



WAIMAKARIRI  
DISTRICT COUNCIL

# Land and Water Committee

## Agenda

**Tuesday 16 November 2021**

**1.00pm**

***Council Chamber  
215 High Street  
Rangiora***

***Members:***

Cr Sandra Stewart (Chairperson)

Cr Neville Atkinson

Cr Kirstyn Barnett

Cr Al Blackie

Cr Niki Mealings

Cr Paul Williams

**AGENDA OF THE LAND AND WATER COMMITTEE TO BE HELD IN THE COUNCIL CHAMBER, 215 HIGH STREET, RANGIORA ON TUESDAY 16 NOVEMBER 2021 AT 1PM.**

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

**BUSINESS**

*Page No*

1 **APOLOGIES**

2 **CONFLICTS OF INTEREST**

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

3 **CONFIRMATION OF MINUTES**

3.1 **Minutes of a meeting of the Land and Water Committee held on Tuesday 20 July 2021**

5-10

*RECOMMENDATION*

**THAT** the Land and Water Committee:

- (a) **Confirms**, as a true and correct record, the circulated Minutes of the meeting of the Land and Water Committee held on 20 July 2021.

4 **MATTERS ARISING**

5 **DEPUTATION/PRESENTATIONS**

Nil.

## 6 REPORTS

### 6.1 Cam River Enhancement Fund Review Decision – Sophie Allen (Water Environment Advisor)

11-19

#### *RECOMMENDATION*

**THAT** the Land and Water Committee:

- (a) **Receives** memo No. 211014166428.
- (b) **Approves** the strategic direction laid out in Option 2 'in-stream physical works, catchment works and engagement' (the preferred option) for the allocation of the remaining \$179,758 of the Cam River Enhancement Fund on in-stream and catchment works.
- (c) **Notes** that Council staff will seek the agreement of North Canterbury Fish and Game, and consult with the Department of Conservation for the allocation of funding to Option 2, as required by the Environment Court decision.
- (d) **Circulates** this report to the Waimakariri Water Zone Committee, the Rangiora-Ashley and Kaiapoi-Tuahwi Community Boards, the Rūnanga-WDC Liaison meeting, and the Central Rural Drainage Advisory Group.

## 7 PORTFOLIO UPDATES

### 7.1 Biodiversity – Councillor Sandra Stewart

### 7.2 Land based Indigenous Reserves (Including River Margins) – Councillor Al Blackie

## 8 QUESTIONS

## 9 URGENT GENERAL BUSINESS

## 10 MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

*Section 48, Local Government Official Information and Meetings Act 1987*

#### *RECOMMENDATION*

**THAT** the public be excluded from the following parts of the proceedings of this meeting.

The general subject of the matter to be considered while the public is excluded, the reason for passing this resolution in relation to the matter and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution, are as follows:

Item N°	Minutes/Report of:	General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
10.1	Sophie Allen (Water Environment Advisor)	North Brook Trail – project endorsement and project support	Good reason to withhold exists under Section 7	Section 48(1)(a)

This resolution is made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987, and the particular interest or interests protected by section 6 or section 7 of that Act which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public are as follows:

<b>Item N°</b>	<b>Reason for protection of interests</b>	<b>Ref NZS 9202:2003 Appendix A</b>
10.1	Protection of privacy of natural persons To carry out commercial activities without prejudice	A2(a) A2(b)ii

**CLOSED MEETING**

*See In Committee Agenda (blue papers)*

**OPEN MEETING**

**NEXT MEETING**

The next meeting of the Land and Water Committee is scheduled for 1pm, Tuesday 15 February 2021 in the Council Chambers, 215 High Street, Rangiora.

**Briefing**

*CWMS Goals and Progress Report – M Griffin and M Renganthan (ECAN)*

**WAIMAKARIRI DISTRICT COUNCIL**

**MINUTES OF THE MEETING OF THE LAND AND WATER COMMITTEE HELD IN THE  
FUNCTION ROOM AT THE RANGIORA TOWN HALL, 303 HIGH STREET, RANGIORA ON  
TUESDAY 20 JULY 2021 COMMENCING AT 1PM.**

**PRESENT**

Councillors S Stewart (Chairperson), N Atkinson, K Barnett, A Blackie, N Mealings, P Williams, P Redmond and Mayor D Gordon.

**IN ATTENDANCE**

C Brown (Manager Community and Recreation), G Cleary (Manager Utilities and Roading), K Simpson (Three Waters Manager), S Allen (Water Environment Officer), D Lewis (Land Drainage Engineer) and T Künkel (Governance Team Leader).

Five members of the public attended the meeting.

**1 APOLOGIES**

There were no apologies recorded.

**2 CONFLICTS OF INTEREST**

There were no conflicts of interest declared.

**3 CONFIRMATION OF MINUTES**

**3.1 Minutes of a meeting of the Land and Water Committee held on Tuesday 20 July 2021**

Moved: Councillor Stewart                      Seconded: Councillor Mealings

**THAT** the Land and Water Committee:

- (a) **Confirms**, as a true and correct record, the circulated Minutes of the meeting of the Land and Water Committee held on 20 July 2021.

**CARRIED**

**4 MATTERS ARISING**

Nil.

*At this time, supplementary Item 6.1 was taken. The Minutes have been recorded in the order of the Agenda.*

**5 DEPUTATION/PRESENTATIONS**

**5.1 Northbrook Connectivity Trail – E Harvie (Waimakariri Landcare Trust), G Spark and R Stalker**

E Harvie from the Waimakariri Landcare Trust noted that the Trust was a farmer-led organisation developed to support sustainable agriculture by working in partnership with the industry, local authorities, and Iwi to address environmental concerns. The Trust had received funding under the Sustainable Food and Fiber Futures Fund from the Ministry for Primary Industries for a three year project seeking to identify, test

and share on-farm practices to address environmental concerns. Four pod groups had formed under the project and each pod group had a specific area of interest. The “improved community wellbeing group” sought to focus on community wellbeing, increased engagement between rural and urban communities and iwi engagement. The concept of a connectivity trail along the Northbrook stream was developed from within this pod group.

G Spark explained that it was envisaged that the proposed Northbrook Connectivity Trail would be a walkway/cycleway constructed on the Spark family's land along the Northbrook stream between the Northbrook wetlands and Marsh Road. As the trail would be situated beside a working farm, the trail would be an opportunity to build connections between the rural and urban communities by showing sustainable farming practices. It was suggested that informative boards be erected along the trail highlighting the cultural and historic significance of the Northbrook area as well as farming in the Waimakariri area. G Spark noted that there was a possibility to extend the trail along the western bank of the Cam River in future. However, for the proposed Northbrook Connectivity Trail to be a community asset, the project would need to be supported by the Council and the community in general.

Councillor Blackie questioned as to why the engagement with Ngai Tuahuriri had not progressed. E Harvie acknowledged that the Ngai Tuahuriri input was critical. However, the Rūnanga had indicated that due to time constants they were not currently able to deal with this matter.

Mayor Gordon commended the Spark family for being willing to open their land for a community trail. The Council was keen to work with the Waimakariri Landcare Trust and the Spark family on this project, and he believed that the project needed to be progressed.

Councillor Atkinson enquired if thought had been given to the ongoing maintenance cost of the trail once it had been established. G Spark commented that, at present, the project was only at a visionary stage. As the Spark family would be providing access to the land there would have to be extensive discussion with the Council on the development and the maintenance of the trail.

In response to questions from Councillor Barnett, G Spark confirmed that the information contained on the proposed information boards would be discussed with all parties involved prior to installation. The core principle would however be to make the information boards as educational and interesting as possible.

Councillor Stewart thanked the Spark family for opening their land for a community trail. She highlighted the Council's Arohatia te Awa initiative which was developing a track along the Waimakariri District's waterways and the proposed Northbrook Connectivity Trail could link up with the Arohatia te Awa which was currently being developed from Kaiapoi to Revells Road. The Council had made \$1 million provision to advance the Arohatia te Awa project. Councillor Stewart suggested that staff should work with the Spark family on the development of the trail and submit a more detail proposal to the Committee for possible endorsement in a few months. She further suggested that the proposed Northbrook Connectivity Trail be presented to the Arohatia te Awa Working Group for input. The Rūnanga was represented on the Arohatia te Awa Working Group, which may assist with Ngai Tuahuriri, input into the proposed trail.

## 6 REPORTS

### 6.1 Zone Implementation Programme Addendum Capital Works Programme 2021/21 – S Allen (Water Environment Advisor)

S Allen summarised the proposed Capital Works Programme for the 2021-22 financial year as developed from the Zone Implementation Programme Addendum (ZIPA). She highlighted the following:

- Budgetary provision had not been made in the 2021-22 financial year for fish passage improvements and the drainage maintenance and management projects as the Council would be undertaking the Forestdale Wetland fencing.
- Continuation of the South Brook beside the Townsend Fields Stormwater Management Area planting and also the continuation of the terrestrial plantings on the Kaiapoi River. There may be an opportunity to allocate funding to a watercress Mahinga kai project in the Cam River, however, the Rūnanga still needed to endorse the project.
- Re-grading of 105 meters of the right bank of Taranaki Stream directly above the tide gate was proposed, followed by planting with suitable native vegetation for inanga spawning. The Council had applied for co-funding for this project from the Environment Canterbury Regional Fish Habitat Fund, and a response was anticipated by mid-August 2021. If the funding was not received the project would have to be carried over to the next financial year or scaled down.

Councillor Williams enquired that if the deer fencing at the Forestdale Wetland was not delayed, would it have been destroyed during the May 2021 flood event. C Brown explained that the purpose of the fencing was to keep deer out of the larger wetland area, so the Council could therefore position the fencing so that it was not vulnerable to flooding.

Councillor Stewart questioned if the footbridge was the only requirement to enable the development of a loop path at Townsend Fields. S Allen advised that currently there was no walking track, however, people would be able to walk in the area as the Council had made provision for a rough track to be developed in the future. It was suggested that a smaller wooden footbridge could be installed to create a loop track.

Councillor Mealings thanked the Spark family for their 'community mind-set' and also the Land Care Trust for the work that they had been doing. She believed that it was important that communities should be shown how sustainable farming was being done.

Moved: Councillor P Williams      Seconded: Councillor A Blackie

**THAT** the Land and Water Committee:

- (a) **Receives** report No. 210401054395.
- (b) **Supports** the proposed 2021-22 Waimakariri District Council capital expenditure work programme, based on Zone Implementation Programme Addendum (ZIPA) recommendations.
- (c) **Circulates** this report to Council, Community Boards, WDC-Rūnanga liaison meeting and the Waimakariri Water Zone Committee for their information.

**CARRIED**

6.2 **Wetland Area in the Lineside Road – Bramleys Road area – update on wetland definition and land owner concerns – S Allen (Water Environment Advisor)**

S Allen noted that there had been some confusion regarding the National Environmental Standards – Freshwater (2020) definition of wetlands in general. Staff had therefore used the wetland area at Lineside Road as a case study for the implementation of the National Environmental Standards. This area had triggered ongoing concerns from landowners regarding drainage maintenance. Environment Canterbury (ECan) had been received pollution complaints from community members about sediment and other water quality contaminants viewed downstream. The Council had carried out drainage works within the area on a reactive basis over the years and staff intend to carry out works in summer 2021-22 within the area defined ecologically as a wetland for improvement of drainage for landowners.

Councillor Atkinson sought clarity on what maintenance the landowners were referring to that the Council had not done. K Simpson acknowledged that drainage maintenance in this area was problematic as it was a natural low-lying basin. The Council depend on the various Drainage Advisory Groups to advise the Council of what maintenance was needed in a specific area. The Council had consistency carried out drainage works in this area over the last 10-years. However, most of the work done by the Council related to sediment removal, as the area was prone to sediment build-up due to its low-lying nature. Due to the wet nature of the area the landowners were expecting the Council to do maintenance on a more regular basis.

Councillor Blackie questioned what work the staff was proposing to do in this area in 2021-22. K Simpson advised that the majority of the work would again be sediment removal. There was also some drainage maintenance work that needed to be done, however, the area was too wet for the machinery to enter at this time.

Councillor Mealings enquired what defined a wetland in terms of the National Policy Statement of Freshwater Management (NES-F). S Allen explained that the NES-F rules apply to 'natural wetlands' and did not include any area of improved pasture that was dominated by exotic pasture species and was being used for grazing. Councillor Mealings further enquired if this area was listed in the Council's District Plan as a wetland. S Allen confirmed that the area was not considered a nature wetland and as such had not been included in the District Plan.

Moved: Councillor S Stewart      Seconded: Councillor A Blackie

**THAT** the Land and Water Committee:

- (d) **Receives** Report No. 210630106619.
- (e) **Notes** that Ministry for the Environment had released draft guidance on the definition of natural inland wetlands, however that this planning definition had not yet been applied to the Lineside-Bramleys Road basin area as to whether it was a natural inland wetland under the National Environmental Standards for Freshwater (2020).
- (f) **Notes** the intention of WDC staff to carry out works to improve drainage in the Lineside Road Bramleys Road basin area this summer 2021-2022.
- (g) **Notes** that Environment Canterbury interprets the physical works proposed by WDC to be permitted under section (46) National Environmental Standards – Freshwater (2020) even if the area was to be defined as a natural inland wetland.
- (h) **Notes** that the Environment Canterbury wetlands GIS layer had been temporarily removed from Canterbury Maps, therefore WDC would continue to use a downloaded version of this map for determination of potential inland natural wetlands where the National Environmental Standards – Freshwater (2020) rules may apply.



- (i) **Circulates** this report to the Central Rural Drainage Advisory Group, Community Boards and the Waimakariri Water Zone Committee.

**CARRIED**

Councillor Stewart advised that at the last few Central Rural Drainage Advisory Group meetings landowners in this area had complained rigorously about the lack of drainage maintenance. The landowners seemed to have difficulty in understanding the nature of the land itself. She believed that if the Council wished to improve the ecological value of the Cam and Kaiapoi Rivers the drainage problems in this area would need to be resolved. As this seemed that this area was the main source of the sediment deposits in the Cam and Kaiapoi Rivers.

## **7 PORTFOLIO UPDATES**

### **7.1 Biodiversity – Councillor S Stewart**

- Waimakariri Biodiversity Trust had appointed eight Trustees and had its first meeting to finalise the Trust's regulatory documents. It was anticipated that the Trust would request the Council for seed funding to get up and running.
- She encouraged members to attend the first Arohatia Te Awa public planting from 10am to 12:30pm on 14 August 2021 at the Cam River down Revells Road.
- The Biodiversity Champions had been required to complete questionnaire on the greenspace work that the Council was doing which had biodiversity components. It seemed that ECan wished to establish a regional baseline for biodiversity enhancement.

### **7.2 Land based Indigenous Reserves (Including River Margins) – Councillor A Blackie**

No discussion emanated from this point.

## **8 QUESTIONS**

Nil.

## **9 URGENT GENERAL BUSINESS**

Nil.

## **NEXT MEETING**

The next meeting of the Land and Water Committee was scheduled for 1pm, Tuesday 21 September 2021 in the Function Room, Rangiora Town Hall.

THERE BEING NO FURTHER BUSINESS THE MEETING CLOSED AT 1.43PM.

\_\_\_\_\_  
Chairperson

\_\_\_\_\_  
Date

**BRIEFING**

*Review of Cam River Enhancement Fund projects – S Allen (Water Environment Advisor)*

Unconfirmed

**WAIMAKARIRI DISTRICT COUNCIL****REPORT FOR DECISION**

**FILE NO and TRIM NO:** DRA-19 / 211014166428

**REPORT TO:** LAND AND WATER COMMITTEE

**DATE OF MEETING:** 16 November 2021

**AUTHOR(S):** Sophie Allen – Water Environment Advisor

**SUBJECT:** Cam River Enhancement Fund Review Decision

**ENDORSED BY:**  
(for Reports to Council,  
Committees or Boards)

  
Department Manager

  
Chief Executive

**1. SUMMARY**

- 1.1 This report reviews strategic options and provides a recommendation for decision regarding the future of the Cam River Enhancement Fund.
- 1.2 There is a remaining \$179,758 allocated to the Cam River Enhancement Fund (as of the end of September 2021).
- 1.3 The recommended option is for an integrated catchment approach i.e. a waterway 'in-stream' component and a rural catchment component to prevent sources of contaminants.
- 1.4 An in-stream physical works work programme, (i.e. solely focussing on the waterway component) was approved by the Cam River Enhancement Fund subcommittee in August 2017.
- 1.5 A strategic review of the approved work programme was undertaken July-October 2021 by WDC staff due to issues raised with design effectiveness, cost of construction, consent condition compliance, and landowner feedback.
- 1.6 There were three broad options considered by the strategic-level review, with the advantages and disadvantages of each option presented to the Land and Water Committee in July 2021.
  - 1.6.1 Option 1: Continue with a 'in-stream' physical works programme (including monitoring of sediment trap effectiveness by a Masters student), but to scale back the number of projects due to increased construction costs, consent compliance challenges, and effectiveness of design issues.
  - 1.6.2 Option 2: Carry out a mix of limited 'in-stream' physical works (to the value of approximately \$90,000), and carry-out, or incentivise with community members, catchment works (to the value of approximately \$90,000), to improve land use in the catchment, focussed on working with rural landowners. This option also contains potential roading improvements to improve sediment run-off from gravel roads.
  - 1.6.3 Option 3: Run a targeted education and engagement programme (to the value of \$180,000) to improve land use in the catchment, focussed on rural and urban landowners. Incentives could be provide by the Fund, such as helping with the cost of fencing off critical source areas (CSAs) for sediment and contaminants, or for encouragement of the establishment of catchment management groups.

- 1.7. Following discussions with selected WDC staff, Environment Canterbury staff, the Rūnanga liaison meeting environmental kaitiaki, and the Waimakariri Water Zone Committee, the recommended option by WDC 3 Waters staff is for Option 2 to be pursued.

## 2. **RECOMMENDATION**

**THAT** the Land and Water Committee:

- (a) **Receives** memo No. 211014166428.
- (b) **Approves** the strategic direction laid out by Option 2 'in-stream physical works, catchment works and engagement' (the preferred option) for the allocation of the remaining \$179,758 of the Cam River Enhancement Fund on in-stream and catchment works.
- (c) **Notes** that Council staff will seek the agreement of North Canterbury Fish and Game, and consult with the Department of Conservation for the allocation of funding to Option 2, as required by the Environment Court decision.
- (d) **Circulates** this report to the Waimakariri Water Zone Committee, the Rangiora-Ashley and Kaiapoi-Tuahiwi Community Boards, the Rūnanga-WDC Liaison meeting, and the Central Rural Drainage Advisory Group.

## 3. **BACKGROUND**

- 3.1. The Cam River Enhancement Fund was established by an Environment Court ruling in July 2001. This ruling required the consent holder (WDC) to provide an amount of \$25,000 per year over a five year period.
- 3.2. The purpose of the fund, as noted in the Environment Court decision, was to be used "for habitat restoration in the Cam River system ... as agreed between North Canterbury Fish and Game Council and the consent holder in consultation with the Department of Conservation."
- 3.3. It was on this basis that a Cam River and Tributaries Enhancement Committee was informally set up with Council staff. Given their interest in the Cam River, representatives of Te Ngāi Tūāhuriri Rūnanga, the Cam River Working Party, and Environment Canterbury were also invited to attend.
- 3.4. Initially landowner applications were accepted for the fund, with some budget allocated to planting and fencing projects. A strategic catchment approach, however, was decided to be undertaken by the Committee. The Committee commissioned a scoping strategy of the Cam River and its tributaries from Dr Henry Hudson. A final version of this report was delivered in 2017 (TRIM 170410035142[v2]).
- 3.5. Based on the Scoping Strategy by Dr Henry Hudson, funding was allocated to 'in-stream' projects, and detailed engineering design of elements was completed over the period 2018-20. The Scoping Strategy also refers to the importance of engaging with community to manage land use effects, however no budget was allocated to any land use engagement or improvements.
- 3.6. In the 2018-20 period, three sediment traps were installed along the Tuahiwi Stream, and bank stabilisation was carried out at three sites along the North Brook and Middle Brook. Riparian and wetland plant species were planted alongside springs on a Fernside farm in spring 2020.
- 3.7. Update reports on the Cam River Enhancement Fund were presented to the Land and Water Committee on 11 June 2020 (TRIM 200526062002[v2]) and 16 February 2021

(TRIM 210203017399). A workshop on the strategic options for the future of the fund was held with the Land and Water Committee 20 July 2021. A discussion was held with the Waimakariri Water Zone Committee on 4 October 2021.

#### 4. **ISSUES AND OPTIONS**

##### **Strategic Review**

- 4.1. In April 2021 a briefing from WDC staff to the Land and Water Committee raised issues regarding cost and design effectiveness, consent conditions compliance and landowner feedback (TRIM 210422065548). WDC staff paused the autumn 2021 physical works that were planned, awaiting a strategic review of whether to continue with the programme as approved.

##### **Purpose and Scoping Strategy**

- 4.2. The strategic review has looked at the original purpose of the Environment Court decision 'for habitat restoration in the Cam River system' and any constraints around the allocation of the Cam River Enhancement Fund. Although a physical works 'in-stream' programme was approved by the Cam River Enhancement Fund Subcommittee, WDC staff deem there is the potential to also achieve the purpose through physical works in the catchment and management measures such as engagement with landowners, and potentially providing incentives or directly funding works. This view is compatible with the Scoping Strategy for the Cam River (2017) by Dr Henry Hudson. In the executive summary of the Scoping Strategy for the Cam River (2017), Dr Henry Hudson states 'In terms of bang for the buck, the greatest benefit for the vision is to control sediment and contaminants getting into and moving down waterways and removing excessive fine sediment that is already in the waterways.' This is a whole of catchment approach, which is accepted as best practice for waterway restoration.
- 4.3. The Scoping Strategy also notes that many of the techniques recommended in the strategy were experimental, so that 'costs and effectiveness need to be rigorously quantified'. WDC staff have identified that this is the case, with questions around methodology required to meet consent compliance as one example of this uncertainty.
- 4.4. Rural land management is usually defined as primarily the role of the landowner and the regulator, Environment Canterbury, under Section 30 of the Resource Management Act (1991). Stock exclusion is often a requirement under the Canterbury Land and Water Regional Plan, and Critical Source Areas (CSAs) are usually identified in Farm Environment Plans for farms requiring land use consents. Despite these identified requirements of the landowner and potential role confusion between WDC and Environment Canterbury, the recommendation for the preferred Option 2 acknowledges catchment works, before entering a waterway, is likely to give the best feasibility, cost effectiveness and environmental benefits.

##### **Options analysis**

- 4.5. Three options were proposed in the strategic review. Table 1 provides an overview of the three options, and Table 2 compares the options. Table 2 includes a review of potential integration opportunities with other programmes by WDC and other agencies.
- 4.6. The evaluation criteria used by WDC staff to evaluate the three options were primarily feasibility, cost effectiveness, and environmental benefit, with alignment with other WDC projects also a consideration (see Table 2).
- 4.7. **Option 1: Instream physical works programme.** This option is a reduced works programme of that which was approved in August 2017 due to funding constraints. It focusses primarily on fine sediment reduction. It is suggested, if to pursue this option, to reduce the intended size of sediment traps, to allow for easier compliance with consent conditions, and also to aid with ease of maintenance to empty sediment traps. This will require finding new locations for sediment traps. WDC staff support lengthening sediment trap design to allow for settlement of finer sediments. WDC staff also support removal of

the creation of 'drainage wetlands' from the physical works programme due to low design effectiveness where they are inserted at the base of open drains, where there is already long grass filtration. Drainage wetlands are more suitable for the base of tile drains, and where the river will not backflow during flood events. This option retains the \$25,000 budget allocation for a study of sediment traps success by a Waterways Centre Masters student.

- 4.8. **Option 2: 'Instream physical works programme and rural catchment component'**. This option is a much reduced in-stream physical works programme projects compared to Option 1; limited to projects with a methodology for consent compliance, a suitable design and a willing landowner. This option does not retain the \$25k budget allocation for a study of sediment traps success by a Waterways Centre Masters student, and the number of new sediment traps installed will be reduced to only three if within a waterway. Additional sediment traps could be funded if they are located in ephemeral drains off-river, due to reduced size and consent requirements. This option addresses both in-stream legacy contaminants and source control via catchment physical works and engagement. To avoid over-commitment, the catchment engagement programme is proposed to focus on rural land use management only. A high-level analysis showed that an urban stormwater engagement programme would not achieve the purpose of the fund for 'habitat restoration of the Cam River' to the same degree as a rural land use focus. Option 2 would require re-surveying of target reaches (i.e. a 'Stream Walk') for Critical Source Areas (CSAs, see Figure 1), and to identify examples of natural sediment traps where sediment could be removed. Environment Canterbury 'Stream Walk' data from 2016 would inform the re-survey, but would need updating. Gravel road improvements, potentially with an examination of drainages cut-outs and an argillite gravel trial, for Marsh Road and Waikoruru Road to reduce dust and sediment run-off, are being scoped with support from the WDC Roding Team due to issues noted during a September 2021 storm event (Figure 2).



Figure 1: Example of a Critical Source Area (CSA) on the North Brook where fencing is recommended to be moved back to provide stock exclusion.



Figure 2: Fine sediment run-off from gravel into drain (river-sourced gravel) – Marsh Road September 2021

- 4.9. Option 3: **Targeted engagement and incentives programme.** This option is for a targeted engagement and incentives programme to improve land use management, focussing on decreasing contaminants, particularly sediment, *E. coli* and nitrate, as well as the urban contaminants of zinc and copper. There is an opportunity to collaborate with others such as Te Ngāi Tūāhuriri Rūnanga and Environment Canterbury (i.e. the Land Management Advisor and Poū Matai Kō roles). Funding could also be used for a WDC Project Delivery Unit staff of consultant to assist in the delivery of the engagement programme.

Table 1: A description of Options 1, 2, and 3

	<b>Option 1 – In stream physical works NOT RECOMMENDED</b>	<b>Option 2 – Scaled back in-stream physical works, and increased catchment works and engagement PREFERRED OPTION</b>	<b>Option 3 –Catchment engagement and incentives programme NOT RECOMMENDED</b>
<b>Project scope</b>	An estimated 6 x small or medium sediment traps created, and 2 x bank stabilisation works. Maintenance of sediment traps until 2023. Masters student for monitoring sediment trap effectiveness	An estimated 3 x small sediment traps (or more if off-river in drains). 1 x large bank stabilisation project (project BS1). Maintenance (emptying) of sediment traps and until 2023. No Masters monitoring project. Removal of sediment from naturally existing sediment traps.  Identification and fencing of Critical Source Areas (CSAs) and small bank stabilisation works – either by WDC or landowner via funding incentives  Gravel road management and monitoring – management of drainage cut-outs and potential argillite trial to reduce dust and sediment run-off	Engagement programme resourcing 0.5FTE for 1.5-2 years and funding for allocation of incentives to both rural and urban landowners.
<b>Proposed staff resourcing</b>	Water Environment Advisor as the programme manager	Water Environment Advisor as the programme manager	Water Environment Advisor as the programme manager, Potentially Project Delivery Unit (PDU) role as engagement manager
<b>Contractors</b>	Sicon as the drainage contract holder, or possibility of an open tender	Sicon as the drainage contract holder, or possibility of an open tender.	Possibility of a fixed-term employee role for the engagement programme.
<b>Length of programme</b>	2021-2023 (physical works over two years). Maintenance costs to transfer to rural drainage budgets/ ZIPA budget	2021-2023 physical works completed  January 2022 – 30 June 2023 rural catchment engagement programme	January 2022 start – 30 June 2023 for engagement programme
<b>Potential collaboration partners</b>		Environment Canterbury (Land Management Advisor and Poū Matai Kō roles). Te Ngāi Tūāhuriri Rūnanga	Environment Canterbury (Land Management Advisor and Poū Matai Kō roles). Te Ngāi Tūāhuriri Rūnanga



Table 2: A evaluative comparison of Options 1, 2, and 3

	<b>Option 1 – Physical works</b>	<b>Option 2 - Limited physical works and catchment engagement</b>	<b>Option 3 -Extended engagement programme</b>
<b>Focus of works</b>	Legacy sediment	Legacy sediment and source control of contaminants (sediment, nitrate, <i>E. coli</i> )	Source control of contaminants (sediment, nitrate, zinc, copper, <i>E. coli</i> )
<b>Feasibility</b>	Some difficulties with methodologies for consent compliance, existing designs and obtaining landowner permission	In stream works can focus on projects with suitable methodologies for consent compliance, suitable designs and landowner permission.  Critical Source Areas (CSAs) requiring fencing have been identified to still be present on farms in the Cam River catchment.	Limited urban contaminant sources have been identified that are suitable for a catchment engagement programme
<b>Cost Effectiveness</b>	Value is reduced by consent compliance erosion and sediment control costs	Most cost effective in-stream projects could be carried out, with least cost effective in stream projects removed	Could hire a temporary staff member for an employee role. Potential to leverage other initiatives and funding sources, but also a risk of no impact (i.e. no community 'buy-in')
<b>Environmental Benefit</b>	Environmental benefit is reduced due to limited projects able to be funded.	Environmental benefit improved from Option 1 due to improved cost effectiveness, permitting more works to occur, including catchment physical works. More surety of success than Option 3, where community buy-in might not be achieved.	Less able to be assessed than for Options 1 and 2, as depends on the level of community 'buy-in'.
<b>Measurement of effectiveness</b>	Masters monitoring, maintenance records (e.g. weight of sediment removed from traps)	Maintenance records (e.g. weight of sediment removed from traps)	To be determined – may be indirect measurements with less accuracy
<b>Benefits of alignment with other projects</b>	Supports Arohata te Awa	Supports Arohata te Awa and the North Brook Trail	Supports Arohata te Awa, North Brook Trail and urban stormwater management (Stormwater Network Discharge Consents)
<b>Other comments</b>	Success of works depends on confirming an appropriate methodology and re-designing some projects	Could be stretching resourcing thin to deliver both physical work and a land use catchment engagement programme	An employee role would be more cost effective than contracting staff from the Project Delivery Unit

## **Agreement of Fish and Game, and consultation with DOC**

- 4.10. If Option 2 were approved by the Land and Water Committee at the 16 November 2021 meeting, WDC staff would approach North Canterbury Fish and Game for their agreement, and the Department of Conservation (Rangiora Office) would be consulted, before changes to the programme could be finalised, as per the Environment Court decision.

### **Implications for Community Wellbeing**

There are implications on community wellbeing, discussed by the issues and options that are the subject matter of this report.

- 4.11. The Management Team has reviewed this report and support the recommendations.

## **5. COMMUNITY VIEWS**

### **5.1. Mana whenua**

Te Ngāi Tūāhuriri hapū are likely to be affected by, or have an interest in the subject matter of this report. The preference of the Ngāi Tūāhuriri Rūnanga Kaitaki Representatives for Options 1, 2 or 3 was discussed at the Runanga-WDC meeting on 1 July 2021 at a strategic level for preference, without details provided of each option. The kaitaiki indicated an interest in an option which allows for a more collaborative approach between agencies.

### **5.2. Groups and Organisations**

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report, such as rural landowners within the Cam River Catchment. The Waimakariri Water Zone Committee reviewed options at a workshop on 4 October 2021.

### **5.3. Wider Community**

The wider community is not likely to be affected by, or to have an interest in the subject matter of this report.

## **6. OTHER IMPLICATIONS AND RISK MANAGEMENT**

### **6.1. Financial Implications**

There are no new budgets proposed by this report, only the reallocation of an existing budget, to enhance cost-effectiveness and environmental benefit.

### **6.2. Sustainability and Climate Change Impacts**

The recommendations in this report do have sustainability and/or climate change impacts, regarding the restoration of the Cam River for mahinga kai, biodiversity habitat improvements and community connection to the waterway into the future.

### **6.3 Risk Management**

There are minor risks arising from the adoption/implementation of the recommendations in this report. The preferred option (Option 2) is able to be directly measured for effectiveness for physical works, but not so easily for indirect actions undertaken by catchment landowners that are incentivised to undertake actions, for which it could be harder to monitor effects.

### **6.3. Health and Safety**

There are no health and safety risks arising from the adoption/implementation of the recommendations in this report. This report is for setting strategic direction only.

## 7. **CONTEXT**

### 7.1. **Consistency with Policy**

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

### 7.2. **Authorising Legislation**

7.2.1. Resource Management Act (1991) – Consents for physical works under the Canterbury Land and Water Regional Plan.

### 7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report, in particular that there is 'A healthy and sustainable environment for all.'

### 7.4. **Authorising Delegations**

7.4.1. The Land and Water Committee holds the delegation for allocation of the Cam River Enhancement Fund.