

## Hinekura Road remediation project: Progress Report 1

## **As at:** 31 January 2022

| Γ | SRO: | SWDC                   | Roading   | Ruamāhanga Roads (SWDC/CDC     | Roading     | Fulton Hogan | ſ | Roading     | WSP |
|---|------|------------------------|-----------|--------------------------------|-------------|--------------|---|-------------|-----|
|   |      | Stefan Corbett         | engineer: | Roading team) Tim Langley,     | contractor: |              |   | consultant: |     |
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## Progress:

| Summary | Further slip in December required urgent repair work. This was completed in record time to reopen the road to all traffic from Christmas Eve.<br>Incredible effort on the part of Ruamāhanga Roads and Fulton Hogan. Refer email sent 23/12/21. |
|---------|---|
|         | Project recommenced as planned from early January. Some of the work done in the December urgent repair won't need to be redone. Good progress has been made so far. Regular checks are being made as part of the monitoring service.            |

| Work completed | December: | • All pavement failures were repaired using limestone boulders, geotextiles and pavement material. The team reused all suitable material from site and brought in new material as needed. |
|----------------|-----------|---|
|                |           | • Two new culverts were installed.  |
|                |           | • Sub soil drain was not installed as the existing subsoil drain was found to be in good working order.   |
|                |           | Stormwater channels have been improved in areas.  |
|                |           | • Dam has been drained to a practical level. The dam wall has been removed at one end.  |
|                |           | Proposal for dam relocation services was provided by WSP in early December.   |

| Work underway | January: | Drone survey   |
|---------------|----------|--|
|               |          | • An UAV survey of the full site was carried out in mid-January following draining of the farm dam and reinstatement of the road after the large movement in December.   |
|               |          | <ul> <li>Resurvey of the ~12 survey pegs installed (in July 2021) around the wider landslide area was also carried out.</li> <li>The resurvey indicates consistently 6m of movement occurred between July 2021 and January 2022 on all survey marks, suggesting the movement (particularly upslope of the road) occurred largely like a very large raft.</li> <li>The 3D survey model includes enough area to assess local re-alignment options of the road, e.g. along ridgetop.</li> </ul> |



| Jai | nuary       | Tree works  |
|-----|-------------|---|
|     | ,<br>ont.): | • The crew fell large pine tree on northern end and cut logs and chipped all the waste.   |
|     |             | • Removed stand of poplars and willows Northern end, chipped all trees and removed all log waste from site and cleaned up.                          |
|     |             | • Removed stand of willows below the road between corner and dropout point. Chipped all waste and mulch area after removing all log wood from site. |
|     |             | • Removed all trees below the road on the corner for vision, chipped all waste and mulch area to allow for new native planting.                     |
|     |             | Removed willow tree above road on the corner and mulched banks to give better vision for vehicles.  |

| Work planned | February: | • We are now roughly at 60% through the tree removal. This will continue as planned. |
|--------------|-----------|--|
|              |           | • The damaged fences will be repaired at the end of the logging process.             |
|              |           | Dam relocation will be finalised.  |

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|-----------|--|------------------|--------------|---------------|-------|---------|--------|--------|--------|-------|--------|--------|--------|--------|-------|--------|--------|--------|------|--------------|--------|--------|----------|
| ndicative | Hinekura Road Remediation Plan: Stages 1 - 7                                 |                  |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      | SOUTH V      |        |        |          |
| 0 Novemb  | per 2021   |                  |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      | DISTRICI     |        | CIL    |          |
|           |  |                  |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        | -      |      | Kia Reretahi | Tätau  |        |          |
|           |  | Vho              | oal start da | tioal end dat | 29-No | v 6-Dec | 13-Dec | 20-Dec | 27-Dec | 3-Jan | 10-Jan | 17-Jan | 24-Jan | 31-Jan | 7-Eeb | 14-Feb | 21-Eeb | 28-Feb | 7-Ma | 14-Mar       | 21-Mar | 28-Mar | 4-A1     |
|           | New water supply dam to replace existing one                                 |                  | 1/12/2021    | 31/01/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
| Stage 1   | wew water supply dam to replace existing one                                 |                  | 11212021     | 310172022     |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 1.1 Design   | Geotech          |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           |  | (VSP)            |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 12 Build   | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 1.3 Divert water flow<br>1.4 Relocate tecommunication wire                   | Fulton<br>Chorus |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 1.4 Relocate tecommunication wire  | Chorus           |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      | -            |        |        |          |
| Stage 2   | Tree removal and ground clearance  |                  | 5/01/2022    | 31/01/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 2.1 Remove trees to reduce weight on the landslide                           | Fulton Hogan     |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 2.2 Remove trees no longer aiding land retention                             | Fulton Hogan     |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 2.3 Treat existing willow trees to stop sprouting                            | Fulton Hogan     |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 2.4 Clear ground for new planting  | Fulton Hogan     |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
| Ch        | Paris and structure  |                  | 20/01/2022   | 21/02/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        | -    |              |        |        | <u> </u> |
| Stage 3   | Drainage construction  | <b>5</b> 1       | 201011/2022  | 21/02/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 3.1 'Dewater' the slope  | Fulton<br>Hogan  |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 3.2 Construct 850m of "V" drains   | Fulton Hogan     |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 3.3 Create stock and vehicular access across drains                          | Fulton Hogan     |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        | -        |
|           |  | rakonniogan      |              |               |       |         |        |        |        | -     |        |        |        |        |       |        |        |        |      |              |        |        |          |
| Stage 4   | Drainage across road   |                  | 20/01/2022   | 14/03/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 4.1 Upgrade culverts to 300mm  | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 4.1.1 eastern end of landslide   | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 4.1.2 western end of landslide   | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        | _      |        |      |              |        |        |          |
|           | 4.1.3 low point of road, between culverts                                    | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        | _      |        |      |              |        |        |          |
|           | 4.2 Install 'water catching box' on uphill side of road and 150m of Novacoil | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           |  | Hogan<br>Fulton  |              |               |       |         |        |        |        |       |        |        |        |        |       |        | -      |        |      |              |        |        |          |
|           | 4.3 Install 'catching box' outlet on downhill side of road                   | Hogan            |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           |  | riogan           |              |               |       |         |        |        |        | -     |        |        |        |        |       |        |        |        |      |              |        |        |          |
| Stage 5   | Decommisioning old water storage dam   |                  | 14/02/2022   | 11/03/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 5.1 Pump water from old dam to new dam                                       | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 5.2 Re-evaluate drainage around old dam                                      | Fulton           |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           |  |                  |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
| Stage 6   | Fencing stock exclusion for planting protection                              |                  | 14/02/2022   | 21/03/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 6.1 Install fencing  | TBC              |              |               |       | _       |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 6.2 Assess need for stock laneway  | TBC              |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        | -    |              |        |        |          |
|           | 6.3 If required, create stock laneway  | TBC              |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           |  |                  |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
| Stage 7   | Planting new trees   |                  | 7/03/2022    | 31/10/2022    |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 7.1 Retire paddock   | Landowner        |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 7.2 Prespraying of seedlings   | GVRC             |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        |          |
|           | 7.3 Plant new trees to prevent erosion and strengthen road boundaries        | GVRC             |              |               |       |         |        |        |        |       |        |        |        |        |       |        |        |        |      |              |        |        | Jun-Oct  |