

APPENDIX 10

WIND CONTROL





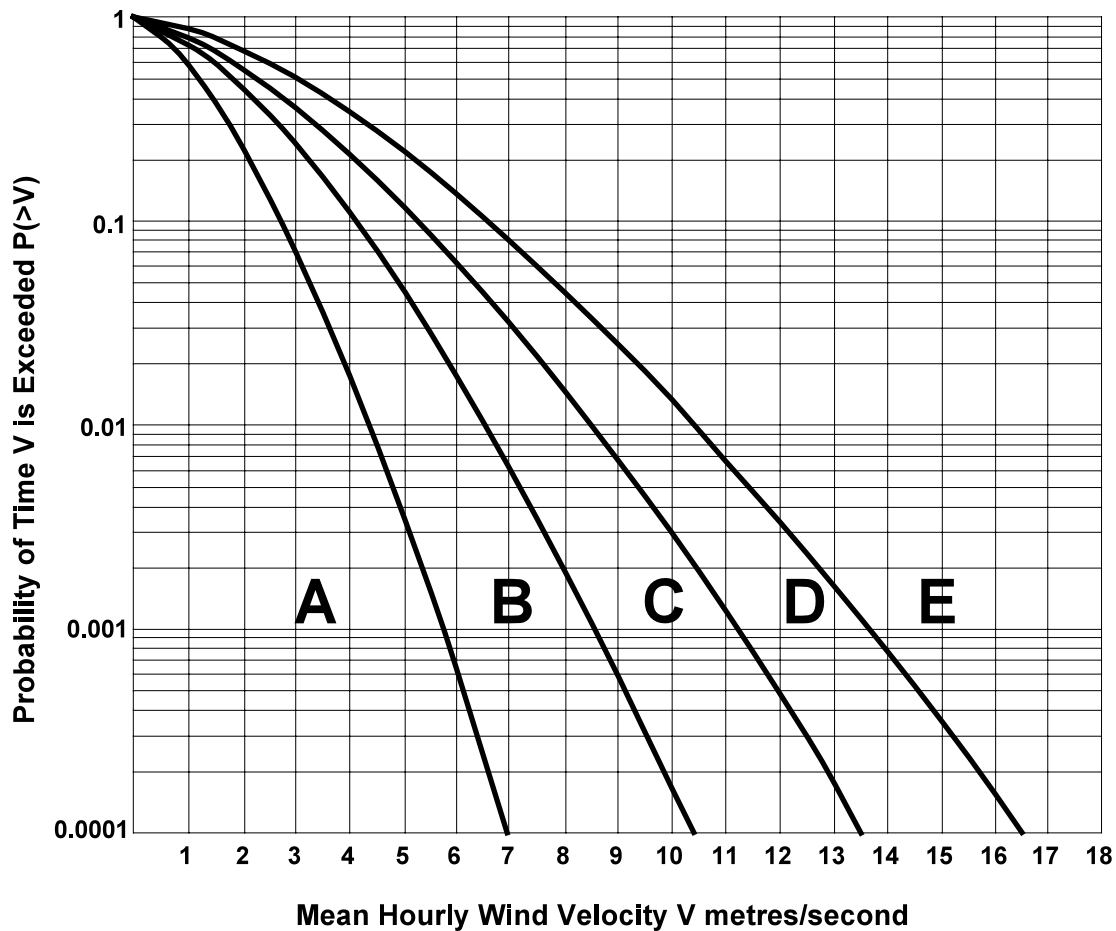
WIND CONTROL

Figure 10.1 Performance Categories

Category A :	Areas of pedestrian use containing significant formal elements and features intended to encourage longer term recreational or relaxation use, ie, major and minor public squares, parks and other public open spaces - e.g. Aotea Square, Queen Elizabeth Square, Albert Park, Myers Park, St Patricks Square, Freyberg Place.
Category B:	Areas of pedestrian use containing minor elements and features intended to encourage short term recreation or relaxation, ie, minor pedestrian open spaces, pleasance areas in road reserves, streets with significant groupings of landscaped seating features e.g. Khartoum Place, Mayoral Drive pleasance areas, Queen Street.
Category C:	Areas of formed footpath or open space pedestrian linkages, used primarily for pedestrian transit and devoid of significant or repeated recreational or relaxational features, such as footpaths where not covered in Categories A or B above.
Category D:	Areas of road, carriage way, or vehicular routes, used primarily for vehicular transit and open storage, such as roads generally where devoid of any features or form which would include the spaces in Categories A - C above.
Category E :	Category E represents conditions which are dangerous to the elderly and infants and of considerable cumulative discomfort to others. Category E conditions are unacceptable and are not allocated to any physically defined areas of the city.
Note: All through-site links and other private land given over to public use as bonus features, or subject to public access easements, shall be subject to the Wind Environmental Categories.	



Figure 10.2 Wind Environmental Categories



Derivation of the Wind Environment Control Graph

The curves on the graph delineating the boundaries between the acceptable categories (A-D) and unacceptable (E) categories of wind performance are described by the Weibull expression:

$$P(>V) = e^{-\left(\frac{v}{c}\right)^k}$$

where V is a selected value on the horizontal axis, and P is the corresponding value of the vertical axis:

and where;-

P(>V) = Probability of a wind speed V being exceeded;

e = The Napierian base 2.7182818285.....;

v = the velocity selected;

K = the constant 1.5 ; and

c = a variable dependant on the boundary being defined:

$$A/B, c = 1.548$$

$$B/C, c = 2.322$$

$$C/D, c = 3.017$$

$$D/E, c = 3.715$$

