

Morna Downs Limited

**Land Use Consent – Defence
Against Water including
associated Discharge of Sediment
in the Waiau River**

**Assessment of Environmental
Effects**

October 2022



Bowden
Environmental
Resource Management Consultants

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TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	LEGAL AND PLANNING MATTERS.....	1
2.1	<i>The Resource Management Act 1991</i>	1
2.2	<i>Hurunui Waiau River Regional Plan</i>	1
2.3	<i>Land & Water Regional Plan</i>	1
2.4	<i>Plan Change 7 to the LWRP</i>	2
2.5	<i>CRC Flood Protection and Drainage Bylaw 2013</i>	2
3.0	DESCRIPTION OF THE AFFECTED ENVIRONMENT	2
4.0	ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS.....	6
4.1	<i>Effects on flows, flood-carrying capacity, bank stability and erosion</i>	7
4.2	<i>Effects on existing structures</i>	7
4.3	<i>Effects on water quality</i>	7
4.4	<i>Effects on ecology and ecosystems</i>	8
4.5	<i>Effects on natural character</i>	8
4.6	<i>Effects on people, communities and amenity values</i>	9
4.7	<i>Effects on Tangata Whenua values</i>	10
4.8	<i>Positive effects</i>	11
5.0	CONSULTATION	11
6.0	LAND USE AND DISCHARGE CONSENTS	12
7.0	ASSESSMENT AGAINST OBJECTIVES AND POLICIES.....	12
7.1	<i>Land and Water Regional Plan and Plan Change 7</i>	12
7.2	<i>Canterbury Regional Policy Statement</i>	13
7.3	<i>Canterbury Water Management Strategy</i>	14
7.4	<i>Hurunui Waiau Zone Implementation Plan</i>	14
7.5	<i>National Environmental Standards for Drinking Water (2008) - Sources of Human Drinking Water</i>	14
7.6	<i>National Policy Statement for Freshwater Management 2020</i>	14
7.7	<i>Resource Management (National Environmental Standards for Freshwater) Regulations 2020</i> 18	
7.8	<i>Resource Management Act – Part 2</i>	19

APPENDICES

Appendix 1	Photographs of Bank Scour
Appendix 2	Location map
Appendix 3	Schematic Diagram of ATP
Appendix 4	Ecological and Natural Character Assessment



Bowden Environmental

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Land Use Consent – Defence Against Water

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1.0 INTRODUCTION

Morna Downs Ltd, the applicant, operates a beef, deer and sheep farm on Leslie Hills Road in the Culverden area, and part of the farm has a frontage with the Waiau River just downstream of the Twin Bridges. Consents are held for irrigation (CRC951490.1) of part of the farm and an application has been lodged for an additional “use” consent to irrigate additional area (application CRC211763). This additional area fronts the north bank of the Waiau River and has suffered scour and erosion in recent floods. The photographs in Appendix 1 show the scouring bank and the map in Appendix 2 shows the two reaches of the river where scour is excessive, and it is proposed to carry out riverbank protection using anchored tree protection (ATP). A schematic diagram of ATP is provided in Appendix 3. The map also shows a number of other features which are discussed below. The contracting company, Lott Contractors, a very experienced contractor for this type of work, will be engaged to install the ATP.

2.0 LEGAL AND PLANNING MATTERS

2.1 *The Resource Management Act 1991*

The proposed ATP requires a land use consent under s13 of the RMA unless the activity is permitted by a regional plan. The duration of a land use consent for the works is a maximum 35 years. There is no diversion of water. The discharge of sediment during construction requires a resource consent under s15 unless the activity is permitted by a regional plan.

2.2 *Hurunui Waiau River Regional Plan*

The HWRRP does not control activities in the bed of the Waiau River. It does control the diversion of water. However, there is no diversion of water by the ATP.

2.3 *Land & Water Regional Plan*

The LWRP controls activities in the beds and riparian margins of rivers. Rules for defences against water (which is defined in the LWRP to include anchored tree protection) are rules 5.138, 5.141, 5.141A and 5.141B. These rules are relevant to that portion of the works that is riverside of the “bank” of the river. A recent Court of Appeal decision on how to determine where the bed and bank of a braided river sits has clarified that the “bank” will be at the location of the active channel where there is an identifiable “bank” or ledge. It is sometimes difficult to determine with certainty, but in this case the bank is readily identified (photographs in Appendix 1). However, because the following rules also apply to the riparian margin (landward of the “bank”), and because there are earthworks extending beyond this 5-metre margin, it may not be too critical to determine the “bank” with absolute precision in this case.

- Rule 5.138 controls the installation of “defences against water” including the discharge of sediment, as a permitted activity with four conditions to be met. Condition 3 is not met.
- Rule 5.141 controls sediment discharge during construction if undertaken in accordance with the permitted activity rule above. As rule 5.138 does not apply, then this permitted activity rule does not apply to the sediment discharge.
- Rule 5.141A (discretionary activity) applies if permitted activity Rule 5.138 conditions cannot be complied with.
- Rule 5.141B (discretionary activity) controls the installation of “defences against water” in circumstances where other rules do not apply.
- Both the above discretionary activity Rules appear to apply and include the installation, excavation, and disturbance of the bed and any associated discharge of sediment into water. These rules are relevant to that portion of the ATP that is within the “bed”, i.e. riverside of the “bank” of the river.
- The riparian margin in the LWRP is that area from the “bank” out to 5 metres landward from the “bank”. Rules relating to this area for earthworks (burying the wire rope and deadman) and any associated discharge of sediment, are rules 5.168 (permitted activity) and 5.169 (restricted discretionary activity if the permitted activity does not apply). The proposed works comply with the permitted activity conditions (see below for assessment).
- Beyond the riparian margin, i.e. landward of 5 metres from the “bank”, there are no LWRP rules applying to any of the proposed works.

The overall activity classification in the LWRP for the installation of the “defence against water” in the riverbed, being the anchored tree protection and associated disturbance of the bed and discharge of sediment into water during construction, is therefore a discretionary activity. The permitted activity rules and restricted discretionary rule provide some guidance on the matters that should be assessed. The activity classification of the works in the riparian area, 5 metres landward of the riverbank, is a permitted activity.

2.4 *Plan Change 7 to the LWRP*

The PC7 amends rules that are relevant to this application. None of the amendments alter the assessment in section 2.3 above or the overall classification of the proposed works as discretionary in the riverbed and permitted in the riparian area.

2.5 *CRC Flood Protection and Drainage Bylaw 2013*

The Bylaw controls the installation of defences against water that is owned or controlled by the CRC and also controls other works that may affect such defences. There are no CRC protection works in the applicant’s proposed works area. However, there is a river rating district on the south side of the river and slightly downstream of the proposed works. The map in Appendix 2 shows the vegetation boundary of the rating district.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

In addition to the description contained in the HWRRP, the Waiau catchment is approximately 3300 km², and is bounded to the north by the Clarence and Conway catchments and to the south by the Hurunui catchment. Both tectonic activity and glaciations have extensively modified landforms in the Waiau catchment. The Waiau River extends from the Main Divide to the Pacific Ocean and as a result displays a diversity of form reflecting the topography, geology and landscape. The subject property is located on the north side of the river near the twin bridges, a braided, inland basin section of the

Waiau River system. This reach is characterised by alluvial plains and terraces which have been cultivated for pastoral purposes.

- **Ecological, landscape and recreational values of the Waiau River Catchment**

The ecosystem of the upper catchment is predominately indigenous, although heavily modified. The vegetation changes occurring in a downstream direction, from sub-alpine, to beech forest, grading into pasture.

The upper reaches of the Waiau River are described as having a high degree of naturalness in its upper reaches, which grades to a moderate and moderately low degree of naturalness through the middle and lower reaches. The affected environment associated with this application is located in the Emu Plains, which is part of the middle reach of the Waiau River. The Emu Plains may be described as having an uninspiring scenic value and an intermediate recreational value.

Moderately valued recreational uses in the affected area may include jet boating and angling. While there are no educational scientific or heritage values associated with the Waiau River, there are geo-preservation sites located along the riverbanks of some of the tributaries of the Waiau River.

The report in Appendix 4 provides more detailed site-specific information.

- **Flow regime**

Long term records are available for several lengths of the Waiau River; basic hydrological statistics for these sites are presented in Table 1, below. However, observation site 64602, at Marble point is regarded as the reference point for the Waiau Catchment. At this point, the mean flow is recorded as ~100 cubic meters per second, with minimum and maximum flow of 21 cubic meters per second and of 1,650 cubic metres per second, respectively.

Location	Catchment area (Km ²)	Mean annual flow (m ³ /s)	Specific Yield (l/s/ Km ²)	Minimum recorded flow (m ³ /s)	Maximum recorded flow (m ³ /s)	Median flow (m ³ /s)
Waiau at malings Pass (64606)	74.6	6.5	87.1	1.5	136.1	4.6
Hope at Glynne Wye (64608)	696	45.1	64.8	7.7	776	33.4
Waiau at Glenhope (64604)	714	35.6	49.9	8.2	522	28.5
Waiau at Marble Point (64602)	1,980	101	51.3	21.1	1,650	78.4
Stanton at Chedder valley (64610)	41.9	0.567	13.5	0	100	0.154
Waiau at Mouth (64609)	3,297	113	34.1	18.7	1,294	87.0

Table 1-Basic hydrological statistics along the Waiau River

Annual flow regime shows a cycle of winter-time water surplus and summer-time deficit. With the highest recorded flows occurring in spring, when winter snow storage is released and the lowest mean monthly flow rates are recorded in February and March, while flood events are more frequent during June and October.

The natural hydrological regime is modified principally by the abstraction of 11 cubic meters per second for the Amuri irrigation scheme. The flow regime is not significantly affected by the abstraction

takes and is only brought down to around the current minimum flow for up to 3 -4 weeks over the summer period.

- **Aquatic ecosystems**

There is a direct relationship between river flow and habitat availability, and any reduction in flow has the potential to reduce in-stream habitat, resulting in reduced invertebrate and fish populations.

The NIWA freshwater fish database was consulted to establish what species have been historically recorded in the Waiau system during historical fishing surveys. Results from these show that 15 fish species have been identified in parts of the Waiau system: Canterbury galaxiid (*Galaxias brevipinnis*), upland bully (*Gobiomorphus breviceps*), Common bully (*Gobiomorphus cotidianus*), inanga (*Galaxias maculatus*), torrentfish (*Cheimarrichthys fosteri*), shortfinned eel (*Anguilla australis*), and brown trout (*Salmo trutta*).

One effect of water abstraction is the loss of habitat diversity due to a reduction in flow velocity, and a reduction in the buffer zone between high and low flows. There are native fish species present in the Waiau River which have diadromous life cycles, and therefore it is important for these species to be able to reach the ocean. Species such as the common bully, inanga, and shortfinned eel have peak migration months, and during this time it is critical that a minimum flow be sustained to ensure that migrating individuals can reach the ocean (when the shingle barrier bar is breached).

Water abstraction can also result in river mouth blockages, which will also affect migration of native fish species. This may be especially important for larval life stages (in the Waiau River those of the common bully and inanga), as they can rely on high flows to transport them downstream; or adult and juvenile stages (i.e. common bully, inanga and torrentfish) that require suitable flow to allow them to swim upstream without becoming stranded.

The macroinvertebrate community of the tributaries of the Waiau River have been assessed and graded as healthy with species which are typical of Canterbury Rivers, the most common species being *Deleatidium*. The macroinvertebrate characteristics of the tributaries are indicative of “clean water”, with some degradation in Dog Stream, Hope River, Mason River and Dog Brook.

There has been no sampling of algal communities in the river. It is assumed, however that the community is typical of agriculturally impacted water ways, with blooms during summer as a result of the increase in water temperature and potential for nutrient concentrations to increase.

The Waiau River as a whole is rated as having a high wildlife value as it provides habitat for wetland and terrestrial birdlife. Threatened species include the banded dotterel and black-fronted tern. These birds breed during late August to January-February and inhabit gravel bars for nesting sites, riffles, seepage channels and vegetated berms for feeding areas.

The report in Appendix 4 provides more detailed site-specific information.

- **Water quality**

Environment Canterbury only holds fragmented water quality data collected at a number of sites along the Waiau River mainstem, therefore, extreme conditions are unlikely to have been measured. However, the water quality of the Waiau catchment is high, with the highest water quality recorded in upland areas.

Reduction in water flow has the potential to concentrate contaminants and increase water temperature, potentially resulting in degraded water quality. Riparian fencing and vegetation can

mitigate the potential effects of surface water abstraction on water quality by providing shade, thereby keeping water temperatures cool. This has been demonstrated in other small waterways in New Zealand, where stream shading of 50 – 70% has been found to keep water temperatures cool enough for protection of fish and invertebrates. Riparian planting and fencing also reduces the likelihood of bank erosion from stock trampling effects which can lead to sedimentation and nutrient inputs, whilst providing habitat and cover for fish and invertebrates. Therefore, the benefits of riparian planting can potentially mitigate any minor effects caused by surface water abstractions.

- **Other water users**

Water resources of the Waiau Catchment are mainly composed of surface water. Groundwater not hydraulically connected to the river is not a significant factor in the total water resources of the Waiau Catchment. Bores are sited in or near streams and rivers and rely on flow through shallow gravel aquifers for recharge. Thus, water levels in bores are generally a reflection of flows in the adjacent watercourse, and rainfall in the catchment.

There are numerous consented uses of the Waiau River to take surface water and hydraulically connected groundwater. Of these consents the largest take is the Amuri Irrigation Company Ltd which diverts 11,000 litres per second. The AIC scheme takes water from near the Twin Bridges into a large canal which feeds farms on the south side of the river. The map in Appendix 2 shows the location of the intake canal. At present the total take from all consented users is reported in the HWRRP as being the current “A” block limit, although there have recently been some “B” block allocations. Potential adverse effects of these takes are mitigated via minimum flow conditions, and those currently in force are listed in the HWRRP.

There is a community water supply to take from bores located on Caithness Road on the south side of the Waiau River. The Community Drinking Water Supply Protection Zone does not extend over the site of the proposed diversion works (see map in Appendix 2).

The main Transpower transmission line crosses the Waiau River and the applicant's property in the vicinity of the proposed ATP (see map in Appendix 2). The specific line is called Ben-Hay-A 913-914 span.

- **Tangata Whenua values**

Tangata Whenua values of the Waiau River and its tributaries, are detailed in the recently published Iwi Management Plan “Te Poha o Tohu Raumati Management Plan”. This is described further below under the assessment of effects on Tangata Whenua values. The river is identified as a Runanga sensitive area. There are no statutory acknowledgement areas or silent files within the vicinity of the property. There are no critical areas of mahinga kai habitats identified in the area of effects. The Ngai Tahu layers on the ECan GIS do not identify any such habitats, nor does the Iwi Management Plan. The ECan Report U04/72 Waiau River Catchment: Tangata Whenua Values Report (2004) also did not identify any such habitats. With regard to Ara Tawhito, the Ngai Tahu Cultural Mapping Project (Ka Huru Manu) shows routes used by Maori in the past to travel across the South Island. There is a route mapped along the Waiau River, but it is on the south side, i.e. along the route of SH7 (Lewis Pass Highway). Because the protection works are on the northern side, there will be no effect on Ara Tawhito.

- **Summary**

In summary, the environment near the applicant's property related to the Waiau River has the following specific aspects:

-
- The Waiau River is a Ngai Tahu Runanga Sensitive Area. However, there are no silent files or statutory acknowledgement areas or mahinga kai habitats in the vicinity.
 - The river holds native bird breeding and salmonid habitat values. However, there is no salmon spawning site near the applicant's property.
 - There is a river rating district on the south side of the Waiau River downstream of the applicant's property.
 - There is a main Transpower transmission line across the Waiau River in the vicinity of the proposed ATP.
 - The Amuri Irrigation Scheme intake is on the south side of the Waiau River opposite the proposed works area.
 - The river has the following recreational values:
 - Moderate – jet-boating
 - Low – picnicking and salmon and trout fishing
 - Low – camping, swimming, wading, canoeing, rafting and four wheeled driving.
 - The river is not a “high naturalness waterbody” as listed in the LWRP.

4.0 ASSESSMENT OF ACTUAL AND POTENTIAL EFFECTS

The permitted activity and restricted discretionary rules, the CON020 Form, and previous applications indicate that the following effects require assessment for the discretionary activity under Rule 5.141A or B for the installation of the ATP and associated disturbance of the bed and discharge of sediment:

- Effects on flows, flood-carrying capacity, bank stability and erosion
- Effects on existing structures
- Effects on water quality
- Effects on ecosystems
- Effects on natural character
- Effects on people, communities and amenity values
- Effects on Tangata Whenua values
- Positive effects.

The earthworks in the riparian area (burying the wire rope and deadman in the farmed area) out to 5 metres landward from the riverbank is a permitted activity under Rule 5.168 due to the conditions being complied with as follows:

- Condition 1 requires the extent of earthworks to be less than 500m² or 10% of the area, whichever is the lesser. The wire rope is buried in a narrow trench no more than 30cm wide (and may even be sunk into the ground by tensioning the rope without the need to dig a trench). The length of the trench will be 5 metres, giving a total area for each trench of 1.5m². The trenches are spaced at 10 metre intervals (note that the deadman will be beyond 5m from the riverbank). Therefore, the area of earthworks will be 1.5m² over (5mx10m) per trench = $1.5/50 = 3\%$.
- Condition 2 requires suspended solids in any discharge into the river to be less than a specified value. The trenching will not result in any sediment discharge into the river.
- Condition 3 restricts earthworks adjacent to salmon or inanga spawning areas. There are no such areas in the vicinity of the earthworks.
- Condition 4 restricts earthworks within 5 metres of any flood control structure. There are no such structures within the vicinity of the works.
- Condition 5 requires riparian vegetation to be protected. There is no riparian vegetation apart from the cultivated and grassed faring area.

4.1 *Effects on flows, flood-carrying capacity, bank stability and erosion*

The nature of the braided river means that the flow and channels are often changing and moving. The ATP placed along the riverbank will not affect the current flow patterns or flood-carrying capacity. However, the works will provide bank stability and as intended, will decrease erosion and increase bank stability. It is considered that the effects on flows, flood-carrying capacity, bank stability and erosion will be less than minor and are likely to be positive effects.

4.2 *Effects on existing structures*

There are no structures on the north bank in the vicinity of the proposed works. The Twin Bridges are too far upstream to be affected.

The Transpower transmission lines that cross the river are overhead of part of the ATP. Consultation is being undertaken with Transpower to determine the appropriate management of works beneath the lines. Transpower's requirements will be adhered to and will be provided to ECan when formalised.

There is some river protection works (vegetation planting) on the south side of the river carried out by the ECan River Rating District. Consultation has been undertaken and comments received from Leigh Griffiths (Manager – Rivers, ECan) who says: "Based on the information provided, the rating district will not be affected, provided its bank protection only, not reclamation, and there's not too much of an angle at the downstream end sending things across the river. Resource Consent for this activity is required before any works were to take place. Please note these comments are not in support of the consent application required, they are just comments in regards to potential downstream effects on the rating district". Based on these comments, the ATP along the bank will not direct the flow as suggested. Therefore, any effects on the rating district assets will be less than minor.

The AIC intake and scheme headworks are across the river on the south side. Consultation has been undertaken and comments received from Matthew Morgan (Operations Manager – AIC Ltd) who says: "Obviously AIC's Waiau infrastructure is critical for supplying water to around 20,000 hectares of farmland. We need to ensure river work activities are not likely to put additional stress on the river protection work we have on the south side of the Waiau that protects our intake, race, pond and fish screen infrastructure. I don't see an issue with trying to protect the areas you marked from further erosion if the design is not to actively try to push the river to the other side. So on that basis I don't have anything further to add". Based on these comments, the ATP will not direct flow as suggested. Therefore, any effects on the AIC assets will be less than minor.

4.3 *Effects on water quality*

The works will primarily be undertaken outside flowing water. However, the permitted activity rules relating to installation of defences against water do allow some sediment getting into water during the construction process. In any event, the amount of sediment that may enter the river will be minimal. Water quality and clarity will not be significantly affected. It is more likely that a small fresh in the river will cause much more sediment to be entrained.

The construction process will involve machinery. A local contractor will carry out the work (Lott Contractors). This contractor is very experienced in this type of work. Spills of fuel during re-fuelling will be remote. Introduction of alien pests from machinery that has been used elsewhere will be mitigated by ensuring the machinery has been cleaned before entering the work site. With some straightforward mitigation, the effects on water quality will be less than minor.

There are Community Drinking Water Bores on the opposite side of the river and downstream (see map in Appendix 2). While the proposed activities (disturbance and sediment discharge) are not within the Protection Zone, it is considered that there will be no effect on the quality of water abstracted from those bores. The only possible effect could be sedimentation of water. However, due to the bores being distant from the river on the opposite side, any sedimentation caused by the proposed activities will not migrate across the main flowing channel of the River and there is also significant protection via filtering due to any water having to travel through gravels to the bores.

4.4 *Effects on ecology and ecosystems*

The river aquatic ecosystems will not be affected. Fish passage will not be affected. No salmon or inanga spawning habitat occur in the vicinity of the works. Birds may inhabit the area. The bird-nesting season is generally October – February. However, the proposed ATP is not within the active channel bed, but rather along the bank. A detailed site-specific assessment has been carried out and a report is provided in Appendix 4.

4.5 *Effects on natural character*

The following is provided as an assessment on natural character, and in addition to an assessment for braided rivers provided in Appendix 4.

Case law indicates that natural character has three main components: natural processes, natural elements and natural patterns. Natural processes include the action of rivers, waves, tides, wind and rain as well as the movement of animals and the natural succession of plant species. Natural elements include water, landforms, and vegetation cover. The distribution of these natural elements over an area forms natural patterns. A fourth important component is the human experiences of these natural processes, elements and patterns and values. The degree of natural character generally reflects:

- the absence of buildings and other human influences
- the presence of original landforms and vegetation cover (particularly indigenous vegetation) together with other ecological patterns
- water bodies and natural movement of water and sediment
- experiential attributes, including smells, noise, views and sense of remoteness.

The Environment Court has held that “natural” does not mean “endemic to New Zealand” or “pristine”. Natural connotes a range of qualities and features which are created by nature as distinct from human-made constructions. Natural may include things such as pasture and exotic trees and wildlife, both wild and domestic. It does not include human-made structures, roads or machinery. This means that areas where indigenous vegetation has been replaced with pasture may still have high natural character so long as built structures do not dominate the environment.

In a report for the Marlborough District Council titled “The Natural Character of Selected Marlborough Rivers and their Margins (2014)” the authors provided a summary of natural character descriptions. They also noted that it is a cultural construct and varies with the beholder and even between different “experts”. They suggested natural character occurs on a modification continuum and its degree can change over time. They provided three components which relate to a river’s natural character:

- River channel – this includes the wetted surface and exposed gravel bars within the active channel, which is regularly covered by freshes and floods. Primary attributes include channel shape, degree of modification of flow regime, water quality, exotic aquatic flora and fauna, and structures and human modifications.

- Riparian edge – this includes the riverbanks and floodplains often containing riparian vegetation. Attributes such as extent of exotic and native vegetation present will be considered, as will level of human modification. Primary attributes include vegetation cover, and structures and human modifications.
- Wider landscape context – this considered the river in its wider landscape setting and looked at land use and broader geomorphic qualities that contribute to the river's natural character. It is acknowledged that the wider landscape, particularly its land use may be influential to a river's degree of natural character. Primary attributes include landscape character modifications.
- Each attribute may be scored on a scale from heavily modified to overwhelmingly natural.

The above notes from various sources shows that the term “natural character” is subjective, changes over time, and it is very difficult to assess effects of activities.

There is already extensive riparian vegetation along the Waiau River at many reaches. At the reaches proposed for ATP there had been some riparian vegetation (mainly willows) that has been scoured away, but it is mainly cleared farmland. The current landform and use beyond the existing active channel is farmed land. This has been in place for many decades.

The river channel will not be unduly constrained by the proposed works. The land has been farmed for a very long time and the proposed works will maintain the current morphology of the river. As such, it would appear that the effects on natural character of this section of works will be no more than minor. However, for the purposes of assessing effects on natural character related to the “bed”, the following comments may be made:

- The land has been farmed for a very long time and the existing character is not identifiable as riverbed. The current active channel will continue to contain braids and the total width is consistent with the channel upstream and downstream of the property. There will be no additional constraining of the river to a narrower width. Therefore, there will be no material change to the river morphology or flow regime.
- The current habitat diversity will not be altered. The river will continue to vary its braided pattern over its full width thereby providing all the natural aspects that braided rivers provide to birds and other biodiversity.
- There is likely to currently be seepage of water from the active riverbed towards the north beneath the farmland. The installation of the ATP will not constrain this seepage. There will be no barrier to seepage that may be feeding low-lying areas of the farmland.
- Overall, it is considered that the proposed sections of protection works will not adversely affect the natural character of the river.

4.6 *Effects on people, communities and amenity values*

Access to the river from public access points such as roads is not provided at this locale.

Jetboating is likely to generate the most recreational usage of the river at the site of the works. The works will be completed in a short timeframe and will not cause any prolonged visual annoyance for the people who might venture past the site.

Overall, it is considered that the effects on people, communities and amenity values will be less than minor.

4.7 Effects on Tangata Whenua values

The Waiau River is a Runanga Sensitive Area. There are no statutory acknowledgement areas or silent files within the vicinity of the property. There are no critical areas of mahinga kai habitats identified in the area of effects. The Ngāi Tahu layers on the ECan GIS do not identify any such habitats, nor does the Iwi Management Plan. The ECan Report U04/72 Waiau River Catchment: Tangata Whenua Values Report (2004) also did not identify any such habitats. With regard to Ara Tawhito, the Ngāi Tahu Cultural Mapping Project (Ka Huru Manu) shows routes used by Maori in the past to travel across the South Island. There is a route mapped along the Waiau River, but it is on the south side along the route of SH7 (Lewis Pass Highway). Because the protection works are on the northern side, there will be no effect on Ara Tawhito.

The proposed activity is located in the rohe of Te Rūnanga o Kaikōura. Therefore, the relevant Iwi management plans are the Ngāi Tahu Freshwater Policy Statement and the Te Poha o Tohu Raumati Management Plan. The proposed activity is not considered to be contrary to the relevant policies and values as assessed below.

Ngāi Tahu Freshwater Policy Statement

- Wahi Tapu, Policies 1 and 2: No areas of Wahi Tapu have been identified within the area of effects for this application.
- Mauri, Policies 1, 2, 3, and 4: The application does not adversely affect water quality or quantity of water bodies within the area of effects. There is support for bank stabilisation using indigenous vegetation.
- Mahinga kai, Policies 1, 2, 3, and 4: No areas of critical mahinga kai habitats have been identified in the area of effects, and the activity will not adversely affect water quality or quantity of water bodies within the area of effects.

Te Poha o Tohu Raumati – Te Runanga o Kaikoura Environmental Management Plan

The parts of relevance in the Te Runanga o Kaikoura Environmental Management Plan are those relating to activities in the beds of rivers and water quality.

The Waiau River is covered in section 3.5 Okarahia kit e Hurunui which covers Tutae Putaputa (Conway), Waiau and Hurunui Rivers. The following policies are relevant.

Section 3.5.11 – Water Quality. A number of policies are relevant with recognition of riparian management to reduce water quality effects such as sedimentation from eroding banks.

Policies in Section 3.5.13 relate to Waiau River. Policies are 1 – 27. Of relevance, Policy 21 seeks to prevent the use of willows and other exotic species in bank edge planting. The proposed works do not include planting.

Section 3.5.15 relates to activities in the beds and margins of rivers. Policies are 1-15. Of relevance are the following policies.

Policy 5 - Relates to impacts on breeding birds or nesting sites. An appropriate condition regarding not operating within 100 metres of nesting birds (end of September to February is nesting and breeding season) can be included as a condition on the consent.

Policy 12 - Promotes riparian enhancement and appropriate streamside management as a means of mitigating adverse effects on water quality. The streamside management proposed will curtail much of the natural scour and sedimentation.

Policy 14 - Recommends the planting of appropriate indigenous species. The proposal does not include planting.

The Rūnanga was not advised of this application. However, it is acknowledged that Environment Canterbury will provide a copy of this application to the Rūnanga for comment.

4.8 *Positive effects*

The proposed works will result in a significant positive benefit for the landowner through protection of farmland from erosion. It will also reduce sedimentation of the riverbed.

5.0 CONSULTATION

A number of parties may be potentially affected by this proposal:

- Tangata Whenua - Te Rūnanga o Ngāi Tahu, Te Rūnanga o Kaikōura

This application has not been provided to the above party by the applicant. It is acknowledged that Environment Canterbury will provide the application to these parties for comment. Any issues will be addressed at that stage.

- The comments by the Environment Canterbury Manager – Rivers, Leigh Griffiths, have been included above.
- The comments by the Operations Manager – AIC, Matthew Morgan, have been included above.
- Comments by Transpower will be provided when works management is formalised for the area beneath the power lines..

No other parties have been approached for comments. However, if Environment Canterbury identifies any additional parties who may be adversely affected then the applicant will endeavour to obtain comments from them.

6.0 LAND USE AND DISCHARGE CONSENTS

The above assessment of effects is considered to show that any adverse effects will be no more than minor if the following conditions are applied to a land use consent to authorise the installation and maintenance of defences against water in the Waiau Riverbed:

- The installation and maintenance of the defences against water (including associated excavation and disturbance) shall be carried out and maintained in accordance with the details provided in the application and in Appendix 3, on the area shown in attached Plan (Appendix 2).

Environment Canterbury has a number of standard conditions related to such works which the applicant will review if draft conditions are provided. These conditions relate to providing the land use consent to persons undertaking the works, informing Environment Canterbury of commencement of works, maintaining the works, adopting practicable measures to avoid sediment entering the river, machinery not entering flowing water, ensuring machinery is clear of pest plants and seeds, not operating within 100 metres of nesting birds (end of September to February is nesting and breeding season), not refuelling machinery near the river, etc.

The duration of the consent is sought to be the maximum allowed by the RMA, i.e. 35 years. This will allow for the on-going maintenance of the works which are intended to be permanent.

The associated discharge of natural sediment during the installation and maintenance of the ATP may require a separate discharge consent if it is not incorporated in the “defence against water” consent under the Rule which provides for both activities. The discharge consent would authorise the discharge of sediment with the following condition:

- The discharge authorised by this consent shall be limited to sediment generated during the installation and maintenance of the defences against water authorised by associated consent CRCxxxxxx.

There may be standard conditions that are acceptable to the applicant, and these will be reviewed if draft conditions are provided.

7.0 ASSESSMENT AGAINST OBJECTIVES AND POLICIES

The relevant plan for the works is the LWRP (including PC7). The CRPS and NPS for Freshwater Management also require assessment. Iwi Management Plans have been assessed above. The overall RMA sustainable management assessment completes these policy assessments.

7.1 *Land and Water Regional Plan and Plan Change 7*

The LWRP contains 24 Objectives and 98 Policies. Those most relevant to the application are:

- Objectives 3.1 and 3.2 relate to Tangata Whenua matters. These have been addressed in section 4.7 above.
- Objective 3.8 relates to water quality and quantity, ecosystems, habitats, and water-based species. The anchored tree protection works will not negate achievement of this Objective.

- Objective 3.16 relates to river geomorphic processes such as flushing and sediment transport. The works will not interfere with these processes.
- Objective 3.17 relates to significant indigenous biodiversity values. The works will not affect these values.
- Objective 3.19 relates to natural character values. The assessment in section 4.5 is considered to show that these values are protected.
- Policy 4.3 relates to functions of waterbodies. The works will not affect these matters.
- Policy 4.18 relates to discharge of sediment from works in riverbeds. While there may be some minor discharge of sediment during the installation period, it is of natural material in very small concentration.
- Policy 4.85A relates to preservation of values of braided rivers such as natural character. The defence against water is to halt the further erosion of the banks rather than provide for use of the bed through reclamation.
- Policy 4.86 relates to structures in riverbeds and maintenance of channel characteristics, protection of significant indigenous biodiversity and Ngai Tahu values, and access to the river. These matters have been addressed above.
- Policy 4.87 requires that plant pest species are not planted. There is no planting proposed.
- Policy 4.88 requires works not be in flowing water. This will be met as it is proposed to undertake works when the river is not in flood. However, there may be a very short period for the installation of the deadman and trees logs.
- Policy 4.89 requires works to not materially restrict flood flows or exacerbate erosion of the banks. The works are designed to stabilise the banks, and flood flows will continue to access the whole existing active channel.
- Policy 4.91 requires any proposed works to not affect the stability of other lawfully established erosion control or flood protection works or infrastructure. The works will not affect any other structures.

7.2 Canterbury Regional Policy Statement

Chapters 2 and 4 relate to Tangata Whenua involvement and outcomes. These have been addressed in section 4.7 above.

Chapter 7 relates to freshwater. Objectives 7.2.1 and 7.2.3 relate to water quality, ecosystems, and natural character of rivers. The relevant policies are:

- Policy 7.3.1 requires various degrees of protection of the natural character of waterbodies. Natural character has been addressed above and it is considered that the area of works will not affect natural character to any extent.
- Policy 7.3.2 requires the maintenance of the natural character of braided rivers which has been addressed above.

Chapter 10 relates to beds of rivers. Objective 10.2.2 relates to flood-carrying capacity. The relevant policies are:

- Policy 10.3.1 requires adverse effects from works to be mitigated or remedied. The ATP proposed in this application will have no more than minor effects and the conditions proposed above will address any of those effects.
- Policy 10.3.2 requires natural character to be preserved. Natural character has been addressed above and is considered to show that this policy will be met.
- Policy 10.3.3 requires management of activities to protect riverbanks from erosion. This application is to provide erosion control.

7.3 Canterbury Water Management Strategy

The CWMS is a high-level strategy that summarises the overall approach and the delivery models for the sustainable management and development of the region's water resources. For braided rivers, a key outcome is to protect their natural character. This includes prohibiting dams on their mainstems and maintaining the extent of active floodplains, flow variability and sediment flow processes when undertaking river works, land-use change or deliberate vegetation stabilisation. Natural character is given effect to in the CRPS and LWRP, which are addressed above.

7.4 Hurunui Waiau Zone Implementation Plan

The Hurunui/Waiau ZIP is part of the implementation of the CWMS in the Hurunui Waiau Zone and recommends actions and approaches for collaborative and integrated water management. While not a statutory plan under the RMA, it is seen as a community statement which was considered in the development of the HWRRP.

Of relevance to this application, the ZIP identifies the natural character of braided rivers as being "unstable" which gives the river its essential braided characteristic. Stabilisation of flows and the bed may threaten this characteristic. The ZIP issues are addressed above.

7.5 National Environmental Standards for Drinking Water (2008) - Sources of Human Drinking Water

The National Environmental Standard for Sources of Human Drinking Water came into effect on the 20 June 2008 and is a regulation made under the Resource Management Act (1991) that sets requirements for protecting sources of human drinking water from becoming contaminated. It requires regional councils to ensure that effects on drinking water sources are considered in decisions on resource consents and regional plans. Specifically, councils are required to:

- decline discharge or water permits that are likely to result in community drinking water becoming unsafe for human consumption following existing treatment
- be satisfied that permitted activities in regional plans will not result in community drinking water supplies being unsafe for human consumption following existing treatment
- place conditions on relevant resource consents requiring notification of drinking water suppliers if significant unintended events occur (e.g. spills) that may adversely affect sources of human drinking water.

There are no NES registered drinking water supplies in the vicinity of the applicant's proposed minor discharge of sediment. The community supply bores on the opposite side of the river will not be affected by any sediment entrainment in the channel, nor will there be any effect on rate of take from the bores, i.e. recharge of the groundwater by the river will not be affected.

7.6 National Policy Statement for Freshwater Management 2020

The National Policy Statement for Freshwater Management 2020 (NPSFM) is a national policy statement which applies to all freshwater (including groundwater) and, to the extent they are affected by freshwater, to receiving environments. The NPSFM provides a National Objectives Framework and defines the fundamental concept of Te Mana o te Wai as it exists today. Te Mana o te Wai refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai and is about restoring and preserving the balance between water, the wider environment, and the community. Within the framework of Te Mana o te Wai there are 6 encompassing principles (Mana whakahaere,

Kaitiakitanga, Manaakitanga, Governance, Stewardship, and Care and respect) which inform the National policy statement and its implementation.

Te Mana o te Wai then outlines a hierarchy of obligations that prioritises:

- a. first, the health and well-being of water bodies and freshwater ecosystems
- b. second, the health needs of people (such as drinking water)
- c. third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

While the NPSFM sets a hierarchy of obligations, it does not remove all weight from the second and third order priorities, nor does it make such activities relating to second and third order priorities of lesser validity. This is further emphasised in Policy 15 (*Policy 15: Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.*) and in Appendix 1b – Other values that must be considered.

Under Section 104(1)(b)(iii) of the RMA, the consent authority shall have regard to the relevant provisions of a National Policy Statement. The NPSFM came into effect on the 3 September 2020 and the timeframe for implementing the NPSFM is outlined in the Freshwater Planning Process (FPP).

The FPP is a new planning process introduced by the Resource Management Amendment Act 2020 that must be used for proposed regional policy statements or regional plans or plan changes that give effect to the NPSFM or that otherwise relate to freshwater. The intent of the FPP is to streamline and speed up decisions on freshwater plans. This is delivered by:

- requiring regional councils to notify plans or plan changes that give effect to the NPSFM by 31 December 2024 and require final decision to be made within two years of notification; and
- using independent freshwater hearing panels with enhanced powers; and
- limiting submitter appeal rights to the high court on points of law only and providing the submitter appeal rights to Environment Court only in certain circumstances.

In summary, the regional councils are required to follow the FPP to give effect to the NPSFM and they have been given until 31 December 2024 to notify any such plans or plan changes. Prior to the notification of these, the Regional Council can **have regard to** the NPSFM as “every local authority must give effect to this NPS as soon as reasonably practicable”. This is a **crucial distinction** for consent applications up until the future notification date. An assessment of the NPSFM is provided for below and, where applicable, cross references the objectives and policies of the relevant existing regional plans within the Canterbury Region which already give effect in part, or in full, to the policies of the NPSFM.

The objective of the NPSFM is to ensure that natural and physical resources are managed in a way that prioritises:

- a. first, the health and well-being of water bodies and freshwater ecosystems
- b. second, the health needs of people (such as drinking water)
- c. third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

There are 15 policies within the NPSFM:

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.

Policy 2: Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.

Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

Policy 4: Freshwater is managed as part of New Zealand's integrated response to climate change.

Policy 5: Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.

Policy 6: There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted.

Policy 7: The loss of river extent and values is avoided to the extent practicable.

Policy 8: The significant values of outstanding water bodies are protected.

Policy 9: The habitats of indigenous freshwater species are protected.

Policy 10: The habitat of trout and salmon is protected, insofar as this is consistent with Policy 9.

Policy 11: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided.

Policy 12: The national target (as set out in Appendix 3) for water quality improvement is achieved.

Policy 13: The condition of water bodies and freshwater ecosystems is systematically monitored over time, and action is taken where freshwater is degraded, and to reverse deteriorating trends.

Policy 14: Information (including monitoring data) about the state of water bodies and freshwater ecosystems, and the challenges to their health and well-being, is regularly reported on and published.

Policy 15: Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.

The NPSFM outlines (in section 3.2-3.5) that the implementation is undertaken by “every regional council” or “every local authority”; it does not put the onus of giving effect to the NPSFM on individual consent applicants or existing consent holders.

Policy 1 is relevant as the application relates to freshwater. However, the implementation of Policy 1 to give effect to Te Mana o te Wai is a high-level requirement which in the future the planning framework will deliver via objectives, policies, and rules (taking into account the subparts 1-3 of the NPSFM). However, the existing plans give some effect to Te Mana o te Wai in the respect that the

existing Canterbury Regional Policy Statement (CRPS) and the subsequent Regional Plans developed to implement the CRPS has followed the RMA Schedule 1 planning process and meets the purpose and principles listed in Part 2 of the RMA. However, the CRPS has under policy 7.3.12 adopted a precautionary approach for freshwater management which priorities the health and well-being of the water body.

In implementing or complying with Policy 1 it is important to recall that while Te Mana o te Wai sets out a hierarchy of obligations the explanation of the concept of Te Mana o te Wai includes restoring and preserving the balance between the water, the wider environment and the community. The concept does not prevent activities from being undertaken nor does it prevent the community requirements from being met. Also, until the FPP process has been undertaken, how Te Mana o te Wai applies in respect to the Canterbury Region is not yet well-defined as under section 3.2 the approaches to implementing the NPSFM states *“that every regional council must engage with communities and tangata whenua to determine how Te Mana o te Wai applies to water bodies and freshwater ecosystems in the region”*. Weight should not be redacted from the existing Canterbury Regional Plans, especially those with specific sub-regional chapters that have been written on the basis of a Zone Implementation Programme (ZIP), a document formulated following a highly collaborative process involving the specific communities and Tangata Whenua for those relevant areas Canterbury. These ZIPs and subsequent sub-regional chapters provide the clearest starting point for clarifying how Te Mana o te Wai applies to water bodies and freshwater ecosystems. Therefore, by meeting the requirements in accordance with the specific rules of the existing relevant LWRP and HWRRP, the application has given regard to Policy 1 as much as currently possible without having to pre-empt an unknown future definition of how it will apply.

Due to the small scale of the works on the riverbank, fish passage will not be affected. I consider the proposed activity is not contrary to the objective and will prioritise on the well-being of the water body.

The health needs of people are not adversely affected as there are no drinking water takes from the Waiau River or from groundwater that has a protection zone, that could be affected by the proposed ATP. I consider the proposed activity is not contrary to the objective of the NPSFM.

Policy 2 is relevant, and it is considered that the existing Canterbury Regional Policy Statement (CRPS) already includes provisions for Ngai Tahu and their relationship with resources under Chapter 4 (of the CRPS) which states that Tangata Whenua should be recognised as guardians of all water bodies and encourages consultation and sets out processes for sustaining working relationships with the local Rūnanga in terms of resource management issues. Furthermore, the consent process allows for the Runanga to be provided with an opportunity to comment on the application.

Policy 3 is relevant as the application relates to freshwater. It is considered that the existing Canterbury Regional Plans, especially for those areas with sub-regional chapters that have undergone plan changes, already manage freshwater in an integrated way. As such the applications will meet the requirements of Policy 3, due to the activity being undertaken in accordance with the specific rules relating to water quality and quantity and land use under the HWRRP and LWRP.

Policy 4 is relevant as the application relates to freshwater. However, the implication of managing Freshwater as part of New Zealand's integrated response to climate change is not relevant to this consent application.

Policy 5 is relevant as the application relates to freshwater. However, the implementation of a National Objectives Framework is a high-level requirement which in the future the planning framework will deliver through the Regional and Local Authorities via objectives, policies, and rules taking into account the subparts 1-3 of the NPSFM. However, regard has been given to Policy 5 already as the

existing Canterbury Regional Policy Statement (CRPS) under Objectives 7.2.1 and 7.2.4 require the region's fresh water resources to be managed sustainably and Policies 7.3.6 and 7.3.7 require water quality standards to be adhered to. These provide for, in part, the health and well-being of water bodies and freshwater ecosystems to be maintained. As such the application will meet these requirements, in part, due to it being in accordance with the specific rules relating to water quality and quantity.

Policy 6 is not relevant as the activity does not affect any natural inland wetlands.

Policy 7 is not relevant to the activity as it does not result in a loss of the river or decrease river values.

Policy 8 is not relevant to the activity as it does not affect significant values of outstanding water bodies.

Policy 9 is relevant to the activity as it may affect the habitats of indigenous freshwater species. However, the activity will not adversely affect the habitats of indigenous freshwater species when operated under the mitigation measures proposed.

Policy 10 may be relevant as the activity may affect the habitat of trout. However, the activity will not adversely affect the habitat of trout due to flow in the main channel for fish passage not being affected. This will also meet the requirement in sub-part 3.46 for fish passage in that passage is not affected.

Policy 11 is probably not relevant to the activity due to no water being allocated via the activity applied for.

Policy 12 is not relevant to this application as there are no listed primary contact areas within the vicinity or within the immediate receiving environment.

Policy 13 is not relevant as the activity does not involve water quality degradation.

Policy 14 is a function of the regional and local authorities.

Policy 15 is relevant in that proposal is required to ensure that the existing authorised farming operation can continue to operate in a financially viable way providing for social, economic wellbeing of individuals and the wider Canterbury community.

Overall, I consider that the applications will meet the objective and policies of the NPSFM.

7.7 Resource Management (National Environmental Standards for Freshwater) Regulations 2020

The National Environmental Standards for Freshwater (NESF) sets out to regulate activities that pose risks to the health of freshwater and freshwater ecosystems. Parts of the NESF became operative on 3 September 2020. There are no parts relevant to the activities applied for. A related matter is the passage of fish (Subpart 3), but it is only when there are structures such as culverts that engage this subpart. In any event, the passage of fish will not be affected.

7.8 Resource Management Act – Part 2

Purpose of the Act – Section 5

The purpose of the Act is to “promote the sustainable management of natural and physical resources”. Based on the information available, it is considered that the proposed activity is consistent with the purpose of the Act.

Matters of National Importance – Section 6

Section 6 outlines matters of national importance that are to be recognised and provided for in achieving the purpose of the Act. These matters include, but are not restricted to, the preservation of the natural character of rivers and their margins. The relationship of Maori, their culture and traditions to the environment must also be recognised and provided for. It is considered that the activity can be carried out in a manner that will not adversely affect any matter set out in Section 6.

Other Matters – Section 7

Section 7 of the Act sets out those matters that have particular regard attributed to them in achieving the purpose of the Act. With the mitigation measures proposed, it is considered that this activity will not compromise any of the matters included in Section 7.

Treaty of Waitangi – Section 8

The Act states that:

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

The Court of Appeal has identified four principles, which form the basis of developing a relationship of partnership and communication. These are the Essential Bargain, Tribal Self-Regulation, The Treaty Relationship, and Active Protection. The third principle, the Treaty Relationship, accords Maori with special status as a Treaty Partner, distinct and separate from status as an ‘affected party’. The Runanga was not contacted regarding this application as they were not considered to be a potentially adversely affected party. A specific assessment against Tangata Whenua values has been carried out, and it is considered that the activity will not compromise any matters in Section 8. However, it is acknowledged that the Waiau River is a Runanga Sensitive Area, and that Environment Canterbury will provide a copy of this application to the relevant Runanga for comment.