

A Cadastre Set in Stone

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ABSTRACT

At North Ryde, in 1881-82, Mr Surveyor Charles Robert Scrivener undertook a survey within the Field of Mars Common to create 125 Portions and 51 Suburban Allotments (an area equivalent to one twelfth of the current area of Ryde!). 25 of the streets created by this survey still exist. This plan of survey was catalogued as 386.2030 in the Lands Department plan system. Like many other survey plans in this system, with the constant handling, constant notations and updating, together with material ageing, Crown Plan 386.2030 deteriorated, faded, lost information and became almost indecipherable. The current image of 386.2030 shows multiple areas of the plan have been lost and shows past attempts at stabilising the plan onto a solid backing with subsequent errors in replacement of loose pieces. The current image even shows a large black stain from an historic ink spill. This paper documents the re-creation of a disintegrating 1881 survey plan and the re-instatement of the original street pattern with reference to found original survey marks.

KEYWORDS: *Original marks, alignment, preservation, re-instatement.*

1 INTRODUCTION

At North Ryde, in 1881-1882, a Lands Department Staff Surveyor, Mr Charles Robert Scrivener, undertook a survey within the Field of Mars Common to create 125 Portions of generally 4, 5 and 6 acres each and 51 Suburban Allotments – an area equivalent to one twelfth of the current Ryde Local Government Area!

Granted by Governor King in 1804, the Field of Mars Common was an area of Crown Land that extended along the southern side of the Lane Cove River from Hunters Hill to Pennant Hills (Figure 1). In the tradition of the English Common, it was for the supplementary use of the local residents. The Common also effectively preserved much of the native bushland along the Lane Cove River and covered an area of 2,044 ha. By 1875, the Government proposed to resume the Common, with parts being sold off in order to raise moneys for the funding of infrastructure projects such as the building of the Iron Cove Bridge and Gladesville Bridge which would provide a more direct road access from Sydney Cove to the market gardens and farms of Marsfield and Ryde.

The survey plan prepared by Scrivener was catalogued in the Lands Department plan system as 386.2030 (Figure 2). The portion numbers commenced at 201 (only 150 portions had previously been created in the parish) and 25 of the streets created by this survey still exist. The purpose of this paper is to outline the re-construction of Crown Plan 386.2030 and the re-establishment of the 25 streets using original marks, as placed by Scrivener in 1881-82, and as found by City of Ryde survey team in 2016, i.e. 135 years later!

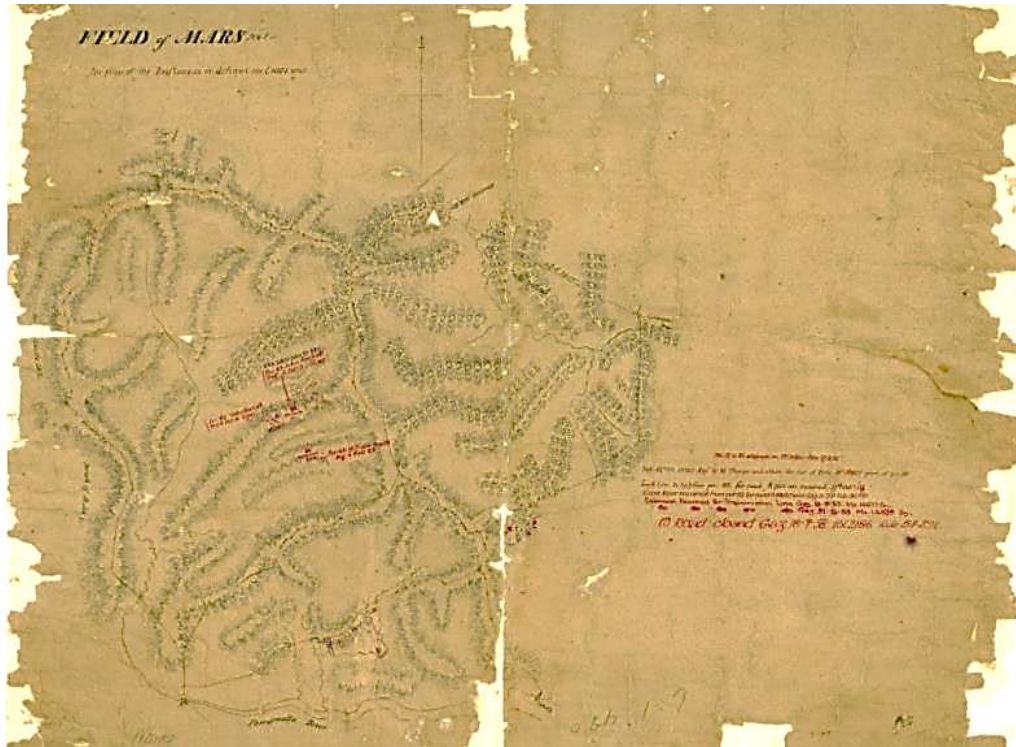


Figure 1: Crown Plan 1.480 from 1804 showing the Field of Mars.



Figure 2: Crown Plan 386.2030. Date of survey from September 1881 to May 1882.

2 RE-CONSTRUCTING CROWN PLAN 386.2030

Like many other very old survey plans in the Lands Department system, with the constant handling, constant notating and updating and material ageing, Crown Plan 386.2030 has deteriorated, faded, lost information and became almost indecipherable. These were the days before microfilming and electronic data capture! The current image of Crown Plan 386.2030 clearly shows the poor state of the plan, where multiple areas of the plan have been lost, and shows past attempts at stabilising the plan onto a solid backing; with subsequent errors in replacement of the loose pieces (Figures 3 & 4).

The current image even shows a large black stain from an historic ink spill (Figure 2) and up to seven rows missing off the bottom of six columns in the “Reference to Traverse” table (Figure 5).

One historical snippet which appears on the plan concerns the village of Marsfield. The name Marsfield was obviously concocted from Field of Mars, and a text on the plan (Figure 6) shows “Village of Marsfield” located in the place of modern-day Boronia Park shops. Marsfield is today a suburb 5 km away to the north-west.

Detail of Portion 273 (Figure 7) shows two pieces of the original plan, which have been attached to backing board in incorrect placement. Once these two pieces have been re-arranged (Figure 8), visible text is suddenly much clearer and makes sense. “John Kendall Duguid”, Portion Number followed by area and “one chain wide road”.

A notation on Crown Plan 386.2030 refers to another Crown Plan 36.2063, being “Plan of Proposed Reserves in the Field of Mars Common” (Figure 9).

This “Plan of Proposed Reserves” was carried out in 1881-1882 at the same time as Crown Plan 386.2030 and by the same surveyor. As this survey is a plan of reserves, reference to and use of the original plan has been minimal over the years, so the current quality of the original plan as well as the image from the original plan is very good. The “Reference to Traverse” table on Crown Plan 36.2063 (Figure 10) displays almost exactly the same traverse information shown on Crown Plan 386.2030, which is now lost or indecipherable (see Figure 5).

Consequently, a large part of the control for Crown Plan 386.2030 can be re-established and those missing 7 lines from the table in Figure 5 can be re-instated. However, even with the river and creek traverses known, there is little on the “Plan of Reserves” to help with the individual dimensions for individual land parcels.

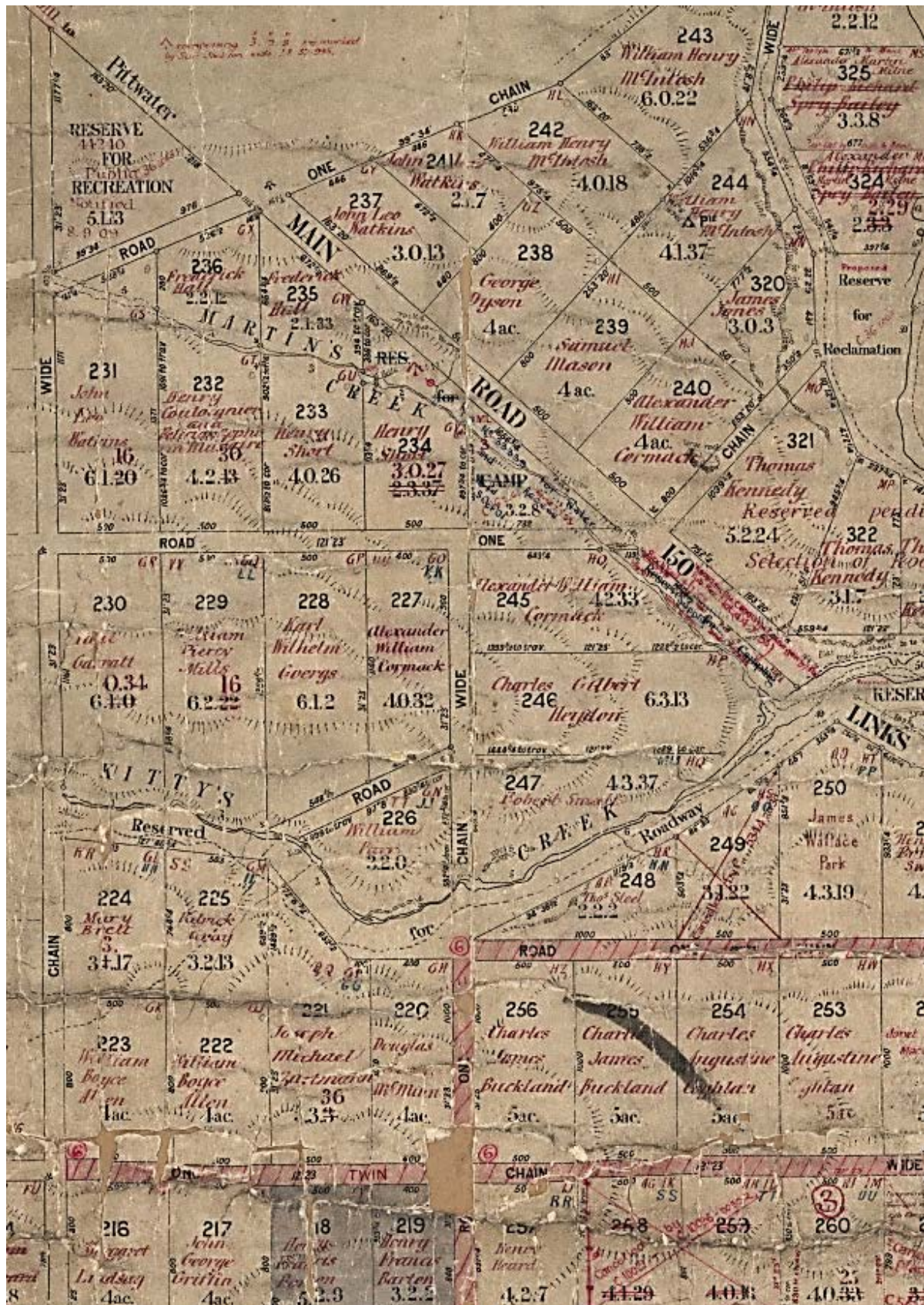


Figure 3: Part of Crown Plan 386.2030, at half scale, covering part of area of investigation.



Figure 4: Part of Crown Plan 386.2030, at half scale, covering part of area of investigation.

Reference to Traverse.

W. RAVEN (from L.)

Line	Bearing	Dist	Line	Bearing	Dist	Line	Bearing	Dist	Line	Bearing	Dist	Line	Bearing	Dist	Line	Bearing	Dist
1	119° 20'	521 1/4	24	255° 43'	106 1/4	41	1° 22'	662 1/4	1	110°	400	23	59° 42'	189 1/4			
2	112° 5 1/2'	412 1/4	25	D°	915 1/4	45	358° 1'	329	2	113° 27'	453 1/2	24	76° 59'	93 1/2			
3	149° 1/2'	1121 1/2	26	244° 33'	934	46	346° 39 1/2'	563	3	D°	534 1/2	25	76° 59'	147			
4	136° 9 1/2'	158 1/4	27	294° 14'	300 3/4	47	315° 51'	880 3/4	4	135°	463 1/2	26	54° 12 3/4'	670			
5	109° 04'	353 1/4	28	162° 10 1/2'	84 1/2	48	301° 12 1/2'	607 3/4	5	158° 14'	568	27	60° 41 1/4'	146 3/4			
6	45° 40'	606 1/4	29	337° 51'	480	49	243° 21'	253 3/4	6	168° 14'	413	28	328° 2'	203 3/4			
7	128° 53 1/2'	169 1/4	30	64° 40'	41 1/2	50	109° 43 1/2'	928	7	177° 16 1/2'	480	29	57° 15'	422 1/2			
8	349° 25'	693	31	312° 56'	551	51	211° 23'	694 1/2	8	177° 16 1/2'	480	30	57° 15'	422 1/2			
9	282° 15'	320 1/4	32	20° 15'	87 1/2	52	31° 23'	61	9	177° 16 1/2'	480	31	57° 15'	422 1/2			
10	186° 25'	147 1/2	33	127° 32'	373 1/4	53	192° 43 1/2'	207	10	177° 16 1/2'	480	32	57° 15'	422 1/2			
11	149° 25 1/2'	198 3/4	34	153° 26'	505 3/4	54	11°	21 1/2	11	177° 16 1/2'	480	33	57° 15'	422 1/2			
12	101° 20 1/2'	296 3/4	35	128° 53'	236 1/2	55	11°	25 1/2	12	177° 16 1/2'	480	34	57° 15'	422 1/2			
13	144° 48 1/4'	498 1/4	36	77° 5'	231 3/4	56	30° 25'	47 1/2	13	177° 16 1/2'	480	35	57° 15'	422 1/2			
14	126° 59'	173 1/4	37	51° 40'	65 1/2	57	31° 53'	477	14	177° 16 1/2'	480	36	57° 15'	422 1/2			
15	47° 30 1/2'	623	38	40° 7 1/2'	43 1/2	58	D°	17 1/2	15	177° 16 1/2'	480	37	57° 15'	422 1/2			
16	69° 23 1/4'	510	39	23° 21 1/2'	34	59	21° 23'	1 1/4	16	177° 16 1/2'	480	38	57° 15'	422 1/2			
17	349° 40 1/4'	435 1/4	40	305° 21'	218 1/2	60	327° 33'	506 3/4	17	177° 16 1/2'	480	39	57° 15'	422 1/2			
18	2°	177	41	23° 11'	12 1/2	61	39° 31'	175 3/4	18	177° 16 1/2'	480	40	57° 15'	422 1/2			
19	349° 16 1/2'	88	42	23° 11'	12 1/2	62	215° 22'	106 1/4	19	177° 16 1/2'	480	41	57° 15'	422 1/2			
20	349° 16 1/2'	88	43	23° 11'	12 1/2	63	215° 22'	106 1/4	20	177° 16 1/2'	480	42	57° 15'	422 1/2			
21	349° 16 1/2'	88	44	23° 11'	12 1/2	64	215° 22'	106 1/4	21	177° 16 1/2'	480	43	57° 15'	422 1/2			
22	349° 16 1/2'	88	45	23° 11'	12 1/2	65	215° 22'	106 1/4	22	177° 16 1/2'	480	44	57° 15'	422 1/2			
23	349° 16 1/2'	88	46	23° 11'	12 1/2	66	215° 22'	106 1/4	23	177° 16 1/2'	480	45	57° 15'	422 1/2			
24	349° 16 1/2'	88	47	23° 11'	12 1/2	67	215° 22'	106 1/4	24	177° 16 1/2'	480	46	57° 15'	422 1/2			
25	349° 16 1/2'	88	48	23° 11'	12 1/2	68	215° 22'	106 1/4	25	177° 16 1/2'	480	47	57° 15'	422 1/2			
26	349° 16 1/2'	88	49	23° 11'	12 1/2	69	215° 22'	106 1/4	26	177° 16 1/2'	480	48	57° 15'	422 1/2			
27	349° 16 1/2'	88	50	23° 11'	12 1/2	70	215° 22'	106 1/4	27	177° 16 1/2'	480	49	57° 15'	422 1/2			
28	349° 16 1/2'	88	51	23° 11'	12 1/2	71	215° 22'	106 1/4	28	177° 16 1/2'	480	50	57° 15'	422 1/2			
29	349° 16 1/2'	88	52	23° 11'	12 1/2	72	215° 22'	106 1/4	29	177° 16 1/2'	480	51	57° 15'	422 1/2			
30	349° 16 1/2'	88	53	23° 11'	12 1/2	73	215° 22'	106 1/4	30	177° 16 1/2'	480	52	57° 15'	422 1/2			
31	349° 16 1/2'	88	54	23° 11'	12 1/2	74	215° 22'	106 1/4	31	177° 16 1/2'	480	53	57° 15'	422 1/2			
32	349° 16 1/2'	88	55	23° 11'	12 1/2	75	215° 22'	106 1/4	32	177° 16 1/2'	480	54	57° 15'	422 1/2			
33	349° 16 1/2'	88	56	23° 11'	12 1/2	76	215° 22'	106 1/4	33	177° 16 1/2'	480	55	57° 15'	422 1/2			
34	349° 16 1/2'	88	57	23° 11'	12 1/2	77	215° 22'	106 1/4	34	177° 16 1/2'	480	56	57° 15'	422 1/2			
35	349° 16 1/2'	88	58	23° 11'	12 1/2	78	215° 22'	106 1/4	35	177° 16 1/2'	480	57	57° 15'	422 1/2			
36	349° 16 1/2'	88	59	23° 11'	12 1/2	79	215° 22'	106 1/4	36	177° 16 1/2'	480	58	57° 15'	422 1/2			
37	349° 16 1/2'	88	60	23° 11'	12 1/2	80	215° 22'	106 1/4	37	177° 16 1/2'	480	59	57° 15'	422 1/2			
38	349° 16 1/2'	88	61	23° 11'	12 1/2	81	215° 22'	106 1/4	38	177° 16 1/2'	480	60	57° 15'	422 1/2			
39	349° 16 1/2'	88	62	23° 11'	12 1/2	82	215° 22'	106 1/4	39	177° 16 1/2'	480	61	57° 15'	422 1/2			
40	349° 16 1/2'	88	63	23° 11'	12 1/2	83	215° 22'	106 1/4	40	177° 16 1/2'	480	62	57° 15'	422 1/2			
41	349° 16 1/2'	88	64	23° 11'	12 1/2	84	215° 22'	106 1/4	41	177° 16 1/2'	480	63	57° 15'	422 1/2			
42	349° 16 1/2'	88	65	23° 11'	12 1/2	85	215° 22'	106 1/4	42	177° 16 1/2'	480	64	57° 15'	422 1/2			
43	349° 16 1/2'	88	66	23° 11'	12 1/2	86	215° 22'	106 1/4	43	177° 16 1/2'	480	65	57° 15'	422 1/2			
44	349° 16 1/2'	88	67	23° 11'	12 1/2	87	215° 22'	106 1/4	44	177° 16 1/2'	480	66	57° 15'	422 1/2			
45	349° 16 1/2'	88	68	23° 11'	12 1/2	88	215° 22'	106 1/4	45	177° 16 1/2'	480	67	57° 15'	422 1/2			
46	349° 16 1/2'	88	69	23° 11'	12 1/2	89	215° 22'	106 1/4	46	177° 16 1/2'	480	68	57° 15'	422 1/2			
47	349° 16 1/2'	88	70	23° 11'	12 1/2	90	215° 22'	106 1/4	47	177° 16 1/2'	480	69	57° 15'	422 1/2			
48	349° 16 1/2'	88	71	23° 11'	12 1/2	91	215° 22'	106 1/4	48	177° 16 1/2'	480	70	57° 15'	422 1/2			
49	349° 16 1/2'	88	72	23° 11'	12 1/2	92	215° 22'	106 1/4	49	177° 16 1/2'	480	71	57° 15'	422 1/2			
50	349° 16 1/2'	88	73	23° 11'	12 1/2	93	215° 22'	106 1/4	50	177° 16 1/2'	480	72	57° 15'	422 1/2			
51	349° 16 1/2'	88	74	23° 11'	12 1/2	94	215° 22'	106 1/4	51	177° 16 1/2'	480	73	57° 15'	422 1/2			
52	349° 16 1/2'	88	75	23° 11'	12 1/2	95	215° 22'	106 1/4	52	177° 16 1/2'	480	74	57° 15'	422 1/2			
53	349° 16 1/2'	88	76	23° 11'	12 1/2	96	215° 22'	106 1/4	53	177° 16 1/2'	480	75	57° 15'	422 1/2			
54	349° 16 1/2'	88	77	23° 11'	12 1/2	97	215° 22'	106 1/4	54	177° 16 1/2'	480	76	57° 15'	422 1/2			
55	349° 16 1/2'	88	78	23° 11'	12 1/2	98	215° 22'	106 1/4	55	177° 16 1/2'	480	77	57° 15'	422 1/2			
56	349° 16 1/2'	88	79	23° 11'	12 1/2	99	215° 22'	106 1/4	56	177° 16 1/2'	480	78	57° 15'	422 1/2			
57	349° 16 1/2'	88	80	23° 11'	12 1/2	100	215° 22'	106 1/4	57	177° 16 1/2'	480	79	57° 15'	422 1/2			
58	349° 16 1/2'	88	81	23° 11'	12 1/2	101	215° 22'	106 1/4	58	177° 16 1/2'	480	80	57° 15'	422 1/2			
59	349° 16 1/2'	88	82	23° 11'	12 1/2	102	215° 22'	106 1/4	59	177° 16 1/2'	480	81	57° 15'	422 1/2			
60	349° 16 1/2'	88	83	23° 11'	12 1/2	103	215° 22'	106 1/4	60	177° 16 1/2'	480	82	57° 15'	422 1/2			
61	349° 16 1/2'	88	84	23° 11'	12 1/2	104	215° 22'	106 1/4	61	177° 16 1/2'	480	83	57° 15'	422 1/2			
62	349° 16 1/2'	88	85	23° 11'	12 1/2	105	215° 22'	106 1/4	62	177° 16 1/2'	480	84	57° 15'	422 1/2			
63	349° 16 1/2'	88	86	23° 11'	12 1/2	106	215° 22'	106 1/4	63	177° 16 1/2'	480	85	57° 15'	422 1/2			
64	349° 16 1/2'	88	87	23° 11'	12 1/2	107	215° 22'	106 1/4	64	177° 16 1/2'	480	86	57° 15'	422 1/2			
65	349° 16 1/2'	88	88	23° 11'	12 1/2	108	215° 22'	106 1/4	65	177° 16 1/2'	480	87	57° 15'	422 1/2			
66	349° 16 1/2'	88	89	23° 11'	12 1/2	109	215° 22'	106 1/4	66	177° 16 1/2'	480	88	57° 15'	422 1/2			
67	349° 16 1/2'	88	90	23° 11'	12 1/2	110	215° 22'	106 1/4	67	177° 16 1/2'	480	89	57° 15'	422 1/2			
68	349° 16 1/2'	88	91	23° 11'	12 1/2	111	215° 22'	106 1/4	68	177° 16 1/2'	480	90	57° 15'	422 1/2			
69	349° 16 1/2'	88	92	23° 11'	12 1/2	112	215° 22'	106 1/4	69	177° 16 1/2'	480	91	57° 15'	422 1/2			
70	349° 16 1/2'	88	93	23° 11'	12 1/2	113	215° 22'	106 1/4	70	177° 16 1/2'	480	92	57° 15'	422 1/2			
71	349° 16 1/2'	88	94	23° 11'	12 1/2	114	215° 22'	106 1/4	71	177° 16 1/2'	480	93	57° 15'	422 1/2			
72	349° 16 1/2'	88	95	23° 11'	12 1/2	115	215° 22'	106 1/4	72	177° 16 1/2'	480	94	57° 15'	422 1/2			
73	349° 16 1/2'	88	96	23° 11'	12 1/2	116	215° 22'	106 1/4	73	177° 16 1/2'	480	95	57° 15'	422 1/2			
74	349° 16 1/2'	88	97	23° 11'	12 1/2	117	215° 22'	106 1/4	74	177° 16 1/2'	480	96	57° 15'	422 1/2			
75	349° 16 1/2'	88	98	23° 11'	12 1/2	118	215° 22'	106 1/4	75	177° 16 1/2'	480	97	57° 15'	422 1/2			
76	349° 16 1/2'	88	99	23° 11'	12 1/2	119	215° 22'	106 1/4	76	177° 16 1/2'	480	98	57° 15'	422 1/2			
77	349° 16 1/2'	88	100	23° 11'	12 1/2	120	215° 22'	106 1/4	77	177° 16 1/2'	480	99	57° 15'	422 1/2			
78	349° 16 1/2'	88	101	23° 11'	12 1/2	121	215° 22'	106 1/4	78	17							



Figure 7: Detail showing part of plan fragments as attached by the Lands Department.

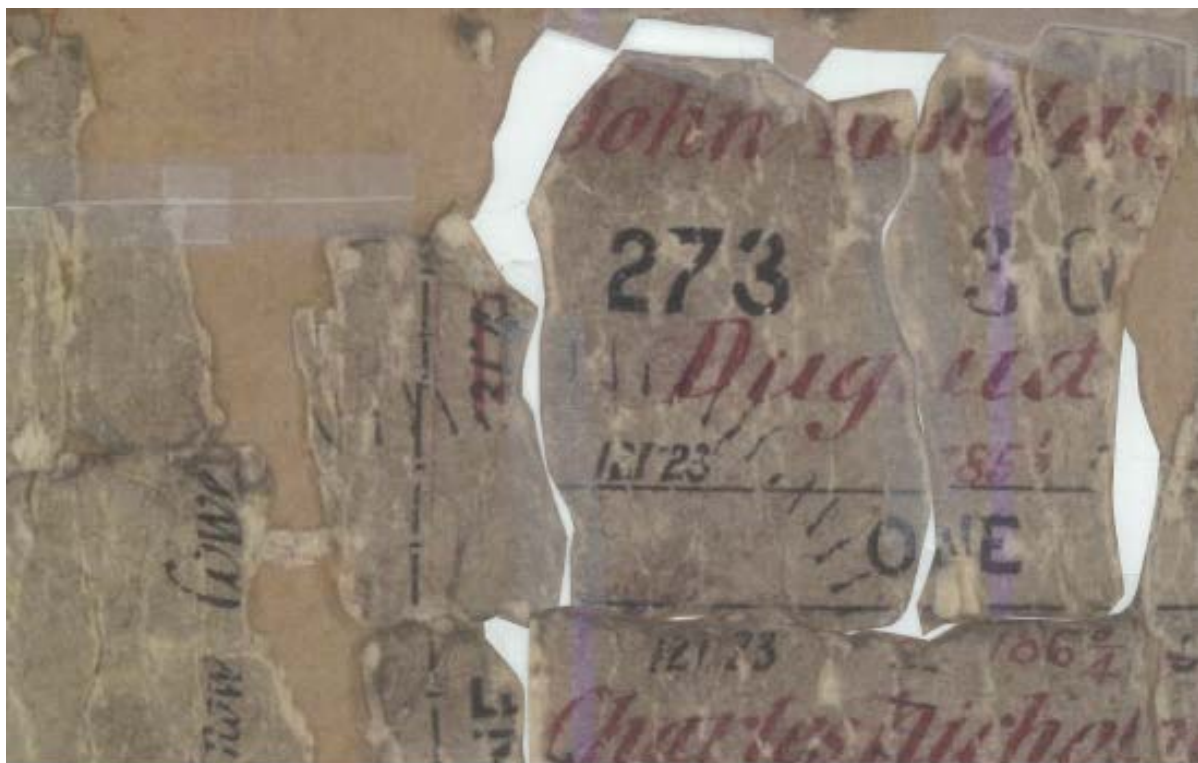


Figure 8: Detail showing the fragments restored to their correct position.



Figure 9: Crown Plan 36.2063 (1881-82) of "Proposed Reserves in the Field of Mars Common".

Line	Bearing	Distance	Line	Bearing	Distance	Line	Bearing	Distance
1	49° 40'	605 1/4	31	153° 26 3/4	599 3/4	56	39° 51'	953
2	126° 53 1/4	159 1/4	32	128° 59 1/4	256 1/2	57	322° 5'	2743 1/4
3	349° 25 3/4	52	33	77° 5'	281 3/4	58	Do.	534 1/2
4	Do.	641	34	64° 40'	365 1/2	59	99° 35'	538 1/2
5	Do.	198 3/4	35	40° 22 3/4	243 1/2	60	Do.	430 3/4
6	101° 26 1/2	295 1/2	36	23° 31 1/2	34	61	Do.	1073 1/4
7	141° 48 1/4	498 1/4	36A	306° 2 3/4	658 3/4	62	211° 23'	37 1/4
8	126° 59'	207 3/4	37	23° 31 1/2	384 1/4	63	137° 24 1/2	520
9	47° 30 1/4	623	37A	130° 53 1/2	661 1/2	64	107° 55'	514
10	69° 23 1/4	518	37B	7° 43 3/4	575	65	117° 51'	501
11	348° 40 3/4	318 1/2	37C	320° 28 1/4	721 1/2	66	Do.	Do.
12	Do.	117 1/4	38	30° 15 1/2	300	67	Do.	Do.
13	Do.	172	39	16° 52 3/4	215 1/4	68	31° 23'	129
14	349° 27 1/4	694 1/4	40	337° 17'	247 1/4	69	170° 16 3/4	460
15	326° 54 1/4	603 3/4	41	272° 25 3/4	766	70	121° 23'	410 1/2
16	343° 28 1/2	425	42	292° 59 1/4	527 1/4	70A	252° 8 3/4	177
17	359° 27 3/4	703 3/4	43	1° 23'	662 1/4	71	253° 54 3/4	163
18	284° 52 1/4	687	44	358° 1'	329	72	102° 19 1/2	314 1/2
19	305° 26 3/4	479 3/4	45	336° 59 3/4	568	73	92° 25 1/2	231 3/4
20	313° 56 1/2	653 1/2	46	316° 51 3/4	880 3/4	74	Do.	145 1/2
21	255° 4 3/4	106 1/4	47	301° 51 1/4	697 3/4	75	127° 0 1/2	376 1/4
22	Do.	122 1/4	48	343° 20'	259 3/4	76	125° 59 1/2	1 3/4
23	Do.	793	49	109° 43 1/2	928	77	54° 12 3/4	800
24	244° 33'	934	49A	211° 23'	694 1/2	78	60° 41 1/4	446 3/4
25	294° 14 1/2	300 3/4	50	109° 43 1/2	470	79	328° 22 1/4	203 3/4
26	337° 51 3/4	480	51	Do.	250 3/4	80	67° 15'	422 1/2
27	312° 56 1/2	551	52	30° 26'	476 1/4	81	89° 47 1/2	400
28	20° 15'	879 1/4	53	324° 53'	494	82	64° 58'	336
29	127° 32 1/2	76	54	211° 23'	17 1/4	83	71° 6 1/2	163 1/4
30	Do.	302 1/4	55	327° 33'	506 3/4	84	17° 28 1/2	521

Figure 10: Crown Plan 36.2063, "Reference to Traverse Table".

Further notations on Crown Plan 386.2030 refer to three other Crown Plans:

- 15.440 in November 1883, being “Plan of Survey of Field of Mars Common and Grants Adjacent Thereto” (Figure 11).
- 722.2030 in June 1885, being “Amended Subdivision of Part of Field of Mars Common Subdivision”, which creates a new road and re-configures Portions 270, 276, 277 and 278.
- R23.2113 in September 1885, being “Tracing Shewing Alignment of Field of Mars Common” (Figure 12).

Each of these plans was done by Charles Robert Scrivener. So, all of the relevant survey work done in this area between 1881 and 1885 was carried out by the one surveyor.

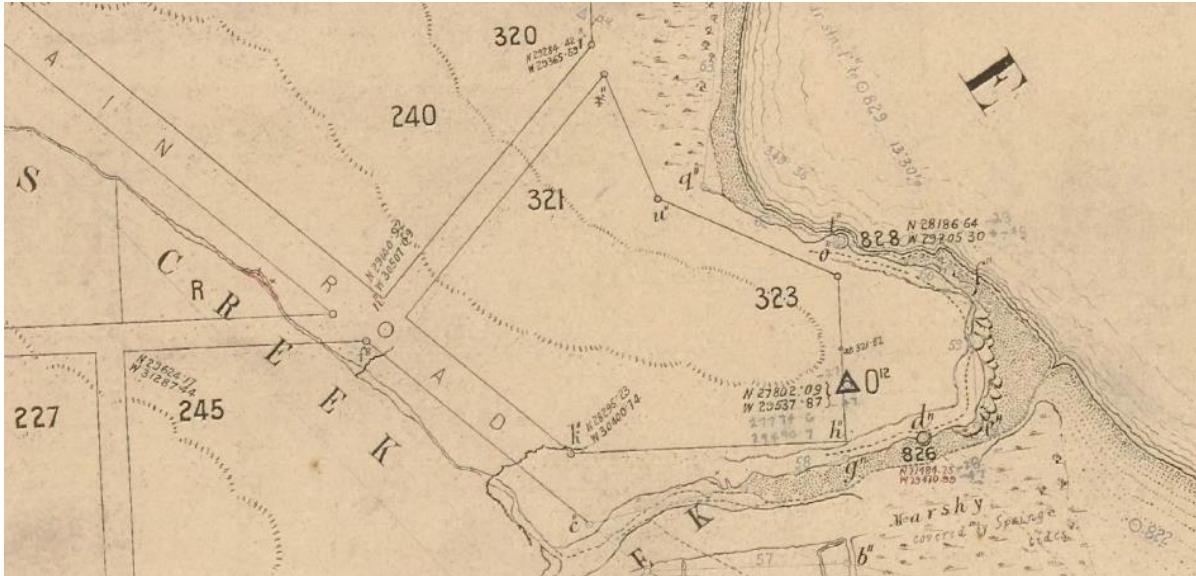


Figure 11: Detail from Crown Plan 15.440 of 1883.

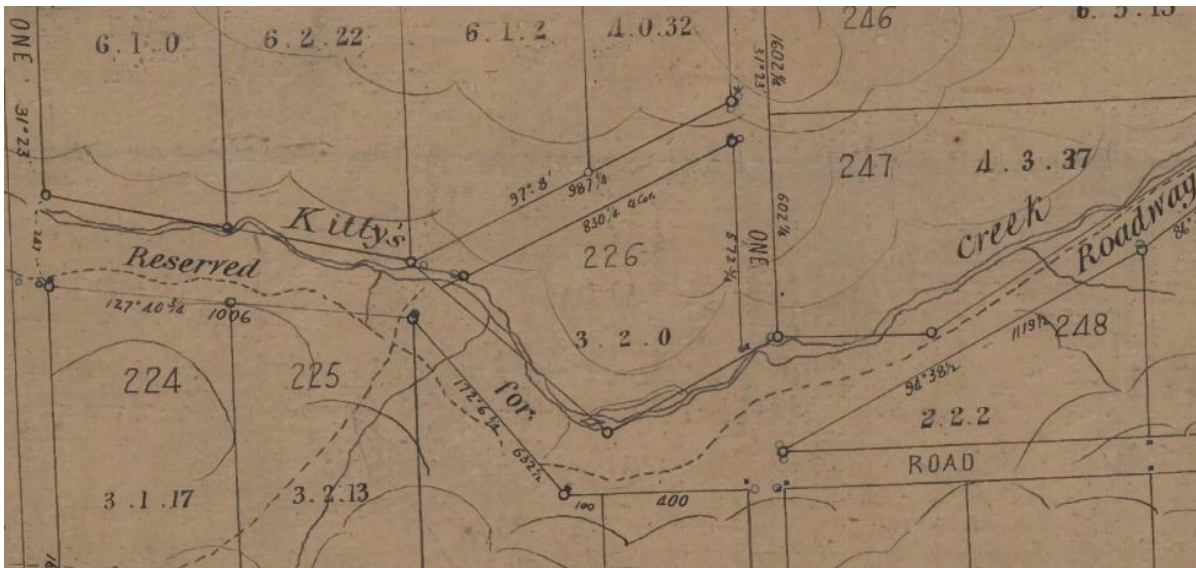


Figure 12: Detail from Alignment Plan R23.2113 of 1885.

Crown Plan 15.440 covers a very large area, from Hunters Hill to Pennant Hills, and shows connection to the trigonometric surveys of the day. Trig mark “O12” is noted (see Figure 11), together with mark “828” which has now been replaced by a State Survey Mark (SS23023).

The network of trig stations followed the high points of the hills as well as along the bank of the Lane Cove River.

Alignment Plan R23.2113 shows the alignment marks placed to define the kerb lines in the roads which were created by Crown Plans 386.2030 and 722.2030. Mr Surveyor Scrivener, in this survey, introduced stone for alignment marking, and Ryde is the first locality in the State to use big stone posts (de Belin, 2014). A mere handful (about 12%) of these big stone posts has survived to this day, but they are sufficiently distributed over the whole of the survey area to also assist in the re-construction of Crown Plan 386.2030.

3 FINDING COMMON GROUND

Let us investigate a section of Crown Plan 386.2030 that is of very poor quality (Figure 13). With the aid of the other survey plans (Figures 14-16), it is now possible to rebuild the boundary information for each parcel of land and determine what survey marks were placed and where to seek them, if they still exist. This disparate information, when viewed together, allows us to re-construct the original cadastral boundaries.

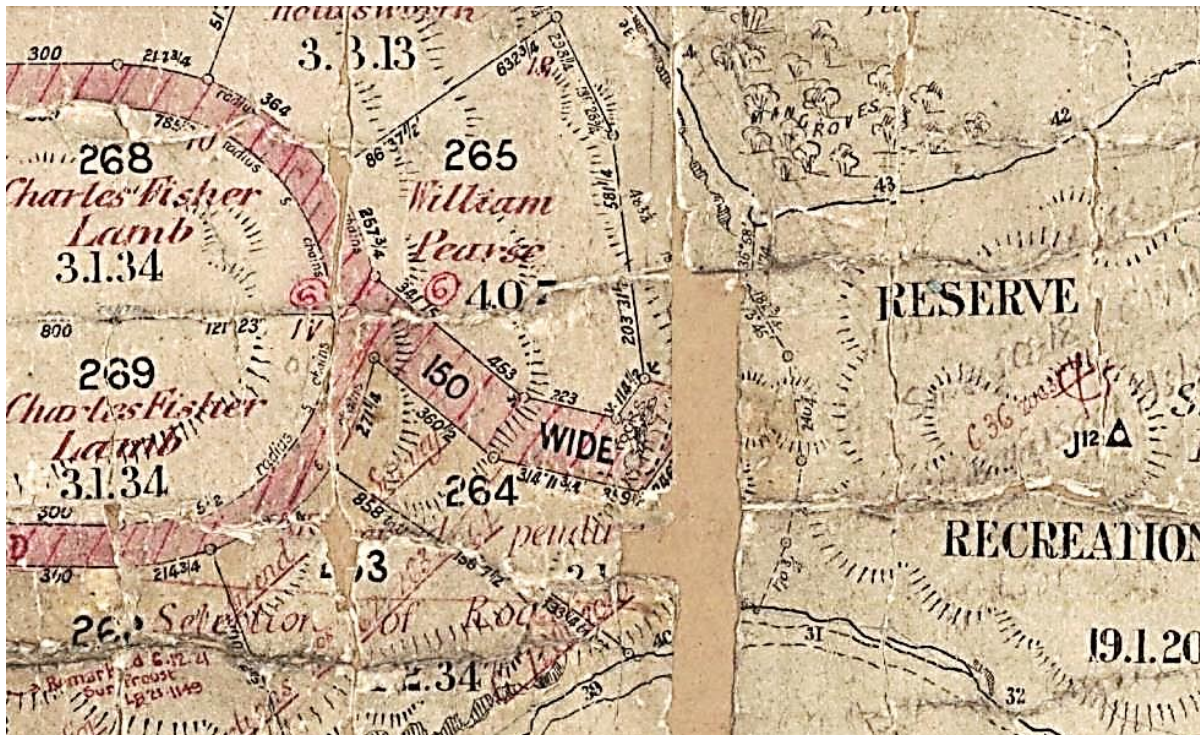


Figure 13: Detail from Crown Plan 386.2030 of 1881-82.

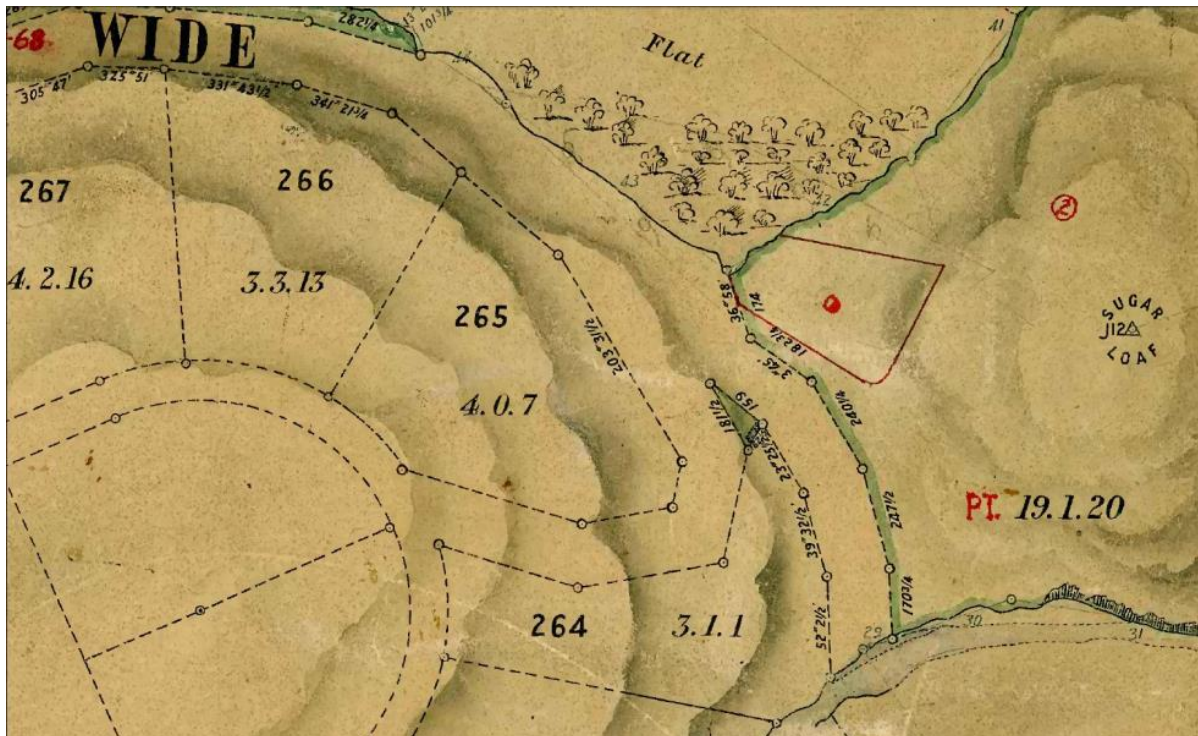


Figure 14: Detail of the same area from Crown Plan 36.2063 of 1881-82.

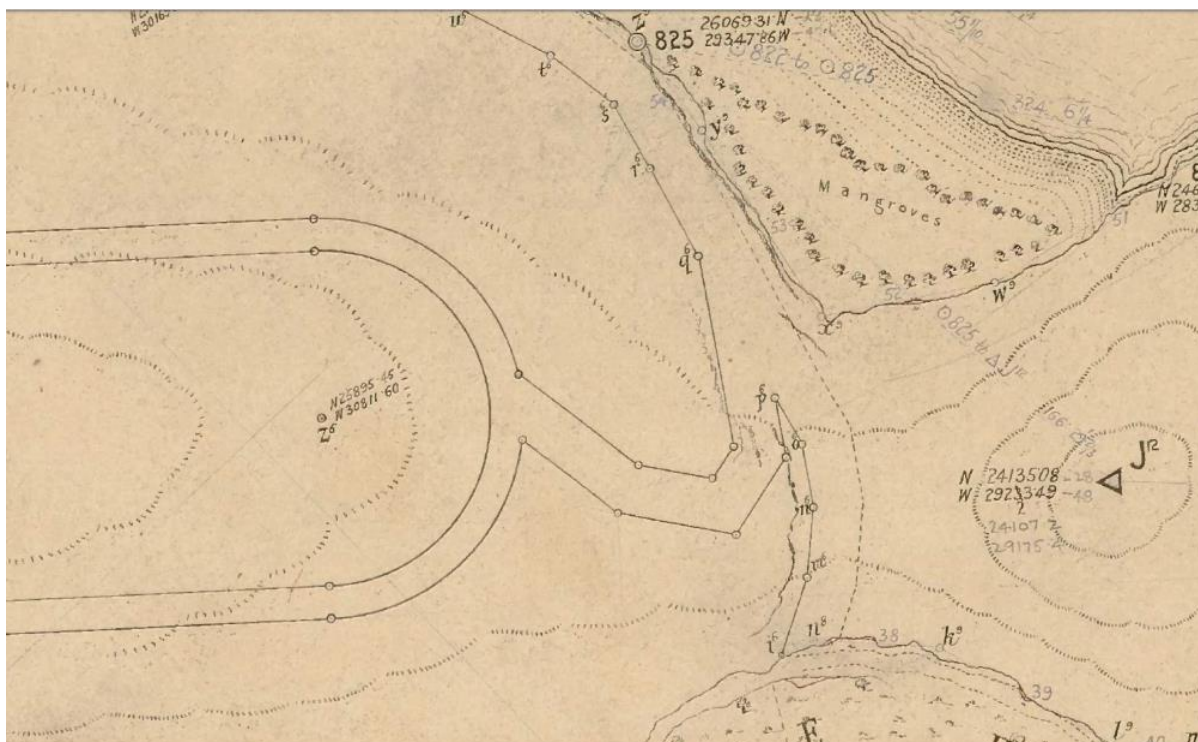


Figure 15: Detail of the same area from Crown Plan 15.440 of 1883.



Figure 16: Detail of the same area from Alignment Plan R23.2113 of 1885.

4 FINDING ORIGINAL MARKS

The survey mark hierarchy rates natural boundary, original mark, monument and then measurement in order of importance in defining land boundaries. So the finding of original marks would be almost irrefutable when it comes to locating an original portion boundary. A perusal of the relevant Crown Plans shows where rock marks were placed and what the nature of these marks was (Figure 17). Part of this note states: “Corners of portions ‘denoted by broad arrow’ are on rock and the numbers have been cut in and painted...”

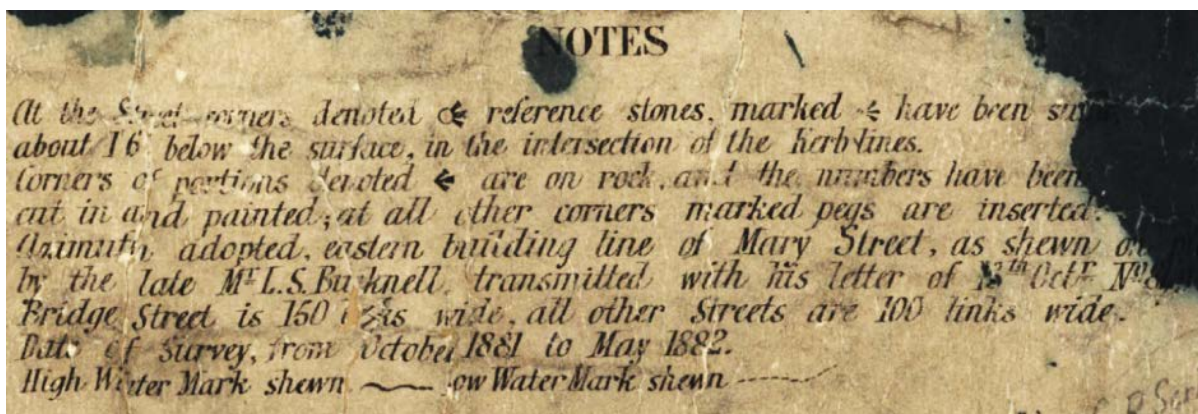


Figure 17: Survey notes from Crown Plan 386.2030 of 1881.

A field search was carried out by the City of Ryde survey team to find any marks which may remain (Figures 18-22).

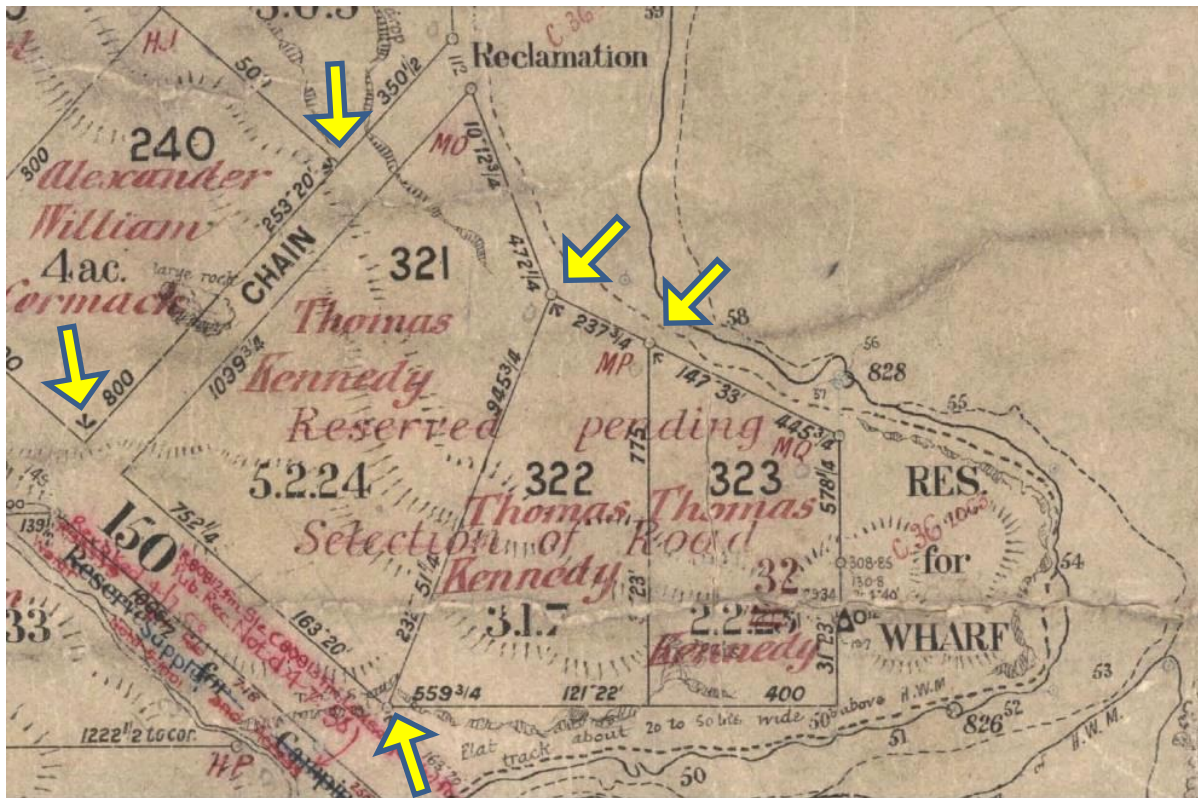


Figure 18: Detail of Portions 321-323 from Crown Plan 386.2030 of 1881-82.



Figure 19: Detail of Portions 321-323 from Crown Plan 36.2063 of 1881-82.

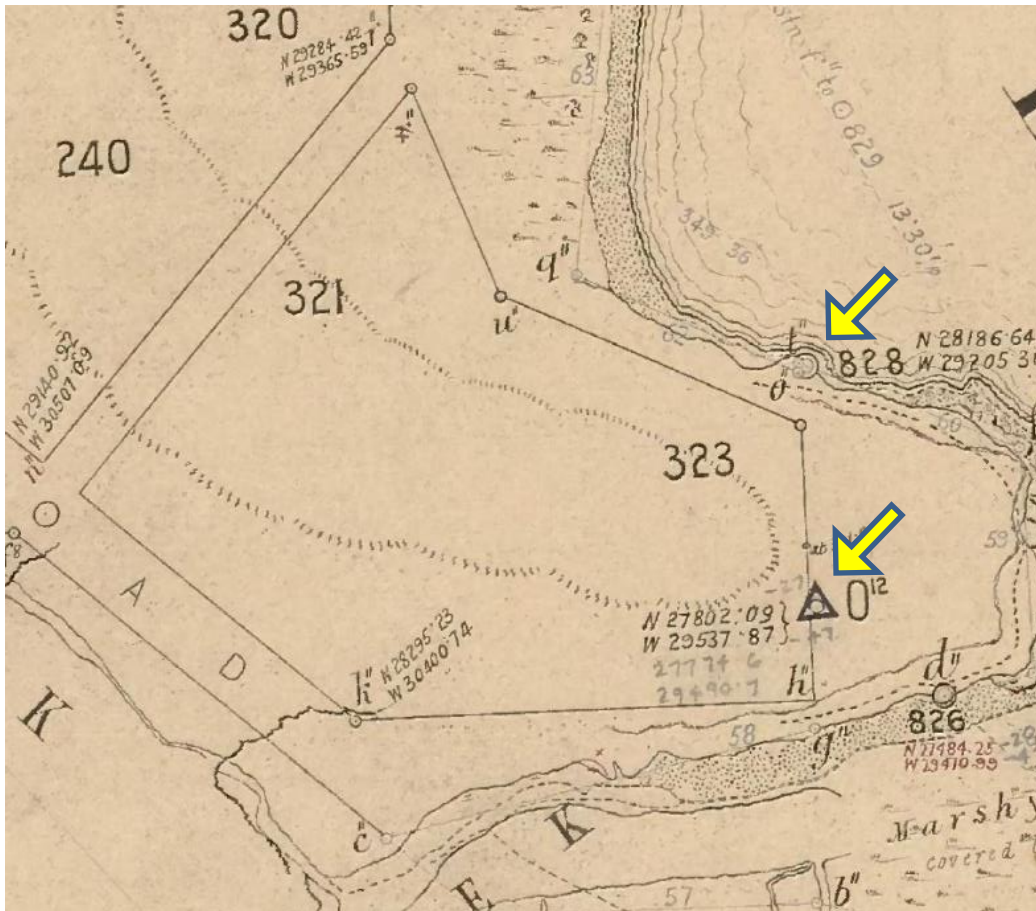


Figure 20: Detail of Portions 321-323 from Crown Plan 15.440 of 1883.

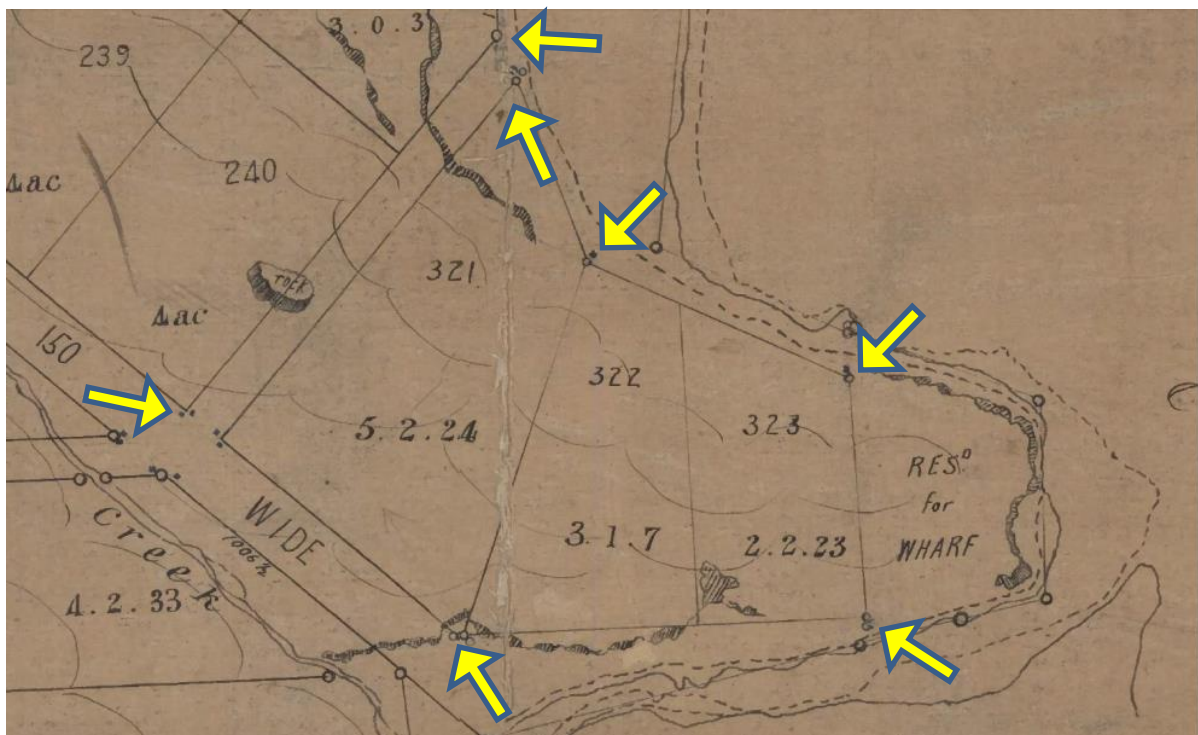


Figure 21: Detail of Portions 321-323 from Alignment Plan R23.2113 of 1885.



Figure 22: Corner rock marks, with chiselled portion numbers, not painted and when painted.

Part of the notes on Alignment Plan R23.2113 indicate alignment stones and holes drilled in rock (Figure 23). Examples of these alignment marks are shown in Figure 24. These alignment marks and corner marks are sited on land which is now under the control of the Lane Cove National Park so have survived the ravages of Council road and drainage works.

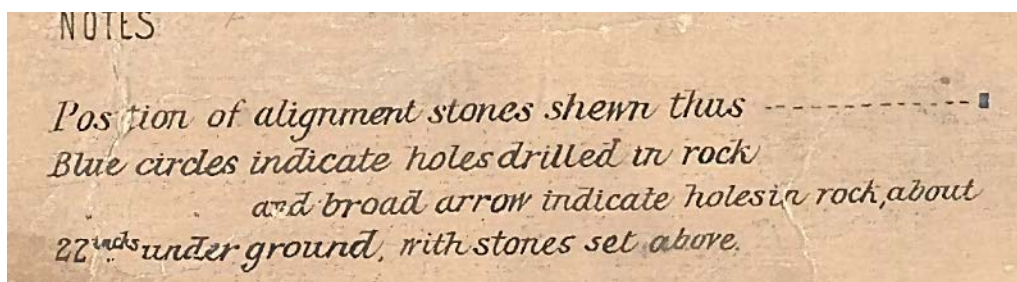


Figure 23: Survey notes from Alignment Plan R23.2113 of 1885.



Figure 24: Big stone alignment posts and broad arrowed alignment marks in bedrock.

Other rock marks within the survey area include some very old trig stations (Figures 25 & 26). The interested reader can also refer to the Appendix for examples showing the impact of modern residential development on old survey infrastructure.

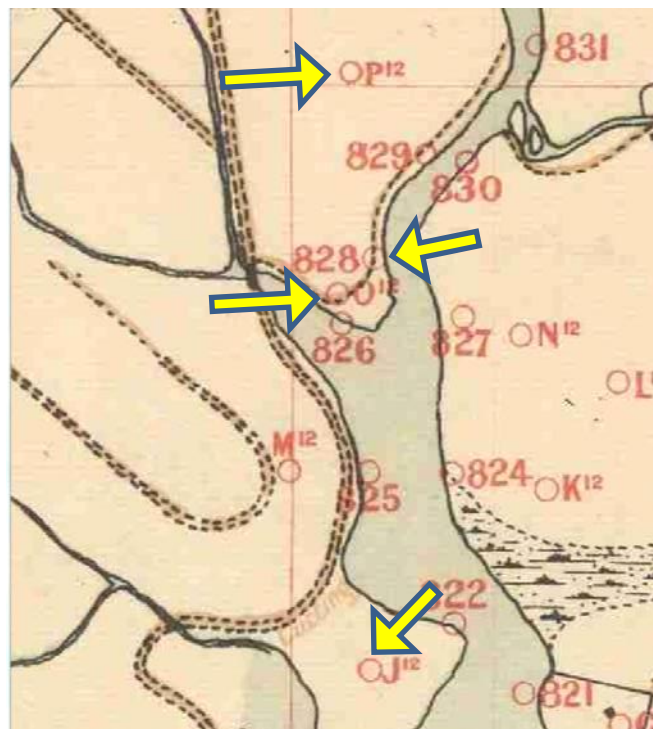


Figure 25: Part of an 1891 publication showing the trig stations in the Sydney area.



Figure 26: Ridgetop trigs 'J12', 'O12' and 'P12'.

5 A CADASTRE SET IN STONE

So far, a total of 50 original marks have been found: 12 corner rock marks, 4 trig station rock marks and 34 big stone alignment posts. It can be clearly seen that these found marks cover a substantial part of Crown Plan 386.2030 (Figure 27).



Figure 27: Sketch showing the location of found marks and the current-day road pattern.

The original street pattern of 25 streets (shown orange in Figure 27) now includes an additional 43 streets (shown green in Figure 27). Half of these newer streets were created prior to 1958, and when first surveyed, were directly connected to original stone alignment posts and marks of the original streets. Since 1959 only 10 of the newer streets have connected to original marks. The last street was created 46 years ago, in 1971.

Undertaking a survey of all the streets over the extent of Crown Plan 386.2030 is a mammoth task and to date a little more than half has been completed. Just how accurate is Crown Plan 386.2030, and what are the comparisons with found marks? Comparisons with the completed survey are shown in Table 1.

Table 1: Comparisons of dimensions from Crown Plan 386.2030 with found marks.

	Per Original	By Author
Corner to corner (rock marks)	66° 25' 45" 1697.24	66° 25' 45" 1697.470
Corner to corner (rock marks)	81° 49' 45" 160.935	81° 49' 40" 160.945
Corner to corner (rock marks)	171° 49' 45" 171.445	171° 47' 05" 171.480
Corner to corner (rock marks)	111° 36' 30" 243.645	111° 37' 00" 243.685
Street Alignment Cressy Road	211° 23' 00"	211° 23' 30" (approx. 1270 m)
Street Alignment Badajoz Road	211° 23' 00"	211° 23' 30" (approx. 1270 m)
Street Alignment Quarry Road	121° 23' 00"	121° 23' 30" (approx. 380 m)
Street Alignment Forest Road	121° 23' 00"	121° 23' 30" (approx. 420 m)

There is a consistent scaling factor of 1.00014 between Crown Plan 386.2030 and the survey carried out by City of Ryde. When applied to the original dimensions, no difference is greater than 10 mm.

6 CONCLUDING REMARKS

Results so far show Crown Plan 386.2030 is accurate to today's standards and, moreover, is able to be fully replicated and placed within the cadastre, because its position is locked in by original rock marks which can be easily accessed. The fact that so many of the streets are connected to the original marks means that the present cadastral pattern should reflect the original portions and Crown grants. There are now 2,243 lots descendant from the 125 portions surveyed by Crown Plan 386.2030 in 1881, so there are many ongoing benefits in having and maintaining a sound cadastre.

Crown Plan 386.2030 was the first subdivision of the Field of Mars Common. Crown Plan 1156.2030, in 1886, was the second. It abuts on the west and is twice as extensive (creating 227 portions), covering Macquarie Park and Marsfield. The City of Ryde survey team is currently extending its investigation into this adjoining area and the question being asked is how will a new adjustable Map Grid of Australia (MGA) coordinated cadastre fit with the corners of the old cadastre which has been set in stone?

REFERENCES

de Belin F. (2014) Game of stones... The big stone alignment posts of Ryde, *Proceedings of Association of Public Authority Surveyors Conference (APAS2014)*, Pokolbin, Australia, 31 March – 2 April, 115-128.

APPENDIX

These images indicate where several c1881 trig marks are situated in today's world. These sites show a swimming pool, a playing field, a cemetery, a house, a commercial garden centre and a small reserve at West Lindfield. The trig mark in the reserve at West Lindfield still exists and is named "Gordon Trig".

