

From: [Cody Davidson](#)
To: [Prisca Gain](#)
Cc: [Vanessa Browne](#); [Stuart Woods](#); [Leisa Coley](#); [Official Correspondence](#)
Subject: MINO-744 RESPONSE
Date: Friday, 5 May 2023 2:22:03 pm
Attachments: [Regional Programme LCLR programme Summary to MQ 230504.xlsx](#)
[LCLR individual project template.pptx](#)

Kia ora Prisca,

Please find attached:

- Template to use for the projects, including one filled out for SH1 Bulli Point.
- An updated spreadsheet with cost columns added to both programme tables and regional cost estimate totals in the first tab. Please note the costs are estimates only and will be refined and updated as design and procurement work progresses.

Will await any feedback from you.

Thanks,

Cody

Out of Scope

Proactively Released

Background:

The attached list of State Highway Low Cost Low Risk interventions is submitted as Tranche (Sub-programme) One of proposals as part of the "Road Improvements to support Resilience to Climate-Related Weather Events". Many of these activities can commence immediately in 2023/24, with some quick wins able to achieve early delivery over the 23/24 summer construction season.

Notes:

- 1 Total number of projects is 92
- 2 The activities are based on the current highest priority sites for regions across the country. Further candidate sites are known and available where expansion (or backfilling Recovery projects) is needed.
- 3 Regionally submitted projects were checked for compliance as a LCLR project (value, activity type, no duplication with other programmes)
- 4 The number of projects per region varies between 2 (Nelson/ Tasman or 7 for whole TotS) and 14 (Waikato)
- 5 Estimated value of programme is \$69M, with \$31m as contingency and allowance for further activities as the programme is confirmed. This approach allows headroom for any emerging high risk issues over the 10 year period
- 6 The costs are estimates only and will be refined and updated as design and procurement work progresses
- 7 The programme is based on delivery in the period FY23-24 to FY25-26 inclusive.
- 8 The proposed list includes a small number of sites from within the current Recovery areas – further development of both programmes will confirm and resolve any duplications of programmes, but some projects may transfer to the recovery programme for delivery with other prioritised projects substituted in to replace them.
- 9 The contingency projects tab outlines the next \$15M of projects which could be delivered subject to prior delivery of the priority projects in the Proposed LCLR Projects 23-26 list.

Region	Proposed programme estimate (\$M's)	Contingency projects estimate (\$M's)
Northland	\$ 7.19	\$ -
Auckland	\$ 4.22	\$ 4.65
Waikato	\$ 8.19	\$ 0.36
Bay of Plenty	\$ 2.87	\$ 0.50
Gisborne	\$ 4.00	\$ -
Hawkes Bay	\$ 2.40	\$ -
Manawatu	\$ 3.30	\$ 0.61
Taranaki	\$ 3.50	\$ 0.75
Wellington	\$ 2.75	\$ 1.25
Nelson/Tasman	\$ 3.00	\$ -
Marlborough	\$ 5.50	\$ 2.53
West Coast	\$ 8.45	\$ 2.30
Canterbury	\$ 3.65	\$ 1.85
Otago	\$ 6.15	\$ 0.80
Southland	\$ 3.80	\$ -
	\$ 68.97	\$ 15.60

Proactively Released

O	SH	Project Name	Natural Hazard	Description	Cost Estimate
Northland	01N	Long Hill slip 4 Lake Rotokere Underpass 4	Underslip	Stabilise ongoing subsidence	\$ 1,359,000
Northland	01N	Kaiwaka 2017 Underpass	Underslip	Stabilise ongoing subsidence	\$ 1,580,000
Northland	01N	Saunders Road Underpass	Underslip	Stabilise ongoing subsidence	\$ 1,450,000
Northland	16	Lookout Hill Underpass 1	Underslip	Stabilise ongoing subsidence	\$ 1,600,000
Northland	16	Lookout Hill Underpass 2	Underslip	Stabilise ongoing subsidence	\$ 1,200,000
Auckland	Various	Detour Routes	Detour Route Vulnerability	Detour resilience needs	\$ 200,000
Auckland	1	SH1 Mt Wellington and Butcher Road Pump Station	Flooding	Drainage Improvements	\$ 2,000,000
Auckland	22	SH22 Culvert Capacity - RSRP22-0000/B/4500-4600	Flooding	Drainage Improvements	\$ 2,000,000
Auckland	1	SH1 Pokeno to Mercer cabinets for increased flood levels	Flooding	Drainage Improvements	\$ 20,000
West Waikato	23	SH23 Raglan Divvy - Drainage (SH23-0015/5.950-6.060)	Drainage Improvement	Drainage improvements	\$ 100,000
West Waikato	3	SH3 Awawino Hill - Mesh Overslip (SH3-0076/1.658-1.700)	Underslip	Ongoing bank failure	\$ 400,000
West Waikato	1	SH18 Mangatotoke Stream Bridge	Bridge Scour	Significant scour around bridge abutments	\$ 330,000
East Waikato	27	Waikumete Shoulder Slumping (Site #34)	Underslip	Stabilise underslip	\$ 700,000
East Waikato	2	SH2 Karangahake Gorge various Retaining Wall upgrades	Underslip	Upgrade numerous retaining walls to improve resilience	\$ 300,000
East Waikato	27	Patetonga Embankment	Underslip	Stabilise underslip	\$ 110,000
East Waikato	25	SH25 Ramarama Stream Bridge	Bridge Scour	Scour protection to bridge	\$ 300,000
East Waikato	25	SH25 Komata River Bridge	Bridge Scour	Scour protection to bridge	\$ 300,000
Central Waikato	1	SH1 Buli Point (Te Poporo) Site 1	Underslip	Stabilise underslip	\$ 2,000,000
Central Waikato	1	SH1 Buli Point (Te Poporo) Site 2	Underslip	Stabilise underslip	\$ 2,000,000
Central Waikato	5	SH5 Miti Stream Bridge	Bridge Scour	Scour protection to bridge	\$ 600,000
Central Waikato	46	SH46 Tongariro Culvert upgrade	Flooding	Culvert upgrade	\$ 200,000
Central Waikato	41	SH41 R-Waihi Hill 2 Scour (# 33)	Erosion	Drainage Improvements	\$ 100,000
Central Waikato	41	SH41 R-Waihi Hill Scour (# 32) (60050801)	Underslip	Stabilise underslip	\$ 750,000
BOP West	29A	SH29A Maungatapu Bridge	Seismic Assessment	Ground Investigation and Seismic assessment only	\$ 320,000
BOP West	2	SH2 Tuapiri Stream Bridge	Bridge Scour	Scour protection	\$ 70,000
BOP West	2	SH2 Te Mania Stream Bridge	Bridge Scour	Scour protection	\$ 80,000
BOP East	29	Ruahini Bluff	Rockfall	Rockfall protection	\$ 300,000
BOP East	2	SH2 Waioeka River Groynes	River Erosion	Improve and replace Groynes	\$ 1,050,000
BOP East	35	Site#143 Raukokore River East	Underslip	Stabilise underslip	\$ 306,000
BOP East	35	SH35 Pirikaraka Stream Bridge	Bridge Scour	Scour protection	\$ 300,000
BOP East	35	Overslip SH 035 / 079 / 8.92	Overslip	Stabilise overslip	\$ 145,000
BOP East	5	SH5 Wharepapa Stream Bridge	Bridge Scour	Scour protection	\$ 300,000
Gisborne	2	R-Otoko Hill Descent III	Overslips	Stabilise overslip	\$ 1,000,000
Gisborne	2	R-Farams Subsidence	Underslip	Stabilise underslip	\$ 2,000,000
Gisborne	2	R-Makaratu Road Subsidence	Underslip	Stabilise underslip	\$ 1,000,000
Hawkes Bay	2	Waipawa River Erosion	River Erosion	Erosion Protection	\$ 300,000
Hawkes Bay	2	Bayview Drain Culvert	Flooding	Drainage Improvements	\$ 403,000
Hawkes Bay	2	Morere Hill Dropout	Underslip	Stabilise underslip	\$ 500,000
Hawkes Bay	2	Mohaka Hill debris fence	Rockfall	Rockfall protection	\$ 250,000
Hawkes Bay		Culvert No.85	Underslip	Stabilise underslip and replace drainage	\$ 500,000
Hawkes Bay		Culvert No 18	Flooding	Drainage improvements	\$ 450,000
Manawatu	4	SH4 Putiki Culvert	Flooding	Drainage improvements	\$ 600,000
Manawatu	4	Site 5-Mangawhero River	Underslip	Stabilise underslip	\$ 1,744,477
Manawatu	54	SH54 Tapuae Road Underpass	Underslip	Stabilise underslip	\$ 300,000
Manawatu	4	Site 15-Mangawhero River opp. Raupiu	Overslip	Stabilise overslip	\$ 300,000
Manawatu	4	Site 26-Mangawhero River - Culvert no 73 to passing lane	Rockfall	Rockfall protection	\$ 350,524
Taranaki	4	SH4 Waterfall Hill	Underslip	Stabilise underslip	\$ 750,000
Taranaki	45	SH45 Rahotu Culvert	Flooding	Drainage improvements	\$ 850,000
Taranaki	3	Rapanui Retaining Wall	Underslip	Stabilise underslip	\$ 500,000
Taranaki	3	SH3 Mahoenui Hill Retaining Wall	Underslip	Stabilise underslip	\$ 200,000
Taranaki	3	SH3 Tongaporutu Scenic Viewpoint	Underslip	Stabilise underslip	\$ 1,200,000
Wellington	59	R-SH59 Three Sisters rock face rockfall	Rockfall	Rockfall protection	\$ 650,000
Wellington	1	R-SH1 Southbound onramp, south of Westchester Drive Bridge -	Overslip	Stabilise overslip	\$ 350,000
Wellington	2	R-SH2 Remutaka Hill westbound (several sites) UAV survey	Rockfall	Rockfall protection	\$ 100,000
Wellington	2	R-SH2 Rockface between Te Marua & Birchville Park	Rockfall	Rockfall protection	\$ 200,000
Wellington	1	R-SH1 Landslip below 16 Japonica Grove reprofile	Overslip	Stabilise overslip	\$ 250,000
Wellington		R-SH2 Featherston SuperValue Area Flooding Study/Investigation			
Wellington	2	921/0.02	Flooding	Drainage improvements	\$ 1,200,000
Nelson/Tasman	6	SH6 Whangamoa Hill and Rai Saddle - Drainage and minor underslips	Underslips	Underslips and drainage improvements	\$ 2,000,000
Nelson/Tasman	6	SH6 Kaitiaki to Owen River Erosion	River Erosion	Erosion protection	\$ 1,000,000
Marlborough	1	SH1 Delegat Flooding at Dashwood	Flooding	Drainage improvements	\$ 1,000,000
Marlborough	63	SH63 The Wash Flooding	Flooding	Drainage improvements	\$ 1,500,000
Marlborough	1	SH1 at Picton Elevation Underslip	Underslip	Stabilise underslip	\$ 1,000,000
Marlborough	6	SH6 Rai Saddle - Drainage and minor underslips	Underslips	Underslips and drainage improvements	\$ 500,000
Marlborough	6	SH6 Canvastown Flooding at Racecourse Bridge	Flooding	Drainage improvements	\$ 1,500,000
West Coast	73	SH73 Candys Bend Scouring	River Erosion	Erosion protection	\$ 2,000,000
West Coast	6	SH6 Meyville Bay Slip	Overslip	Stabilise overslip	\$ 1,800,000
West Coast	6	SH6 Epitaph Slip - Remote Monitoring	Underslip	Stabilise underslip	\$ 250,000
West Coast	6	SH6 Inangahua Junction Slip	Overslip	Stabilise overslip	\$ 1,600,000
West Coast	6	SH6 Blackwater Point Dropout	Underslip	Stabilise underslip	\$ 1,600,000
West Coast	73	SH73 Kellys Creek Bridge Replacement	Flooding	Bridge replacement	\$ 1,200,000
North Canterbury	73	Porters culvert Aggradation	Flooding	Drainage improvements	\$ 150,000
North Canterbury	01S	Bankside flooding	Flooding	Drainage improvements	\$ 600,000
North Canterbury	01S	Greata Valley Erosion	Drainage Scour	Scour protection	\$ 75,000
North Canterbury	7	Roidons Culvert Underslip	Underslip	Stabilise underslip	\$ 50,000
North Canterbury	8	SH8 Aires Culverts upgrades	Flooding	Drainage improvements	\$ 600,000
South Canterbury	77	SH77 Rakaia Gorge Rock fence extension and Slip	Rockfall	Rockfall protection	\$ 750,000
South Canterbury	1	SH1 south Hook/ Molloy's/ St Andrews box culvert replacements	Flooding	Drainage improvements	\$ 800,000
South Canterbury	77	SH77 Reynolds Road and Pole Road Flooding Works	Flooding	Drainage improvements	\$ 400,000
South Canterbury		Stream Training clear out channels passages to sea and around			
South Canterbury	79	structures prior to events. SH79	Flooding	Drainage improvements	\$ 150,000
South Canterbury	77	SH77 Mt Hutt Station to Blackfords Culverts	Flooding	Drainage improvements	\$ 75,000
Central Otago	8	SH8 Ash McGregors	Underslip	Stabilise Underslip	\$ 750,000
Central Otago	1	SH1 Katiki Coast Rock Revetment	Rockfall	Rockfall protection	\$ 2,000,000
Central Otago	6	SH6 Scrubby Corner	Underslip	Stabilise Underslip	\$ 800,000
Central Otago	6	SH6 Lake Wakatipu Mass Block Wall	Underslip	Stabilise Underslip	\$ 500,000
Central Otago	6	SH6 Nevis monitoring and maintenance plan	Rockfall	Rockfall protection	\$ 250,000
Central Otago	8	SH8 Cromwell Gorge Slopes and Benches	Rockfall	Rockfall protection	\$ 600,000
Coastal Otago	Various	Coastal Otago Rock Scaling Programme	Rockfall	Rockfall protection	\$ 250,000
Coastal Otago	1	SH1 Waikouaiti Flood Mitigation	Flooding	Drainage Improvements	\$ 1,000,000
Southland	1	SH1 Ocean Beach, Bluff	Coastal Flooding	Coastal protection	\$ 2,000,000
Southland	99	SH99 McCracken's Rest Culvert	Underslip	Drainage improvements	\$ 1,200,000
Southland	99	SH99 Rileys Slip	Underslip	Stabilise underslip	\$ 300,000
Milford	94	SH94 Shooting Rail (Milford Road)	Underslip	Stabilise underslip	\$ 300,000
					\$ 68,968,001

Region	SH	Project Name	Natural Hazard	Description	Cost Estimate
Auckland	Various	Green based solutions trial at state Highway slip locations	Slips	Planting for stabilisation	\$ 2,000,000
Auckland	16	SH16 Lincoln Interchange drainage	Flooding	Drainage Improvements	\$ 650,000
Auckland	1	SH1 North of Lonely Track Alpert A2	Overslip	Stabilise overslip	\$ 2,000,000
West Waikato	3	SH 3 Te Kuiti Slip (SH3-0076/7.066-7.232)	Overslip	Investigation for landslip	\$ 50,000
East Waikato	27	SH27 Patetonga Drain slip (Site159)	Underslip	Stabilise underslip	\$ 85,000
East Waikato	27	SH29 Rapurapu slip 2 (site 119)	Overslip	Stabilise overslip	\$ 120,000
Central Waikato	1	SH1 R-Waikato River Bridge Slip (# 02)	Erosion	Drainage Improvements	\$ 100,000
BOP East	2	Underslip 002 / 294 / 8.440	Underslip	Stabilise underslip	\$ 100,000
BOP East	35	SH35 Houputo Stream Bridge	Bridge Scour	Scour protection	\$ 400,000
Manawatu	4	Site 25-Mangawhero River – end of KCC LHS to Culvert No 73	Rockfall	Rockfall protection	\$ 101,260
Manawatu	4	Site 14-Mangawhero River – North Horoti s	Rockfall	Rockfall protection	\$ 505,374
Taranaki	3	SH3 Pilot Rd Intersection realign and reinstate bench	Underslip	Stabilise underslip	\$ 500,000
Taranaki	4	SH4 Erosion Protection re-instatement streambank erosion protection structure	River erosion	Erosion protection	\$ 250,000
Wellington	1	R-SH1 Plimmerton Roundabout flooding	Flooding	Drainage improvements	\$ 750,000
Wellington	2	R-SH2 Korokoro Stream debris trap	Flooding	Drainage improvements	\$ 500,000
Marlborough	6	SH6 Pelorus Flooding on straight	Flooding	Drainage improvements	\$ 2,000,000
Marlborough	63	SH63 Renwick Flooding	Flooding	Drainage improvements	\$ 525,000
West Coast	7	SH7 Kaiata Slumping	Underslip	Stabilise underslip	\$ 1,800,000
West Coast	6	SH6 Wanganui River Protection	River Erosion	Erosion protection	\$ 500,000
North Canterbury	7	Gln wye Scour	Drainage Scour	Scour protection	\$ 50,000
North Canterbury	73	Craieburn Cutting Underslip	Underslip	Stabilise underslip	\$ 1,500,000
South Canterbury	79	SH79, Woodbury Road Flooding	Flooding	Drainage improvements	\$ 150,000
South Canterbury	82	SH82 Station Peak Culvert upgrade	Flooding	Drainage improvements	\$ 150,000
Central Otago	6	SH6 The Narrows Kawarau Gorge	Rockfall	Rockfall protection	\$ 350,000
Central Otago	6	SH6 Lakeside subsidence sites SH6 (Wanaka Wakatipu)	Underslip	Stabilise Underslip	\$ 450,000
					\$ 15,586,634

Project Name

State Highway #

Region: ++++++

Insert photo of site

+++++

What is the hazard and the problem being fixed?

- ++++++

What is being proposed?

- ++++ general or specific

What are the benefits?

- ++++++

Instructions: 1. Please insert information where template shows green text or pluses (name, SH, region, descriptions/background), and change the font to black.

2. When 1. is completed, please delete this instructions box.

Bulli Point

State Highway 1

Region: Waikato



What is the hazard and the problem being fixed?

- There is a risk of underslip with a section of the road falling away towards Lake Taupo, caused by heavy rain or earthquake causing either partial or full closure of SH1.

What is being proposed?

- Interventions to improve drainage and better support the road edge will be installed to stabilise the potential underslip location

What are the benefits?

- The Bulli Point section of SH1 adjoining Lake Taupo will be more resilient to storms and heavy rainfall and moderate earthquake, allowing more continuous availability of this key national economic, tourism and community corridor.