WAIMAKARIRI
DISTRICT COUNCIL

MAHI TAHI JOINT DEVELOPMENT COMMITTEE

Agenda

Tuesday 24 March 2020

Commencing at 9.30am

Waimakariri District Council Chamber
215 High Street
Rangiora

Members:

Mayor Dan Gordon
Deputy Mayor Neville Atkinson
Councillor Al Blackie
Te Maire Tau
Arapata Reuben
Tania Wati

Committee Members,
MAHI TAHI JOINT DEVELOPMENT COMMITTEE

A MEETING OF THE MAHI TAHI JOINT DEVELOPMENT COMMITTEE WILL BE HELD IN THE WAIMAKARIRI DISTRICT COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA ON TUESDAY 24 MARCH 2020 TO COMMENCE AT 9.30AM.

Recommendations in reports are not to be construed as Council policy until adopted by the Council

BUSINESS

Page No

KARAKIA

1 APOLOGIES

2 CONFLICTS OF INTEREST

Conflicts of interest (if any) to be reported for minuting.

3 CONFIRMATION OF MINUTES

3.1 Minutes of the meeting of the Mahi Tahi Joint Development Committee meeting held on 11 February 2020 4 - 5

RECOMMENDATION

THAT the Mahi Tahi Joint Development Committee:

(a) Confirms as a true and correct record the circulated minutes of a meeting of the Mahi Tahi Joint Development Committee held on 11 February 2020.

(Agenda pages 6 - 9 Committee Briefing notes - public excluded)

4 REPORTS

4.1 Committee Meeting Locations – Sarah Nichols (Governance Manager) 10 - 12

RECOMMENDATION

THAT the Mahi Tahi Committee

(a) **Receives** report No. 200312034625.

(b) **Notes** that future Mahi Tahi Joint Development Committee meeting locations be alternated between the Tuahiwi Marae and the Rangiora Service Centre, Council Chambers and the respective representative from each organisation chair the meetings at the venues.

(c) **Resolves** the Mahi Tahi Joint Development Committee meeting dates and venues for the remainder of 2020 will be:

Tuesday 24 March 2020 – Council Chambers, Rangiora
Tuesday 21 April 2020 – Tuahiwi Marae
Tuesday 16 June 2020 – Council Chambers, Rangiora
Tuesday 18 August 2020 – Tuahiwi Marae
Tuesday 20 October 2020 – Council Chambers, Rangiora
Tuesday 15 December 2020 – Tuahiwi Marae

(d) **Notes** that the 2021 meeting schedule will be developed in October/November 2020.

4.2 Cam River Floodgate automation – cultural context and consideration of process – Gerard Cleary (Manager Utilities and Roading, on behalf of the Kaiapoi River Rehabilitation Working Party

13 - 28

RECOMMENDATION

THAT the Mahi Tahi Committee recommends

THAT the Council:

(a) **Receives** report No. 200310033024.

(b) **Notes** that proposal for a feasibility study for automation of the Cam River floodgate to a tide gate will be presented to the Te Ngāi Tūāhuriri Rūnanga Executive, for a decision on level of support, by Mahaanui Kurataiao Ltd on behalf of Waimakariri District Council.

(c) **Notes** that any modifications to the Cam River floodgate would require the approval of Environment Canterbury as the asset owner.

(d) **Circulates** this report to the Kaiapoi-Tuahiwi Community Board and Waimakariri Water Zone Committee.

NEXT MEETING

The next meeting of the Mahi Tahi Joint Development Committee is scheduled for 9:30am, Tuesday 21 April 2020 to be held at the Tuahiwi Marae.

BRIEFING

At the conclusion of the meeting there will be a briefing to the Committee to discuss:

- Annual Council/Runanga Hui scheduled for 23 April 2020
- District Plan Review – Working Draft Provisions for MR873
- Rangiora and Kaiapoi Structure Planning Projects

KARAKIA

MINUTES OF A MEETING OF THE MAHI TAHI JOINT DEVELOPMENT COMMITTEE HELD IN THE WAIMAKARIRI DISTRICT COUNCIL CHAMBERS, 215 HIGH STREET, RANGIORA ON TUESDAY 11 FEBRUARY 2020 COMMENCING AT 9.00AM.

PRESENT

Mayor Dan Gordon, Deputy Mayor Neville Atkinson, Councillor Al Blackie, Te Maire Tau, and Tania Wati

IN ATTENDANCE

Councillors K Barnett and S Stewart
J Palmer (Chief Executive), S Markham (Manager Strategy and Engagement), G Cleary (Manager Utilities and Roading), T Ellis (Development Planning Manager) (for the briefing), A Smith (Governance Coordinator)

KARAKIA

Te Maire provided a Karakia.

1 APOLOGIES

Moved Mayor Gordon seconded Cr Atkinson

THAT an apology for absence be received and sustained from Arapata Rueben.

CARRIED

2 CONFLICTS OF INTEREST

No conflicts of interest were recorded.

3 CONFIRMATION OF MINUTES

3.1 Minutes of the meeting of the Mahi Tahi Joint Development Committee meeting held on 26 November 2019

Moved Councillor Atkinson seconded Councillor Blackie

THAT the Mahi Tahi Joint Development Committee:

(a) Confirms as a true and correct record the circulated minutes of a meeting of the Mahi Tahi Joint Development Committee held on 26 November 2019.

CARRIED

MATTERS ARISING

Further to the November meeting of the committee, Councillor Atkinson asked if the appointment of joint chairperson was to be considered, and brief discussion followed on this matter and members agreed on the appointment of a Co-Chair.

APPOINTMENT OF A CO-CHAIR OF THE MAHI TAHI COMMITTEE

Moved Mayor Gordon seconded Te Maire Tau

THAT Tania Wati is appointed as Co-Chair of the meetings of the Mahi Tahi Development Committee.

CARRIED

Mayor Gordon and T Wati will discuss how future meetings will be conducted.

NEXT MEETING

The next meeting of the Mahi Tahi Joint Development Committee is scheduled for 9:30am, Tuesday 24 March 2020 to be held in the Council Chambers.

There being no further business the meeting closed at 9.10am

CONFIRMED

_____
Chairperson

_____
Date

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	Gov 30 - 200312034625
REPORT TO:	Mahi Tahi Joint Development Committee
DATE OF MEETING:	24 March 2020
FROM:	Sarah Nichols, Governance Manager
SUBJECT:	Committee Meeting Locations
SIGNED BY: (for Reports to Council, Committees or Boards)	Department Manager / Chief Executive

1. SUMMARY

1.1 This report is to formalise discussions regarding the locations of future Mahi Tahi Joint Development Committee meetings for the remainder of 2020.

2. RECOMMENDATION

THAT the Mahi Tahi Joint Development Committee:

(a) **Receives** report No. 200312034625.

(b) **Notes** that future Mahi Tahi Joint Development Committee meeting locations be alternated between the Tuahiwi Marae and the Rangiora Service Centre, Council Chambers and the respective representative from each organisation chair the meetings at the venues.

(c) **Resolves** the Mahi Tahi Joint Development Committee meeting dates and venues for the remainder of 2020 will be:

Tuesday 24 March 2020 – Council Chambers, Rangiora
Tuesday 21 April 2020 – Tuahiwi Marae
Tuesday 16 June 2020 – Council Chambers, Rangiora
Tuesday 18 August 2020 – Tuahiwi Marae
Tuesday 20 October 2020 – Council Chambers, Rangiora
Tuesday 15 December 2020 – Tuahiwi Marae

(d) **Notes** that the 2021 meeting schedule will be developed in October/November 2020.

3. BACKGROUND

3.1 The Mahi Tahi Joint Development Committee formed at the beginning of the 2019-22 Council term, as a joint committee between Te Ngai Tuahuriri Runanga and the Council consisting of three members from each organisation.

3.2 The purpose of this committee was to further develop the working relationship between the two parties. This working relationship is particularly important as the Council undertakes its District Plan Review and water related matters come to the fore, in part through central government directives. The Committee prepares recommendations to the Council and Runanga.

4. ISSUES AND OPTIONS

4.1. The agreed meeting schedule for the Mahi Tahi Joint Development Committee was initially monthly meetings, and then in 2020 meetings after April to be held every second month.

4.2. At its 11 February meeting the Committee discussed the opportunity to hold the meeting at alternating venues of the Council Chamber and the Marae. When the meeting was held at the Council Chambers the Mayor would Chair the meeting, and when the meeting was held at the Tuahiwi Marae the Runanga Chair, being a member of the Committee, would chair the meeting.

4.3. Staff have liaised with the Marae as to availability and the option of alternating sites is viable. The Council Chamber will always be kept in reserve, should the Marae become unavailable at short notice for situations such as tangi.

4.4. The current meeting schedule, all at the Council Chamber commencing at 9.30am is as follows:

Tuesday 24 March 2020;	Tuesday 21 April 2020
Tuesday 16 June 2020;	Tuesday 18 August 2020
Tuesday 20 October 2020;	Tuesday 15 December 2020

It is proposed that the meetings scheduled in April, August and December 2020 be held at the Tuahiwi Marae and be chaired by the Runanga Chair, who is a member of this committee.

4.5. The Management Team have reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Groups and Organisations

The Runanga representatives were consulted and agree that alternate meeting venues and sharing of the chairperson role was appropriate.

5.2. Wider Community

The wider community have not been consulted, although the meetings are generally open to the public.

6. IMPLICATIONS AND RISKS

6.1. Financial Implications

No financial impact for venue use as each party has its own appropriate meeting space. The meeting is serviced by the Governance Team of the Council.

6.2. Community Implication

No community implications as each venue facility is publicly and disability accessible during the meeting.

6.3. Risk Management

No risks are considered. If the Marae venue was unavailable due to unforeseen circumstances, then the Council Chamber would always be held in reserve to enable the meeting to occur as scheduled.

6.4. Health and Safety

No health and safety issues.

7. CONTEXT

7.1. Policy

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Legislation

Meetings are held in accordance to the Local Government Act 2002 and the Local Government Official Information and Meetings Act 1987.

7.3. Community Outcomes

Effect is given to the principles of the Treaty of Waitangi and there are wide ranging opportunities for people to contribute to the decision making that effects the Waimakariri district.

7.4. Delegations

The Committee has the delegation to consider different meeting venues.

Sarah Nichols
Governance Manager

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	DRA-19 / 200310033024
REPORT TO:	Mahi Tahi Committee
DATE OF MEETING:	24 March 2020
FROM:	Gerard Cleary – Manager Utilities and Roading, on behalf of the Kaiapoi River Rehabilitation Working Party
SUBJECT:	Cam River floodgate automation – cultural context and consideration of process
SIGNED BY: **(for Reports to Council, Committees or Boards)**	Department Manager / Chief Executive

1. SUMMARY

1.1 This report details a proposal from the Kaiapoi River Rehabilitation Working Party to investigate the feasibility for automation of the Cam River Floodgate to become a tide gate, for prevention of saline incursions upstream.

1.2 A decision of the Utilities and Roading Committee on 19 November 2019 was to consider including budget for a feasibility study only if there was support from Te Ngāi Tūāhuriri Rūnanga and Environment Canterbury, as the asset-owner.

1.3 This report seeks consideration and cultural context for the proposal from the Mahi Tahi Committee, and also proposes a process for consultation.

1.4 The intent of the automated floodgate operation is to avoid or limit saline intrusion into the lower Cam River during times when there is high salinity on the incoming tide. This would retain a freshwater environment in the lower Cam River, with possible complex benefits. However, there are also multiple possible disadvantages for ecological species and the local community.

1.5 The Cam River Floodgate is an Environment Canterbury asset, therefore any modifications would require their approval.

Attachments:

i. Kaiapoi River Rehabilitation Working Party meeting minutes 25 September 2019 (191029150331)

2. RECOMMENDATION

THAT the Mahi Tahi Committee recommends:

THAT the Council:

(a) **Receives** report No. 200310033024.

(b) **Notes** that proposal for a feasibility study for automation of the Cam River floodgate to a tide gate will be presented to the Te Ngāi Tūāhuriri Rūnanga Executive, for a decision on level of support, by Mahaanui Kurataiao Ltd on behalf of Waimakariri District Council.

(c) **Notes** that any modifications to the Cam River floodgate would require the approval of Environment Canterbury as the asset owner.

(d) **Circulates** this report to the Kaiapoi-Tuahiwi Community Board and Waimakariri Water Zone Committee.

3. BACKGROUND

3.1 The Kaiapoi River Rehabilitation Working Party has proposed that the Cam River flood gate could be modified to be used approximately up to four months of the year as a tide gate, for prevention of saline water from progressing upstream during a high tide. Environment Canterbury has conducted preliminary investigations that confirmed that automation of the Cam River flood gate is possible, however with many required considerations.

3.2 The Kaiapoi River Rehabilitation Working Party has fully allocated a budget of $105,000 for 2019-20, and 2020-21 to projects in the Kaiapoi River (sediment trap construction, planting and river bank realignment), therefore there is no unallocated funding currently at the discretion of the Working Party to allocate.

3.3 The Cam River flood gates were designed and built in 1971/72 to prevent floodwater from the Waimakariri River overtopping the stopbanks upstream of the Floodgates. The Cam River flood gates are an Environment Canterbury – owned and managed asset. When the water level at the Waimakariri River Gorge gauge reaches 3.5m the floodgates are lowered manually. Once the flood levels have receded the floodgates are raised again. The floodgates were designed for rare, temporary flooding.

3.4 A report into the cause of saline incursion by Adrian Meredith at Environment Canterbury, entitled ‘Assessment of the state of a tidal waterway – the Lower Kaiapoi River’ (March 2018), concluded that observed changes were mostly likely due to increasing episodes of saline water intrusion flowing into the lower Kaiapoi River. This conclusion is supported by salinity measurements taken by Environment Canterbury.

3.5 The saline intrusions are thought to be a result of bed level changes following the 2010-11 Canterbury earthquakes. Saline intrusion episodes in the lower Kaiapoi River are also hypothesised by Meredith (2018) to result from low flows in the Waimakariri River, generally in summer and autumn, allowing saltwater to penetrate further up the mouth of the Kaiapoi and Cam Rivers, with flow data supporting this hypothesis.

3.6 A report on the ecological and wider implications of saline incursions in the Kaiapoi River, including the Cam River catchment was presented to the Utilities and Roading Committee in April 2019 (190115003326[v2]). An agreed response strategy to the increasing saline incursions, such as to protect against (for example with a tide gates), or to accommodate (for example with provisions in the District Plan), has not been decided upon by the Waimakariri District Council. The saline incursions will likely be exacerbated by sea level rise, and modelled decreasing flows in the Waimakariri River in the summer time.

3.7 Environment Canterbury is continuing to undertake salinity monitoring during summer months in the Kaiapoi River, to assess when saline incursions occur, and further assess the level of relationship of saline incursions in the Kaiapoi and Cam Rivers to the minimum flow levels in the Waimakariri River.

4. ISSUES AND OPTIONS

Options

4.1. Options that have been discussed by the Kaiapoi River Rehabilitation Working Party include:

(a) Maintaining the status quo, with use of the floodgates only during floods in the Waimakariri River, with manual operation.

(b) Using the flood gate as a tide gate during periods of saline incursion, with manual operation, as and when there are low flows in the Waimakariri River. Manual operation however is labour intensive.

(c) Modifying the flood gate for automated use as a tide gate for periods of saline incursions (i.e. low flow in the Waimakariri River). Automated salinity meters downstream of the floodgate, would transmit information of saline incursions occurrences via telemetry. This is the option recommended by the Kaiapoi River Rehabilitation Working Party, and therefore has been detailed further in this report.

4.2. Other combinations of the options are also possible, as such automated salinity meters downstream, however to retain the manual operation of the floodgate.

4.3. As Environment Canterbury is the asset-owner, any decisions for design and budget allocation for modification of the floodgate would need to be in consultation with Environment Canterbury.

Proposed Process

4.4. The process by which consultation on automation of the flood gate is proposed to be carried out is;

(1) Consultation with Te Ngāi Tūāhuriri Rūnanga Executive (via Mahaanui Kurataiao Ltd), with a formal record of any decision on level of support.

(2) Consultation with Environment Canterbury River Engineering Team with a formal record of any decision on level of support.

(3) Report to Utilities and Roading by October 2020 with a recommendation of whether to proceed with a budget request for a feasibility study, based on the level of support of Te Ngāi Tūāhuriri Rūnanga Executive and Environment Canterbury.

Issues for automation of the Cam River Floodgate

4.5. The adaption of the flood gate to be used as a tide gate has many engineering, economic, ecological and cultural considerations.

Engineering and hydrology

4.5.1. The floodgate would be required to be modified to enable ease of opening and closing, to withstand corrosion from saline water, and to be submerged for longer periods. Winch motors have been proposed to be installed by Environment Canterbury as an opening and closing mechanism, with a modification to the lifting mechanism.

4.5.2. A power supply to the floodgate would be required to be installed for automation of the gate. Saline telemetry meters could operate off a mains, battery or solar supply.

4.5.3. Back-up power would need to be considered, as well as the increased cost of on-going maintenance, due to salinity exposure, increased use and more components.

4.5.4. Telemetry would need to be installed for the salinity meters, with a party, such as Environment Canterbury or Waimakariri District Council, who would receive and monitor the information. The telemetry meters would need to be carefully placed to ensure that salinity changes were detected within appropriate timeframes.

4.5.5. Security of the tide gate and salinity meters from vandalism or any activities that could endanger the public would need to be considered.

4.5.6. An assessment of the hydraulic and capacity effects on the Cam River and other waterbodies, such as the Kaiapoi River would need to be carried out. This should specifically examine what the effect of a fresh or flood in the Cam River would have if the tide gate was closed, whether there would be sufficient flushing flows to clear built-up sediment behind the tide gate when opened, and salinity effects for the Kaiapoi River. Potentially the mechanism for the tide gate could be designed to have an override function to be open if floodwater needed to drain downstream, to not flood properties upstream of the Cam River tide gate.

4.5.7. Hydrological investigations should consider the potential effect of raised groundwater levels upstream of a Cam River tide gate. Investigations should also consider the effect of a Cam River tide gate for consequential effects on flood conveyance of the lower Ohoka Stream, lower Cust River and Silverstream and associated flood risk for properties adjoining the lower reaches of these waterways with higher tidal inflow as a consequence of less upstream conveyance into the Cam River system.

Economic

4.5.8. There is potential that preventing saline incursions with a tide gate would protect an area of productive land or infrastructure upstream of the tide gate from saline effects in the medium term, but potentially not in the longer term, due to sea level rise. It had not been investigated in this report how substantial this area could be.

4.5.9. There is an opportunity cost to pursuing a feasibility study for automating the floodgate i.e. the budget could possibly be allocated to other projects to achieve the intended benefits, however a wider scope of potential options has not been carried out.

Ecology

4.5.10. Some species, such as the introduced Canadian oxygen weed (*Elodea Canadensis*) do not tolerate prolonged periods of saline water. Therefore these species would benefit from prevention of saline incursions through the operation of the tide gate. However many species, often thought of as freshwater species, such as brown trout, īnanga and eels, also inhabit saline estuarine environments. Freshwater mussels (*Echyridella menziesii*), that are known to be present in the Kaiapoi river above the mouth of the Cam River, and therefore potentially also around the Cam River Floodgate, are saline tolerant to some degree. Saline tolerant weedbed species, such as the native plant *Ruppia megacarpa* would naturally establish from seed source nearby if a tide gate was not in operation.

4.5.11. The tide gate would likely create a fish passage barrier that could prevent migratory fish (both introduced and native species) from completing their lifecycle. However, to what severity the tide gate would be a barrier requires further investigation of the time of year and length of time that the tide gate would be

operating. A fish passage facility, such as a 'window', as that designed for the Taranaki Floodgate, could be a potential solution to enable fish passage. However, it should be noted that the Taranaki Floodgate 'window' is a novel design, yet to be monitored for results.

4.5.12. The tide gate, by changing the location of the saltwater wedge, where freshwater overlays saline water, would likely change the location of īnanga spawning habitat, located in 2019 by Aquatic Ecology Ltd for around the confluence of the Cam River with the Kaiapoi River. It would recommended, and potentially a consent condition, to monitor the new location(s) of the spawning habitat, and ensure that an appropriate vegetation cover of grasses, with low shading is provided at these locations.

4.5.13. One of the hypothetical benefits of a tide gate is reducing inflow of high suspended sediment backwash from the Waimakariri River flowing into the Cam River system, where it removes habitat for invertebrates and fish species that use interstitial spaces on and around rocks.

4.5.14. Potentially the current ecosystem and species present have already adapted to the saline incursions due to the length of time that they have been occurring.

Cultural

4.5.15. There are potential effects to mahinga kai, such as changes in the abundances of species that are available for harvest.

4.5.16. There are potential effects from changes to water levels from a tide gate on wāhi tapu and wāhi taonga, for example the silent file area 'Te Kai a te Atua' (SF016), upstream of the Cam River (see Figure 1).

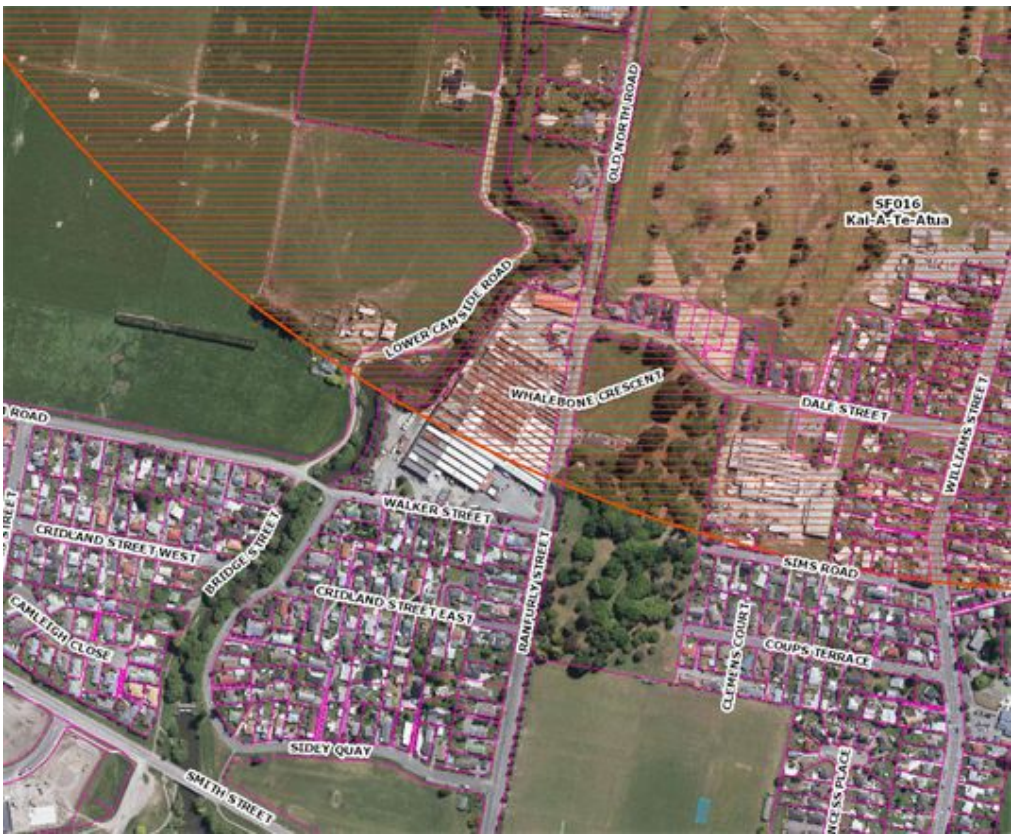

Figure 1: Silent file area 'Te Kai a te Atua' (red circle) upstream of the Cam River flood gate structure.

Social

4.5.17. The social benefits, of maintaining a freshwater environment versus allowing an increasing estuarine environment to establish, have not been assessed with the local community. The preference for a freshwater environment or tidal / estuarine is a subjective question that would likely have a range of views.

4.6. The feasibility studies that are proposed to be carried out by Waimakariri District Council if the proposal was progressed are:

4.6.1. Assessment / advice on all consents and permissions that would be required to undertake the modification to a tide gate, with status of each proposed activity in each plan (i.e. permitted, restricted discretionary, controlled activity).

4.6.2. A concept design and costing of the works by a suitably - qualified engineer.

4.7. The Management Team have reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. Groups and Organisations

5.1.1. Kaiapoi River Rehabilitation Working Party

The Working Party agreed with a motion at a meeting on the 25 September 2019 that it would request funding for a formal investigation and engineering options and implications report into future floodgate automation, with funding to be sought for this from the WDC annual plan budget.

5.2. Wider Community

5.2.1. The wider community has not been consulted on the proposal to automate the Cam River Floodgate. Individual members of the community have raised the idea with the Kaiapoi River Rehabilitation Working Party and Waimakariri District Council.

6. IMPLICATIONS AND RISKS

6.1. Financial Implications

6.1.1. The Utilities and Roading Committee was requested on 19 November 2020 to consider allocation of $15,000 for a feasibility study, to come from the District-wide rate. A decision on allocation of this budget was deferred, pending the outcome of consultation with Te Ngāi Tūāhuriri Rūnanga and Environment Canterbury.

6.1.2. Environment Canterbury estimates the cost of full automation of the floodgate, including link to an electronic salinity sensor is approximately $45,000 to $50,000. An additional cost is the resource consents to approve the changed floodgate operation, estimated at $30,000, project management fees, and project contingencies. These estimates include costs of the investigations needed to support the consent processing (see Table 1).

6.1.3. A cost-sharing agreement with Environment Canterbury is recommended to be discussed, particularly if the project proceeded to construction stage.

Estimate of Costs for Full Automation (provided by Environment Canterbury) Note these estimates are a high level first approximation. Costs for investigations and

consenting could be quite different, and excludes the on-going increased cost of maintenance.

Investigation/Design – Mechanical/Electronics/Safety/Security	$10,000
Downstream Salinity Meters/Data Loggers/Telemetry	$5,000
Power to downstream Salinity Meter – 240V/Battery/or potentially solar	$3,000
Upstream Salinity Meter/Data Logger/water level recorder/Telemetry	$5,000
Power to upstream Salinity Meter and Cam Floodgates	$6,000
Power winches (2)	$2,000
Fitting and modification – lifting mechanisms	$5,000
Fish Passage modifications	$3,000
Over-ride systems and back-up power	$5,000
Electronics	$3,000
Investigations for Consenting	$15,000
Consents for converting to a tidegate as well as for Salinity Meters	$15,000
Professional fees for project management	$30,000
Contingencies (30%)	$32,000
Total	**$139,000**

Table 1: Estimate of costs to automate the Cam River Floodgate

6.2. **Community Implications**

6.2.1. The implications for community members would be varied, with advantages and disadvantages depending on;

6.2.1.1. The subjective preference for freshwater or estuarine environments;

6.2.1.2. The degree of environmental effects (yet to be established in an Assessment of Environmental Effects), such as the level of saline inundation prevented, and effect on local ecology, flooding and sedimentation for the Cam River and surrounding waterways.

6.3. **Risk Management**

6.3.1. It is recommended to lead a wide community discussion with our coastal communities in the District regarding response strategies for increasingly saline environments from sea level rise, and for any advocacy to change minimum flows set for the Waimakariri River. Otherwise, there is a risk that budget could be allocated to conflicting response strategies, such as to protect the lower Cam River freshwater environment from saline incursions with a tide gate, or encouraging saline-tolerant weed beds to establish, which could provide coastal erosion protection in the future.

6.3.2. In the longer term, it cannot be assumed that a tide gate would be sufficient to maintain a freshwater environment, with increasing sea level, and potential saltwater inundation of groundwater along the coast. There is a risk that installation of a tide gate would incorrectly signal to the community that a freshwater environment could be maintained into the future.

6.4. **Health and Safety**

6.4.1. A health and safety risk assessment to the public of more regular opening and closing of the flood gate, as a tide gate, would be included as part of the feasibility study.

6.4.2. Assessment of Environmental Effects of the automated tide gate proposal would require a contractor conducting fieldwork to meet health and safety requirements.

7. CONTEXT

7.1. Policy

7.1.1. This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. Legislation

7.2.1. Consents would be required under the Canterbury Land and Water Regional Plan, District Plan (under the Resource Management Act 1991). These could potentially be notified or non-notified consent applications.

7.2.2. Permission to obstruct fish passage would be required under the Freshwater Fishery Regulations 1983 (Part 6).

7.2.3. Additional consents and permits would likely be required, such as signalled by the proposed National Policy Statement– Freshwater Management from the Ministry for the Environment regarding fish passage.

7.3. Community Outcomes

7.3.1. Our district has the capacity and resilience to quickly recover from natural disasters and adapt to the effects of climate change.

7.3.2. There is a healthy and sustainable environment for all

7.3.3. Harm to the environment from the impacts of land use, use of water resources and air emissions is minimised.

7.3.4. Cultural values relating to water are acknowledged and respected.

7.4. Delegations

7.4.1. The Council holds the authority to allocate budget in the Annual Plan.

MINUTES JOINT WORKING PARTY
KAIAPOI RIVER REHABILITATION PROJECT

ENVIRONMENT CANTERBURY AND WAIMAKARIRI DISTRICT COUNCIL

MEETING IN THE KAIAPOI SERVICE CENTRE COUNCIL CHAMBERS
176 Williams Street, Kaiapoi
Wednesday 25 September 2019 at 4:00pm – 5:30pm

Purpose	Oversee the work required to scope in-stream proposals for improving water quality, navigability, flood hazard management, amenity and recreation in the Kaiapoi River.	
Working Party Members	Neville Atkinson (apologies for lateness); Claire McKay (Environment Canterbury); Michael Blackwell (Waimakariri Zone Committee); Kevin Felstead (Waimakariri Deputy Mayor – Chair of this Meeting); Sandra Stewart (Kaiapoi-Tuahiwi Community Board).	
Staff Advisors (as required)	Adrian Meredith; Andrew Arps; Brian McIndoe (Environment Canterbury) Grant McLeod, Sophie Allen, Duncan Roxborough, Janet Fraser, Gerard Cleary (Waimakariri District Council)	
Apologies	Position vacant (Mahaanui Kurataiao Ltd); Position vacant (Te Ngāi Tūāhuriri Rūnanga). Owen Davies, Chris Brown (Waimakariri District Council)	
Attachments	Finalised Comprehensive Planting Plan	Prepared by Tori Stableford
	Notes: Cam River Floodgates to Tidegates	Prepared by Brian McIndoe

Key Objective for the Working Party:

Oversee preparation of a report, initially for consideration by the Kaiapoi Community Board, and then by Environment Canterbury and Waimakariri District Council, setting out a possible costed programme of work that would be required to meet the water quality objectives, navigability requirements, flood hazard management, amenity and recreation imperatives for the Kaiapoi River.

Business

1. Welcome and Apologies

Cr. Kevin Felstead chaired the meeting. Also present were Michael Blackwell (Waimakariri Water Management Zone Committee), Sandra Stewart (Kaiapoi Tuahiwi Community Board), Neville Atkinson (Kaiapoi Tuahiwi Community Board – apologies for lateness), Claire McKay (Environment Canterbury).

Apologies were received from Jason Eden on behalf of Ngāi Tūāhuriri and Mahaanui Kurataiao Ltd.

Moved: Sandra Stewart Seconded: Kevin Felstead

CARRIED

2. Confirmation of Minutes

Minutes of a meeting of the Kaiapoi River Rehabilitation Working Party held on Wednesday 20 March 2019

RECOMMENDATION

That the Working Party:

(a) **Confirms** as a true and correct record the minutes of a meeting of the Working Party held on Wednesday 20 March 2019.

Moved: Sandra Stewart Seconded: Kevin Felstead

CARRIED

3. Review of Comprehensive Planting Plan

Janet provided an overview of the plan to the Working Party. During the meeting the plan was workshopped and its provisions were generally agreed among all present.

Brian confirmed that ECan will undertake willow control through the Kaiapoi River between the Coastguard and the Askeaton Reserve in January and February 2020. Dead trees will be removed and damaged trees will be pruned. Stumps will be left in the lower banks to stabilise them.

Brian noted the risk of wave lap erosion destabilising the river stopbanks in the areas where the willows are removed.

It is intended that the WDC terrestrial and wetted edge planting programme will provide infill around the areas where willows have been removed later in 2020, as shown in the plans.

For placement of plantings, Brian notes that flax and other “heavier” plants and shrubs need to be at a distance of 1m from the toe of the stopbank to maintain their stability. Other lighter/smaller plants including grasses can be planted up to the toe of the stopbank. No plants should be placed directly on the side of the stopbanks.

Andrew noted that Riverside Nurseries (Natural Habitat Landscapes) have a large number of low cost wetland plants that will need to be planted out shortly.

Action: Sophie to follow up with Riverside Nurseries regarding the suitability of these plants for the Kaiapoi River planting and for other pending WDC wetland planting projects.

Note: the plant list was subsequently reviewed by Sophie and was not considered suitable for the pending Kaiapoi aquatic or terrestrial plantings.

An updated version of the planting plan will be recirculated to all participants following the meeting.

The plan is a "live" document, intended for ongoing update as a working document.

Note that the programme outlined in Section 7 includes funding to implement much of the comprehensive planting plan in 2019/20 and 2020/21. Note that some decisions on shrub/tree removal will however be referred to the Kaiapoi – Tuahiwi Community Board for decision.

4. Ongoing Plant Maintenance & Weed Control

The Working Party agreed to recommend that an ongoing plant maintenance programme be established which will undertake:

a) Ongoing removal of juvenile exotic trees (including juvenile willows) and weeds, including ivy and yellow flag iris, inside the stopbanks
b) Infill planting as required to fill gaps and replace dead plants
c) Promote viability of existing terrestrial native plantings
d) Remove raupo cages from the previous year aquatic wetland plantings

Note that ongoing willow control is a function of Environment Canterbury and will not be included in the proposed Waimakariri District Council plant maintenance programme, other than for growth of juvenile plants.

It is suggested the Working Party recommend that the Waimakariri District Council include an ongoing budget of approximately $2,000 per annum commencing in 2020/21. The budget will be revised once detailed cost estimates from Delta Parks Contractors are received and an appropriate budget is recommended to be included to cover this work.

This programme would continue for a period of at least 4 years and be used for ongoing maintenance inside the stopbanks. This is intended to protect the viability of the newly establishing native plants, continue infill planting as required and provide ongoing removal of noxious or other problem weeds.

Action: Grant to include budget in 2020/21 Annual Plan.

Note: subsequent to the meeting Delta declined to undertake the proposed plant maintenance works. Therefore Wai-Ora Landscapes (or similar ecological restoration company) will now be approached to undertake the works. The works will be funded from the Greenspace Account and rated district wide as a component of the Parks Maintenance Programme.

5. Option to use Dredged Spoil to Widen Stopbanks

There is an option to utilise some of the dredged river spoil to widen stopbanks. To date the marina basin dredging has excavated material that is approximately half gravelly sand and half fine silts. The gravel/sand material is sitting in stockpiles adjacent to the dewatering basin and is ready for further reuse. The silty material remains within the basin to further dry before it will be extracted and stockpiled.

Brian advises that the area between Hall Street and the Corcoran Basin is suitable and desirable for stopbank widening. The compaction and stopbank design would involve

commencing a bench at 1m below the top of the current stopbank (e.g. the bench highest point at approximately 3mRL), with a 3:1 side batter from the existing stopbank to the newly formed outer bank toe. The bench would be in the form of a wider ramp extending from the landward side of the existing stopbanks.

However there is a stormwater asset traversing the toe of the stopbank for the full distance between Hall Street and the Corcoran Basin.

Action: Janet will follow up with the drainage team about potential use of the dredged spoil to widen this area of stopbank.

Other possible uses of the dredged spoil are:

- Build-up of slumped land at the Askeaton Reserve
- Wetland in-fill in the Kaiapoi wastewater treatment plant
- Build up other low lying land in the Regeneration Zone

The reuse of material for any of the above options is subject to pending contamination and salinity testing which will determine suitable future land uses.

A further factor is spoil composition. This will determine whether the material is able to be suitably compacted for reuse in widened stopbanks or other types of land use.

If no particular areas are identified for stopbank widening, then a default option for use of the balance of spoil not required for other purposes is for it to be bulldozed into the side of the stopbanks along Charles Street. Any material incorporated into the stopbanks will be suitably compacted.

6. Updates

Adrian Meredith – Update on salinity monitoring in Kaiapoi River

Adrian noted the salinity probes are now being put back in the Kaiapoi River to record saline incursions this summer. These will show any effects of the dredging on degree of saline intrusion affecting the river as a result of the deepened river bed contours.

Sophie Allen – Waimakariri District Council views on salinity report/ pigeon control options

Kaiapoi River salinity - Sophie commented on the discussion among the Utilities and Roading Committee about the considerations raised in Adrian's report on increasing salinity in the Kaiapoi River. The uncertainties concerning future effects were recognised. The Committee did not take a position on preferred response strategies at this stage. However it acknowledged that the future Council/ community response will likely involve a need for local adaption to the new conditions in the river including adapting to potential effects in the lower tributaries which are also affected by ongoing saline intrusion.

Pigeon control – The Roading department is seeking a price from SICON to implement the potential options to prevent pigeons from nesting beneath the Williams Street Bridge. The investigations are in progress but the pigeon removal operation may not be undertaken this financial year.

The options include blocking nesting locations with mesh wiring or with solid inserts. Various design options to block the pigeon access are being considered by the Roading team. The trapping of pigeons is required in advance/ in conjunction with the works so the colony does not immediately relocate to an alternative location. The accumulated faecal matter beneath the bridge will also need to be removed before the barriers are installed.

Andrew Arps – Update on Environment Canterbury terrestrial planting

Andrew is awaiting an update from Park Ranger Greg Stanley who undertook the river terrestrial planting over the previous year. Once provided this update will be circulated to the Working Party. Information on any further terrestrial planting to be undertaken by ECan along the Kaiapoi River will also be provided.

Grant McLeod - War Memorial Redevelopment

Grant described the proposal for the War Memorial area is likely to be in the form of an investigation paper or concept design presented to the Kaiapoi Community Board for consideration.

Specific feedback during the meeting was provided about the existing shrubbery surrounding the War Memorial. This area was noted to be providing current habitat for Tui and other native birdlife. It also provides shelter for people walking along the river during easterly winds. A design proposal or discussion document will be taken by Grant to the Kaiapoi Tuahiwi Community Board in the 2019/20 financial year. This could include the following considerations:

- Protecting currently established bird habitat
- Establishing view shafts over the river if/ where appropriate
- Consultation with the Kaiapoi RSA
- Retaining pedestrian shelter from easterly winds
- Opening up the existing walkway through the existing shrubs down to the water's edge

Brian McIndoe – Willow removal and automating the operation of the Cam Floodgate

Willow Removal – Brian noted the ECan willow control will be undertaken in January and February 2020 between the Coastguard Ramp and the Askeaton Reserve.

Cam Floodgate- ECan staff have identified that it is technically possible to fully automate the Cam floodgate. The gate could be electronically linked to a salinity gauge that could automatically lower the gate into the river during times of saline incursion.

Brian estimates the cost of full automation of the flood gate including link to an electronic salinity sensor is approximately $45,000 to $50,000. An additional cost is the resource consents to approve the changed floodgate operation, estimated at $30,000. These estimates include costs of the investigations needed to support the consent processing. A further update paper was provided by Brian subsequent to the meeting and is attached to these minutes, for information.

The intent of the automated floodgate operation is to avoid or limit saline intrusion into the lower Cam River during times when there is high salinity on the incoming tide. This would retain a freshwater environment in the lower Cam River for longer periods and minimise effects on its freshwater species. The gate automation would improve habitat for freshwater species such as freshwater mussels.

A further benefit is reducing inflow of high suspended sediment backwash from the Waimakariri River flowing into the Cam River system, where it then sloshes back and forth with the tide.

Some implications of the floodgate operation that would need to be assessed through the Environment Canterbury consent process are:

- The requirement to obtain Environment Canterbury (and Department of Conservation) resource consent/ approval to block fish passage
- Design of a suitable fish bypass, ensuring fish passage into the Cam River system whilst minimising saline encroachment
- Maintain freshes and outflow / conveyance from the Cam River during wet weather in the foothills catchment, which can assist to flush sediment and weeds from the system
- Consequential effects on salinity in the Kaiapoi River mainstem and upstream tributaries, if saline water is pushed further upstream in the Kaiapoi River

- Consequential effects on flood conveyance of the lower Ohoka Stream, lower Cust River and Silverstream and associated flood risk for properties adjoining the lower reaches of these waterways with higher tidal inflow as a consequence of less upstream conveyance into the Cam River system

The Working Party agreed that it will request funding for a formal investigation and engineering options and implications report into future floodgate automation. Funding will be sought from the WDC annual plan budget.

Action: Sophie to work with Brian McIndoe to draft a report to the Utilities and Roading Committee, then to Council requesting budget for the 2020/21 annual plan to formally investigate engineering options and implications of automating the Cam River floodgate for saline incursion response.

Duncan Roxborough – Kaiapoi River Dredging

The dredging of the marina basin is near complete, with the Riverview Pontoon installed and a deep berthing pocket established for vessels berthing at the pontoon. The pontoon can be used now, but its full construction will be complete once its services (lights and power) are installed.

A small pocket of dredging adjacent to the wharf was not completed and final dredge depths in the marina basin have not yet been reached.

The dredging will recommence next year in the period from 1 June to 15 August. During this time the Council will complete the balance of the marina basin berthing dredging and will excavate the navigation channel from the Coastguard to the Kaiapoi / Waimakariri confluence.

Navigation dredge channel volumes are less than originally anticipated. The minimal channel dimensions (10m wide flat bottom channel at -2.5mRL) could potentially be widened further from the original channel design plans, within the existing contracted extraction allowance.

Janet Fraser – Alternative Backhoe Dredge Consents

The Council is discussing consent conditions with Environment Canterbury for alternative backhoe dredging consents. These will be needed to dredge small pockets (with a long reach digger on a barge) where larger boulders and gravels in the river cannot be sucked into the suction pump hose and pumped to the dewatering basin. This will enable the Council to complete all of the intended dredging next winter.

7. General Business

7.1 Proposed Forward Work Programme for Waimakariri District Council

It is proposed to continue to implement the previously scoped Kaiapoi River Rehabilitation Projects. The identified projects and updated proposed implementation dates (and indicative budgets) are outlined in the following table.

Combining available Kaiapoi River aquatic planting budgets, the Waimakariri District Council currently has approximately $18,000 budget available in 2019/20 to continue aquatic planting, terrestrial planting and weed control works between the Mafeking Bridge and the Courtenay Confluence.

A further site visit of the planting trial area is proposed with the Working Party in November 2019. This will be held prior to commencing the summer planting and weed control programme and will finalise the 2019/20 aquatic and terrestrial planting locations.

The following locations and activities are currently proposed:

Table 7.1: Summary Proposed Kaiapoi River Rehabilitation Programme

Activity	Description	Year			
		2018/19	2019/20	2020/21	2021/22
Extend aquatic planting to Courtenay Confluence Augment existing terrestrial planting	Extend aquatic planting from Mafeking Bridge to Courtenay Confluence Augment previously successful planting trial areas with additional plantings Weed and willow control to ensure available light wells Yellow flag iris control Augment existing terrestrial planting with new native planting on lower river banks	-	$18,000*	$20,000*	-
Kaiapoi River Navigation Dredging	Complete navigation channel safety component of Kaiapoi River dredging	$350,000		-	-
Gravel Beach/Wetland	On raised shelf at corner of Charles and Smith Street adjacent to fishing hole	-	-	$10,000	-
Sediment trap at Mafeking Bridge	Create a slow flow channel and major sediment trap with central planted island	-	-	-	$50,000
Realign River Bend at Smith/Charles St Corner	Requires earthworks and further consultation with Fish & Game and Ngāi Tūāhuriri.	-	-	-	$25,000
Total			**$368,000**	**$30,000**	**$75,000**

*Includes $10,000 per annum from Waimakariri Water Management Zone biodiversity funds, with the balance from the Kaiapoi urban drainage account.

The proposed funding allocation is indicative. It is likely that funding for some projects may exceed the above estimates and for other projects may be less than estimated.

The Working Party has progressed proposals on the basis that a 50% cost share will be provided by the Waimakariri District Council and Environment Canterbury for each project. The programme above is currently budgeted by Waimakariri District Council, including underwriting the requested 50% Environment Canterbury cost share to enable the works to proceed.

The $10,000 per annum allocated from Waimakariri Water Management Zone biodiversity funds are a Waimakariri District Council contribution to the Zone Committee work programme. These are not Environment Canterbury Immediate Steps funds.

The Working Party may wish to reiterate its previous request to Environment Canterbury to provide a 50% cost share to contribute to the continuation of the river rehabilitation programme (see previous meeting minutes).

8. Recommendations

THAT the Working Party:

(a) **Endorses** the continuation of the Kaiapoi River Rehabilitation programme as outlined in Table 7.1.

(b) **Notes** the proposed funding in Table 7.1 is indicative, and final allocations may differ among the recommended projects following more detailed planning with the project contractor/s.

(c) **Recommends** the Waimakariri District Council includes an ongoing inner stopbank maintenance programme potentially with Wai-Ora Landscapes or other selected contractor, estimated at $2,000 per annum or other price as agreed with the selected contractor, and be ongoing for at least four years. This programme is to cover weed removal, provide for infill planting as required and protect the viability of existing plants.

(d) **Recommends** that Environment Canterbury consider through its Annual Plan process provision of a $25,000 budget in 2021/22 to contribute to the cost of establishment of the slow flow channel, central-island and major sediment trap formation upstream of the Mafeking footbridge.

(e) **Requests** Waimakariri District Council staff prepare a report that requests Annual Plan 2020/21 budget provision from the Waimakariri District Council to cover investigation of issues and options to automate the Cam River floodgate, electronically connected to a salinity sensor.

(f) **Notes** recommendation (e) would seek in kind support from Environment Canterbury of specialist advice regarding the automation of the floodgate.

(g) **Notes** a Working Party site visit will be arranged in November 2019, to review specific sites for Waimakariri District Council aquatic and terrestrial planting in the 2019/20 year.

Moved: Neville Atkinson **Seconded: Sandra Stewart**
CARRIED

9. Other General Business

Sandra queried how the Waimakariri River minimum flow allocation is currently measured and restrictions applied. For instance, how is the 41 cumecs cut off point for abstractions measured and how are the in-river flow gauge devices calibrated. Environment Canterbury staff have agreed to provide an explanation report on this process to the next meeting of the Waimakariri Water Management Zone Committee.

10. Closing and Next Meeting Date and Time

It was raised that this meeting may potentially be the last meeting of the Kaiapoi River Rehabilitation Working Party, with a proposal to incorporate the Party into the WDC Land and Water Working Group – to be discussed by the newly-elected Council. Gerard Cleary thanked the Party for their hard work over many years.