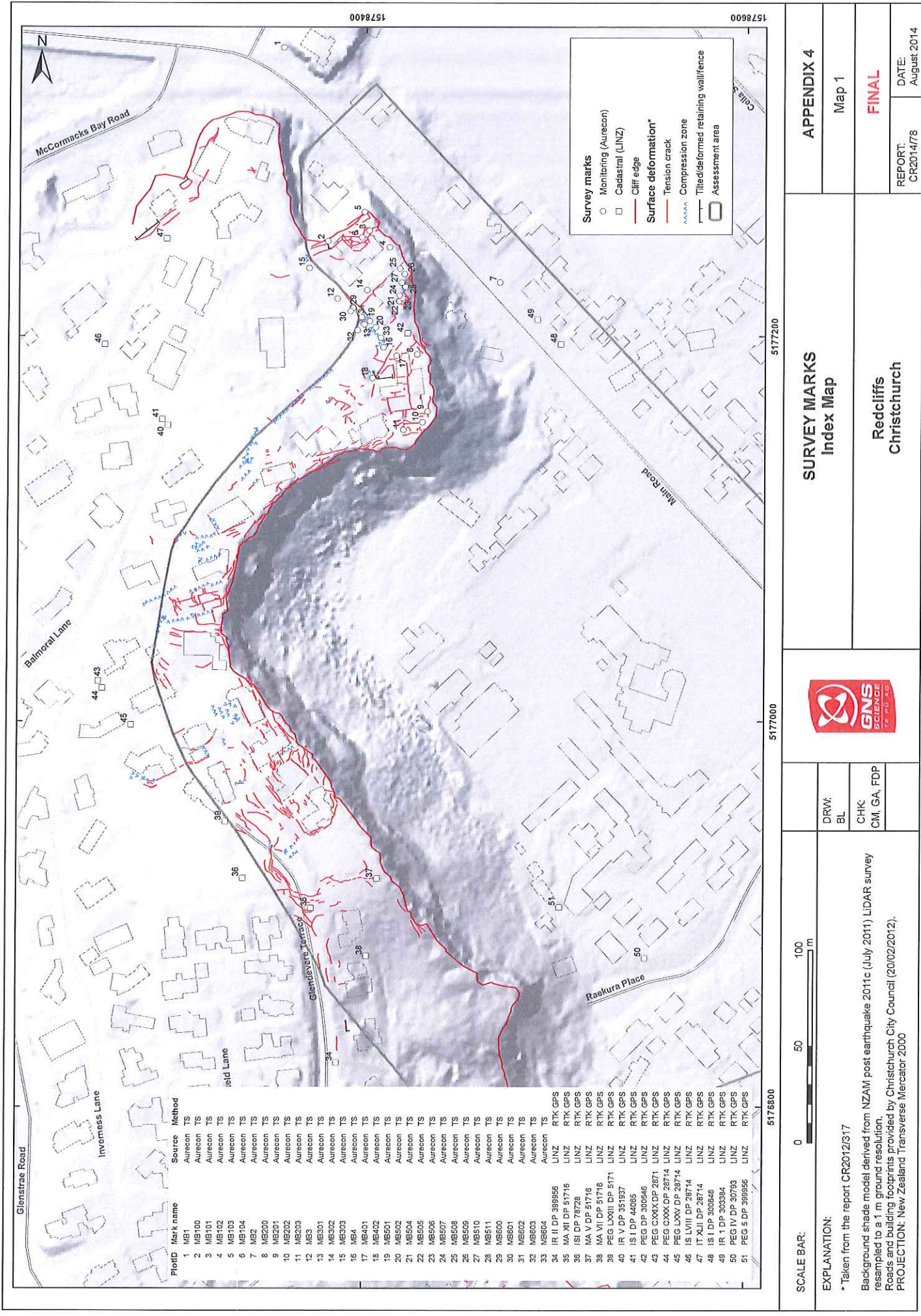
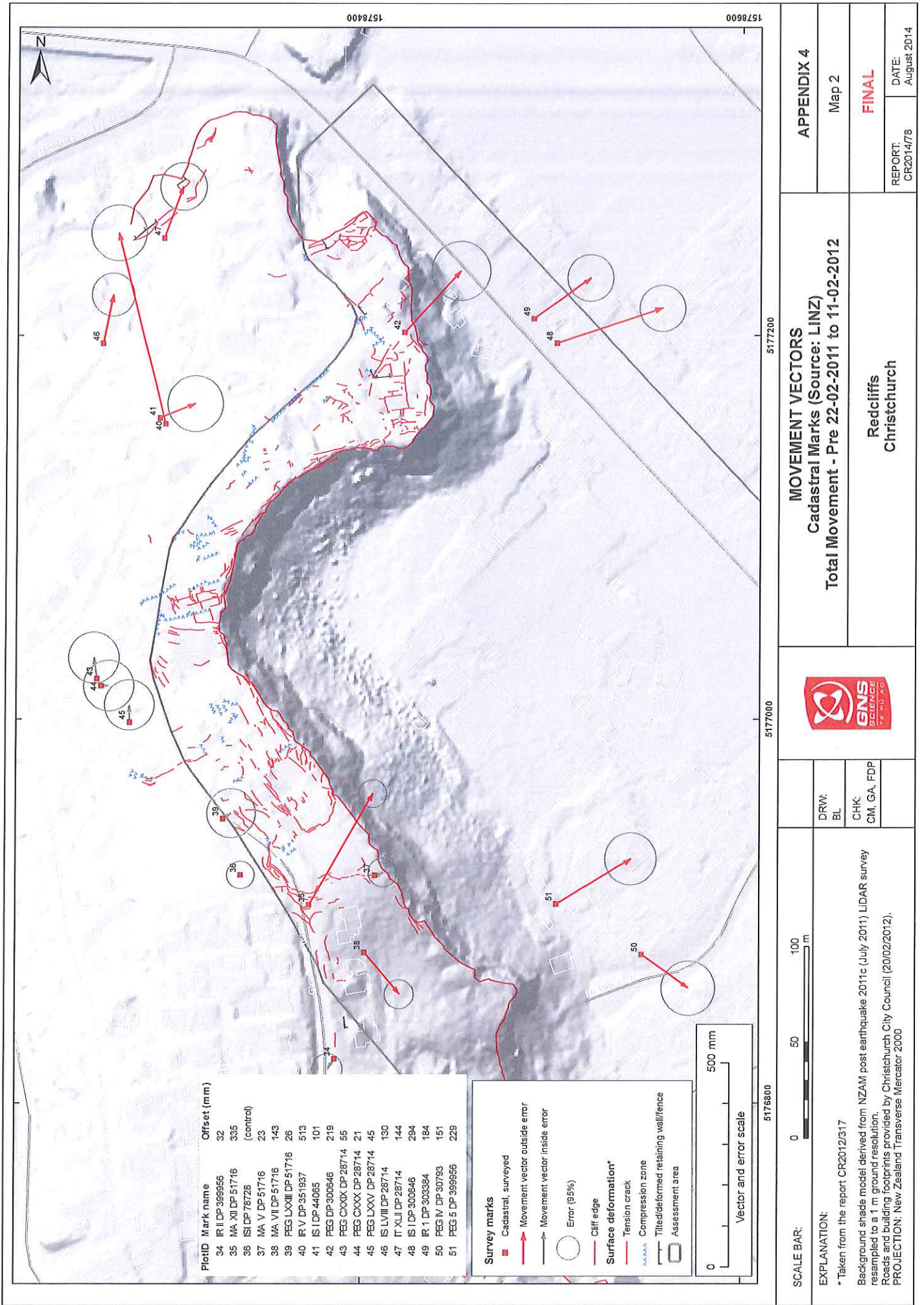


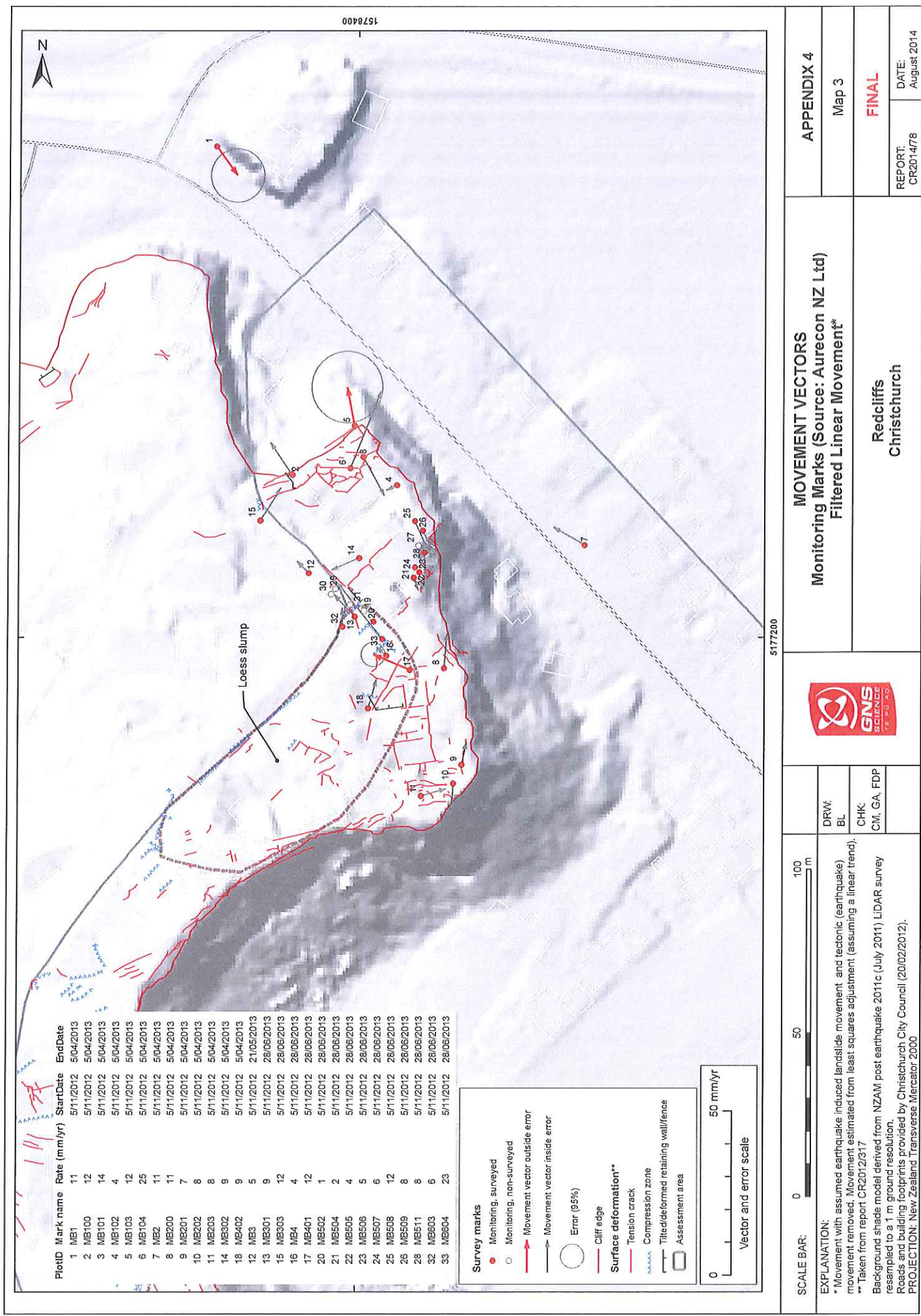
A4 APPENDIX 4: RESULTS FROM SURVEYS OF CADASTRAL AND MONITORING SURVEY MARKS



SCALE BAR: 0 50 100 m		DRW: BL		5176800		5177000		5177200		SURVEY MARKS Index Map		APPENDIX 4	
EXPLANATION: * Taken from the report CR2012/317 Background shade model derived from NZAM post earthquake 2011c (July 2011) LIDAR survey resampled to a 1 m ground resolution. Roads and building footprints provided by Christchurch City Council (20/02/2012). PROJECTION: New Zealand Transverse Mercator 2000		CHK: CM, GA, FDP		GNS SCIENCE 120 PULAU		Redcliffs Christchurch		Map 1		FINAL		REPORT: CR2014/78	
												DATE: August 2014	



SCALE BAR: 0 50 100 m				MOVEMENT VECTORS Cadastral Marks (Source: LINZ) Total Movement - Pre 22-02-2011 to 11-02-2012		APPENDIX 4
EXPLANATION: * Taken from the report CR2012/317 Background shade model derived from NZAM post earthquake 2011c (July 2011) LIDAR survey resampled to a 1 m ground resolution. Roads and building footprints provided by Christchurch City Council (20/02/2012). PROJECTION: New Zealand Transverse Mercator 2000		DRW: BL		Map 2		
		CHK: CM, GA, FDP		Redcliffs Christchurch		FINAL
						REPORT: CR2014/78
						DATE: August 2014



PlotID	Mark name	Rate (mm/yr)	StartDate	EndDate
1	MB1	11	5/11/2012	5/04/2013
2	MB100	12	5/11/2012	5/04/2013
3	MB101	14	5/11/2012	5/04/2013
4	MB102	4	5/11/2012	5/04/2013
5	MB103	12	5/11/2012	5/04/2013
6	MB104	25	5/11/2012	5/04/2013
7	MB2	11	5/11/2012	5/04/2013
8	MB200	11	5/11/2012	5/04/2013
9	MB201	7	5/11/2012	5/04/2013
10	MB202	8	5/11/2012	5/04/2013
11	MB203	8	5/11/2012	5/04/2013
14	MB302	9	5/11/2012	5/04/2013
18	MB402	9	5/11/2012	5/04/2013
12	MB3	5	5/11/2012	21/05/2013
13	MB301	9	5/11/2012	28/06/2013
15	MB303	12	5/11/2012	28/06/2013
16	MB4	4	5/11/2012	28/06/2013
17	MB401	12	5/11/2012	28/06/2013
20	MB502	1	5/11/2012	28/06/2013
21	MB504	2	5/11/2012	28/06/2013
22	MB505	4	5/11/2012	28/06/2013
23	MB506	5	5/11/2012	28/06/2013
24	MB507	6	5/11/2012	28/06/2013
25	MB508	12	5/11/2012	28/06/2013
26	MB509	8	5/11/2012	28/06/2013
28	MB511	8	5/11/2012	28/06/2013
32	MB603	6	5/11/2012	28/06/2013
33	MB604	23	5/11/2012	28/06/2013

Survey marks

● Monitoring, surveyed

○ Monitoring, non-surveyed

→ Movement vector outside error

→ Movement vector inside error

○ Error (95%)

— Cliff edge

— Surface deformation**

— Tension crack

— Compression zone

— Tilted/deformed retaining wall/fence

□ Assessment area

0 50 mm/yr

Vector and error scale

SCALE BAR: 0 50 100 m				MOVEMENT VECTORS Monitoring Marks (Source: Aurecon NZ Ltd) Filtered Linear Movement*	APPENDIX 4
EXPLANATION:		DRW: BL			
* Movement with assumed earthquake induced landslide movement and tectonic (earthquake) movement removed. Movement estimated from least squares adjustment (assuming a linear trend).		CHK:			Map 3
** Taken from report CR2012/317		CM, GA, FDP			
Background shade model derived from NZAM post earthquake 2011c (July 2011) LIDAR survey resampled to a 1 m ground resolution. Roads and building footprints provided by Christchurch City Council (20/02/2012). PROJECTION: New Zealand Transverse Mercator 2000				Redcliffs Christchurch	FINAL
				REPORT: CR2014/78	DATE: August 2014

