertake consultancy work in these areas.
4. I have authority to give evidence on behalf of Kordia™ Limited in relation to the notice of requirement that has been lodged by Kordia™ Limited for the effective roll over the existing Designation of the Microwave Corridor from the TVNZ studios in the Auckland CBD to the Waiatarua Broadcasting and Telecommunications Facility on the Waitakere Ranges.

Statement of Professional Experience

5. My full name is Adam Charles Tommy. I am employed by Kordia™ Limited as a Broadcast Network Architect.
6. I hold the qualification of Bachelor of Engineering (Electrical & Electronic). I am a Chartered Professional Engineer and a Member of the Institute of Professional Engineers New Zealand.
7. I have over 18 years' experience in the design and implementation engineering of television, radio and digital communications systems, and in the calculation and analysis of electromagnetic radiation and fields.
8. I am a member of the joint Standards Australia / Standards New Zealand TE-007 technical committee for human exposure to electromagnetic fields. I am also a member of the Ministry of Health's Inter-agency committee on electromagnetic radiation which provides advice to the Director General of Health. Through my participation in these committees I have gained an understanding of potential health effects that can be related to RF-field exposure. I am very familiar with the New Zealand Standard for maximum exposure to radiofrequency fields (NZS 2772:1:1999).

9. I have authority to give evidence on behalf of Kordia™ Limited in relation to the notice of requirement that has been lodged by Kordia™ Limited for the effective roll over the existing Designation of the Microwave Corridor from the TVNZ studios in the Auckland CBD to the Waiatarua Broadcasting and Telecommunications Facility on the Waitakere Ranges.

Importance of Corridor

10. Kordia provides networking facilities for most major broadcasters and ISP (Internet Service Provider) entities in New Zealand. Their programme and data traffic is carried by protected “ring” network architecture to all major provincial centres and television transmitter sites in the North Island. Traffic for the South Island is carried by this ring.
11. The ring consists of a fibre circuit between Auckland and Wellington on its eastern side and a digital microwave (DMR) linking system between Auckland and Wellington on its western side. There are local access points on both of these routes.
12. The DMR linking system between the Television New Zealand (TVNZ) television centre (referred to as TVC) in Victoria St and Kordia’s Waiatarua transmitter site (WTA) on the Waitakere range forms an integral part of the protected ring referred to above. The Microwave Transmission Corridor that this linking system “beam” occupies has been Designated in the former Auckland City Council’s Isthmus and Central Area District Plan’s and in the Waitakere City Council’s District Plan under the Resource Management Act 1991. All three plans are now administered by the Auckland Council.
13. As mentioned the network ring is used to distribute and provide linking for a variety of important broadcasting and data services. In particular:
- Distribution of TVNZ’s TV One and TV2 analogue television services to all major transmitter sites in New Zealand (expected to be discontinued in 2013);
 - Distribution of the Freeview terrestrial digital television serve to the main transmitter site in New Zealand (ongoing);
 - Linking of television services for TVNZ, TV Works and Triangle Television to the Freeview satellite headend at Avalon (Lower Hutt) (ongoing);
 - Linking of television and radio services for Parliament TV and Radio New Zealand to the Freeview terrestrial (DTT) headend at TVC (ongoing).

- Data traffic for most of the second-tier ISPs (Orcon, World Exchange, Compass etc) (ongoing).
14. Should a fault occur on, say, the fibre route, traffic can be re-routed via the DMR route to maintain continuity of services. Similarly the fibre provides protection against a DMR link fault. If a simultaneous fault occurred on both routes a major disruption to broadcasting and data services would occur. The same comment applies if the second fault occurred before the first was fixed.
 15. To maintain high network availability of this vital ring linking system it is essential the availability of all the individual linking systems that form part of the ring is also extremely high. This then reduces the likelihood of experiencing the catastrophic consequences associated with a double failure, as mentioned above.
 16. If a building or other structure obstructed the corridor the linking system would be adversely affected, possibly to the point of being completely interrupted if a significant part of the corridor cross-section was obstructed. This, in turn, would put the total ring linking system at risk.
 17. Hence Kordia Ltd regards the integrity of this transmission corridor to be strategically important to its national network business and regards it essential that all reasonable steps should be taken to preserve its integrity.

Technology Alternatives

18. One alternative to using the transmission corridor would be to establish a fibre route between TVC and Waiatarua. A preliminary survey and route analysis was undertaken in 1997 and based on this it is estimated it would cost \$1.5 – 2.0 million to provide a fibre system with the necessary capacity. Allowing a further \$1.5 – 2.0 million for the fibre terminal equipment at both ends (16 x STM-1 circuits) the total cost would be in the range of \$3 – 4 million. This costing assumes no difficulties are encountered in obtaining the necessary local body consents for such a fibre route.
19. Another alternative would be to establish a new radio terminal in the Auckland CBD that could be used as an alternative to the TVC terminal. The installed cost for the new microwave radio equipment, antenna support structure, antennas, power system, fibre to connect to TVC is estimated at \$2.0 – 3.0 million. This option assumes a location could be found that has sufficient radio path clearance to not require a designated transmission corridor from that new site to WTA.
20. Although technically feasible both of these alternatives are very expensive as they need to be engineered to a standard that ensures Kordia continues to be a

provider of high reliability linking services, able to compete in the network services marketplace.

EMR Health Effects

21. As the microwave beam within the corridor passes, in general, well above ground level the electromagnetic radiation (EMR) levels at street level will be extremely low, even for people walking directly below the corridor. If a building was constructed so that its roof height just “touched” the lower boundary of the corridor and a person was standing on the roof of the building (effectively in the path of the beam), then the EMR levels would be higher. This situation has been analysed in the estimation of worst case levels in an area that the public could have access to at any point along the corridor described here.
22. The maximum EMR power flux density that a person would be exposed to in the situation described above is estimated at $40 \mu\text{W}/\text{cm}^2$ (microwatts per square centimetre). This is 4% of the maximum permissible limit of $1,000 \mu\text{W}/\text{cm}^2$ specified in the New Zealand standard NZS 2772.1: 1999 for the frequency band used by the linking transmitters.
23. This is the maximum EMR level expected along the corridor based on the situation described above – most areas along the corridor would be much lower.
24. It can be confidently stated that no known adverse health effects will occur due solely to the operation of this microwave link.
25. While there will be other existing RF services in the general vicinity of the microwave corridor that will contribute EMR to the environment, and these EMR levels have not been calculated, EMR levels in publicly accessible areas in the Auckland city environment are expected to be low (in comparison with the public limit in NZS 2772:1:1999), as is the maximum estimated level for this microwave link.
26. If, as in paragraph 16, a building is built close to either end of the Microwave Corridor that obstructs part or all of the Corridor, the EMR levels of a person standing within the Corridor may approach the maximum EMR exposure limit for the general public in the New Zealand Standard.

Validation of the Microwave Corridor Dimensions

27. The transmission corridor was first defined over 25 years ago. Since then the frequency band the linking transmitters operate in has been lowered from 7.7 – 8.3 GHz (“W” band) to 6.4 – 7.1 GHz (“T” band). Although the lower frequency

now being used requires a proportionately wider corridor clearance, the present corridor dimensions would still be effective in protecting the microwave signal.

28. The dimensions on the attached table aggregate the tables defining the respective sections of the Microwave Transmission Corridor previously recorded on the respective district plans of the Waitakere City, Auckland City Isthmus and Central Area District Plans.

Ian Goodwin

11 July 2012

Adam Tommy

12 July 2012

The location of the TVC is: WGS84, Longitude: 174.76120E, Latitude: -36.84827S.

Waiatarua transmission station location: Longitude: 174.56805E, Latitude: -36.92629S

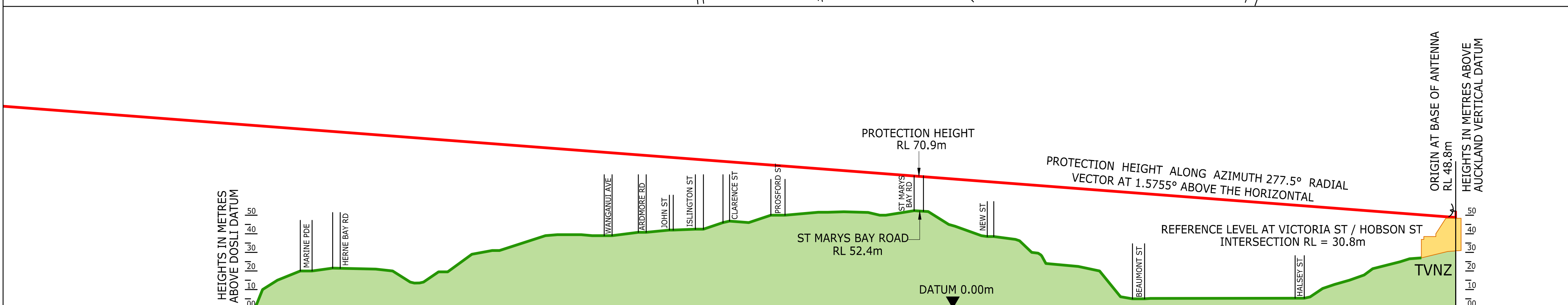
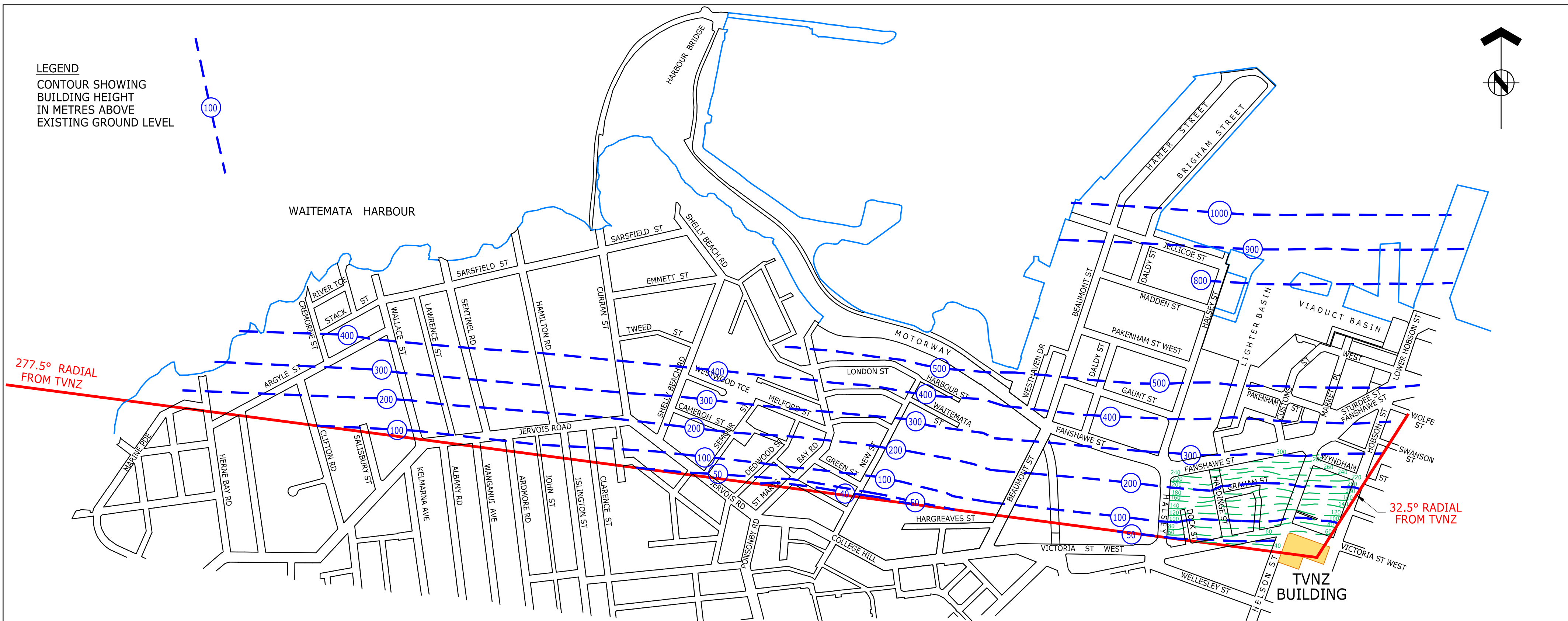
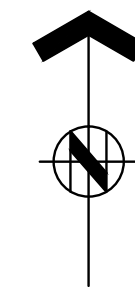
Path Length From TVC (km)	Total Corridor Width (m)	Maximum Obstruction Height Above Mean Sea Level (m)
0.000	6.8	62.6
0.025	6.8	63.0
0.050	6.8	63.4
0.075	6.8	63.8
0.100	6.8	64.2
0.125	6.8	64.6
0.150	6.8	65.0
0.175	6.8	65.4
0.200	6.8	65.8
0.225	6.8	66.2
0.250	6.8	66.6
0.275	6.8	67.0
0.300	6.8	67.3
0.325	6.8	67.7
0.350	6.8	68.1
0.375	6.8	68.5
0.400	6.8	68.9
0.425	6.8	69.3
0.450	6.8	69.7
0.475	6.8	70.1
0.500	6.8	70.5
0.525	6.8	70.9
0.550	6.8	71.3
0.575	6.8	71.7
0.600	6.8	72.1
0.625	6.8	72.5
0.650	6.8	72.9
0.675	6.8	73.3
0.700	6.8	73.7
0.725	6.8	74.1
0.750	6.8	74.5
0.775	6.8	74.9
0.800	6.8	75.3
0.825	6.8	75.7
0.850	6.8	76.1
0.875	6.8	76.5
0.900	6.9	76.8
0.925	7.0	77.2
0.950	7.1	77.6
0.975	7.2	77.9
1.00	0.3	78.3
1.10	7.6	79.7
1.20	7.9	81.1
1.30	8.2	82.6
1.40	8.5	84.1
1.50	8.8	85.5
1.60	9.1	87.0
1.70	9.3	88.5
1.80	9.6	90.0

1.90	9.8	91.5
2.00	10.0	93.0
2.10	10.2	94.5
2.20	10.4	96.1
2.30	10.6	97.6
2.40	10.8	99.1
2.50	11.0	100.7
2.60	11.2	102.2
2.70	11.4	103.8
2.80	11.6	105.3
2.90	11.7	106.9
3.00	11.9	108.4
3.10	12.1	110.0
3.20	12.2	111.6
3.30	12.4	113.2
3.40	12.5	114.7
3.50	12.7	116.3
3.60	12.8	117.9
3.70	12.9	119.5
3.80	13.1	121.1
3.90	13.2	122.7
4.00	13.3	124.3
4.5	13.9	132.4
5.0	14.4	140.6
5.5	14.8	148.8
6.0	15.2	157.2
6.5	15.5	165.6
7.0	15.8	174.2
7.5	16.0	182.8
8.0	16.2	191.4
8.5	16.3	200.2
9.0	16.4	209.0
9.5	16.4	218.0
10.0	16.4	227.0
10.5	16.4	236.0
11.0	16.3	245.2
11.5	16.1	254.4
12.0	15.9	263.7
13.0	15.4	282.6
14.0	14.7	301.8
15.0	13.7	321.3
16.0	12.4	341.2
17.0	10.6	361.6
18.0	8.2	382.5
19.0	6.8	403.2
19.1	6.8	405.2
19.2	6.8	407.2
19.3	6.8	409.2

ATTACHMENT 1

Designation 8302 Television Broadcasting Centre

LEGEND
 CONTOUR SHOWING
 BUILDING HEIGHT
 IN METRES ABOVE
 EXISTING GROUND LEVEL



NOTE:
 THIS SECTION IS NOT DRAWN TO NATURAL SCALE
 VERTICAL SCALE EXAGGERATION FACTOR IS FIVE.
 ALL HEIGHTS IN METRES ABOVE AUCKLAND VERTICAL DATUM

SECTION ALONG 277.5° RADIAL
 SCALES: 1:7500 HORIZONTAL 1:1500 VERTICAL AT A2
 1:15000 HORIZONTAL 1:3000 VERTICAL AT A4

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