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| Report No.               | 21-85 |
| <b>Decision Required</b> |       |

## RIVER AND DRAINAGE ENGINEERING REPORT

### 1. PURPOSE

- 1.1. The purpose of this item is to report on progress with river and drainage activities for the period April 2021 - June 2021.

### 2. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 21-85.

### 3. FINANCIAL IMPACT

- 3.1. Funding provision for all activities reported on in this item is either included in the River and Drainage General or River and Drainage Schemes Activity sections of the 2018-28 or 2021-31 **Long-term Plans (LTP)**; is covered by an approved carry-forward of unexpended budget from the 2019-20 financial year; or additional approval will be specifically sought by way of recommendation in the item.

### 4. SIGNIFICANT BUSINESS RISK IMPACT

- 4.1. There are no significant risks relating to the adoption of the recommendations contained in this report.

### 5. CLIMATE CHANGE IMPACTS

- 5.1. While this item doesn't specifically consider climate change impacts clearly climate change is a significant influence for the activity as a whole, reflected in the fact that the current 30 Year Infrastructure Strategy highlights climate change as a significant issue.

### 6. DISCUSSION

- 6.1. This period has been a busy one for river management with the annual condition assessment of assets being undertaken as well as work on the Climate Resilience projects and Te Pūwaha.
- 6.2. Progress in delivering the Climate Resilience Projects is summarised in a separate report to this Committee report. Without duplicating the content of that report, following the departure of Ramon Strong the Project Team has taken the time to update the project plans to ensure that they have a robust programme for delivery of these key infrastructure projects. The development of these Plans was aided by a productive meeting, on 31 May, with representatives of Kānoa - Regional Economic Development and Investment Unit and the River Managers Special Interest Group, where the key deliverables and reporting requirements were discussed in some detail.

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- 6.3. At the start of July a workshop was held in Wellington for the leads of Climate Resilience projects across the Country. This was a well-attended workshop which also involved representatives of Kānoa and a number of consultants who are supporting the River Managers in the delivery of these projects nationally. At the workshop we received a clear message from Kānoa that many of the key outcomes from these projects that government is seeking are associated with job creation and social procurement. To that end staff are currently working with consultants Beca, and drawing on experience from other regional councils and territorial local authorities, to fully embed these outcomes into the delivery of our Climate Resilience Projects.
- 6.4. Completion of the **Rural Upgrade Project (RUP)** also remains a priority, with the last outstanding stopbank work being that at Te Arakura Road on the left bank of the Oroua River between Feilding and Awahuri. To progress this project staff will be meeting with Iwi, landowners and other interested parties to work together and develop a plan that will enable the completion of the work.
- 6.5. Staff have awarded the contract to Palmerston North based company Third Bearing Limited to undertake the **Local Government Act (LGA)** Section 17a review of river management activity. But due to current workloads and pressures, it has been decided to put this project on hold for 6 months.
- 6.6. Feilding Special Project – Reid Line Floodway has been progressing slowly with 6 properties already purchased, although we are aiming to purchase the remaining properties this financial year. Design is currently under way and working towards having a draft plan available for landowners to view in the next few months.
- 6.7. From a resourcing perspective there is a struggle to recruit skilled, experienced river engineers. In the river management operations group we have 9 engineers with varying degrees of skill and experience, 3 cadets and a high possibility of another 3 cadets due to the lack of applicants.

## 7. INVESTIGATIONS AND DESIGN

- 7.1. Over this reporting period there has been high demand to provide comment on a number of Plan Changes around the Region, particularly the Tara-Ika area in Levin as well as the Ashhurst growth areas.
- 7.2. The team have also played a critical role in providing designs and support to the team delivering the Climate Resilience and Te Pūwaha Projects as well as individual Schemes.

## SCHEME REVIEWS

- 7.3. Council has committed to consider the current structure and management of River and Drainage Schemes. With this in mind a number of strategic workshops have been programmed, one of which will include the future arrangement and form of Schemes. It is therefore considered prudent to pause the programme of Scheme Reviews until a strategic direction is known. Notwithstanding this view there are some technical elements of the reviews that will need to continue to ensure that we continue to manage our assets in a sustainable and prudent manner.

## HAZARD MAPPING – EAST OF LEVIN AND UPPER MANGAONE

- 7.4. As part of the Hazard Mapping Project consultants, Jacobs, have been engaged to build indicative flood models of the area to the east of Levin and the Upper Mangaone Catchment.
- 7.5. These models are in the final stages of completion with staff reviewing the outputs before the completed models are delivered. These models will provide valuable information about flood risk and can help to support important planning considerations such as the Tara-Ika development in Levin, as well as the O2NL roading project and the Kiwirail freight hub.

**FLUVIAL PROGRAMME**

- 7.6. In partnership with the Science and Environmental Data Teams Staff have been looking at the fluvial programme for the coming year. The programme looks at the gravel resource in our Rivers and helps to support our River Management operations as well as producing quality information to aid decision making in a regulatory context.

**LOWER MANAWATU GRAVEL EXTRACTION**

- 7.7. Staff have been considering the management of gravel in the Lower Manawatu River, particularly the reach between Ashhurst and Longburn. Over recent years a number of gravel beaches have grown and are starting to create problems. Work has begun, in partnership with Iwi and the Central Area Operations Team, to look at options and to develop a strategy for the management of this gravel.

**FLOOD PROTECTION ASSETS PERFORMANCE ASSESSMENT**

- 7.8. Work has begun to appoint a consultant to carry out an assessment of the flood protection assets, in the Lower Manawatu Scheme, in accordance with the Code of Practice that has been developed by River Managers nationally.
- 7.9. This risk based assessment will help to inform the long term management of our assets as well as the prioritisation of maintenance, renewal and replacement programmes for our assets.
- 7.10. Additionally, the outputs of this assessment work will provide valuable information to show how the Climate Resilience Projects in the Lower Manawatu will increase the resilience of the scheme.

**ASSET MANAGEMENT**

- 7.11. During this reporting period Asset Management Plans for each of the River Management Schemes have been produced. These form a linkage between the 30 Year Infrastructure Strategy in the Long Term Plan, and the operation of the River Management Schemes.
- 7.12. With the year-end inspection and condition assessment of our assets being undertaken staff have begun work on the revaluation and capitalisation of these assets. Whilst these processes are carried out annually, additional work is going in this year to develop these processes within the new **Asset Management Information System (AMIS)**. This additional work will help to ensure the powerful use of the AMIS in future years.
- 7.13. As well as informing the annual report the condition assessment and revaluation of assets is also critical for the re-insurance of these assets to ensure that we are carrying an appropriate level of insurance and demonstrating to insurers that we understand and manage assets well.

**REGULATORY ADVICE**

- 7.14. During this reporting period, advice was provided on a number of substantive matters. This regulatory work has included specialist advice on flood risk and the production of technical reports for consent applications, rezoning and subdivisions.

**8. CENTRAL AREA**

- 8.1. This reporting period had two distinct weather patterns. Prior to Easter the weather was settled with a long dry period, and only a few short periods of rain. The rain that we did have was not particularly heavy or long lasting.
- 8.2. Post-Easter we have had regular rainfall and two weekends when rain events put River Management Staff on alert, with the potential for rain to cause problems in the channels across the Manawatu.

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- 8.3. Between the 26 and 28 June significant rainfall fell in the Tararua Ranges. This event had standby staff at Moutoa gates for a potential gate opening, with a peak flow of 1255.3 m<sup>3</sup>/s and stage height of 8.57m. Due to low peak flows, particularly in the Oroua and Pohangina Rivers, the gates were not opened.
- 8.4. While the major channels on the Western side of the Gorge (apart from the Manawatu) had insignificant flows, the majority of the minor rivers and streams along the Western side of the Tararua's from Turitea to Ohau had significant flows in them, and many breached their channel banks.
- 8.5. The Tokomaru River overflowed the stopbank, over a 200-metre stretch upstream of the Linton Main Drain confluence. The event was the largest recorded at the present site.
- 8.6. Both the Kara and Mangapukatea Streams jumped out of their respective channels in several places upstream of the stopbanks, and flooded farmland on Kara and Kingston Roads.
- 8.7. Significant ponding of land was experienced next to Shannon Wastewater ponds and **Horowhenua District Council (HDC)** were trucking waste to the ponds along Johnston Street.
- 8.8. The Lower Manawatu Scheme Catchment Community Meeting was held on 7 April 2021, chaired by Councillor David Cotton and attended by a small turnout of ratepayers.
- 8.9. Staff have continued to be involved working on the **Lower Manawatu Scheme Operation, Maintenance and Surveillance Manual (O, M&S Manual)**, with a Consultant. The work with the Consultant has now finished, and the Area Engineer and Operations Manager will finish off the final draft, with input from senior staff before the end of 2021. At present there are 4 major sections with approximately 260 pages, covering LMS overview, flood procedures, operation and maintenance procedures, and other related activities to the LMS.
- 8.10. Staff have continued to work closely with Horizons Biodiversity Team in response to the recent discovery of alligator weed in the city stormwater network. Inspections and removal in the Mangaone are ongoing.
- 8.11. Staff are assisting the Project Team with the RUP; the Makino Diversion Upgrade; and the Climate Resilience (Shovel Ready) contract works programmes. Works on the Stopbank Upgrade is essentially complete on the Kara, with only minor works to be finished off during next summer. The completed works were celebrated with Ngāti Whakare.
- 8.12. Staff have had a number of meetings with Iwi around works programmes, issues of interest to both parties, and gravel.
- 8.13. Annual Inspections of all Scheme Assets have been undertaken, although somewhat delayed due to staff shortages, and recent weather events requiring a further round of inspections on impacted channels.

## **LOWER MANAWATŪ SCHEME**

- 8.14. Works undertaken on the various rivers within the Scheme this period include the following:

### **MANAWATŪ RIVER**

- 8.15. Rock has been stockpiled at Ruakawa Road for works planned in the 2021-22 Financial Year, to build some small groynes and help realign an active erosion site; with 300kg and 750kg grade rock stockpiled, along with some demolition concrete.
- 8.16. Progress is being made on the project to address the impacts of gravel build-up / beach development on the alignment of the Manawatu River between Palmerston North and Ashhurst. Several beaches required excavation of "high flow" channel to help in times of floods. It is intended to provide governance with an outline of the plan once developed, as

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this will be a key milestone in the management of this reach. Discussions with Rangitaane over the management of this area of the channel has also been part of the process.

- 8.17. The debris from clearing the Fitzroy Groynes earlier in the year was burned, with remnants buried. Fresh piles of debris have also been removed from the groynes, and these are to be burned at later date. A couple of the concrete filled steel groynes have been damaged, and rock has been lost from the main groynes. A survey is needed to understand the full situation of the groyne damage, and this is planned for summer.
- 8.18. Work was completed on Massey Farms relating to the wetland adjacent to the Manawatū River; repairs to a drain at the toe of the stopbank, and fixing of stormwater outlets with new socks to remove the erosion risk to the stopbank.
- 8.19. Staff have monitored, met and worked with **Palmerston North City Council (PNCC)** across various projects this reporting period. These included progressing fruit trees being placed beside the river, and other structures beside the river walkway.
- 8.20. Scheme Staff have continued maintenance tasks along the Moutoa floodway, and around the Moutoa Sluice Gates and Tower, including the scheduled general running checks and inspections. The Electrical WOF and mechanical check were also completed. Painting of the Tower interior was completed by contractors.
- 8.21. Moutoa Floodway Gates were inspected regularly; with repairs and replacement to a number of gates undertaken, along with the dry gates. Tailings were smoothed out, the road was repaired to the bottom of the floodway, and fencing was also repaired.
- 8.22. General inspections and maintenance tasks were carried out: including stopbank mowing; spraying of vegetation growth on stopbanks and drains; repairs to rabbit and bull holes; fence repairs; floodgate and stopbank inspections; removal of vegetation on gravel beaches; repairs to rock lining at Foxton Beach; and repairs and maintenance of several floodgates.
- 8.23. All assets on the Manawatu have had an annual inspection, and this has been an extended exercise due to the fresh over the 26 to 28 June. A river survey will be carried out when conditions are suitable.

## **9. NORTHERN AREA**

### **RANGITĪKEI RIVER CONTROL SCHEME**

- 9.1. The settled weather conditions during the autumn and early winter months has enabled staff to complete planned operational work and prepare the scheme for the winter period. An area of poplar trees downstream of the Kakariki Bridge was cleared and is now being prepared for native planting. This will greatly enhance a very popular reach of the river that is enjoyed by many recreational users.

### **RANGITĪKEI STOPBANK UPGRADE & CONSTRUCTION OF CONCRETE FLOODWALL**

- 9.2. The construction works to complete the final upgrade of 1,800m of Rangitīkei River right bank stopbank, from Walmac Farm through to Scotts Ferry on Parewanui Road was suspended in May, when ground conditions became unfavourable for work to continue. The decision to suspend work was a disappointment for those involved with the project as there was a high hope that the end of the sixteen year-long work stream would happen before winter. However, it is better to ensure the finished stopbank quality meets our design requirements rather than hurry work along in poor conditions. Residents at Scotts Ferry were notified of the project delay and advised that work would now be completed before Christmas 2021.

### **MAKIRIKIRI FLOOD CONTROL SCHEME**

- 9.3. At the beginning of May a number of repairs were completed on the Mangatikotoko Dam to bring the structure up to an acceptable standard. Funding for this work was shared



between three property owners and Horizons. With this work now completed the dam safety compliance monitoring will become a scheme responsibility and managed by the scheme engineer.

### **ANZAC PARADE FLOOD RESILIENCE STUDY**

- 9.4. This project is running behind schedule primarily because of the amount of time it has taken with some key external agencies. This has taken much longer than anticipated.
- 9.5. The next stage of this project is engagement with all the other stakeholders. There will be three rounds of engagement as follows;
  - Project Orientation.
  - Option identification, and
  - Option evaluation and selection.
- 9.6. A letter was sent to residents, homeowners and other stakeholders on 13 July informing them of the way forward, this letter had the support of both Iwi and **Whanganui District Council (WDC)**. Round one, with residents and homeowners will commence first where orientation to the project will occur. Two public engagement meetings will follow and finally there will be direct interaction with the other stakeholders like Government and CDEM.
- 9.7. This engagement process will occur between now and the end of this calendar year. The three rounds of engagement will then feed into the strategy. All things going to plan, I expect to see the Draft Strategy by mid- February.
- 9.8. Bruce Glavovic and Martīn Garcīa Cartagena from Massey University will be presenting an update to the Catchment Operations Committee.

## **10. EASTERN AREA**

### **GENERAL**

- 10.1. River levels throughout the Tararua District have remained very low though autumn and into June. This has allowed works plans to progress through to the end of the financial year in some rivers and streams. Trout spawning restrictions started on 1 April and these have prevented access to a significant number of waterways in the Eastern area from the 1 May.
- 10.2. The 22 of June saw a large rainfall event centred in the north eastern parts of the district which resulted in peak river flows in the Akitio, Ōwahanga and Upper Manawatū Rivers. This was followed by a large rainfall event on 27 June which was centred on the Tararua ranges and resulted in peak flows in the Mangahao and Mangatainoka rivers.
- 10.3. As a result of the June 27 event, incidents of flood damage have occurred on both the Mangatainoka and Mangahao rivers. Staff are currently liaising with landowners to quantify the damage and to develop repair programmes.
- 10.4. Gravel extraction remains extremely popular at the moment. The eastern team received applications for gravel extraction for the new financial year that were 300% in excess of the amounts that are allocable on the rivers and streams within the district. This is in stark contrast to the 2017-18 financial year, when only 19% of the allocation was applied for.
- 10.5. In April, Staff and Cr Benbow met with the Akitio Scheme Committee to discuss the future of the scheme. In 2018 it was agreed with the Scheme Committee that the Akitio Scheme would be put 'on hold' while the Tararua River Management Scheme initiated. It was further agreed that all parties would meet in 2021 to review the performance of the Tararua River Management Scheme and to confirm whether the Akitio Scheme would be disbanded.
- 10.6. The outcome of the meeting in April concluded that the Akitio Scheme Committee were satisfied with the performance of the Tararua River Management Scheme and as such are happy to disband the Akitio Scheme. There is still a decision to be made by the Scheme

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Committee as to what they would like done with the residual scheme funds, which total \$18,594.73

### **MANGATAINOKA SCHEME**

- 10.7. A significant programme of flood damage repair works, primarily occurring through the middle reaches, have been completed in March through to May. These works were primarily repair and addition of bank protection works, largely under-taken in concert with mechanical beach clearance with the aim of increasing active channel width and thereby decreasing future erosive power in the reach. It is gratifying to note that these works all appear to have stood-up well to the large flood event which occurred on 27 June.
- 10.8. The flood event in late June has resulted in significant erosion at and downstream of the **Tararua District Council (TDC)** Pahiatua town supply weir. The weir, which is situated in the Mangatainoka River downstream of Pahiatua, had been significantly raised by TDC contractors earlier in the year. Community concern over the increased weir height has been flagged and a meeting between Horizons consent compliance and TDC is scheduled to be held in July to discuss remedial work to the weir and surrounding areas.

### **TARARUA DISTRICT RIVER MANAGEMENT SCHEME**

- 10.9. A significant length of vegetation clearance has been completed in various streams around the region including along tributaries to Mangaramarama, and Makakahi. This work has significantly improved the channel capacity of these streams and therefore reduced flood risk to the surrounding properties.
- 10.10. The length of the Ihuraua Stream was sprayed during April in order to reduce weeds and maintain channel capacity. Maintenance of this type for the Tararua Scheme is primarily divested to private landowners, however the Ihuraua Stream is classed as Schedule B for flood control and drainage thus Horizons retains responsibility for this reach.
- 10.11. Aerial spraying of the Eastern Manawatū area (a reach of the Manawatu River which spans from SH2 Napier Road to Oringi Road) was completed in April, primarily to target willow regrowth.

### **SOUTH EASTERN RUAHINE SCHEME**

- 10.12. The period started with the completion of vegetation clearance on the Mangatera stream, which runs around Dannevirke. The works had been held up due to concerns within the community. A site meeting held in April managed to resolve the issues and works were completed by the end of that month.
- 10.13. Work has been undertaken with the Horizons Freshwater Team on the Tapuata and the Otamaraho Streams. The work undertaken on the Tapuata involved channel clearing and willow removal at a property in the upper reaches in preparation for the creation of a wetland. The work on the Otamaraho followed channel shaping and erosion control works and involved riparian planting with natives and fencing.

### **UPPER MANAWATŪ – LOWER MANGAHAO SCHEME**

- 10.14. Due to limited contractor availability and priority being given to works on flood damaged reaches of waterways which would be inaccessible due to trout spawning restrictions, programmed bank protection works in the lower reaches of the Mangahao and Upper Manawatū Rivers were pushed back to start in May. This has meant a late start to the year and as such only a limited amount of the programmed work has been completed this financial year. However, significant works have been undertaken at Holderway / King's to improve the alignment of the Mangahao River and protect against erosion.
- 10.15. Over the past year we have been working to expand our pool of trusted contractors which will increase our works capacity over the busy summer period. Once dotterel nesting restrictions are lifted we will carry out any uncompleted works in the new calendar year.

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The overall size of these works has been affected by a flood event on 27 June, which resulted in increased erosion on already exposed bends.

- 10.16. Work has also been undertaken in conjunction with the Horizons Freshwater Team to plant 2000 native plants and fence and area of beach (at Stafford's) that was cleared of invasive exotic species and shaped earlier in the year.

### **TAWATAIA - MANGAONE**

- 10.17. Regular monthly dam inspections have been carried out and logged in AMIS. No safety issues have been identified, though minor maintenance works are likely to be needed in the 2021-22 financial year.
- 10.18. Regular drain spraying has been completed along the two longest drains, cattle creek and the channel upstream of dam. Due to the difficulty of the terrain, we expect regular spraying to occur along each length approximately 3 yearly.
- 10.19. An intermediate dam inspection (IDSR) was carried out by Stantech. No immediate safety or maintenance work was identified, though hydrological reports and installation of monitoring technology is recommended. These activities should be able to be covered by funds held in reserves.

### **ENGINEERING ADVICE**

- 10.20. Assistance has also been given to Tararua District Council on a range of issues, most notably the new Route 52 extension.

## **11. SOUTHERN AREA**

### **GENERAL**

- 11.1. Staff have been this period completing asset inspections and undertaking minor maintenance on assets to ensure that they remain at the required level of service.
- 11.2. Heavy rainfall towards the end of the period has kept staff busy removing weed and silt from blocked culverts and removing weed build-up from in front of scheme pump stations.
- 11.3. Our electrical contractors have been kept busy over this period responding to various issues at multiple pump stations. This event has highlighted some issues and has identified the need to review some of the electrics within the pump stations.
- 11.4. Meetings were held with the both the Te Kawau and Makerua Liaison Committees to discuss the proposed scheme budget in more detail and to review scheme expenditure to date.
- 11.5. Emily Carroll has decided to move south to take up a role at Environment Canterbury and to be closer to family, her last day will be the 20 August 2021.
- 11.6. Staff attended meetings with representatives Ngāti Tukorehe and Te Tumatakahuki members to discuss the review of the Ōhau – Manakau River Scheme. Both groups were excited by the opportunity to discuss the review and are keen to be involved with the ongoing process.

### **ŌHAU – MANAKAU SCHEME**

- 11.7. The end of June saw a high flow event in the Ōhau River at which was about a 1 in 10-15 year event. The Ōhau River overtopped its stop-banks in the Catley, Burnell, Parkins areas. The event was relatively short lived which enabled the flood-waters to recede within a couple of days however the post-flood inspections of the channel found that there were a number of significant erosion points that need to be addressed. These erosion sites will be worked on over the following month.
- 11.8. Erosion has been occurring within the Kimberly Reserve on the Ōhau River for some time. An erosion site has occurred adjacent to the open / dog walking area which has been



getting closer to a large protected tree. The reserve is outside the Scheme works area so no funding has been available to carry out any work repair any erosion within the reserve. The HDC requested Horizons to carry out work to protect the tree however due the high cost of permanent protection only temporary channel alignment and some bank replacement was completed. The temporary works which was paid for by environmental grant is planned to be replaced by rock installed by HDC at some point.

- 11.9. The event in late June again saw the protected tree put at risk and while majority of the relocated gravel remained in place staff meet with representatives from HDC to discuss the ongoing issues. While there is still no decision around undertaking more robust measures to protect the tree, HDC are keen to relocate some additional gravel material to replace the existing material that was washed away during the July event. While Horizons staff will monitor the works while they are being undertaken all the cost associated with the works will this time be met by the District Council.

### **KOPUTAROA DRAINAGE SCHEME**

- 11.10. Scheme drain maintenance was undertaken this period including the machine cleaning of the Koputaroa Stream from the outlet up to Tavistock Road along with a lot weed pulled off the grills of pump stations.
- 11.11. Concerns continue to be expressed by locals regarding the ongoing additional discharge from the Roslyn Road and Fairfield Road development. The recent heavy rainfall event saw water jump out of Koputaroa Stream channel upstream of the state highway which long term residents indicate that has not occurred in this area in all of the time that they have lived there.

### **MOUTOA-WHIROKINO DRAINAGE SCHEME**

- 11.12. The high rainfall events through June and at the end of July caused a few issues with the scheme pump stations. Number two pump at Cooks is needed to be pulled out due to making excessive noise. Number two pump at Diagonal pump station overheated in its top bearing so was pulled to be inspected and repaired. The submersible pump that was being stored as a backup at KereKere pump station was not able to be connected due to moisture in its power lead. This will be pulled out and repaired also.
- 11.13. The sensors and level controller at the Diagonal pump station stopped functioning. Replacement parts were going to take 3 months to get into the country so a new system was installed. The new system is manufactured in NZ so should be easier to come by parts in the future.
- 11.14. An access culvert over Cooks drain on Kerekere Road had its first pipe disconnect and caused slumping. The first pipes foundation had to be re-laid and the pipe reinstalled.
- 11.15. The Large Pleuger Flood pump was reinstalled after requiring new bearings.
- 11.16. The hinges were repaired on the small Pleuger pump floodgate.
- 11.17. Weed pulling at pump stations and many station checks were carried out this period.
- 11.18. Monitoring wells were installed in the lower section of the spillway as part of the investigation into potential wetland / pump station replacements.

### **TE KAWAU DRAINAGE SCHEME**

- 11.19. S17a floodgate culvert was replaced due to the detreating condition of the culvert, the pipes had become disjointed and separated from the wingwall. A new 8m 450mm dia culvert line and floodgate were installed. The wingwall was placed on two large concrete blocks for stability.
- 11.20. S 6 floodgate was removed and taken to the engineer to be re furbished- due to the gate deteriorating due to rusting. The re furbished gate was attached with new bolts.
- 11.21. S 3 floodgate was also reconditioned due to its age and rusting condition.

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## 12. ENVIRONMENTAL GRANT WORKS AND ENGINEERING ADVICE

12.1. All Environmental Grant work is complete with the exception of the Te Rongoroa Marae application which is awaiting funding support confirmation from the applicant.

### 2020 – 2021 Environmental Grant work

| <b>Name</b>       | <b>River or Stream</b>          | <b>Job No.</b> | <b>Type of work</b>                          | <b>Work status</b>                       | <b>Estimated work cost (\$)</b> | <b>Value of grant (\$)</b> |
|-------------------|---------------------------------|----------------|--|--|---------------------------------|----------------------------|
| Cvitanovech       | Makirikiri                      | IN1514         | Geo fabric                                   | Part Completed                           | \$14,000                        | \$4,200                    |
| Te Rongaroa Marae | Ongarue                         | IN1511         | Rock Lining, Layering Planting & Earth works | Approved On Hold Awaiting client funding | \$35,354                        | \$10,606                   |
| McKay & Larsen    | Kiwitea                         | IN1516         | Bank Protection                              | Completed                                | \$3196.66                       | \$958.99                   |
| Dalziel           | Makirikiri Stream<br>Upokongaro | IN1518         | Channel clearance and planting               | Completed                                | \$1,380                         | \$414                      |
| Randall           | Tutaenui                        | IN1519         | Bank Protection                              | Bank Protection                          | \$11,878                        | \$3,563                    |
| Hilton Shane      | Tapuata Stream                  | IN1513         | Rock Lining                                  | Completed                                | \$4600                          | \$1380                     |

## 13. SIGNIFICANCE

13.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Craig Grant  
**ACTING GROUP MANAGER RIVER MANAGEMENT**

### ANNEXES

There are no attachments to this report.