Visual Impact Assessment Photomontage Report

Waterbrook Bayview - 6th of August, 2019

BACKGROUND

This document was prepared by Virtual Ideas for the purposes of visual impact assessment of the proposed Waterbrook Bayview Site Compatibility Certificate within its context.

The report includes a comparison between original photographs of the existing site conditions, as captured on the dates noted, alongside photomontages showing what the proposed development will look like when superimposed over the existing site conditions.

The report also outlines the methodology used to establish an accurate 3D model and the process followed to create the visual impact photomontages.

Information used in the creation of this report is also noted in the methodolgy and/or included as an appendix for reference.

OVERVIEW

This visual impact assessment presents photomontages which include a fully-textured proposed built form and semi-mature landscaping for the purposes of evaluating the visual impact of the development post-construction.

The process of creating accurate photomontage renderings involves the creation of an accurate, real-world scale digital 3D model.

Photographs are taken on location, with each camera position subsequently surveyed to identify the Map Grid of Australia (MGA) coordinates at each position.

3D cameras are then set-up in the 3D model to match these same real-world camera positions. By matching the real-world camera lens properties to the camera properties in our software and rotating the camera so that surveyed points in 3D space align with the corresponding points in the photograph, we can create a rendering that is correct in terms of position, scale, rotation, and perspective.

Time and camera data information is also recorded during the site photography so that accurate lighting conditions can be reproduced in the 3D rendering.

A digital image is then rendered from the camera in the 3D software application that is then superimposed into the real-world photo to generate an image that represents accurate form and visual impact.

METHODOLOGY

Site Photography

Site photography was taken from predetermined positions as recommended by Richard Lamb & Associates and Waterbrook Bayview.

Photographs were taken using the camera and lens equipment noted below:

- Canon 5D mkII digital camera, using a 18mm-40mm lens
- Canon EOS 5DS R, using an EF16-35mm f/4L IS USM

Photographs were taken at an approximate eye height of 1.6m above ground level.

The photos have primarily been shot with a 35mm focal length to present a uniform field of view within the images.
Camera positions 1, 2, 4 and 16 formed part of an earlier visual impact assessment and were not captured at a 35mm focal length. The focal lengths of these positions has been noted on the relevant overview page in the report.

Survey Data

Accurate 2D/3D survey data has been used to prepare the photomontages.

Survey data was used:
- for depiction of existing buildings, trees, power poles and other existing elements as shown in the wire frame; and
- to establish an accurate camera location and RL of the camera.

Each camera position in the report includes a wire frame overlay of the surveyed elements used for the purposes of 3D camera alignment.

A contour mesh was also extracted from the survey data to assist with aligning visible terrain in the base photography with the imported 3D contour mesh.

The locations for the photos shown for Camera Positions 1, 2, 4, 16, 22 and 26 were not originally surveyed. In a subsequent site visit on 04/09/2018, the approximate camera positions for 1, 2, 4 and 26 were surveyed and additional photography taken to assist in replicating the original photo location.

These additional photographs have been included in Appendix C for comparison purposes.

It was not possible to capture a photo for comparison purposes when undertaking the survey for Position 22 (4 Konda Place) due to site access. The surveyed camera position supplied is an approximated position guaranteed to be within 500mm of accuracy by Bee and Lethbridge Surveyors.

It was not possible to get access to Camera Position 16 (74 Cabbage Tree Road) to undertake a survey, so the camera position is an approximation using avaible survey data for alignment purposes. This is shown in the wire frame overlay image.

3D Model

The supplied 3D model of the proposed building was imported into our 3D software (3DS Max) referencing the imported surveyed data.

Alignment

The positions of the real world photography were located in the 3D scene by refering to the surveyed positions suppplied by the Bee & Lethbridge survey data.

Cameras were then created in the 3D model to match the corresponding locations and height of where the photographs were taken from on site. These were then aligned in rotation so that the points of the 3D model aligned with their corresponding objects that were visible in the photograph.

Renderings of the building with realistic textures and lighting were then created from the aligned 3D cameras and montaged into the existing photography at the same location.
The resulting images presented an accurate representation of the scale and position of the proposed development relative to the surrounding context.

Conclusion

In conclusion, it is my opinion as an experienced, professional 3D architectural and landscape renderer, that the following photomontages have been prepared in accordance with the Land and Environment Court's practice directions and accurately portray the level of visibility and impact of the built form.

Yours sincerely,

Grant Kolln

DESCRIPTION OF COLLECTED DATA

To create the 3D model and establish accurate reference points for alignment to the photography, a variety of information was collected. This includes the following:

1) Architectural drawings of site and proposed new buildings
   - Created by: Marchese Partners - 1/53 Walker St, North Sydney, NSW, 2060
   - Format: Revit model

2) Arborist Report
   - Created by: Arboricultural, Environmental & Horticultural Consultants - 5 Watkins Road, Avalon BEach, NSW, 2107
   - Format: PDF file

3) Landscape Plan
   - Created by: Site Design Studios, PO Box 3079, Austinmer NSW 2515
   - Format: PDF and DWG file

4) Tree and Site Survey data - (Appendix B)
   - Created by: Bee & Lethbridge - Suite 2, 14 Starkey St, Forestville, NSW 2087
   - Format: DWG file and PDF file

5) Golf Course Survey (Appendix A)
   - Created by: AAM - Suite 2, 33 Waterloo Road, North Ryde NSW
   - Format: DWG file and PDF file

6) Site photography
   - Created by: Virtual Ideas
   - Format: JPEG file

CV OF GRANT KOLLN, DIRECTOR OF VIRTUAL IDEAS

Personal Details

Name:	Grant Kolln
DOB:	07/09/1974
Company Address:	Suite 71, 61 Marlborough St, Surry Hills, NSW, 2010
Phone Number:	(02) 8399 0222

Relevant Experience

2003 - Present	Director of 3D visualisation studio Virtual Ideas. During this time I have worked on many visual impact studies for legal proceedings in various different types of industries including architectural, industrial, mining, landscaping, and several large public works projects. This experience has enables us to create highly accurate methodologies for the creation of our visual impact media and report creation.
1999 - 2001	Project manager for global SAP infrastructure implementation - Ericsson, Sweden
1999 - 1999	IT consultant - Sci-Fi Channel, London
1994 - 1999	Architectural Technician, Thomson Adsett Architect, Brisbane QLD.

Relevant Education / Qualifications

1997	Advanced Diploma in Architectural Technology. Southbank TAFE, Brisbane, QLD

Key Map - Camera Positions

VIRTUAL IDEAS

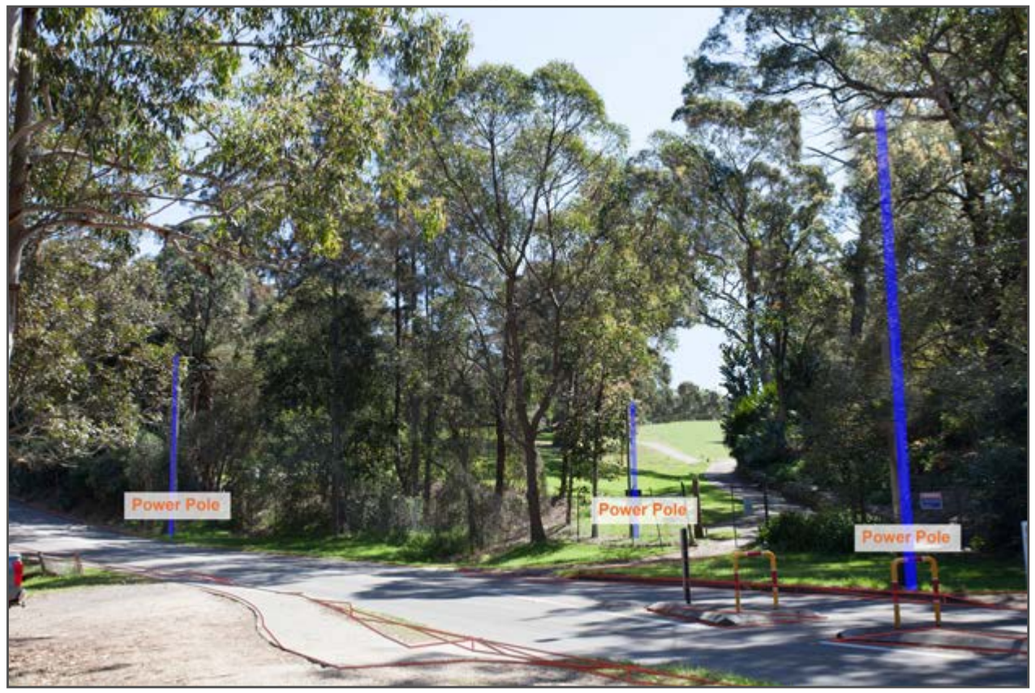
Camera Position 1 - Overview - Public Domain View

VIRTUAL IDEAS

Location map of camera position

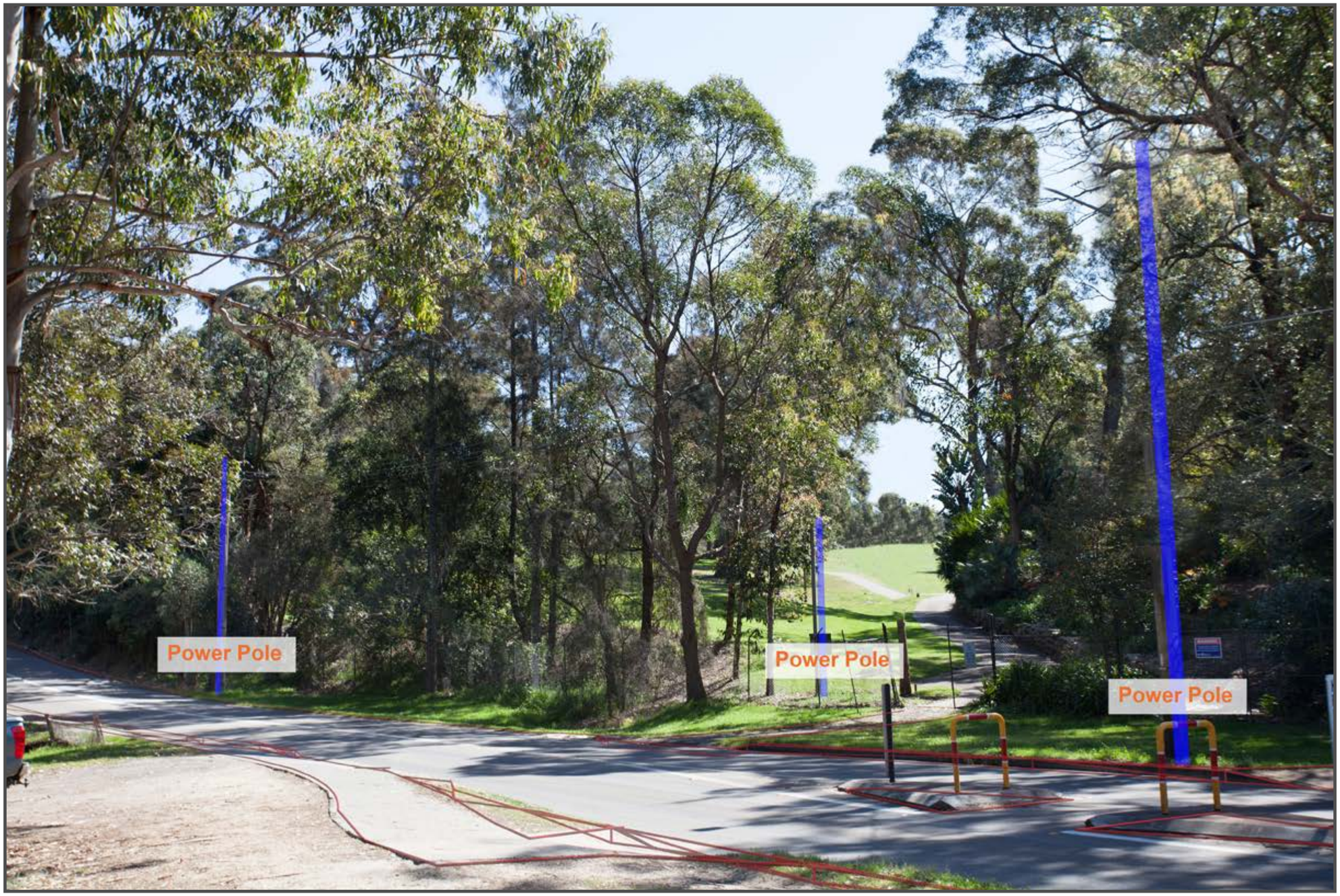
Existing photograph

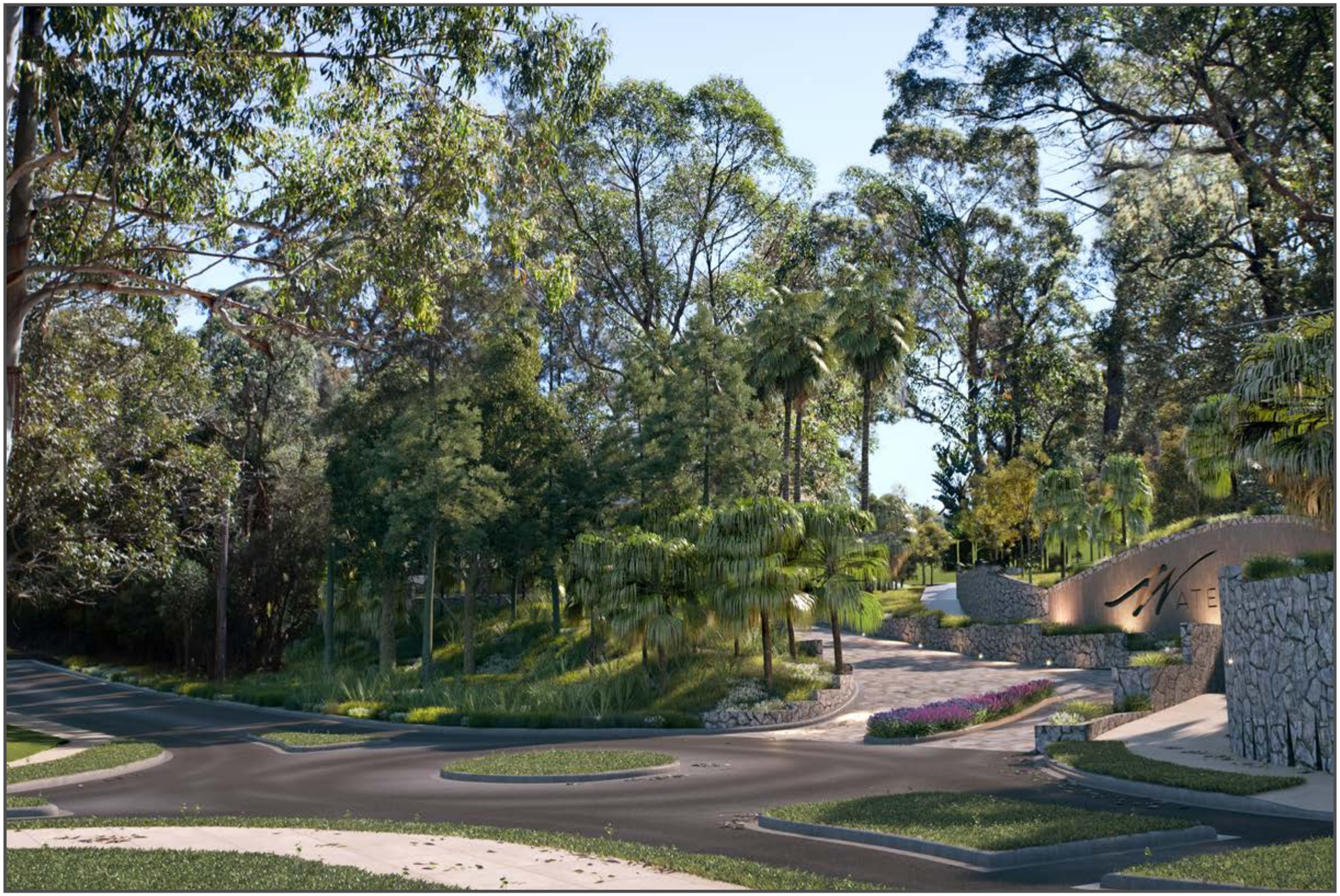
Existing photograph showing surveyed alignment elements



Photomontage including proposed development

Date of photography: 15/09/2015
Focal length of camera lens: 40mm


Power Pole
Power Pole
Power Pole


NATE

Camera Position 1A - Overview - Public Domain View

VIRTUAL IDEAS

Location map of camera position

Existing photograph

Existing photograph showing surveyed alignment elements

Photomontage including proposed development

Date of photography: 17/06/2018
Focal length of camera lens: 35mm


Power Poles

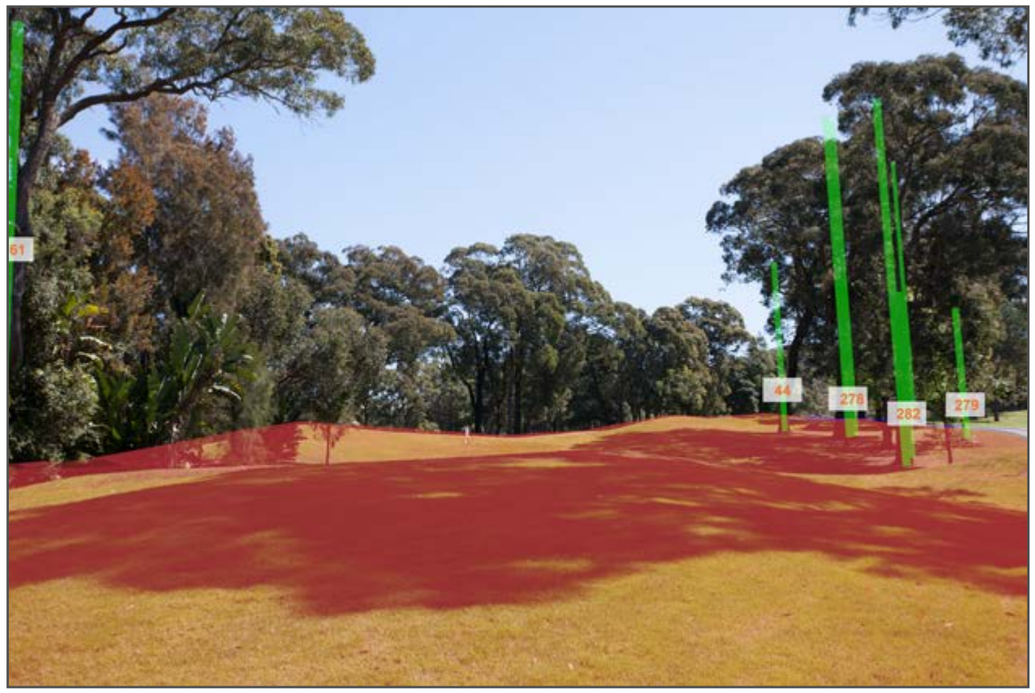
Camera Position 2 - Overview - Public Domain View

VIRTUAL IDEAS

Location map of camera position

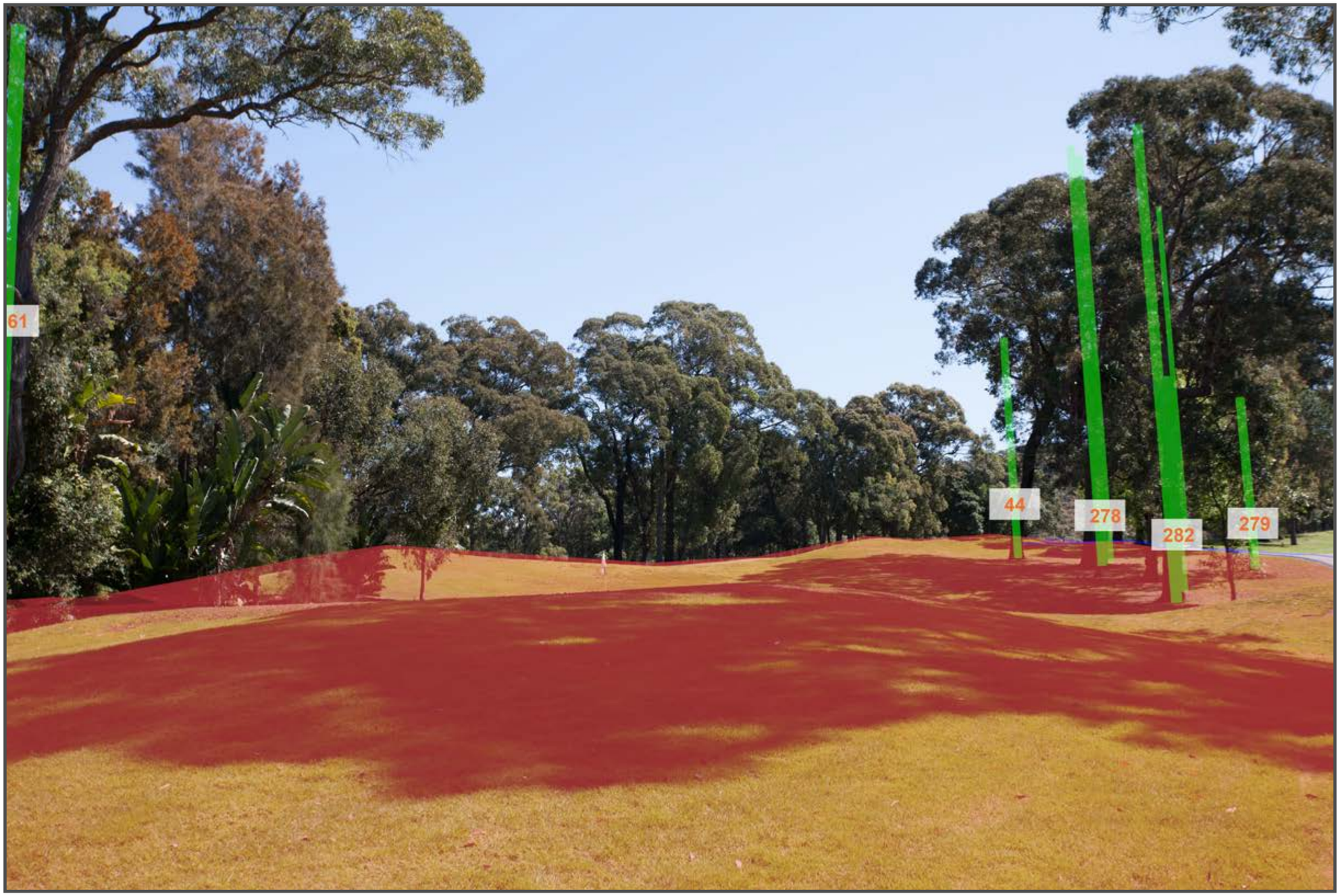
Existing photograph

Existing photograph showing surveyed alignment elements



Photomontage including proposed development

Date of photography: 15/09/2015
Focal length of camera lens: 40mm


61
44
278
282
279

Camera Position 3 - Overview - Public Domain View

VIRTUAL IDEAS

Location map of camera position

Existing photograph

Existing photograph showing surveyed alignment elements

Photomontage including proposed development

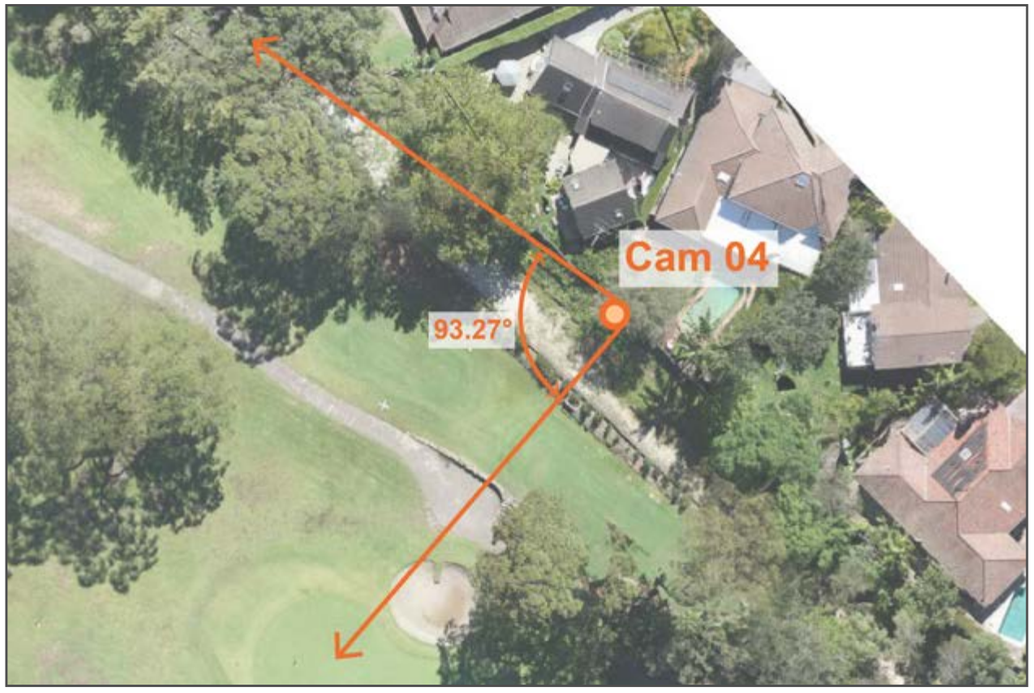
Date of photography: 17/06/2018
Focal length of camera lens: 35mm


282
281
278
321
322

Camera Position 4 - Overview - Public Domain View

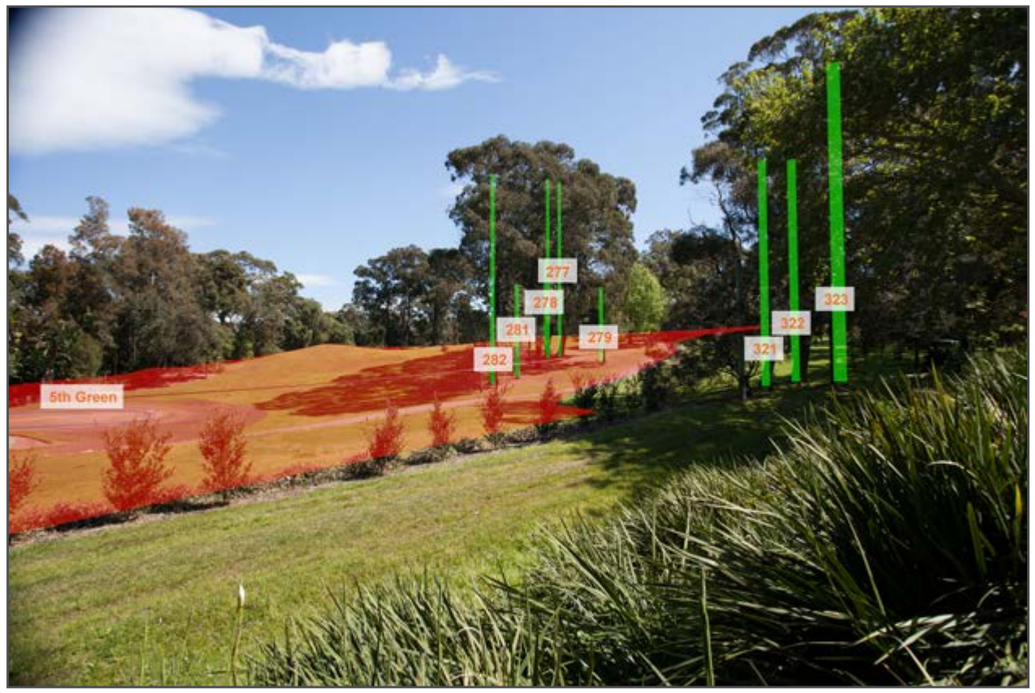
VIRTUAL IDEAS

Location map of camera position



Existing photograph

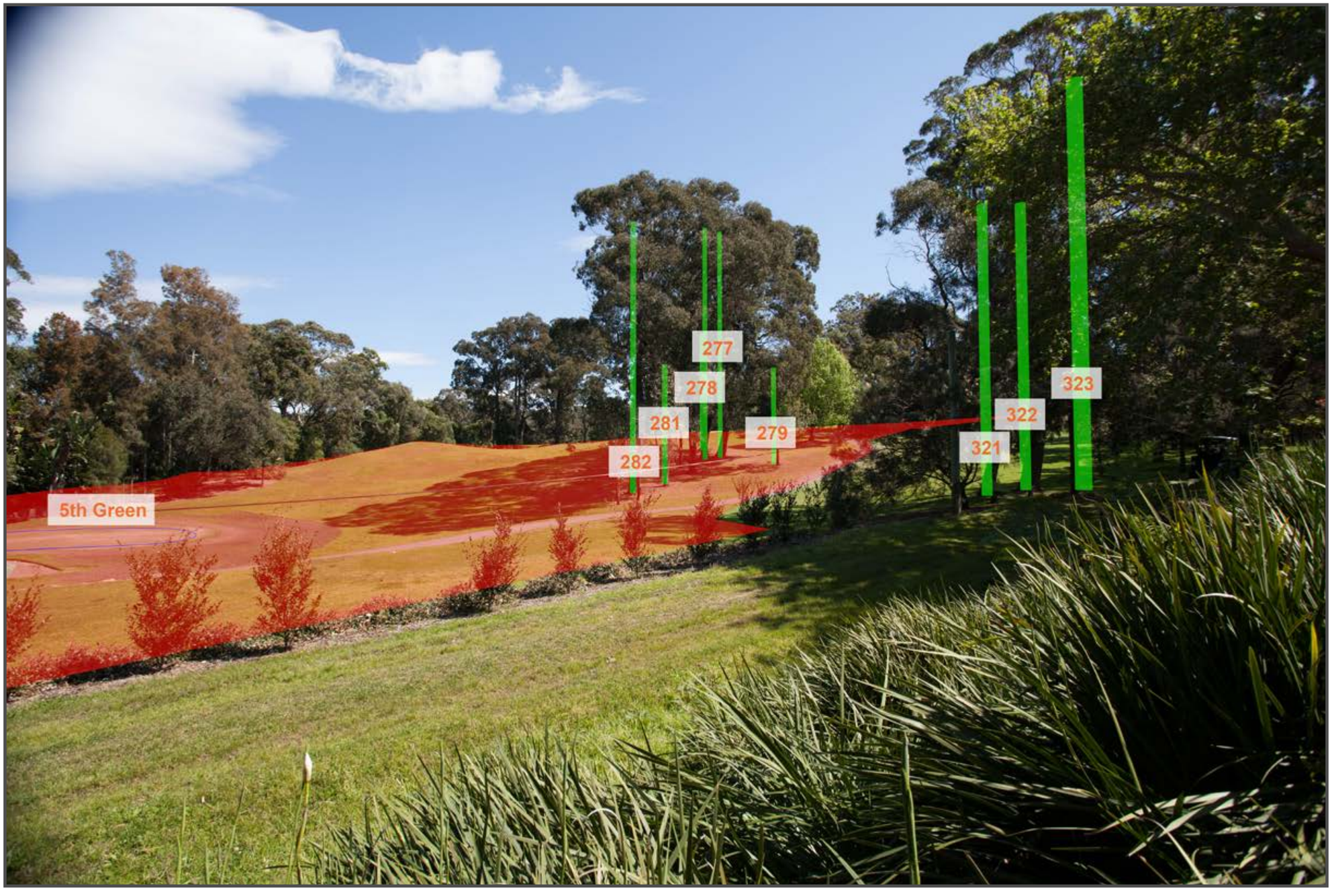
Existing photograph showing surveyed alignment elements



Photomontage including proposed development

Date of photography: 15/09/2015
Focal length of camera lens in original photgraph: 24mm
*35mm crop lines have been shown to indicate field of view equivalent to other report images


35mm


277
278
281
279
282
323
322
321
5th Green


35mm

Camera Position 6 - Overview - Public Domain View

VIRTUAL IDEAS

Location map of camera position

Existing photograph

Existing photograph showing surveyed alignment elements

Photomontage including proposed development

Date of photography: 17/06/2018
Focal length of camera lens: 35mm

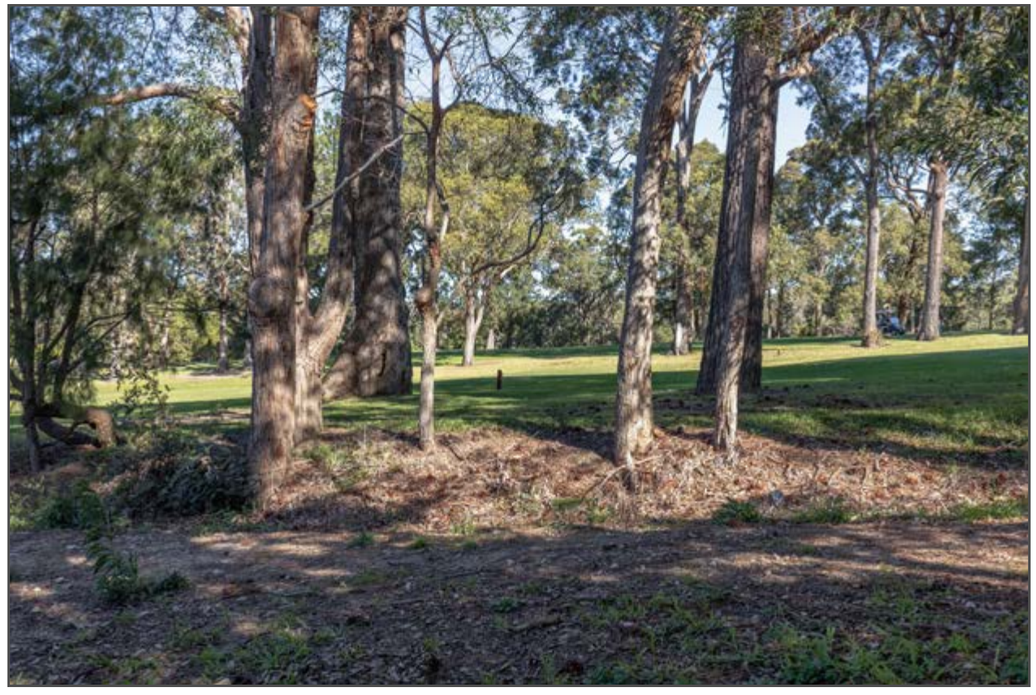

275
219
220
281
282

Camera Position 8 - Overview - Public Domain View

VIRTUAL IDEAS

Location map of camera position

Existing photograph

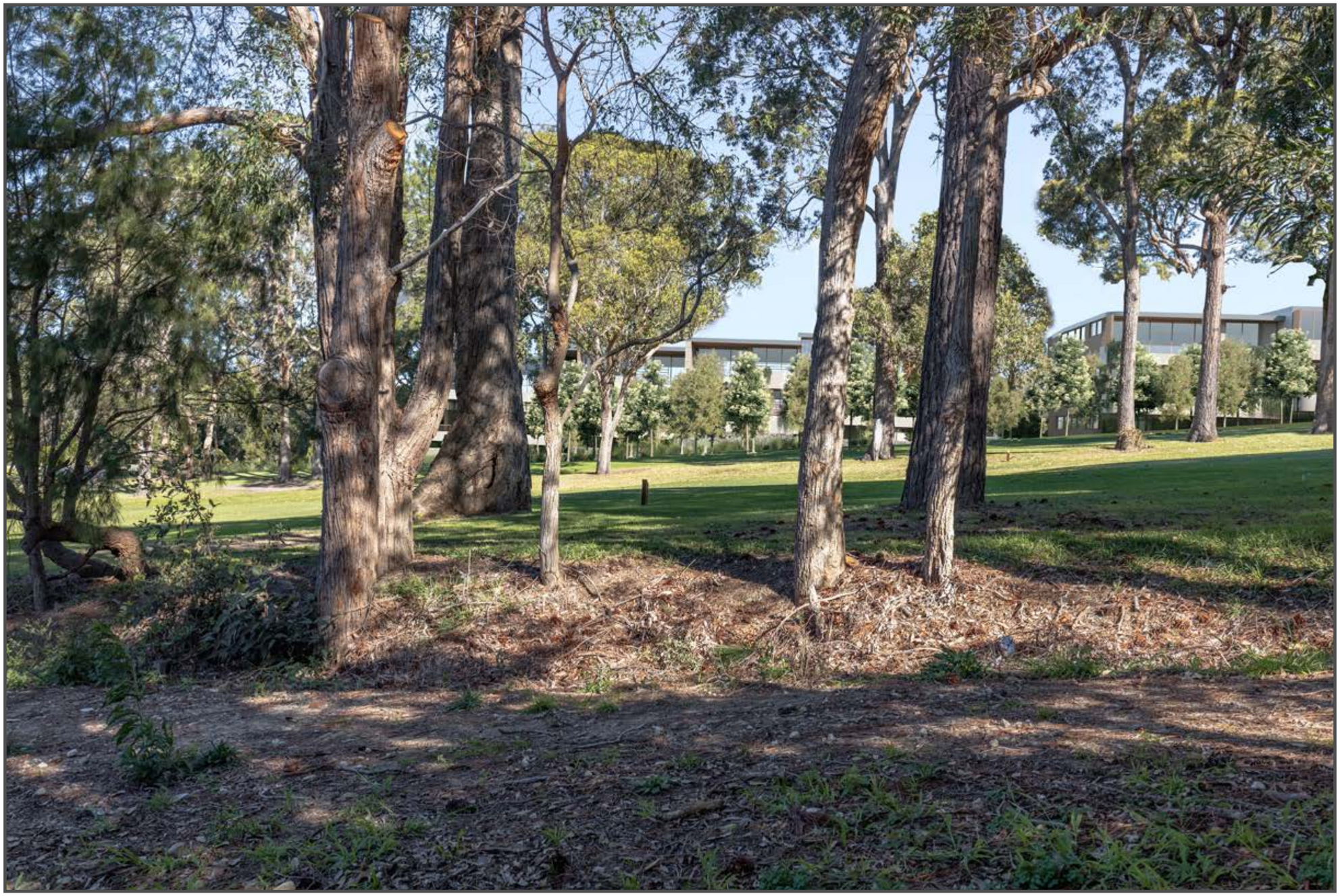


Existing photograph showing surveyed alignment elements

Photomontage including proposed development

Date of photography: 17/06/2018
Focal length of camera lens: 35mm


288
345
343
347
346
344
311
312
314



Camera Position 9 - Overview - Public Domain View

Location map of camera position

Existing photograph

Existing photograph showing surveyed alignment elements

Photomontage including proposed development


312
354
355
357
353
358

Camera Position 10 - Overview - Public Domain View

VIRTUAL IDEAS

Location map of camera position

Existing photograph

Existing photograph showing surveyed alignment elements

Photomontage including proposed development

Date of photography: 17/06/2018
Focal length of camera lens: 35mm

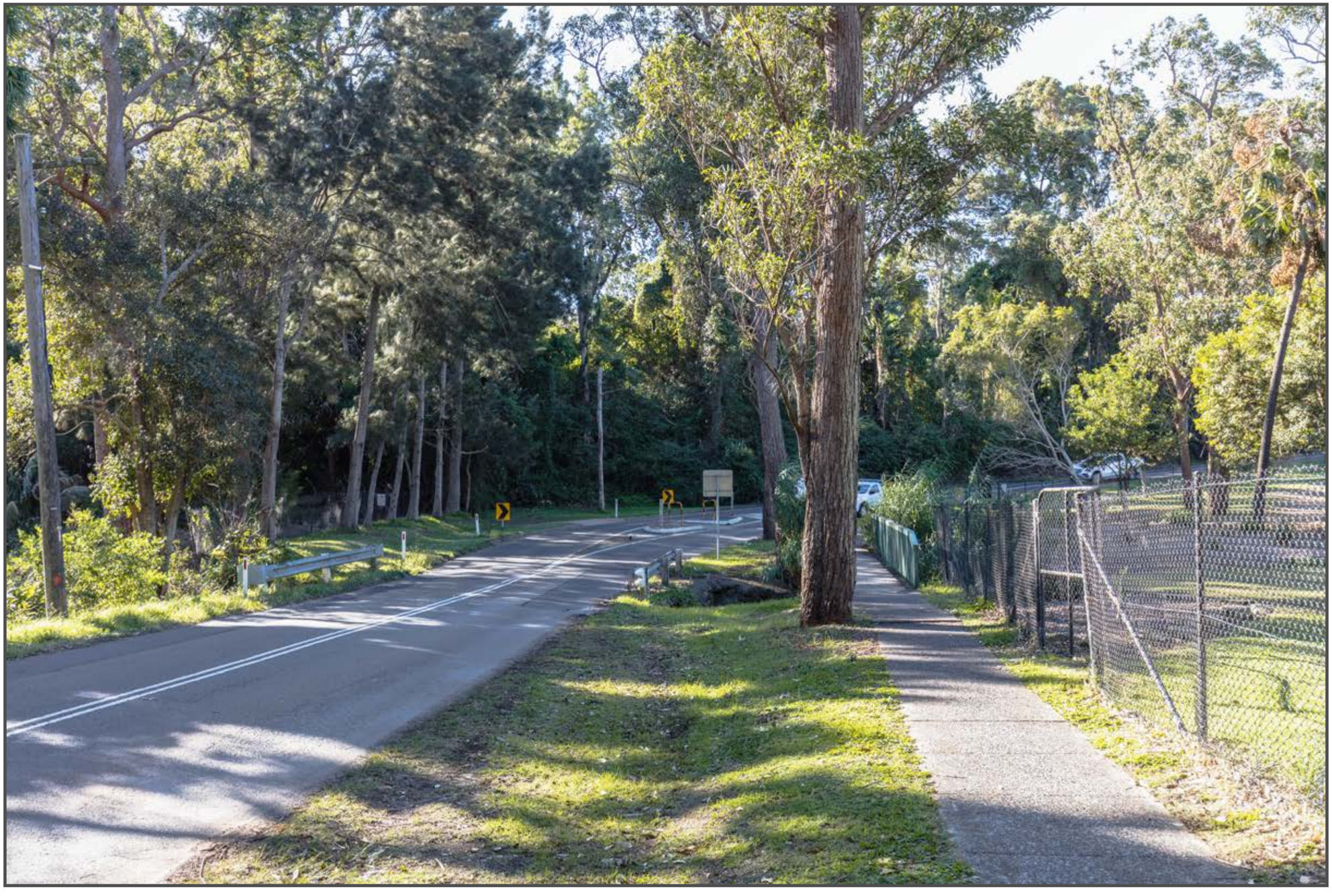

279
372
369
371

Location map of camera position

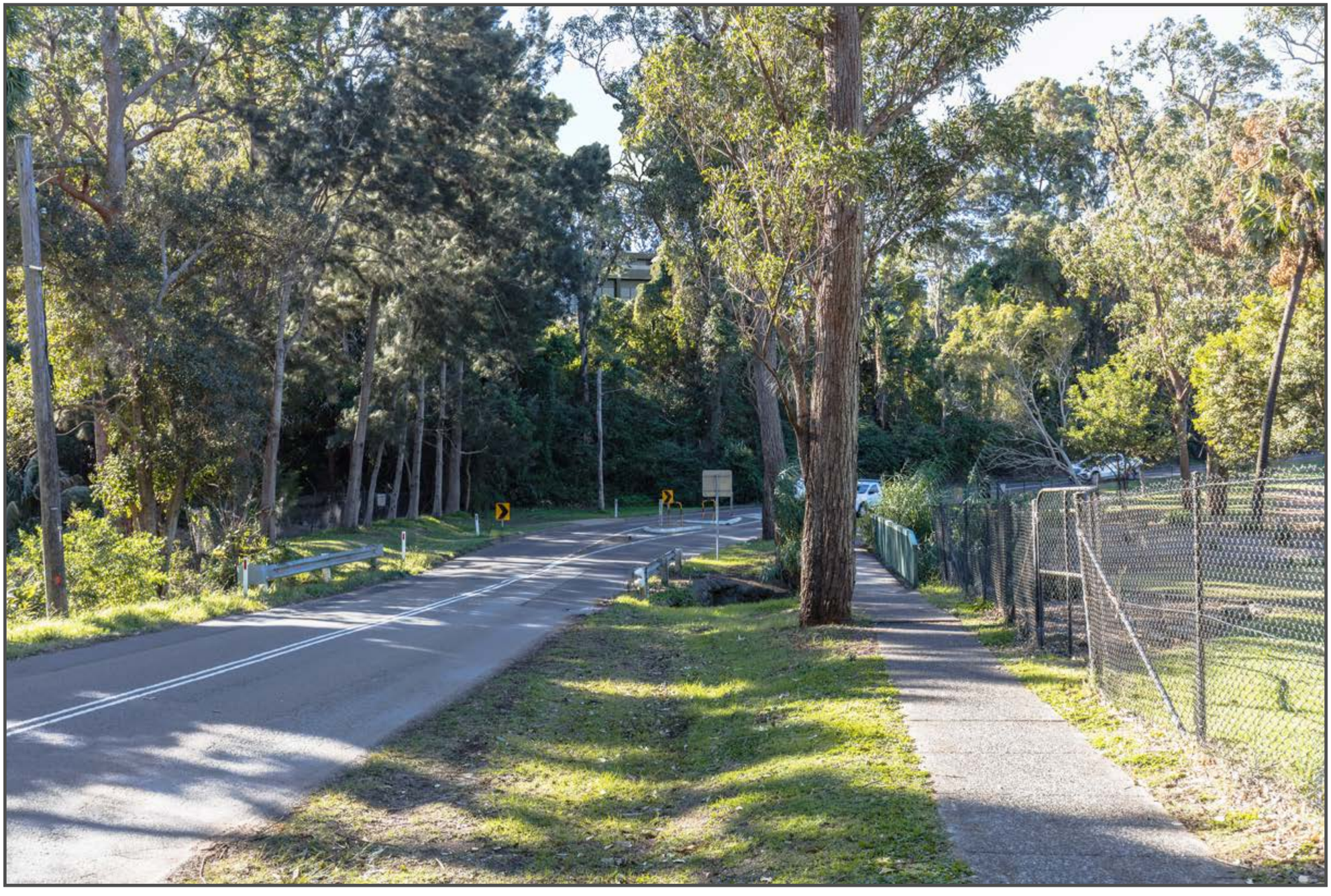
Existing photograph

Existing photograph showing surveyed alignment elements

Photomontage including proposed development




Power Pole
Power Pole
266
267



Camera Position 16 - Overview - 4 Cabbage Tree Road

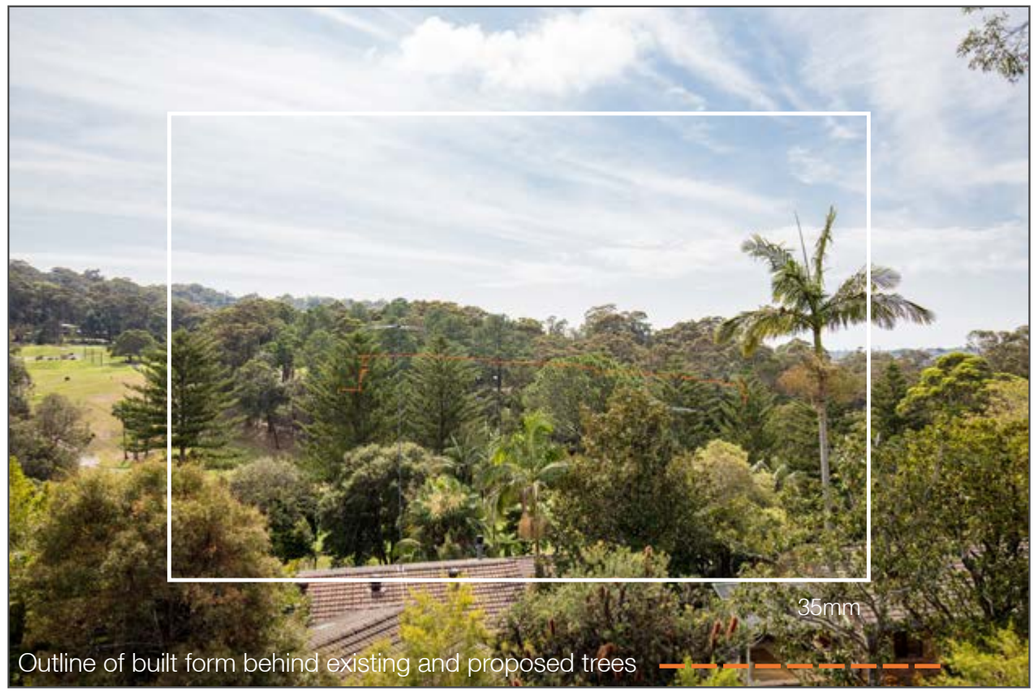
VIRTUAL IDEAS

Location map of camera position

Existing photograph

Existing photograph showing surveyed alignment elements

Photomontage including proposed development



Date of photography: 5/10/2017
Focal length of camera lens in original photograph: 24mm

*35mm crop lines have been shown to indicate field of view equivalent to other report images


35mm


29-31 Annam Rd
427
402-406

Outline of built form behind existing and proposed trees

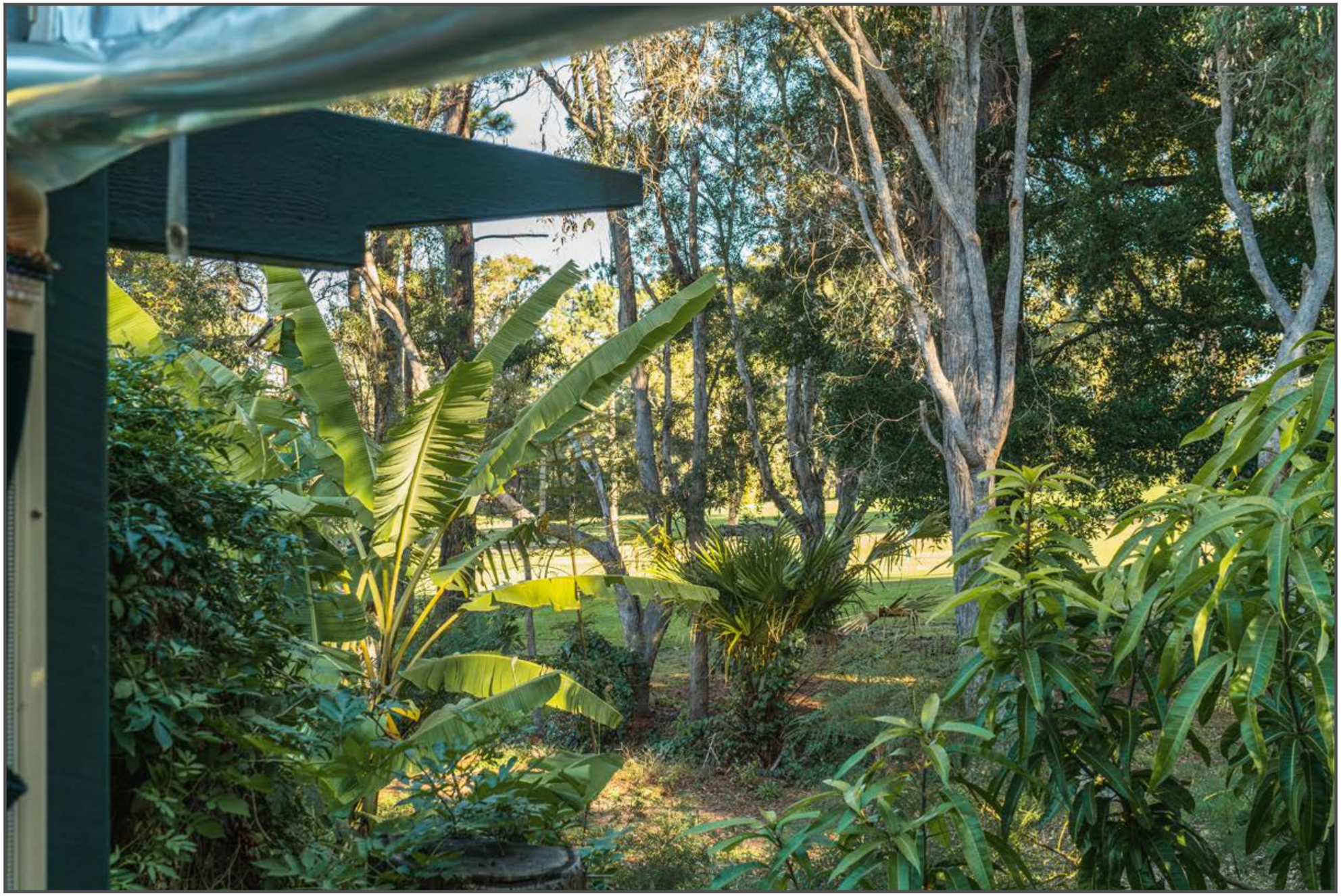
Location map of camera position

Existing photograph

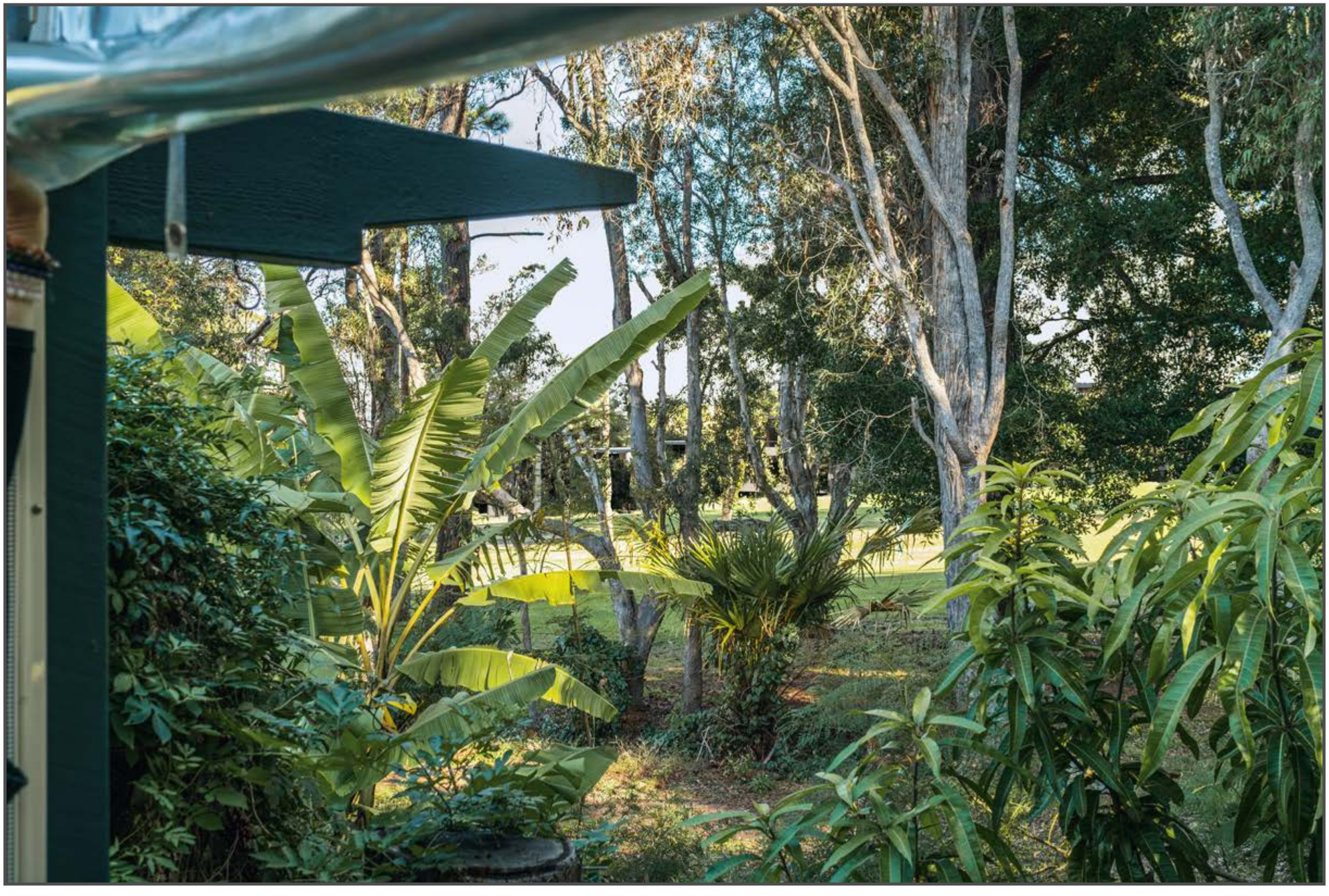
Existing photograph showing surveyed alignment elements

Photomontage including proposed development

Date of photography: 15/06/2018
Focal length of camera lens: 35mm




344
351
350



Camera Position 24 - Overview - Public Domain View

VIRTUAL IDEAS

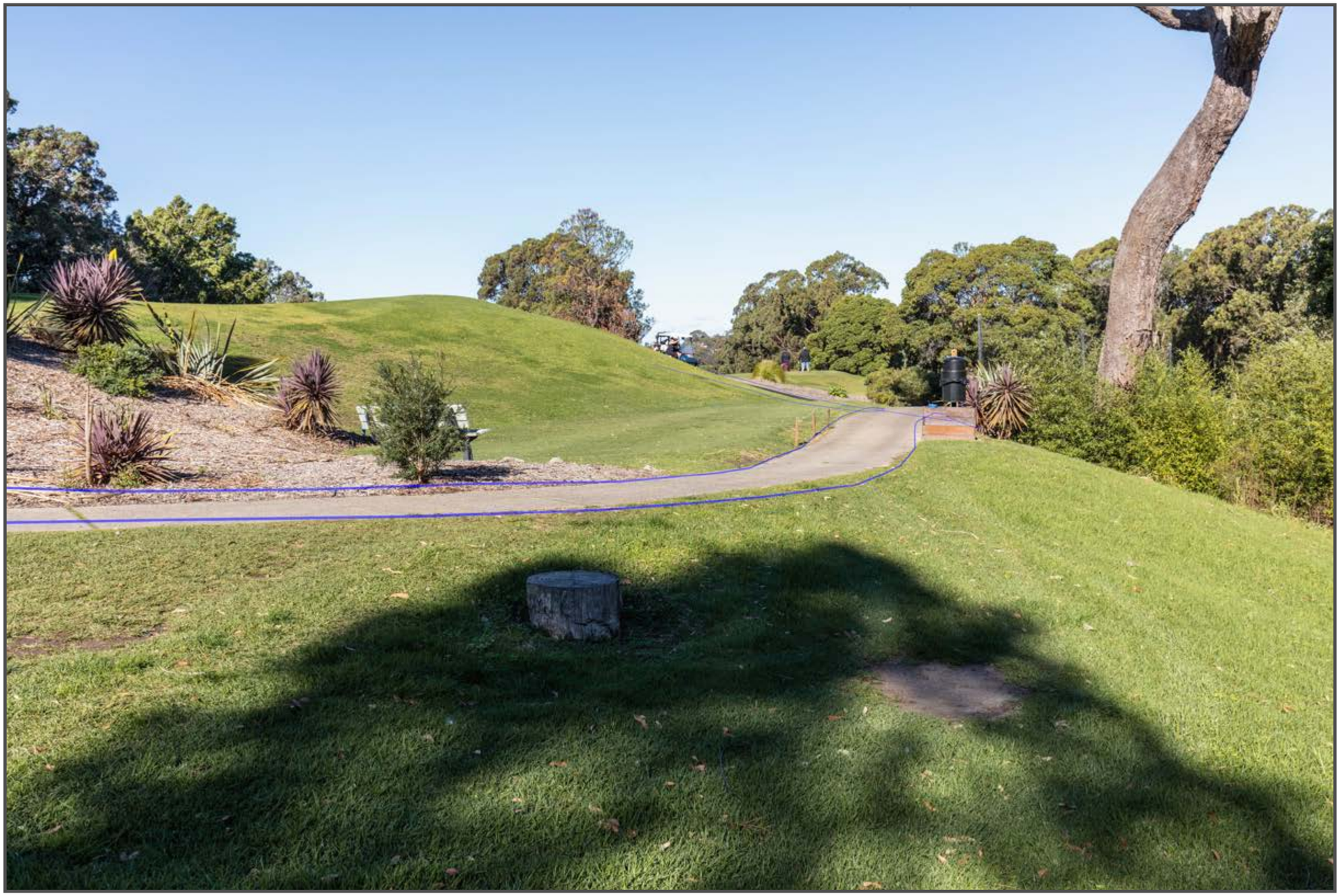
Location map of camera position

Existing photograph

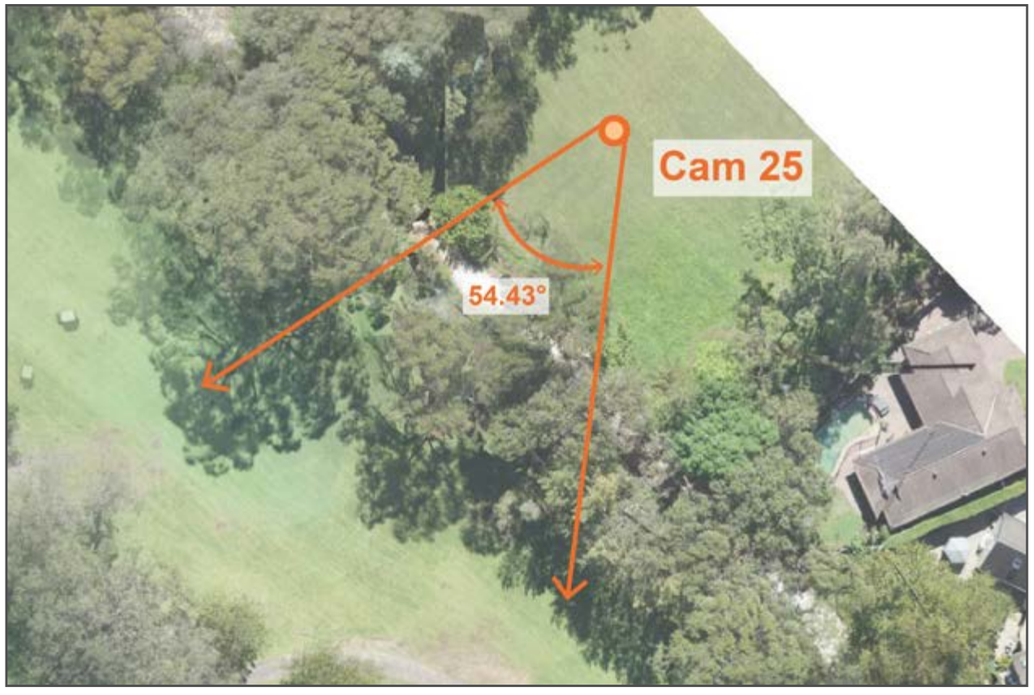
Existing photograph showing surveyed alignment elements

Photomontage including proposed development

Date of photography: 17/06/2018
Focal length of camera lens: 35mm



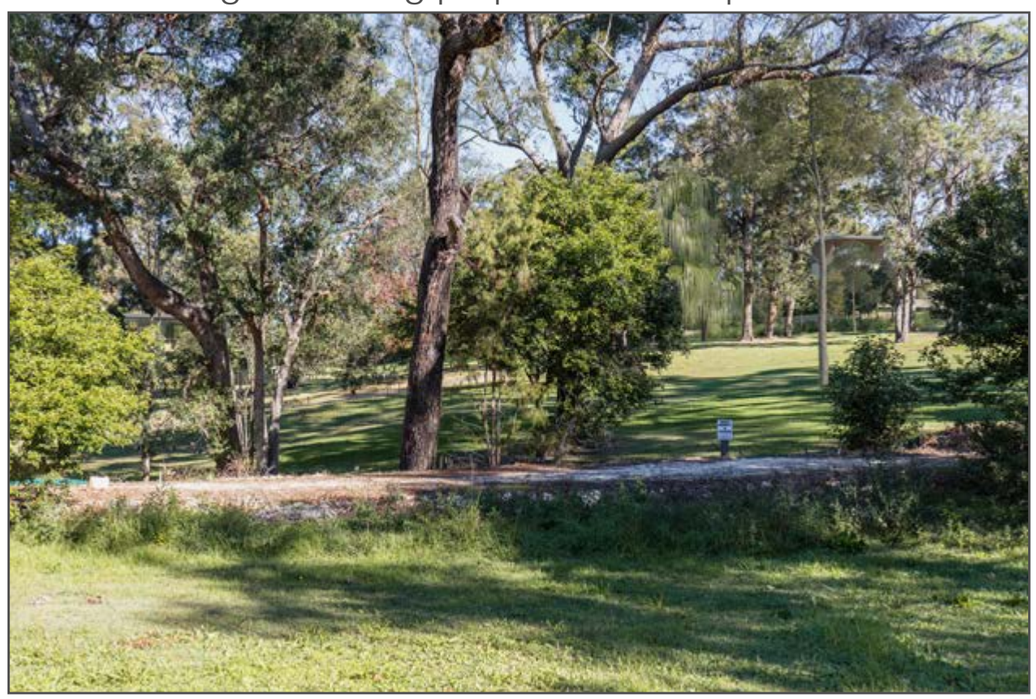
Location map of camera position

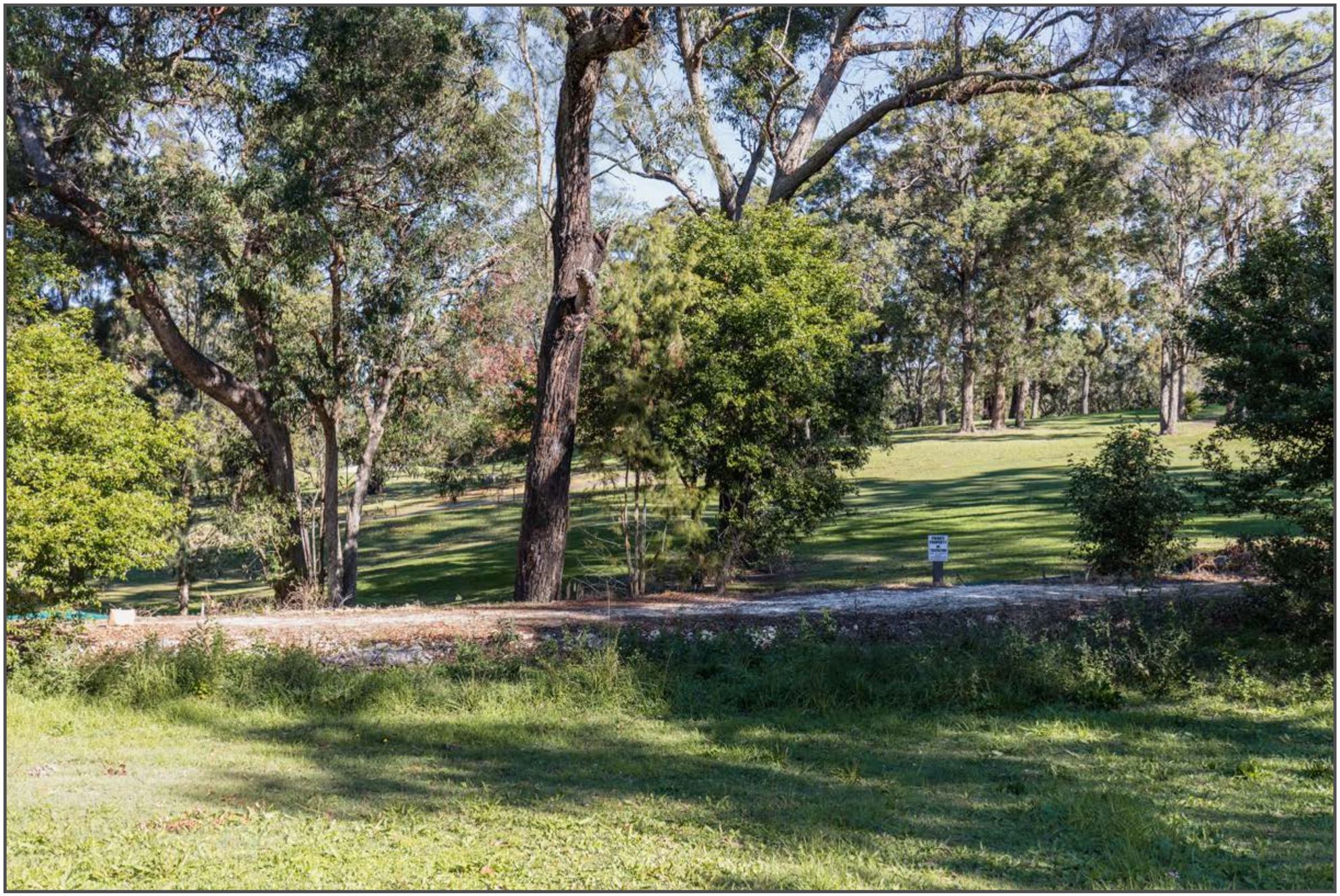


Existing photograph

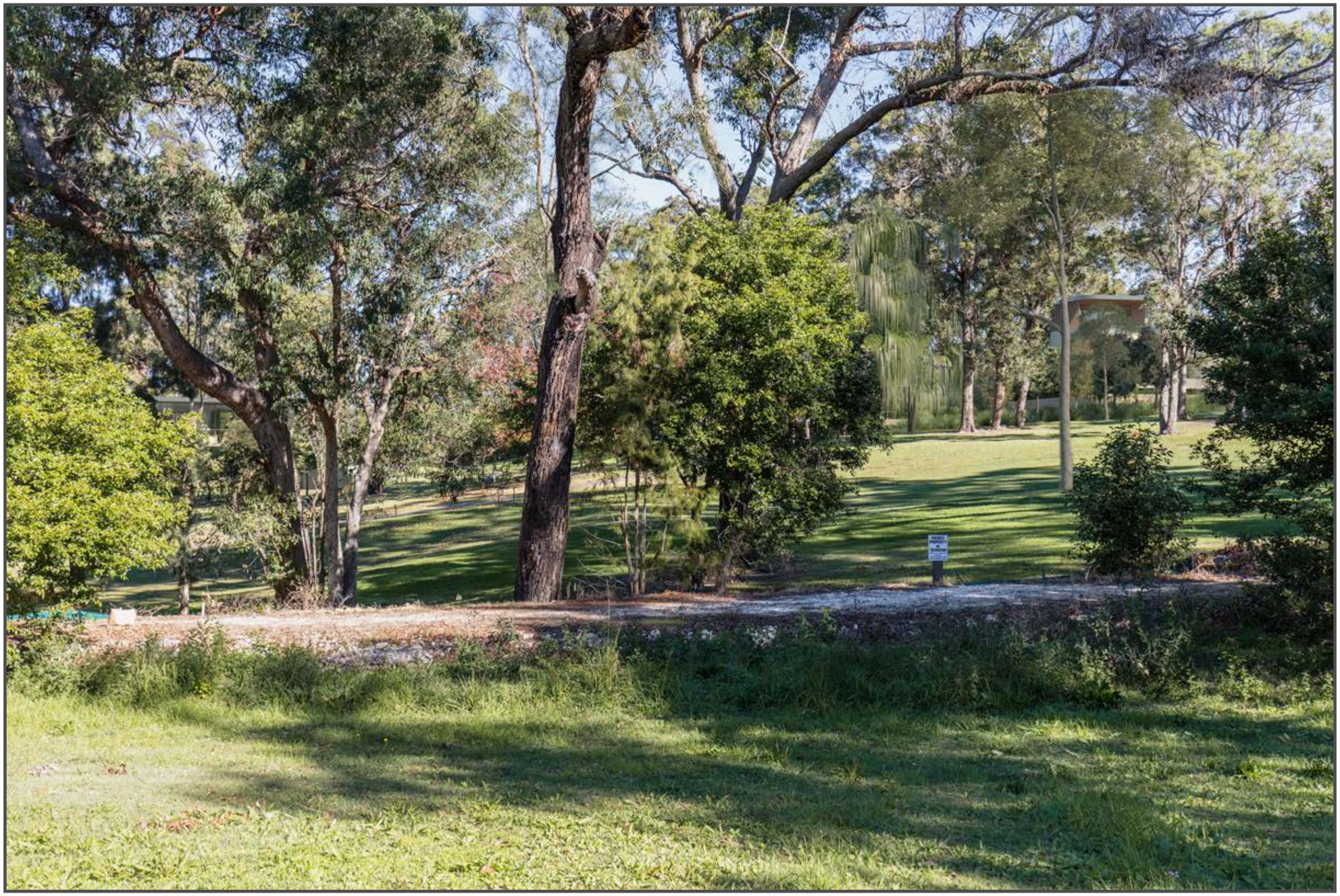
Existing photograph showing surveyed alignment elements

Photomontage including proposed development






44
332
334
337
221
222



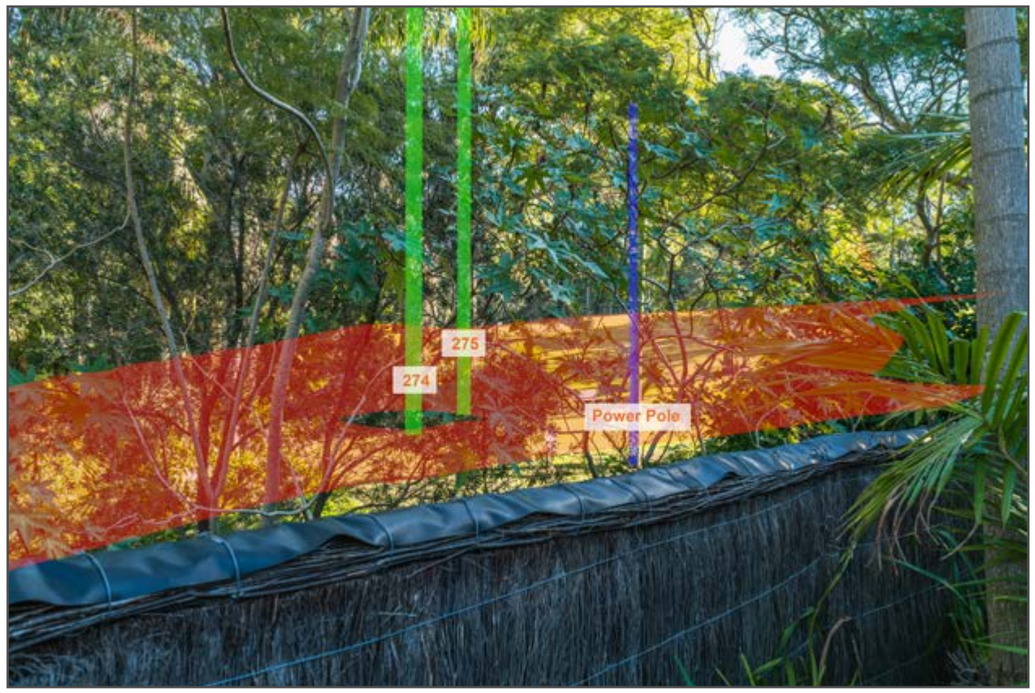
Camera Position 26 - Overview - 3 Kiah Close

VIRTUAL IDEAS

Location map of camera position

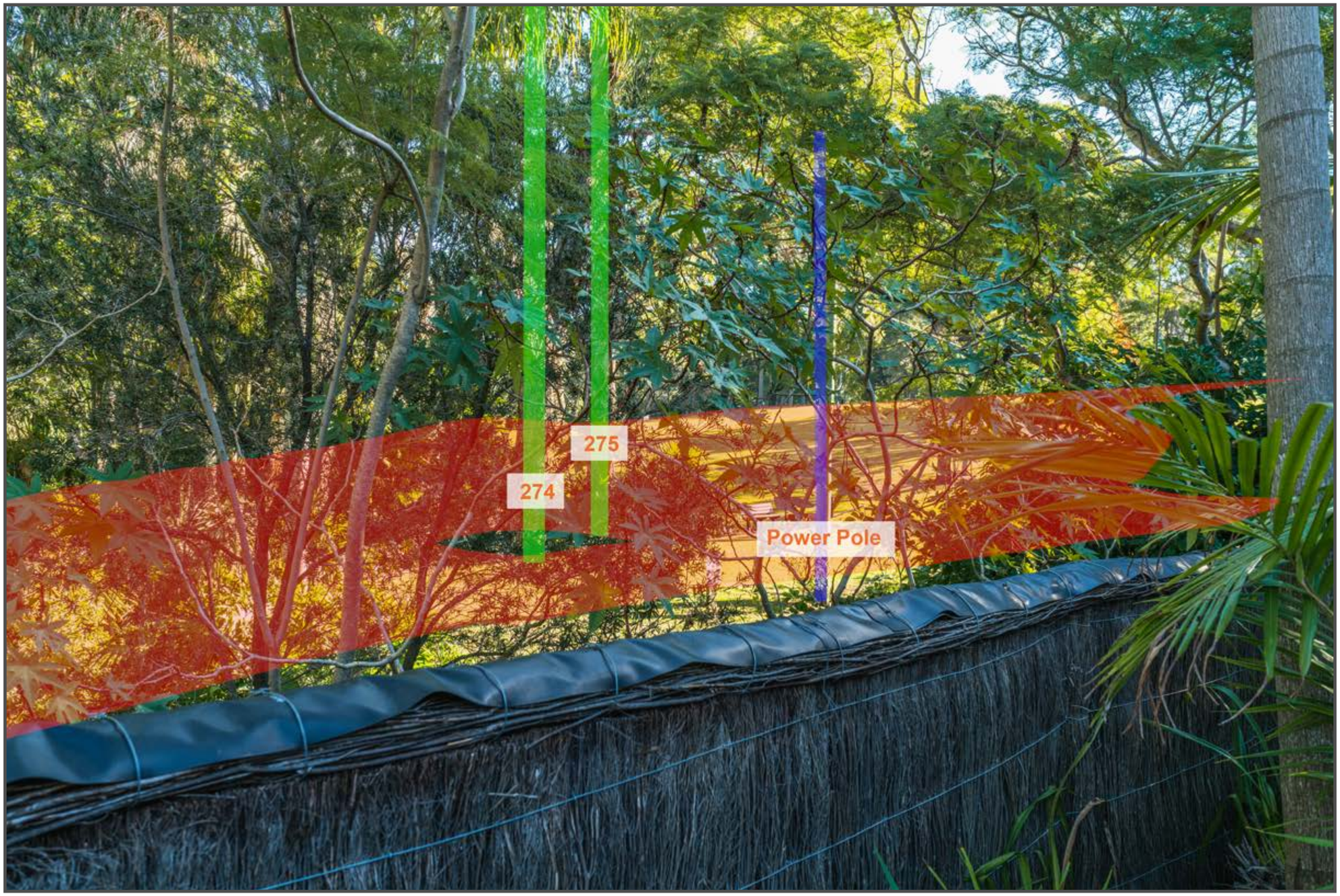
Existing photograph

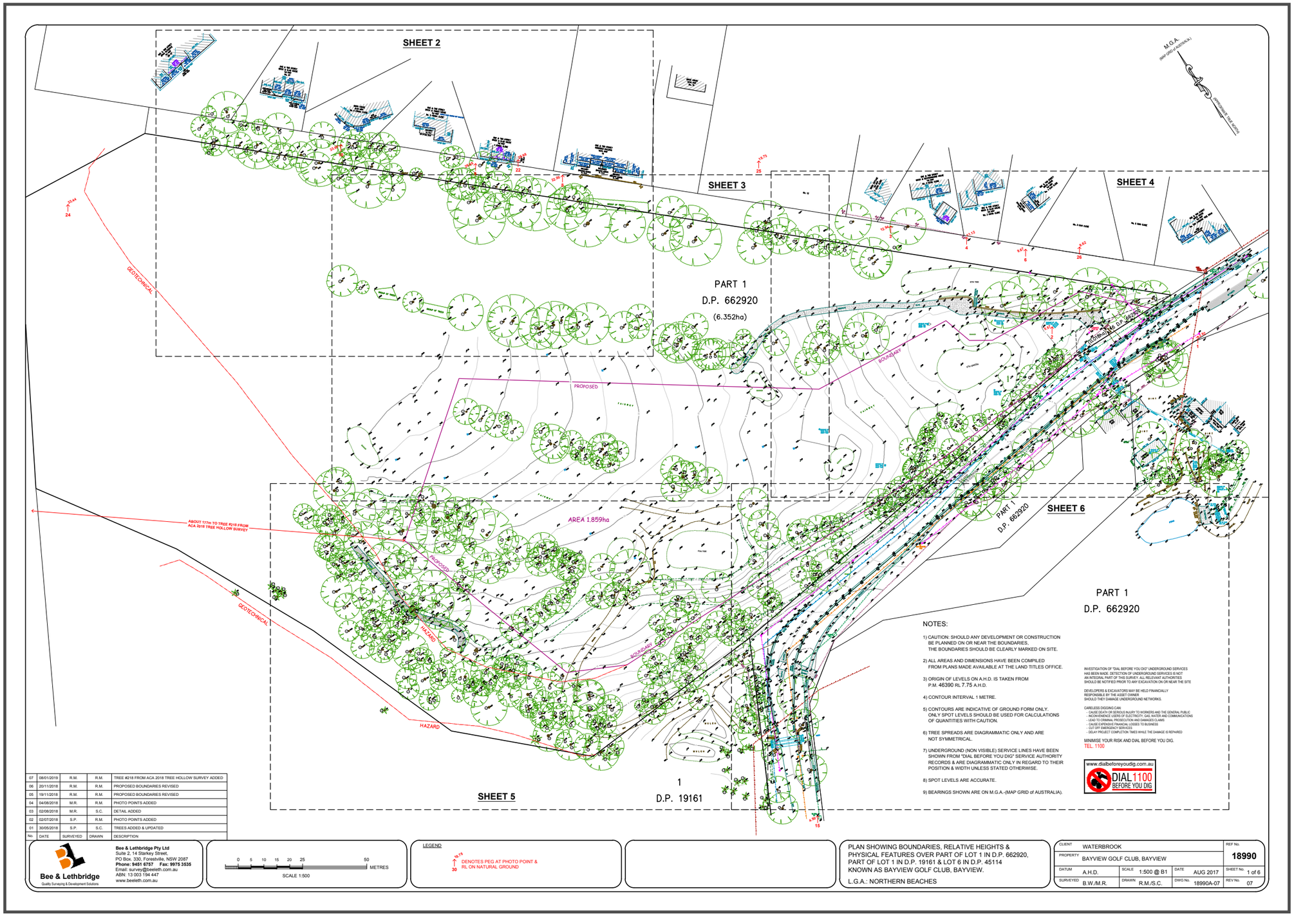
Existing photograph showing surveyed alignment elements



Photomontage including proposed development

Date of photography: 15/06/2018
Focal length of camera lens: 35mm


275
274
Power Pole



NOTES:

1) CAUTION: SHOULD ANY DEVELOPMENT OR CONSTRUCTION BE PLANNED ON OR NEAR THE BOUNDARIES, THE BOUNDARIES SHOULD BE CLEARLY MARKED ON SITE.

2) ALL AREAS AND DIMENSIONS HAVE BEEN COMPILED FROM PLANS MADE AVAILABLE AT THE LAND TITLES OFFICE.

3) ORIGIN OF LEVELS ON A.H.D. IS TAKEN FROM P.M. 46390 RL 7.75 A.H.D.

4) CONTOUR INTERVAL 1 METRE.

5) CONTOURS ARE INDICATIVE OF GROUND FORM ONLY. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.

6) TREE SPREADS ARE DIAGRAMMATIC ONLY AND ARE NOT SYMMETRICAL.

7) UNDERGROUND (NON VISIBLE) SERVICE LINES HAVE BEEN SHOWN FROM "DIAL BEFORE YOU DIG" SERVICE AUTHORITY RECORDS & ARE DIAGRAMMATIC ONLY IN REGARD TO THEIR POSITION & WIDTH UNLESS STATED OTHERWISE.

8) SPOT LEVELS ARE ACCURATE.

9) BEARINGS SHOWN ARE ON M.G.A.-(MAP GRID of AUSTRALIA).

INVESTIGATION OF "DIAL BEFORE YOU DIG" UNDERGROUND SERVICES HAS BEEN MADE. DETECTION OF UNDERGROUND SERVICES IS NOT AN INTEGRAL PART OF THIS SURVEY. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN:
- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- DISRUPT SUPPLY OF ESSENTIAL SERVICES SUCH AS ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG.
TEL. 1100

www.dialbeforeyoudig.com.au
DIAL 1100 BEFORE YOU DIG

No.	DATE	SURVEYED	DRAWN	DESCRIPTION
07	08/01/2019	R.M.	R.M.	TREE #218 FROM ACA 2018 TREE HOLLOW SURVEY ADDED
06	20/11/2018	R.M.	R.M.	PROPOSED BOUNDARIES REVISED
05	19/11/2018	R.M.	R.M.	PROPOSED BOUNDARIES REVISED
04	04/08/2018	M.R.	R.M.	PHOTO POINTS ADDED
03	02/08/2018	M.R.	S.C.	DETAIL ADDED
02	02/07/2018	S.P.	R.M.	PHOTO POINTS ADDED
01	30/05/2018	S.P.	S.C.	TREES ADDED & UPDATED

Bee & Lethbridge
Quality Surveying & Development Solutions

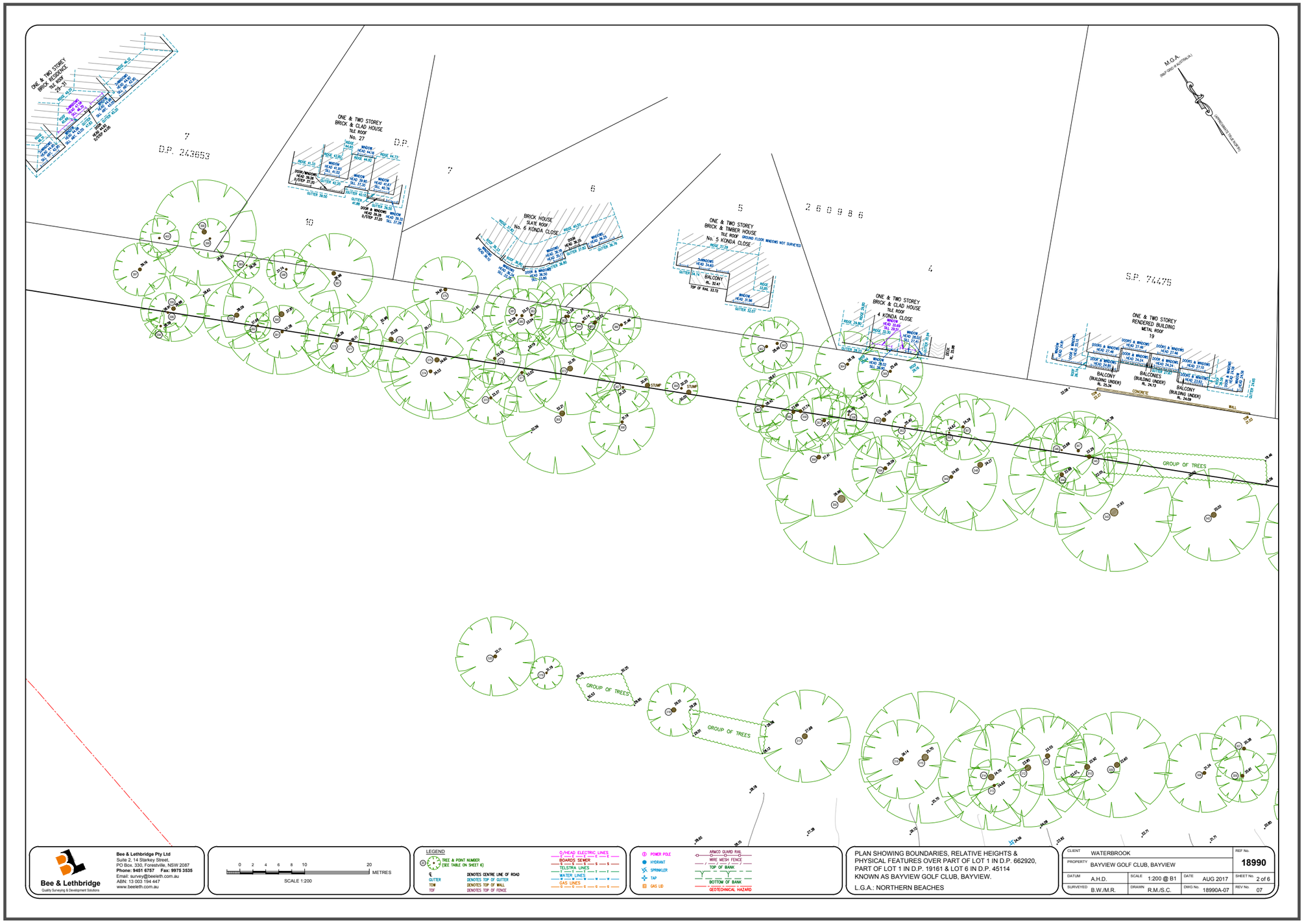
Bee & Lethbridge Pty Ltd
Suite 2, 14 Starkey Street,
PO Box. 330, Forestville, NSW 2087
Phone: 9451 6757 Fax: 9975 3535
Email: survey@beeleth.com.au
ABN: 13 003 194 447
www.beeleth.com.au

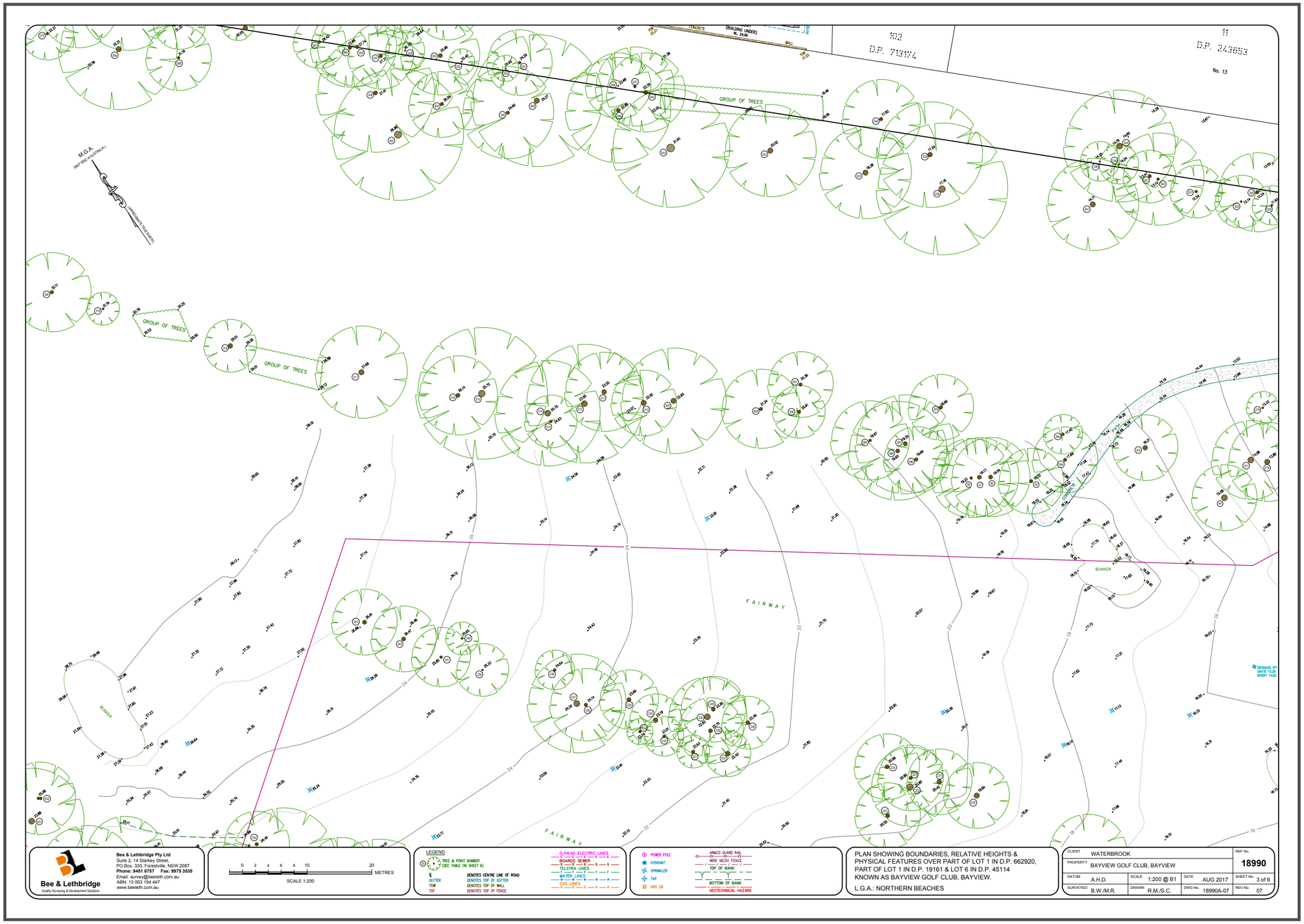
0 5 10 15 20 25 50 METRES
SCALE 1:500

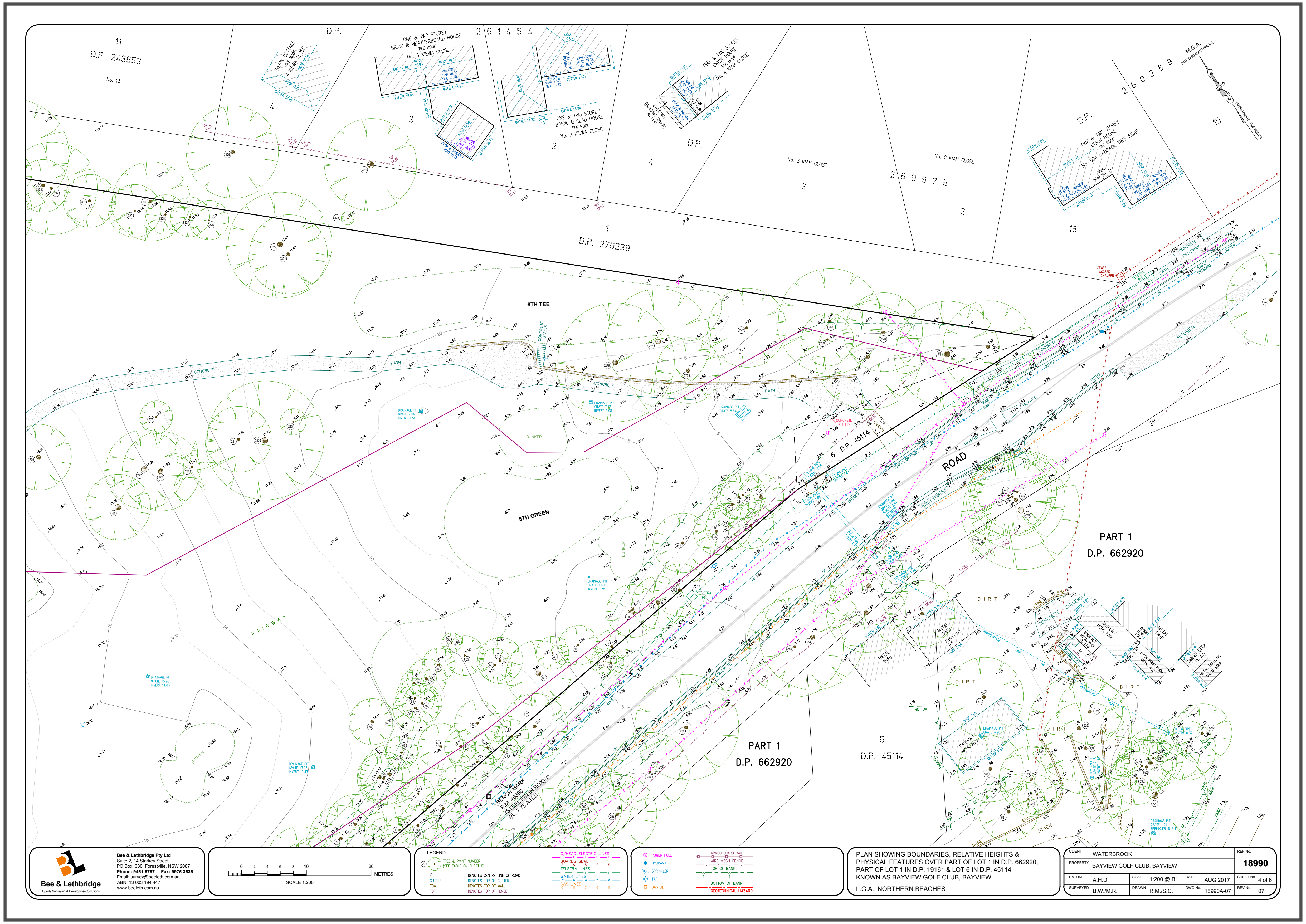
LEGEND
30 / 19.75 DENOTES PEG AT PHOTO POINT & RL ON NATURAL GROUND

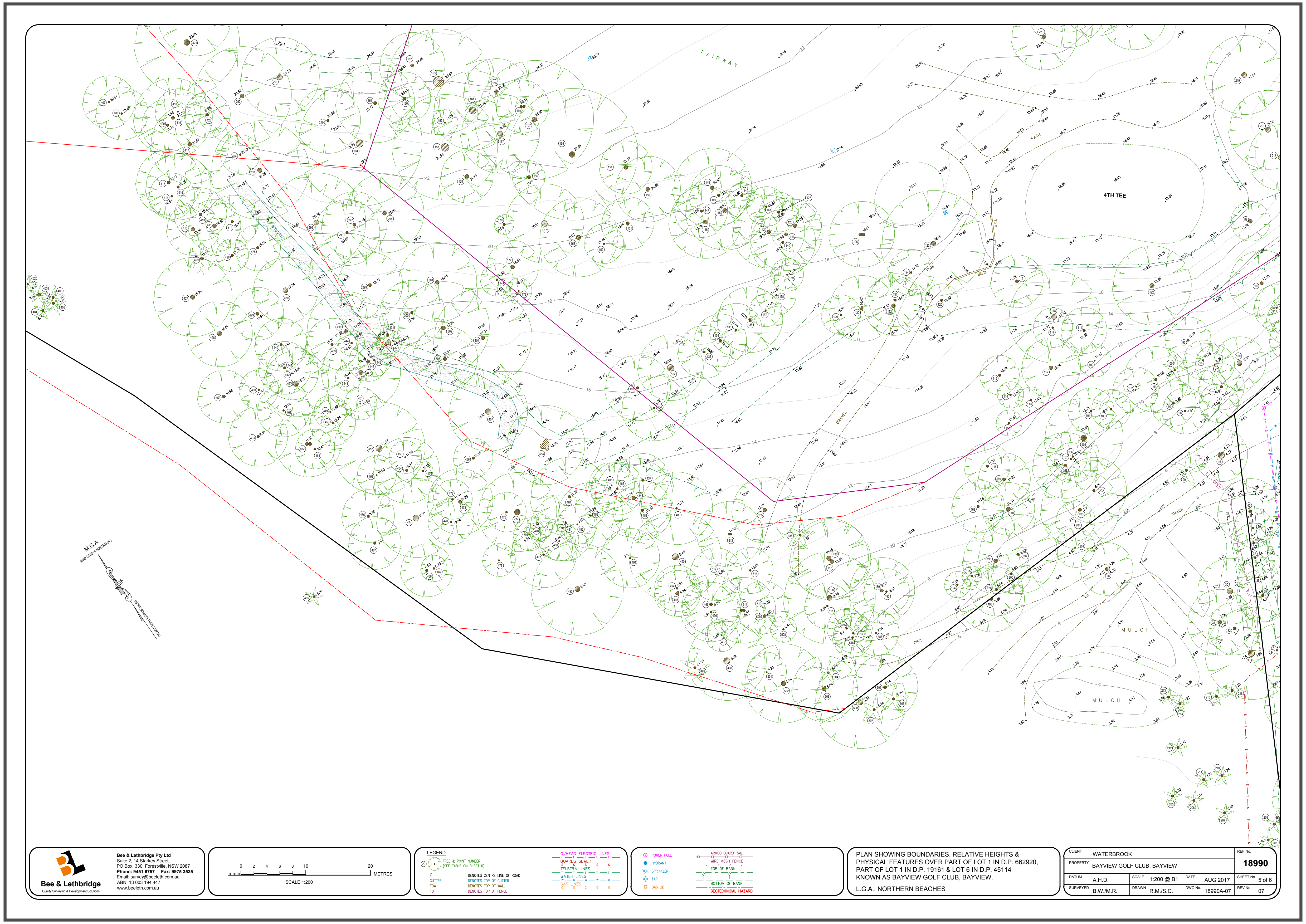
PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER PART OF LOT 1 IN D.P. 662920, PART OF LOT 1 IN D.P. 19161 & LOT 6 IN D.P. 45114 KNOWN AS BAYVIEW GOLF CLUB, BAYVIEW.
L.G.A.: NORTHERN BEACHES

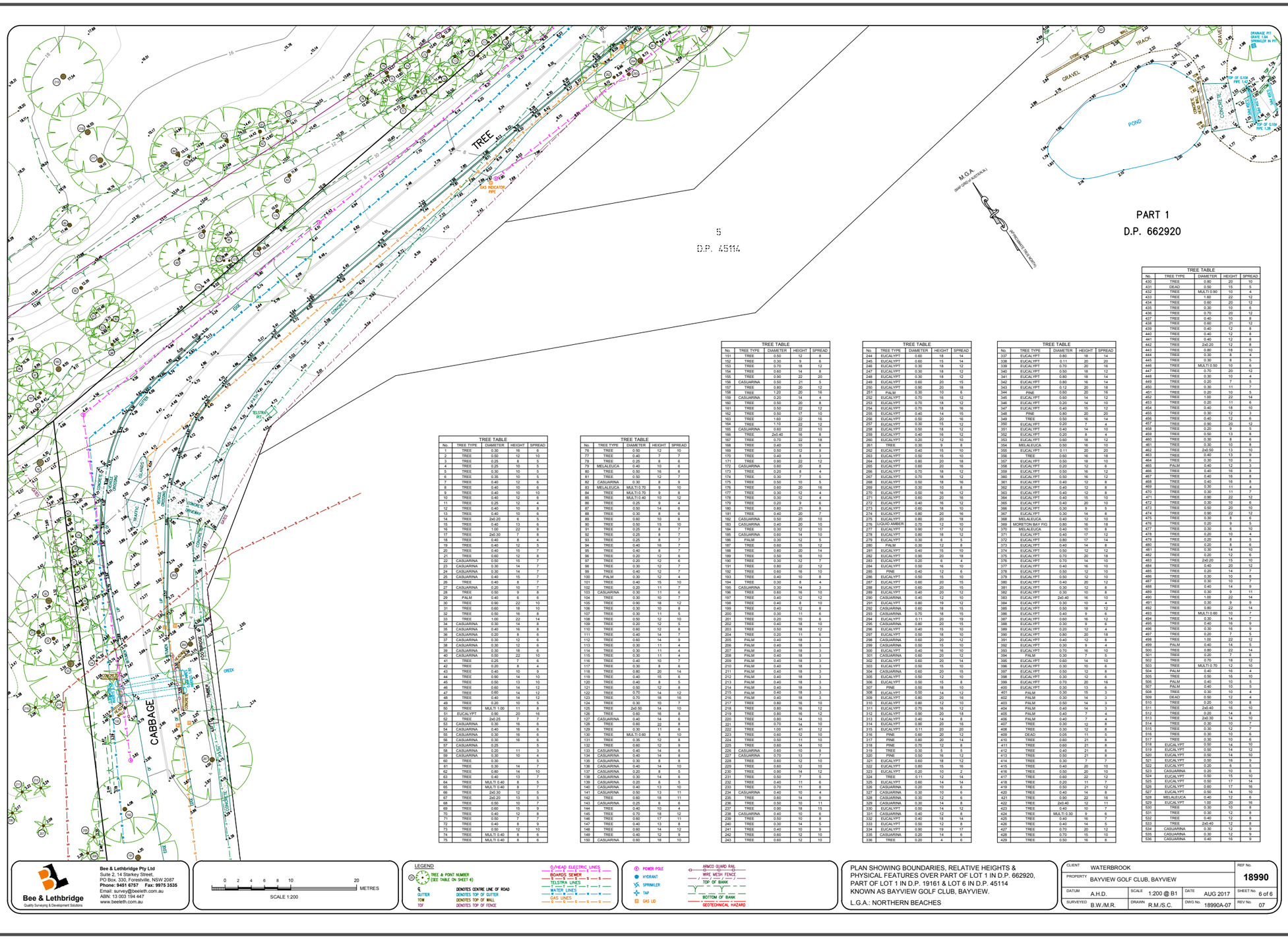
CLIENT	WATERBROOK			REF No.	18990
PROPERTY	BAYVIEW GOLF CLUB, BAYVIEW				
DATUM	A.H.D.	SCALE	1:500 @ B1	DATE	AUG 2017
SURVEYED	B.W./M.R.	DRAWN	R.M./S.C.	DWG No.	18990A-07
				SHEET No.	1 of 6
				REV No.	07


ONE & TWO STOREY BRICK RESIDENCE TILE ROOF No. 31
7
D.P. 243653
ONE & TWO STOREY BRICK & CLAD HOUSE TILE ROOF No. 27
D.P.
7
6
BRICK HOUSE SLATE ROOF No. 6 KONDA CLOSE
5
ONE & TWO STOREY BRICK & TIMBER HOUSE TILE ROOF No. 5 KONDA CLOSE GROUND FLOOR WINDOWS NOT SURVEYED
BALCONY RL. 33.47
TOP OF RAIL 33.72
2 6 0 9 8 6
4
ONE & TWO STOREY BRICK & CLAD HOUSE TILE ROOF 4 KONDA CLOSE
S.P. 74475
ONE & TWO STOREY RENDERED BUILDING METAL ROOF 19
BALCONY (BUILDING UNDER) RL. 23.24
BALCONIES (BUILDING UNDER) RL. 24.73
BALCONY (BUILDING UNDER) RL. 24.09
CONCRETE WALL
M.G.A. (MAP GRID OF AUSTRALIA)
APPROXIMATE TRUE NORTH
GROUP OF TREES
STUMP
10
Bee & Lethbridge Pty Ltd
Suite 2, 14 Starkey Street,
PO Box. 330, Forestville, NSW 2087
Phone: 9451 6757 Fax: 9975 3535
Email: survey@beeleth.com.au
ABN: 13 003 194 447
www.beeleth.com.au
Bee & Lethbridge
Quality Surveying & Development Solutions
0 2 4 6 8 10 20 METRES
SCALE 1:200
LEGEND
TREE & POINT NUMBER (SEE TABLE ON SHEET 6)
℄ DENOTES CENTRE LINE OF ROAD
GUTTER DENOTES TOP OF GUTTER
TOW DENOTES TOP OF WALL
TOF DENOTES TOP OF FENCE
O/HEAD ELECTRIC LINES
BOARDS SEWER
TELSTRA LINES
WATER LINES
GAS LINES
POWER POLE
HYDRANT
SPRINKLER
TAP
GAS LID
ARMCO GUARD RAIL
WIRE MESH FENCE
TOP OF BANK
BOTTOM OF BANK
GEOTECHNICAL HAZARD
PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER PART OF LOT 1 IN D.P. 662920, PART OF LOT 1 IN D.P. 19161 & LOT 6 IN D.P. 45114 KNOWN AS BAYVIEW GOLF CLUB, BAYVIEW.
L.G.A.: NORTHERN BEACHES
CLIENT WATERBROOK
PROPERTY BAYVIEW GOLF CLUB, BAYVIEW
REF No. 18990
DATUM A.H.D.
SCALE 1:200 @ B1
DATE AUG 2017
SHEET No. 2 of 6
SURVEYED B.W./M.R.
DRAWN R.M./S.C.
DWG No. 18990A-07
REV No. 07


102
D.P. 713174
11
D.P. 243653
No. 13
GROUP OF TREES
GROUP OF TREES
GROUP OF TREES
M.G.A.
(MAP GRID OF AUSTRALIA)
APPROXIMATE TRUE NORTH
BUNKER
BUNKER
FAIRWAY
FAIRWAY
DRAINAGE PIT
GRATE 13.28
INVERT 11.83
Bee & Lethbridge
Quality Surveying & Development Solutions
Bee & Lethbridge Pty Ltd
Suite 2, 14 Starkey Street,
PO Box 330, Forestville, NSW 2087
Phone: 9451 6757 Fax: 9975 3535
Email: survey@beeleth.com.au
ABN: 13 003 194 447
www.beeleth.com.au
0 2 4 6 8 10 20 METRES
SCALE 1:200
LEGEND
TREE & POINT NUMBER
(SEE TABLE ON SHEET 6)
DENOTES CENTRE LINE OF ROAD
GUTTER DENOTES TOP OF GUTTER
TOW DENOTES TOP OF WALL
TOF DENOTES TOP OF FENCE
O/HEAD ELECTRIC LINES
BOARDS SEWER
TELSTRA LINES
WATER LINES
GAS LINES
POWER POLE
HYDRANT
SPRINKLER
TAP
GAS LID
ARMCO GUARD RAIL
WIRE MESH FENCE
TOP OF BANK
BOTTOM OF BANK
GEOTECHNICAL HAZARD
PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS &
PHYSICAL FEATURES OVER PART OF LOT 1 IN D.P. 662920,
PART OF LOT 1 IN D.P. 19161 & LOT 6 IN D.P. 45114
KNOWN AS BAYVIEW GOLF CLUB, BAYVIEW.
L.G.A.: NORTHERN BEACHES
CLIENT WATERBROOK
PROPERTY BAYVIEW GOLF CLUB, BAYVIEW
REF No. 18990
DATUM A.H.D.
SCALE 1:200 @ B1
DATE AUG 2017
SHEET No. 3 of 6
SURVEYED B.W./M.R.
DRAWN R.M./S.C.
DWG No. 18990A-07
REV No. 07


6TH TEE
5TH GREEN
FAIRWAY
BUNKER
ROAD
PART 1
D.P. 662920
D.P. 270239
D.P. 45114
D.P. 243653
Bee & Lethbridge
Bee & Lethbridge Pty Ltd
Suite 2, 14 Starkey Street,
PO Box. 330, Forestville, NSW 2087
Phone: 9451 6757 Fax: 9975 3535
Email: survey@beeleth.com.au
ABN: 13 003 194 447
www.beeleth.com.au
SCALE 1:200
METRES
LEGEND
TREE & POINT NUMBER (SEE TABLE ON SHEET 6)
DENOTES CENTRE LINE OF ROAD
DENOTES TOP OF GUTTER
DENOTES TOP OF WALL
DENOTES TOP OF FENCE
O/HEAD ELECTRIC LINES
BOARDS SEWER
TELSTRA LINES
WATER LINES
GAS LINES
POWER POLE
HYDRANT
SPRINKLER
TAP
GAS LID
ARMCO GUARD RAIL
WIRE MESH FENCE
TOP OF BANK
BOTTOM OF BANK
GEOTECHNICAL HAZARD
PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER PART OF LOT 1 IN D.P. 662920, PART OF LOT 1 IN D.P. 19161 & LOT 6 IN D.P. 45114 KNOWN AS BAYVIEW GOLF CLUB, BAYVIEW.
L.G.A.: NORTHERN BEACHES
CLIENT WATERBROOK
PROPERTY BAYVIEW GOLF CLUB, BAYVIEW
REF No. 18990
DATUM A.H.D.
SCALE 1:200 @ B1
DATE AUG 2017
SHEET No. 4 of 6
SURVEYED B.W./M.R.
DRAWN R.M./S.C.
DWG No. 18990A-07
REV No. 07


FAIRWAY
4TH TEE
GRAVEL
MULCH
TRACK
DIRT
Bee & Lethbridge Pty Ltd
Suite 2, 14 Starkey Street,
PO Box. 330, Forestville, NSW 2087
Phone: 9451 6757 Fax: 9975 3535
Email: survey@beeleth.com.au
ABN: 13 003 194 447
www.beeleth.com.au
Bee & Lethbridge
Quality Surveying & Development Solutions
0 2 4 6 8 10 20 METRES
SCALE 1:200
LEGEND
TREE & POINT NUMBER (SEE TABLE ON SHEET 6)
DENOTES CENTRE LINE OF ROAD
GUTTER DENOTES TOP OF GUTTER
TOW DENOTES TOP OF WALL
TOF DENOTES TOP OF FENCE
O/HEAD ELECTRIC LINES
BOARDS SEWER
TELSTRA LINES
WATER LINES
GAS LINES
POWER POLE
HYDRANT
SPRINKLER
TAP
GAS LID
ARMCO GUARD RAIL
WIRE MESH FENCE
TOP OF BANK
BOTTOM OF BANK
GEOTECHNICAL HAZARD
PLAN SHOWING BOUNDARIES, RELATIVE HEIGHTS & PHYSICAL FEATURES OVER PART OF LOT 1 IN D.P. 662920, PART OF LOT 1 IN D.P. 19161 & LOT 6 IN D.P. 45114 KNOWN AS BAYVIEW GOLF CLUB, BAYVIEW.
L.G.A.: NORTHERN BEACHES
CLIENT WATERBROOK
PROPERTY BAYVIEW GOLF CLUB, BAYVIEW
REF No. 18990
DATUM A.H.D.
SCALE 1:200 @ B1
DATE AUG 2017
SHEET No. 5 of 6
SURVEYED B.W./M.R.
DRAWN R.M./S.C.
DWG No. 18990A-07
REV No. 07



TREE TABLE

No.	TREE TYPE	DIAMETER	HEIGHT	SPREAD
1	TREE	0.30	16	6
2	TREE	0.50	12	10
3	TREE	0.25	8	5
4	TREE	0.25	10	5
5	TREE	0.30	10	5
6	TREE	0.35	10	5
7	TREE	0.40	12	6
8	TREE	0.40	10	6
9	TREE	0.40	10	10
10	TREE	0.40	12	6
11	TREE	0.25	12	4
12	TREE	0.40	10	8
13	TREE	0.40	10	6
14	TREE	2x0.20	6	5
15	TREE	0.40	13	6
16	TREE	1.00	22	8
17	TREE	2x0.30	7	8
18	TREE	0.40	8	4
19	TREE	0.40	12	5
20	TREE	0.40	15	7
21	TREE	0.60	12	8
22	CASUARINA	0.50	15	7
23	CASUARINA	0.30	14	7
24	CASUARINA	0.30	14	7
25	CASUARINA	0.40	15	7
26	TREE	0.40	8	7
27	CASUARINA	0.20	10	7
28	TREE	0.50	9	8
29	PALM	0.40	6	6
30	TREE	0.60	22	10
31	TREE	0.60	18	10
32	TREE	0.50	16	8
33	CASUARINA	1.00	22	14
34	CASUARINA	0.30	14	8
35	CASUARINA	0.40	16	8
36	CASUARINA	0.20	8	6
37	CASUARINA	0.30	12	6
38	CASUARINA	0.30	12	6
39	CASUARINA	0.30	18	6
40	CASUARINA	0.50	22	10
41	TREE	0.25	7	6
42	TREE	0.20	8	4
43	TREE	0.40	10	9
44	TREE	0.60	14	10
45	TREE	0.50	13	10
46	TREE	0.60	14	12
47	TREE	0.60	14	12
48	TREE	0.40	14	12
49	TREE	0.30	10	5
50	TREE	MULTI 1.00	11	8
51	EUCALYPT	0.40	20	16
52	TREE	2x0.25	7	7
53	CASUARINA	0.30	16	6
54	CASUARINA	0.40	16	6
55	CASUARINA	0.30	16	6
56	CASUARINA	0.30	16	6
57	CASUARINA	0.25	5	
58	CASUARINA	0.20	11	3
59	CASUARINA	0.30	10	4
60	TREE	0.30	14	5
61	TREE	0.30	14	7
62	TREE	0.80	14	10
63	TREE	0.40	14	7
64	TREE	MULTI 0.40	8	5
65	TREE	MULTI 0.40	8	7
66	TREE	2x0.30	12	5
67	TREE	2x0.20	13	5
68	TREE	0.50	10	7
69	TREE	0.60	15	9
70	TREE	0.40	12	8
71	TREE	0.50	7	7
72	TREE	0.60	8	9
73	TREE	0.50	12	10
74	TREE	MULTI 0.40	8	6
75	TREE	MULTI 0.40	8	6

TREE TABLE

No.	TREE TYPE	DIAMETER	HEIGHT	SPREAD
76	TREE	0.50	12	10
77	TREE	0.40	7	7
78	TREE	0.25	8	6
79	MELALEUCA	0.40	10	6
80	TREE	0.50	16	8
81	TREE	0.50	12	7
82	CASUARINA	0.30	8	9
83	MELALEUCA	MULTI 0.70	9	10
84	TREE	MULTI 0.70	9	8
85	TREE	MULTI 0.40	10	12
86	TREE	0.25	9	4
87	TREE	0.50	14	6
88	TREE	0.30	8	6
89	TREE	0.60	10	6
90	TREE	0.50	15	10
91	TREE	0.25	8	7
92	TREE	0.25	8	7
93	TREE	0.25	8	7
94	TREE	0.40	16	7
95	TREE	0.40	8	7
96	TREE	0.20	12	6
97	TREE	0.20	12	6
98	TREE	0.30	12	7
99	TREE	0.60	12	6
100	PALM	0.30	12	4
101	TREE	0.40	15	10
102	TREE	0.20	11	7
103	CASUARINA	0.30	11	6
104	TREE	0.30	10	7
105	TREE	0.30	18	12
106	TREE	0.30	10	8
107	TREE	0.30	11	5
108	TREE	0.50	12	10
109	TREE	0.20	12	5
110	TREE	0.60	12	8
111	TREE	0.40	14	7
112	TREE	0.60	14	9
113	TREE	0.30	11	4
114	TREE	0.30	11	4
115	TREE	0.30	11	4
116	TREE	0.40	10	7
117	TREE	0.20	8	6
118	TREE	0.80	20	14
119	TREE	0.40	15	6
120	TREE	0.40	8	5
121	TREE	0.50	12	8
122	TREE	0.70	14	12
123	TREE	0.70	18	16
124	TREE	0.30	10	7
125	TREE	2x0.50	14	10
126	TREE	0.60	16	8
127	CASUARINA	0.40	14	6
128	TREE	0.60	22	8
129	TREE	0.30	11	5
130	TREE	MULTI 0.60	8	10
131	TREE	0.35	12	8
132	TREE	0.60	12	9
133	CASUARINA	0.40	14	8
134	CASUARINA	0.40	14	8
135	CASUARINA	0.30	8	8
136	CASUARINA	0.30	14	10
137	CASUARINA	0.20	8	5
138	CASUARINA	0.30	14	6
139	CASUARINA	0.20	6	5
140	CASUARINA	0.40	13	10
141	CASUARINA	0.50	13	11
142	TREE	0.60	18	11
143	CASUARINA	0.25	6	6
144	TREE	0.40	10	4
145	TREE	0.70	18	12
146	TREE	0.60	17	11
147	TREE	0.40	13	8
148	TREE	0.60	14	12
149	TREE	0.60	12	9
150	CASUARINA	0.60	18	10

TREE TABLE

No.	TREE TYPE	DIAMETER	HEIGHT	SPREAD
151	TREE	0.50	12	8
152	TREE	0.30	9	6
153	TREE	0.70	18	12
154	TREE	0.60	14	8
155	TREE	0.50	22	20
156	CASUARINA	0.50	21	5
157	TREE	0.80	20	12
158	TREE	1.20	20	16
159	CASUARINA	0.20	14	4
160	TREE	0.50	20	8
161	TREE	0.50	22	12
162	TREE	0.50	17	10
163	TREE	1.60	22	16
164	TREE	1.10	22	12
165	CASUARINA	0.60	22	10
166	TREE	2x0.40	16	8
167	TREE	0.70	22	18
168	MELICOCA	0.40	10	8
169	TREE	0.50	12	8
170	TREE	0.40	8	7
171	TREE	0.90	22	12
172	CASUARINA	0.60	20	8
173	TREE	0.20	8	4
174	TREE	0.30	7	5
175	TREE	0.50	10	5
176	TREE	0.60	20	16
177	TREE	0.30	12	4
178	TREE	0.30	12	4
179	TREE	0.20	9	6
180	TREE	0.60	21	8
181	TREE	0.40	20	7
182	CASUARINA	0.60	20	10
183	CASUARINA	0.40	20	10
184	TREE	0.30	12	10
185	CASUARINA	0.60	14	10
186	PALM	0.30	12	5
187	TREE	0.40	16	12
188	TREE	0.80	20	14
189	TREE	0.50	16	10
190	TREE	0.30	12	7
191	TREE	0.80	22	12
192	TREE	0.60	16	10
193	TREE	0.40	10	8
194	TREE	0.30	8	4
195	CASUARINA	0.30	14	3
196	TREE	0.60	16	10
197	TREE	0.40	12	12
198	TREE	0.40	8	10
199	TREE	0.40	12	8
200	TREE	0.30	11	6
201	TREE	0.50	12	10
202	TREE	0.40	18	10
203	TREE	0.60	18	12
204	TREE	0.20	11	6
205	PALM	0.40	18	3
206	PALM	0.40	18	3
207	PALM	0.40	18	3
208	PALM	0.40	18	3
209	PALM	0.40	18	3
210	PALM	0.40	18	3
211	PALM	0.40	18	3
212	PALM	0.40	18	3
213	PALM	0.40	18	3
214	PALM	0.40	18	3
215	PALM	0.40	18	3
216	PALM	0.40	18	3
217	TREE	0.60	16	10
218	TREE	0.80	16	12
219	TREE	0.80	16	12
220	TREE	0.80	14	10
221	TREE	0.70	14	10
222	TREE	1.00	41	12
223	TREE	0.60	12	10
224	TREE	0.60	11	10
225	TREE	0.60	14	10
226	CASUARINA	0.60	10	8
227	CASUARINA	0.70	13	7
228	TREE	0.60	12	10
229	TREE	0.60	12	10
230	TREE	0.90	14	12
231	TREE	0.50	7	5
232	TREE	0.40	11	6
233	TREE	0.70	11	8
234	CASUARINA	0.40	10	4
235	TREE	0.60	14	9
236	TREE	0.50	10	11
237	TREE	0.90	18	15
238	CASUARINA	0.70	18	12
239	TREE	0.50	10	8
240	TREE	0.30	14	5
241	TREE	0.40	10	9
242	TREE	0.60	12	10
243	TREE	0.60	12	10

TREE TABLE

No.	TREE TYPE	DIAMETER	HEIGHT	SPREAD
244	EUCALYPT	0.60	18	14
245	EUCALYPT	0.60	15	14
246	EUCALYPT	0.30	18	12
247	EUCALYPT	0.30	18	12
248	EUCALYPT	0.30	18	12
249	EUCALYPT	0.60	20	16
250	EUCALYPT	0.90	20	18
251	PALM	0.30	10	6
252	EUCALYPT	0.70	16	12
253	EUCALYPT	0.70	18	12
254	EUCALYPT	0.70	18	16
255	EUCALYPT	0.40	14	15
256	EUCALYPT	0.50	20	16
257	EUCALYPT	0.30	15	12
258	EUCALYPT	0.50	18	12
259	EUCALYPT	0.40	16	12
260	EUCALYPT	0.20	12	10
261	TREE	0.30	9	8
262	EUCALYPT	0.40	15	10
263	EUCALYPT	0.60	16	10
264	EUCALYPT	0.80	20	18
265	EUCALYPT	0.60	20	16
266	EUCALYPT	0.70	18	12
267	EUCALYPT	0.70	18	12
268	EUCALYPT	0.50	18	16
269	EUCALYPT	0.30	10	8
270	EUCALYPT	0.30	16	12
271	EUCALYPT	0.60	20	16
272	EUCALYPT	0.40	16	12
273	EUCALYPT	0.60	18	10
274	EUCALYPT	0.80	20	16
275	EUCALYPT	0.80	20	18
276	LIQUID AMBER	0.70	12	10
277	EUCALYPT	0.90	17	12
278	EUCALYPT	0.80	18	12
279	EUCALYPT	0.30	6	5
280	PALM	0.30	12	8
281	EUCALYPT	0.40	15	10
282	EUCALYPT	0.80	20	18
283	EUCALYPT	0.20	6	4
284	EUCALYPT	0.60	16	10
285	PINE	0.40	12	6
286	EUCALYPT	0.50	15	10
287	EUCALYPT	0.60	20	15
288	EUCALYPT	0.60	20	15
289	EUCALYPT	0.40	20	12
290	CASUARINA	0.40	12	10
291	EUCALYPT	0.80	18	12
292	CASUARINA	0.60	18	15
293	CASUARINA	0.70	18	15
294	EUCALYPT	0.11	20	16
295	CASUARINA	0.80	20	15
296	EUCALYPT	0.40	15	10
297	EUCALYPT	0.50	18	10
298	CASUARINA	0.60	20	12
299	CASUARINA	0.50	15	10
300	EUCALYPT	0.40	16	10
301	CASUARINA	0.60	20	12
302	EUCALYPT	0.60	20	14
303	EUCALYPT	0.50	15	10
304	CASUARINA	0.60	20	15
305	EUCALYPT	0.50	12	10
306	EUCALYPT	0.50	15	8
307	PINE	0.50	18	10
308	EUCALYPT	0.50	14	12
309	EUCALYPT	0.80	20	16
310	EUCALYPT	0.80	12	10
311	EUCALYPT	0.70	16	12
312	EUCALYPT	0.90	20	18
313	EUCALYPT	0.40	14	8
314	EUCALYPT	0.60	20	16
315	EUCALYPT	0.11	20	20
316	PINE	0.60	20	12
317	PINE	0.80	20	14
318	PINE	0.70	12	8
319	TREE	0.30	5	5
320	PINE	0.50	16	12
321	EUCALYPT	0.60	18	12
322	EUCALYPT	0.80	15	16
323	EUCALYPT	0.20	10	2
324	TREE	0.11	12	14
325	EUCALYPT	0.60	14	14
326	CASUARINA	0.20	10	6
327	CASUARINA	0.30	10	6
328	CASUARINA	0.30	12	6
329	CASUARINA	0.30	14	8
330	EUCALYPT	0.50	14	12
331	CASUARINA	0.40	12	8
332	EUCALYPT	0.40	18	14
333	EUCALYPT	0.50	12	8
334	EUCALYPT	0.90	19	17
335	CASUARINA	0.20	14	6
336	TREE	0.20	4	6

TREE TABLE

No.	TREE TYPE	DIAMETER	HEIGHT	SPREAD
337	EUCALYPT	0.80	18	14
338	EUCALYPT	0.11	20	20
339	EUCALYPT	0.70	20	16
340	EUCALYPT	0.50	18	12
341	EUCALYPT	0.80	18	14
342	EUCALYPT	0.80	16	14
343	EUCALYPT	0.12	20	18
344	PINE	0.60	20	16
345	EUCALYPT	0.60	14	12
346	EUCALYPT	0.20	14	10
347	EUCALYPT	0.40	15	12
348	PINE	0.80	20	20
349	TREE	0.50	16	14
350	EUCALYPT	0.20	7	4
351	EUCALYPT	0.40	14	10
352	EUCALYPT	0.20	8	4
353	EUCALYPT	0.60	18	12
354	MELALEUCA	0.50	16	10
355	EUCALYPT	0.11	20	20
356	TREE	0.60	16	18
357	EUCALYPT	0.50	18	10
358	EUCALYPT	0.20	12	6
359	EUCALYPT	0.50	16	12
360	EUCALYPT	0.50	16	12
361	EUCALYPT	0.60	12	8
362	EUCALYPT	0.40	12	8
363	EUCALYPT	0.40	12	6
364	EUCALYPT	0.40	15	10
365	EUCALYPT	0.40	20	10
366	EUCALYPT	0.30	9	5
367	EUCALYPT	0.30	14	8
368	MELALEUCA	0.40	12	10
369	MORETON BAY FIG	0.80	16	18
370	MELALEUCA	0.40	10	8
371	EUCALYPT	0.40	17	14
372	EUCALYPT	0.80	17	14
373	EUCALYPT	0.40	15	8
374	EUCALYPT	0.50	12	12
375	EUCALYPT	0.70	20	18
376	EUCALYPT	0.70	14	10
377	EUCALYPT	0.40	16	10
378	EUCALYPT	0.50	12	10
379	EUCALYPT	0.50	12	10
380	EUCALYPT	0.40	20	12
381	EUCALYPT	0.30	12	8
382	EUCALYPT	0.30	10	8
383	EUCALYPT	2x0.40	16	10
384	EUCALYPT	0.30	8	4
385	EUCALYPT	0.50	18	12
386	EUCALYPT	0.40	9	6
387	EUCALYPT	0.60	16	12
388	EUCALYPT	0.30	9	6
389	EUCALYPT	0.40	12	4
390	EUCALYPT	0.80	20	18
391	EUCALYPT	0.40	12	8
392	EUCALYPT	0.30	9	4
393	EUCALYPT	0.70	16	10
394	PALM	0.30	7	5
395	EUCALYPT	0.60	14	10
396	EUCALYPT	0.30	10	6
397	EUCALYPT	0.50	12	8
398	EUCALYPT	0.30	12	6
399	EUCALYPT	0.70	20	16
400	EUCALYPT	0.30	13	6
401	PALM	0.30	15	3
402	PALM	0.30	14	3
403	PALM	0.50	14	3
404	PALM	0.40	14	3
405	PALM	0.40	7	4
406	PALM	0.40	7	4
407	TREE	0.30	12	8
408	TREE	0.30	12	8
409	DEAD	0.05	11	5
410	TREE	0.60	21	8
411	TREE	0.60	21	8
412	TREE	0.40	21	8
413	TREE	0.50	21	8
414	TREE	0.30	7	7
415	TREE	0.40	20	10
416	TREE	0.50	20	10
417	TREE	0.60	22	12
418	TREE	0.20	11	7
419	TREE	0.50	21	12
420	TREE	0.40	14	8
421	TREE	0.80	22	16
422	TREE	2x0.40	12	11
423	TREE	0.40	10	7
424	TREE	MULTI 0.30	9	6
425	TREE	0.40	16	7
426	TREE	0.40	14	5
427	TREE	0.70	20	12
428	TREE	0.70	16	10
429	TREE	0.50	16	8

TREE TABLE

No.	TREE TYPE	DIAMETER	HEIGHT	SPREAD
430	TREE	0.80	20	10
431	DEAD	0.50	15	5
432	TREE	MULTI 0.90	10	4
433	TREE	1.60	22	12
434	TREE	0.60	20	12
435	TREE	0.30	10	6
436	TREE	0.70	20	12
437	TREE	0.40	10	8
438	TREE	0.60	21	12
439	TREE	0.40	12	8
440	TREE	0.40	12	8
441	TREE	0.40	12	8
442	TREE	2x0.20	12	8
443	TREE	0.80	18	10
444	TREE	0.30	8	4
445	TREE	0.30	8	5
446	TREE	MULTI 0.50	10	6
447	TREE	0.70	20	12
448	TREE	0.30	10	4
449	TREE	0.20	7	5
450	TREE	0.30	11	7
451	TREE	0.20	10	6
452	TREE	1.00	22	14
453	TREE	0.20	11	6
454	TREE	0.40	18	10
455	TREE	0.30	12	3
456	TREE	0.40	12	6
457	TREE	0.90	20	12
458	TREE	0.20	9	5
459	TREE	0.50	13	8
460	TREE	0.30	8	6
461	TREE	0.30	10	6
462	TREE	2x0.50	13	10
463	TREE	0.40	13	9
464	TREE	0.30	10	6
465	PALM	0.40	12	3
466	TREE	0.40	16	8
467	TREE	0.40	16	8
468	TREE	0.40	16	8
469	TREE	0.30	11	4
470	TREE	0.30	11	7
471	TREE	0.90	22	12
472	TREE	0.30	10	6
473	TREE	0.50	20	10
474	TREE	0.90	22	12
475	TREE	0.30	8	6
476	TREE	0.20	9	5
477	TREE	0.30	9	10
478	TREE	0.20	10	4
479	TREE	0.20	8	5
480	TREE	0.20	8	6
481	TREE	0.30	14	10
482	TREE	0.20	12	6
483	TREE	2x0.20	15	10
484	TREE	0.40	20	12
485	TREE	0.20	14	7
486	TREE	0.30	10	8
487	TREE	0.30	10	7
488	TREE	0.40	14	9
489	TREE	0.30	9	11
490	TREE	1.00	22	14
491	TREE	0.30	9	9
492	TREE	0.80	22	14
493	TREE	MULTI 0.60	10	7
494	TREE	0.30	14	7
495	TREE	0.40	16	9
496	TREE	0.30	14	6
497	TREE	0.20	7	5
498	TREE	1.00	22	12
499	PALM	0.40	14	5
500	TREE	0.80	22	14
501	TREE	0.20	7	6
502	TREE	0.70	18	12
503	TREE	MULTI 0.70	12	10
504	PALM	0.40	16	4
505	TREE	0.60	16	10
506	PALM	0.40	10	5
507	PALM	0.40	10	5
508	TREE	0.30	10	4
509	DEAD	0.50	12	4
510	TREE	0.20	10	8
511	TREE	2x0.40	16	10
512	TREE	0.20	14	8
513	TREE	2x0.30	14	10
514	TREE	0.30	10	7
515	TREE	0.30	12	7
516	TREE	0.30	10	6
517	PINE	0.30	10	6
518	EUCALYPT	0.50	14	10
519	EUCALYPT	0.50	14	12
520	EUCALYPT	0.50	14	10
521	EUCALYPT	0.50	16	9
522	EUCALYPT	0.20	8	5
523	CASUARINA	0.20	10	6
524	EUCALYPT	0.50	15	10
525	EUCALYPT	0.50	17	14
526	EUCALYPT	0.60	17	16
527	EUCALYPT	0.50	14	10
528	MELALEUCA	0.40	12	6
529	EUCALYPT	1.00	20	16
530	TREE	0.30	10	8
531	TREE	0.30	12	8
532	TREE	0.40	12	8
533	TREE	2x0.40	12	8
534	CASUARINA	0.30	12	9
535	CASUARINA	0.30	12	9
536	CASUARINA	0.40	16	9


Bayview Golf Course

Camera Position 1 - Original site photograph

Camera Position 1 - Comparison photo for camera position survey

Camera Position 2 - Original site photograph

Camera Position 2 - Comparison photo for camera position survey

Camera Position 4 - Original site photograph

Camera Position 4 - Comparison photo for camera position survey

Camera Position 26 - Original site photograph

Camera Position 26 - Comparison photo for camera position survey