

Report No.	20-124
Decision Required	

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 June to August 2020.

2. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 20-124.
- b. approves the cost share change for the Pohangina-Oroua as it relates to bank protection work from 60:40 landowner-scheme to 50:50.

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 **Long-term Plan (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.
- 3.2. Noting that the cost share change proposed for the Pohangina-Oroua Scheme has no financial impact for that scheme. Although targeted rate revenue requirement for that scheme (including GST) dropped slightly from the 2020FY to the 2021FY (\$428,157 to \$427,799) in response to the impacts of COVID-19 pandemic, requests for bank protection works have been over-subscribed since the 2018 floods. As they have done since 2018 reserve provide a buffer to meet period of higher demand particularly in critical sections e.g. achieving a contiguous protection line across multiple properties. That is, some prioritisation will be required in any event, regardless of how the cost share is weighted.

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. In addition to year end processes and the work associated with updating Council's LTP, matters shovel ready have been a significant focus over the period. Five projects with a

- total estimated delivery cost of \$35.9M were submitted to Central Government for consideration in April with confirmation of funding to a value of \$26.9M confirmed in July.
- 6.2. Consideration of those projects and some of the key project delivery elements / actions has been on the minds of staff since April, with momentum continuing to build through the announcements in July and confirmation by Council on 25 August of the projects and the local share contribution (the \$9M balance).
 - 6.3. Resourcing considerations related to those shovel ready projects coincides with some feedback from Audit around capital project delivery. Confirmation around shovel ready projects provides an opportunity for more critical mass with resourcing of capital project delivery across the board.
 - 6.4. A range of enabling works have been underway for some time, balancing expectations around shovel ready status while not presupposing the confirmation of funding from either Central Government or Council.
 - 6.5. One key factor with capital expenditure for the 2018-19 financial year being well short of budget were matters relating to the Oroua River component of the Rural Upgrade Project. That project includes, amongst other things, the construction of a new section of stopbank on the true left side of the river between Awahuri and Feilding. The remaining component of the Oroua work is joining the sections of stopbank already built from the upstream and downstream ends centred on Te Arakura Road.
 - 6.6. Construction work was halted back in January when protesters occupied the site; the alignment proposed crosses a number of small parcels of land each with very complex ownership. Mandate in the form of the provisions of Section 137 (Notice in respect of works to be undertaken on private land) of the Soil Conservation and Rivers Control Act 1941 to undertake the work had been obtained.
 - 6.7. In August staff and consultants engaged met to discuss the respective merits of the options on the table, mapping out a potential solution. Further work is now being undertaken with a view to presenting that solution to a Council workshop in October.
 - 6.8. As noted to the Committee previously the demand for aggregate from fluvial sources, either directly or indirectly, continues to grow, fueled not only by the region's demands but also by demand from further afield. That's reflected in part with plans for new / enlarged land-based extraction operations on both sides of the Manawatu River east of Palmerston North and adjoining the Rangitikei. River Management has submitted in opposition to a proposed operation adjoining the Manawatu on the basis that the effects assessment does not adequately address likelihood and consequence of the river in flood breaching into the formed pit.
 - 6.9. Noted in subsequent sections of this item are the Lower Manawatu and Rangitikei Scheme meetings that took place in July. At the request of Cr Ferguson videoconferencing was trialed with the Rangitikei meeting, an initiative that worked well and that staff intend to roll out (depending to some degree on circumstance / technology) with the meeting schedule intended to coincide with consultation on the updated LTP next year.
 - 6.10. Noting the continuing emphasis with the activity in being connected to the region's district and city councils. Staff together with Crs Cotton and Patrick provided Whanganui District Mayor and Councillors with an update on river management matters relevant to Whanganui on 18 August. A briefing to the Rangitikei District Mayor and Councillors with Cr Turkington took place on 27 August. An update to Tararua District Council with Cr Benbow is being arranged.
 - 6.11. One matter highlighted to the Committee in June was the increase in the valuation as it relates to River Management assets, particularly the increase in the value of the 54 detention dams Council owns. That valuation now sits at around \$650M excluding the training structures along the lower reach of the Whanganui River, likely to increase that total to around \$700M.

- 6.12. Finally acknowledging the service of Senior Engineering Officer Ian McMahon, currently covering the vacant position of Area Engineer Central – staff recently celebrated Ian's 35th work anniversary. Ian is intending to retire in 2021.

7. INVESTIGATIONS AND DESIGN

- 7.1. During this reporting period, Shaun Edwards has joined the team as a Project Engineer to deliver the Rural Upgrade Project while Claire Platts is on maternity leave.
- 7.2. The team has also welcomed Zané Mostert who has taken on the role of Assets and Environmental Engineer. As well as continuing the Asset Management work that the team is responsible for, Zané will also be assisting the wider River Management Group with managing environmental compliance with the consents under which works are carried out.
- 7.3. The Investigations and Design Team has a large and complex programme of works for delivery this financial year. As well as a programme of Scheme and classification reviews, there are also a number of design tasks that are required to support the Area River Management Teams. In addition to the programmed work the team has also moved quickly to support work associated with the application for funding of 'Shovel Ready' projects by Central Government.
- 7.4. The following summarises the work that the team has undertaken during this reporting period.

ARAWHATA STREAM AND HOKIO DRAINAGE NETWORK STUDY

- 7.5. This project is looking at the Hokio Drainage network with a view to both increasing the level of service as well as seeking opportunities to reduce the sediment load in the drains that eventually flow into Lake Horowhenua.
- 7.6. The Horizons team working on this project has been made up of staff from the Investigations & Design Team and the Southern Area Team, as well as from the Science & Innovation Team.
- 7.7. During this reporting period staff have reviewed the literature and data review that consultants Tonkin & Taylor have produced. The consultants are progressing the technical work which continues to evolve, especially in light of the Arawhata Wetland project that makes up part of the 'Jobs for Nature' project.

KOPUTAROA SCHEME REVIEW

- 7.8. The review of the Koputaroa Scheme is a significant piece of work, as it seeks to understand the multiple issues and drivers that will shape the Scheme's operation and management well into the future.
- 7.9. Since coming out of the COVID-19 shutdown, staff have been able to refocus on this piece of work, with significant work going into shaping the report into a concise document. It's intended to present this to the December committee meeting.

FLUVIAL PROGRAMME

- 7.10. The fluvial programme looks at the gravel resource throughout the Region's rivers and is undertaken in collaboration with the Science & Innovation, Environmental Data & Survey Teams.
- 7.11. During this reporting period staff have been looking closely at this programme with regard to the upcoming LTP, and ensuring that the programme is focused in the right areas and is collecting and analysing the best data to enable informed sustainable resource management decisions to be made.

MANAWATU DRAINAGE SCHEME MODELLING

- 7.12. Staff together with representatives from engineering consultant Tonkin and Taylor will present on this project as a separate item to this meeting.

ASSET MANAGEMENT

- 7.13. Staff have invested a significant amount of time over the last few months on the year end revaluation and capitalisation of Horizons' Infrastructural Assets. This works is an important part of the Annual Report, and the accurate accounting helps to ensure that appropriate levels of insurance cover are in place.
- 7.14. Additionally, as part of the year end reporting, staff have been assisting the Area Teams with the collation and reporting of asset condition data, as well as its transition to the new Asset Management Information System.

REGULATORY ADVICE

- 7.15. 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.

SHOVEL READY PROJECTS

- 7.16. During this reporting period staff have been heavily involved helping to shape the shovel ready projects. Working alongside the Science & Innovation Team workshops have been facilitated to develop options to mitigate sedimentation effects in the lower reaches of the Manawatu and Oroua Rivers.
- 7.17. Additionally staff have been working alongside Palmerston North City and their consultants looking at options relating to the Mangaone stopbanking and the proposed Kakatangiata Plan Change on the western edge of the city.

LOWER MANAWATU SCHEME RURAL FLOOD PROTECTION UPGRADE PROJECT

- 7.18. During this reporting period, staff have been working to ensure that works that were suspended by the COVID-19 shutdown can be re-started once the summer construction period begins.

8. CENTRAL AREA

- 8.1. This reporting period has been unseasonably dry with only a few periods of rain and therefore only relatively minor flow events in the Manawatu and tributaries.
- 8.2. The LMS Catchment Community Meeting was held on the 29 July. The meeting was chaired by Cr David Cotton, with Cr Keedwell and Cr Ferguson attending and a small turnout of ratepayers.
- 8.3. The first draft design drawings for raising the height of Burke's Gates were received in mid-August. This project is planned to be completed this financial year, part of the completion of the Rural Upgrade Project.

LOWER MANAWATU SCHEME

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

MANAWATU RIVER

- 8.5. Staff have been looking at the reinstatement of targeted gravel extraction for river management purposes for the reach of the Manawatu between Palmerston North and Ashhurst, consistent with the updated resource assessment presented to the June 2019 Committee meeting. It is intended to workshop this with Council.

09 September 2020

- 8.6. Over 10km of vegetation mulching and layering has been completed across various sites along the Manawatū this period. Minor stopbank repairs were also completed in some locations while contractors were onsite.
- 8.7. Over 1100 poles have been planted across various sites so far this season. A total of 40m of concrete riprap hard bank protection has been placed across two sites. 780m of fencing has been reinstated or replaced as part of works this period. A short section of erosion repairs and pole planting was completed on the right bank at 98km. A relief channel is being created on the opposite beach to reduce pressure on the newly planted river bank.
- 8.8. During these works a large anchor was discovered. The anchor is presumed to be from a late 1800s barge that ferried people across the river in this area. Heritage New Zealand has been contacted to document the find. Repairs and restoration of the anchor are currently being undertaken.
- 8.9. Additional tree groynes were completed along the Manawatū River at Ashhurst Domain. Lupin and wattles were removed from the planted area. Further pole planting is planned for the coming weeks. River protection works that have been damaged by four wheel drive enthusiasts and determined fly-tippers will also be repaired.
- 8.10. The debris from clearing the Fitzroy Groynes earlier in the year was burned with remnants buried. The Fitzroy Bend drains were mechanically cleared while the contractor was onsite.
- 8.11. The outlet for the toe drain of the primary stopbank near Ruahine Street was used as a test for the CCTV gear recently purchased by the Environmental Data Team. Just under 60m of the more than 200m long pipe was inspected and appeared in good condition.
- 8.12. Staff have monitored, met and worked with **Palmerston North City Council (PNCC)** across various other projects this reporting period. These included progressing the river pathway extension upstream of Riverside Drive, concreting the pathway opposite ANZAC Cliffs, installing lighting in the Esplanade river lookout area, asphaltting and creating hard stand areas along He Ara Kotahi downstream of Fitzherbert Bridge, creating new bike tracks within the river corridor, and berm planting enquiries.
- 8.13. The Whirikino Trestle Bridge is continuing to be demolished. Much of the platform and footings within the floodway section have been crushed and reutilised by the contractor. Bridge footings located in the stopbank were removed to just below ground level with the stopbank being rebuilt and repaired where necessary. It is hoped that suitable concrete from the Manawatu River section can be utilised for erosion protection work nearby.

OROUA RIVER

- 8.14. The latest silt removal contract has been completed with the final fencing finished in June.

9. NORTHERN AREA

RANGITIKEI RIVER CONTROL SCHEME

- 9.1. The annual Rangitikei River Scheme meeting was held on the 22 July in the Marton Service Centre Boardroom.
- 9.2. Staff attended the Ngā Puna Rau o Rangitīkei meeting at Regional House on the 14 August and provided an overview of the management strategy in current form. Staff also raised the matter of aerial spraying to control pest plants in the river fairway – a new resource consent is required. The likelihood of advancing this application on a non-notified basis appears remote.
- 9.3. The Parewanui Stopbank upgrade for 2020-21 has been surveyed and construction drawings prepared. Tender documents will be compiled shortly for the summer construction season. This year's upgrade should complete the Rangitikei Stopbank upgrade project.

POHANGINA-OROUA RIVER CONTROL SCHEME

- 9.4. Prior to lockdown the early versions of the 2020-21 Annual Plan included a proposal to change the scheme: land owner cost share for bank protection works from 40:60 to 50:50. The abbreviated Annual Plan process constrained the engagement planned around this change (specifically the scheme meeting) but based on past ratepayer feedback staff are intending to proceed with the adoption of a 50:50 cost share (see recommendations).
- 9.5. While demand continues to run high this change is intended with a longer term view, looking to make protection planting more contiguous at key locations by making the investment a little more attractive from a landowner perspective.

UPPER WHANGANUI RIVER MANAGEMENT SCHEME

- 9.6. **Ruapehu District Council (RuDC)** have engaged Horizons to provide engineering services to upgrade a number of stormwater culverts under the stopbanks in Taumarunui. The first of these is on Taupo Road and known as the Tuku Street culvert.
- 9.7. The Snookerbob swim spot site in Raetihi is nearly complete. The BBQ and Picnic table have been installed in a collaborative effort between Horizons and the Raetihi Promotions Team. Once the artwork is finalized and applied to the changing structure it will be installed.

POREWA FLOOD CONTROL SCHEME

- 9.8. An in-depth inspection was carried out on the concrete spillways of Dam's 46 and 100, including dewatering to allow a visual assessment of the energy dissipation blocks. A replacement inlet screen has been built in preparation for asset renewal work on Dam 82.

LOWER WHANGANUI SCHEME

- 9.9. Funding for the \$15M river training structures repair project is now confirmed with \$7.5M being provided through Central Government's Provincial Growth Fund. More detail is provided in the separate item.

OHAKUNE SCHEME

- 9.10. Work this year will largely focus on a resource consent application to allow scheme work to be undertaken.

RUAPEHU DISTRICT WIDE SCHEME

- 9.11. A tree blockage was removed from the Pungapunga Stream just downstream of the Orangi Road Bridge.

10. EASTERN AREA**TARARUA DISTRICT RIVER MANAGEMENT SCHEME**

- 10.1. Extensive channel clearing works were undertaken on an organic farm situated on the Eastern Manawatū River. This involved the mechanical removal of willows that were encroaching on the river margins. This farm was not sprayed under the old Eastern Manawatū Scheme because of its organic status, and the work completed allowed the last of the stream constrictions to be removed in this reach of the river.
- 10.2. Channel clearing works were also completed on a section of Stoney Creek, near Mangatainoka. This was a section that had almost been completely closed in and was causing year round flooding and boggiess on the adjacent land.
- 10.3. Vegetation clearance works were also undertaken on the Mangahei Stream to clear willow congestion and prevent flooding - which usually resulted in the closure of the Mangahei Road where it crosses the stream.

- 10.4. There are several projects planned for the Tararua River Management Scheme this financial year that tie in with jobs that the Land Management Team are undertaking, particularly in the Tiraumea River Catchment near Alfredton.

SOUTH EASTERN RUAHINE SCHEME

- 10.5. Channel clearing works have been completed between Cole Street and Smith Road on the Tapuata Stream in Dannevirke, tidying up the last of the old willows within the stream through the township. This, alongside the completion of environmental grant work – entailing a rock lining upstream of the Victoria Avenue Bridge to protect the foundations of an old villa, largely complete the works within the Tapuata Stream area. A small diversion of the stream on lifestyle blocks between Cole Street and Smith Road is also being planned to prevent flooding of adjacent land.

TAWATAIA - MANGAONE SCHEME

- 10.6. Continuing monthly dam inspections show that the detention dam is still in good working order. Planned works for this scheme were put on hold at the end of the 2019-20 financial year due to the COVID-19 level 3 and 4 restrictions. These will pick up in this financial year. A comprehensive works plan has been put together for the next 10 years, this includes general maintenance as well as some potential upgrades.

11. SOUTHERN AREA

- 11.1. Staff attended an onsite meeting with representatives from the Bainesse Drainage Scheme and **Manawātū District Council (MDC)** to discuss potential funding options or a collaborative working approach towards the ongoing maintenance of several drains within the Bainesse Drainage Scheme which benefit the Te Kawau Drainage Scheme. Consideration has been given to approaching MDC about absorbing those Schemes into the Te Kawau Scheme.
- 11.2. A 'near miss' has been recorded in relation to a section of Manawatu Scheme Drain previously identified by the landowner as not to be sprayed. Earlier this year a section of Koputaroa Scheme Drain was sprayed where staff had previously been asked for this not to happen, requiring a subsequent mechanical clean and disposal of the soil off site. This has prompted a review of the way in which this information is managed and spray contractors are audited.
- 11.3. Staff have been working closely with Horizons Science Team to develop a network catchment study for Koputaroa No.4 Pumpstation which will look to identify the fish species and numbers present within the catchment, investigate the current water quality throughout the network, and assess culvert and fish friendly floodgates to maximize fish passage throughout the network. At the same time staff are looking to install nets on the pump outlet to monitor and record potential fish mortality as a result of the pumpstation operation.

12. ENVIRONMENTAL GRANT WORKS AND ENGINEERING ADVICE

- 12.1. No new environmental grant applications have been received over the period. One outstanding environmental grant for the Tapuata Stream in urban Dannevirke has been completed with the construction of a rock lining on the outer bend of the stream, upstream from the Victoria Ave Bridge.
- 12.2. Hilton Shane – Tapuata; Construction of a limestone rock lining for bank and house foundation protection. Work onsite was completed in August.
- 12.3. The status of all Environmental Grant works is as follows:

2020 – 2021 Environmental Grant work

Name	River or Stream	Job No.	Type of work	Work status	Estimated work cost (\$)	Value of grant (\$)
Cvitanovech	Makiriki	IN	Tree work groynes	Pending approval	\$20,572	\$6,172
Te Rongaroa Marae	Ongarue	IN	Rock Lining, Layering Planting	Approved	\$	\$
Morrison	Mangara	IN	Vege Clearance	Pending Approval	\$	\$
RuDC	Mangateitei	IN	Erosion Repair	Completed	\$7,000	\$2,100
Palmer	Okahukura Saddle Rd	IN	Vege clearance	Application being prepared	\$	\$
Hilton Shane	Tapuata Stream	IN1513	Rock Lining	Complete	\$4600	\$1380

13. SIGNIFICANCE

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

Ramon Strong

GROUP MANAGER RIVER MANAGEMENT

ANNEXES

There are no attachments to this report.