MITIGATION PRELIMINARY RESULTS

CROWN TOWER SYDNEY

SYDNEY, AUSTRALIA

PEDESTRIAN WIND STUDY

RWDI #1401805B

November 9, 2018

SUBMITTED TO

Kristjan Young
Environmental Manager
kristjan.young@crownresorts.com.au

Crown Resorts Limited
19/201 Kent Street
Sydney 2000 NSW Australia

SUBMITTED BY

Stefan Gopaul, M.A.Sc., EIT
Technical Coordinator
Stefan.Gopaul@rwdi.com

Saba Saneinejad, Ph.D.
Senior Technical Coordinator
Saba.Saneinejad@rwdi.com

Michael Pieterse, M.A.Sc., P.Eng.
Project Manager | Associate
Michael.Pieterse@rwdi.com

Bill Smeaton, P.Eng.
Senior Project Manager | Principal
Bill.Smeaton@rwdi.com

RWDI
600 Southgate Drive,
Guelph, Canada, N1G 4P6
T: 519.823.1311
F: 519.823.1316

SUMMARY

The following document provides the preliminary results for the mitigation study conducted for the proposed Crown Tower Sydney located in Sydney, Australia. The project site, photographs of the wind tunnel study model and the wind statistics recorded at the Sydney International Airport used in the study are shown in **Images 1, 2,** and **3,** respectively. The RWDI Pedestrian Wind Criteria, which deal with both pedestrian safety and comfort as they relate to wind force, are also described in order to assist with the interpretation of the results presented.

The predicted wind comfort and safety conditions pertaining to the Existing, Proposed, Future, and Mitigation site and surrounding configurations assessed are graphically depicted on site plans in **Figures 1a through 3h**. These conditions and the associated wind speeds are presented in **Table 1**. The results are presented in the attached results package and can be summarized as follows:

- The addition of the proposed onsite and offsite landscaping, in conjunction with the future developments, is expected to improve wind conditions around the project site.
- During the summer, trees at full foliage are anticipated to improve uncomfortable conditions along Barangaroo Avenue to being comfortable for strolling or standing, which is considered appropriate.
- Wind speeds on the Levels 1, 2, 3, 4, and 24 Terraces are typically expected to be comfortable for sitting or standing in the presence of summer landscaping, which is considered appropriate for the intended pedestrian use of these areas. Walking conditions on the Level 69 Terrace are expected to improve to be comfortable for strolling. This may be higher than desired and further mitigation measures should be considered.
- Similar conditions are predicted on and around the project site in the presence of winter landscaping (i.e., deciduous trees with bare branches and evergreen trees at full foliage). Conditions along Barangaroo Avenue are expected to improve to be comfortable for the intended pedestrian use and the uncomfortable conditions to the northwest of the tower are predicted to improve in the presence of winter landscaping. Conditions comfortable for sitting or standing are typically anticipated on all above-grade terraces which can be considered appropriate for the winter months.
- Seasonal landscaping is anticipated to improve conditions at most of the locations that exceed the wind safety criterion. However, windy areas do remain, with locations that do not meet the wind safety criterion near the northwest side of Hickson Park, on the south side of Watermans Quay, and at multiple locations at and around the northwest corner of the tower. Landscaping alone is not predicted to be effective for bringing about safe conditions in some areas and additional wind control measures are required.
- Glass blades, oriented northeast-to-southwest, along the perimeter of the northwest ground-level terrace are generally anticipated to reduce wind speeds; however, uncomfortable and unsafe conditions

are still predicted in that area throughout the year. Angling the glass blades to be northwest-to-southeast, and including interspersed evergreen shrubbery between the blades, is anticipated to eliminate the location with unsafe wind speeds at the northwest ground-level terrace and reduce wind speeds to being comfortable for walking throughout the year. The addition of trees to the north of the project site is predicted to further reduce wind speeds in this area, improving conditions to being comfortable for strolling year-round. Although this is a significant improvement in conditions, these wind speeds may still be higher-than-desired for an outdoor dining space.

Image 1: Site plan – Aerial view of site and surroundings (courtesy of Google™ Earth)

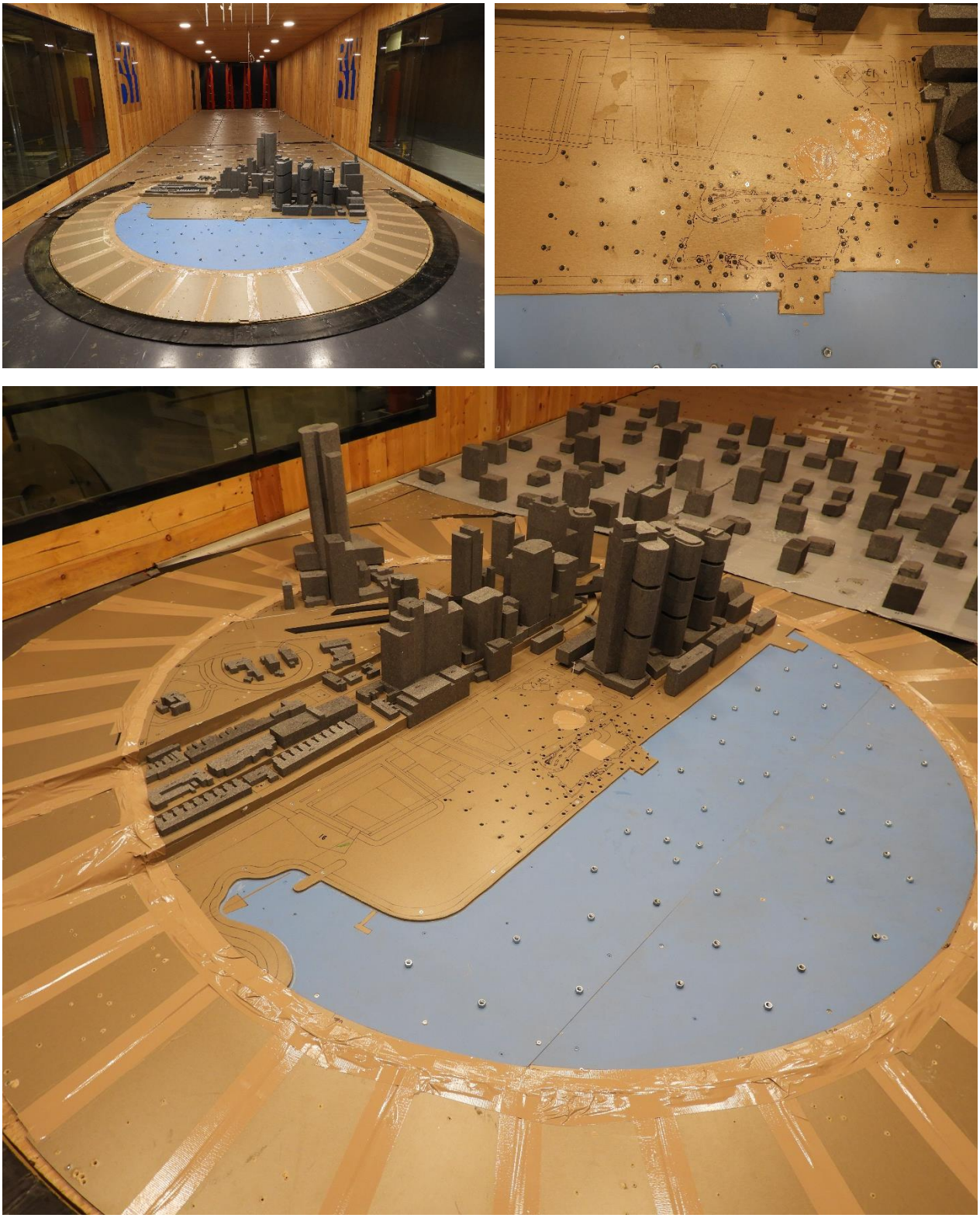


Image 2a: Wind tunnel study model – Existing configuration

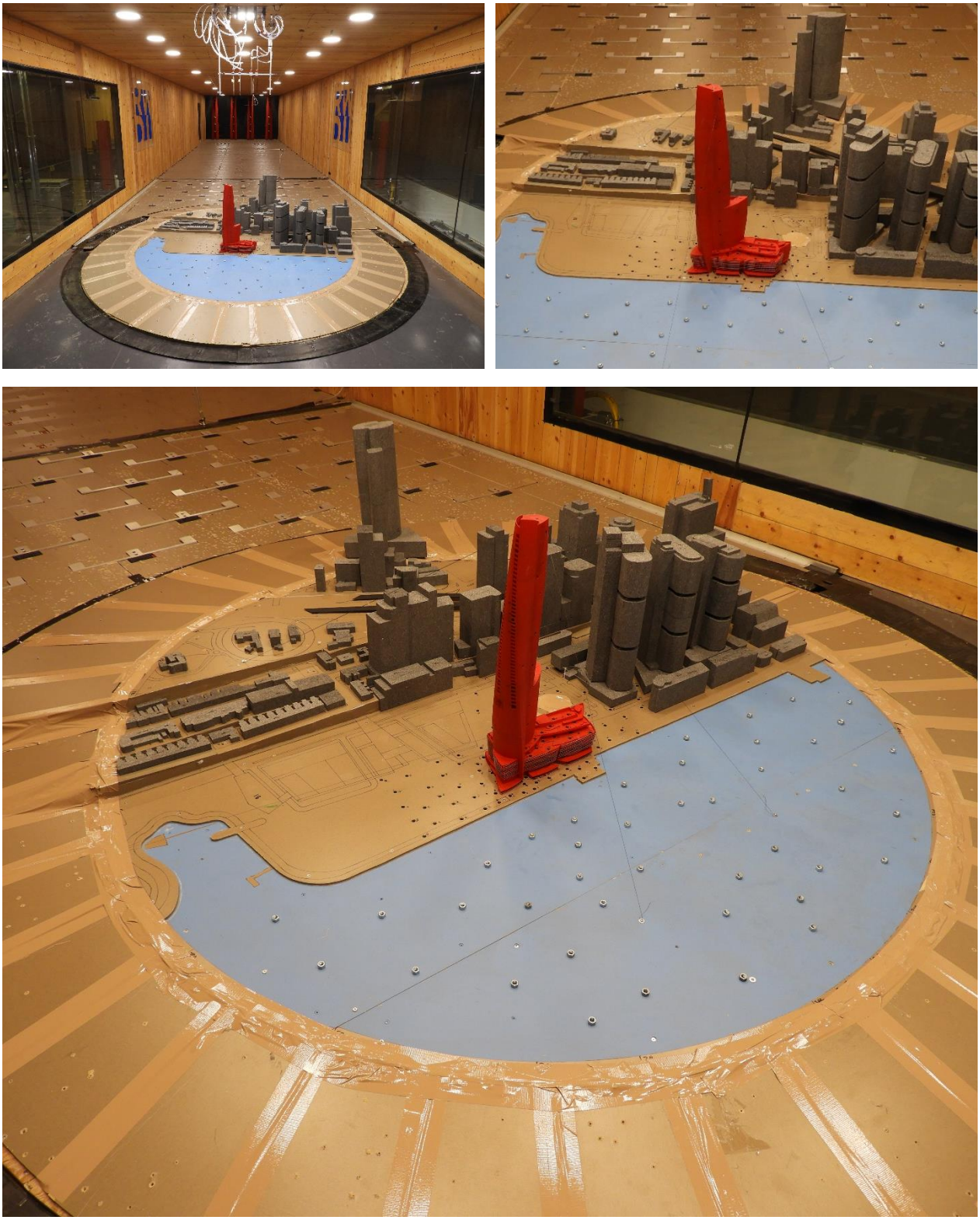


Image 2b: Wind tunnel study model – Proposed configuration

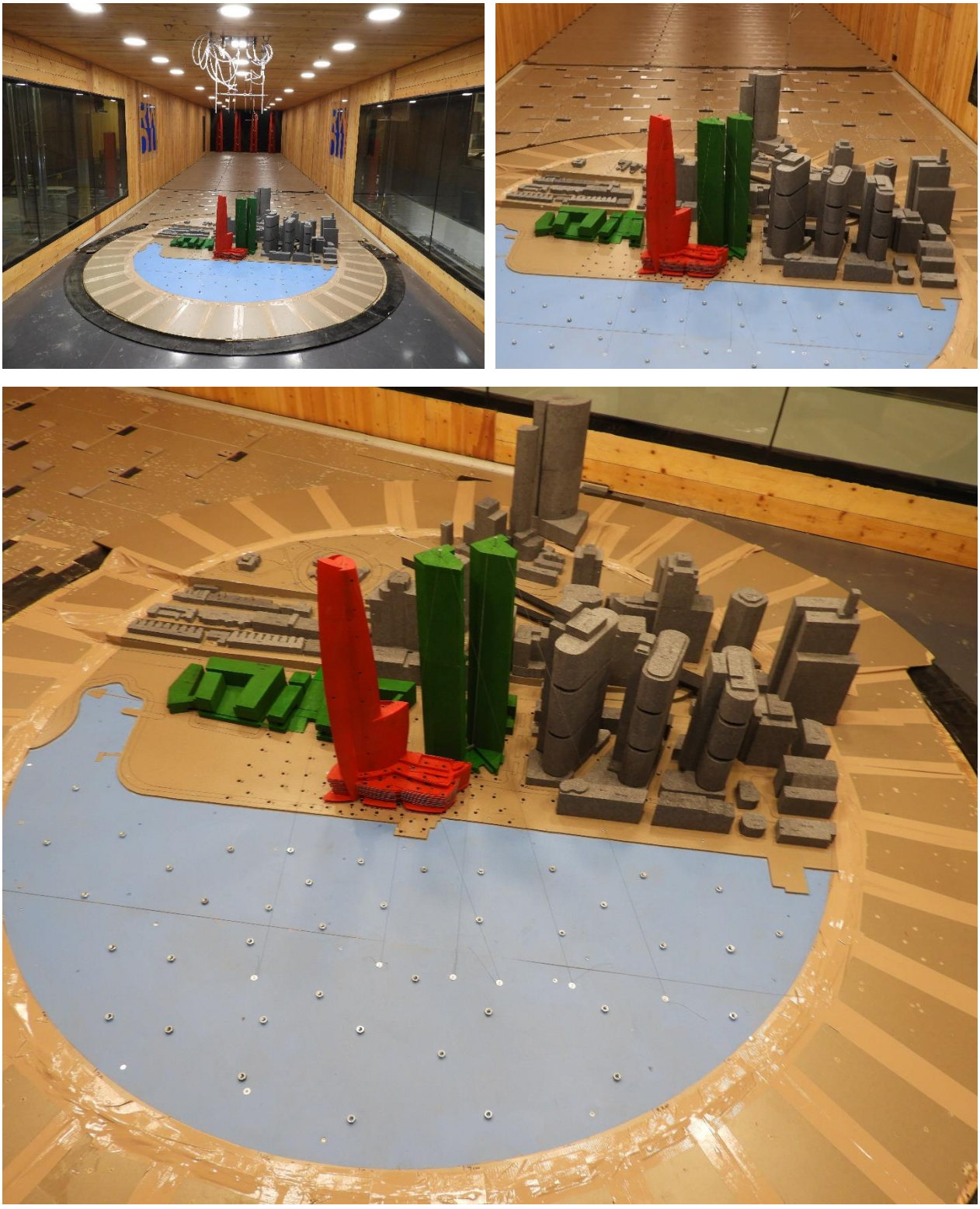


Image 2c: Wind tunnel study model – Future configuration

Image 2d.1: Wind tunnel study model – Mitigation 1 (Summer) configuration

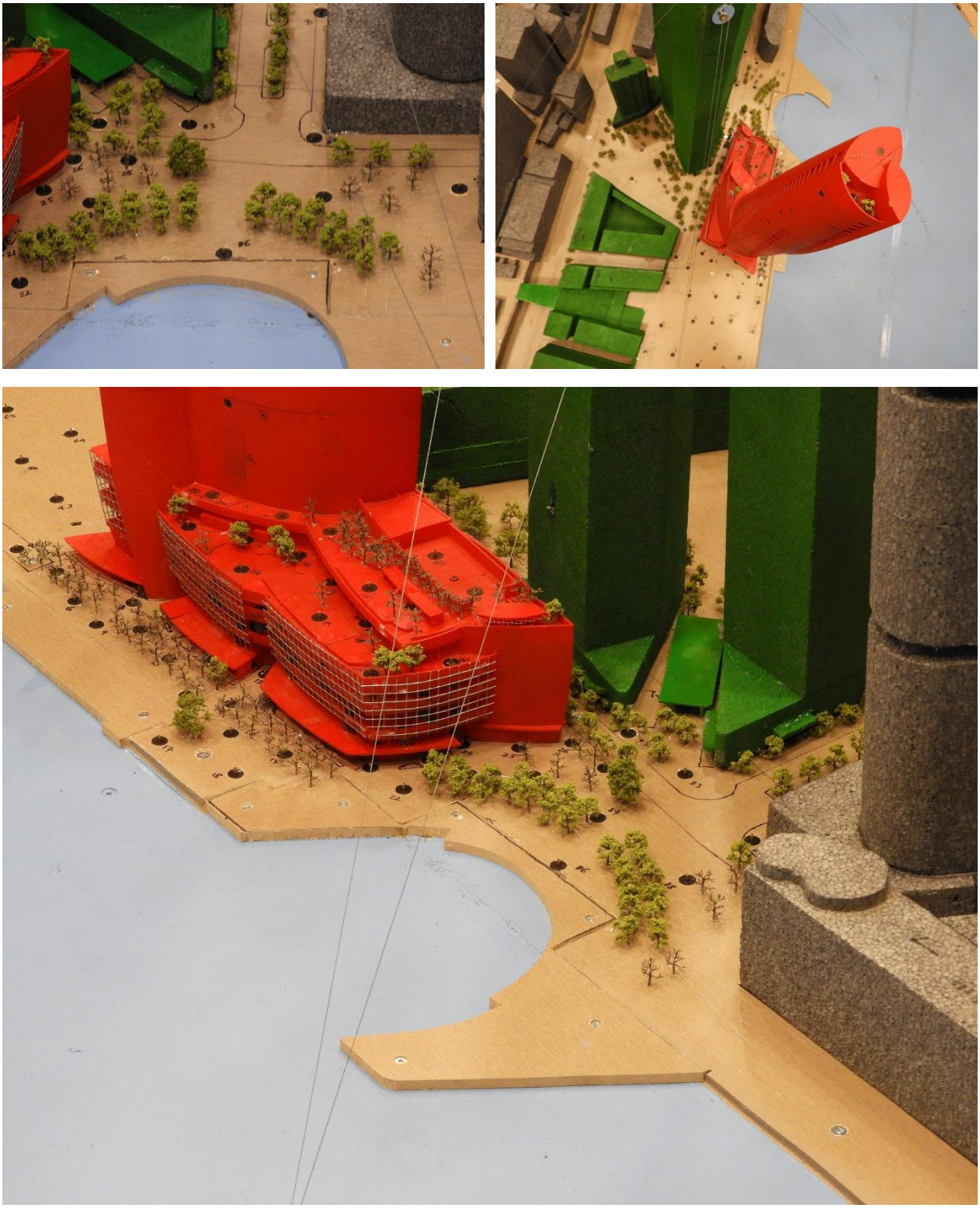


Image 2d.2: Wind tunnel study model – Mitigation 1 (Winter) configuration

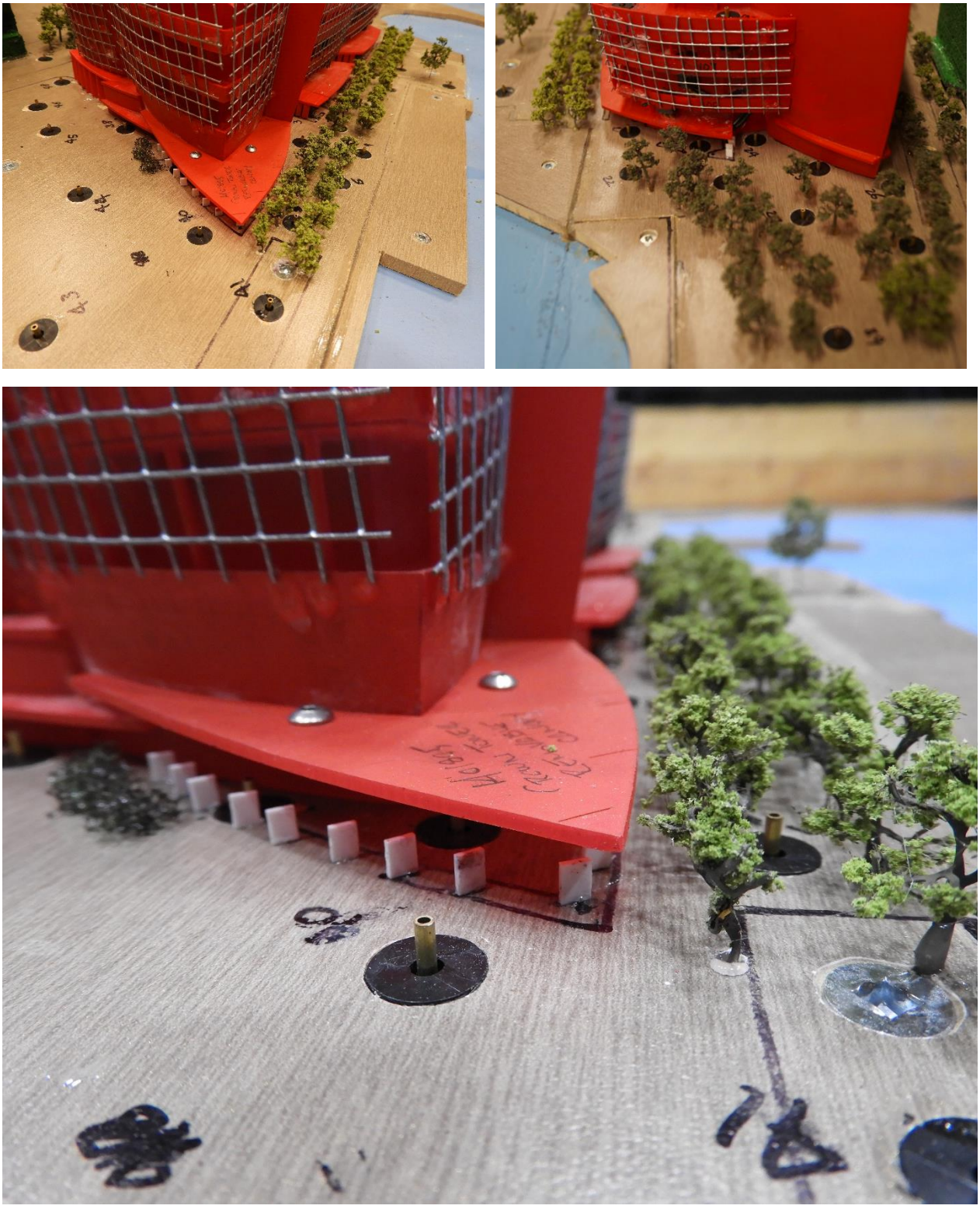


Image 2e.1: Wind tunnel study model – Mitigation 2 (Blades) (Summer) configuration

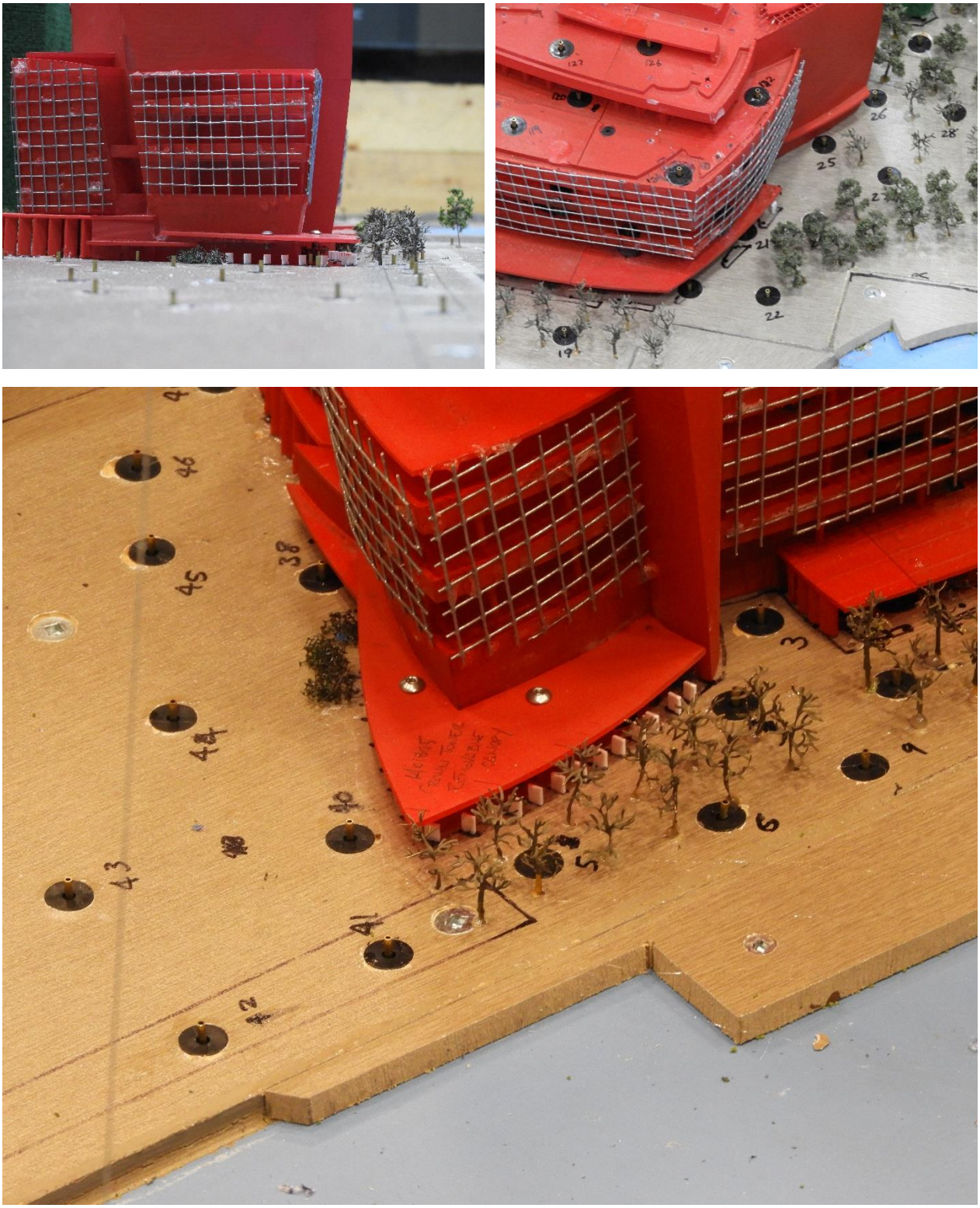


Image 2e.2: Wind tunnel study model – Mitigation 2 (Blades) (Winter) configuration

Image 2f.1: Wind tunnel study model – Mitigation 3 (Balustrade) (Summer) configuration

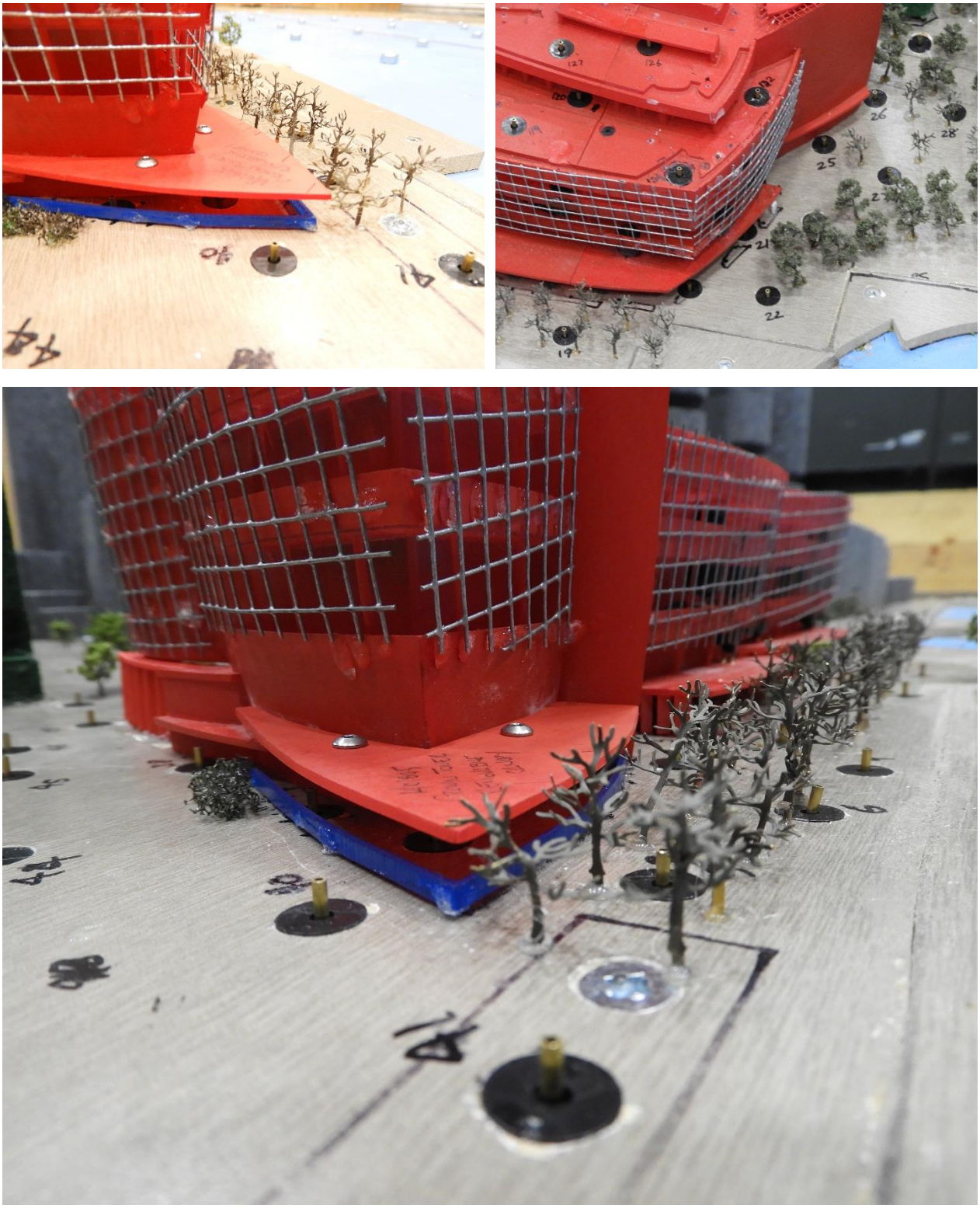


Image 2f.2: Wind tunnel study model – Mitigation 3 (Balustrade) (Winter) configuration

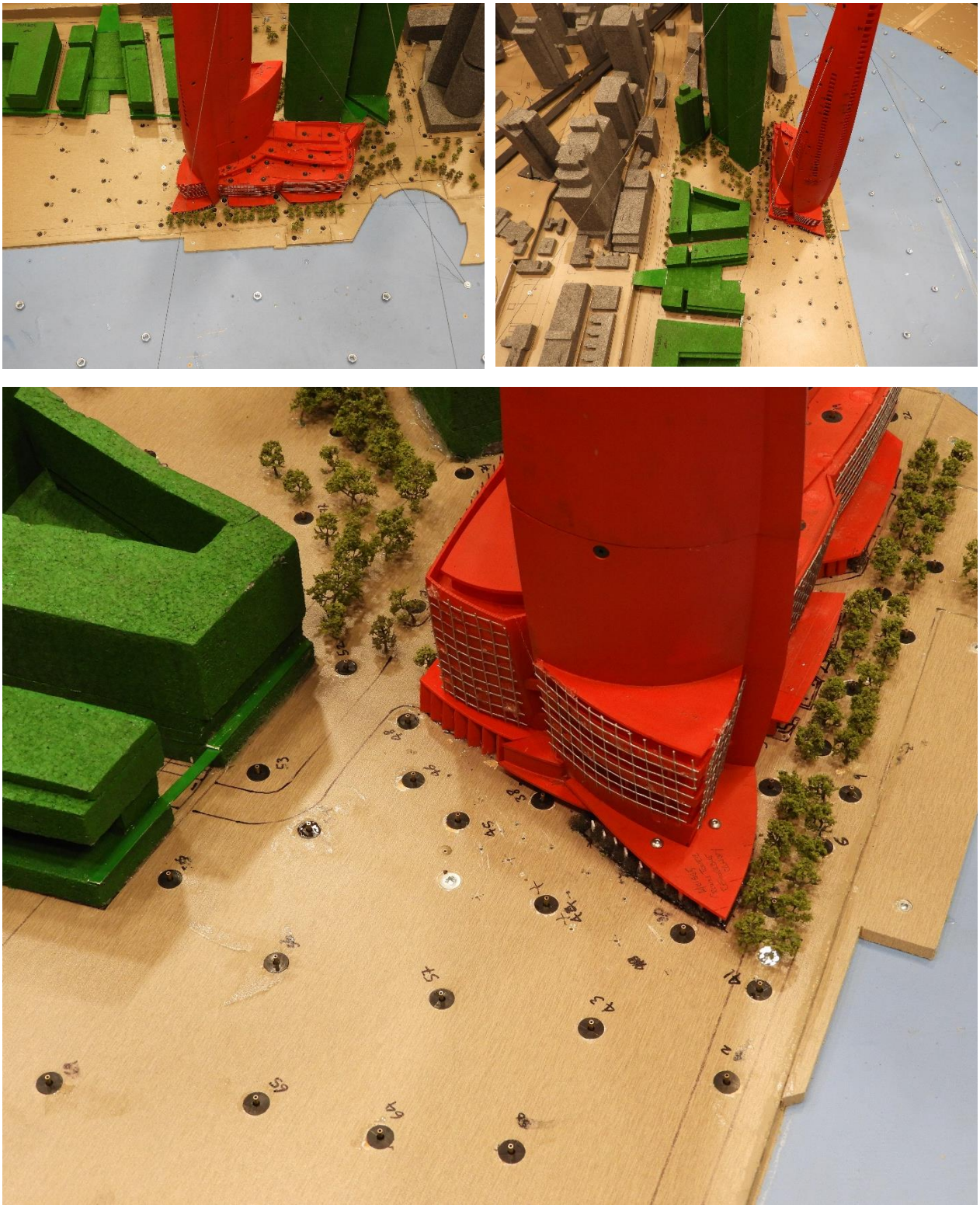


Image 2g.1: Wind tunnel study model – Mitigation 4 (Shifted Blades) (Summer) configuration

Image 2g.2: Wind tunnel study model – Mitigation 4 (Shifted Blades) (Winter) configuration

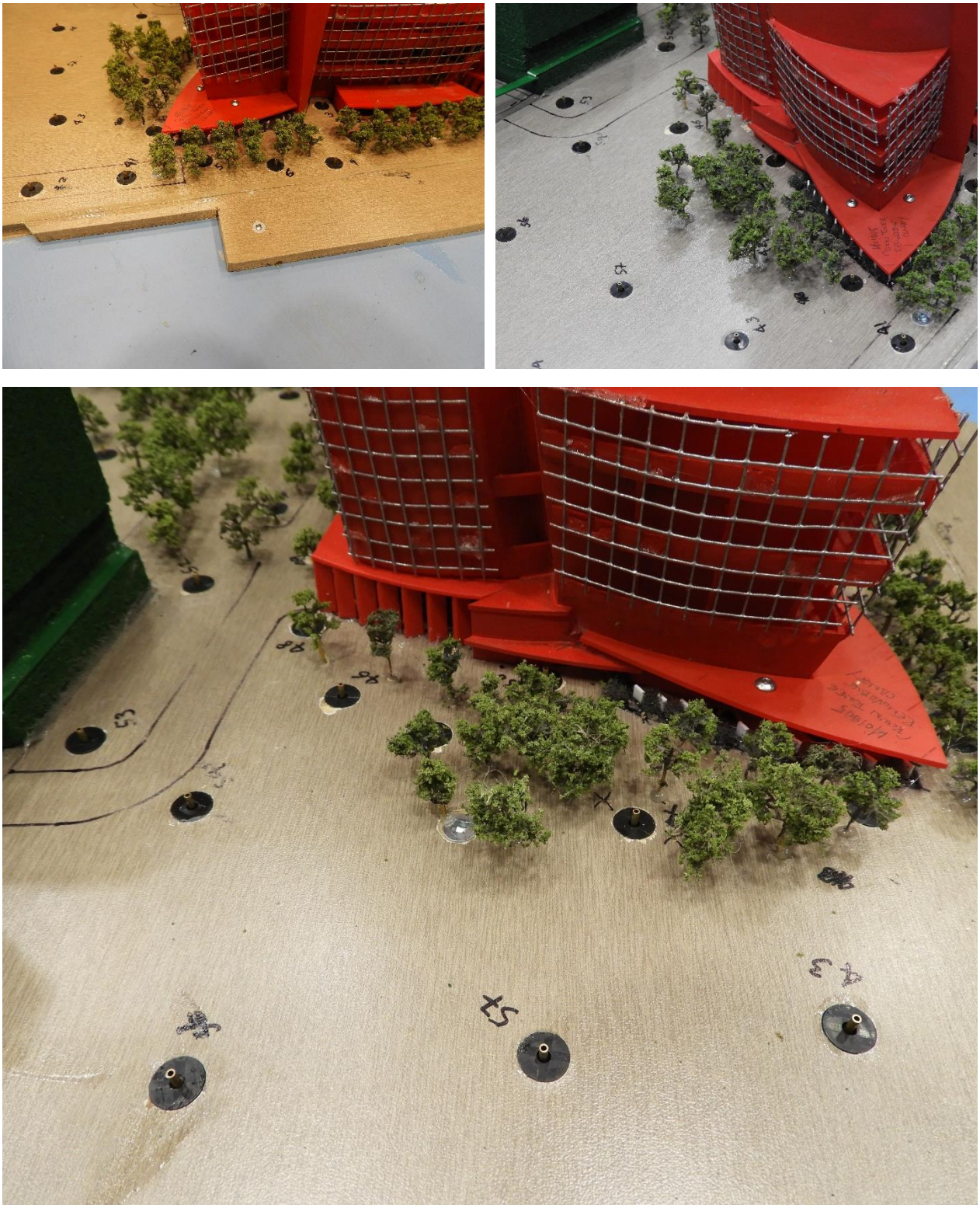


Image 2h.1: Wind tunnel study model – Mitigation 5 (Shifted Blades + Trees) (Summer) configuration

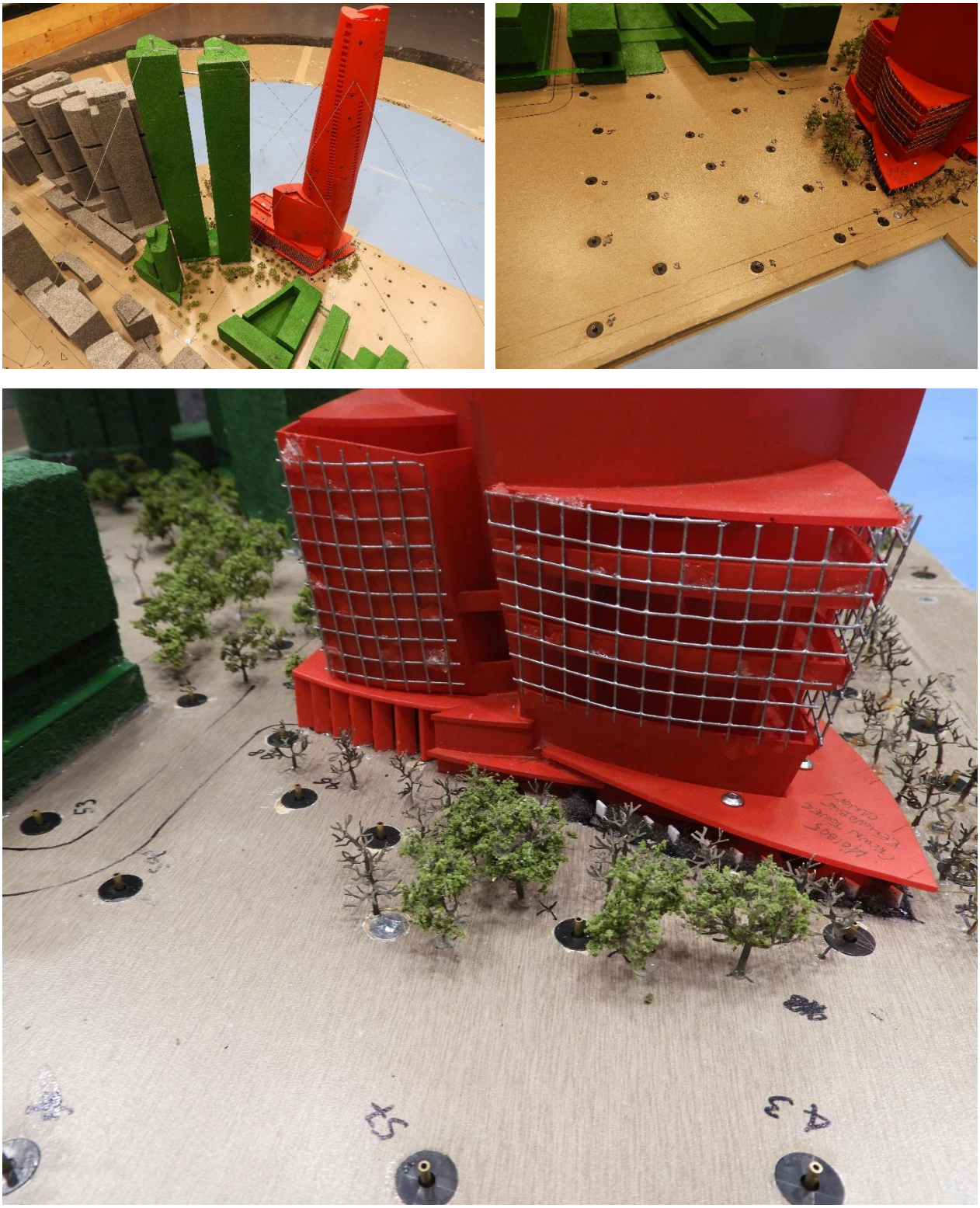
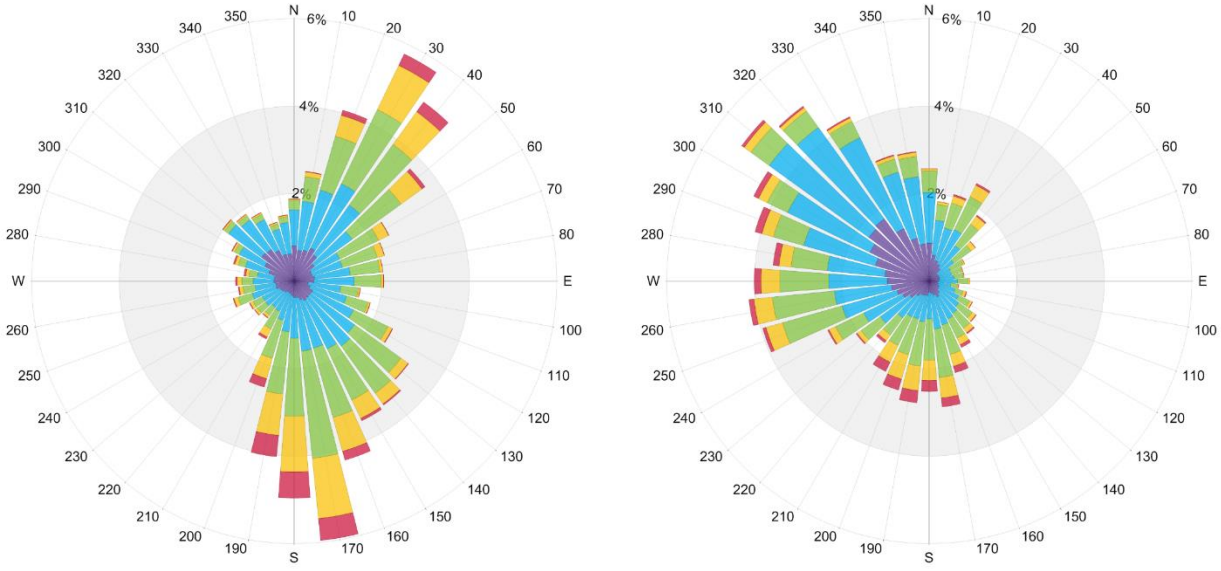


Image 2h.2: Wind tunnel study model – Mitigation 5 (Shifted Blades + Trees) (Winter) configuration

METEOROLOGICAL DATA



Summer (November to April) **Winter (May to October)**

Wind Speed (km/h)	Probability (%) Summer	Winter
Calm	9.0	11.0
1-10	18.9	22.2
11-20	30.7	35.1
21-30	27.3	21.6
31-40	10.9	7.3
>40	3.2	2.7

Image 3: Directional distribution of winds approaching Sydney International Airport from 1985 to 2013

RWDI PEDESTRIAN WIND CRITERIA

The RWDI pedestrian wind criteria, which has been developed by RWDI through research and consulting practice since 1974, are used in the current study. These criteria have been widely accepted by municipal authorities as well as by the building design and city planning community. They are sometimes subjective and regional differences in wind climate and thermal conditions as well as variations in age, health, clothing, etc. can affect a person's perception of the wind climate. Therefore, comparisons of wind speeds for the existing and proposed building configurations are the most objective way in assessing local pedestrian wind conditions. In general, the combined effect of mean and gust speeds on pedestrian comfort can be quantified by a Gust Equivalent Mean (GEM).

RWDI Pedestrian Wind Criteria

Comfort Category	GEM Speed (km/h)	Description
Sitting	≤ 10	Calm or light breezes desired for outdoor restaurants and seating areas where one can read a paper without having it blown away
Standing	≤ 14	Gentle breezes suitable for main building entrances, bus stops, and other places where pedestrians may linger
Strolling	≤ 17	Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park
Walking	≤ 20	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
Uncomfortable	> 20	Strong winds of this magnitude are considered a nuisance for all pedestrian activities, and wind mitigation is typically recommended

Notes:
(1) GEM speed = max (mean speed, gust speed/1.85);
(2) GEM speeds listed above are based on a seasonal exceedance of 20% of the time between 6:00 and 23:00. Nightly hours between 0:00 and 5:00 are excluded from the wind analysis for comfort since limited usage of outdoor spaces is anticipated; and,
(3) Instead of standard four seasons, two periods of summer (November to April) and winter (May to October) are adopted in the wind analysis, because in a moderate climate such as that found in Sydney, there are distinct differences in pedestrian outdoor behaviours between these time periods.

Safety Criterion	Gust Speed (km/h)	Description
Exceeded	> 90	Excessive gust speeds that can adversely affect a pedestrian's balance and footing. Wind mitigation is typically required.

Notes:
(1) Based on an annual exceedance of 9 hours or 0.1% of the time for 24 hours a day; and,
(2) Only gust speeds need to be considered in the wind safety criterion. These are usually rare events, but deserve special attention in city planning and building design due to their potential safety impact on pedestrians.

TABLES

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
1	Existing	20	Walking	18	Walking	68	Pass
	Proposed	29	Uncomfortable	28	Uncomfortable	102	Exceeded
	Future	29	Uncomfortable	29	Uncomfortable	104	Exceeded
	Mitigation 1	27	Uncomfortable	27	Uncomfortable	104	Exceeded
	Mitigation 2	25	Uncomfortable	25	Uncomfortable	96	Exceeded
	Mitigation 3	24	Uncomfortable	24	Uncomfortable	91	Exceeded
	Mitigation 4	18	Walking	18	Walking	73	Pass
	Mitigation 5	17	Strolling	17	Strolling	70	Pass
2	Existing	19	Walking	17	Strolling	68	Pass
	Proposed	10	Sitting	16	Strolling	78	Pass
	Future	10	Sitting	15	Strolling	77	Pass
	Mitigation 1	8	Sitting	12	Standing	70	Pass
	Mitigation 2	7	Sitting	12	Standing	70	Pass
	Mitigation 3	7	Sitting	13	Standing	74	Pass
	Mitigation 4	10	Sitting	11	Standing	52	Pass
	Mitigation 5	10	Sitting	10	Sitting	49	Pass
3	Existing	19	Walking	17	Strolling	66	Pass
	Proposed	8	Sitting	9	Sitting	44	Pass
	Future	8	Sitting	9	Sitting	44	Pass
	Mitigation 1	8	Sitting	10	Sitting	54	Pass
	Mitigation 2	8	Sitting	10	Sitting	54	Pass
	Mitigation 3	8	Sitting	10	Sitting	54	Pass
	Mitigation 4	13	Standing	12	Standing	61	Pass
	Mitigation 5	12	Standing	11	Standing	58	Pass
4	Existing	19	Walking	17	Strolling	67	Pass
	Proposed	8	Sitting	9	Sitting	47	Pass
	Future	9	Sitting	9	Sitting	50	Pass
	Mitigation 1	5	Sitting	5	Sitting	25	Pass
	Mitigation 2	5	Sitting	5	Sitting	25	Pass
	Mitigation 3	5	Sitting	5	Sitting	25	Pass
	Mitigation 4	6	Sitting	8	Sitting	47	Pass
	Mitigation 5	7	Sitting	7	Sitting	44	Pass
5	Existing	20	Walking	18	Walking	67	Pass
	Proposed	29	Uncomfortable	25	Uncomfortable	94	Exceeded
	Future	29	Uncomfortable	26	Uncomfortable	95	Exceeded
	Mitigation 1	22	Uncomfortable	21	Uncomfortable	79	Pass
	Mitigation 2	19	Walking	20	Walking	78	Pass
	Mitigation 3	17	Strolling	18	Walking	74	Pass
	Mitigation 4	17	Strolling	17	Strolling	75	Pass
	Mitigation 5	16	Strolling	16	Strolling	74	Pass
6	Existing	20	Walking	17	Strolling	65	Pass
	Proposed	17	Strolling	20	Walking	80	Pass
	Future	18	Walking	20	Walking	80	Pass
	Mitigation 1	18	Walking	18	Walking	76	Pass
	Mitigation 2	18	Walking	18	Walking	73	Pass
	Mitigation 3	15	Strolling	18	Walking	72	Pass
	Mitigation 4	13	Standing	17	Strolling	72	Pass
	Mitigation 5	13	Standing	17	Strolling	71	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
7	Existing	19	Walking	17	Strolling	67	Pass
	Proposed	13	Standing	16	Strolling	75	Pass
	Future	14	Standing	17	Strolling	76	Pass
	Mitigation 1	11	Standing	16	Strolling	71	Pass
	Mitigation 2	12	Standing	16	Strolling	73	Pass
	Mitigation 3	12	Standing	16	Strolling	74	Pass
	Mitigation 4	11	Standing	16	Strolling	70	Pass
	Mitigation 5	11	Standing	16	Strolling	69	Pass
8	Existing	20	Walking	18	Walking	69	Pass
	Proposed	15	Strolling	16	Strolling	73	Pass
	Future	15	Strolling	16	Strolling	74	Pass
	Mitigation 1	10	Sitting	13	Standing	63	Pass
	Mitigation 2	10	Sitting	13	Standing	63	Pass
	Mitigation 3	10	Sitting	13	Standing	63	Pass
	Mitigation 4	9	Sitting	12	Standing	55	Pass
	Mitigation 5	10	Sitting	12	Standing	53	Pass
9	Existing	20	Walking	19	Walking	70	Pass
	Proposed	17	Strolling	18	Walking	77	Pass
	Future	17	Strolling	19	Walking	78	Pass
	Mitigation 1	14	Standing	17	Strolling	71	Pass
	Mitigation 2	14	Standing	17	Strolling	71	Pass
	Mitigation 3	14	Standing	17	Strolling	71	Pass
	Mitigation 4	12	Standing	16	Strolling	73	Pass
	Mitigation 5	13	Standing	16	Strolling	69	Pass
10	Existing	20	Walking	18	Walking	70	Pass
	Proposed	15	Strolling	14	Standing	69	Pass
	Future	16	Strolling	15	Strolling	74	Pass
	Mitigation 1	11	Standing	11	Standing	59	Pass
	Mitigation 2	11	Standing	11	Standing	59	Pass
	Mitigation 3	11	Standing	11	Standing	59	Pass
	Mitigation 4	11	Standing	11	Standing	59	Pass
	Mitigation 5	11	Standing	11	Standing	59	Pass
11	Existing	19	Walking	17	Strolling	68	Pass
	Proposed	7	Sitting	8	Sitting	44	Pass
	Future	8	Sitting	8	Sitting	47	Pass
	Mitigation 1	6	Sitting	7	Sitting	29	Pass
	Mitigation 2	6	Sitting	7	Sitting	29	Pass
	Mitigation 3	6	Sitting	7	Sitting	29	Pass
	Mitigation 4	6	Sitting	7	Sitting	29	Pass
	Mitigation 5	6	Sitting	7	Sitting	29	Pass
12	Existing	19	Walking	17	Strolling	68	Pass
	Proposed	7	Sitting	8	Sitting	42	Pass
	Future	8	Sitting	8	Sitting	42	Pass
	Mitigation 1	6	Sitting	6	Sitting	28	Pass
	Mitigation 2	6	Sitting	6	Sitting	28	Pass
	Mitigation 3	6	Sitting	6	Sitting	28	Pass
	Mitigation 4	6	Sitting	6	Sitting	28	Pass
	Mitigation 5	6	Sitting	6	Sitting	28	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
13	Existing	19	Walking	18	Walking	69	Pass
	Proposed	17	Strolling	16	Strolling	72	Pass
	Future	17	Strolling	17	Strolling	79	Pass
	Mitigation 1	13	Standing	13	Standing	66	Pass
	Mitigation 2	13	Standing	13	Standing	66	Pass
	Mitigation 3	13	Standing	13	Standing	66	Pass
	Mitigation 4	13	Standing	13	Standing	66	Pass
	Mitigation 5	13	Standing	13	Standing	66	Pass
14	Existing	19	Walking	18	Walking	70	Pass
	Proposed	15	Strolling	15	Strolling	67	Pass
	Future	15	Strolling	15	Strolling	69	Pass
	Mitigation 1	10	Sitting	11	Standing	48	Pass
	Mitigation 2	10	Sitting	11	Standing	48	Pass
	Mitigation 3	10	Sitting	11	Standing	48	Pass
	Mitigation 4	10	Sitting	11	Standing	48	Pass
	Mitigation 5	10	Sitting	11	Standing	48	Pass
15	Existing	19	Walking	17	Strolling	68	Pass
	Proposed	11	Standing	11	Standing	51	Pass
	Future	11	Standing	10	Sitting	46	Pass
	Mitigation 1	9	Sitting	8	Sitting	36	Pass
	Mitigation 2	9	Sitting	8	Sitting	36	Pass
	Mitigation 3	9	Sitting	8	Sitting	36	Pass
	Mitigation 4	9	Sitting	8	Sitting	36	Pass
	Mitigation 5	9	Sitting	8	Sitting	36	Pass
16	Existing	20	Walking	18	Walking	73	Pass
	Proposed	17	Strolling	16	Strolling	70	Pass
	Future	18	Walking	17	Strolling	74	Pass
	Mitigation 1	14	Standing	14	Standing	66	Pass
	Mitigation 2	14	Standing	14	Standing	66	Pass
	Mitigation 3	14	Standing	14	Standing	66	Pass
	Mitigation 4	14	Standing	14	Standing	66	Pass
	Mitigation 5	14	Standing	14	Standing	66	Pass
17	Existing	20	Walking	19	Walking	74	Pass
	Proposed	18	Walking	16	Strolling	71	Pass
	Future	19	Walking	17	Strolling	76	Pass
	Mitigation 1	18	Walking	17	Strolling	79	Pass
	Mitigation 2	18	Walking	17	Strolling	79	Pass
	Mitigation 3	18	Walking	17	Strolling	79	Pass
	Mitigation 4	18	Walking	17	Strolling	79	Pass
	Mitigation 5	18	Walking	17	Strolling	79	Pass
18	Existing	20	Walking	18	Walking	70	Pass
	Proposed	17	Strolling	15	Strolling	67	Pass
	Future	18	Walking	17	Strolling	72	Pass
	Mitigation 1	17	Strolling	15	Strolling	66	Pass
	Mitigation 2	17	Strolling	15	Strolling	66	Pass
	Mitigation 3	17	Strolling	15	Strolling	66	Pass
	Mitigation 4	17	Strolling	15	Strolling	66	Pass
	Mitigation 5	17	Strolling	15	Strolling	66	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
19	Existing	19	Walking	17	Strolling	70	Pass
	Proposed	16	Strolling	15	Strolling	72	Pass
	Future	16	Strolling	15	Strolling	72	Pass
	Mitigation 1	13	Standing	12	Standing	55	Pass
	Mitigation 2	13	Standing	12	Standing	55	Pass
	Mitigation 3	13	Standing	12	Standing	55	Pass
	Mitigation 4	13	Standing	12	Standing	55	Pass
	Mitigation 5	13	Standing	12	Standing	55	Pass
20	Existing	19	Walking	17	Strolling	72	Pass
	Proposed	15	Strolling	15	Strolling	78	Pass
	Future	15	Strolling	14	Standing	70	Pass
	Mitigation 1	12	Standing	12	Standing	63	Pass
	Mitigation 2	13	Standing	12	Standing	70	Pass
	Mitigation 3	14	Standing	12	Standing	71	Pass
	Mitigation 4	12	Standing	12	Standing	63	Pass
	Mitigation 5	12	Standing	12	Standing	63	Pass
21	Existing	19	Walking	17	Strolling	73	Pass
	Proposed	13	Standing	12	Standing	58	Pass
	Future	12	Standing	10	Sitting	56	Pass
	Mitigation 1	11	Standing	10	Sitting	52	Pass
	Mitigation 2	12	Standing	9	Sitting	54	Pass
	Mitigation 3	12	Standing	9	Sitting	53	Pass
	Mitigation 4	11	Standing	10	Sitting	52	Pass
	Mitigation 5	11	Standing	10	Sitting	52	Pass
22	Existing	20	Walking	18	Walking	72	Pass
	Proposed	16	Strolling	16	Strolling	78	Pass
	Future	16	Strolling	14	Standing	69	Pass
	Mitigation 1	14	Standing	13	Standing	62	Pass
	Mitigation 2	15	Strolling	13	Standing	73	Pass
	Mitigation 3	15	Strolling	13	Standing	72	Pass
	Mitigation 4	14	Standing	13	Standing	62	Pass
	Mitigation 5	14	Standing	13	Standing	62	Pass
23	Existing	18	Walking	17	Strolling	72	Pass
	Proposed	15	Strolling	15	Strolling	68	Pass
	Future	13	Standing	12	Standing	59	Pass
	Mitigation 1	11	Standing	10	Sitting	51	Pass
	Mitigation 2	11	Standing	11	Standing	53	Pass
	Mitigation 3	12	Standing	11	Standing	53	Pass
	Mitigation 4	11	Standing	10	Sitting	51	Pass
	Mitigation 5	11	Standing	10	Sitting	51	Pass
24	Existing	18	Walking	17	Strolling	72	Pass
	Proposed	8	Sitting	7	Sitting	34	Pass
	Future	8	Sitting	7	Sitting	35	Pass
	Mitigation 1	11	Standing	7	Sitting	37	Pass
	Mitigation 2	11	Standing	8	Sitting	37	Pass
	Mitigation 3	12	Standing	8	Sitting	40	Pass
	Mitigation 4	11	Standing	7	Sitting	37	Pass
	Mitigation 5	11	Standing	7	Sitting	37	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
25	Existing	17	Strolling	17	Strolling	72	Pass
	Proposed	13	Standing	13	Standing	72	Pass
	Future	13	Standing	11	Standing	65	Pass
	Mitigation 1	12	Standing	10	Sitting	59	Pass
	Mitigation 2	12	Standing	10	Sitting	59	Pass
	Mitigation 3	12	Standing	10	Sitting	59	Pass
	Mitigation 4	12	Standing	10	Sitting	59	Pass
	Mitigation 5	12	Standing	10	Sitting	59	Pass
26	Existing	17	Strolling	16	Strolling	74	Pass
	Proposed	25	Uncomfortable	25	Uncomfortable	105	Exceeded
	Future	27	Uncomfortable	22	Uncomfortable	91	Exceeded
	Mitigation 1	19	Walking	19	Walking	80	Pass
	Mitigation 2	19	Walking	19	Walking	80	Pass
	Mitigation 3	19	Walking	19	Walking	80	Pass
	Mitigation 4	19	Walking	19	Walking	80	Pass
	Mitigation 5	19	Walking	19	Walking	80	Pass
27	Existing	17	Strolling	17	Strolling	74	Pass
	Proposed	16	Strolling	18	Walking	81	Pass
	Future	14	Standing	13	Standing	69	Pass
	Mitigation 1	13	Standing	12	Standing	63	Pass
	Mitigation 2	13	Standing	12	Standing	63	Pass
	Mitigation 3	13	Standing	12	Standing	63	Pass
	Mitigation 4	13	Standing	12	Standing	63	Pass
	Mitigation 5	13	Standing	12	Standing	63	Pass
28	Existing	17	Strolling	17	Strolling	77	Pass
	Proposed	26	Uncomfortable	24	Uncomfortable	94	Exceeded
	Future	24	Uncomfortable	18	Walking	87	Pass
	Mitigation 1	17	Strolling	14	Standing	62	Pass
	Mitigation 2	17	Strolling	14	Standing	62	Pass
	Mitigation 3	17	Strolling	14	Standing	62	Pass
	Mitigation 4	17	Strolling	14	Standing	62	Pass
	Mitigation 5	17	Strolling	14	Standing	62	Pass
29	Existing	17	Strolling	16	Strolling	72	Pass
	Proposed	13	Standing	12	Standing	58	Pass
	Future	18	Walking	14	Standing	76	Pass
	Mitigation 1	15	Strolling	13	Standing	58	Pass
	Mitigation 2	15	Strolling	13	Standing	58	Pass
	Mitigation 3	15	Strolling	13	Standing	58	Pass
	Mitigation 4	15	Strolling	13	Standing	58	Pass
	Mitigation 5	15	Strolling	13	Standing	58	Pass
30	Existing	17	Strolling	16	Strolling	74	Pass
	Proposed	14	Standing	13	Standing	64	Pass
	Future	22	Uncomfortable	18	Walking	81	Pass
	Mitigation 1	16	Strolling	14	Standing	62	Pass
	Mitigation 2	16	Strolling	14	Standing	62	Pass
	Mitigation 3	16	Strolling	14	Standing	62	Pass
	Mitigation 4	16	Strolling	14	Standing	62	Pass
	Mitigation 5	16	Strolling	14	Standing	62	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
31	Existing	17	Strolling	16	Strolling	71	Pass
	Proposed	12	Standing	11	Standing	53	Pass
	Future	19	Walking	18	Walking	73	Pass
	Mitigation 1	19	Walking	17	Strolling	68	Pass
	Mitigation 2	19	Walking	17	Strolling	68	Pass
	Mitigation 3	19	Walking	17	Strolling	68	Pass
	Mitigation 4	19	Walking	17	Strolling	68	Pass
	Mitigation 5	19	Walking	17	Strolling	68	Pass
32	Existing	17	Strolling	16	Strolling	74	Pass
	Proposed	16	Strolling	14	Standing	67	Pass
	Future	22	Uncomfortable	23	Uncomfortable	86	Pass
	Mitigation 1	16	Strolling	17	Strolling	70	Pass
	Mitigation 2	16	Strolling	17	Strolling	70	Pass
	Mitigation 3	16	Strolling	17	Strolling	70	Pass
	Mitigation 4	16	Strolling	17	Strolling	70	Pass
	Mitigation 5	16	Strolling	17	Strolling	70	Pass
33	Existing	17	Strolling	16	Strolling	70	Pass
	Proposed	12	Standing	11	Standing	49	Pass
	Future	16	Strolling	17	Strolling	77	Pass
	Mitigation 1	14	Standing	16	Strolling	71	Pass
	Mitigation 2	14	Standing	16	Strolling	71	Pass
	Mitigation 3	14	Standing	16	Strolling	71	Pass
	Mitigation 4	14	Standing	16	Strolling	71	Pass
	Mitigation 5	14	Standing	16	Strolling	71	Pass
34	Existing	17	Strolling	16	Strolling	69	Pass
	Proposed	14	Standing	12	Standing	56	Pass
	Future	11	Standing	14	Standing	81	Pass
	Mitigation 1	9	Sitting	12	Standing	79	Pass
	Mitigation 2	9	Sitting	12	Standing	79	Pass
	Mitigation 3	9	Sitting	12	Standing	79	Pass
	Mitigation 4	9	Sitting	12	Standing	79	Pass
	Mitigation 5	9	Sitting	12	Standing	79	Pass
35	Existing	18	Walking	16	Strolling	67	Pass
	Proposed	8	Sitting	7	Sitting	40	Pass
	Future	7	Sitting	8	Sitting	46	Pass
	Mitigation 1	6	Sitting	6	Sitting	36	Pass
	Mitigation 2	6	Sitting	6	Sitting	36	Pass
	Mitigation 3	6	Sitting	6	Sitting	36	Pass
	Mitigation 4	6	Sitting	6	Sitting	36	Pass
	Mitigation 5	6	Sitting	6	Sitting	36	Pass
36	Existing	18	Walking	16	Strolling	65	Pass
	Proposed	12	Standing	11	Standing	44	Pass
	Future	9	Sitting	10	Sitting	41	Pass
	Mitigation 1	8	Sitting	9	Sitting	43	Pass
	Mitigation 2	8	Sitting	9	Sitting	43	Pass
	Mitigation 3	8	Sitting	9	Sitting	43	Pass
	Mitigation 4	8	Sitting	9	Sitting	43	Pass
	Mitigation 5	8	Sitting	9	Sitting	43	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
37	Existing	19	Walking	17	Strolling	67	Pass
	Proposed	11	Standing	11	Standing	48	Pass
	Future	10	Sitting	10	Sitting	46	Pass
	Mitigation 1	8	Sitting	9	Sitting	40	Pass
	Mitigation 2	8	Sitting	9	Sitting	40	Pass
	Mitigation 3	8	Sitting	9	Sitting	40	Pass
	Mitigation 4	8	Sitting	9	Sitting	40	Pass
	Mitigation 5	8	Sitting	9	Sitting	40	Pass
38	Existing	19	Walking	17	Strolling	67	Pass
	Proposed	12	Standing	11	Standing	50	Pass
	Future	11	Standing	10	Sitting	51	Pass
	Mitigation 1	10	Sitting	9	Sitting	46	Pass
	Mitigation 2	10	Sitting	9	Sitting	46	Pass
	Mitigation 3	10	Sitting	9	Sitting	46	Pass
	Mitigation 4	10	Sitting	9	Sitting	41	Pass
	Mitigation 5	9	Sitting	7	Sitting	36	Pass
39	Existing	20	Walking	17	Strolling	67	Pass
	Proposed	20	Walking	12	Standing	87	Pass
	Future	19	Walking	11	Standing	91	Exceeded
	Mitigation 1	10	Sitting	8	Sitting	59	Pass
	Mitigation 2	11	Standing	9	Sitting	59	Pass
	Mitigation 3	16	Strolling	10	Sitting	73	Pass
	Mitigation 4	9	Sitting	10	Sitting	48	Pass
	Mitigation 5	9	Sitting	10	Sitting	46	Pass
40	Existing	20	Walking	18	Walking	68	Pass
	Proposed	27	Uncomfortable	26	Uncomfortable	100	Exceeded
	Future	26	Uncomfortable	26	Uncomfortable	100	Exceeded
	Mitigation 1	22	Uncomfortable	23	Uncomfortable	86	Pass
	Mitigation 2	20	Walking	20	Walking	76	Pass
	Mitigation 3	18	Walking	13	Standing	77	Pass
	Mitigation 4	19	Walking	15	Strolling	79	Pass
	Mitigation 5	14	Standing	12	Standing	72	Pass
41	Existing	20	Walking	18	Walking	66	Pass
	Proposed	27	Uncomfortable	24	Uncomfortable	92	Exceeded
	Future	27	Uncomfortable	25	Uncomfortable	93	Exceeded
	Mitigation 1	26	Uncomfortable	22	Uncomfortable	89	Pass
	Mitigation 2	24	Uncomfortable	23	Uncomfortable	90	Pass
	Mitigation 3	24	Uncomfortable	23	Uncomfortable	90	Pass
	Mitigation 4	26	Uncomfortable	23	Uncomfortable	94	Exceeded
	Mitigation 5	22	Uncomfortable	21	Uncomfortable	94	Exceeded
42	Existing	21	Uncomfortable	18	Walking	68	Pass
	Proposed	24	Uncomfortable	23	Uncomfortable	93	Exceeded
	Future	25	Uncomfortable	24	Uncomfortable	93	Exceeded
	Mitigation 1	24	Uncomfortable	23	Uncomfortable	94	Exceeded
	Mitigation 2	24	Uncomfortable	23	Uncomfortable	94	Exceeded
	Mitigation 3	24	Uncomfortable	23	Uncomfortable	94	Exceeded
	Mitigation 4	25	Uncomfortable	23	Uncomfortable	95	Exceeded
	Mitigation 5	24	Uncomfortable	22	Uncomfortable	94	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
43	Existing	20	Walking	18	Walking	67	Pass
	Proposed	22	Uncomfortable	23	Uncomfortable	102	Exceeded
	Future	22	Uncomfortable	23	Uncomfortable	99	Exceeded
	Mitigation 1	20	Walking	21	Uncomfortable	86	Pass
	Mitigation 2	20	Walking	21	Uncomfortable	86	Pass
	Mitigation 3	20	Walking	21	Uncomfortable	86	Pass
	Mitigation 4	20	Walking	20	Walking	84	Pass
	Mitigation 5	19	Walking	19	Walking	80	Pass
44	Existing	20	Walking	17	Strolling	67	Pass
	Proposed	18	Walking	16	Strolling	73	Pass
	Future	18	Walking	15	Strolling	76	Pass
	Mitigation 1	18	Walking	15	Strolling	77	Pass
	Mitigation 2	18	Walking	15	Strolling	77	Pass
	Mitigation 3	18	Walking	15	Strolling	77	Pass
	Mitigation 4	18	Walking	16	Strolling	75	Pass
	Mitigation 5	15	Strolling	14	Standing	65	Pass
45	Existing	19	Walking	17	Strolling	66	Pass
	Proposed	16	Strolling	16	Strolling	74	Pass
	Future	16	Strolling	15	Strolling	72	Pass
	Mitigation 1	15	Strolling	15	Strolling	72	Pass
	Mitigation 2	15	Strolling	15	Strolling	72	Pass
	Mitigation 3	15	Strolling	15	Strolling	72	Pass
	Mitigation 4	15	Strolling	15	Strolling	72	Pass
	Mitigation 5	14	Standing	13	Standing	56	Pass
46	Existing	18	Walking	16	Strolling	66	Pass
	Proposed	16	Strolling	16	Strolling	73	Pass
	Future	16	Strolling	16	Strolling	72	Pass
	Mitigation 1	15	Strolling	16	Strolling	72	Pass
	Mitigation 2	15	Strolling	16	Strolling	72	Pass
	Mitigation 3	15	Strolling	16	Strolling	72	Pass
	Mitigation 4	16	Strolling	16	Strolling	71	Pass
	Mitigation 5	16	Strolling	14	Standing	66	Pass
47	Existing	18	Walking	16	Strolling	66	Pass
	Proposed	9	Sitting	9	Sitting	42	Pass
	Future	10	Sitting	9	Sitting	47	Pass
	Mitigation 1	9	Sitting	9	Sitting	49	Pass
	Mitigation 2	9	Sitting	9	Sitting	49	Pass
	Mitigation 3	9	Sitting	9	Sitting	49	Pass
	Mitigation 4	9	Sitting	9	Sitting	49	Pass
	Mitigation 5	9	Sitting	9	Sitting	49	Pass
48	Existing	18	Walking	16	Strolling	66	Pass
	Proposed	14	Standing	15	Strolling	70	Pass
	Future	16	Strolling	16	Strolling	76	Pass
	Mitigation 1	15	Strolling	17	Strolling	79	Pass
	Mitigation 2	15	Strolling	17	Strolling	79	Pass
	Mitigation 3	15	Strolling	17	Strolling	79	Pass
	Mitigation 4	16	Strolling	17	Strolling	79	Pass
	Mitigation 5	17	Strolling	16	Strolling	77	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
49	Existing	18	Walking	16	Strolling	68	Pass
	Proposed	14	Standing	13	Standing	70	Pass
	Future	13	Standing	16	Strolling	82	Pass
	Mitigation 1	12	Standing	12	Standing	62	Pass
	Mitigation 2	12	Standing	12	Standing	62	Pass
	Mitigation 3	12	Standing	12	Standing	62	Pass
	Mitigation 4	12	Standing	12	Standing	62	Pass
	Mitigation 5	12	Standing	12	Standing	62	Pass
50	Existing	18	Walking	16	Strolling	72	Pass
	Proposed	10	Sitting	9	Sitting	48	Pass
	Future	12	Standing	12	Standing	53	Pass
	Mitigation 1	9	Sitting	9	Sitting	45	Pass
	Mitigation 2	9	Sitting	9	Sitting	45	Pass
	Mitigation 3	9	Sitting	9	Sitting	45	Pass
	Mitigation 4	9	Sitting	9	Sitting	45	Pass
	Mitigation 5	9	Sitting	9	Sitting	45	Pass
51	Existing	18	Walking	16	Strolling	72	Pass
	Proposed	21	Uncomfortable	19	Walking	91	Exceeded
	Future	17	Strolling	21	Uncomfortable	97	Exceeded
	Mitigation 1	15	Strolling	16	Strolling	81	Pass
	Mitigation 2	15	Strolling	16	Strolling	81	Pass
	Mitigation 3	15	Strolling	16	Strolling	81	Pass
	Mitigation 4	15	Strolling	16	Strolling	81	Pass
	Mitigation 5	15	Strolling	16	Strolling	81	Pass
52	Existing	18	Walking	16	Strolling	71	Pass
	Proposed	20	Walking	21	Uncomfortable	95	Exceeded
	Future	20	Walking	23	Uncomfortable	100	Exceeded
	Mitigation 1	19	Walking	22	Uncomfortable	95	Exceeded
	Mitigation 2	20	Walking	23	Uncomfortable	96	Exceeded
	Mitigation 3	20	Walking	23	Uncomfortable	95	Exceeded
	Mitigation 4	19	Walking	22	Uncomfortable	95	Exceeded
	Mitigation 5	19	Walking	22	Uncomfortable	95	Exceeded
53	Existing	18	Walking	16	Strolling	69	Pass
	Proposed	16	Strolling	19	Walking	91	Exceeded
	Future	15	Strolling	15	Strolling	79	Pass
	Mitigation 1	15	Strolling	15	Strolling	83	Pass
	Mitigation 2	15	Strolling	15	Strolling	83	Pass
	Mitigation 3	15	Strolling	15	Strolling	83	Pass
	Mitigation 4	15	Strolling	15	Strolling	83	Pass
	Mitigation 5	15	Strolling	15	Strolling	83	Pass
54	Existing	18	Walking	16	Strolling	67	Pass
	Proposed	16	Strolling	18	Walking	85	Pass
	Future	18	Walking	17	Strolling	78	Pass
	Mitigation 1	17	Strolling	16	Strolling	76	Pass
	Mitigation 2	17	Strolling	16	Strolling	76	Pass
	Mitigation 3	17	Strolling	16	Strolling	76	Pass
	Mitigation 4	17	Strolling	16	Strolling	78	Pass
	Mitigation 5	17	Strolling	15	Strolling	73	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
55	Existing	18	Walking	16	Strolling	68	Pass
	Proposed	16	Strolling	18	Walking	89	Pass
	Future	12	Standing	12	Standing	67	Pass
	Mitigation 1	12	Standing	12	Standing	68	Pass
	Mitigation 2	12	Standing	12	Standing	68	Pass
	Mitigation 3	12	Standing	12	Standing	68	Pass
	Mitigation 4	12	Standing	12	Standing	68	Pass
	Mitigation 5	12	Standing	12	Standing	68	Pass
56	Existing	19	Walking	17	Strolling	66	Pass
	Proposed	15	Strolling	18	Walking	88	Pass
	Future	15	Strolling	15	Strolling	79	Pass
	Mitigation 1	16	Strolling	15	Strolling	75	Pass
	Mitigation 2	16	Strolling	15	Strolling	75	Pass
	Mitigation 3	16	Strolling	15	Strolling	75	Pass
	Mitigation 4	16	Strolling	15	Strolling	75	Pass
	Mitigation 5	16	Strolling	15	Strolling	75	Pass
57	Existing	19	Walking	18	Walking	67	Pass
	Proposed	16	Strolling	18	Walking	87	Pass
	Future	17	Strolling	18	Walking	87	Pass
	Mitigation 1	16	Strolling	17	Strolling	83	Pass
	Mitigation 2	16	Strolling	17	Strolling	83	Pass
	Mitigation 3	16	Strolling	17	Strolling	83	Pass
	Mitigation 4	16	Strolling	17	Strolling	83	Pass
	Mitigation 5	16	Strolling	17	Strolling	83	Pass
58	Existing	20	Walking	18	Walking	67	Pass
	Proposed	21	Uncomfortable	21	Uncomfortable	102	Exceeded
	Future	21	Uncomfortable	22	Uncomfortable	98	Exceeded
	Mitigation 1	20	Walking	20	Walking	91	Exceeded
	Mitigation 2	20	Walking	20	Walking	91	Exceeded
	Mitigation 3	20	Walking	20	Walking	91	Exceeded
	Mitigation 4	20	Walking	20	Walking	91	Exceeded
	Mitigation 5	20	Walking	20	Walking	91	Exceeded
59	Existing	21	Uncomfortable	19	Walking	68	Pass
	Proposed	23	Uncomfortable	21	Uncomfortable	93	Exceeded
	Future	23	Uncomfortable	22	Uncomfortable	95	Exceeded
	Mitigation 1	22	Uncomfortable	21	Uncomfortable	93	Exceeded
	Mitigation 2	22	Uncomfortable	21	Uncomfortable	93	Exceeded
	Mitigation 3	22	Uncomfortable	21	Uncomfortable	93	Exceeded
	Mitigation 4	22	Uncomfortable	21	Uncomfortable	93	Exceeded
	Mitigation 5	22	Uncomfortable	21	Uncomfortable	93	Exceeded
60	Existing	21	Uncomfortable	18	Walking	68	Pass
	Proposed	22	Uncomfortable	20	Walking	87	Pass
	Future	20	Walking	19	Walking	89	Pass
	Mitigation 1	19	Walking	20	Walking	92	Exceeded
	Mitigation 2	19	Walking	20	Walking	92	Exceeded
	Mitigation 3	19	Walking	20	Walking	92	Exceeded
	Mitigation 4	19	Walking	20	Walking	92	Exceeded
	Mitigation 5	19	Walking	20	Walking	92	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
61	Existing	22	Uncomfortable	19	Walking	69	Pass
	Proposed	22	Uncomfortable	20	Walking	85	Pass
	Future	20	Walking	19	Walking	89	Pass
	Mitigation 1	19	Walking	19	Walking	89	Pass
	Mitigation 2	19	Walking	19	Walking	89	Pass
	Mitigation 3	19	Walking	19	Walking	89	Pass
	Mitigation 4	19	Walking	19	Walking	89	Pass
	Mitigation 5	19	Walking	19	Walking	89	Pass
62	Existing	21	Uncomfortable	18	Walking	68	Pass
	Proposed	21	Uncomfortable	20	Walking	90	Pass
	Future	17	Strolling	18	Walking	90	Pass
	Mitigation 1	17	Strolling	18	Walking	91	Exceeded
	Mitigation 2	17	Strolling	18	Walking	91	Exceeded
	Mitigation 3	17	Strolling	18	Walking	91	Exceeded
	Mitigation 4	17	Strolling	18	Walking	91	Exceeded
	Mitigation 5	17	Strolling	18	Walking	91	Exceeded
63	Existing	20	Walking	18	Walking	67	Pass
	Proposed	19	Walking	20	Walking	92	Exceeded
	Future	18	Walking	19	Walking	90	Pass
	Mitigation 1	18	Walking	18	Walking	91	Exceeded
	Mitigation 2	18	Walking	18	Walking	91	Exceeded
	Mitigation 3	18	Walking	18	Walking	91	Exceeded
	Mitigation 4	18	Walking	18	Walking	91	Exceeded
	Mitigation 5	18	Walking	18	Walking	91	Exceeded
64	Existing	20	Walking	18	Walking	67	Pass
	Proposed	18	Walking	19	Walking	94	Exceeded
	Future	18	Walking	19	Walking	88	Pass
	Mitigation 1	18	Walking	18	Walking	86	Pass
	Mitigation 2	18	Walking	18	Walking	86	Pass
	Mitigation 3	18	Walking	18	Walking	86	Pass
	Mitigation 4	18	Walking	18	Walking	86	Pass
	Mitigation 5	18	Walking	18	Walking	86	Pass
65	Existing	19	Walking	17	Strolling	66	Pass
	Proposed	17	Strolling	18	Walking	87	Pass
	Future	17	Strolling	17	Strolling	82	Pass
	Mitigation 1	17	Strolling	17	Strolling	85	Pass
	Mitigation 2	17	Strolling	17	Strolling	85	Pass
	Mitigation 3	17	Strolling	17	Strolling	85	Pass
	Mitigation 4	17	Strolling	17	Strolling	85	Pass
	Mitigation 5	17	Strolling	17	Strolling	85	Pass
66	Existing	20	Walking	19	Walking	70	Pass
	Proposed	19	Walking	19	Walking	90	Pass
	Future	16	Strolling	17	Strolling	89	Pass
	Mitigation 1	15	Strolling	16	Strolling	87	Pass
	Mitigation 2	15	Strolling	16	Strolling	87	Pass
	Mitigation 3	15	Strolling	16	Strolling	87	Pass
	Mitigation 4	15	Strolling	16	Strolling	87	Pass
	Mitigation 5	15	Strolling	16	Strolling	87	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
67	Existing	19	Walking	18	Walking	68	Pass
	Proposed	17	Strolling	18	Walking	84	Pass
	Future	14	Standing	15	Strolling	79	Pass
	Mitigation 1	14	Standing	14	Standing	74	Pass
	Mitigation 2	14	Standing	14	Standing	74	Pass
	Mitigation 3	14	Standing	14	Standing	74	Pass
	Mitigation 4	14	Standing	14	Standing	74	Pass
	Mitigation 5	14	Standing	14	Standing	74	Pass
68	Existing	18	Walking	17	Strolling	67	Pass
	Proposed	17	Strolling	18	Walking	82	Pass
	Future	11	Standing	13	Standing	65	Pass
	Mitigation 1	12	Standing	13	Standing	66	Pass
	Mitigation 2	12	Standing	13	Standing	66	Pass
	Mitigation 3	12	Standing	13	Standing	66	Pass
	Mitigation 4	12	Standing	13	Standing	66	Pass
	Mitigation 5	12	Standing	13	Standing	66	Pass
69	Existing	18	Walking	17	Strolling	68	Pass
	Proposed	16	Strolling	18	Walking	89	Pass
	Future	16	Strolling	16	Strolling	74	Pass
	Mitigation 1	19	Walking	16	Strolling	77	Pass
	Mitigation 2	19	Walking	16	Strolling	77	Pass
	Mitigation 3	19	Walking	16	Strolling	77	Pass
	Mitigation 4	19	Walking	16	Strolling	77	Pass
	Mitigation 5	19	Walking	16	Strolling	77	Pass
70	Existing	16	Strolling	14	Standing	77	Pass
	Proposed	20	Walking	20	Walking	89	Pass
	Future	18	Walking	17	Strolling	79	Pass
	Mitigation 1	16	Strolling	16	Strolling	73	Pass
	Mitigation 2	16	Strolling	16	Strolling	73	Pass
	Mitigation 3	16	Strolling	16	Strolling	73	Pass
	Mitigation 4	16	Strolling	16	Strolling	73	Pass
	Mitigation 5	16	Strolling	16	Strolling	73	Pass
71	Existing	14	Standing	14	Standing	66	Pass
	Proposed	17	Strolling	18	Walking	80	Pass
	Future	19	Walking	19	Walking	78	Pass
	Mitigation 1	15.5	Strolling	15	Strolling	69.5	Pass
	Mitigation 2	15.5	Strolling	15	Strolling	69.5	Pass
	Mitigation 3	15.5	Strolling	15	Strolling	69.5	Pass
	Mitigation 4	15.5	Strolling	15	Strolling	69.5	Pass
	Mitigation 5	15.5	Strolling	15	Strolling	69.5	Pass
72	Existing	15	Strolling	14	Standing	70	Pass
	Proposed	17	Strolling	16	Strolling	80	Pass
	Future	17	Strolling	15	Strolling	70	Pass
	Mitigation 1	15	Strolling	14	Standing	66	Pass
	Mitigation 2	15	Strolling	14	Standing	66	Pass
	Mitigation 3	15	Strolling	14	Standing	66	Pass
	Mitigation 4	15	Strolling	14	Standing	66	Pass
	Mitigation 5	15	Strolling	14	Standing	66	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
73	Existing	16	Strolling	14	Standing	79	Pass
	Proposed	19	Walking	19	Walking	87	Pass
	Future	19	Walking	18	Walking	80	Pass
	Mitigation 1	18	Walking	17	Strolling	77	Pass
	Mitigation 2	18	Walking	17	Strolling	77	Pass
	Mitigation 3	18	Walking	17	Strolling	77	Pass
	Mitigation 4	18	Walking	17	Strolling	77	Pass
	Mitigation 5	18	Walking	17	Strolling	77	Pass
74	Existing	14	Standing	14	Standing	74	Pass
	Proposed	17	Strolling	17	Strolling	83	Pass
	Future	11	Standing	10	Sitting	45	Pass
	Mitigation 1	12	Standing	10	Sitting	50	Pass
	Mitigation 2	12	Standing	10	Sitting	50	Pass
	Mitigation 3	12	Standing	10	Sitting	50	Pass
	Mitigation 4	12	Standing	10	Sitting	50	Pass
	Mitigation 5	12	Standing	10	Sitting	50	Pass
75	Existing	16	Strolling	15	Strolling	82	Pass
	Proposed	19	Walking	18	Walking	83	Pass
	Future	15	Strolling	16	Strolling	80	Pass
	Mitigation 1	13	Standing	16	Strolling	73	Pass
	Mitigation 2	13	Standing	16	Strolling	73	Pass
	Mitigation 3	13	Standing	16	Strolling	73	Pass
	Mitigation 4	13	Standing	16	Strolling	73	Pass
	Mitigation 5	13	Standing	16	Strolling	73	Pass
76	Existing	17	Strolling	15	Strolling	83	Pass
	Proposed	20	Walking	20	Walking	90	Pass
	Future	19	Walking	20	Walking	95	Exceeded
	Mitigation 1	14	Standing	14	Standing	69	Pass
	Mitigation 2	14	Standing	14	Standing	69	Pass
	Mitigation 3	14	Standing	14	Standing	69	Pass
	Mitigation 4	14	Standing	14	Standing	69	Pass
	Mitigation 5	14	Standing	14	Standing	69	Pass
77	Existing	17	Strolling	15	Strolling	81	Pass
	Proposed	21	Uncomfortable	21	Uncomfortable	92	Exceeded
	Future	20	Walking	21	Uncomfortable	94	Exceeded
	Mitigation 1	19	Walking	19	Walking	91	Exceeded
	Mitigation 2	19	Walking	19	Walking	91	Exceeded
	Mitigation 3	19	Walking	19	Walking	91	Exceeded
	Mitigation 4	19	Walking	19	Walking	91	Exceeded
	Mitigation 5	19	Walking	19	Walking	91	Exceeded
78	Existing	17	Strolling	16	Strolling	75	Pass
	Proposed	22	Uncomfortable	19	Walking	91	Exceeded
	Future	18	Walking	23	Uncomfortable	106	Exceeded
	Mitigation 1	13	Standing	16	Strolling	90	Pass
	Mitigation 2	13	Standing	16	Strolling	90	Pass
	Mitigation 3	13	Standing	16	Strolling	90	Pass
	Mitigation 4	13	Standing	16	Strolling	90	Pass
	Mitigation 5	13	Standing	16	Strolling	90	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
79	Existing	17	Strolling	16	Strolling	78	Pass
	Proposed	21	Uncomfortable	20	Walking	87	Pass
	Future	16	Strolling	18	Walking	87	Pass
	Mitigation 1	14	Standing	15	Strolling	87	Pass
	Mitigation 2	14	Standing	15	Strolling	87	Pass
	Mitigation 3	14	Standing	15	Strolling	87	Pass
	Mitigation 4	14	Standing	15	Strolling	87	Pass
	Mitigation 5	14	Standing	15	Strolling	87	Pass
80	Existing	16	Strolling	15	Strolling	75	Pass
	Proposed	20	Walking	17	Strolling	77	Pass
	Future	25	Uncomfortable	23	Uncomfortable	88	Pass
	Mitigation 1	17	Strolling	18	Walking	66	Pass
	Mitigation 2	17	Strolling	18	Walking	66	Pass
	Mitigation 3	17	Strolling	18	Walking	66	Pass
	Mitigation 4	17	Strolling	18	Walking	66	Pass
	Mitigation 5	17	Strolling	18	Walking	66	Pass
81	Existing	17	Strolling	16	Strolling	76	Pass
	Proposed	20	Walking	17	Strolling	77	Pass
	Future	23	Uncomfortable	19	Walking	83	Pass
	Mitigation 1	11	Standing	13	Standing	51	Pass
	Mitigation 2	11	Standing	13	Standing	51	Pass
	Mitigation 3	11	Standing	13	Standing	51	Pass
	Mitigation 4	11	Standing	13	Standing	51	Pass
	Mitigation 5	11	Standing	13	Standing	51	Pass
82	Existing	17	Strolling	17	Strolling	78	Pass
	Proposed	26	Uncomfortable	26	Uncomfortable	97	Exceeded
	Future	17	Strolling	15	Strolling	69	Pass
	Mitigation 1	11	Standing	12	Standing	57	Pass
	Mitigation 2	11	Standing	12	Standing	57	Pass
	Mitigation 3	11	Standing	12	Standing	57	Pass
	Mitigation 4	11	Standing	12	Standing	57	Pass
	Mitigation 5	11	Standing	12	Standing	57	Pass
83	Existing	17	Strolling	17	Strolling	76	Pass
	Proposed	21	Uncomfortable	21	Uncomfortable	81	Pass
	Future	17	Strolling	15	Strolling	66	Pass
	Mitigation 1	14	Standing	12	Standing	55	Pass
	Mitigation 2	14	Standing	12	Standing	55	Pass
	Mitigation 3	14	Standing	12	Standing	55	Pass
	Mitigation 4	14	Standing	12	Standing	55	Pass
	Mitigation 5	14	Standing	12	Standing	55	Pass
84	Existing	17	Strolling	17	Strolling	78	Pass
	Proposed	20	Walking	18	Walking	80	Pass
	Future	18	Walking	14	Standing	81	Pass
	Mitigation 1	15	Strolling	12	Standing	60	Pass
	Mitigation 2	15	Strolling	12	Standing	60	Pass
	Mitigation 3	15	Strolling	12	Standing	60	Pass
	Mitigation 4	15	Strolling	12	Standing	60	Pass
	Mitigation 5	15	Strolling	12	Standing	60	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
85	Existing	19	Walking	18	Walking	74	Pass
	Proposed	16	Strolling	15	Strolling	74	Pass
	Future	15	Strolling	14	Standing	65	Pass
	Mitigation 1	-	-	-	-	-	-
	Mitigation 2	-	-	-	-	-	-
	Mitigation 3	-	-	-	-	-	-
	Mitigation 4	-	-	-	-	-	-
	Mitigation 5	-	-	-	-	-	-
86	Existing	19	Walking	18	Walking	79	Pass
	Proposed	18	Walking	17	Strolling	76	Pass
	Future	17	Strolling	15	Strolling	70	Pass
	Mitigation 1	13	Standing	12	Standing	60	Pass
	Mitigation 2	13	Standing	12	Standing	60	Pass
	Mitigation 3	13	Standing	12	Standing	60	Pass
	Mitigation 4	13	Standing	12	Standing	60	Pass
	Mitigation 5	13	Standing	12	Standing	60	Pass
87	Existing	20	Walking	18	Walking	75	Pass
	Proposed	19	Walking	17	Strolling	80	Pass
	Future	18	Walking	15	Strolling	71	Pass
	Mitigation 1	-	-	-	-	-	-
	Mitigation 2	-	-	-	-	-	-
	Mitigation 3	-	-	-	-	-	-
	Mitigation 4	-	-	-	-	-	-
	Mitigation 5	-	-	-	-	-	-
88	Existing	17	Strolling	18	Walking	82	Pass
	Proposed	20	Walking	19	Walking	80	Pass
	Future	16	Strolling	14	Standing	68	Pass
	Mitigation 1	14	Standing	13	Standing	60	Pass
	Mitigation 2	14	Standing	13	Standing	60	Pass
	Mitigation 3	14	Standing	13	Standing	60	Pass
	Mitigation 4	14	Standing	13	Standing	60	Pass
	Mitigation 5	14	Standing	13	Standing	60	Pass
89	Existing	18	Walking	21	Uncomfortable	93	Exceeded
	Proposed	23	Uncomfortable	24	Uncomfortable	96	Exceeded
	Future	15	Strolling	15	Strolling	65	Pass
	Mitigation 1	14	Standing	13	Standing	59	Pass
	Mitigation 2	14	Standing	13	Standing	59	Pass
	Mitigation 3	14	Standing	13	Standing	59	Pass
	Mitigation 4	14	Standing	13	Standing	59	Pass
	Mitigation 5	14	Standing	13	Standing	59	Pass
90	Existing	14	Standing	16	Strolling	88	Pass
	Proposed	15	Strolling	18	Walking	93	Exceeded
	Future	19	Walking	25	Uncomfortable	105	Exceeded
	Mitigation 1	18	Walking	25	Uncomfortable	107	Exceeded
	Mitigation 2	18	Walking	25	Uncomfortable	107	Exceeded
	Mitigation 3	18	Walking	25	Uncomfortable	107	Exceeded
	Mitigation 4	18	Walking	25	Uncomfortable	107	Exceeded
	Mitigation 5	18	Walking	25	Uncomfortable	107	Exceeded

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
91	Existing	14	Standing	15	Strolling	78	Pass
	Proposed	16	Strolling	18	Walking	88	Pass
	Future	17	Strolling	20	Walking	85	Pass
	Mitigation 1	16	Strolling	14	Standing	74	Pass
	Mitigation 2	16	Strolling	14	Standing	74	Pass
	Mitigation 3	16	Strolling	14	Standing	74	Pass
	Mitigation 4	16	Strolling	14	Standing	74	Pass
	Mitigation 5	16	Strolling	14	Standing	74	Pass
92	Existing	16	Strolling	19	Walking	79	Pass
	Proposed	18	Walking	19	Walking	81	Pass
	Future	14	Standing	16	Strolling	82	Pass
	Mitigation 1	14	Standing	15	Strolling	74	Pass
	Mitigation 2	14	Standing	15	Strolling	74	Pass
	Mitigation 3	14	Standing	15	Strolling	74	Pass
	Mitigation 4	14	Standing	15	Strolling	74	Pass
	Mitigation 5	14	Standing	15	Strolling	74	Pass
93	Existing	13	Standing	13	Standing	60	Pass
	Proposed	13	Standing	13	Standing	61	Pass
	Future	14	Standing	14	Standing	62	Pass
	Mitigation 1	14	Standing	15	Strolling	62	Pass
	Mitigation 2	14	Standing	15	Strolling	62	Pass
	Mitigation 3	14	Standing	15	Strolling	62	Pass
	Mitigation 4	14	Standing	15	Strolling	62	Pass
	Mitigation 5	14	Standing	15	Strolling	62	Pass
94	Existing	15	Strolling	16	Strolling	69	Pass
	Proposed	15	Strolling	15	Strolling	66	Pass
	Future	14	Standing	14	Standing	59	Pass
	Mitigation 1	16	Strolling	12	Standing	56	Pass
	Mitigation 2	16	Strolling	12	Standing	56	Pass
	Mitigation 3	16	Strolling	12	Standing	56	Pass
	Mitigation 4	16	Strolling	12	Standing	56	Pass
	Mitigation 5	16	Strolling	12	Standing	56	Pass
95	Existing	15	Strolling	15	Strolling	63	Pass
	Proposed	14	Standing	14	Standing	63	Pass
	Future	13	Standing	14	Standing	70	Pass
	Mitigation 1	12	Standing	13	Standing	59	Pass
	Mitigation 2	12	Standing	13	Standing	59	Pass
	Mitigation 3	12	Standing	13	Standing	59	Pass
	Mitigation 4	12	Standing	13	Standing	59	Pass
	Mitigation 5	12	Standing	13	Standing	59	Pass
96	Existing	12	Standing	11	Standing	55	Pass
	Proposed	12	Standing	11	Standing	54	Pass
	Future	11	Standing	10	Sitting	52	Pass
	Mitigation 1	11.5	Standing	11	Standing	53	Pass
	Mitigation 2	11.5	Standing	11	Standing	53	Pass
	Mitigation 3	11.5	Standing	11	Standing	53	Pass
	Mitigation 4	11.5	Standing	11	Standing	53	Pass
	Mitigation 5	11.5	Standing	11	Standing	53	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
97	Existing	16	Strolling	18	Walking	81	Pass
	Proposed	15	Strolling	18	Walking	81	Pass
	Future	16	Strolling	19	Walking	84	Pass
	Mitigation 1	16	Strolling	18	Walking	81	Pass
	Mitigation 2	16	Strolling	18	Walking	81	Pass
	Mitigation 3	16	Strolling	18	Walking	81	Pass
	Mitigation 4	16	Strolling	18	Walking	81	Pass
	Mitigation 5	16	Strolling	18	Walking	81	Pass
98	Existing	15	Strolling	15	Strolling	69	Pass
	Proposed	15	Strolling	15	Strolling	67	Pass
	Future	15	Strolling	15	Strolling	66	Pass
	Mitigation 1	15	Strolling	15	Strolling	71	Pass
	Mitigation 2	15	Strolling	15	Strolling	71	Pass
	Mitigation 3	15	Strolling	15	Strolling	71	Pass
	Mitigation 4	15	Strolling	15	Strolling	71	Pass
	Mitigation 5	15	Strolling	15	Strolling	71	Pass
99	Existing	16	Strolling	20	Walking	85	Pass
	Proposed	16	Strolling	20	Walking	84	Pass
	Future	18	Walking	21	Uncomfortable	86	Pass
	Mitigation 1	17	Strolling	20	Walking	83	Pass
	Mitigation 2	17	Strolling	20	Walking	83	Pass
	Mitigation 3	17	Strolling	20	Walking	83	Pass
	Mitigation 4	17	Strolling	20	Walking	83	Pass
	Mitigation 5	17	Strolling	20	Walking	83	Pass
100	Existing	15	Strolling	17	Strolling	80	Pass
	Proposed	15	Strolling	15	Strolling	69	Pass
	Future	11	Standing	14	Standing	69	Pass
	Mitigation 1	11	Standing	13	Standing	59	Pass
	Mitigation 2	11	Standing	13	Standing	59	Pass
	Mitigation 3	11	Standing	13	Standing	59	Pass
	Mitigation 4	11	Standing	13	Standing	59	Pass
	Mitigation 5	11	Standing	13	Standing	59	Pass
101	Existing	20	Walking	22	Uncomfortable	86	Pass
	Proposed	20	Walking	20	Walking	83	Pass
	Future	16	Strolling	17	Strolling	76	Pass
	Mitigation 1	16	Strolling	16	Strolling	75	Pass
	Mitigation 2	16	Strolling	16	Strolling	75	Pass
	Mitigation 3	16	Strolling	16	Strolling	75	Pass
	Mitigation 4	16	Strolling	16	Strolling	75	Pass
	Mitigation 5	16	Strolling	16	Strolling	75	Pass
102	Existing	16	Strolling	16	Strolling	79	Pass
	Proposed	17	Strolling	16	Strolling	73	Pass
	Future	15	Strolling	14	Standing	62	Pass
	Mitigation 1	15	Strolling	14	Standing	62	Pass
	Mitigation 2	15	Strolling	14	Standing	62	Pass
	Mitigation 3	15	Strolling	14	Standing	62	Pass
	Mitigation 4	15	Strolling	14	Standing	62	Pass
	Mitigation 5	15	Strolling	14	Standing	62	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
103	Existing	17	Strolling	17	Strolling	74	Pass
	Proposed	17	Strolling	16	Strolling	71	Pass
	Future	15	Strolling	15	Strolling	69	Pass
	Mitigation 1	16	Strolling	15	Strolling	72	Pass
	Mitigation 2	16	Strolling	15	Strolling	72	Pass
	Mitigation 3	16	Strolling	15	Strolling	72	Pass
	Mitigation 4	16	Strolling	15	Strolling	72	Pass
	Mitigation 5	16	Strolling	15	Strolling	72	Pass
104	Existing	16	Strolling	16	Strolling	70	Pass
	Proposed	16	Strolling	16	Strolling	70	Pass
	Future	16	Strolling	17	Strolling	73	Pass
	Mitigation 1	16	Strolling	17	Strolling	72	Pass
	Mitigation 2	16	Strolling	17	Strolling	72	Pass
	Mitigation 3	16	Strolling	17	Strolling	72	Pass
	Mitigation 4	16	Strolling	17	Strolling	72	Pass
	Mitigation 5	16	Strolling	17	Strolling	72	Pass
105	Existing	-	-	-	-	-	-
	Proposed	7	Sitting	8	Sitting	37	Pass
	Future	8	Sitting	8	Sitting	36	Pass
	Mitigation 1	7	Sitting	8	Sitting	35	Pass
	Mitigation 2	7	Sitting	8	Sitting	35	Pass
	Mitigation 3	7	Sitting	8	Sitting	35	Pass
	Mitigation 4	7	Sitting	8	Sitting	35	Pass
	Mitigation 5	7	Sitting	8	Sitting	35	Pass
106	Existing	-	-	-	-	-	-
	Proposed	7	Sitting	7	Sitting	32	Pass
	Future	8	Sitting	7	Sitting	33	Pass
	Mitigation 1	6	Sitting	6	Sitting	28	Pass
	Mitigation 2	6	Sitting	6	Sitting	28	Pass
	Mitigation 3	6	Sitting	6	Sitting	28	Pass
	Mitigation 4	6	Sitting	6	Sitting	28	Pass
	Mitigation 5	6	Sitting	6	Sitting	28	Pass
107	Existing	-	-	-	-	-	-
	Proposed	12	Standing	11	Standing	51	Pass
	Future	11	Standing	10	Sitting	48	Pass
	Mitigation 1	10	Sitting	9	Sitting	49	Pass
	Mitigation 2	10	Sitting	9	Sitting	49	Pass
	Mitigation 3	10	Sitting	9	Sitting	49	Pass
	Mitigation 4	10	Sitting	9	Sitting	49	Pass
	Mitigation 5	10	Sitting	9	Sitting	49	Pass
108	Existing	-	-	-	-	-	-
	Proposed	11	Standing	11	Standing	52	Pass
	Future	10	Sitting	9	Sitting	44	Pass
	Mitigation 1	9	Sitting	9	Sitting	41	Pass
	Mitigation 2	9	Sitting	9	Sitting	41	Pass
	Mitigation 3	9	Sitting	9	Sitting	41	Pass
	Mitigation 4	9	Sitting	9	Sitting	41	Pass
	Mitigation 5	9	Sitting	9	Sitting	41	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
109	Existing	-	-	-	-	-	-
	Proposed	10	Sitting	9	Sitting	43	Pass
	Future	9	Sitting	8	Sitting	39	Pass
	Mitigation 1	8	Sitting	8	Sitting	38	Pass
	Mitigation 2	8	Sitting	8	Sitting	38	Pass
	Mitigation 3	8	Sitting	8	Sitting	38	Pass
	Mitigation 4	8	Sitting	8	Sitting	38	Pass
	Mitigation 5	8	Sitting	8	Sitting	38	Pass
110	Existing	-	-	-	-	-	-
	Proposed	8	Sitting	9	Sitting	50	Pass
	Future	8	Sitting	9	Sitting	44	Pass
	Mitigation 1	8	Sitting	8	Sitting	44	Pass
	Mitigation 2	8	Sitting	8	Sitting	44	Pass
	Mitigation 3	8	Sitting	8	Sitting	44	Pass
	Mitigation 4	8	Sitting	8	Sitting	44	Pass
	Mitigation 5	8	Sitting	8	Sitting	44	Pass
111	Existing	-	-	-	-	-	-
	Proposed	9	Sitting	9	Sitting	44	Pass
	Future	10	Sitting	9	Sitting	44	Pass
	Mitigation 1	9	Sitting	9	Sitting	43	Pass
	Mitigation 2	9	Sitting	9	Sitting	43	Pass
	Mitigation 3	9	Sitting	9	Sitting	43	Pass
	Mitigation 4	9	Sitting	9	Sitting	43	Pass
	Mitigation 5	9	Sitting	9	Sitting	43	Pass
112	Existing	-	-	-	-	-	-
	Proposed	8	Sitting	8	Sitting	41	Pass
	Future	8	Sitting	8	Sitting	38	Pass
	Mitigation 1	7	Sitting	8	Sitting	38	Pass
	Mitigation 2	7	Sitting	8	Sitting	38	Pass
	Mitigation 3	7	Sitting	8	Sitting	38	Pass
	Mitigation 4	7	Sitting	8	Sitting	38	Pass
	Mitigation 5	7	Sitting	8	Sitting	38	Pass
113	Existing	-	-	-	-	-	-
	Proposed	8	Sitting	9	Sitting	47	Pass
	Future	8	Sitting	9	Sitting	47	Pass
	Mitigation 1	8	Sitting	9	Sitting	46	Pass
	Mitigation 2	8	Sitting	9	Sitting	46	Pass
	Mitigation 3	8	Sitting	9	Sitting	46	Pass
	Mitigation 4	8	Sitting	9	Sitting	46	Pass
	Mitigation 5	8	Sitting	9	Sitting	46	Pass
114	Existing	-	-	-	-	-	-
	Proposed	15	Strolling	15	Strolling	84	Pass
	Future	15	Strolling	15	Strolling	78	Pass
	Mitigation 1	12	Standing	13	Standing	67	Pass
	Mitigation 2	12	Standing	13	Standing	67	Pass
	Mitigation 3	12	Standing	13	Standing	67	Pass
	Mitigation 4	12	Standing	13	Standing	67	Pass
	Mitigation 5	12	Standing	13	Standing	67	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
115	Existing	-	-	-	-	-	-
	Proposed	12	Standing	13	Standing	64	Pass
	Future	11	Standing	12	Standing	61	Pass
	Mitigation 1	8	Sitting	9	Sitting	48	Pass
	Mitigation 2	8	Sitting	9	Sitting	48	Pass
	Mitigation 3	8	Sitting	9	Sitting	48	Pass
	Mitigation 4	8	Sitting	9	Sitting	48	Pass
	Mitigation 5	8	Sitting	9	Sitting	48	Pass
116	Existing	-	-	-	-	-	-
	Proposed	15	Strolling	16	Strolling	84	Pass
	Future	14	Standing	14	Standing	68	Pass
	Mitigation 1	12	Standing	13	Standing	60	Pass
	Mitigation 2	12	Standing	13	Standing	60	Pass
	Mitigation 3	12	Standing	13	Standing	60	Pass
	Mitigation 4	12	Standing	13	Standing	60	Pass
	Mitigation 5	12	Standing	13	Standing	60	Pass
117	Existing	-	-	-	-	-	-
	Proposed	11	Standing	11	Standing	56	Pass
	Future	10	Sitting	10	Sitting	52	Pass
	Mitigation 1	9	Sitting	10	Sitting	54	Pass
	Mitigation 2	9	Sitting	10	Sitting	54	Pass
	Mitigation 3	9	Sitting	10	Sitting	54	Pass
	Mitigation 4	9	Sitting	10	Sitting	54	Pass
	Mitigation 5	9	Sitting	10	Sitting	54	Pass
118	Existing	-	-	-	-	-	-
	Proposed	11	Standing	13	Standing	64	Pass
	Future	10	Sitting	11	Standing	55	Pass
	Mitigation 1	10	Sitting	10	Sitting	50	Pass
	Mitigation 2	10	Sitting	10	Sitting	50	Pass
	Mitigation 3	10	Sitting	10	Sitting	50	Pass
	Mitigation 4	10	Sitting	10	Sitting	50	Pass
	Mitigation 5	10	Sitting	10	Sitting	50	Pass
119	Existing	-	-	-	-	-	-
	Proposed	15	Strolling	17	Strolling	82	Pass
	Future	13	Standing	13	Standing	64	Pass
	Mitigation 1	12	Standing	13	Standing	62	Pass
	Mitigation 2	12	Standing	13	Standing	62	Pass
	Mitigation 3	12	Standing	13	Standing	62	Pass
	Mitigation 4	12	Standing	13	Standing	62	Pass
	Mitigation 5	12	Standing	13	Standing	62	Pass
120	Existing	-	-	-	-	-	-
	Proposed	9	Sitting	11	Standing	55	Pass
	Future	8	Sitting	8	Sitting	42	Pass
	Mitigation 1	7	Sitting	8	Sitting	41	Pass
	Mitigation 2	7	Sitting	8	Sitting	41	Pass
	Mitigation 3	7	Sitting	8	Sitting	41	Pass
	Mitigation 4	7	Sitting	8	Sitting	41	Pass
	Mitigation 5	7	Sitting	8	Sitting	41	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
121	Existing	-	-	-	-	-	-
	Proposed	13	Standing	13	Standing	74	Pass
	Future	13	Standing	12	Standing	67	Pass
	Mitigation 1	10	Sitting	10	Sitting	49	Pass
	Mitigation 2	10	Sitting	10	Sitting	49	Pass
	Mitigation 3	10	Sitting	10	Sitting	49	Pass
	Mitigation 4	10	Sitting	10	Sitting	49	Pass
	Mitigation 5	10	Sitting	10	Sitting	49	Pass
122	Existing	-	-	-	-	-	-
	Proposed	16	Strolling	14	Standing	68	Pass
	Future	16	Strolling	13	Standing	64	Pass
	Mitigation 1	11	Standing	10	Sitting	60	Pass
	Mitigation 2	11	Standing	10	Sitting	60	Pass
	Mitigation 3	11	Standing	10	Sitting	60	Pass
	Mitigation 4	11	Standing	10	Sitting	60	Pass
	Mitigation 5	11	Standing	10	Sitting	60	Pass
123	Existing	-	-	-	-	-	-
	Proposed	11	Standing	14	Standing	74	Pass
	Future	10	Sitting	11	Standing	50	Pass
	Mitigation 1	9	Sitting	9	Sitting	38	Pass
	Mitigation 2	9	Sitting	9	Sitting	38	Pass
	Mitigation 3	9	Sitting	9	Sitting	38	Pass
	Mitigation 4	9	Sitting	9	Sitting	38	Pass
	Mitigation 5	9	Sitting	9	Sitting	38	Pass
124	Existing	-	-	-	-	-	-
	Proposed	17	Strolling	16	Strolling	73	Pass
	Future	16	Strolling	13	Standing	65	Pass
	Mitigation 1	15	Strolling	19	Walking	74	Pass
	Mitigation 2	15	Strolling	19	Walking	74	Pass
	Mitigation 3	15	Strolling	19	Walking	74	Pass
	Mitigation 4	15	Strolling	19	Walking	74	Pass
	Mitigation 5	15	Strolling	19	Walking	74	Pass
125	Existing	-	-	-	-	-	-
	Proposed	13	Standing	13	Standing	62	Pass
	Future	13	Standing	12	Standing	54	Pass
	Mitigation 1	12	Standing	12	Standing	56	Pass
	Mitigation 2	12	Standing	12	Standing	56	Pass
	Mitigation 3	12	Standing	12	Standing	56	Pass
	Mitigation 4	12	Standing	12	Standing	56	Pass
	Mitigation 5	12	Standing	12	Standing	56	Pass
126	Existing	-	-	-	-	-	-
	Proposed	14	Standing	15	Strolling	66	Pass
	Future	13	Standing	12	Standing	54	Pass
	Mitigation 1	9	Sitting	11	Standing	50	Pass
	Mitigation 2	9	Sitting	11	Standing	50	Pass
	Mitigation 3	9	Sitting	11	Standing	50	Pass
	Mitigation 4	9	Sitting	11	Standing	50	Pass
	Mitigation 5	9	Sitting	11	Standing	50	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
127	Existing	-	-	-	-	-	-
	Proposed	16	Strolling	17	Strolling	77	Pass
	Future	14	Standing	14	Standing	62	Pass
	Mitigation 1	11	Standing	13	Standing	58	Pass
	Mitigation 2	11	Standing	13	Standing	58	Pass
	Mitigation 3	11	Standing	13	Standing	58	Pass
	Mitigation 4	11	Standing	13	Standing	58	Pass
	Mitigation 5	11	Standing	13	Standing	58	Pass
128	Existing	-	-	-	-	-	-
	Proposed	16	Strolling	19	Walking	87	Pass
	Future	15	Strolling	16	Strolling	74	Pass
	Mitigation 1	10	Sitting	13	Standing	61	Pass
	Mitigation 2	10	Sitting	13	Standing	61	Pass
	Mitigation 3	10	Sitting	13	Standing	61	Pass
	Mitigation 4	10	Sitting	13	Standing	61	Pass
	Mitigation 5	10	Sitting	13	Standing	61	Pass
129	Existing	-	-	-	-	-	-
	Proposed	14	Standing	15	Strolling	72	Pass
	Future	13	Standing	13	Standing	62	Pass
	Mitigation 1	10	Sitting	11	Standing	52	Pass
	Mitigation 2	10	Sitting	11	Standing	52	Pass
	Mitigation 3	10	Sitting	11	Standing	52	Pass
	Mitigation 4	10	Sitting	11	Standing	52	Pass
	Mitigation 5	10	Sitting	11	Standing	52	Pass
130	Existing	-	-	-	-	-	-
	Proposed	11	Standing	13	Standing	72	Pass
	Future	11	Standing	12	Standing	64	Pass
	Mitigation 1	10	Sitting	12	Standing	62	Pass
	Mitigation 2	10	Sitting	12	Standing	62	Pass
	Mitigation 3	10	Sitting	12	Standing	62	Pass
	Mitigation 4	10	Sitting	12	Standing	62	Pass
	Mitigation 5	10	Sitting	12	Standing	62	Pass
131	Existing	-	-	-	-	-	-
	Proposed	11	Standing	11	Standing	63	Pass
	Future	10	Sitting	10	Sitting	55	Pass
	Mitigation 1	9	Sitting	10	Sitting	57	Pass
	Mitigation 2	9	Sitting	10	Sitting	57	Pass
	Mitigation 3	9	Sitting	10	Sitting	57	Pass
	Mitigation 4	9	Sitting	10	Sitting	57	Pass
	Mitigation 5	9	Sitting	10	Sitting	57	Pass
132	Existing	-	-	-	-	-	-
	Proposed	9	Sitting	10	Sitting	49	Pass
	Future	10	Sitting	10	Sitting	48	Pass
	Mitigation 1	8	Sitting	9	Sitting	44	Pass
	Mitigation 2	8	Sitting	9	Sitting	44	Pass
	Mitigation 3	8	Sitting	9	Sitting	44	Pass
	Mitigation 4	8	Sitting	9	Sitting	44	Pass
	Mitigation 5	8	Sitting	9	Sitting	44	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort				Wind Safety	
		Summer		Winter		Annual	
		Speed (km/h)	Rating	Speed (km/h)	Rating	Speed (km/h)	Rating
133	Existing	-	-	-	-	-	-
	Proposed	8	Sitting	8	Sitting	47	Pass
	Future	8	Sitting	8	Sitting	48	Pass
	Mitigation 1	11	Standing	11	Standing	54	Pass
	Mitigation 2	11	Standing	11	Standing	54	Pass
	Mitigation 3	11	Standing	11	Standing	54	Pass
	Mitigation 4	11	Standing	11	Standing	54	Pass
	Mitigation 5	11	Standing	11	Standing	54	Pass
134	Existing	-	-	-	-	-	-
	Proposed	18	Walking	17	Strolling	85	Pass
	Future	19	Walking	17	Strolling	86	Pass
	Mitigation 1	14	Standing	13	Standing	64	Pass
	Mitigation 2	14	Standing	13	Standing	64	Pass
	Mitigation 3	14	Standing	13	Standing	64	Pass
	Mitigation 4	14	Standing	13	Standing	64	Pass
	Mitigation 5	14	Standing	13	Standing	64	Pass
135	Existing	-	-	-	-	-	-
	Proposed	21	Uncomfortable	14	Standing	78	Pass
	Future	19	Walking	13	Standing	74	Pass
	Mitigation 1	17	Strolling	12	Standing	67	Pass
	Mitigation 2	17	Strolling	12	Standing	67	Pass
	Mitigation 3	17	Strolling	12	Standing	67	Pass
	Mitigation 4	17	Strolling	12	Standing	67	Pass
	Mitigation 5	17	Strolling	12	Standing	67	Pass

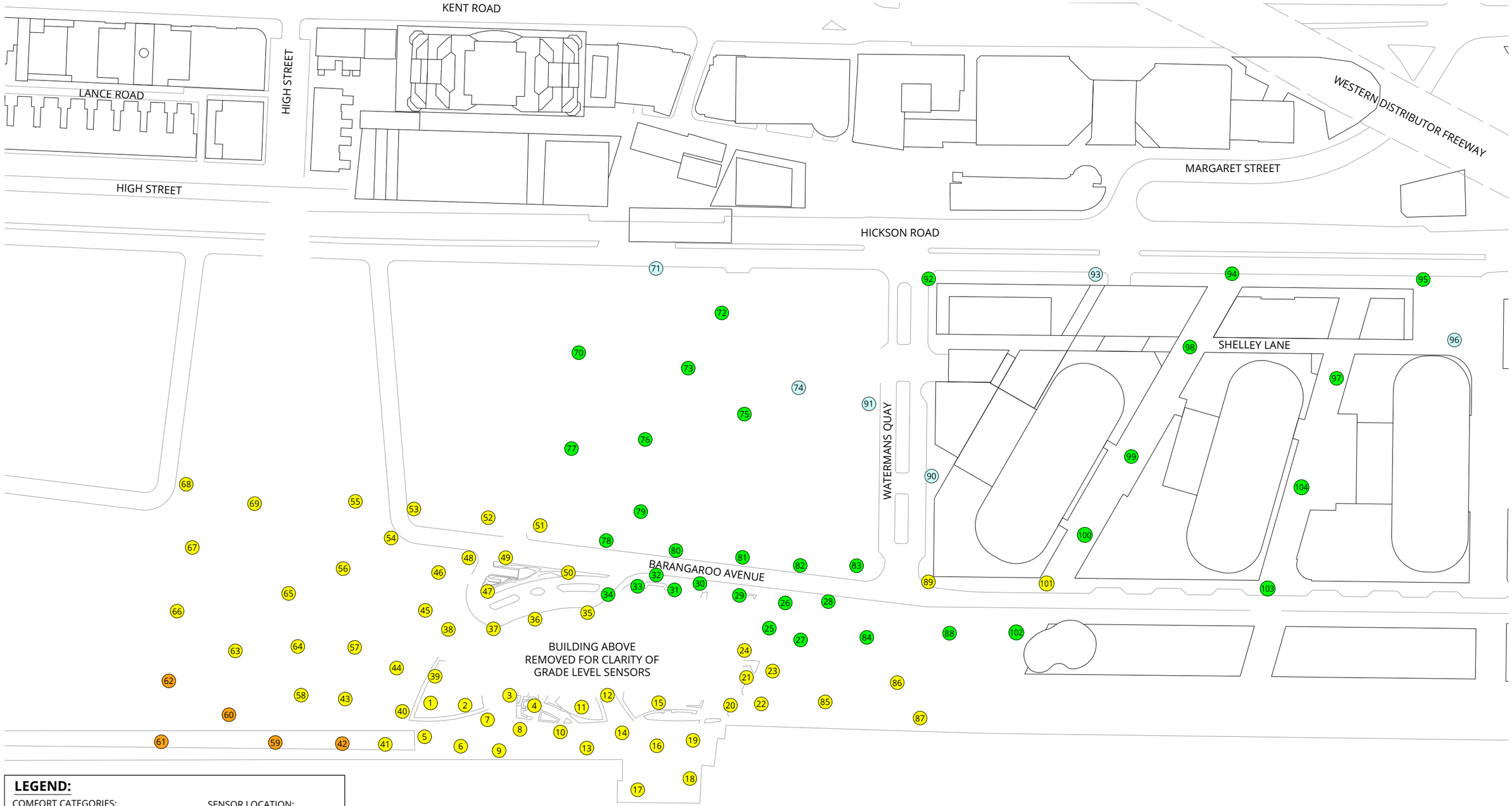
Seasons		Hours
Summer	November to April	6:00 to 23:00 for Comfort
Winter	May to October	0:00 to 23:00 for Safety

Comfort Speed (km/h)	
(20% Seasonal Exceedance)	
≤ 10	Sitting
11 - 14	Standing
15 - 17	Strolling
18 - 20	Walking
> 20	Uncomfortable

Safety Speed (km/h)	
(> 0.1% Annual Exceedance)	
≤ 90	Pass
> 90	Exceeded

Configurations	
Existing	Without the proposed development
Proposed	With the proposed development
Future	With the future surroundings
Mitigation 1	With proposed seasonal landscaping
Mitigation 2	With proposed seasonal landscaping and glass blades at the northwest and southwest ground-level terraces
Mitigation 3	With proposed seasonal landscaping and balustrade at the northwest and glass blades at the southwest terraces
Mitigation 4	With proposed seasonal landscaping and shifted glass blades with shrubbery at the northwest terrace
Mitigation 5	With proposed seasonal landscaping, shifted blades at the northwest terrace, and trees to the north

FIGURES



LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level

0 30 60m

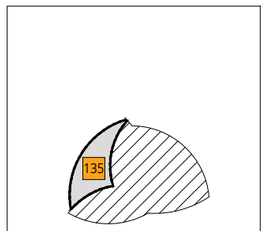
Pedestrian Wind Comfort Conditions
Existing Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

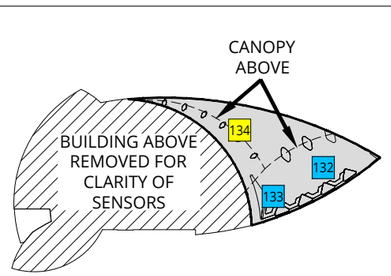
True North

Project #1401805A

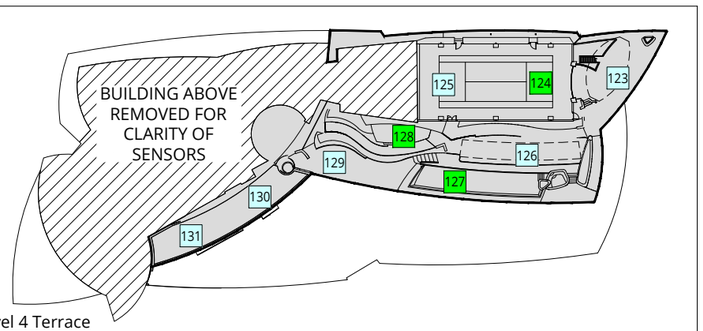
Drawn by: DBB	Figure: 1a	
Approx. Scale: 1:1500		
Date Revised: Dec. 22, 2017		



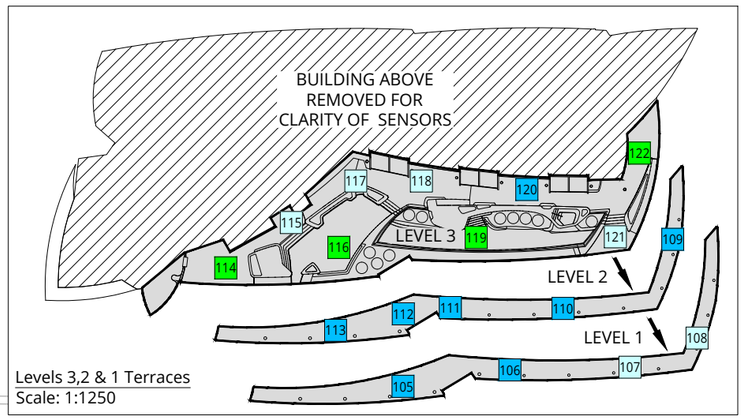
Level 69 Terrace
Scale: 1:1250



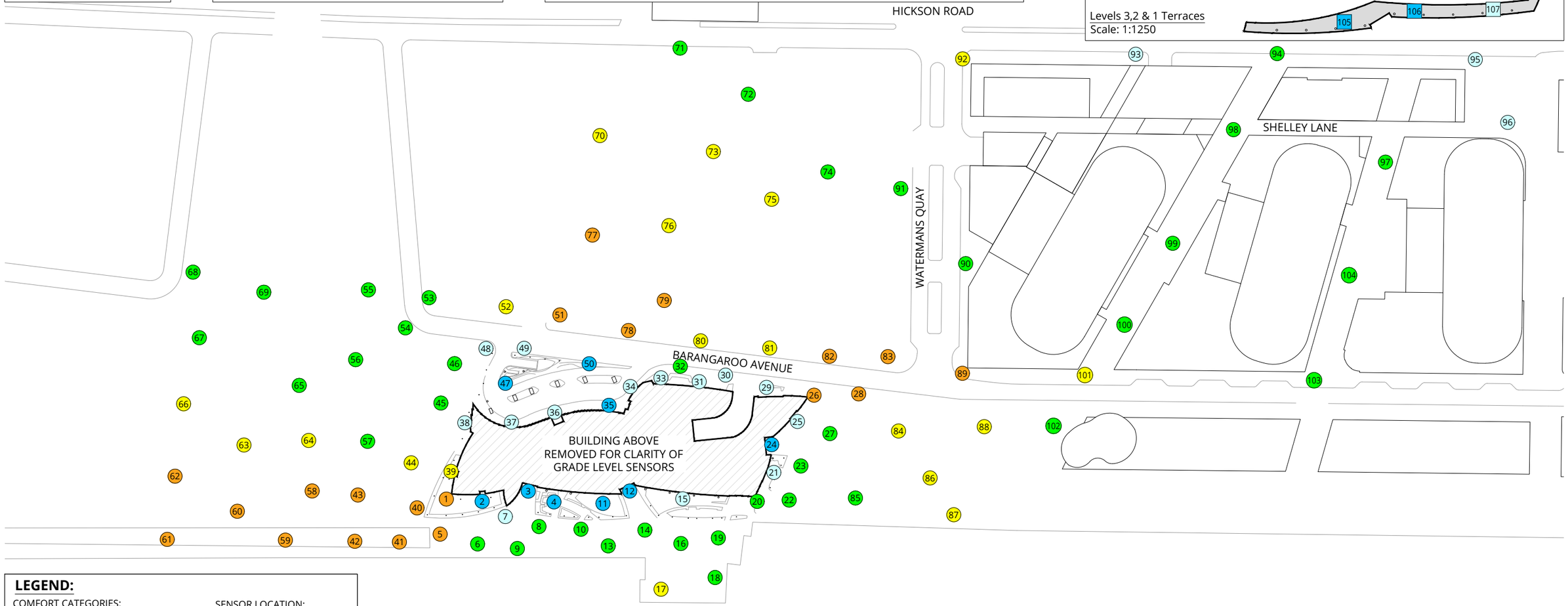
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Terrace Level

0 30 60m

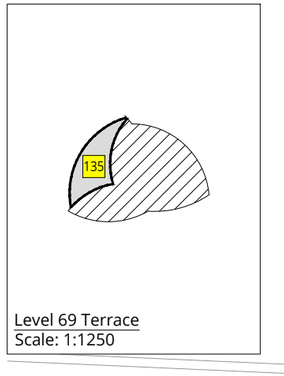
Pedestrian Wind Comfort Conditions
Proposed Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

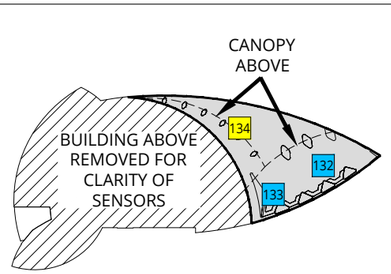
True North

Project #1401805A

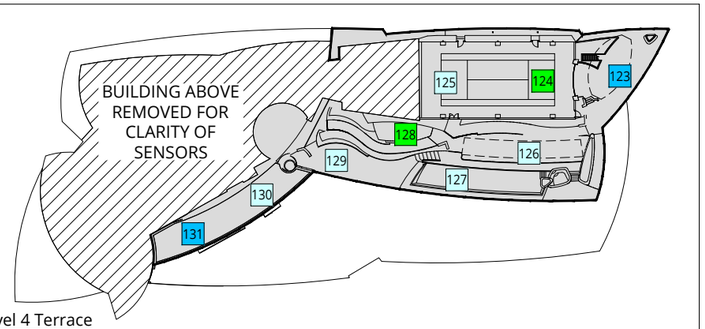
Drawn by: DBB	Figure: 1b	
Approx. Scale:	1:1500	
Date Revised:	Dec. 22, 2017	



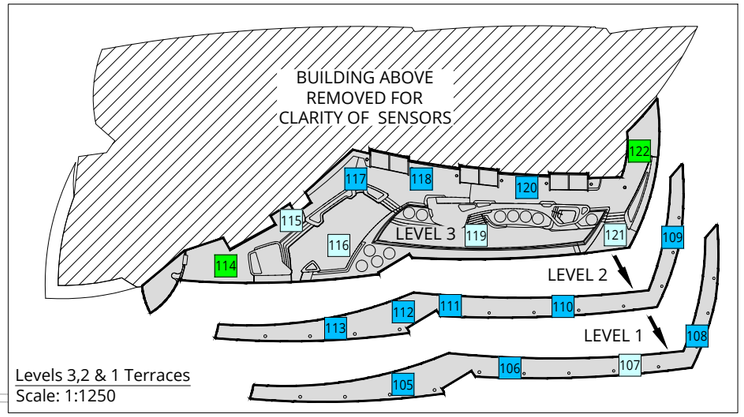
Level 69 Terrace
Scale: 1:1250



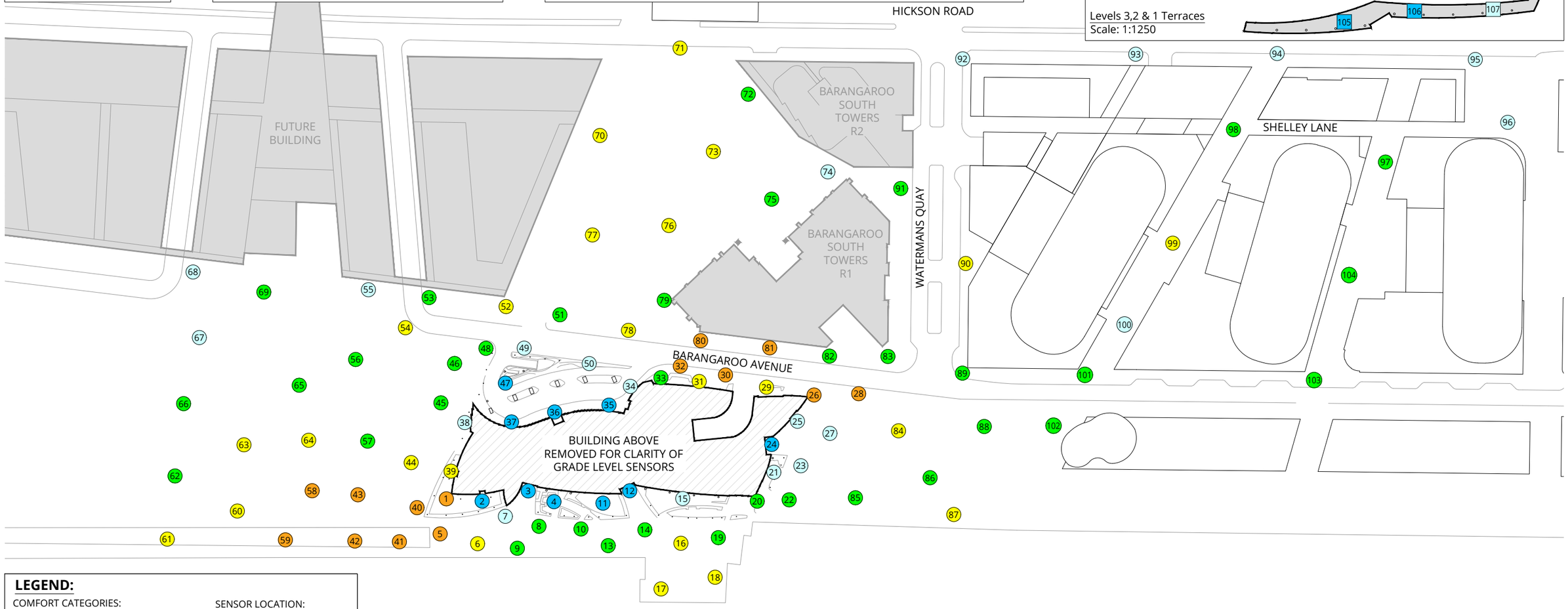
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Terrace Level

0 30 60m

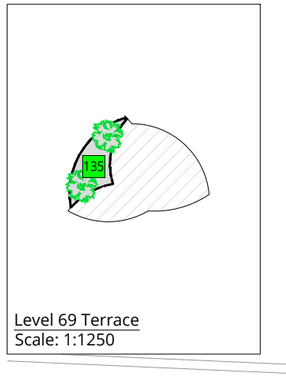
Pedestrian Wind Comfort Conditions
Future Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

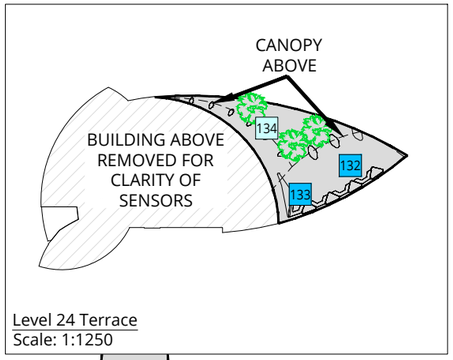
True North

Project #1401805A

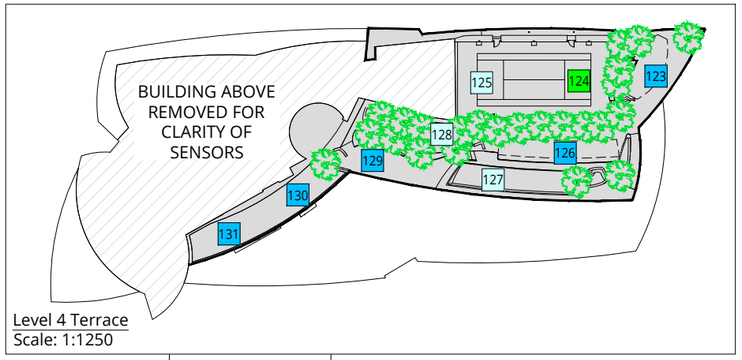
Drawn by: DBB	Figure: 1c	
Approx. Scale: 1:1500		
Date Revised: Dec. 22, 2017		



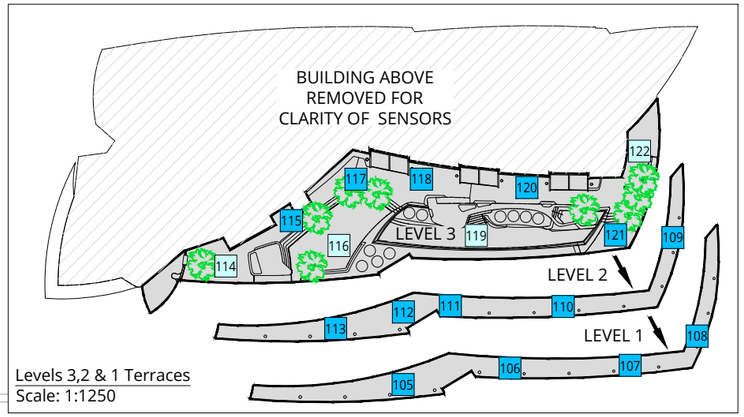
Level 69 Terrace
Scale: 1:1250



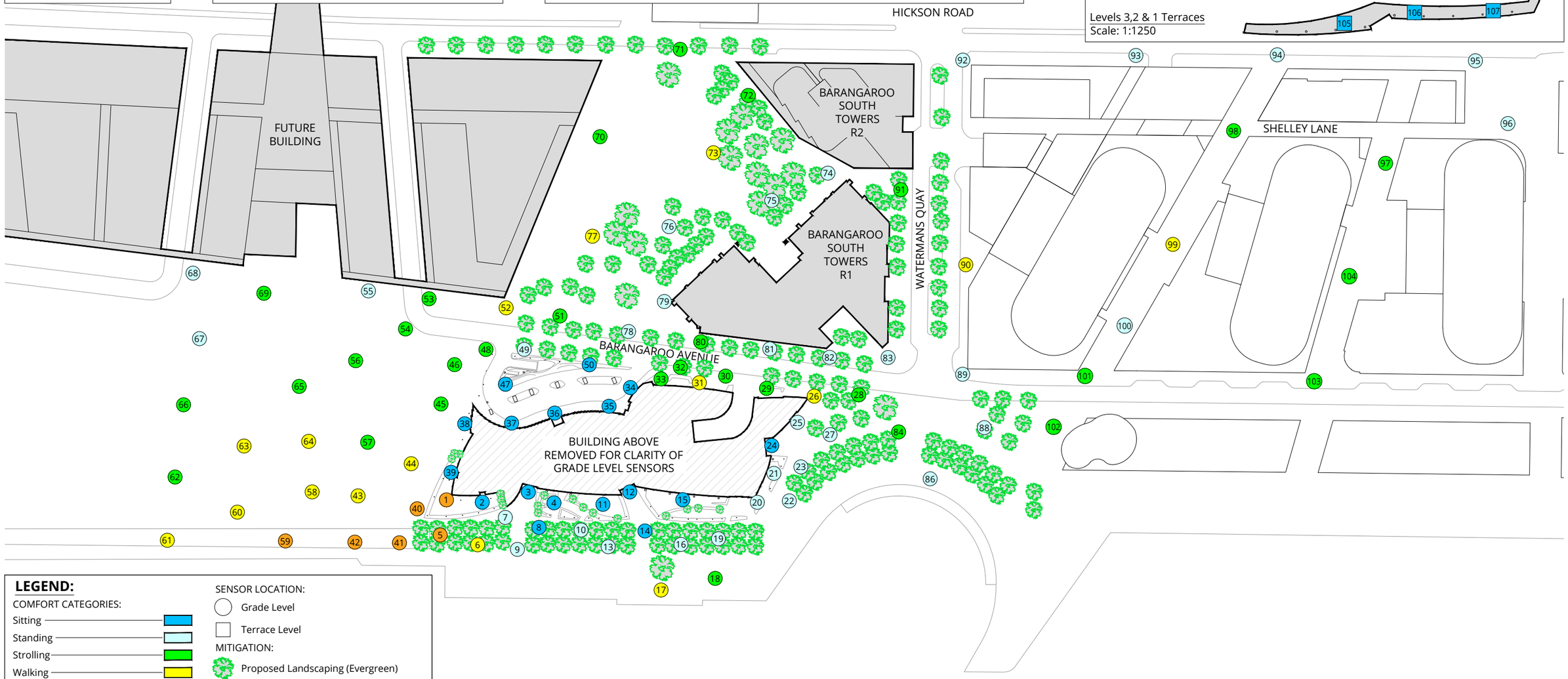
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Terrace Level

MITIGATION:
- Proposed Landscaping (Evergreen)
- Proposed Landscaping (No Foliage)

0 30 60m

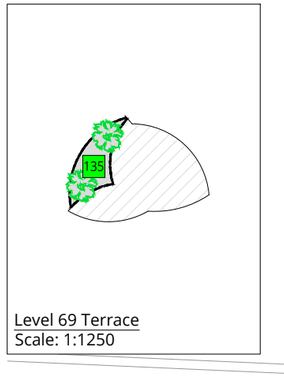
Pedestrian Wind Comfort Conditions
Mitigation 1 Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

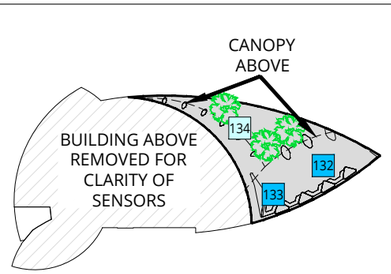
True North

Project #1401805A

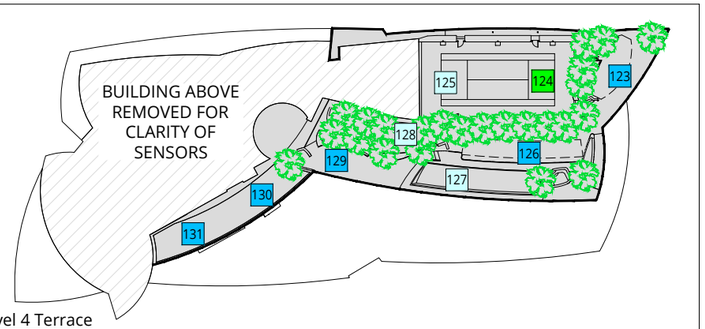
Drawn by: DBB	Figure: 1d	
Approx. Scale: 1:1500		
Date Revised: May 22, 2018		



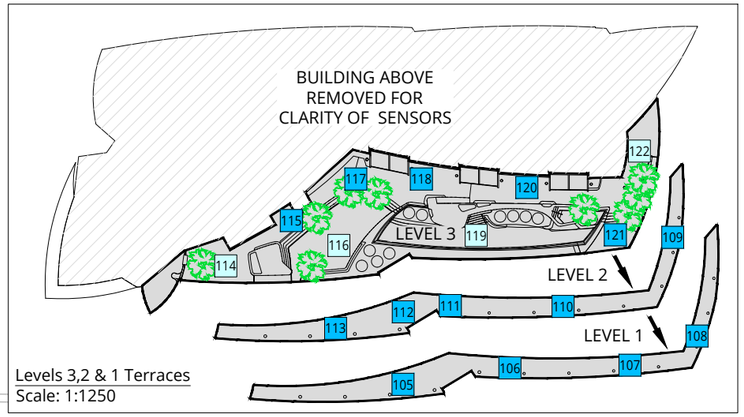
Level 69 Terrace
Scale: 1:1250



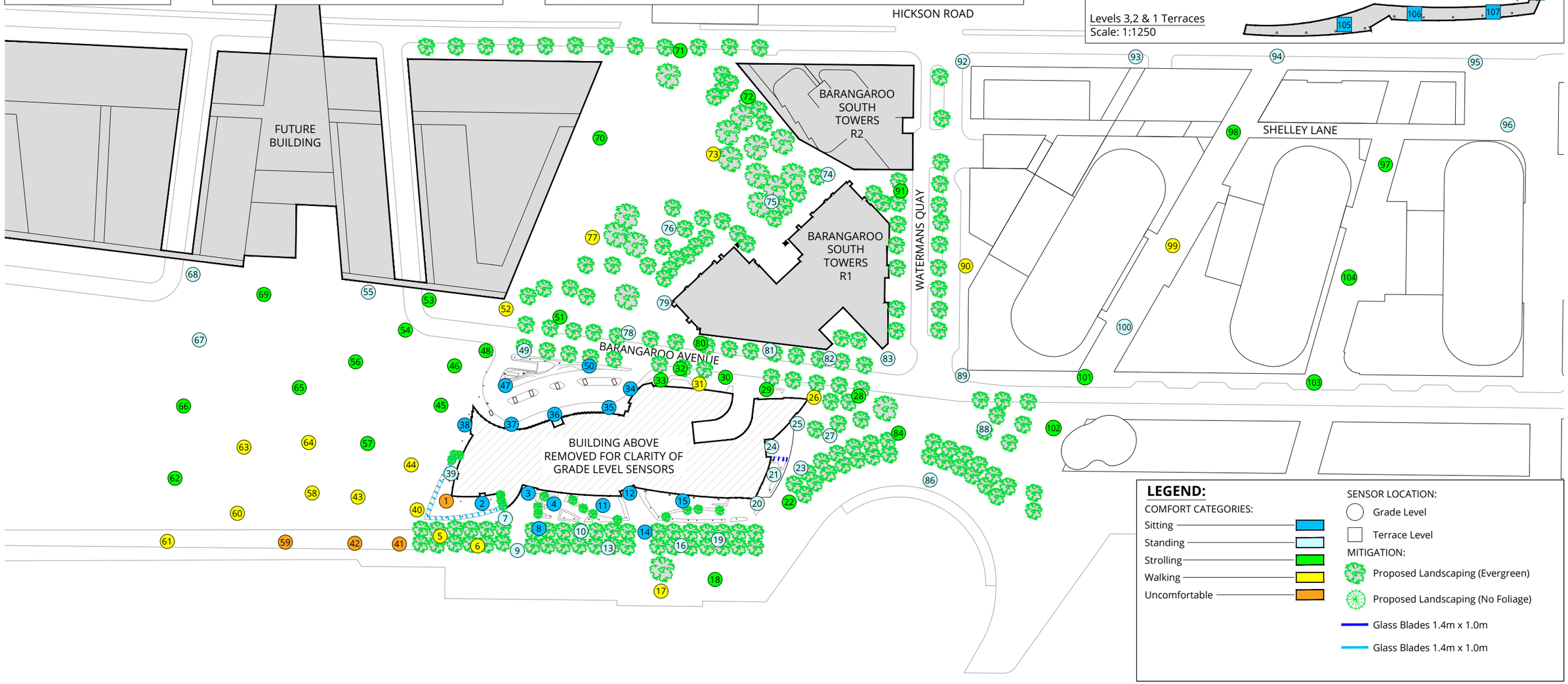
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



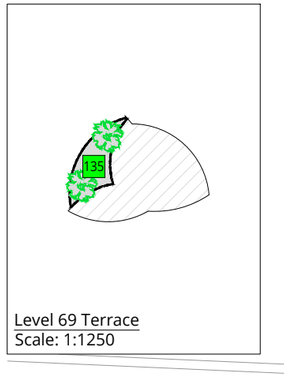
Pedestrian Wind Comfort Conditions
Mitigation 2 Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

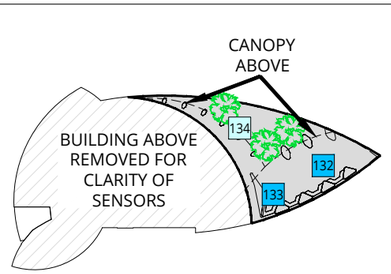
True North

Project #1401805A

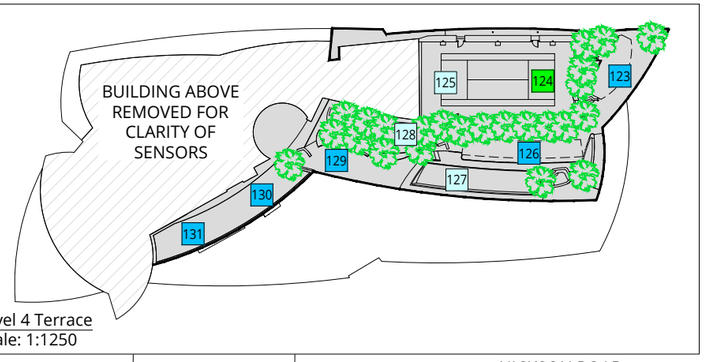
Drawn by: DBB	Figure: 1e	
Approx. Scale: 1:1500		
Date Revised: Sept. 17, 2018		



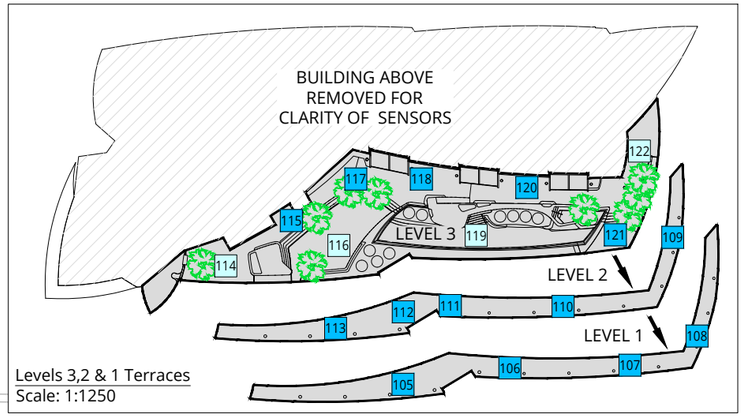
Level 69 Terrace
Scale: 1:1250



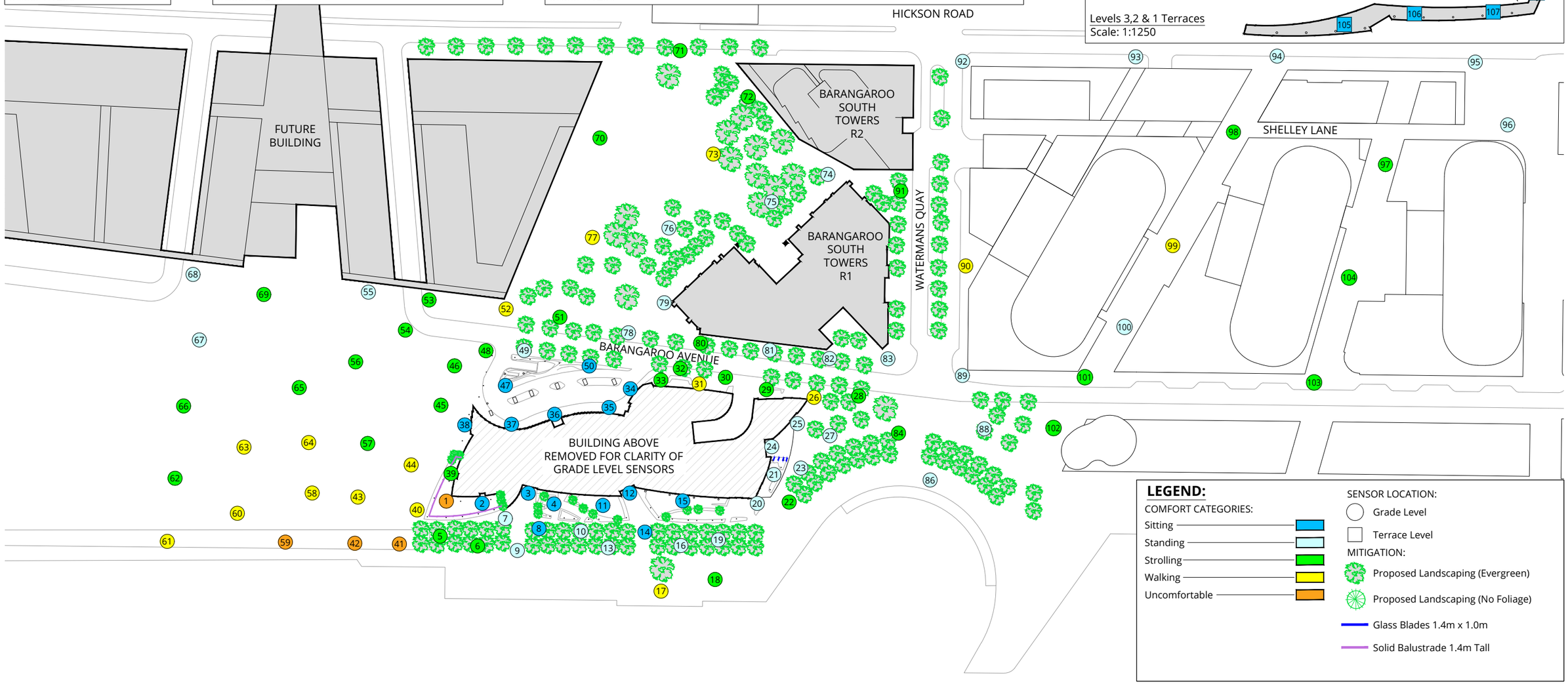
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



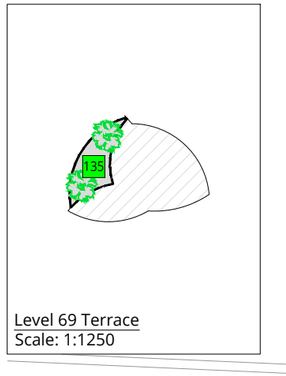
Pedestrian Wind Comfort Conditions
Mitigation 3 Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

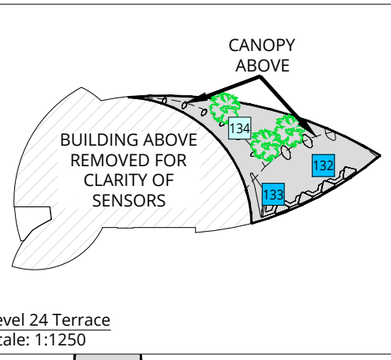
True North

Project #1401805A

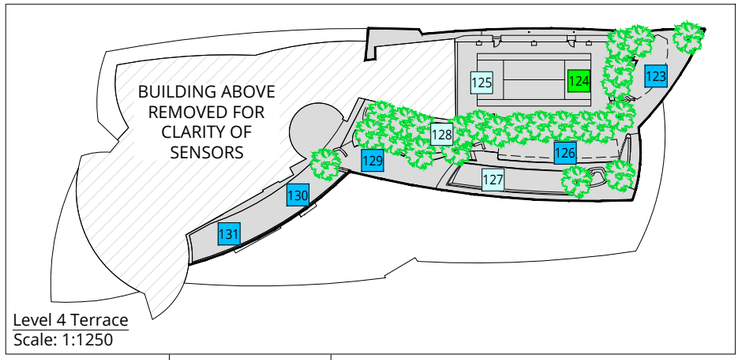
Drawn by: DBB	Figure: 1f
Approx. Scale:	1:1500
Date Revised:	Sept. 17, 2018



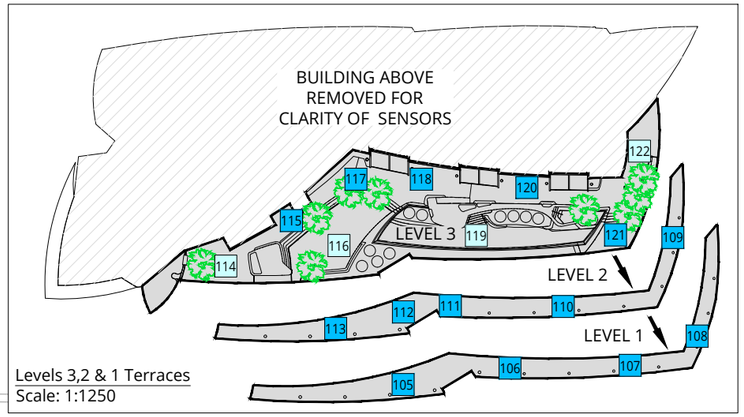
Level 69 Terrace
Scale: 1:1250



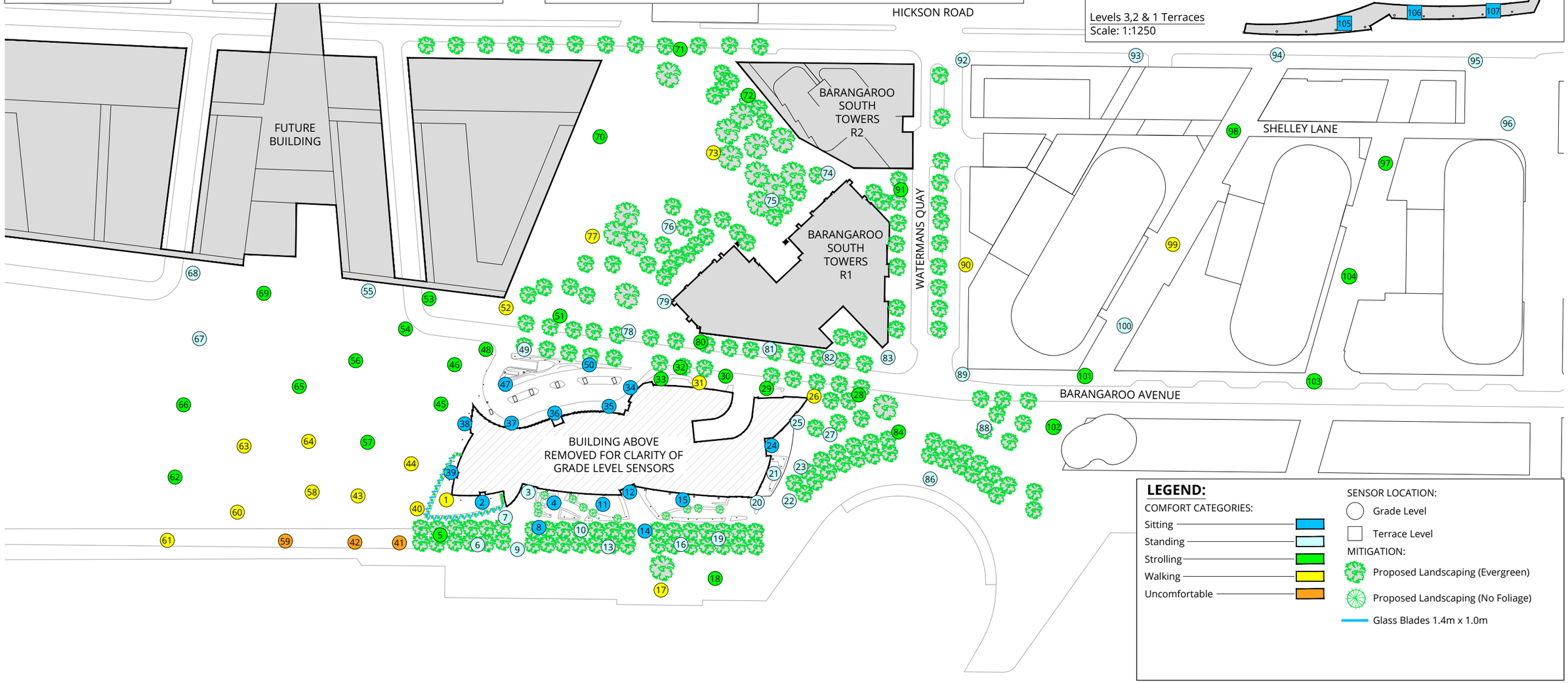
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



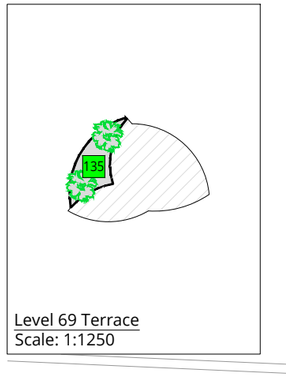
Pedestrian Wind Comfort Conditions
Mitigation 4 Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

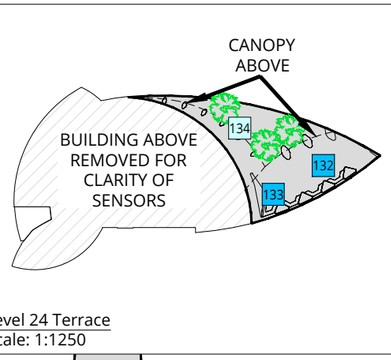
True North

Project #1401805A

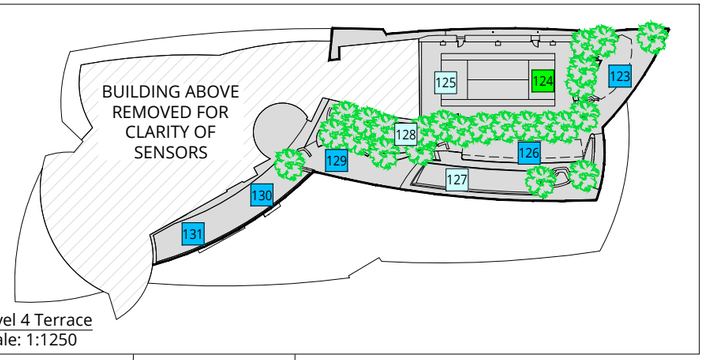
Drawn by: DBB	Figure: 1g	
Approx. Scale:	1:1500	
Date Revised:	Nov. 7, 2018	



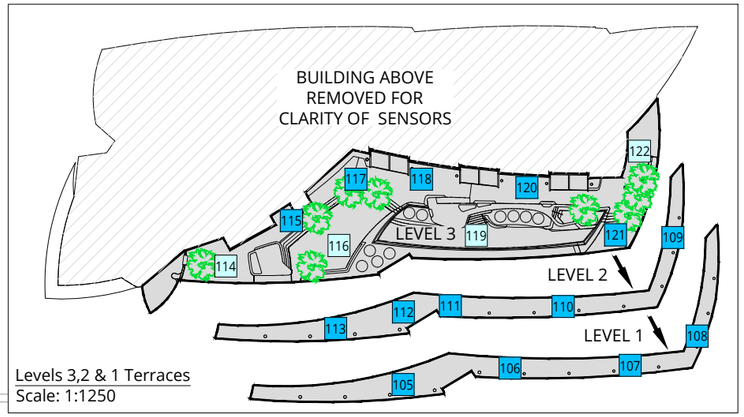
Level 69 Terrace
Scale: 1:1250



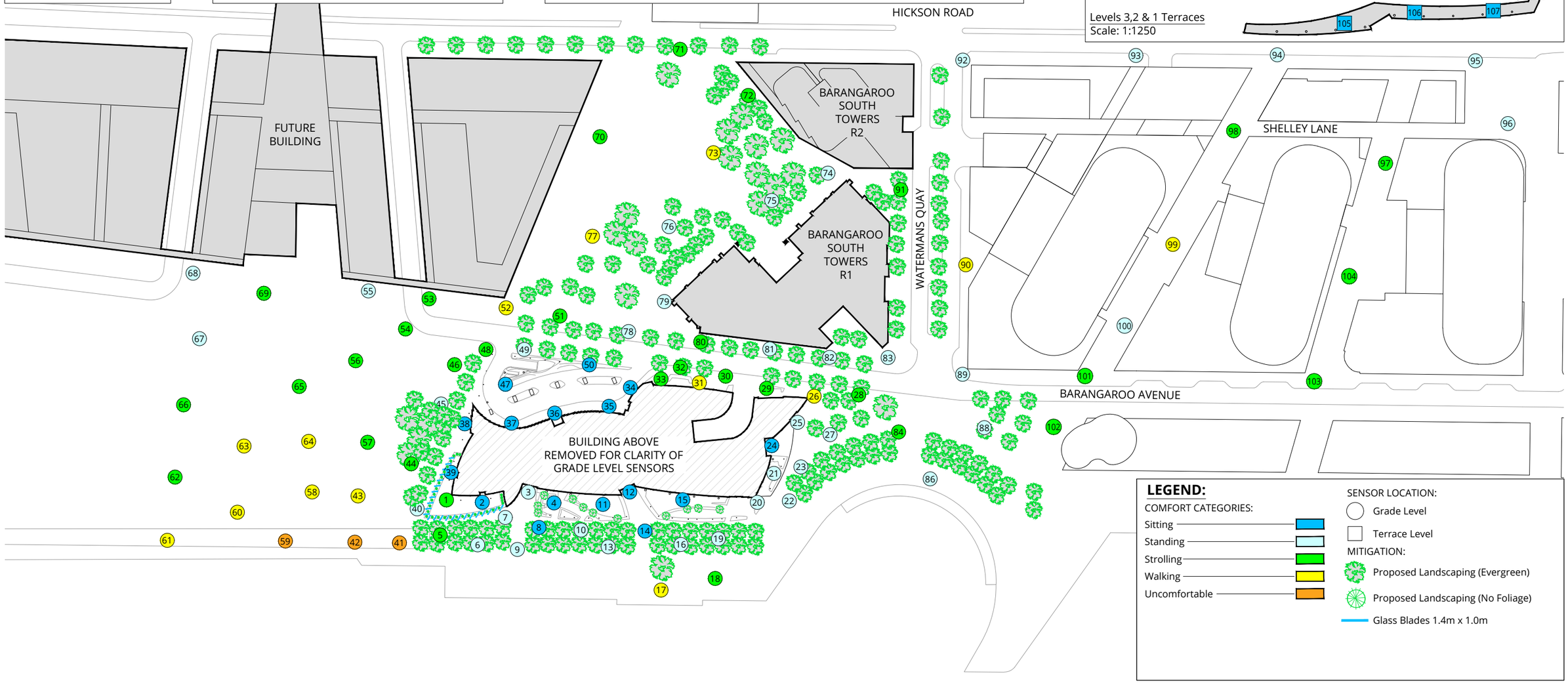
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



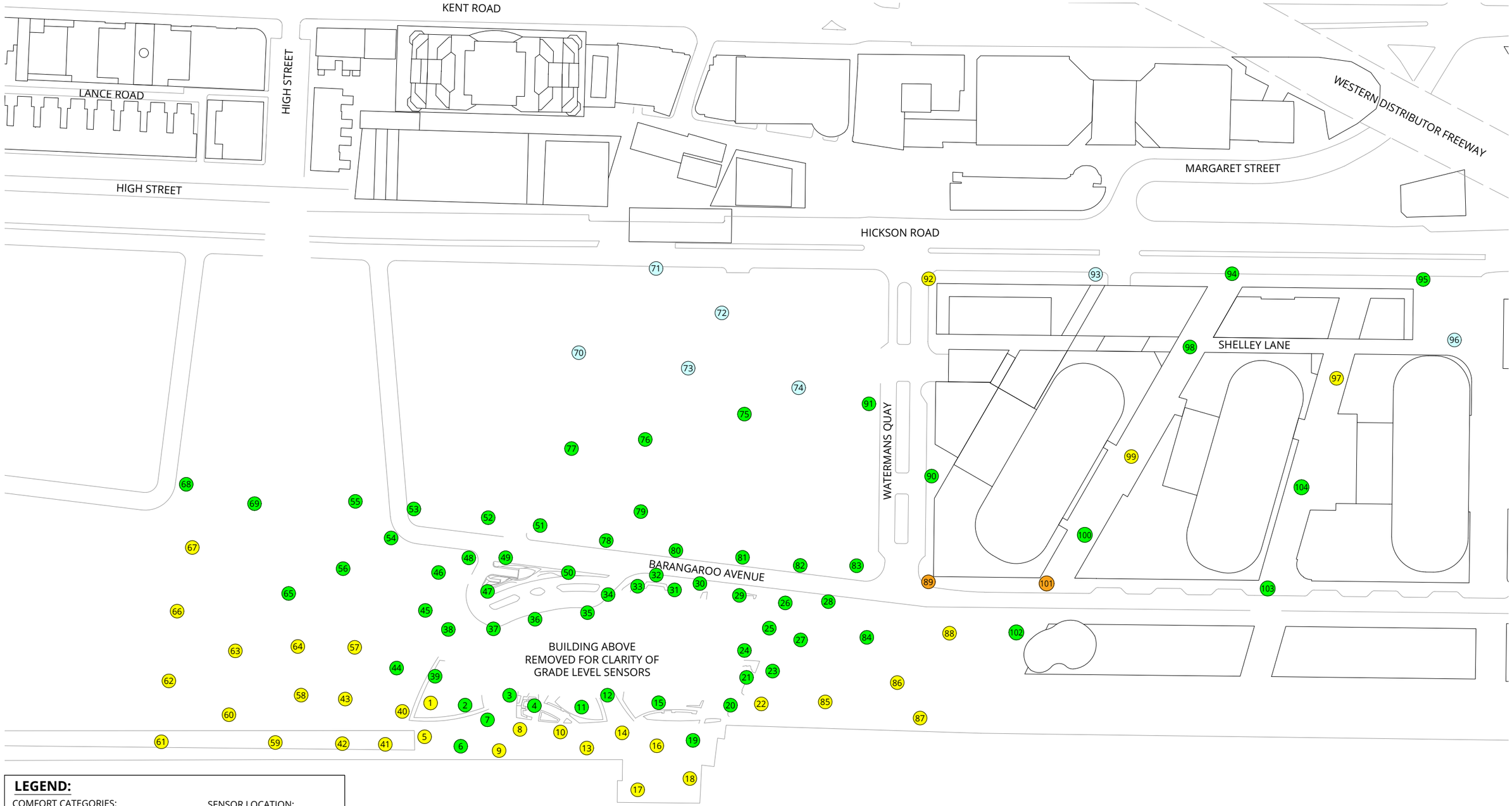
Pedestrian Wind Comfort Conditions
Mitigation 5 Configuration
Summer (November to April, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

True North

Project #1401805A

Drawn by: DBB	Figure: 1h	
Approx. Scale:	1:1500	
Date Revised:	Nov. 7, 2018	



LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level

0 30 60m

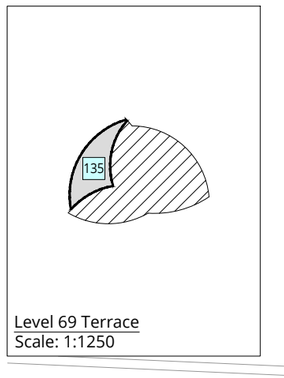
Pedestrian Wind Comfort Conditions
Existing Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

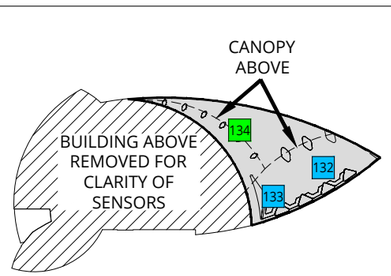
True North

Project #1401805A

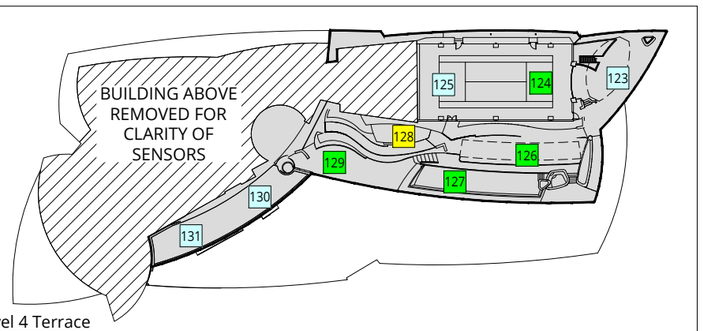
Drawn by: DBB	Figure: 2a	
Approx. Scale: 1:1500		
Date Revised: Dec. 22, 2017		



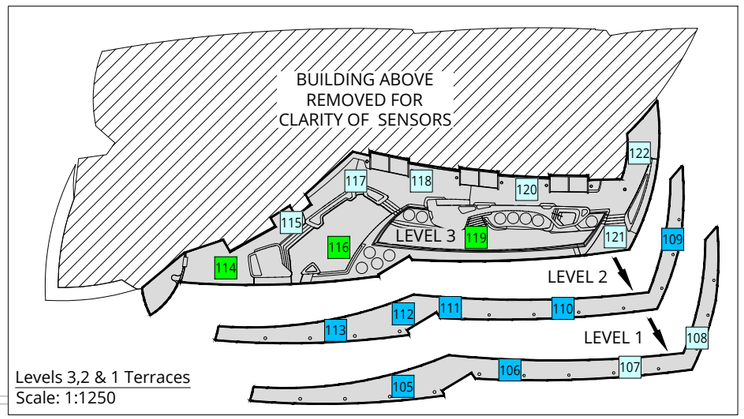
Level 69 Terrace
Scale: 1:1250



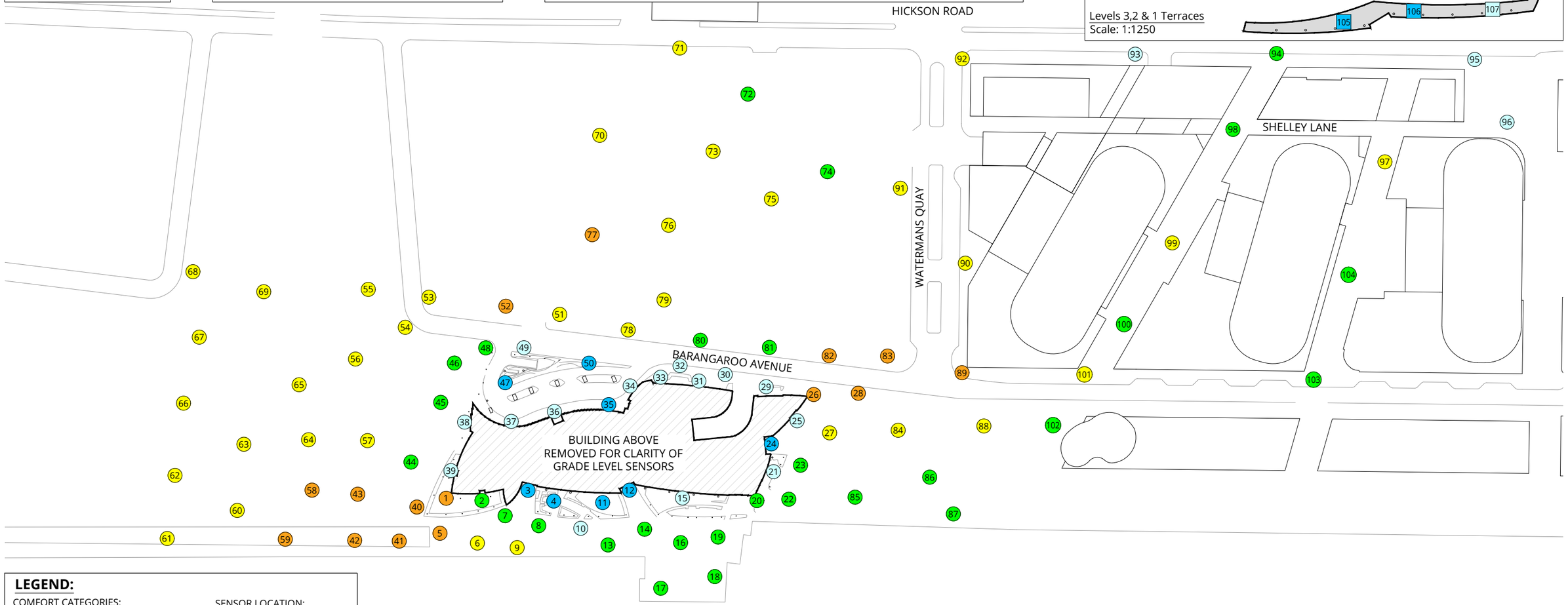
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Terrace Level

0 30 60m

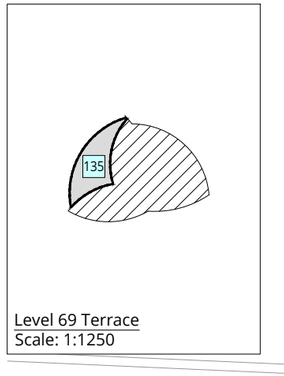
Pedestrian Wind Comfort Conditions
Proposed Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

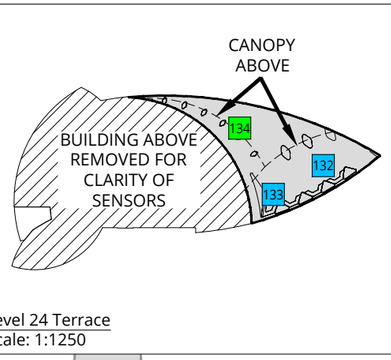
True North

Project #1401805A

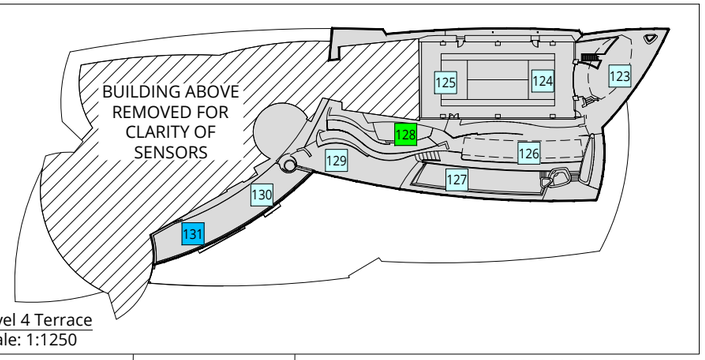
Drawn by: DBB	Figure: 2b	
Approx. Scale: 1:1500		
Date Revised: Dec. 22, 2017		



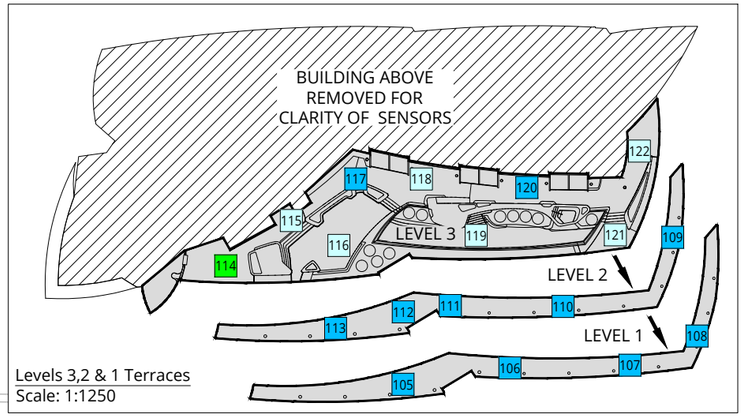
Level 69 Terrace
Scale: 1:1250



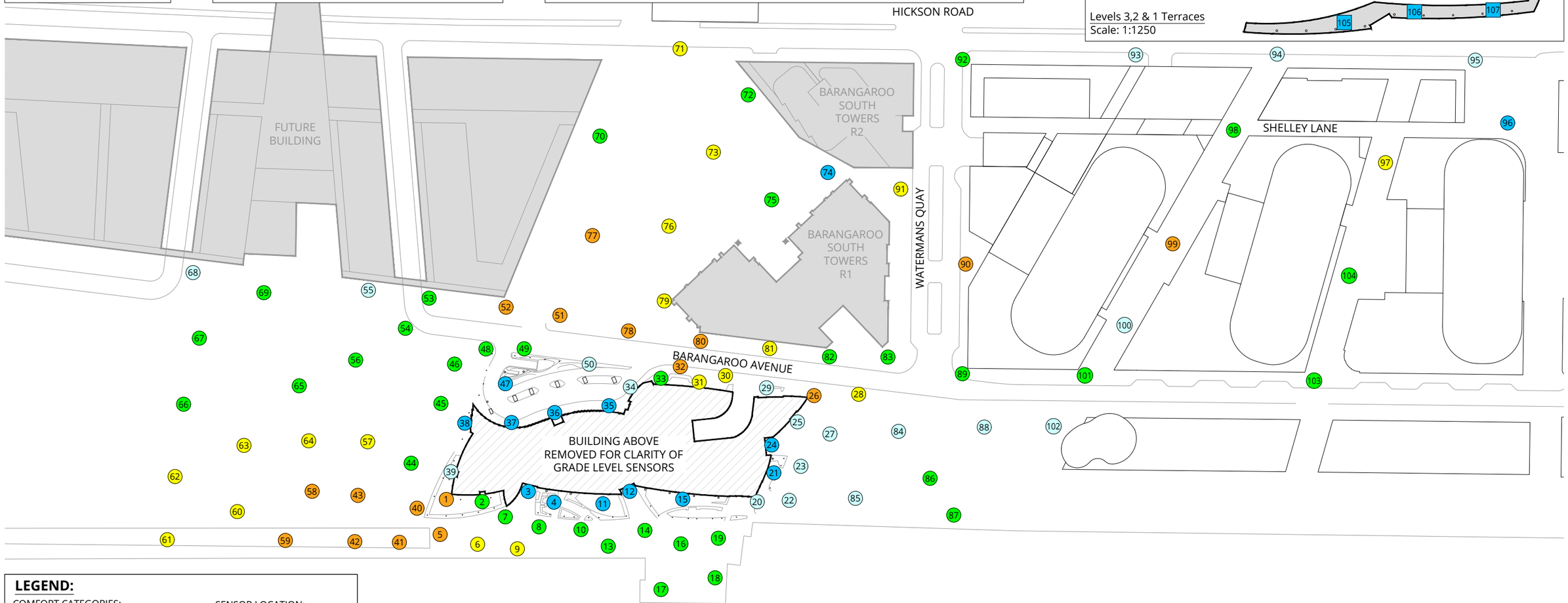
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Terrace Level

0 30 60m

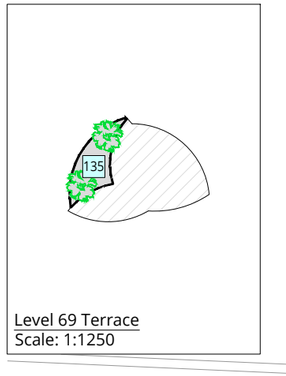
Pedestrian Wind Comfort Conditions
Future Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

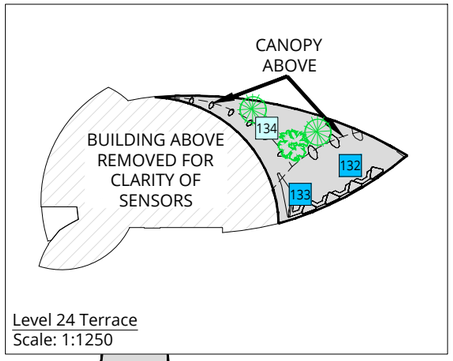
True North

Project #1401805A

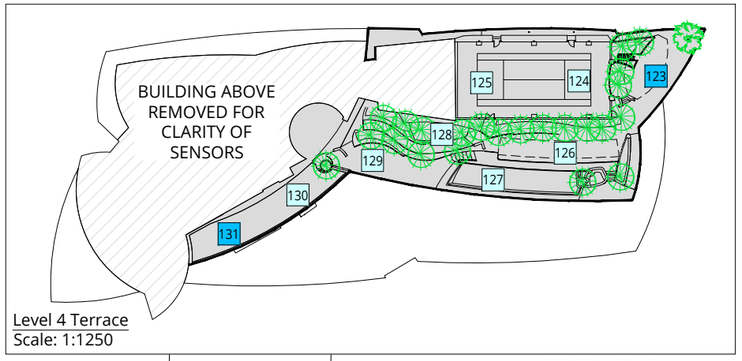
Drawn by:	DBB	Figure:	2c
Approx. Scale:	1:1500		
Date Revised:	Dec. 22, 2017		



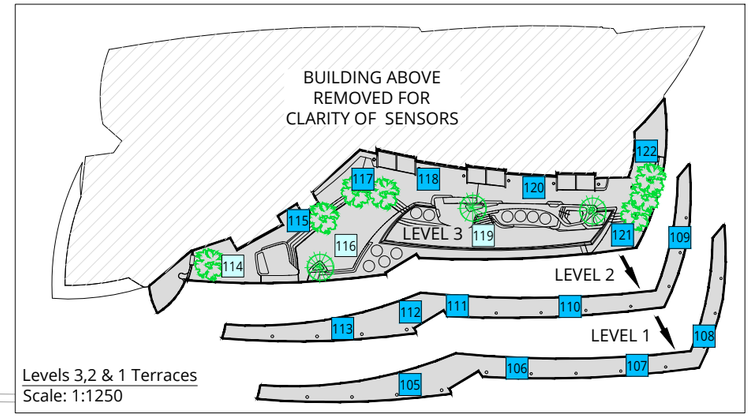
Level 69 Terrace
Scale: 1:1250



Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250

HICKSON ROAD

FUTURE BUILDING

BARANGAROO SOUTH TOWERS R2

BARANGAROO SOUTH TOWERS R1

WATERMANS QUAY

SHELLEY LANE

BARANGAROO AVENUE

BUILDING ABOVE REMOVED FOR CLARITY OF GRADE LEVEL SENSORS

LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Terrace Level

MITIGATION:
- Proposed Landscaping (Evergreen)
- Proposed Landscaping (No Foliage)

0 30 60m

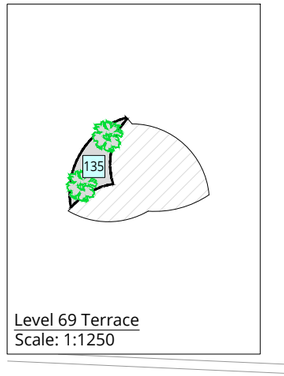
Pedestrian Wind Comfort Conditions
Mitigation 1 Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

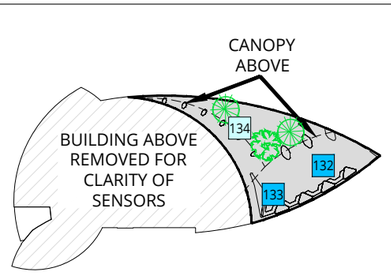
True North

Project #1401805A

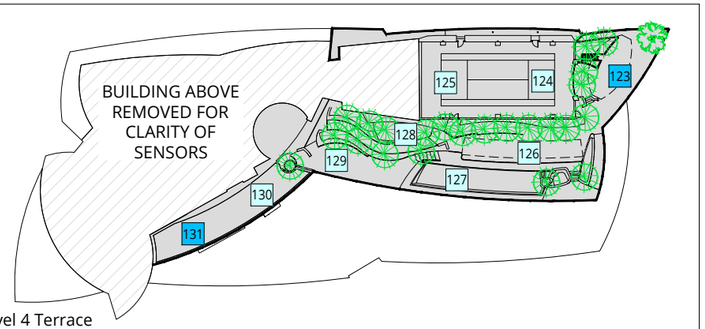
Drawn by:	DBB	Figure:	2d
Approx. Scale:	1:1500		
Date Revised:	May 22, 2018		



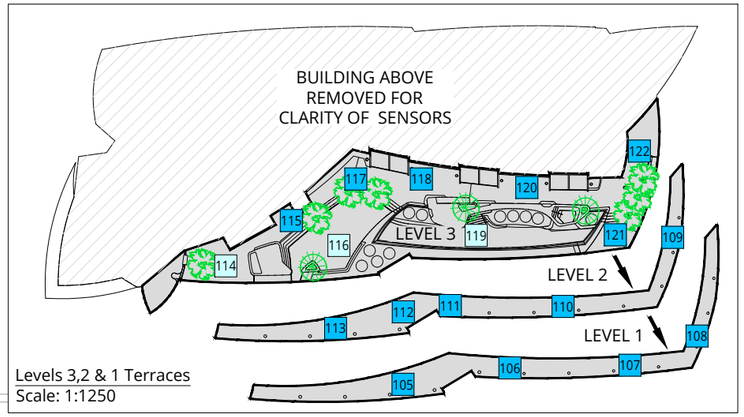
Level 69 Terrace
Scale: 1:1250



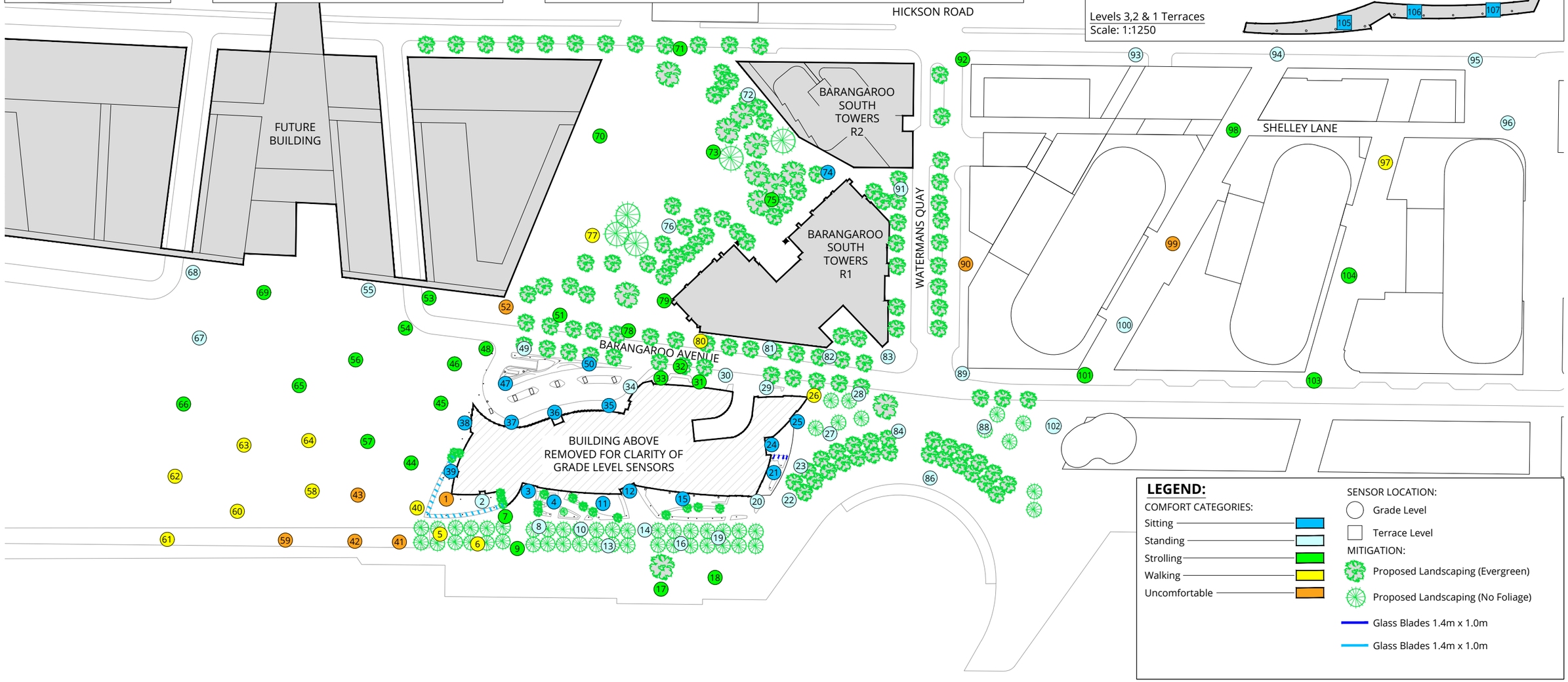
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



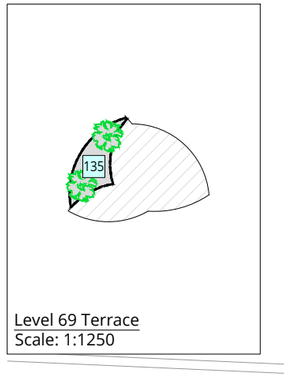
Pedestrian Wind Comfort Conditions
Mitigation 2 Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

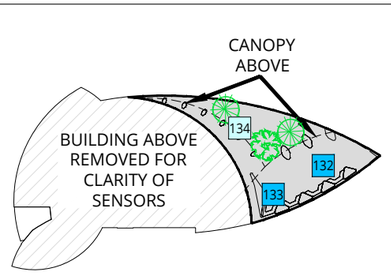
True North

Project #1401805A

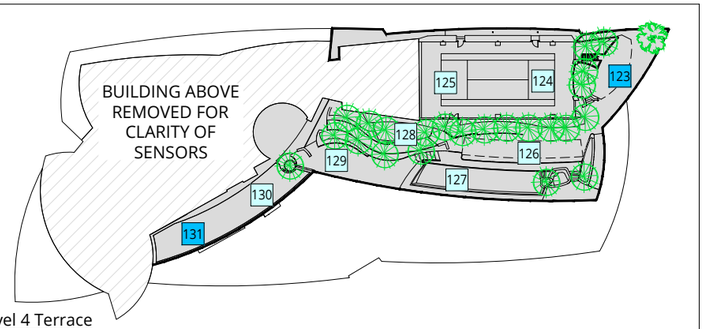
Drawn by: DBB	Figure: 2e
Approx. Scale:	1:1500
Date Revised:	Sept. 17, 2018



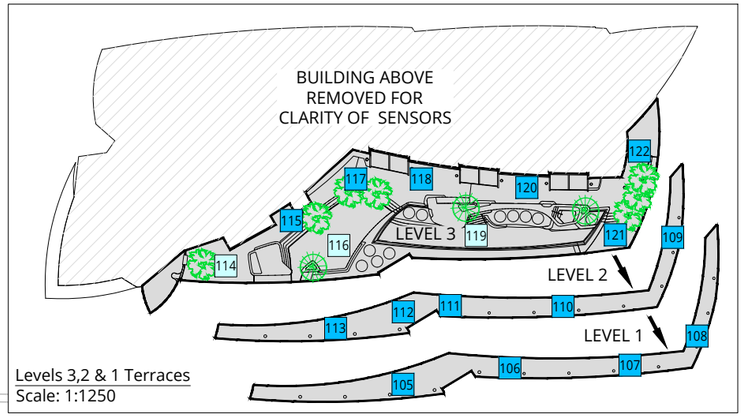
Level 69 Terrace
Scale: 1:1250



Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250

HICKSON ROAD

FUTURE BUILDING

BARANGAROO SOUTH TOWERS R2

BARANGAROO SOUTH TOWERS R1

WATERMANS QUAY

SHELLEY LANE

BARANGAROO AVENUE

BUILDING ABOVE REMOVED FOR CLARITY OF GRADE LEVEL SENSORS

LEGEND:

COMFORT CATEGORIES:
- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:
- Grade Level
- Terrace Level

MITIGATION:
- Proposed Landscaping (Evergreen)
- Proposed Landscaping (No Foliage)
- Glass Blades 1.4m x 1.0m
- Solid Balustrade 1.4m Tall

0 30 60m

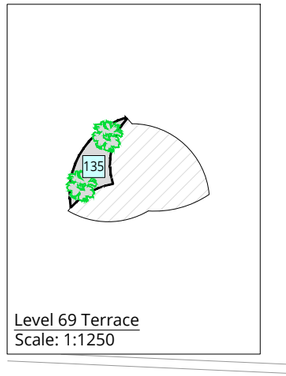
Pedestrian Wind Comfort Conditions
Mitigation 3 Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

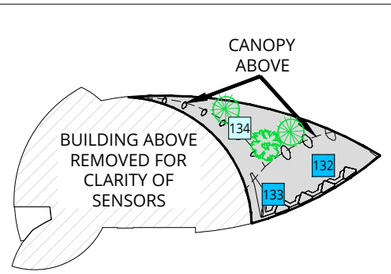
True North

Project #1401805A

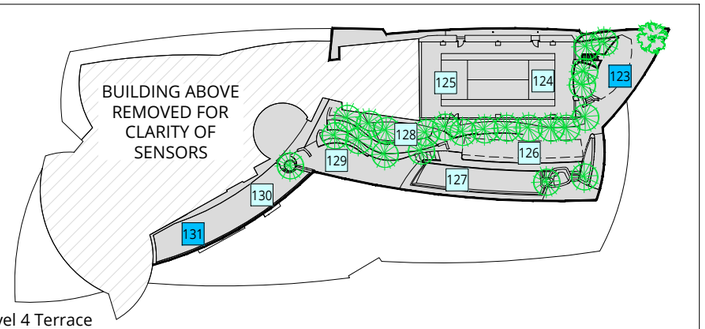
Drawn by: DBB	Figure: 2f
Approx. Scale:	1:1500
Date Revised:	Sept. 17, 2018



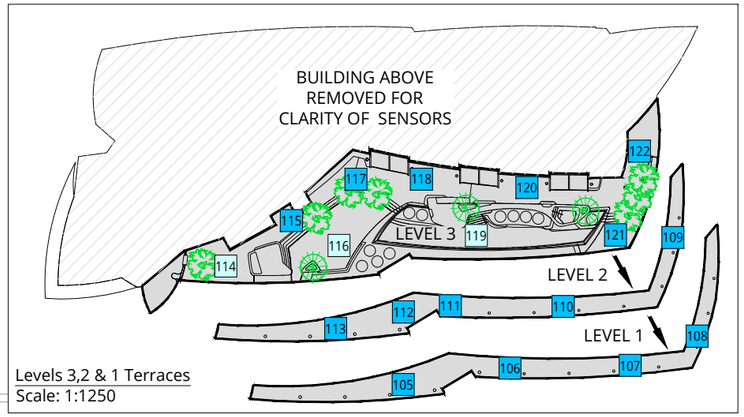
Level 69 Terrace
Scale: 1:1250



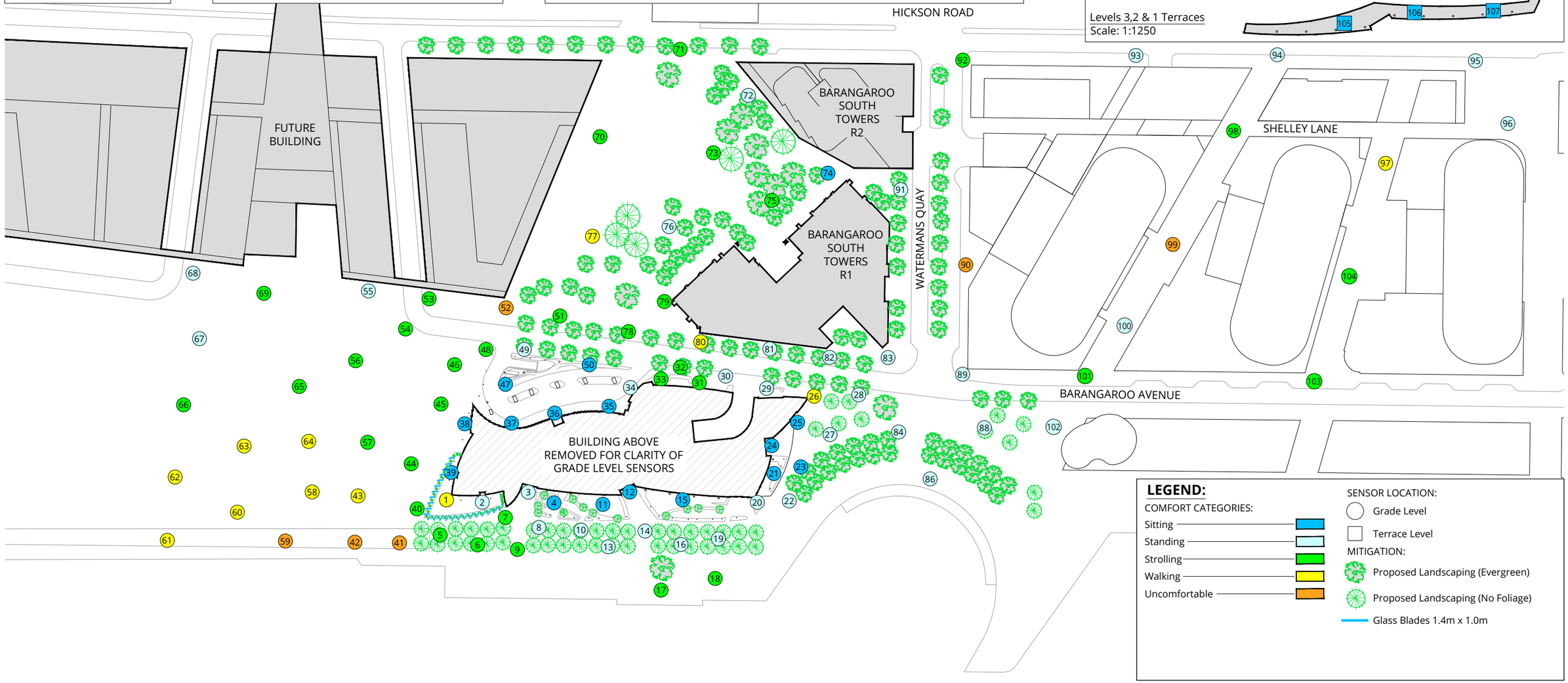
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



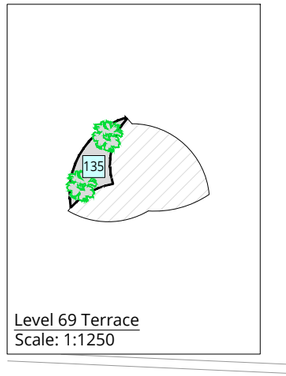
Pedestrian Wind Comfort Conditions
Mitigation 4 Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

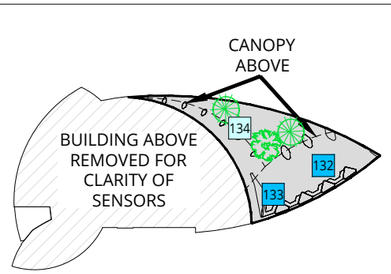
True North

Project #1401805A

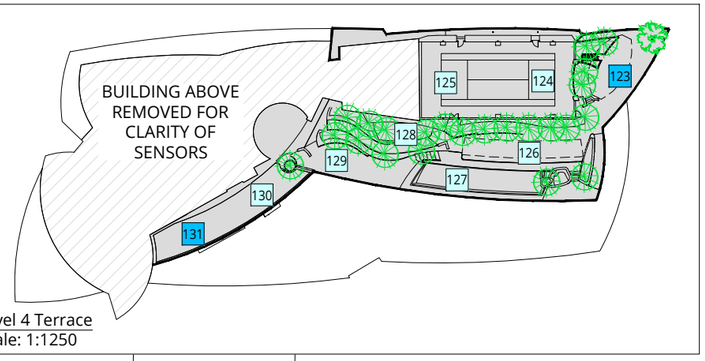
Drawn by:	DBB	Figure:	2g
Approx. Scale:	1:1500		
Date Revised:	Nov. 7, 2018		



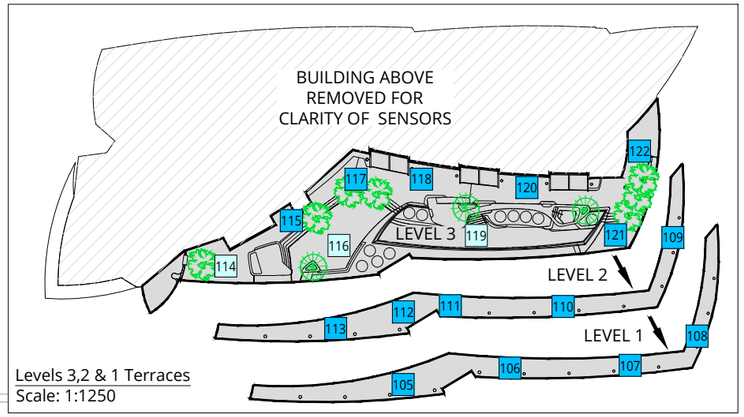
Level 69 Terrace
Scale: 1:1250



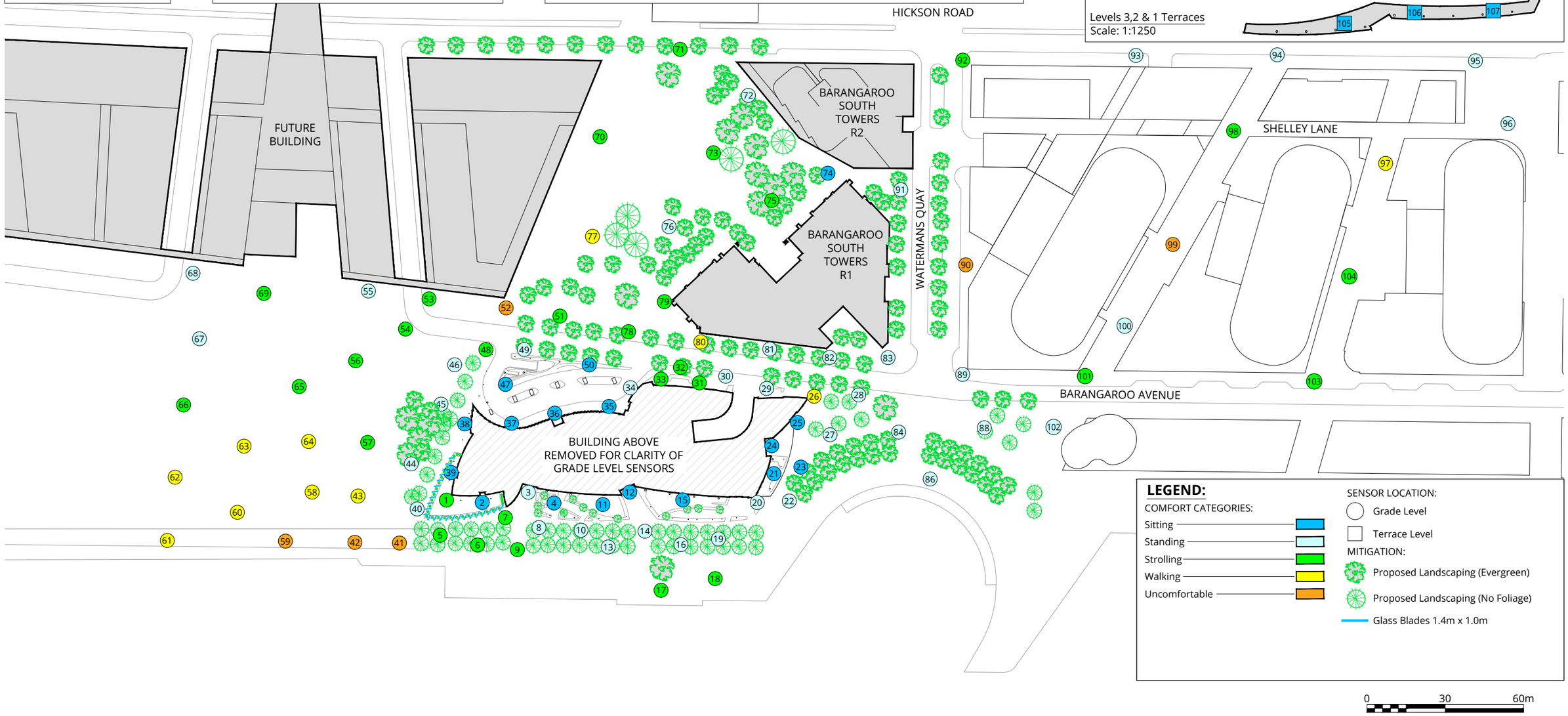
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



Pedestrian Wind Comfort Conditions
Mitigation 5 Configuration
Winter (May to October, 6:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

True North

Project #1401805A

Drawn by:	DBB	Figure:	2h
Approx. Scale:	1:1500		
Date Revised:	Nov. 7, 2018		

LEGEND:

SAFETY CATEGORIES:
Pass
Exceeded

SENSOR LOCATION:
Grade Level

0 30 60m

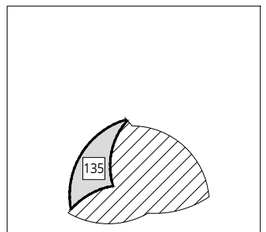
Pedestrian Wind Safety Conditions
Existing Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

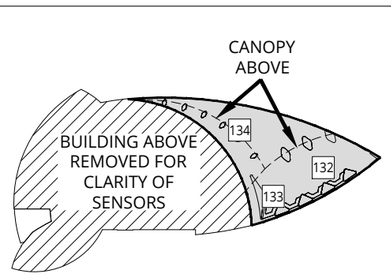
True North

Project #1401805A

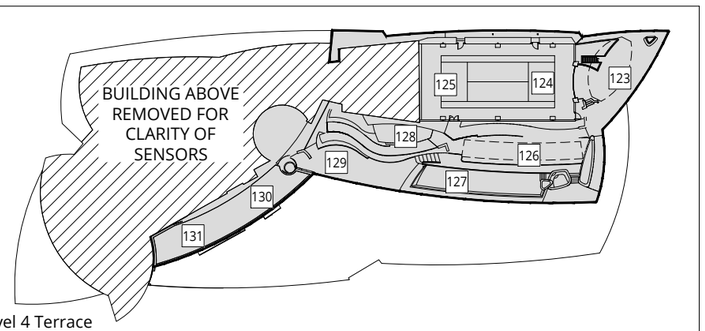
Drawn by: DBB	Figure: 3a
Approx. Scale:	1:1500
Date Revised:	Dec. 22, 2017



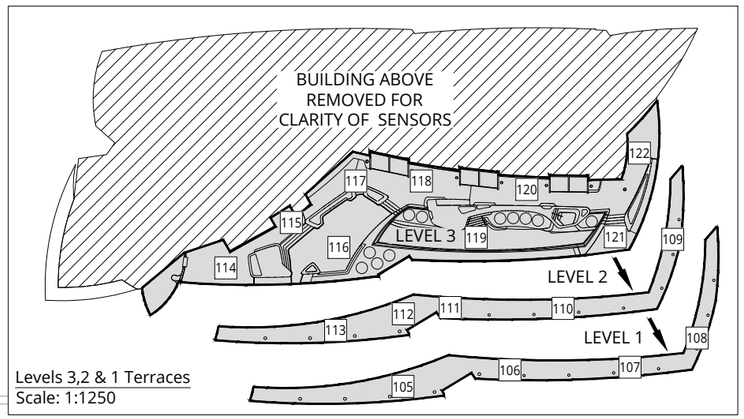
Level 69 Terrace
Scale: 1:1250



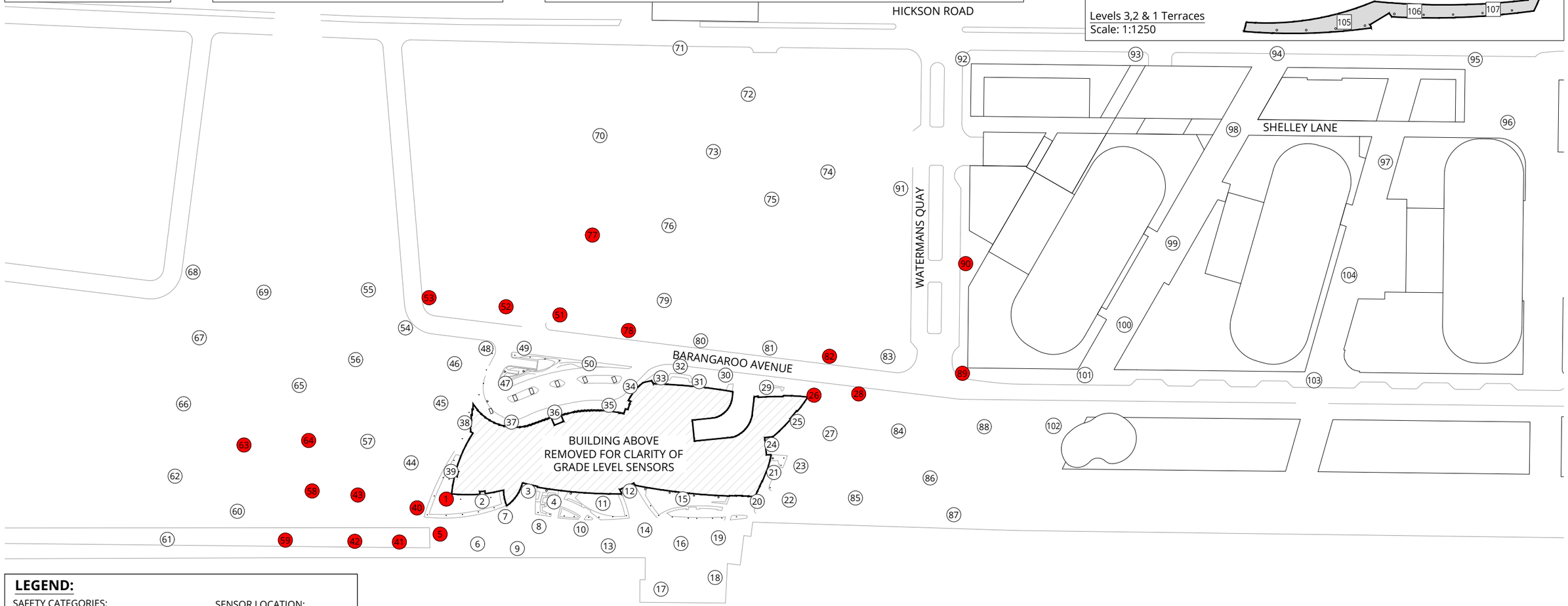
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

SAFETY CATEGORIES:
Pass
Exceeded

SENSOR LOCATION:
Grade Level
Terrace Level

0 30 60m

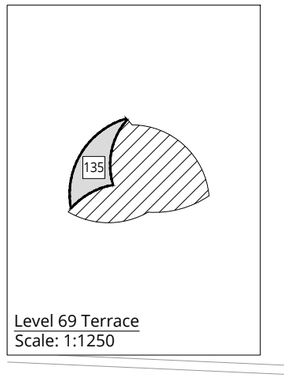
Pedestrian Wind Safety Conditions
Proposed Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

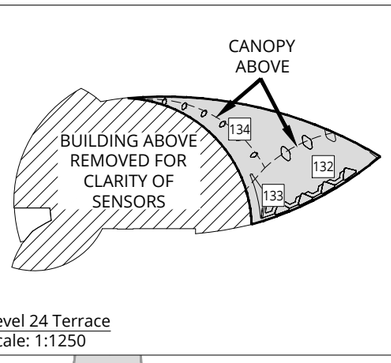
True North

Project #1401805A

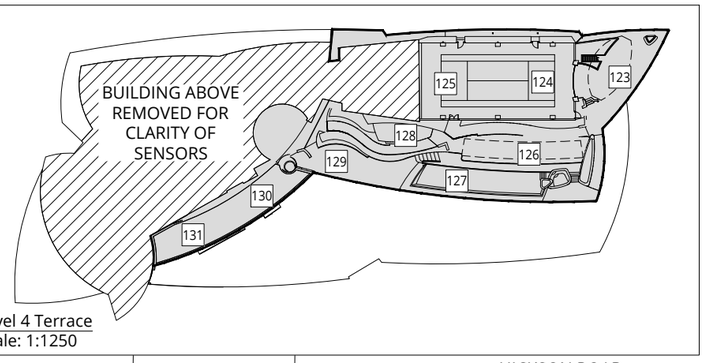
Drawn by: DBB	Figure: 3b	
Approx. Scale: 1:1500		
Date Revised: Dec. 20, 2017		



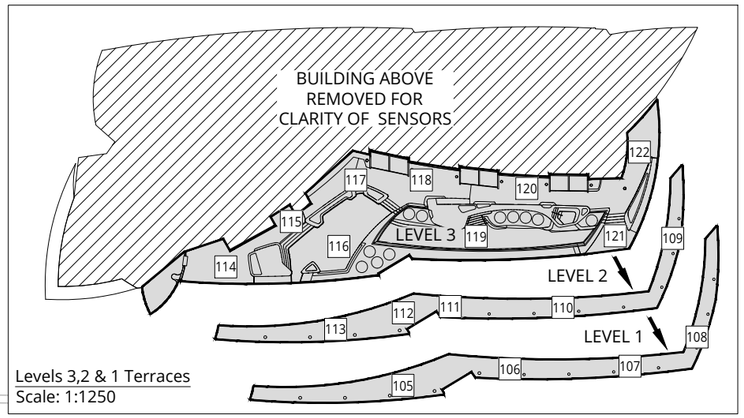
Level 69 Terrace
Scale: 1:1250



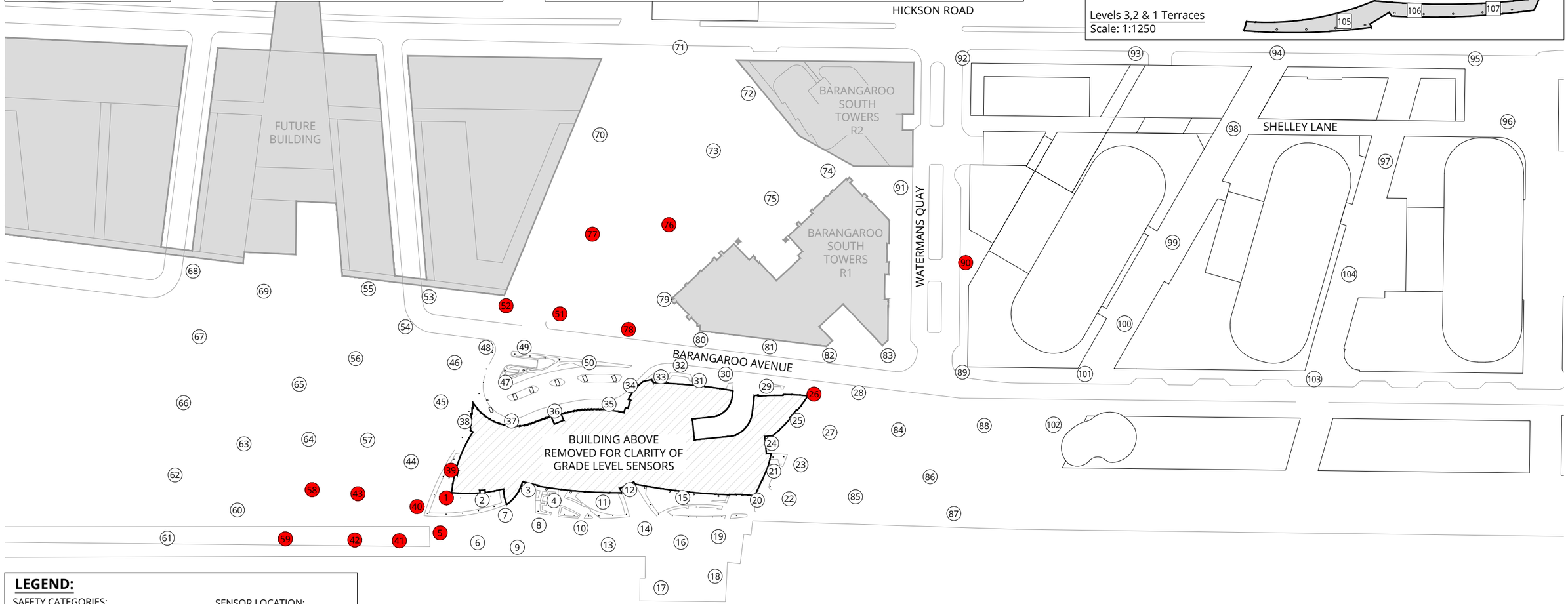
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

SAFETY CATEGORIES:
Pass
Exceeded

SENSOR LOCATION:
Grade Level
Terrace Level

0 30 60m

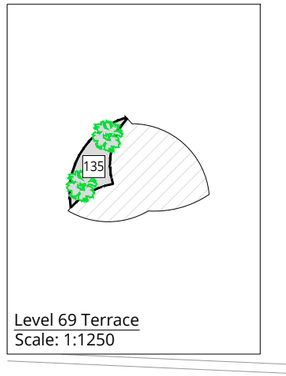
Pedestrian Wind Safety Conditions
Future Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

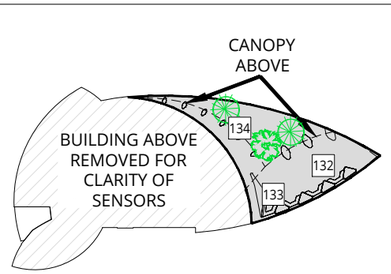
True North

Project #1401805A

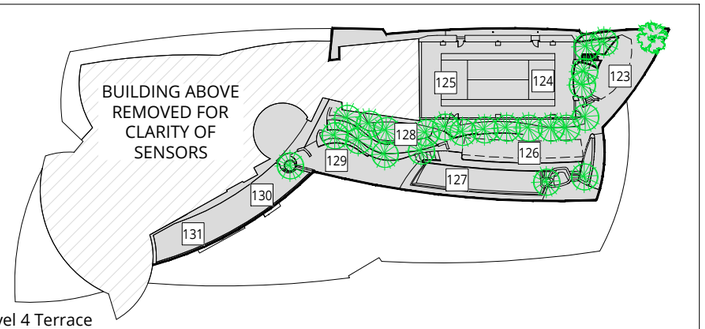
Drawn by: DBB	Figure: 3c
Approx. Scale:	1:1500
Date Revised:	Dec. 20, 2017



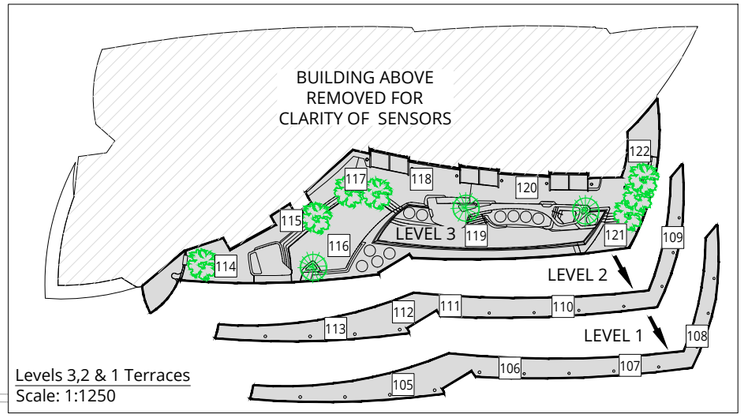
Level 69 Terrace
Scale: 1:1250



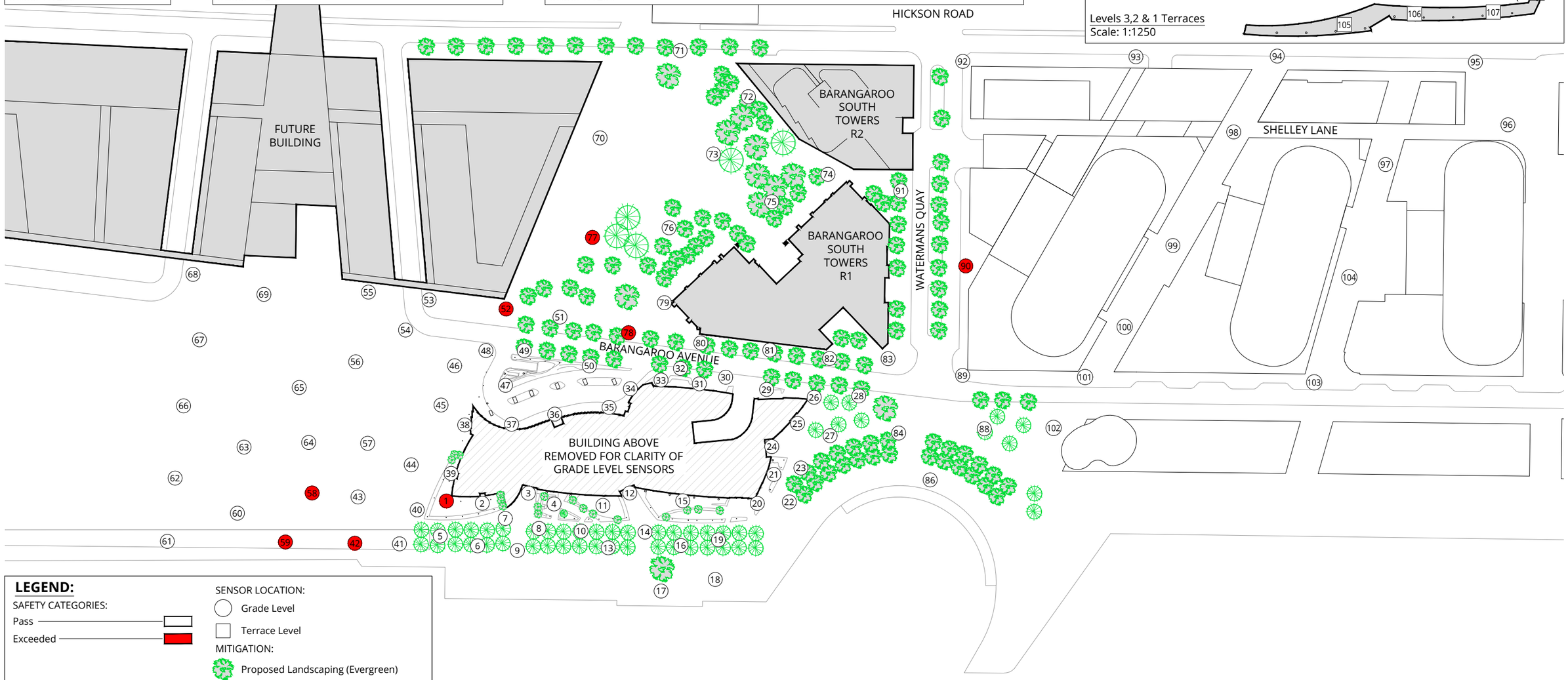
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



LEGEND:

SAFETY CATEGORIES:
- Pass
- Exceeded

SENSOR LOCATION:
- Grade Level
- Terrace Level

MITIGATION:
- Proposed Landscaping (Evergreen)
- Proposed Landscaping (No Foliage)

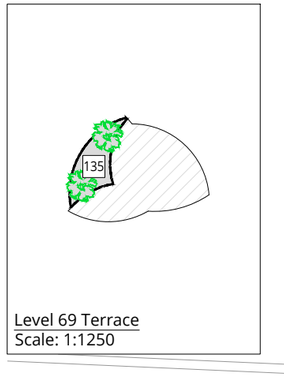
Pedestrian Wind Safety Conditions
Mitigation 1 Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

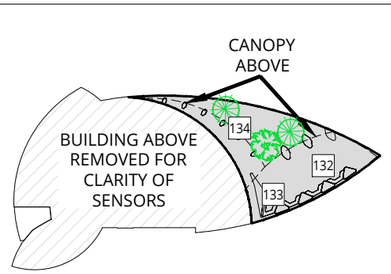
True North

Project #1401805A

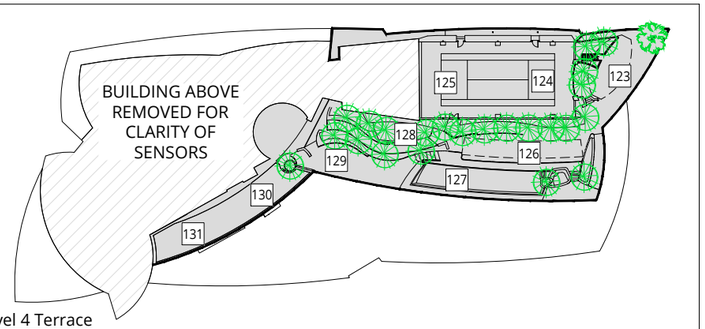
Drawn by:	DBB	Figure:	3d
Approx. Scale:	1:1500		
Date Revised:	May 22, 2018		



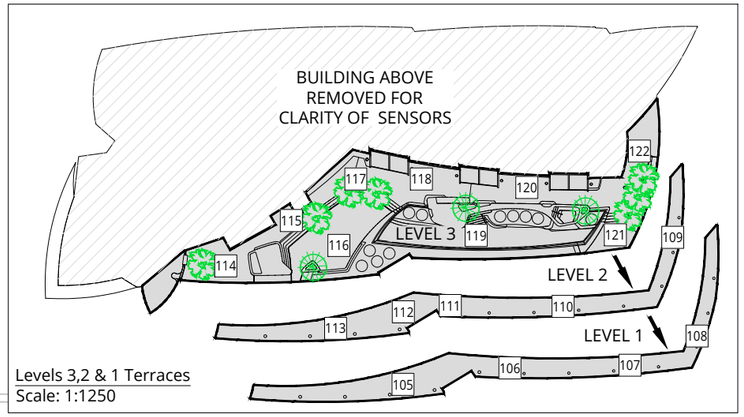
Level 69 Terrace
Scale: 1:1250



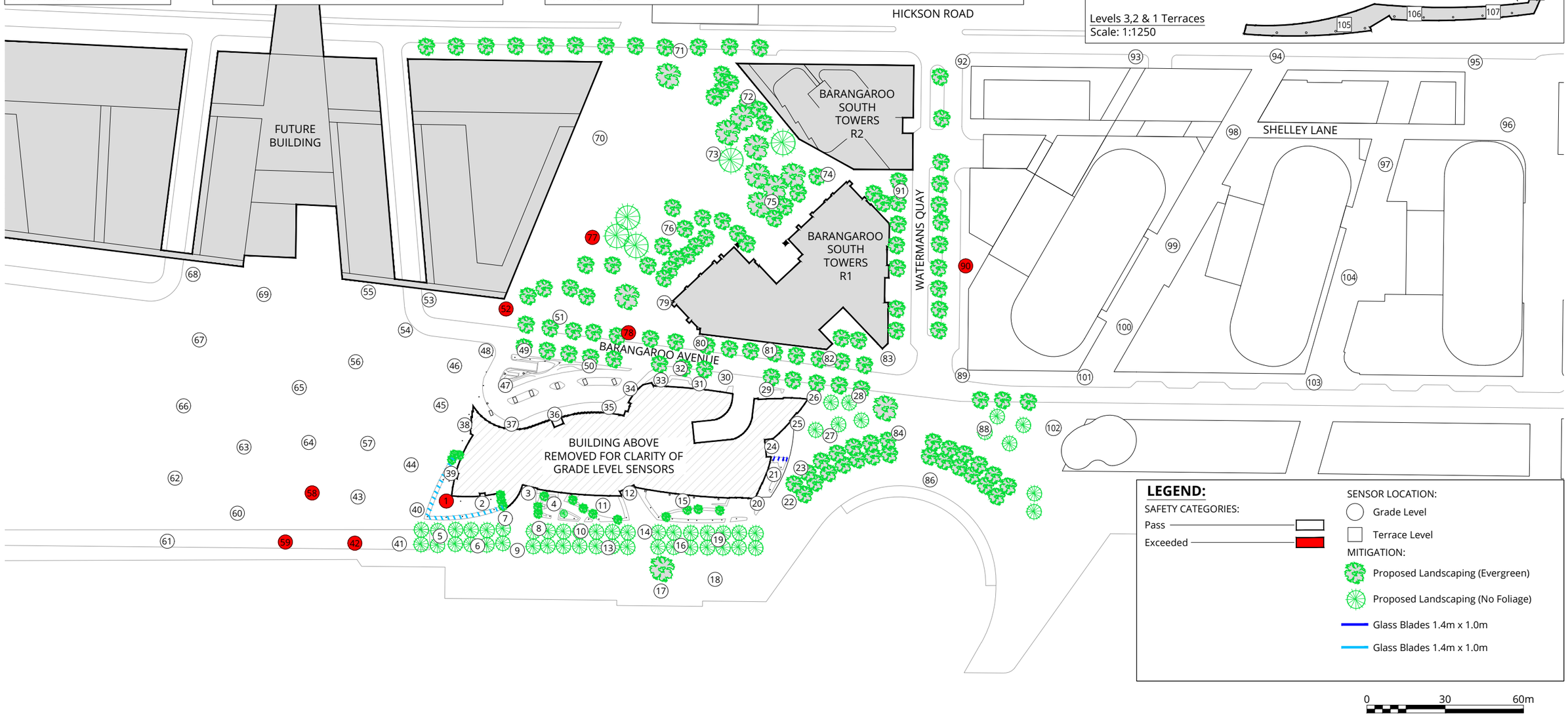
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



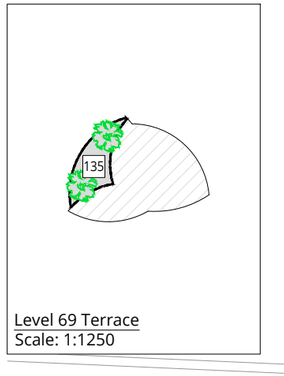
Pedestrian Wind Safety Conditions
Mitigation 2 Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

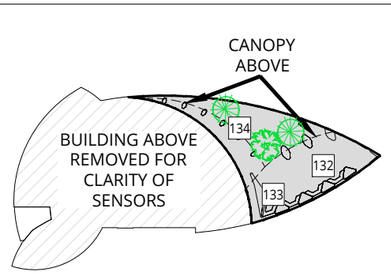
True North

Project #1401805A

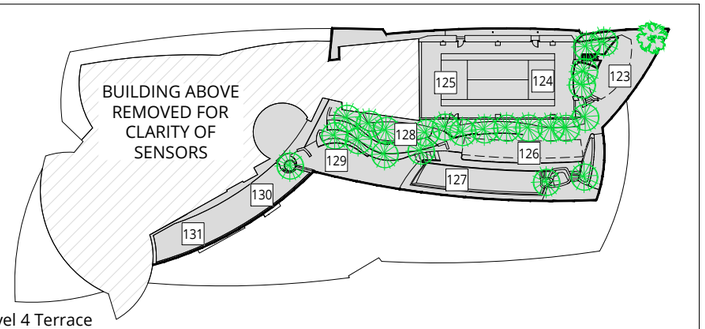
Drawn by: DBB	Figure: 3e
Approx. Scale:	1:1500
Date Revised:	Sept. 17, 2018



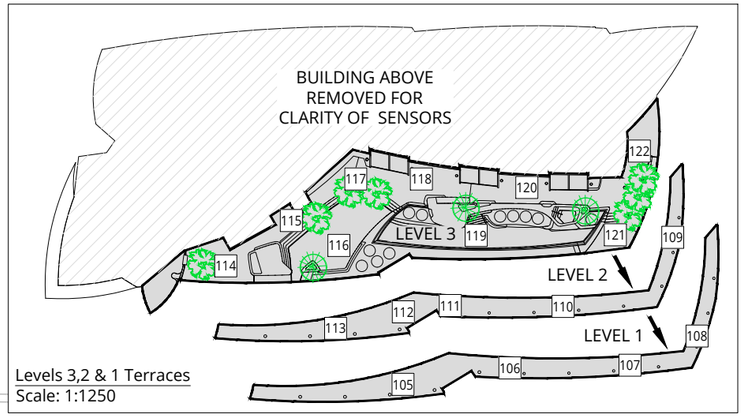
Level 69 Terrace
Scale: 1:1250



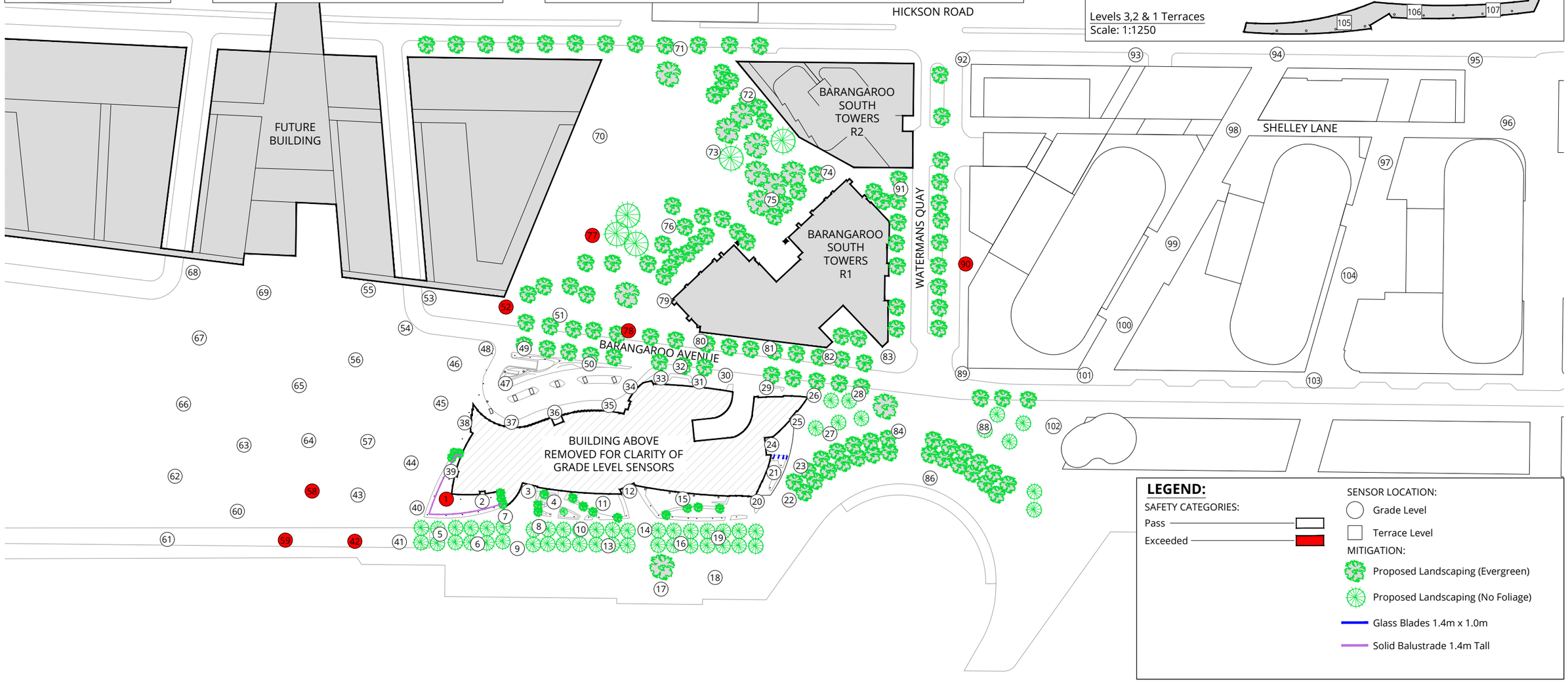
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



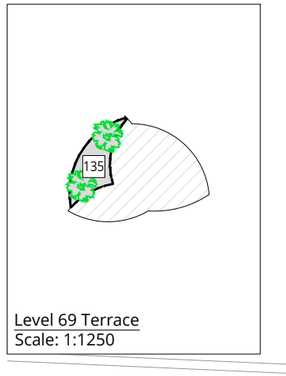
Pedestrian Wind Safety Conditions
Mitigation 3 Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

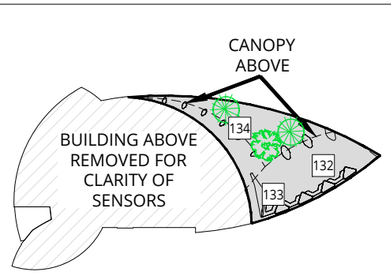
True North

Project #1401805A

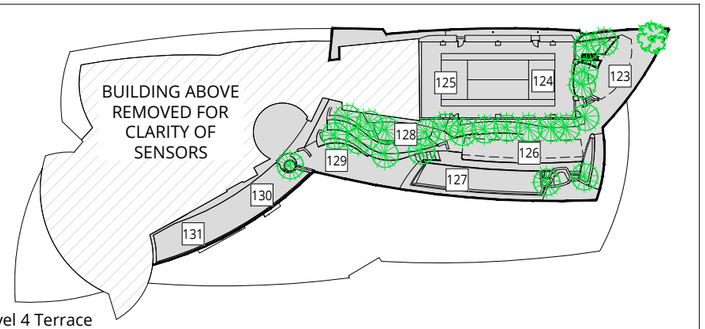
Drawn by: DBB	Figure: 3f
Approx. Scale:	1:1500
Date Revised:	Sept. 17, 2018



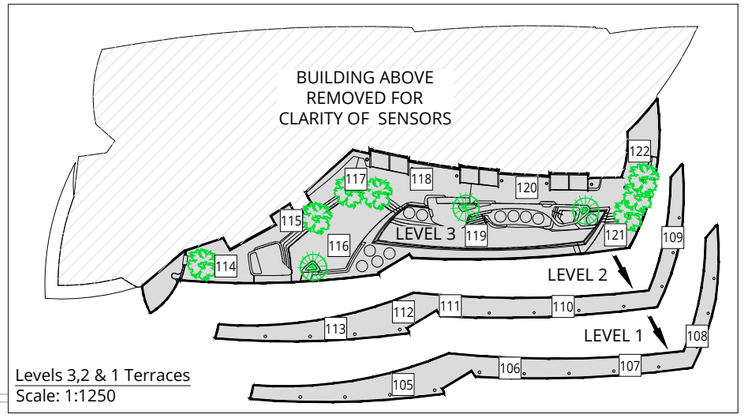
Level 69 Terrace
Scale: 1:1250



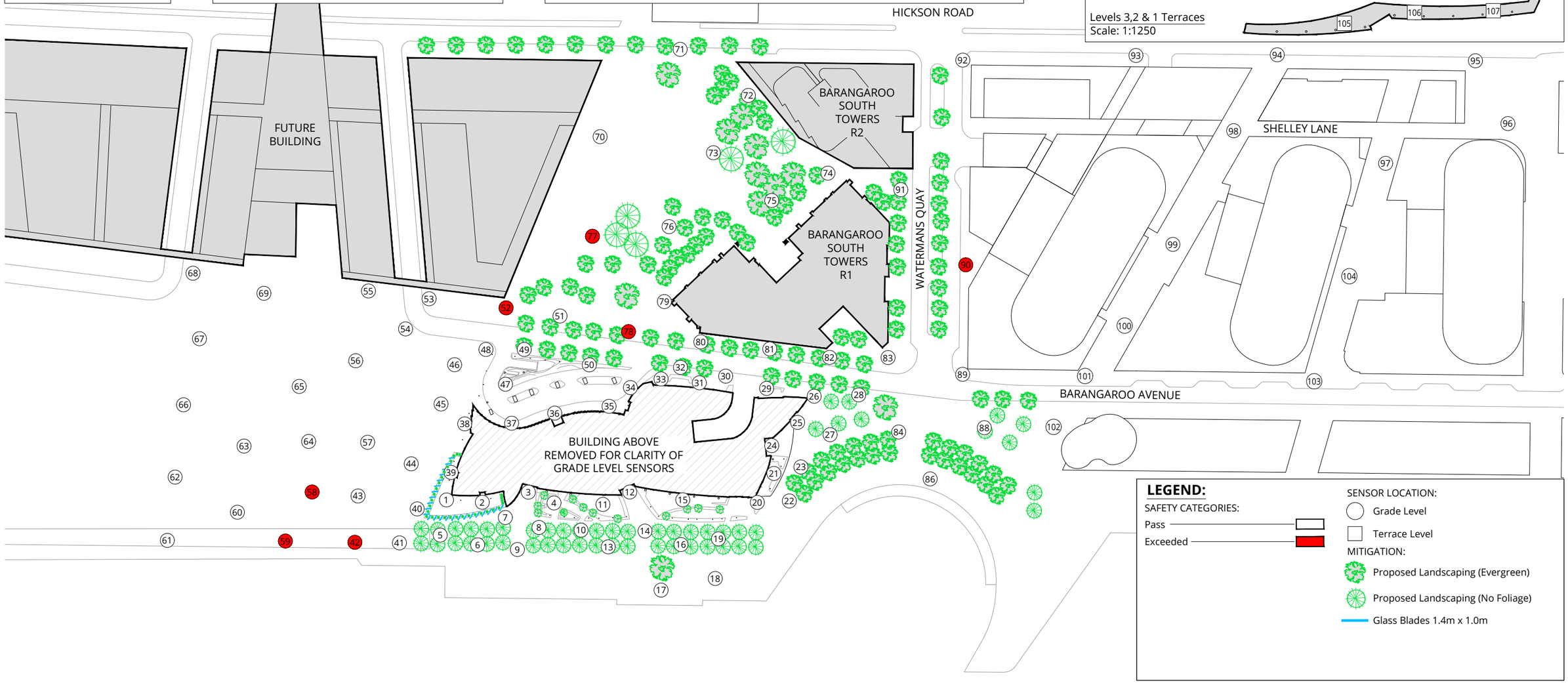
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



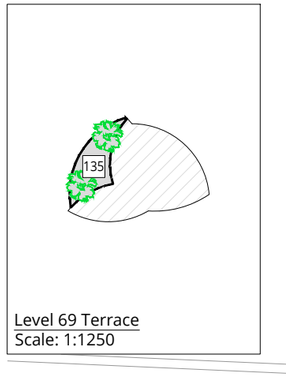
Pedestrian Wind Safety Conditions
Mitigation 4 Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

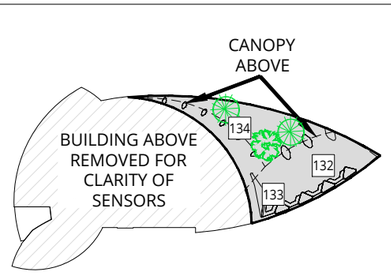
True North

Project #1401805A

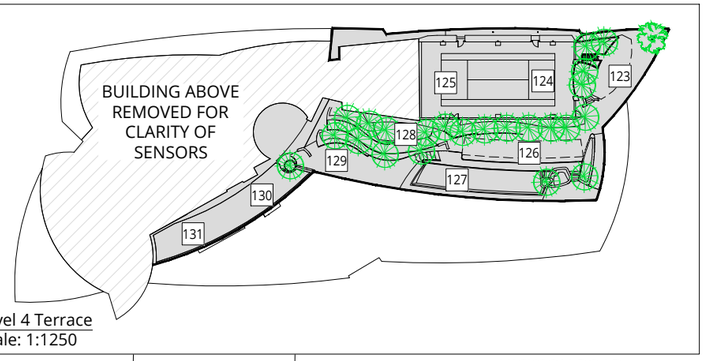
Drawn by: DBB	Figure: 3g	
Approx. Scale:	1:1500	
Date Revised:	Nov. 7, 2018	



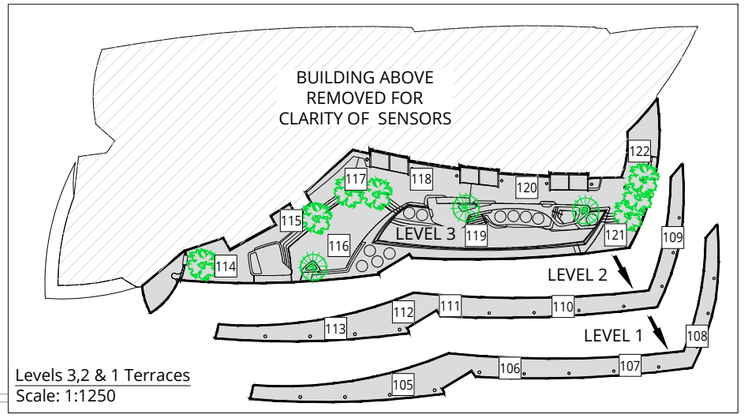
Level 69 Terrace
Scale: 1:1250



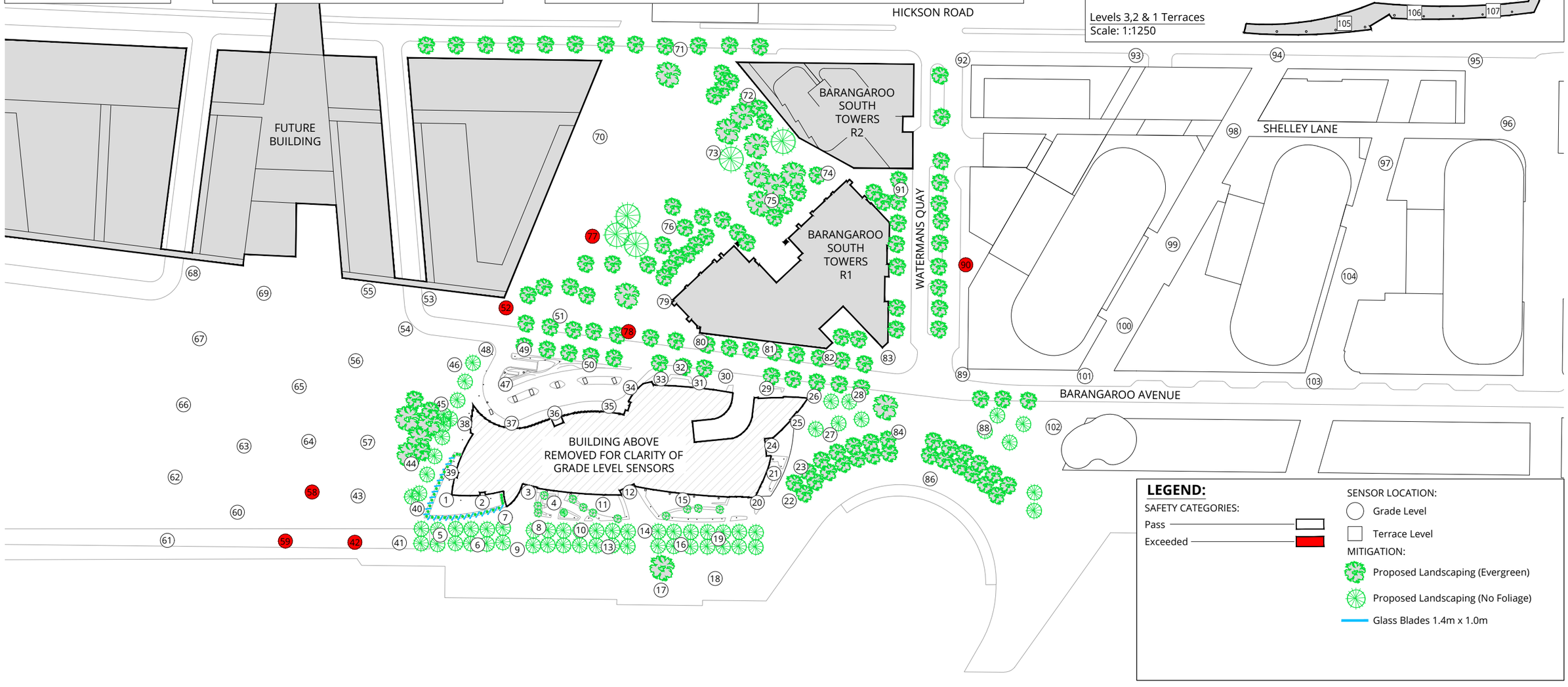
Level 24 Terrace
Scale: 1:1250



Level 4 Terrace
Scale: 1:1250



Levels 3,2 & 1 Terraces
Scale: 1:1250



Pedestrian Wind Safety Conditions
Mitigation 5 Configuration
Annual (January to December, 0:00 to 23:00)

Crown Tower Sydney - Sydney, Australia

True North

Project #1401805A

Drawn by: DBB	Figure: 3h	
Approx. Scale:	1:1500	
Date Revised:	Nov. 7, 2018	