



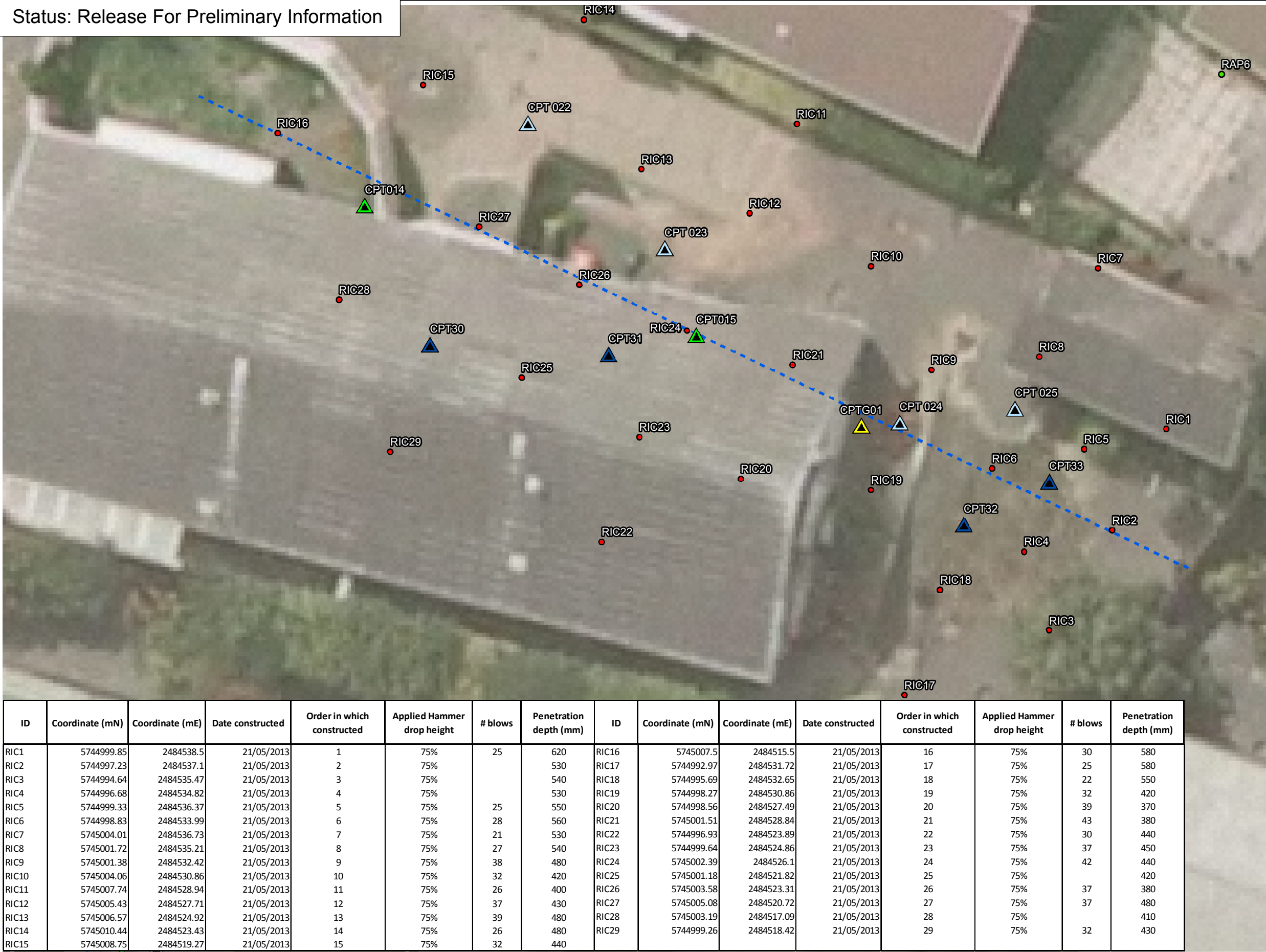
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A3 SCALE 1:1,000
0 10 20 30 40 50 (m)



DRAWN	CXP	Jul.13
CHECKED	VL	Jul.13
APPROVED		
ARCFILE	52020-0200-TRX030	
SCALE (AT A3 SIZE)	1:1,000	
Prepared by Tonkin & Taylor Ltd.	FIGURE No.	
Ref: 52020-0200	1A4	

Ground Improvement Trials
Site 4 (Avondale)
Trial Area Layout



LEGEND

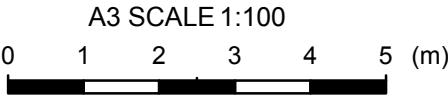
Investigation Sites

EQC CPT

Golders CPT

ID	Coordinate (mN)	Coordinate (mE)	Date constructed	Order in which constructed	Applied Hammer drop height	# blows	Penetration depth (mm)	ID	Coordinate (mN)	Coordinate (mE)	Date constructed	Order in which constructed	Applied Hammer drop height	# blows	Penetration depth (mm)
RIC1	5744999.85	2484538.5	21/05/2013	1	75%	25	620	RIC16	5745007.5	2484515.5	21/05/2013	16	75%	30	580
RIC2	5744997.23	2484537.1	21/05/2013	2	75%		530	RIC17	5744992.97	2484531.72	21/05/2013	17	75%	25	580
RIC3	5744994.64	2484535.47	21/05/2013	3	75%		540	RIC18	5744995.69	2484532.65	21/05/2013	18	75%	22	550
RIC4	5744996.68	2484534.82	21/05/2013	4	75%		530	RIC19	5744998.27	2484530.86	21/05/2013	19	75%	32	420
RIC5	5744999.33	2484536.37	21/05/2013	5	75%	25	550	RIC20	5744998.56	2484527.49	21/05/2013	20	75%	39	370
RIC6	5744998.83	2484533.99	21/05/2013	6	75%	28	560	RIC21	5745001.51	2484528.84	21/05/2013	21	75%	43	380
RIC7	5745004.01	2484536.73	21/05/2013	7	75%	21	530	RIC22	5744996.93	2484523.89	21/05/2013	22	75%	30	440
RIC8	5745001.72	2484535.21	21/05/2013	8	75%	27	540	RIC23	5744999.64	2484524.86	21/05/2013	23	75%	37	450
RIC9	5745001.38	2484532.42	21/05/2013	9	75%	38	480	RIC24	5745002.39	2484526.1	21/05/2013	24	75%	42	440
RIC10	5745004.06	2484530.86	21/05/2013	10	75%	32	420	RIC25	5745001.18	2484521.82	21/05/2013	25	75%		420
RIC11	5745007.74	2484528.94	21/05/2013	11	75%	26	400	RIC26	5745003.58	2484523.31	21/05/2013	26	75%	37	380
RIC12	5745005.43	2484527.71	21/05/2013	12	75%	37	430	RIC27	5745005.08	2484520.72	21/05/2013	27	75%	37	480
RIC13	5745006.57	2484524.92	21/05/2013	13	75%	39	480	RIC28	5745003.19	2484517.09	21/05/2013	28	75%		410
RIC14	5745010.44	2484523.43	21/05/2013	14	75%	26	480	RIC29	5744999.26	2484518.42	21/05/2013	29	75%	32	430
RIC15	5745008.75	2484519.27	21/05/2013	15	75%	32	440								

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ARCFILE 52020-0200-TRX035		
SCALE (AT A3 SIZE) 1:100		
Prepared by Tonkin & Taylor Ltd. Ref: 52020-0200		

Ground Improvement Trials

Site 4 (Avondale)

Rapid Impact Compaction Spacing Area

FIGURE No.

1B4

Rev. 0

LEGEND

Investigation Sites

EQC CPT

Golders CPT

Existing CGD CPT

Post ground improvement
CPT after 6 days

Post ground improvement
CPT after 27 days

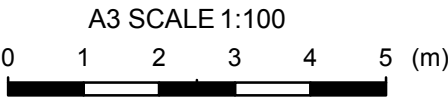
Rammed Aggregate
Piers (RAP) location

Centerline



ID	Coordinate (mN)	Coordinate (mE)	Date constructed	Order in which constructed	Depth of Pier (m)	Volume of aggregate used	ID	Coordinate (mN)	Coordinate (mE)	Date constructed	Order in which constructed	Depth of Pier (m)	Volume of aggregate used
RAP1	5745011.67	2484545.15	30/05/2013	1	4	1.4	RAP15	5745015.03	2484540.28	30/05/2013	15	4	1.4
RAP2	5745014.67	2484545.49	30/05/2013	2	4	1.4	RAP16	5745017.45	2484540.49	30/05/2013	16	4	1.4
RAP3	5745017.61	2484545.64	30/05/2013	3	4	1.4	RAP17	5745014.07	2484538.15	30/05/2013	17	4	1.4
RAP4	5745019.13	2484542.33	30/05/2013	4	4	1.4	RAP18	5745016.41	2484538.26	30/05/2013	18	4	1.4
RAP5	5745010.33	2484542.6	30/05/2013	5	4	1.4	RAP19	5745018.43	2484538.35	30/05/2013	19	4	1.4
RAP6	5745009.02	2484539.93	30/05/2013	6	4	1.4	RAP20	5745015.55	2484536.5	30/05/2013	20	4	1.4
RAP7	5745011.65	2484537.1	30/05/2013	7	4	1.4	RAP21	5745017.49	2484536.64	31/05/2013	21	4	1.4
RAP8	5745013.76	2484535.53	30/05/2013	8	4	1.4	RAP22	5745016.84	2484535.26	31/05/2013	22	4	1.4
RAP9	5745015.51	2484534.55	30/05/2013	9	4	1.4	RAP23	5745019.03	2484536.61	31/05/2013	23	4	1.4
RAP10	5745019.72	2484539.7	30/05/2013	10	4	1.4	RAP24	5745017.66	2484534.06	31/05/2013	24	4	1.4
RAP11	5745020.2	2484537.53	30/05/2013	11	4	1.4	RAP25	5745019.77	2484535.39	31/05/2013	25	4	1.4
RAP12	5745013.27	2484542.76	30/05/2013	12	4	1.4	RAP26	5745019.03	2484533.95	31/05/2013	26	4	1.4
RAP13	5745016.25	2484543.04	30/05/2013	13	4	1.4	RAP27	5745018.23	2484535.43	31/05/2013	27	4	1.6
RAP14	5745011.96	2484540.08	30/05/2013	14	4	1.4							

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ARCFILE 52020-0200-TRX036		
SCALE (AT A3 SIZE) 1:100		
Prepared by Tonkin & Taylor Ltd. Ref: 52020-0200		

Ground Improvement Trials

Site 4 (Avondale)

Rammed Aggregate Piers Spacing Area



LEGEND

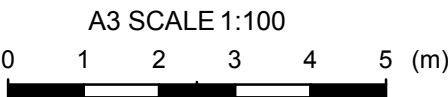
Investigation Sites

EQC CPT

Golders CPT

ID	Coordinate (mN)	Coordinate (mE)	Order top bulbs constructed	Date top bulb constructed	Depth to centre of top bulb	Volume of grout in top bulb (m3)	Observed ground heave for top bulb	Order bottom bulbs constructed in	Date lower bulbs constructed	Depth to cente of bottom bulb	Volume of grout for bottom bulb	Observed ground heave for lower bulb
LMG1	5744986.11	2484511.45	1	21/05/2013	1	0.056	80	1	23/05/2013	3	0.336	100
LMG2	5744984.77	2484511.95	2	21/05/2013	1	0.084	100	2	23/05/2013	3	0.644	80
LMG3	5744987.32	2484512.5	3	21/05/2013	1	0.035	100	3	23/05/2013	3	0.504	Grout surfaced - 12
LMG4	5744985.76	2484513	4	21/05/2013	1	0.098	100	4	23/05/2013	3	0.602	Grout surfaced - 44
LMG5	5744983.68	2484513.49	5	21/05/2013	1	0.077	100	5	23/05/2013	3	0.644	106
LMG6	5744986.96	2484514.18	6	21/05/2013	1	0.091	110	6	23/05/2013	3	0.322	Grout surfaced - 4
LMG7	5744985.14	2484514.88	7	21/05/2013	1	0.168	100	7	23/05/2013	3	0.413	Grout surfaced - 32
LMG8	5744982.68	2484515.58	8	21/05/2013	1	0.098	100	8	23/05/2013	3	0.588	20
LMG9	5744986.94	2484516.56	9	21/05/2013	1	0.112	100	9	23/05/2013	3	0.469	36
LMG10	5744984.61	2484517.04	10	21/05/2013	1	0.021	Grout ejected at surface - 10	10	23/05/2013	3	Inconsistent data at least 0.336	Grout surfaced - 38
LMG11	5744981.51	2484518.08	11	21/05/2013	1	0.028	Grout ejected at surface - 10	11	23/05/2013	3	0.525	100
LMG12	5744983.78	2484519.89	12	21/05/2013	1	0.077	100	12	23/05/2013	3	0.448	Grout surfaced - 24
LMG13	5744986.67	2484519.15	13	21/05/2013	1	0.021	Grout ejected at surface - 20	13	23/05/2013	3	0.581	78

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ARCFILE	52020-0200-TRX037	
SCALE (AT A3 SIZE)	1:100	
Prepared by Tonkin & Taylor Ltd.	FIGURE No.	
Ref: 52020-0200	1D4	

Ground Improvement Trials

Site 4 (Avondale)

Low Mobility Grout Spacing Area