



THREE KINGS QUARRY

RESOURCE CONSENT 12977

ANNUAL MONITORING REPORT

May 2010

ANNUAL THREE KING QUARRY MONITORING REPORT

Introduction

The following report is made with regard to Section 9 of the Monitoring and Contingency Plan for Dewatering Three Kings Quarry dated September 2005.

This report contains a compilation of all monitoring data and documents any settlement alarm level events, reviews and remedial action undertaken for the period of 1 April 2009 to 31 March 2010.

Monitoring Summary

The monitoring of groundwater levels has been undertaken monthly for the year ending March 31 2010. Groundwater levels within the quarry have been held above RL34m since the lowering of the groundwater table ceased in October 2002.

No new groundwater monitoring bores were installed in the 12 month period ending 31 March 2010.

The monitoring of precise level survey marks has continued with a survey of all precise level benchmarks undertaken in February/March 2010.

Precise level surveys are currently being undertaken at 12 month intervals as dewatering has not been undertaken for more than 2 years, and there has been a cessation of settlement (as defined in the permit to dewater Three Kings Quarry).

Five replacement marks were installed in the 2010 precise level survey: AP125A on Hillsborough Road, AP7705A and AP7707A on St Andrews Road, AP1619A on St Leonards Road and RM3893A on Duke Street. All these marks are replacement marks for marks that have been disturbed or destroyed during footpath/kerb and channel upgrading in the previous 12 months.

In addition, a new mark (AP3895A) was installed on Hamon Avenue near RM3895. RM3895 has recorded continued falls in level since a tree adjacent to the mark was removed three or four years ago. There has been visible subsidence in this immediate area since the tree was removed including cracking and sinking in the channel and in one place a few metres from the mark, a sinkhole in the seal road. RM3895 is currently 33mm below its averaged level when the precise level survey of this mark commenced. AP3895A has been installed 10 to 12 metres away from the RM3895. Both marks will continue to be levelled.

Groundwater levels and precise level survey results are attached to this report.

Precise Level Survey Results

A precise level survey of all precise level marks was undertaken in February/March 2010.

All precise level survey marks were within 5mm of the previous reading with the exception of marks RM3887 on Fearon Avenue and RM3895 on Hamon Avenue which recorded -6mm and -10mm respectively of their previous readings.

RM3887 recorded a 3mm rise in level in the 2009 precise level survey. Such changes in level are considered to be a reflection of survey accuracy at this mark rather than any real change in level.

RM3895 has recorded continued falls in level and is currently 33mm below its averaged level when precise level surveys of this mark commenced. This change in level is considered to be a result of tree adjacent to this mark being removed three or four years ago. An additional mark 10 to 12 metres from RM3895 has been installed.

Differential settlement alarm values are continued to be recorded between AP92 and AP93, and AP92 and AP80 on Mt Albert Road, AP110 and AP111 on Hillsborough Road, OCP68 and AP114 on Budock Road and between AP67 and AP112 on Hillsborough Road and Budock Road respectively. New differential settlement alarm values were recorded between AP62 and AP88 on Mt Albert Road and between AP69 and AP114, AP70 and AP117, and AP38 and AP117 on Budock Road.

Marks	Location	Mar-10 Differential Settlement	Distance between Marks	Adjusted Difference in Levels between Marks
AP92 and AP93	Mt Albert Road	1 in 2201	16.7m	7.6mm
AP92 and AP80	Mt Albert Road	1 in 2203	17.7m	8.1mm
AP110 and AP111	Hillsborough Road	1 in 3363	17.7m	5.3mm
OCP68 and AP114	Budock Road	1 in 2568	23.0m	9.0mm
AP67 and AP112	Hillsborough and Budock	1 in 3669	14.6m	4.0mm
AP62 and AP88	Mt Albert Road	1 in 4991	28.0m	5.6mm
AP69 and AP114	Budock Road	1 in 4231	26.4m	6.2mm
AP70 and AP117	Budock Road	1 in 3509	21.5m	6.1mm
AP38 and AP117	Budock Road	1 in 4163	22.9m	5.5mm

The actions required for these Differential Settlement Alarms Values are to report these to the Auckland Regional Council and Three King Quarry Manager, and to install additional survey marks at 50 metre centres between existing survey marks. Please note that the spacing between these marks is already less than 50 metres.

These differential settlement alarm values are being carefully tracked and should any differential settlement exceed 1 in 2000, further assessments will be undertaken as required by the Monitoring and Contingency Plan for Dewatering Three Kings Quarry.

Seasonal Variation Calculations

As required by Section 6.7 of the Monitoring and Contingency Plan, seasonal variation calculations have been defined for bores 37, 38, 39 and 40. The calculated seasonal variation for the deep and shallow piezometers respectively in bores 37, 38, 39 and 40 are as follows:

Table 1: Deep Piezometers

	BH37a	BH38a	BH39a	BH40a
99% Confidence Limits	RL54.17m RL53.60m	RL54.73m RL53.80m	RL55.31m RL54.82m	RL62.07m RL61.23m
99.9% Confidence Limits	RL54.25m RL53.53m	RL54.85m RL53.67m	RL55.37m RL54.76m	RL62.19m RL61.12m

Table 2: Shallow Piezometers

	BH37b	BH38b	BH39b	BH40b
99% Confidence Limits	RL54.03m RL53.56m	RL53.80m RL53.33m	RL57.42m RL56.50m	RL63.86m RL63.31m
99.9% Confidence Limits	RL54.09m RL53.50m	RL53.87m RL53.26m	RL57.55m RL56.38m	RL63.94m RL63.23m

The groundwater levels in BH40a and BH40b have been in excess of seasonal variation (99% confidence limits) since December 2007. BH40 is the southern most of the Three Kings Quarry groundwater monitoring bores located on Hillsborough Road just to the north of the SH20.

Three Kings groundwater monitoring bores located closer to the Three Kings Quarry (boreholes 36 and 39) have not recorded any movement of groundwater levels beyond normal seasonal variations.

The groundwater level in BH40a (deep piezometer) has fallen 1.30metres from an average level of approximately RL61.65m (to March 2007) to a low of RL60.38m recorded in March 2010.

The groundwater level in BH40b (shallower piezometer) has fallen 1.05m from an average level of RL63.6m (to March 2007) to RL62.55m also recorded in March 2010.

Up until March 2008, Transits groundwater monitoring bores adjacent to the "Hillsborough Road cut" SH20 works recorded a similar or greater amount of change although the monitoring record is not complete as the Three Kings Quarry groundwater monitoring record. Transits BH15 on the crest of the Hillsborough Road cut has recorded a fall in groundwater level of 1.9m since December 2006 (from RL64.44m to RL62.53m).

The Transit monitoring bores do not extend to the same depth as the Three Kings Quarry groundwater monitoring bores but all bores are located in East Coast Bays Formation (Waitemata).

Although the monitoring results are not conclusive (with the deeper groundwater level in BH40a being drawn down more than the shallower groundwater level – BH40b), as the groundwater

monitoring bores closer to the Three Kings Quarry (bores 36 and 39) are not being drawn down, it is considered unlikely that the falling groundwater levels being recorded in BH40a and BH40b are the result of dewatering Three Kings Quarry.

REVIEWS

Groundwater

The results of the groundwater level monitoring are checked as the results are received. No reviews of groundwater levels were undertaken in the year ending March 31 2010.

Surface Levels

The results of precise level surfaces are checked when the results are received, with the results forwarded to the Auckland Regional Council and Three Kings United Inc.

A review of precise level survey data was undertaken by Tonkin and Taylor in 2005. This report reviewed settlement data to the March 2005 survey and included the findings of the Pattle Delemore annual groundwater report dated January 2005.

The Tonkin and Taylor report concluded that while surface settlement monitoring indicates that surface settlement is typically on-going about the quarry, it was at a much reduced rate.

The on-going settlement close to the quarry was concluded to be the result of secondary consolidation induced by changes in groundwater pressure associated with past quarry dewatering. At increased distances from the quarry, Tonkin and Taylor concluded that it is possible that the ongoing surface settlement includes some delayed consolidation as a result primarily consolidation of soil strata not currently monitored by piezometers. In addition Tonkin and Taylor concluded that any groundwater drawdown effects at distance from the quarry are small and surface settlement data at the fringe of drawdown are within expected settlement tolerances.

A further review of the precise level survey information was undertaken in August 2005 to determine if cessation of settlement had occurred. It was found that cessation of settlement (as defined by the consent to dewater Three Kings Quarry) had occurred and this was reported more fully to the Auckland Regional Council in September 2005. As such, and because more than two years has elapsed since dewatering has been undertaken, precise level surveys are now required to be undertaken at 12 month intervals.

No further reviews of surface levels were undertaken in the year ending March 31 2010.

REMEDIAL ACTION

No remedial action was required or undertaken for the 12 month period ending 31 March 2010.

THREE KINGS GROUNDWATER LEVEL RECORD SHEET

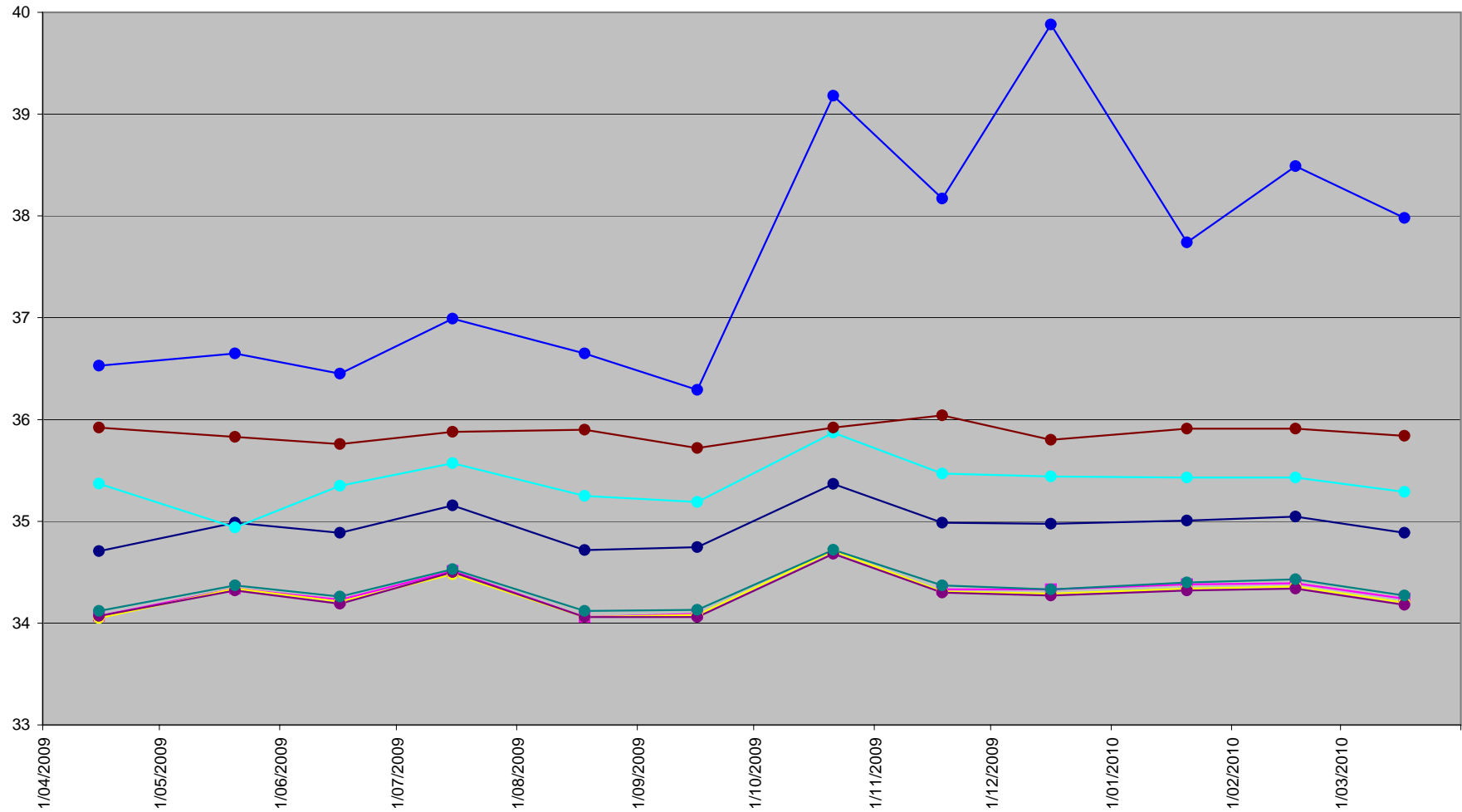
Date	BH 1B	BH 2B	BH 5B	BH 6A	BH 6B	BH 6C	BH 7	BH 10a	BH 10b	BH 11b	BH 12a	BH 12b	BH 13a	BH 13c	BH 16	BH 17	BH 18A	BH 18B	BH 19A	BH 19B
15-Apr-09	34.71	34.07	34.05	45.11	39.84	35.37	39.80	50.93	72.68	72.00	50.66	66.94	55.31	66.33	51.02	34.07	35.92	45.86	34.12	38.60
20-May-09	34.99	34.34	34.34	44.77	39.95	34.94	40.23	50.93	72.68	72.11	50.58	67.13	55.09	66.32	50.89	34.32	35.83	45.57	34.37	38.58
16-Jun-09	34.89	34.23	34.21	44.87	39.93	35.35	40.39	50.92	72.70	72.17	50.67	67.18	54.92	66.33	50.95	34.19	35.76	45.28	34.26	38.60
15-Jul-09	35.16	34.51	34.48	45.29	40.15	35.57	40.68	50.92	72.70	72.26	50.98	67.18	60.16	66.35	51.18	34.50	35.88	45.37	34.53	38.89
18-Aug-09	34.72	34.06	34.06	45.87	40.10	35.25	40.18	50.95	72.69	72.31	51.06	67.14	59.97	66.34	51.38	34.06	35.90	46.01	34.12	38.51
16-Sep-09	34.75	34.09	34.08	45.98	40.02	35.19	40.09	50.94	72.69	72.31	50.98	67.10	59.47	66.34	51.29	34.06	35.72	46.18	34.13	38.62
21-Oct-09	35.37		34.71	45.97	40.33	35.87	40.53	50.96	72.69	72.30	51.10	67.16	60.90	66.34	51.33	34.68	35.92	45.95	34.72	38.51
18-Nov-09	34.99	34.33	34.31	46.07	40.19	35.47	39.99	50.95	72.68	72.29	51.05	66.98	58.85	66.33	51.39	34.30	36.04	46.32	34.37	38.41
16-Dec-09	34.98	34.33	34.29	45.81	40.08	35.44	40.05	50.94	72.68	72.26	50.88	67.08	56.39	66.33	51.18	34.27	35.80	46.20	34.33	38.40
20-Jan-10	35.01	34.38	34.34	45.51	40.03	35.43	39.74	50.92	72.69	72.02	50.69	66.92	56.06	66.32	51.03	34.32	35.91	46.12	34.40	38.56
17-Feb-10	35.05	34.39	34.36	45.22	39.96	35.43	39.67	50.92	72.68	71.95	50.53	66.84	55.87	66.32	50.85	34.34	35.91	46.07	34.43	38.56
17-Mar-10	34.89	34.24	34.20	44.93	39.83	35.29	39.62	50.92	72.68	72.02	50.38	66.82	55.50	66.32	50.69	34.18	35.84	45.96	34.27	38.56

Date	BH 20	BH 20A	BH21	BH22	BH22a	BH23	BH23a	BH24	BH24a	BH25	BH25a	BH25b1	BH25b2	BH26	BH26a	BH27	BH28a	BH28b	BH29	BH30
15-Apr-09	54.66	50.54	36.53	41.29	64.29	51.55	51.28	55.95	61.33	37.18	48.33	47.04	50.97	59.19	54.16	49.59	51.13	52.21	58.02	54.96
20-May-09	54.83	50.45	36.65	41.29	64.22	51.58	51.24	55.96	61.27	37.15	48.53	48.31	50.98	59.21	54.28	49.59	51.19	52.34	58.07	55.03
16-Jun-09	54.91	50.67	36.45	41.28	64.38	51.58	51.22	56.00	61.23	37.15	48.68	48.40	51.15	59.23	54.32	49.59	51.17	52.46	58.10	55.05
15-Jul-09	55.10	51.30	36.99	41.28	64.81	51.55	51.20	56.12	61.20	37.11	49.06	48.74	51.88	59.26	54.37	49.59	51.26	53.07	58.21	55.22
18-Aug-09	55.19	51.44	36.65	41.28	64.82	51.59	51.21	56.19	61.14	37.20	49.08	48.37	51.51	59.28	54.33	49.59	51.22	52.94	58.22	55.03
16-Sep-09	55.15	51.31	36.29	41.27	64.67	51.57	51.20	56.14	61.12	37.02	48.94	48.32	51.22	59.27	54.28	49.59	51.14	52.48	58.19	55.07
21-Oct-09	55.24	51.49	39.18	41.27	64.85	51.62	51.20	56.21	61.09	37.13	49.13	48.83	51.91	59.29	54.37	49.59	51.32	53.00	58.26	55.30
18-Nov-09	55.17	51.38	38.17	41.26	64.76	51.63	51.19	56.18	61.06	37.24	47.79	48.91	51.81	59.29	54.28	49.59	51.02	52.84	58.26	55.20
16-Dec-09	55.02	51.10	39.88	41.26	64.51	51.61	51.19	56.17	61.05	37.11	47.39	48.87	51.40	59.29	54.25	49.59	51.04	52.80	58.23	55.06
20-Jan-10	54.63	50.64	37.74	41.26	64.24	51.55	51.17	56.04	61.02	37.07	46.26	46.45	51.08	59.29	54.15	49.59	51.19	52.29	58.14	55.24
17-Feb-10	54.51	50.28	38.49	41.25	64.15	51.52	51.16	55.94	61.00	37.09	47.44	46.81	50.73	59.31	54.14	49.59	51.13	52.07	58.09	54.97
17-Mar-10	54.31	50.01	37.98	41.25	64.51	51.45	51.14	55.82	60.97	37.05	46.11	46.52	50.63	59.32	54.08	49.59	51.10	52.16	58.03	54.87

Date	BH31a	BH31b	BH32	BH33	BH34	BH35a	BH35b	BH36a	BH36b	BH37a	BH37b	BH38a	BH38b	BH39a	BH39b	BH40a	BH40b
15-Apr-09	48.85	50.11	54.32	58.73	48.99	49.13	55.11	58.65	58.86	53.92	53.80	54.21	53.55	54.82	57.08	60.47	62.69
20-May-09	48.76	50.14	54.56	59.02	49.15	49.08	55.13	58.69	58.90	53.91	53.82	54.24	53.58	54.87	57.12	60.49	62.63
16-Jun-09	48.73	50.13	54.67	59.22	49.30	48.99	55.18	58.69	58.95	53.95	53.87	54.31	53.65	54.92	57.18	60.55	62.72
15-Jul-09	48.78	50.15	55.04	59.30	49.62	48.93	55.24	58.77	59.04	53.96	53.89	54.29	53.67	54.91	57.19	60.54	62.79
18-Aug-09	48.70	50.11	54.98	59.36	49.53	48.80	55.39	59.01	59.05	54.00	53.92	54.30	53.64	54.89	57.21	60.58	62.77
16-Sep-09	48.75	50.10	54.83	59.84	49.39	48.84	55.36	58.90	58.97	54.01	53.92	54.34	53.64	54.86	57.17	60.61	62.79
21-Oct-09	48.90	50.31	55.14	59.84	49.62	48.79	55.39	58.97	59.02	54.02	53.93	54.37	53.69	54.87	57.19	60.68	62.77
18-Nov-09	48.65	50.09	54.85	59.71	49.11	48.68	55.45	58.98	58.99	53.94	53.84	54.27	53.61	54.89	57.17	60.59	62.66
16-Dec-09	48.69	50.14	54.74	59.77	48.70	48.62	55.34	58.92	58.94	53.96	53.88	54.34	53.64	54.84	57.17	60.61	62.76
20-Jan-10	48.79	50.18	54.40	59.74	48.13	48.90	55.21	58.81	58.83	53.88	53.79	54.18	53.51	54.80	57.07	60.49	62.63
17-Feb-10	48.69	50.07	54.22	59.61	48.26	48.86	55.10	58.75	58.77	53.87	53.75	54.19	53.49	54.77	57.03	60.42	62.58
17-Mar-10	48.65	50.05	54.03	59.35	47.76	48.74	54.99	58.68	58.70	53.84	53.72	54.16	53.47	54.72	56.97	60.38	62.55

Groundwater Levels

● BH 1B ■ BH 2B ● BH 5B ● BH 6C ● BH 17 ● BH 18A ● BH 19A ● BH21



THREE KINGS SURVEY RECORD

Station ID	Location	Coordinates		Averaged Level	Surveyed Levels (metres)		Change from Averaged Level (mm)		Mar 10 of Mar 09 (mm)
		mN	mE		Mar-09	Mar-10	Mar-09	Mar-10	
SS 3136	Mt Eden Rd	697910.68	299385.73	63.047	63.031	63.031	-16	-16	0
SS 3137	Mt Eden Rd	698072.60	299427.08	63.343	63.340	63.341	-3	-2	1
M 212A	Mt Albert Rd	696504.39	299153.17	86.127	86.111	86.110	-16	-17	-1
SM 4163	Mt Albert Rd	696843.03	298513.03	74.142	74.142	74.141	0	-1	-1
SM 4164	Mt Albert Rd	696728.57	298688.37	75.851	75.844	75.844	-7	-7	0
SM 4165	Mt Albert Rd	696625.11	298783.31	83.632	83.623	83.623	-9	-9	0
SM 3882	Parau St	697063.26	298555.52	63.302	63.301	63.299	-1	-3	-2
RM 3898	McCullough Ave	697067.11	298760.28	76.078	76.065	76.062	-13	-16	-3
RM 3899	McCullough Ave	696900.99	298813.23	77.811	77.800	77.799	-11	-12	-1
RM 3900	McCullough Ave	696713.60	298916.53	76.657	76.642	76.641	-15	-16	-1
RM 3901	Smallfield Ave	696669.58	298986.57	78.931	78.912	78.909	-19	-22	-3
RM 3902	Smallfield Ave	696747.40	299014.21	80.177	80.163	80.162	-14	-15	-1
RM 3903	Smallfield Ave	696834.73	298965.09	82.524	82.515	82.513	-9	-11	-2
RM 3904	Smallfield Ave	696939.98	298912.45	82.708	82.698	82.697	-10	-11	-1
RM 3907	Fyvie Ave	697063.27	299054.59	80.321	80.314	80.312	-7	-9	-2
RM 3910	Scout Ave	696974.91	298672.88	83.414	83.404	83.403	-10	-11	-1
RM 3925	Bremner Ave	696727.72	298541.52	65.423	65.426	65.424	3	1	-2
RM 3926	Bremner Ave	696630.47	298448.99	59.088	59.093	59.091	5	3	-2
RM 3933	Milliken Rd	696725.14	298412.65	71.049	71.054	71.054	5	5	0
RM 3934	Milliken Rd	696742.66	298472.30	66.303	66.308	66.307	5	4	-1
RM 3935	Simmonds Ave	696876.97	298725.70	91.755	91.744	91.743	-11	-12	-1
RM 3936	Simmonds Ave	696788.84	298756.78	90.869	90.855	90.854	-14	-15	-1
RM 7440	Hayr Rd	696258.10	299279.70	84.033	84.026	84.024	-7	-9	-2
RM 7457	Mt Albert Rd	696575.40	298967.90	85.707	85.690	85.690	-17	-17	0
AP 1	Plaza, Mt Albert Rd	696589.80	299127.20	81.269	81.250	81.249	-19	-20	-1
AP 2	Plaza, Mt Albert Rd	696706.40	299158.20	76.290	76.275	76.275	-15	-15	0
AP 2A	Plaza, Mt Albert Rd	696679.30	299152.50	77.582	77.569	77.567	-13	-15	-2
AP 3	Plaza, Mt Albert Rd	696693.00	299259.10	77.367	77.354	77.354	-13	-13	0
AP 4	Plaza, Mt Albert Rd	696564.80	299244.90	83.366	83.346	83.345	-20	-21	-1
AP 13	Barrister Ave	696796.00	299064.30	79.867	79.860	79.859	-7	-8	-1
AP 20	Grahame Breed Dr	696723.10	299358.50	76.792	76.784	76.784	-8	-8	0
SM 3123	Mt Eden Rd	697750.13	299344.75	75.676	75.657	75.656	-19	-20	-1
SM 3124	Landscape Rd	697715.79	299327.99	77.724	77.704	77.704	-20	-20	0
SM 3125	Landscape Rd	697810.23	298959.44	69.440	69.429	69.429	-11	-11	0
SM 3126	Landscape Rd	697873.04	298716.42	63.015	63.009	63.010	-6	-5	1
SS 3127	Landscape Rd	697911.99	298565.74	59.724	59.721	59.723	-3	-1	2
SS 3132	Waitomo St	697987.80	298590.90	61.689	61.687	61.688	-2	-1	1
SM 3883	Parau St	697156.95	298581.04	64.371	64.368	64.365	-3	-6	-3
RM 3884	Parau St	697301.96	298629.21	62.539	62.536	62.533	-3	-6	-3
SM 3885	Duke St	697474.42	298680.34	61.857	61.849	61.847	-8	-10	-2
RM 3886	Fearon Ave	697329.55	298529.49	55.236	55.237	55.234	1	-2	-3
RM 3887	Fearon Ave	697221.32	298498.22	51.548	51.542	51.536	-6	-12	-6
OCP 3888	Parau St	697732.59	298744.43	62.513	62.505	62.504	-8	-9	-1
RM 3889	Duke St	697452.34	298785.50	69.233	69.213	69.209	-20	-24	-4
RM 3891	Duke St	697515.89	299039.80	77.575	77.559	77.558	-16	-17	-1
RM 3892	Duke St	697529.22	299086.26	78.012	77.997	77.995	-15	-17	-2
RM 3893	DESTROYED	697610.67	299248.07	79.146	79.123		-23	Refer RM 3893A	
RM 3893A	Duke St	697610.68	299248.02	79.109		79.109		No previous	
RM 3894	Fulljames Ave	697586.82	298923.43	72.082	72.063	72.059	-19	-23	-4
RM 3895	Hamon Ave	697620.41	298829.46	65.188	65.165	65.155	-23	-33	-10
AP 3895A	Hamon Ave	697628.97	298839.04	65.611		65.611		No previous	
RM 3896	McCullough Ave	697345.49	298887.04	69.820	69.800	69.796	-20	-24	-4
RM 3897	McCullough Ave	697170.56	298776.56	75.084	75.069	75.066	-15	-18	-3
RM 3905	Fyvie Ave	697080.60	298923.97	75.813	75.805	75.803	-8	-10	-2
RM 3906	Fyvie Ave	697134.57	298836.07	77.447	77.435	77.432	-12	-15	-3
RM 3908	Fyvie Ave	697093.64	299129.18	82.069	82.065	82.063	-4	-6	-2
RM 3909	Scout Ave	697136.38	298680.63	80.056	80.046	80.044	-10	-12	-2
RM 3911	Dally Tce	697387.46	298991.05	88.894	88.880	88.878	-14	-16	-2
RM 3912	Fearon Ave	697399.31	298512.83	51.652	51.656	51.652	4	0	-4
RM 3913	Fearon Ave	697445.84	298362.01	49.238	49.246	49.242	8	4	-4
RM 3921	Duncumb St	697530.84	298402.67	50.034	50.040	50.036	6	2	-4
RM 3923	Connelly Ave	697465.89	299086.33	74.293	74.278	74.276	-15	-17	-2
RM 3924	Connelly Ave	697424.55	299131.88	73.034	73.021	73.018	-13	-16	-3
SM 4354	Mt Eden Rd	697606.00	299322.20	80.155	80.130	80.130	-25	-25	0
SM 6241	Duke St	697468.58	298893.36	70.012	69.987	69.984	-25	-28	-3
OCP 90B	Duke St	697480.39	298934.30	71.805	71.787	71.784	-18	-21	-3
AP 10	Roskill Way	697458.10	299308.70	82.673	82.660	82.661	-13	-12	1
AP 14	Churches Ave	697318.10	298969.20	91.334	91.321	91.317	-13	-17	-4
AP 15	Dally Terrace	697357.20	299055.90	90.821	90.810	90.806	-11	-15	-4
AP 17C	Hunters Park Dr	697293.89	299402.87	74.602	74.595	74.596	-7	-6	1
AP 29A	Duke St	697501.58	298517.84	49.542	49.542	49.537	1	-5	-5
M 220	Mt Eden Rd	697232.61	299557.19	81.700	81.664	81.665	-36	-35	1

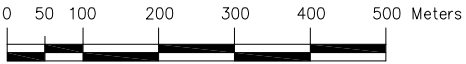
Station ID	Location	Coordinates		Averaged Level	Surveyed Levels (metres)		Change from Averaged Level (mm)		Mar 10 of Mar 09 (mm)
		mN	mE		Mar-09	Mar-10	Mar-09	Mar-10	
M 221	Mt Eden Rd	697359.09	299539.94	83.449	83.434	83.434	-15	-15	0
SS 1555	Selwyn Rd	697413.60	300062.90	99.584	99.581	99.582	-3	-2	1
SS 1556	Selwyn Rd	697425.87	300012.81	102.373	102.369	102.370	-4	-3	1
SS 1617	St Andrews Rd	697887.68	299983.32	81.442	81.443	81.442	1	0	-1
SS 1618	St Leonards Rd	697906.03	299884.48	78.478	78.476	78.475	-2	-3	-1
SS 1619	DESTROYED	697935.70	299724.63	66.617	66.615		-2		Refer AP 1619A
AP 1619A	St Leonards Rd	697935.70	299724.63	66.608		66.608			No previous
SS 1623	St Andrews Rd	697461.10	299874.96	107.522	107.514	107.515	-8	-7	1
SS 3306	Mt Eden Rd	697993.20	299406.80	60.565	60.557	60.557	-8	-8	0
SS 3307	St Leonards Rd	697985.83	299454.69	59.661	59.655	59.655	-6	-6	0
SS 3308	St Leonards Rd	697952.15	299635.99	63.275	63.273	63.272	-2	-3	-1
SS 3311	Rahiri Rd	697752.00	299610.94	95.306	95.294	95.293	-12	-13	-1
SS 3312	Rahiri Rd	697733.64	299682.97	95.929	95.920	95.917	-9	-12	-3
SS 3313	Landscape Rd	697648.30	299592.51	112.633	112.617	112.615	-16	-18	-2
SS 3315	Rewa Rd	697613.41	299396.64	80.938	80.914	80.915	-24	-23	1
SS 3316	Rewa Rd	697579.48	299529.80	98.902	98.880	98.884	-22	-18	4
RM 6807	St Andrews Rd	697216.70	299808.10	102.487	102.472	102.472	-15	-15	0
RM 6812	St Andrews Rd	697370.60	299846.60	108.907	108.894	108.894	-13	-13	0
SM 6826	Buckley Rd	697157.90	300077.50	74.710	74.709	74.708	-1	-2	-1
RM 6827	Buckley Rd	697345.96	300128.04	83.332	83.335	83.334	3	2	-1
SM 6828	Buckley Rd	697383.80	300177.40	87.952	87.954	87.953	2	1	-1
SS 7701B	Landscape Rd	697619.71	299657.05	115.509	115.507	115.506	-2	-3	-1
SS 7702B	Landscape Rd	697602.26	299725.78	110.538	110.534	110.534	-4	-4	0
RM 7703	Landscape Rd	697589.21	299808.37	100.149	100.134	100.133	-15	-16	-1
SM 7704	St Andrews Rd	697556.90	299894.50	97.816	97.810	97.809	-6	-7	-1
RM 7705	DESTROYED	697703.31	299921.80	88.086	88.085		-1		Refer AP 7705A
AP 7705A	St Andrews Rd	697700.05	299930.56	88.195		88.195			No previous
AP 9	St Andrews Rd	697103.90	299782.20	92.802	92.782	92.782	-20	-20	0
AP 11	Mt Eden Rd	697168.40	299548.70	80.191	80.182	80.182	-9	-9	0
AP 16	Queens Way	697156.20	299676.20	83.646	83.630	83.632	-16	-14	2
AP 18B	Mt Eden Rd	697509.31	299384.27	81.641	81.640	81.640	-1	-1	0
M 205	Mt Albert Rd	696471.16	300138.54	59.305	59.305	59.304	0	-1	-1
AP 206A	Mt Albert Rd	696527.29	299919.36	59.997	59.998	59.995	1	-2	-3
M 210	Mt Albert Rd	696536.06	299441.55	83.050	83.030	83.030	-20	-20	0
SM 1979	Hillsborough Rd	696308.02	299637.25	61.241	61.216	61.213	-25	-28	-3
BP 1977B	Hillsborough Rd	696141.75	299609.93	71.993	71.985	71.983	-8	-10	-2
SM 6809	St Andrews Rd	697001.27	299757.44	81.800	81.778	81.779	-22	-21	1
SM 6810	St Andrews Rd	696925.56	299720.86	76.956	76.935	76.936	-21	-20	1
RM 6811	St Andrews Rd	696849.02	299715.44	76.526	76.503	76.504	-23	-22	1
RM 6813	St Andrews Rd	696631.95	299652.97	80.905	80.880	80.879	-25	-26	-1
RM 6816	Rowan Rd	696721.88	299845.69	78.908	78.886	78.887	-22	-21	1
SM 6817	Rowan Rd	696808.83	299876.79	80.995	80.977	80.978	-18	-17	1
RM 6818	Rowan Rd	696826.70	299791.25	81.966	81.945	81.946	-21	-20	1
RM 6819	Buckley Rd	696678.00	299942.25	65.620	65.610	65.607	-10	-13	-3
SM 6820	Buckley Rd	696808.11	299988.79	71.955	71.950	71.947	-5	-8	-3
SM 6821	Buckley Rd	696938.51	300004.30	71.114	71.111	71.109	-3	-5	-2
SM 6822	Gorrie Ave	696973.90	299863.23	81.874	81.856	81.856	-18	-18	0
SM 6823	Buckley Rd	697012.43	300021.72	70.593	70.589	70.587	-4	-6	-2
RM 6824	Buckley Rd	697044.38	300030.36	71.084	71.083	71.081	-1	-3	-2
RM 6825	Quentin Ave	697092.90	299916.80	81.386	81.376	81.375	-10	-11	-1
SM 6835	Torrance St	696969.98	300185.70	70.784	70.788	70.785	4	1	-3
SM 6836	Torrance St	696930.33	300343.26	65.955	65.959	65.958	4	3	-1
RM 6838	Fernleigh Ave	696773.28	300065.80	70.304	70.301	70.298	-3	-6	-3
SM 6839	Fernleigh Ave	696748.10	300163.47	67.487	67.489	67.487	2	0	-2
SM 6840	Fernleigh Ave	696714.69	300296.02	63.278	63.282	63.281	4	3	-1
SM 6841	Peet Ave	696626.68	300131.57	65.698	65.698	65.696	0	-2	-2
AP 6843A	Kings Way	696958.45	299642.05	75.221	75.219	75.220	-2	-1	1
RM 7647	Mt Albert Rd	696565.00	299755.10	67.601	67.578	67.575	-23	-26	-3
ORM.I	Weaver Street	696836.50	300316.20	63.578	63.583	63.582	5	4	-1
AP 5	Mt Eden Rd	696757.00	299500.90	75.746	75.735	75.735	-11	-11	0
AP 6	Queens Way	696746.90	299590.60	75.306	75.286	75.286	-20	-20	0
AP 7A	St Andrews Rd	696778.94	299702.10	76.820	76.817	76.817	-3	-3	0
AP 8B	Mt Albert Rd	696559.06	299633.48	75.740	75.727	75.725	-13	-15	-2
AP 12	Warren Ave	696409.10	299402.20	94.357	94.341	94.339	-16	-18	-2
OAP 19	St Andrews Rd	696725.00	299676.40	77.508	77.483	77.483	-25	-25	0
AP 21A	Mt Eden Rd	696997.90	299534.34	77.288	77.285	77.285	-3	-3	0
AP 22	Queens Way	697069.30	299667.60	78.352	78.340	78.341	-12	-11	1
AP 23	Queens Way	696858.57	299609.62	74.402	74.389	74.390	-13	-12	1
AP 30	Mt Eden Rd	696966.19	299525.13	77.329	77.318	77.319	-11	-10	1
AP 31	Mt Eden Rd	696934.22	299521.42	76.857	76.852	76.852	-5	-5	0
AP 32	Mt Eden Rd	696902.63	299517.81	76.203	76.193	76.193	-10	-10	0
AP 33	Mt Eden Rd	696855.06	299512.27	75.121	75.111	75.111	-10	-10	0
AP 34	Mt Eden Rd	696807.28	299506.75	74.937	74.924	74.924	-13	-13	0
SM 5387	Erson Ave	696146.21	300815.94	56.747	56.749	56.748	2	1	-1

Station ID	Location	Coordinates		Averaged Level	Surveyed Levels (metres)		Change from Averaged Level (mm)		Mar 10 of Mar 09 (mm)
		mN	mE		Mar-09	Mar-10	Mar-09	Mar-10	
SM 5386	Symonds St	696104.12	300983.29	55.184	55.186	55.185	2	1	-1
M 638	Manukau Rd	696081.51	301109.25	54.690	54.691	54.691	1	1	0
CA 55	Manukau Rd	696605.90	300894.30	65.141	65.141	65.141	0	0	0
CA 53	Akarana Ave	696935.90	298292.10	70.594	70.594	70.594	0	0	0
M 216	Mt Albert Rd	696903.54	298347.91	72.658	72.658	72.658	0	0	0
SS 1977	Hillsborough Rd	696020.20	299595.82	74.453	74.448	74.447	-5	-6	-1
RM 3927	Bremner Ave	696633.32	298338.77	62.651	62.653	62.651	2	0	-2
RM 3928	Bremner Ave	696727.76	298195.81	56.144	56.146	56.146	2	2	0
AP 139	Bremner Ave	696788.02	298157.42	56.225	56.226	56.224	1	-1	-2
RM 3931	Milliken Ave	696817.47	298257.51	62.500	62.501	62.502	1	2	1
RM 3932	Milliken Ave	696733.95	298363.24	71.719	71.719	71.719	0	0	0
SS 3004	Dominion Rd	698058.80	298223.46	51.812	51.811	51.812	-1	0	1
SS 3131	Shackleton Rd	698110.53	298631.80	59.419	59.417	59.418	-2	-1	1
SS 3133	Shackleton Rd	698071.30	298770.71	59.554	59.551	59.551	-3	-3	0
SS 3134	Shackleton Rd	698021.66	298946.50	61.479	61.473	61.473	-6	-6	0
SS 3135	Shackleton Rd	697966.25	299165.81	61.684	61.680	61.681	-4	-3	1
SS 3151	Mt Eden Rd	698285.87	299497.70	67.987	67.988	67.989	1	2	1
SS 1905	St Andrews Rd	698147.73	300049.39	88.810	88.807	88.807	-3	-3	0
RM 7707	DESTROYED	697973.66	299990.96	81.206	81.203		-3	Refer AP 7707A	
AP 7707A	St Andrews Rd	697977.74	300004.98	81.535		81.535		No previous	
SS 1558	Empire Rd	697813.79	300111.39	92.169	92.165	92.164	-4	-5	-1
SS 1559	Empire Rd	697800.00	300165.50	96.024	96.020	96.019	-4	-5	-1
SS 1549	The Drive	697753.34	300348.67	85.871	85.869	85.870	-2	-1	1
SS 1550	The Drive	697589.88	300306.71	84.432	84.433	84.434	1	2	1
RM 6830	The Drive	697538.21	300294.84	81.638	81.638	81.638	0	0	0
SS 1551	The Drive	697492.54	300281.71	77.481	77.480	77.480	-1	-1	0
RM 6829	Selwyn Rd	697363.05	300258.05	79.864	79.859	79.859	-5	-5	0
RM 6832	Selwyn Rd	697337.40	300403.57	80.190	80.191	80.190	1	0	-1
SM 5912	Pah Rd	697278.09	300666.24	74.285	74.286	74.285	1	0	-1
AP 35	Mt Albert Rd	696402.12	300407.23	54.190	54.196	54.194	6	4	-2
AP 37	Hillsborough Rd	696407.39	299705.88	59.335	59.325	59.322	-10	-13	-3
AP 38	Budock Rd	696246.76	299834.65	69.274	69.269	69.268	-4	-5	-1
AP 39	Hillsborough Bowling	696383.07	299856.28	56.297	56.294	56.291	-3	-6	-3
AP 40	Hillsborough Bowling	696445.91	299895.62	55.757	55.755	55.753	-2	-4	-2
IS 41	Hillsborough Bowling	696403.82	299804.75	56.336	56.332	56.330	-4	-6	-2
AP 42	Dornwell Rd	696378.41	299015.87	76.373	76.364	76.362	-9	-11	-2
AP 43	Dornwell Rd	696260.57	298956.76	66.002	65.995	65.993	-7	-9	-2
AP 44	Dornwell Rd	696110.00	298858.85	58.493	58.487	58.485	-6	-8	-2
AP 45	Frost Rd	696471.85	298726.92	64.920	64.914	64.911	-6	-9	-3
AP 54	Frost Rd	696264.66	298577.84	57.855	57.847	57.844	-8	-11	-3
AP 46	Dominion Rd	697995.61	298226.64	50.443	50.443	50.442	0	-1	-1
AP 47A	Landscape Rd	697951.78	298343.10	52.565	52.565	52.566	0	1	1
AP 48A	Landscape Rd	697937.88	298463.58	57.065	57.064	57.066	-1	1	2
AP 49B	Landscape Rd	697788.49	299044.88	70.340	70.340	70.340	0	0	0
AP 50B	Landscape Rd	697766.32	299132.16	71.659	71.659	71.659	0	0	0
AP 51B	Landscape Rd	697745.03	299214.61	74.120	74.120	74.120	0	0	0
AP 55	Mt Eden Rd	698209.04	299461.78	68.263	68.263	68.264	0	1	1
AP 56	Mt Albert Rd	696314.42	300774.76	58.409	58.412	58.411	3	2	-1
AP 60	Rowan Rd	696681.05	299826.31	76.276	76.266	76.267	-10	-9	1
AP 61	Rowan Rd	696616.53	299797.11	71.310	71.301	71.298	-9	-12	-3
AP 62	Mt Albert Rd	696530.18	299814.00	63.068	63.061	63.059	-7	-9	-2
AP 63A	Mt Albert Rd	696520.06	299875.15	61.370	61.370	61.368	0	-2	-2
AP 64	Hillsborough Rd	696478.45	299774.30	60.579	60.574	60.571	-5	-8	-3
AP 65	Hillsborough Rd	696446.58	299735.84	59.546	59.538	59.535	-8	-11	-3
OAP 66	Hillsborough Rd	696359.44	299672.76	59.987	59.983	59.979	-4	-8	-4
AP 67	Hillsborough Rd	696248.43	299622.21	63.871	63.865	63.863	-6	-8	-2
OCP 68	Budock Rd	696235.97	299684.44	66.304	66.300	66.299	-4	-5	-1
AP 69	Budock Rd	696249.57	299731.19	65.977	65.974	65.972	-3	-5	-2
AP 70	Budock Rd	696244.13	299790.39	71.208	71.205	71.204	-3	-4	-1
OAP 71	Hillsborough Rd	696195.17	299615.83	67.651	67.647	67.646	-4	-5	-1
AP 72	Hillsborough Rd	696072.41	299594.01	74.077	74.073	74.072	-4	-5	-1
AP 73	Marie Ave	696238.34	299544.47	70.874	70.868	70.866	-6	-8	-2
AP 74	Marie Ave	696260.93	299489.18	80.330	80.322	80.322	-8	-8	0
AP 75	Marie Ave	696280.07	299452.86	86.876	86.871	86.871	-5	-5	0
AP 77	Mt Albert Rd	696539.58	299487.18	82.751	82.742	82.741	-9	-10	-1
AP 78	Mt Albert Rd	696559.36	299551.48	81.022	81.014	81.013	-8	-9	-1
AP 79	Mt Albert Rd	696558.48	299588.52	78.663	78.656	78.655	-7	-8	-1
AP 80	Mt Albert Rd	696561.89	299691.52	71.414	71.405	71.403	-9	-11	-2
AP 81A	Mt Albert Rd	696501.72	300015.21	58.551	58.552	58.549	1	-2	-3
AP 82A	Mt Albert Rd	696507.72	299991.38	58.575	58.576	58.574	1	-1	-2
AP 83	Mt Albert Rd	696514.36	299966.95	58.863	58.862	58.860	-1	-3	-2
AP 84	Mt Albert Rd	696520.40	299943.25	59.350	59.348	59.346	-2	-4	-2
AP 85	Mt Albert Rd	696516.23	299894.40	60.619	60.615	60.613	-4	-6	-2
AP 86	Mt Albert Rd	696524.80	299855.75	62.051	62.048	62.046	-3	-5	-2



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		mN	mE		Mar-09	Mar-10	Mar-09	Mar-10	
AP 87	Mt Albert Rd	696530.55	299833.50	62.733	62.729	62.728	-4	-5	-1
AP 88	Mt Albert Rd	696541.65	299788.51	64.828	64.821	64.818	-7	-10	-3
AP 89	Mt Albert Rd	696560.86	299777.80	65.939	65.934	65.931	-5	-8	-3
AP 90	Mt Albert Rd	696562.93	299734.25	68.687	68.681	68.679	-6	-8	-2
AP 91	Mt Albert Rd	696562.43	299712.45	70.075	70.070	70.068	-5	-7	-2
AP 92	Mt Albert Rd	696560.50	299673.84	72.613	72.614	72.614	1	1	0
AP 93	Mt Albert Rd	696559.89	299657.17	73.864	73.860	73.858	-4	-6	-2
AP 94	Mt Albert Rd	696558.57	299610.31	77.101	77.096	77.095	-5	-6	-1
AP 95	Mt Albert Rd	696559.21	299569.96	79.957	79.951	79.949	-6	-8	-2
AP 96	St Andrews Rd	696582.87	299641.10	77.897	77.891	77.890	-6	-7	-1
AP 97	St Andrews Rd	696607.72	299646.90	80.321	80.315	80.314	-6	-7	-1
AP 98	Rowan Rd	696588.07	299763.68	68.501	68.497	68.494	-4	-7	-3
AP 99	Rowan Rd	696594.23	299786.13	69.478	69.474	69.471	-4	-7	-3
AP 100	Hillsborough Rd	696521.99	299784.89	62.966	62.961	62.958	-5	-8	-3
AP 101	Hillsborough Rd	696494.72	299786.95	61.359	61.354	61.350	-5	-9	-4
AP 102	Hillsborough Rd	696457.24	299761.13	60.006	60.001	59.999	-5	-7	-2
AP 103	Hillsborough Rd	696427.81	299719.78	59.404	59.398	59.395	-6	-9	-3
AP 104A	Hillsborough Rd	696385.14	299690.23	59.554	59.551	59.548	-3	-6	-3
AP 105	Hillsborough Rd	696373.80	299682.70	59.711	59.707	59.704	-4	-7	-3
AP 106	Hillsborough Rd	696341.88	299660.52	60.458	60.456	60.453	-2	-5	-3
AP 107	Hillsborough Rd	696324.59	299648.55	60.881	60.878	60.876	-3	-5	-2
AP 108	Hillsborough Rd	696290.76	299628.82	62.060	62.058	62.056	-2	-4	-2
AP 109	Hillsborough Rd	696270.02	299627.79	62.806	62.803	62.801	-3	-5	-2
AP 110	Hillsborough Rd	696230.60	299619.62	64.997	64.992	64.990	-5	-7	-2
AP 111	Hillsborough Rd	696213.05	299617.07	66.322	66.319	66.318	-3	-4	-1
AP 112	Budock Rd	696247.78	299636.80	63.699	63.697	63.696	-2	-3	-1
AP 113	Budock Rd	696235.55	299662.37	65.546	65.546	65.544	0	-2	-2
AP 114	Budock Rd	696238.48	299707.28	65.879	65.885	65.884	6	5	-1
AP 115	Budock Rd	696251.17	299753.13	67.579	67.577	67.576	-2	-3	-1
AP 116	Budock Rd	696251.91	299773.34	69.485	69.484	69.483	-1	-2	-1
AP 117	Budock Rd	696245.16	299811.84	70.833	70.836	70.837	3	4	1
OAP 118	Mt Albert Rd	696509.17	299918.39	59.895	59.891	59.889	-4	-6	-2
AP 119A	Haughey Ave	696164.45	299223.61	72.895	72.894	72.891	-1	-4	-3
AP 120	Haughey Ave	696109.88	299304.27	67.450	67.449	67.447	-1	-3	-2
AP 121	Haughey Ave	696056.80	299385.05	66.666	66.664	66.662	-2	-4	-2
AP 122	Haughey Ave	696006.86	299462.68	66.032	66.029	66.028	-3	-4	-1
AP 123A	Haughey Ave	695959.41	299557.72	73.518	73.519	73.517	1	-1	-2
OAP 125	DESTROYED	695847.40	299535.51	69.958	69.954		-4	Refer AP 125A	
AP 125A	Hillsborough Rd	695847.28	299535.57	69.946		69.946		No previous	
SS 1976	Hillsborough Rd	695759.40	299503.94	71.137	71.128	71.127	-9	-10	-1
AP 126A	Carr Rd	695885.14	299465.23	65.244	65.244	65.243	0	-1	-1
AP 127A	Carr Rd	695905.29	299374.82	61.514	61.515	61.512	1	-2	-3
RM 7441	Carr Rd	695901.87	299261.38	58.499	58.497	58.493	-2	-6	-4
AP 129A	Carr Rd	695938.31	299190.92	58.156	58.157	58.155	1	-1	-2
OAP 130	Dornwell Rd	696185.75	298907.65	60.670	60.669	60.668	-1	-2	-1
OAP 131	Hayr Rd	696067.40	299157.71	63.120	63.120	63.118	0	-2	-2
OCP 41B	Carr/Hayr Rds	695981.19	299080.36	58.362	58.358	58.356	-4	-6	-2
AP 132	Carr Rd	696043.81	298963.55	58.403	58.401	58.399	-2	-4	-2
AP 133	Carr Rd	696128.84	298776.82	58.156	58.157	58.155	1	-1	-2
AP 134	Carr Rd	696177.86	298685.47	58.033	58.035	58.033	2	0	-2
AP 135	Frost Rd	696157.94	298506.10	57.399	57.403	57.400	4	1	-3
AP 136	Frost Rd	696363.44	298640.34	59.265	59.266	59.263	1	-2	-3



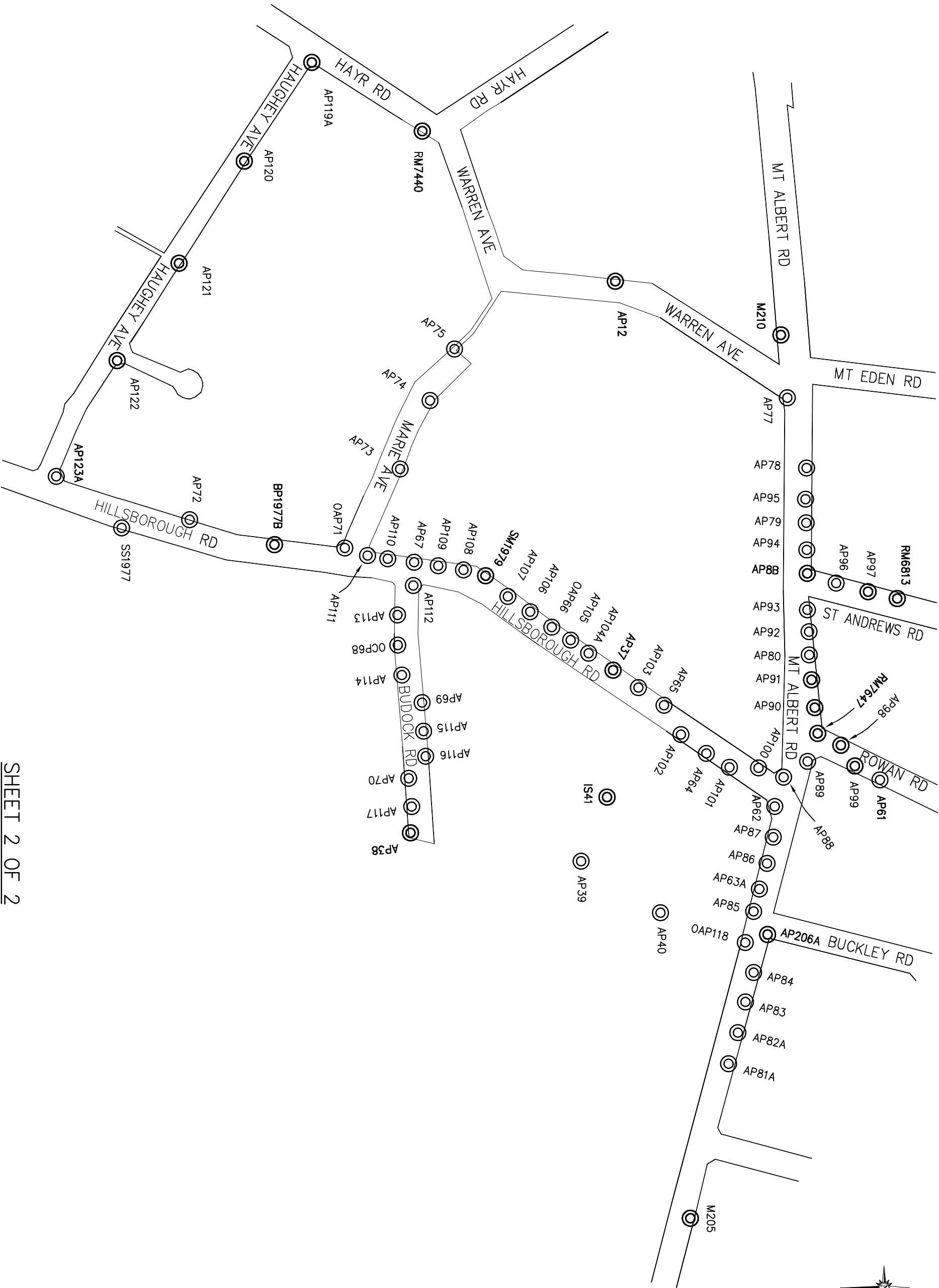
Note:
Origin of Levels
CA55 S04930
RL65.1412m
In some terms as
M205 S054417
RL59.305m
(as at 5/02)
● SS3316 = Level
Control Pt
Existing



SHEET 1 OF 2

B		AP1254, RM3893A, AP1619A, AP7705A, AP7707A	NO	03/10	DESIGNED:	DATE:	SIGNATURE:	PLOT DATE:	17/03/2010	 <div>ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND</div>  <div>H A R R I S O N G R I E R S O N CONSULTING ENGINEERS SURVEYORS PLANNERS</div> <div>Level 5 Copple House, 20 Arnhem Way, Manukau City Pk 09 966 3390 Fax 09 966 3390</div>	PROJECT: WINSTONE AGGREGATES THREE KINGS QUARRY	TITLE: SURVEY MONITORING LEVEL CONTROL POINTS	PLOT STATUS:
AP3895A ADDED					SIGNATURE:								
OAP125, RM3893, SS1619, RM7705, RM7707					SIGNATURE:								
DELETED					SIGNATURE:								
					CHECKED:	DATE:	SIGNATURE:	SURVEY BY:		THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF HARRISON GRIERSON CONSULTING ENGINEERS AND MAY NOT BE REPRODUCED OR ALTERED WITHOUT THE WRITTEN PERMISSION OF HARRISON GRIERSON CONSULTANTS LIMITED. OUR LIABILITY SHALL BE ACCEPTED FOR UNAUTHORIZED USE OF THIS DRAWING.	PROJECT: WINSTONE AGGREGATES THREE KINGS QUARRY	TITLE: SURVEY MONITORING LEVEL CONTROL POINTS	PLOT STATUS:
M		ORIGIN OF LEVELS CHANGED	NO	5/02	APPROVED:	DATE:	SIGNATURE:	SURVEY DATE:					
REVISION			BY	DATE									

PROJECT No:	SCALE:	A1 1:5000	A1
DRAWING No:		A3 1:10000	A3
		REV	REV
6451_102			B



SHEET 2 OF 2

B	SEE SHEET 1	MD	03/10	DESIGNED:	DATE:	SIGNATURE:	PLAT DATE:	17/03/2010		ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND ISO 9001 QUALITY STANDARD ASSURED	
				DRAWN:	DATE:	SIGNATURE:	COO REF:	6451-102 (Draft) 16 Feb			
				CHECKED:	DATE:	SIGNATURE:	SURVEY BY:				
							SURVEY DATE:				
M	ORIGIN OF LEVELS CHANGED	MD	5/02	APPROVED:	DATE:	SIGNATURE:	THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF HARRISON CONSULTANTS LIMITED. NO LIABILITY SHALL BE ACCEPTED FOR UNAUTHORISED USE OF THIS DRAWING.				
REF	AMENDMENT	BY	DATE								
PROJECT:											
WINSTONE AGGREGATES THREE KINGS QUARRY											
TITLE:											
SURVEY MONITORING LEVEL CONTROL POINTS											
PLAT STATUS:											
PROJECT No: A1 1:1500 1130/006451 A3 1:3000											
DRAWING No: 6451_102											
REV											
B											